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ANNUAL REPORT ON STRONG-MOTION EARTHQUAKE RECORDS  
IN JAPANESE PORTS (1989)  
by Eiichi KURATA and Susumu IAI

港湾地域強震観測年報（1989）

倉井　田合　栄一  
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運輸省港湾技術研究所



# ANNUAL REPORT ON STRONG-MOTION EARTHQUAKE RECORDS IN JAPANESE PORTS (1989)

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Abbreviations used above:

AR: Analog record (computer plots of digitized records)

IR: Integrated velocities and displacements (computer plots of digitized records)

FS: Fourier spectra

NR: Numerical tables of response spectra

LO: Loci of accelerations, velocities and displacements

# 港湾地域強震観測年報(1989)

倉田栄一\*  
井合進\*\*

## 要　旨

1989年12月現在、港湾地域強震観測網には82台の強震計が55港に設置されていた。このうち61台が地盤上に、15台が構造物上に、6台が地中に設置されている。使用している強震計はアナログ記録方式のSMAC-B2強震計およびERS-B,C,D強震計と、デジタル記録方式のERS-F強震計である。観測網のうち、山下変-Sと山下変-Mは1989年5月に観測を停止した。

対象期間に被害または津波予報が出た地震および震度4以上の地震は14回発生した。規模の大きい地震の発生回数はここ数年の発生回数と比較すると少なかったが、伊豆半島東方沖や三陸沖では活発な地震活動があった。伊豆半島東方沖では6月から8月にかけて490以上の有感地震を含む約25000回の地震が発生した。この群発地震中の最大の地震はマグニチュード(以後Mと略す)5.5であった。三陸沖では10月末から11月末にかけて39の有感地震を含む約1000回の地震が発生した。この三陸沖で最大の地震はM7.1であった。このほかに、鳥取地方西部ではM5.2と、M5.3の地震が、また北海道の浦河沖(M5.7)、茨城県南西部(M5.6)、千葉県北部(M5.3)、茨城県沖(M5.2)、などで中規模の地震が発生した。

伊豆東方沖群発地震は発生した地震の規模が小さく、また港湾の観測点は震源から離れていたため、得られた記録は少なかった。三陸沖で発生したM7.1の地震では青森、八戸、宮古港で観測され、宮古港の最大加速度は106Galであった。鳥取地方西部地震では境港において、1回目の地震で72Gal、2回目の地震で105Galの最大加速度が観測された。これらの記録は境港において観測開始以来、最も大きな加速度の記録であり、23年間の観測期間における9番目と10番目の記録である。地震の少ない地域では観測に対する意識の低下は避けられないが、このような状況において、確実な記録の取得に努力された観測担当者に敬意を表したい。

境港と対象的なのが常陸那珂港である。常陸那珂港では今年1年間に34本の記録が得られ、強震計を設置してから僅か3年間で118の記録が得られている。この驚くべき記録取得の背景は観測点が地震の多発地帯(茨城県沖)に位置していること、さらに強震計の設置場所がよく締まった砂地盤でかつ基盤が浅いために地震動の高振動数成分が卓越し、その結果、地震の規模に比して大きな加速度が生じる特徴がある。そして、広域のデジタル強震計で観測していることも要因の一つに考えられる。同地点で観測された記録からSMAC-B2強震計の等価な加速度を計算してみると、最大値が観測値の1/2~1/3となる場合が多い。このように高振動成分が卓越する観測点では強震計の特性が観測結果に大きく反映される。そこで、本報告では強震計の特性を考慮しSMAC-B2強震計以外の記録はSMAC-B2強震計の等価な加速度に直した値が50Gal以上である場合に取り上げることにした。

\* 構造部 主任研究官

\*\* 構造部 地盤震動研究室長

この年報は、前記観測網で1989年に得られた記録について報告する。年報は本文および観測結果からなり、観測結果は、強震観測表、記録波形、速度、変位波形、フーリエスペクトル、応答スペクトル、ディジタル記録、水平面内の加速度、速度および変位軌跡からなる。

強震観測表(Strong-Motion Earthquake Observation Results)には、対象期間中に得られたすべての記録を地震ごとに分類し、地震の資料と最大成分加速度等を示した。ただし、成分の最大加速度が20ガル以下で対応する地震が確認できないものは除いてある。地震資料(Earthquake data)に示すものは、震度(Intensities)を除き、気象庁地震津波監視課発行の「地震月報」によっている。しかし、この年報を編集する時点で地震月報が刊行されていない地震については、地震津波監視課が速報的に発表する「地震火山概況」によっている。その場合には、そのことが地震資料に注記されている。記録番号は記録が港湾技術研究所に到着した順序で付され、Sで始まる番号の記録はSMAC-B2強震計、Mで始まる番号の記録はアナログ記録方式のERS強震計、Fで始まる番号の記録はディジタル記録方式のERS強震計で得られたものである。

記録波形は最大加速度が20ガル以上の記録について示した。これはディジタル記録に関連して後に説明されている手法により記録を数字化し、これを電子計算機により図化したものである。

最大加速度が約20~50ガルの範囲の記録については水平2成分の波形を、50ガル以上の記録については水平2成分と上下成分の計3成分の波形を示した。ただし、ERS-B強震計は鉛直成分を含まないので、この強震計の記録では常に水平2成分の波形のみが示される。最大加速度によって振幅の目盛の尺度を変えることがあるので注意されたい。水平成分の方向は真北を基準にして示してある。これは、SMAC-B2強震計の場合、地震動の周期が地震計の振子の固有周期よりも十分に長いときに、地盤の加速度の方向を示すように定めたものである。ERS強震計の場合には、地震動の周期が強震計の振子の固有周期付近であるときに地盤の加速度の方向を示すように定めたものである。

ディジタル記録は次のようにして作られたものである。SMAC-B2強震計の記録の場合には、マイラーベースの感光フィルムを用いて密着印画を作り、これを数字化装置により時間軸に対し、0.1mm(これは時間にして0.01秒に対応するが、後記のように円弧誤差を含んでいるので厳密な0.01秒ではない)ごとに振幅を読み取り数字化する。数字化装置の読み取る範囲の関係から、記録は30~45cmごとに区切って数字化される。数字化された記録は読み取る区間ごとにゼロ線が設定され、各区間の記録が接続され一本の記録とされる。この際に、円弧誤差、記録紙送り誤差(記録開始時に記録紙の送り速度が徐々に一定値に近づく立上り誤差を含む)、記録ペンの軸が加速度ゼロのときに紙送り方向に平行にならないことによる誤差が補正される。このような補正のために、記録の数字化においては各成分の波形の他に、2本の基線、各成分の記録の前にある点検時に記録した円弧も数字化される。また、記録ごとに記録紙の送り速度が読み取られる。円弧補正後の記録の数値の時間間隔は一定値とはなっていないが、直線補間により0.01秒間隔の記録に直される。

このようにして得られたものが、この年報でSMAC-B2強震計のディジタル記録として示されている。

ERS-B.C.D強震計の記録の場合には、原記録を用いて、数字化装置により時間軸0.1mm間隔に振幅を読み取り数字化する。ERS-B強震計の記録紙の送り速度(仕様値)は2cm/sでERS-C.D強震計のそれは4cm/sである。したがって、読み取る時間間隔はそれぞれ0.005秒および0.0025秒である。数字化は約70cmの区間ごとに行われる。各成分の波形の他に基線が1本数字化される。また、記録紙の送り速度が読み取られる。得られた記録に区間ごとにゼロ線の設定をおこなった後、記録の一本化、時間間隔の補正、平滑化を行い、0.01秒間隔の記録とする。このようにして得られたものが、この年報でERS-B.C.D強震計のディジタル記録として示されている。

ディジタル記録の作成様式は表一8のディジタル記録の例に示されているとおりである。数値の配列順序は行の左から右へ、ページの左半分から右半分へと進む。ある数値が記録の先頭から何番目の数値であるかを知るには、その数値を含む行の左端のNo.の値と、その数値の欄の最上行にある

( ) 内の数値を加えればよい。1行には10個の数値が含まれており、各データは空白を含めて6字となっている。これはディジタル記録を80欄カードにさん孔するときの便利さを考慮して定めたものである。カード1枚のうち60欄をデータに、残り20欄をカードの判別記号（地震番号、成分、カード番号等）に用いれば1行がカード1枚にさん孔できる。小数点は印字されていないが、数値の末尾にあるとすれば、数値の単位は0.1ガルとなる。

以上のようにして得られた等時間間隔のディジタル記録をフーリエ変換し、計器特性を補正する。その結果にフィルター操作を加える。フィルターは2種類のものを用いる。ひとつは、フィルターの定数が固定されているもの（以後固定フィルターと書く）で、他は、フィルターの定数が記録波形のフーリエ変換の特性により修正されているもの（以後パラメタ付フィルターと書く）である。

・ フィルター操作後、速度および変位に対するフーリエ変換を求め、それぞれのフーリエ逆変換を求めて、補正加速度、速度、変位の波形とした。本報告では、パラメタ付フィルターにより求まった加速度波形を補正加速度波形として示した。また、2種類のフィルターを用いて求まった速度、変位の波形も示した。両フィルターの特性等は本文または別報を参照されたい。<sup>35)</sup>

2種類のフィルターを用いた結果を並列して示している理由は次の通りである。第1に、現在のところどのような特性のフィルターが最適であるかを決め難いこと、第2に、求まる速度および変位の波形はフィルターの特性に著しく依存するが、単一の方法による結果を示した場合には無批判に利用されるおそれがあること、第3に、両フィルターがそれぞれ特長を有していること、などである。

ERS強震計はSMAC-B2強震計に比し、より高い振動数まで感度が一様になっている。そのため、両強震計の記録波形をそのまま比較することは適切でないことがある。それ故、ERS強震計の記録については、SMAC-B2強震計が同一地点にあった場合に求まるであるう波形を求め、これをSMAC-B2等価加速度波形として示してある。

本年報に示されている応答スペクトルは、パラメタ付フィルターによる操作後の補正加速度波形を用いて求めたものである。前記のように、本年報に示すディジタル記録は計器補正の前段階におけるものである。したがって、ディジタル記録をそのまま用いて応答スペクトルを計算しても、本年報に示されているものと同一とはならない。また、1975年以前の年報では、ここに示す記録の補正方法と異なった処理によるディジタル記録および応答スペクトル等が示されていることに留意する必要がある。なお速度、変位波形の計算およびスペクトルの計算において、SMAC-B2強震計の記録の場合は最初の1秒間を無視した。これは、記録紙送りの立上り補正は行っているが、記録の最初の部分における微少な誤差が記録の極く最初の部分の補正に与える影響が大きいことを考慮しての処置である。

本年報に示されているフーリエスペクトルは、高速フーリエ変換により加速度記録の全長に対しフーリエスペクトルを求めた後、このスペクトル値に時間長を乗じて加速度のディメンジョンとし、さらにバンド幅が1ヘルツのParzenウィンドウを用いて平滑化したものである。フーリエスペクトルも応答スペクトルと同様に、それぞれの強震計の計器特性の補正を行った加速度波形から求めたものである。

本年報に示される水平画面内の加速度、速度および変位の軌跡は、各波形の水平2成分を合成したベクトルの先端の移動軌跡を描いたものである。軌跡を描くのに用いた波形の時間長は、その全長とし、長い記録では、記録の先端部および後端部の振幅の小さい部分を除いたものとしている。用いる区間長の選定は観察によっている。軌跡を描くのに用いた加速度波形および変位波形は強震計の計器特性の補正を行ない、パラメタ付フィルターで求めたものである。図中のNは真北を示す。

キーワード：強震観測、数値化加速度記録、応答スペクトル

1989年における港湾地域強震観測には以下の諸機関が関係した。関係機関の協力に謝意を表する。

運輸省港湾局

東京都港湾局

運輸省港湾建設局

静岡県、宮崎県港湾課

北海道開発局港湾部

大阪市港湾局

沖縄開発庁沖縄総合事務局

本年報は強震観測担当者の努力に負うところが非常に大きく、これら担当者の努力はこの年報の著者に準ずるものである。担当者各位に敬意と謝意を表する。なお、各観測地点で強震計の点検ならびに記録の取扱いは強震観測担当者によりなされているのでこれら担当者に対し将来、記録について問い合わせたい事項等が発生した時に備えるため、全担当者を以下に示す。

#### 平成元年 強震観測担当者

##### 第一港湾建設局

秋田 港工事事務所

松渕 知、吉井信也、木村正信

酒田 港 "

小野寺悌介、高橋幸夫、遠藤 源

新潟 港 "

渡辺 孝、本田 隆

福井 富山港 "

関口忠志、橋本正夫、明山竹一

金沢 港 "

末永清和、元波 守、吉田 忠

敦賀 港 "

西田一彦、慈親 力、河原 進

##### 第二港湾建設局

青森 港工事事務所

押田和雄、小林秀人、三上義雄、鳴海正二

八戸 港 "

今 国守、田村 勇、斗沢照夫

宮古 港 "

白浜義春、木田幸一、吉田静夫、篠原邦彦

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# ANNUAL REPORT ON STRONG-MOTION EARTHQUAKE RECORDS IN JAPANESE PORTS (1989)

Eiichi KURATA\*  
Susumu IAI\*\*

## Synopsis

In the major ports in Japan, strong-motion earthquakes and earthquake responses of structures have been observed since 1962; and as of December 1989, 3868 accelerograms were accumulated and analysed at the Geotechnical Earthquake Engineering Laboratory. The observation network consisted of 82 strong-motion accelerographs; the 61 accelerographs were on the ground, the 6 accelerographs were in the ground and the rest on the structures. Two types of accelerographs, the SMAC-B2 accelerograph and the ERS accelerograph are being used. The SMAC-B2 accelerograph is of a mechanical type. The ERS accelerograph is of a electrical type. The ERS accelerograph is equipped with either analogue or digital recorder. This report presents all the records obtained in 1989, which are listed in the tables with their maximum accelerations, being classified in accordance with earthquakes. The accelerograms of ground motions with maximum accelerations exceeding 20 Gals are reproduced in from of computer plots. For the ground acceleration records with maximum accelerations greater than 50 Glas, digitized records, Fourier spectra, response spectra, integrated velocities and displacements, and loci of accelerations, velocities and displacements in horizontal plane are presented.

**Key Words:** Strong-Motion Earthquake Observation, Digitized Acceleration Records, Response Spectra

## 1. Introduction

The observation of the strong-motion earthquake in major ports was started in 1962 in Japan by the Geotechnical Earthquake Engineering Laboratory of the Port and Harbour Research Institute. The observation network was expanded year by year; and as of December 1989, 82 accelerographs had been installed in 55 ports. Two types of accelerographs were being used, namely the SMAC-B2 accelerograph and the ERS accelerograph.

Until the end of 1989, 3868 accelerograms had been obtained in the network; 2252 accelerograms were obtained in the SMAC-B2 accelerographs and 1616 accelerograms, in the ERS accelerographs. They were collected in the Laboratory for preliminary processing and analyses which would be explained later on. The records from 1963 to 1975 had been published in the preceding annual reports which had similar format to the present one.<sup>1~11)</sup>

In 1968, there occurred an earthquake of large magnitude, the 1968 Tokachi-Oki Earthquake, and large number of aftershocks followed. The damage took place to buildings, roads, port facilities and many other types of structures. The largest acceleration was recorded

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\* Member of Geotechnical Earthquake Engineering Laboratory, Structures Division

\*\* Chief of Geotechnical Earthquake Engineering Laboratory, Structures Division

at Hachinohe Port, which was 259 Gals. Because of the large magnitude of the earthquake and the damage to structures, the records were of great interest and importance. Therefore, the authors published a report of similar format to the annual report.<sup>24)</sup> Digitized data of vertical components were not included in those reports; however, the data were reported separately.<sup>12)</sup> In the annual report for the records of 1976 and 1977, a new data processing procedure was introduced, and accelerations after instrument correction, integrated velocities and displacements, and response spectra calculated with the instrument corrected accelerations were included.<sup>13)</sup> In 1978, Japan was hit by two great earthquakes, the 1978 Izu-Oshima-Kinkai Earthquake (Magnitude 7.0) in January and 1978 Miyagi-Ken-Oki Earthquake (Magnitude 7.4) in June. Records of these earthquakes are compiled respectively into two special reports by the new data processing of similar format to the annual report.<sup>25,26)</sup> Port structures were damaged by the 1982 Urakawa-Oki Earthquake and records of the earthquake are also compiled into special report.<sup>27)</sup> The 1983 Nipponkai-Chubu Earthquake (Magnitude 7.7) brought about serious damage to port facilities in Akita port and records of the earthquake are compiled into special report.<sup>28)</sup> In 1984, an earthquake (Magnitude 7.1) occurred in Hyuga-nada; off east coast of Kyushu and brought slight damages on port facilities. Records of the earthquake are also compiled into special report.<sup>29)</sup> In 1987, an earthquake (Magnitude 6.7) hit the metropolitan area and caused some damages on houses and civil engineering structures such as bridges and embankments reclaimed lands in port area also liquefied slightly by this earthquake. Records of the earthquake are compiled into special report.<sup>30)</sup>

The records and the results of the preliminary analyses in those reports have been used very effectively for analyses of the earthquake damage, for analyses of earthquake response of structures and also for designing large piers; and the usefulness of the strong-motion earthquake observation has been perfectly proved.<sup>40)</sup>

The present report consists of the Strong-Motion Earthquake Observation Results, reproduced accelerograms, digitized records, response spectra, Fourier spectra, integrated velocities and displacements, and loci of acceleration and displacement in horizontal plane. All the records in 1989 are listed in the Strong-Motion Earthquake Observation Results with their maximum accelerations. The computer plots of digitized records are prepared for the ground acceleration records with maximum accelerations exceeding 20 Gals, and the digitized records and the spectra are provided on records exceeding 50 Gals.

Following organizations are being cooperated with the Port and Harbour Research Institute in the strong-motion earthquake observation:

- The Bureau for Ports and Harbours of the Ministry of Transport;
- The Regional Bureaus for Port Construction of the Ministry of Transport;
- The Port and Harbour Division, Hokkaido Development Bureau of the Hokkaido Development Agency;
- The Okinawa General Office of the Okinawa Development Agency;
- The Harbour Sections of Shizuoka, and Miyazaki Prefectural Governments; and The Harbour Bureaus of Tokyo and Osaka Municipal Governments.

## 2. Network and Instruments

### (1) Network

The network of the Port and Harbour Research Institute was covering the coast-line of Japan with 82 strong-motion accelerographs in 1989, the location of ports where the accelero-

graphs are installed, are shown in Fig. 1. The numbers attached to the ports in Fig. 1 are corresponding to the numbers in Table 1. In Table 1, being classified in accordance with the ports, the stations are listed with the type of accelerograph, the installation condition, and the reference number. The reference number is showing the number of the Technical Note of the Port and Harbour Research Institute in which the site condition of each station is described.<sup>31 ~ 35</sup>

The accelerographs at the 51 stations out of the 82 stations were the SMAC-B2 accelerographs and the rest, the ERS accelerographs.



Fig. 1 Location of ports where the accelerographs are installed.

(The numbers to each port are corresponding to the numbers in Table 1)

**Table 1** List of Strong-Motion Earthquake Stations of the Port and Harbour Research Institute

No. of port*	Name of port	Name of station	Type of accelerograph	Installation condition	Ref. No.**
1	Hanasaki	Hanasaki-M	ERS-C	on ground	298
2	Kushiro	Kushiro-ji-S	SMAC-B2	on ground	
3	Tokachi	Tokachi-M	ERS-C	on ground	298
4	Urakawa	Urakawa-S	SMAC-B2	on ground	
5	Tomakomai	Tomakomai-S	SMAC-B2	on ground	107
6	Muroran	Muroran-S	SMAC-B2	on ground	34,107
7	Otaru	Otaru-S	SMAC-B2	on ground	107
8	Hakodate	Hakodate-M Hakodate-FB Hakodate-F Hakodate-FR	ERS-C ERS-F ERS-F ERS-F	on ground in ground on ground on structure	298
9	Aomori	Aomori-S	SMAC-B2	on ground	107,156
10	Hachinohe	Hachinohe-ji-S	SMAC-B2	on ground	34,107
11	Miyako	Miyako-S	SMAC-B2	on ground	34,107
12	Kamaishi	Kamaishi-M Kamaishi-MB	ERS-C ERS-D	on ground in ground	351
13	Ofunato	Ofunato-bochi-S Ofunato-bo-S Ofunato-mound-M	SMAC-B2 SMAC-B2 ERS-C	on ground on structure on structure	34,107 34,107
14	Shiogama	Shiogama-kogyo-S	SMAC-B2	on ground	34,107,156
15	Sendai	Sendai-M Sendai-MB	ERS-C ERS-D	on ground in ground	351 351
16	Soma	Soma-S	SMAC-B2	on ground	
17	Onahama	Onahama-ji-S	SMAC-B2	on ground	351
18	Hitachinaka	Hitachinaka-F	ERS-F	on ground	
19	Kashima	Kashima-zokan-S	SMAC-B2	on ground	156
20	Chiba	Chiba-S	SMAC-B2	on ground	107
21	Tokyo	Shinagawa-S Shinagawa-MB	SMAC-B2 ERS-D	on ground in ground	34,107
22	Kawasaki	Kawasaki-FB Kawasaki-F Kawasaki-FR	ERS-F ERS-F ERS-F	in ground on ground on structure	
23	Yokohama	Keihin-ji-S Yamashita-FB Yamashita-F Yamashita-FR	SMAC-B2 ERS-F ERS-F ERS-F	on ground in ground on ground on structure	34

No. of port*	Name of port	Name of station	Type of accelerograph	Installation condition	Ref. No.**
24	Yokosuka	Koken-S Koken-M	SMAC-B2 ERS-C	on ground on ground	34 34
25	Tagonoura	Tagonoura-S	SMAC-B2	on ground	107
26	Shimoda	Shimoda-F	ERS-F	on ground	
27	Shimizu	Shimizu-kojyo-S Okitsu-S Shimizu-miho-S	SMAC-B2 SMAC-B2 SMAC-B2	on ground on ground on ground	34,156 34,156 298
28	Omaezaki	Omaezaki-M	ERS-C	on ground	351
29	Kinuura	Kinuura-ji-S	SMAC-B2	on ground	298
30	Nagoya	Nagoya-zokan-S Nagoya-inae-S Inae-sanbashi-M Inae-yaita-M	SMAC-B2 SMAC-B2 ERS-B ERS-B	on ground on structure on structure on structure	34, 156 34 34 34
31	Yokkaichi	Yokka-chitose-S Yokka-sekita-M Yokka-dai2-M	SMAC-B2 ERS-B ERS-B	on ground on structure on structure	107 34 34
32	Wakayama	Wakayama-S	SMAC-B2	on ground	298
33	Osaka	Osaka-ji-S Osaka-chuo-S	SMAC-B2 SMAC-B2	on ground on structure	34 34
34	Amagasaki	Amagasaki-S	SMAC-B2	on ground	156
35	Kobe	Kobe-ji-S Kobe-dai6-S Kobe-dai8-S Kobe-maya-M Maya-dai1-M Maya-dai2-M	SMAC-B2 SMAC-B2 SMAC-B2 ERS-C ERS-B ERS-B	on ground on structure on structure on ground on structure on structure	34 34 34 298 34 34
36	Komatsujima	Komatsujima-S	SMAC-B2	on ground	107
37	Kochi	Kochi-ji-S	SMAC-B2	on ground	298
38	Matsuyama	Matsuyama-S.	SMAC-B2	on ground	156
39	Hiroshima	Hiroshima-ji-S	SMAC-B2	on ground	
40	Oita	Oita-S	SMAC-B2	on ground	156
41	Hososhima	Hososhima-S	SMAC-B2	on ground	34
42	Miyazaki	Miyazaki-M	ERS-C	on ground	298
43	Shibushi	Shibushi-S	SMAC-B2	on ground	
44	Kagoshima	Kagoshima-S	SMAC-B2	on ground	34
45	Minamata	Minamata-M	ERS-C	on ground	351

No. of port*	Name of port	Name of station	Type of accelerograph	Installation condition	Ref. No.**
46	Sakaiminato	Sakaiminato-ji-S	SMAC-B2	on ground	
47	Tsuruga	Tsuruga-S	SMAC-B2	on ground	34
48	Kanazawa	Kanazawa-S	SMAC-B2	on ground	107
49	Toyama	Toyama-S	SMAC-B2	on ground	34
50	Niigata	Nigata-ji-S	SMAC-B2	on ground	298
51	Sakata	Sakata-S	SMAC-B2	on ground	34
52	Akita	Akita-S	SMAC-B2	on ground	34,351
53	Naha	Naha-zokan-S	SMAC-B2	on ground	298
54	Hirara	Hirara-S	SMAC-B2	on ground	298
55	Ishigaki	Ishigaki-S	SMAC-B2	on ground	298

\* The number correspond to those in Fig. 1.

\*\* The number correspond to those of the Technical Note of the Port and Harbour Research Institute, in which the site condition of the station is given.

## (2) Servicing

The installation and the servicing of the instruments have been made by the port construction offices of the previously described organizations under the direction of the Geotechnical Earthquake Engineering Laboratory. It is directed that the instrument should be checked at least twice a month and after an earthquake larger than the intensity II as soon as possible. The accelerogram is sent carefully to the Geotechnical Earthquake Engineering Laboratory by post or in hand, without any treatment or reading in the station, to eliminate possible danger to damage the accelerogram by unaccustomed persons to handle it.

The Geotechnical Earthquake Engineering Laboratory has been offering every year a training course of about 5 days to the persons who take care of the accelerographs at the stations. During the course, the trainees are instructed proper procedure to maintain the instruments and to handle the accelerograms, by the experts from the manufacturing companies of the accelerographs. They also attend introductory lectures to the earthquake engineering by the instructors inside and outside of the Institute.

## (3) Stations

In the network, there are three kinds of stations; the first is to record acceleration of the ground surface, the second to record acceleration in the ground, and the third to record the earthquake response of structures. The station to record the earthquake response is always accompanied with another station to record the ground acceleration in its vicinity.

In the stations recording the ground acceleration independently, one of the horizontal components of the instrument is directed to the due north except a few number of instruments which have been installed in parallel with the structures. It is the reason that in the ports where the instruments are installed in parallel to the structures, there are many quay-walls or piers parallel each other, and that it is desirable to record components of the ground acceleration in parallel and perpendicular to the axes of the structures. At the stations recording structural response and the accompanying stations recording the ground acceleration, the instruments are installed parallel to the structures whose earthquake response is needed. Because two horizontal components of the accelerographs are always named NS and EW, the direction of the NS-component makes an angle to the due north direction in some of the accelerographs in the network.

Each station in the network has its own abbreviated name which implies its location, the type of its accelerograph and installation condition, on the ground or on the structure. For instance, the station in Hachinohe Port is named Hachinohe-S in which Hachinohe is the name of the place where the station is located and the capital letter S at the end of the abbreviated name is showing that the accelerograph in the station is the SMAC-B2 accelerograph. If the ERS accelerograph is being used in a station, the name of the place is followed by a capital letter M or MB. As this naming is made to distinguish the stations accurately in the network, it may be a little difficult for the people outside the network to imagine the location from its name, especially for the people who does not understand the Japanese language. The detailed publication on the network will help those people to find the location as well as other necessary data of the station.

## (4) Accelerographs

### i) SMAC-B2 Accelerograph

The SMAC-B2 accelerograph was developed by the Committee for the Standard Strong

**Motion Accelerograph.** It is a three component mechanical accelerograph which leaves records on a rolled waxed paper. The specifications, inside view and theoretical frequency characteristics are shown in Table 2 and Figs. 2 and 3 respectively.

In the network of the Port and Harbour Research Institute the SMAC-B2 accelerograph is practically one of the standard accelerographs; it is because at the earlier time of the observation the SMAC-B2 accelerograph was one of the most latest models and suitable for the observation condition in port areas. After the SMAC-B2 accelerograph, several types of accelerograph were developed by the Committee. However, it is inconvenient to use many types of accelerograph in a network from view point of instrument characteristics and maintenance; and the number of the SMAC-B2 accelerograph in the network continued to increase.

The triggering levels of the accelerographs in the network are 5 gals in places where ground noise is small and 8 gals in places where ground noise is relatively large because of heavy motor trucks for construction work or cargo transportation. Exceptionally a few number of the accelerographs located beside roads carrying very heavy traffic are triggered at 11 Gals.

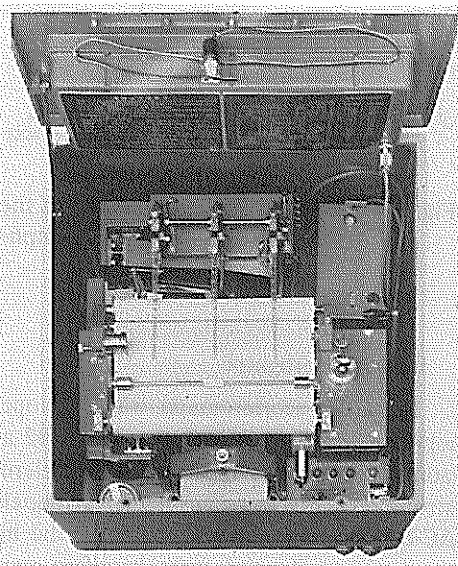


Fig. 2 Inside view of the SMAC-B2 accelerograph

Table 2 Specifications of the SMAC-B2 accelerograph

Component	2 horizontal and 1 vertical
Natural period	0.14 s.
Sensitivity	12.5 Gal/mm
Damping	Critical
Damping mechanism	Air piston
Maximum recording acceleration	500 Gal
Recording speed	10 mm/s.
Recording medium	Waxed paper
Driving mechanism for recorder	Hand-wound spring motor
Recording duration	3 min.
Recording capacity	5 earthquakes/roll
Starter	Electric contact made by vertical motion
Period of starter pendulum	0.3 s.
Starter threshold	5 Gal
Auxiliary starter	Mechanical, works at 100 gal
Time marking	1 s.
Power supply	4 dry cells
Size	54 x 54 x 37 in cm
Net weight	100 kg

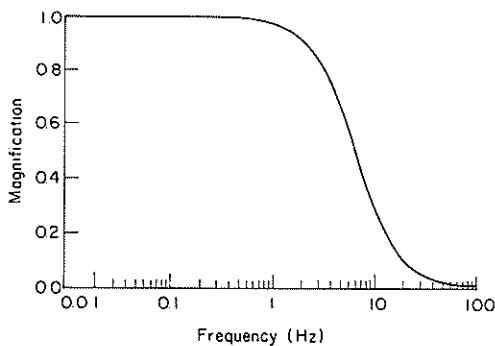


Fig. 3(a) Frequency characteristics of the SMAC-B2 accelerograph (amplitude)

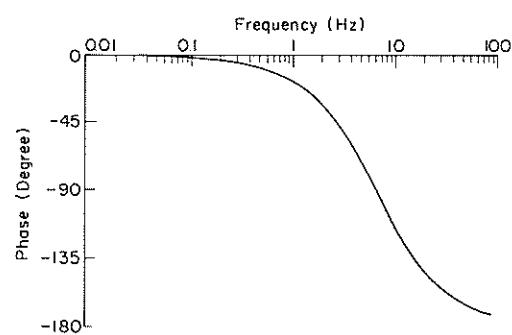


Fig. 3(b) Frequency characteristics of the SMAC-B2 accelerograph (phase)

## ii) ERS Accelerograph

The ERS accelerograph was developed by the Geotechnical Earthquake Engineering Laboratory. In the network the SMAC-B2 accelerograph is very widely used. However, there are some places where the SMAC-B2 accelerograph is not convenient to the installed, especially on structures. For instance, if the earthquake response of a pier is going to measured with the SMAC-B2 accelerograph, a house for the instrument will be constructed on the pier where many motor trucks and cargo handling equipments are working. It is almost always difficult to find a place on a port structures for the house. Then, it is considered that transducers and a recorder are separately installed in a member of a pier and in a house which is located in the vicinity of the transducers but not disturbing the cargo handling work.

The ERS accelerograph consists of transducers of moving coil type and a recorder including power supply. Originally magnetic tape data recorders were used; this type of accelerograph is called the ERS-A accelerograph. After some period of operation the magnetic tape data recorders had been replaced by electro magnetic oscilloscopes. The model with an electro magnetic oscilloscope was named as the ERS-B accelerograph.

A model of similar type, the ERS-C accelerograph, was developed and have been installed at eleven stations in the network. While the ERS-B accelerograph records accelerations in two horizontal components, the ERS-C accelerograph records acceleration of vertical component as well as accelerations of two horizontal ones.

A new model of similar type, the ERS-D accelerograph, was developed for recording acceleration in the ground and accelerographs of this type have been installed at two stations in the network. The transducers of the ERS-D accelerograph are installed in the bore-holes, but they are the same specifications as those of the ERS-C accelerograph.

In the ERS-B, C and D accelerograph the transducers are almost directly connected with galvanometers in the electro magnetic oscilloscope; between them there exists only resistor circuits to adjust sensitivity and impedance matching. Non electronic amplifier is used to attain maximum reliability of the instrument. The overall sensitivity is more than 10 mm per Gal and it is easily adjusted by changing resistors of the circuit. Therefore, the ERS-B, C and D accelerograph has advantage to start the observation in its maximum sensitivity and after obtaining some records to readjust the sensitivity into the appropriate one for the strong-motion accelerograph. It will enable for researchers to obtain the record of sufficient amplitude

to analyze although the real acceleration amplitude is rather small and to start analyses from earlier stage of the observation.

The specifications of the ERS-B accelerograph are listed in Table 3, the transducer and the recorder are shown in Fig. 4 and 5. The corresponding information on the ERS-C accelerograph is given in Table 4 and Figs. 7 and 8. The frequency characteristics are shown in Fig. 6.

The triggering levels of the ERS accelerographs are similar to those of the SMAC-B2 accelerographs.

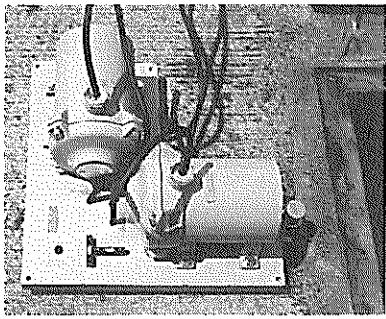


Fig. 4 Transducers of the ERS-A/B accelerograph

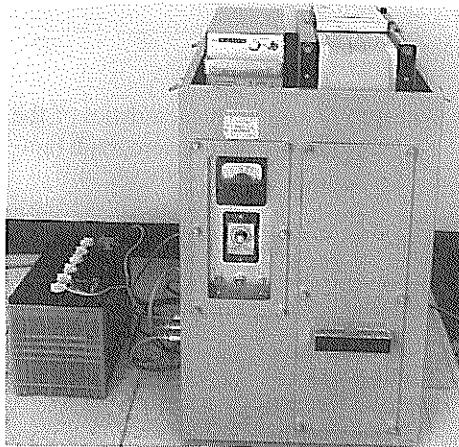


Fig. 5 Recorder of the ERS-B accelerograph

Table 3 Specifications of the ERS-B accelerograph

Transducer	
Type	Moving coil type
Component	2 horizontal
Natural period	0.5 s.
Damping factor	17
Damping mechanism	Electro-magnetic
Capacity	250 Gal
Coil impedance	320 ohm
Sensitivity	about 2 mv/gal (circuit open)
Water tightness	over 200 kg/cm <sup>2</sup>
Recorder	
Type	Electro magnetic oscillograph
Natural frequency of galvanometer	100 Hz
Sensitivity	166 mm/mA
Recording paper	92 mm (width) x 30 m (length) (visible without processing)
Paper speed	2 cm/s.
Time mark	0.1 s.
Power supply	
Rechargeable battery, charged automatically when it is necessary.	

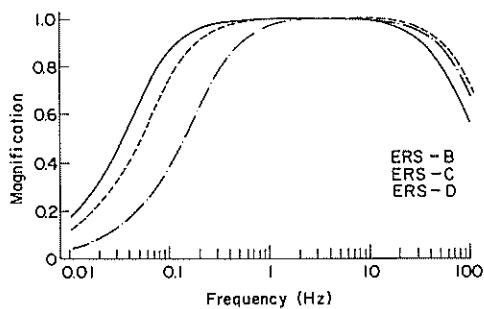


Fig. 6(a) Frequency characteristics of the ERS-B, C, D accelerograph (amplitude)

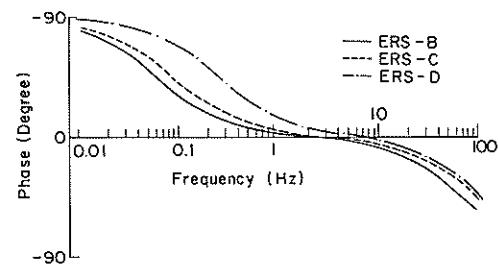


Fig. 6(b) Frequency characteristics of the ERS-B, C, D accelerograph (phase)

Table 4 Specifications of the ERS-C (D) accelerograph

<b>Transducer</b>	
Type	Moving coil type
Component	2 horizontal and 1 vertical
Natural frequency	3 Hz (5 Hz)
Damping factor	17 (10)
Damping mechanism	Electro-magnetic
Capacity	500 Gal
Water tightness	over 20 kg/cm <sup>2</sup>
<b>Recorder</b>	
Type	Electro magnetic oscillograph
Natural frequency of galvanometer	270 Hz
Recording paper	198 mm (width) x 30 m (length) (visible without processing)
Paper speed	4 cm/s.
Time mark	0.1 s.
Sensitivity (overall)	2 Gal/mm, or 10 Gal/mm
<b>Power supply</b>	
Rechargeable battery, charged automatically when it is necessary.	

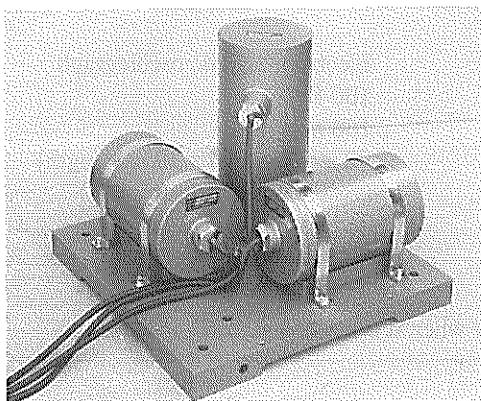


Fig. 7 Transducers of the ERS-C accelerograph

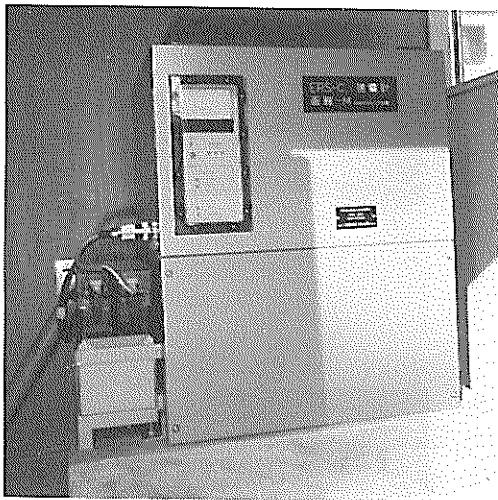


Fig. 8 Recorder of the ERS-C accelerograph

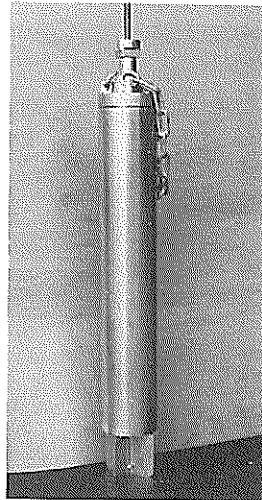


Fig. 9 Transducers of the ERS-D accelerograph

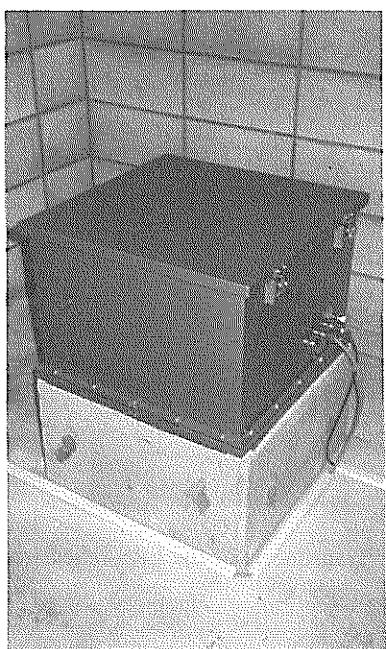
### iii) ERS-F Accelerograph

ERS-F Accelerographs are digital strong-motion accelerographs using non-volatile, solid state magnetic bubble memories. There are several types of the ERS-F Accelerographs: the standard type, as shown in Fig. 10 is a self-contained box type, containing the transducers and the magnetic bubble memories all in one; another has a separate transducer, as shown in Fig. 11, which will be buried in the ground and observe the motion at the base or in the ground; another has a separate transducer, as shown in Fig. 12, which will be attached to the structures.

The recording system of the ERS-F Accelerograph including the magnetic bubble memories is shown in Fig. 13 for the front view. ERS-F Accelerograph is a system shown by the block-diagram in Fig. 14, satisfies the specification shown in Table 5, and has the frequency characteristics shown in Figs. 15, 16.

The main unit of the recording system, shown in Fig. 17, consists of four non-volatile, solid-state magnetic bubble memories and the controlling parts. This unit is contained in a case, shown in Fig. 18, of which dimensions are 240 mm × 240 mm × 35 mm, weighing about one kilogram. The capacity in the memory of the unit is 512 kilobytes. Two of the units can be installed at one recording system, but at present one unit is installed for the accelerographs at Hakodate Port and Hitachinaka Port.

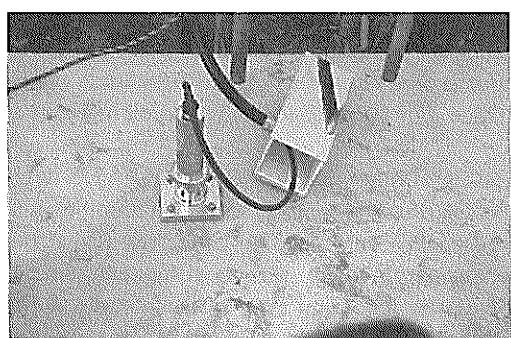
Recording length of the earthquake motions is, at minimum, 65.28 seconds (6528 data/component). The recording length is extended up to 195.84 seconds (19584 data/component) by monitoring the level of the acceleration; the recording length is doubled or tripled if the level of the acceleration monitored after 45 seconds from the triggering is higher than the trigger level of the acceleration. The main unit of the recording system can record, at the maximum, 65.28 seconds in length of three components of ten earthquake motions. If earthquakes occur successively and the earthquake motion data should over flow the recording system, records of the greatest maximum accelerations are secured. One exception to this is



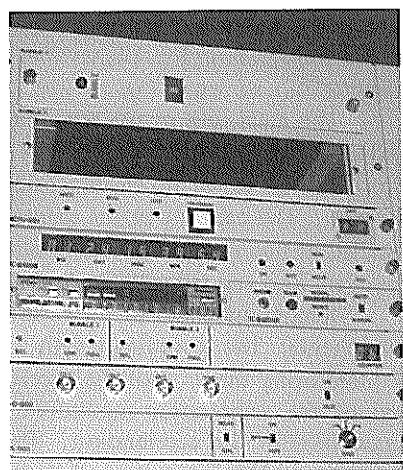
**Fig. 10** The ERS-F accelerograph  
(Standard Type)



**Fig. 11** Transducer installed in bore-hole (the ERS-F accelerograph)



**Fig. 12** Transducer attached to  
structure (the ERS-F accelero-  
graph)



**Fig. 13** Recorder of the ERS-F  
accelerograph

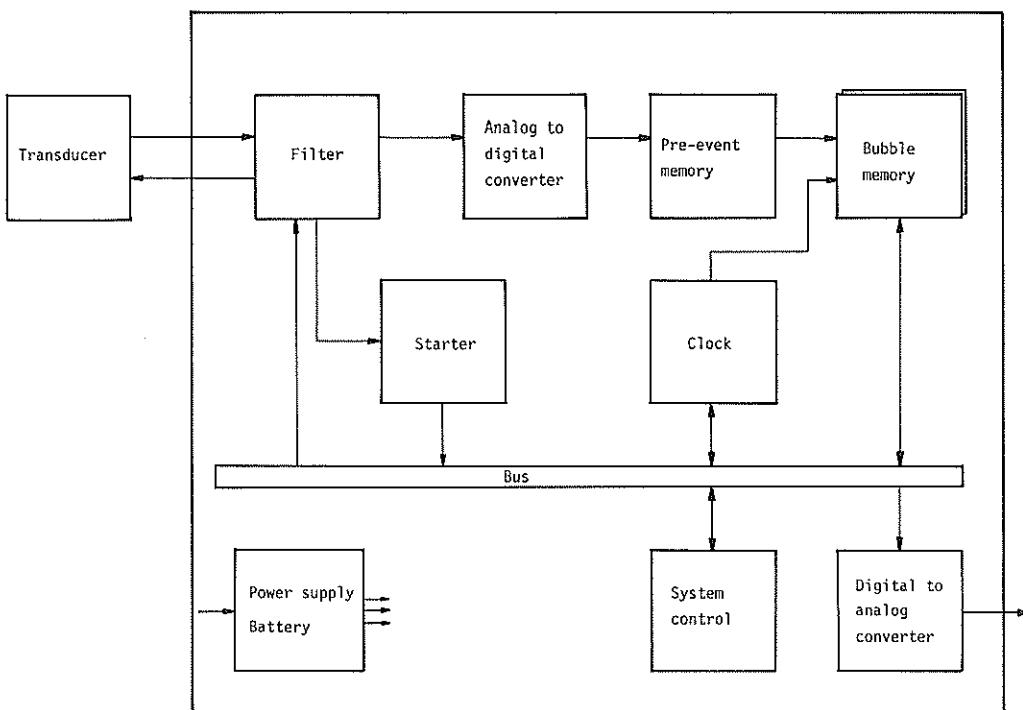


Fig. 14 Block-diagram of the ERS-F accelerograph

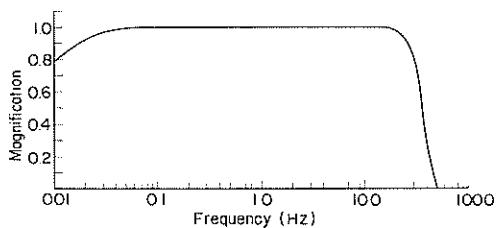


Fig. 15 Frequency characteristics of the ERS-F accelerograph (amplitude)

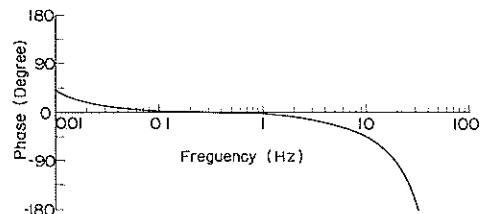
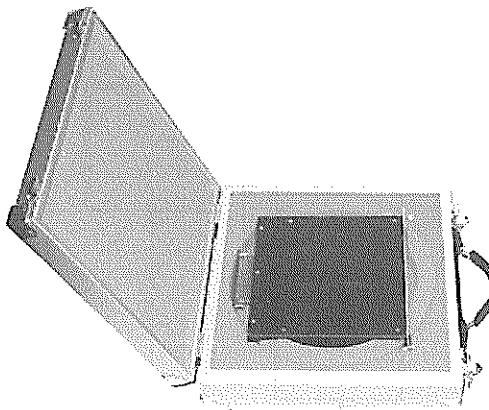
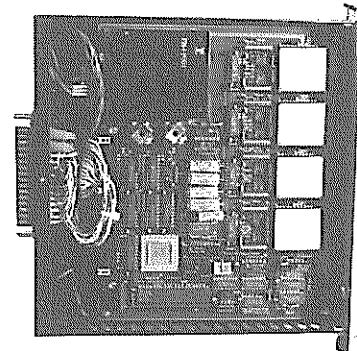


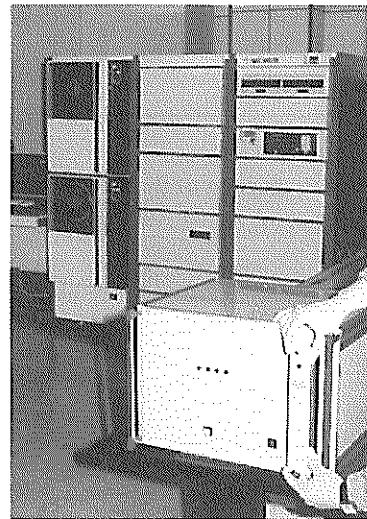
Fig. 16 Frequency characteristics of the ERS-F accelerograph (phase)



**Fig. 17** Inside view of cartridge  
(ERS-F accelerograph)



**Fig. 18** A container of cartridge  
(the ERS-F accelerograph)



**Fig. 19** Reproducer of the ERS-F  
accelerograph

Table 5 Specifications of the ERS-F accelerograph

Overall capabilities	Maximum acceleration capacity Frequency characteristics Dynamic range	2G 0.01 — 35 Hz 86 dB over
Transducer	Accelerometer Component Maximum capacity Sensitivity type	2 horizontal, 1 vertical 2G $10^{-5}$ Force-ballance servo
Filter	High pass Low pass	0.007 Hz -6 dB/octave 35 Hz -18 dB/octave
A/D conversion	Resolution Convesion rate	16 bits 100 Hz
Pre-event memory		10 seconds.
Clock	Accuracy of internal clock 1/100 seconds corrected every an hour by NHK time signal	
Starter	Trigger levels	0.5, 1, 2% of maximum acceleration
Recorder	No. of channel Memory size Record length Records of greatest maximum acceleration secured	3-9 records, 1 time signal 512 kwords 16 bit/word 1, 2, 3 minutes/record
Related informations	Observation station, Number of records, Start time of each data, Maximum accelerations of each component	
Calibration	Overall calibration are possible	
Buckup power supply	2 hour after power stopage	
Container	Alluminum box, water-proof Size	54(L), 54(W), 38(H) cm

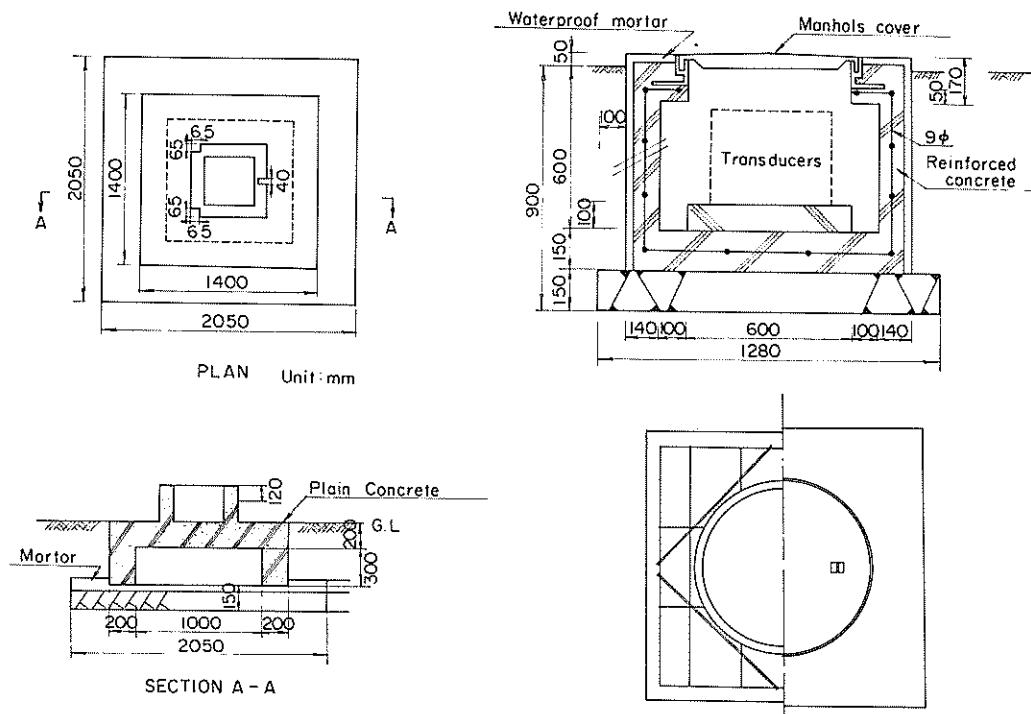
for the records of 195.84 seconds; these records are stored in the first-come first-serve basis.

(5) Foundation and House

All the SMAC-B2 accelerographs in the network are installed on simple shallow foundations which were designed based upon the same idea. It was supposed that the shape and the dimensions of a foundation on which a seismograph is installed affects to the earthquake record obtained by it. However, as there was no convincing idea to design the most suitable foundation, the foundations of almost same size and of same shape were selected for all the accelerographs in the network. This makes it easier to compare accelerograms of an earthquake recorded at several stations. As the most of the harbour structures have shallow foundations and do not rest on bed rock, it was decided to make shallow foundations for the accelerographs, as shown in Fig. 20. The hollow space under the foundation was made to make the bulk density of the foundation equal to that of the soil, so that the disturbance to the records due to the foundation is eliminated.

Usually, no pile is used to support the accelerograph and its foundation, but in the stations on very soft soil or loose sand, concrete piles or wooden piles were used. For example, the foundations in the Hachinohe-S station and the Niigata-S station are supported by piles. The foundation is isolated from a house covering the instrument.

In the network only two ERS-B accelerographs are installed on ground, and the standard



**Fig. 20** Foundation for accelerograph (SMAC-B2)    **Fig. 21** Foundation for transducers of the ERS-C accelerograph

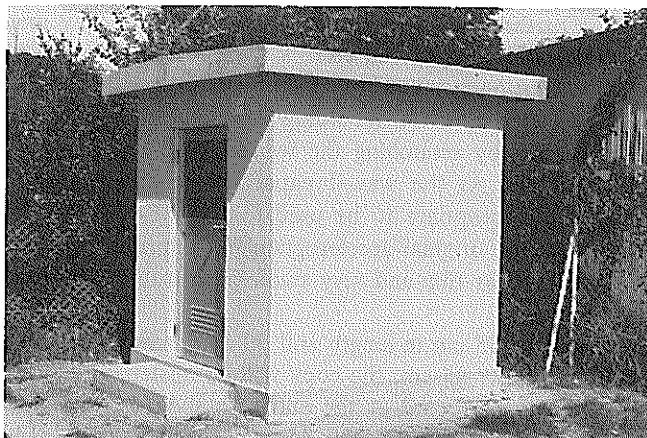


Fig. 22 House of the Onahama-ji-S station

foundation for this accelerograph has not been established. The shapes of the two foundations are shown in the separate reports.<sup>31~35)</sup> Shape and size of a standard foundation for transducers of the ERS-C accelerograph are illustrated in Fig. 21.

The most of the accelerographs are covered with houses which were built for the instruments. Some of the accelerographs were installed in houses which had been built for other purposes. The house built for the instruments are made of reinforced concrete or concrete blocks; some are prefabricated houses. In Fig. 22 as an example, the house of the Onahama-ji-S station is shown.

### 3. Accelerogram Processing

#### (1) Preliminary Processing

The accelerograms collected at the Geotechnical Earthquake Engineering Laboratory will be listed in the table "Strong-Motion Earthquake Observation Results" through the following processing.

At first, each accelerogram is given a record number according to the order of its arrival at the Laboratory. The record number for the accelerogram from the SMAC-B2 accelerograph begins with a capital letter S, and that from the ERS accelerograph, with a capital letter M.

Then, the earthquake corresponding to the accelerogram is confirmed or determined. Most of the accelerograms are sent from the stations with information on the earthquake for which the accelerograms have been obtained. A few of the accelerograms, however, are sent without such information because the accelerograms have been found in the regular servicings, and at the station it is difficult to find the corresponding earthquake. For the accelerogram without the information, the earthquake is determined considering the possible period of the recording and the earthquakes occurred in that period. The determination or the check is made based on the Seismological Bulletin of the Japan Meteorological Agency. As at the time of compilation of the annual report the Seismological Bulletins on the earthquakes in later months in a year are not available because of time lag of the publication after earthquakes, the preliminary reports (Jishin Kazan Gaikyo published by the Japan Meteorological Agency) are used to check the records in those months. Some of the accelerograms are impossible to deter-

mine their corresponding earthquakes even in the Laboratory and they are treated as earthquake unknown. It will be noted that the reliability of the earthquake determination for accelerograms of small acceleration is limited because of such procedure.

In the SMAC-B2 accelerograph, the recording is made on waxed paper which has dark red background. The recording by scratching the waxed paper with a stylus leaves the semi-translucent trace on the paper. As the waxed paper is not stable against scratchings, the original accelerogram is not appropriate to be used for the digitization. The photographic contact print is made from the original accelerogram on a special photographic sheet. The base of the sheet is made of mylar film and very stable against temperature change, humidity, and mechanical distortion.

The sizes of the sheet are 55 cm in length and 30 cm in width. If the significant portion of the record is longer than 30 ~ 45 cm, the copy will be made on two sheets or more; and a portion of about 10 cm of the record at the end of a sheet is overlappedly appearing in the successive sheet. After the processing, the copy has black traces and semi-translucent background. They are in very good contrast for the digitization.

The record from the ERS-B accelerograph is only chemically stabilized before being used for analysis.

From the stabilized original record or the photographic copy, the maximum accelerations of each component are read with the aid of a magnifying glass. In this reading the base-line setting is not so accurate as that made in digitizing the accelerogram, since this is just preliminary processing. The difference between two accuracies in base-line setting may cause a little difference between the maximum accelerations read with the magnifying glass and in the digitized record.

The accelerograms are classified in accordance with the earthquakes, and listed with their maximum accelerations in the tables "Strong-Motion Earthquake Observation Results". The items in the table will be explained in the following sub-sections. The Strong-Motion Earthquake Observation Results are compiled every two months and sent to all the stations.

The copy of the accelerogram is also sent with the necessary directions on the maintenance of the instrument to the station where the accelerogram was obtained. The Strong-Motion Earthquake Observation Results are included in the later part of this report.

## (2) Earthquake Data

The earthquake data except the remarks in the Strong-Motion Earthquake Observation Results are based upon the Seismological Bulletin of the Japan Meteorological Agency. Because of the reason explained previously regarding the checking of earthquakes, the data on earthquakes in November and December are based upon the preliminary reports. Some of the remarks come from different sources.

The time in the earthquake data refers to the Japan Standard Time (JST) which is earlier than GMT by 9 hours.

The magnitude in the earthquake data is determined using Tsuboi's formula:

$$M = \frac{1}{2} \log (A^2 N + A^2 E) + 1.73 \log \Delta - 0.83 \dots \dots \dots \quad (1)$$

where,  $M$  is the magnitude.  $A_N$  and  $A_E$  are the maximum amplitudes of N- and E-components in micron respectively, and  $\Delta$  is the epicentral distance in km. Those ground amplitudes are of seismometers with periods of about 5 seconds, and of waves shorter than 5 seconds. The magnitude is the averaged value over magnitudes for every  $\sqrt{A^2_N + A^2_E}$  reported by the

stations of JMA.

The intensity of the shock is estimated according to the scale as shown in Table 6.

Table 6 JMA Seismic Intensity Scale (After Ref. 37)

0:	NO FEELING
	Shocks too weak to cause human feelings and registered only by a seismograph.
I:	SLIGHT
	Extremely feeble shocks only felt by persons at rest or by those who are observant to an earthquake.
II:	WEAK
	Shocks felt by most persons, slight shaking of doors and Japanese latticed sliding doors (shoji).
III:	RATHER STRONG
	Slight shaking of houses and buildings, rattling of doors and Japanese latticed sliding doors (shoji), swinging of hanging objects like electric lamps, moving of liquids in vessels.
IV:	STRONG
	Strong shaking of houses and buildings, overturning of unstable objects, spilling of liquids out of vessels.
V:	VERY STRONG
	Cracks in the walls, overturning of gravestones, stone lanterns, etc., damage to chimneys and mud-and-plaster warehouses.
VI:	DISASTROUS
	Demolition of houses by less than 30% in total number, landslips, fissures in the ground, etc.
VII:	VERY DISASTROUS
	Demolition of houses by more than 30%, intense landslips, large fissures in the ground, faults.

### (3) Accelerograph Results

The items in the accelerograph results have been explained previously. The maximum accelerations are those determined by the preliminary processing.

The accelerogram whose earthquake is unknown is not listed in the table, if both of its maximum horizontal accelerations are smaller than 20 Gals. If at least one of the maximum accelerations is larger than 20 Gals, then it is listed in the table, but the earthquake data can not be given.

## 4. Digitization

### (1) Digitizers

Two strong-motion accelerogram digitizers are being used in the Port and Harbour Research Institute; one is for digitization of records by the SMAC-B2 accelerograph and the other for digitization of records by the ERS-B, C, D accelerograph.

#### a. Digitizer for records by the SMAC-B2 accelerograph

The digitizer being used for the accelerograms obtained by the SMAC-B2 accelerograph is a semiautomatic instrument. The view and the specifications of the digitizer are shown in Fig. 23 and Table 7, respectively.

The digitizer works in the following way. On the digitizer table there is a magnifying glass which can be translated along the Y-axis by rotating a small wheel near the glass. A magnescale is connected to the wheel, and the electric digital output corresponding to the position of the magnifying glass is available from the magnescale. The magnifying glass has a cross mark and a lamp to illuminate the accelerogram within its range. The operator places the cross mark on the trace and pushes a push-switch; then the digital output from the magnescale is displayed on the panel and is stored in the memories of the computer. After this step, the magnifying glass is automatically shifted along the X-axis by 0.1 mm.

#### b. Digitizer for records by the ERS-B, C, D accelerograph

The records obtained by the ERS-B, C, D accelerograph are processed by an on-line

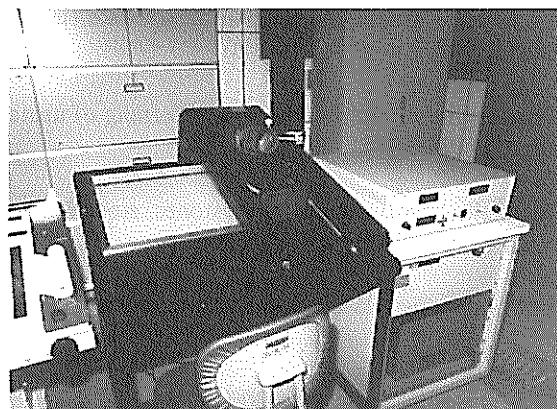


Fig. 23 Digitizer for records by the SMAC-B2 accelerograph

Table 7 Specifications of digitizer for records by the SMAC-B2 accelerograph

<b>Digitizer Table</b>	
Sizes of table to accommodate accelerogram	750 mm (X) x 660 mm (Y)
Effective area	430 mm (X) x 300 mm (Y)
Magnifying glass	5x, with a cross mark and illumination
Translation of magnifying glass	
Y-axis	manual by rotating a wheel
X-axis	automatic, at intervals of 0.1 mm
 <b>Analog to Digital Converter and Control</b>	
Resolution (overall)	1000 counts per a millimeter
Indication	
Y-axis	sign and 4 digits
X-axis	4 digits

oscillogram digitizer. The digitizer is connected to a hybrid computer which is combination of a digital and an analog computers. The digitizer and the computer are photographed in Fig. 24 and 25.

The records is placed on the table and an operator traces waves in the records with cursor of the digitizer. The travels of the cursor along X- and Y-axis are digitally counted and at each 0.1 mm increment or decrement of travel along the X-axis, the location counts of the cursor are transferred into memories of the computer. After tracing the necessary segment of the record, digitized values in the memories are processed by appropriate programs. According to the direction given to the computer through the I/O typewriter, output of the digitized records in the memories is available in forms of printed list, magnetic tape and analog reproduction.

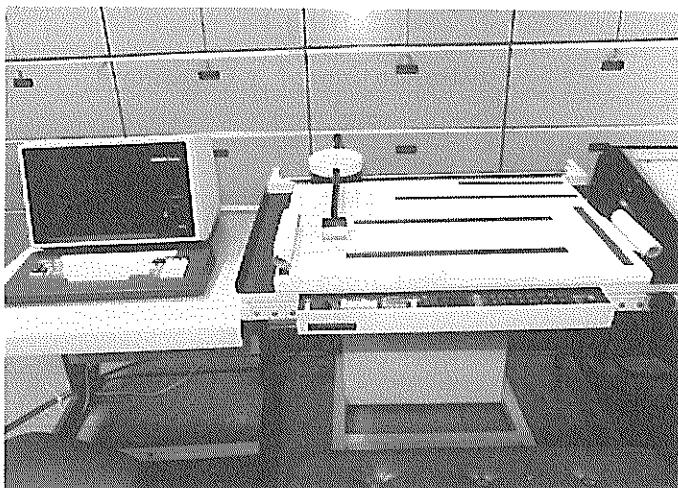


Fig. 24 Digitizer for records by the ERS-B, C, D accelerograph

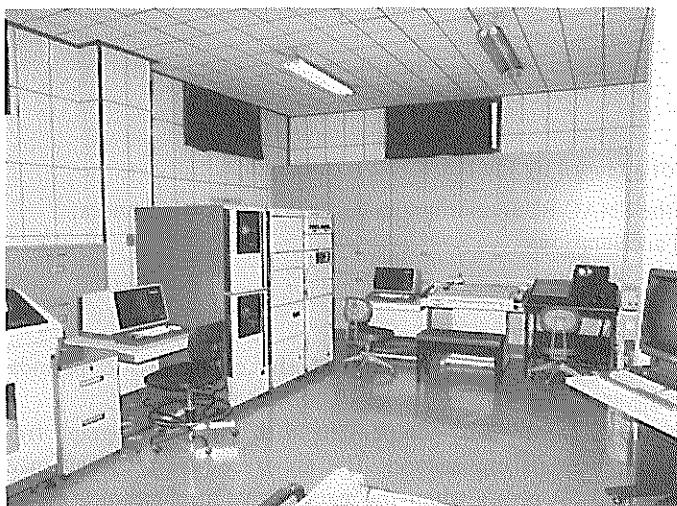


Fig. 25 Hybrid computer controlling the digitizer

## (2) Digitization

The digitization procedure described here is applied for records obtained since 1976.

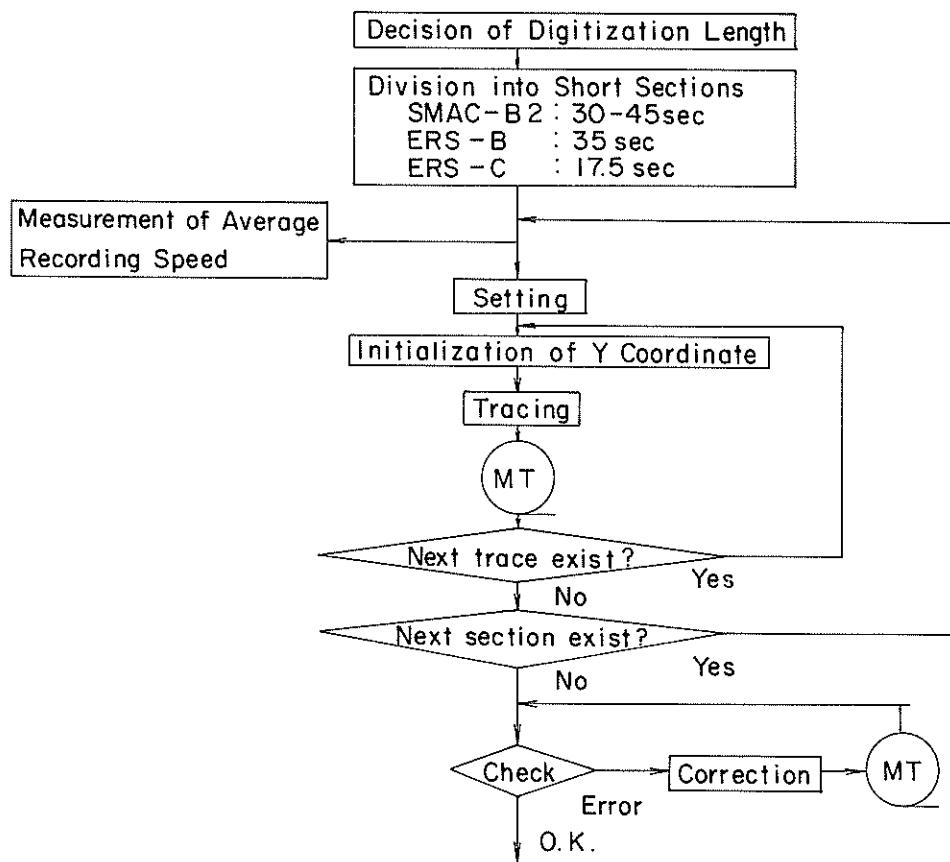


Fig. 26 Digitization procedure

### i) Digitization of a record by the SMAC-B2 accelerograph

A record by the SMAC-B2 accelerograph consists of following traces;

Recorded accelerations

Fixed traces

Timing marks

Arc traces

Free vibration traces for calibration of the characteristic periods and damping factors of the accelerograph

The fixed traces are recorded by the pens fixed to the accelerograph frame. The timing marks are pulses at intervals of one second. The arc traces are recorded manually with the recording pens supported by pivots when the paper drive mechanism is stopped. They show offset of the pens from the normal position where the pens are parallel to the direction of paper driving.

Traces to be digitized are the recorded accelerations, the fixed traces, and the arc traces. Digitized fixed traces and digitized arc traces are used for the standard data processing described later. The timing marks are used only to obtain the average recording speed because fluctuation of the timing marks are estimated as small as the digital unit of the digitizer (0.1 mm) according to the results of the tests of the SMAC-B2 accelerographs.<sup>36)</sup> The average error in the time marking is expected to be less than 1 % and the fluctuation is less than 0.5 % according to the results of the tests of the SMAC-B2 accelerographs.<sup>36)</sup> In order to obtain the average paper speed, length of intervals of 30 pulses is measured by the digitizer for a record by the ERS-B, C, D accelerograph.

A record is digitized from the starting point of recording. Portion of the record to be digitized is determined so as to include discernible acceleration on the paper. This determination is done by observation of a record to be digitized. The portion of the record to be digitized is divided into some sections because of the limitation of effective area of the digitizer table. Length of each section is about 30 cm to 45 cm which is almost equivalent to 30 second to 45 seconds. Digitization unit in the amplitude is 0.008 mm which is equivalent to 0.1 Gal. Contact prints are made for each section as described previously.

Digitization procedure is summarised as follows.

- (a) Setting of the copy: A copy of a record to be digitized is fixed with the magnets on the table of the digitizer. The table is rotated by an adjusting screw so that the fixed trace on the copy is parallel to  $X$  axis of the digitizer. Two points on the fixed trace located on the both ends of the section are used for this adjustment:  $Y$  coordinate value of the two points are made to coincide with each other.
- (b) Initialization of  $Y$  coordinate:  $Y$  coordinate is arbitrarily initialized in the digitization procedure because "Sectional Base-Line Location" described later is to be applied in the standard data processing.  $Y$  coordinate of a first point to be digitized is usually set to be zero.
- (c) Tracing: The traces are digitized by an operator in the way described in the preceding section. Three accelerations, two fixed traces, and three arc traces are digitized at intervals of 0.1 mm along  $X$  axis. The intervals are almost equivalent to 0.001 s. Accelerations are, however, recorded in a cylindrical coordinate system so that the digitized amplitude values are not corresponding to equal time intervals.
- (d) Recording of Digitized Data: Data punched on a paper tape are recorded in a magnetic tape with such data as record number, component, station, date and time of the earthquake, time intervals, etc.

## ii) Digitization of a record by the ERS-B, C, D accelerograph

A record by the ERS-B, C, D accelerograph consists of recorded accelerations, fixed traces, and timing marks. The Fixed traces are recorded by light beams reflected from fixed mirrors attached to the oscillograph frame. They are parallel lines at intervals of 2 mm drawn in the whole breadth of the recording paper. The recorded accelerations and one of the fixed traces located in the center of the oscillogram are digitized.

Portion of the record to be digitized is divided into some sections because of limitation of the effective area of the digitizer table. Length of each section is about 70 cm, which corresponds to about 35 seconds on a record by the ERS-B accelerograph and about 17.5 seconds on a record by the ERS-C/D accelerograph.

Procedure of setting of a record by the ERS-B, C, D accelerograph and the initialization of  $Y$  coordinate is similar to that for a record by the SMAC-B2 accelerograph. The record is digitized by an operator in the way described in the preceding section. The accelerations are

digitized at intervals of 0.1 mm, which corresponds to 0.005 s. on a record by the ERS-B accelerograph and about 0.0025 s. on a record by the ERS-C/D accelerograph. The fixed trace is digitized at intervals of about 5 cm, which corresponds to 2.5 seconds on a record by the ERS-B accelerograph and 1.25 seconds on a record by the ERS-C/D accelerograph; then the digitized data are obtained by linear interpolation at intervals of 0.1 mm. The digital unit in the amplitude is 0.1 mm, which corresponds to about 0.1 Gal on a record by the ERS-B accelerograph and about 0.2 Gal or about 1.0 Gal on a record by the ERS-C/D accelerograph. In the case of the ERS-C/D accelerograph, sensitivities of the galvanometers are calibrated for each recording with calibration currents before resetting paper drive.

Timing marks are used only to measure the average recording speed of the record by the ERS-C/D accelerograph because fluctuation of the timing marks is expected as small as the digital unit of the digitizer (0.1 mm) according to the results of the tests of the ERS-C/D accelerographs.<sup>35)</sup> They are pulses of intervals of 0.1 second generated by a crystal timer. In case of a record by the ERS-B accelerograph, timing marks are not used because accuracy of the timer depends on that of the frequency of the power supply which consists of batteries and a DC-AC inverter.

### (3) Standard Data Processing

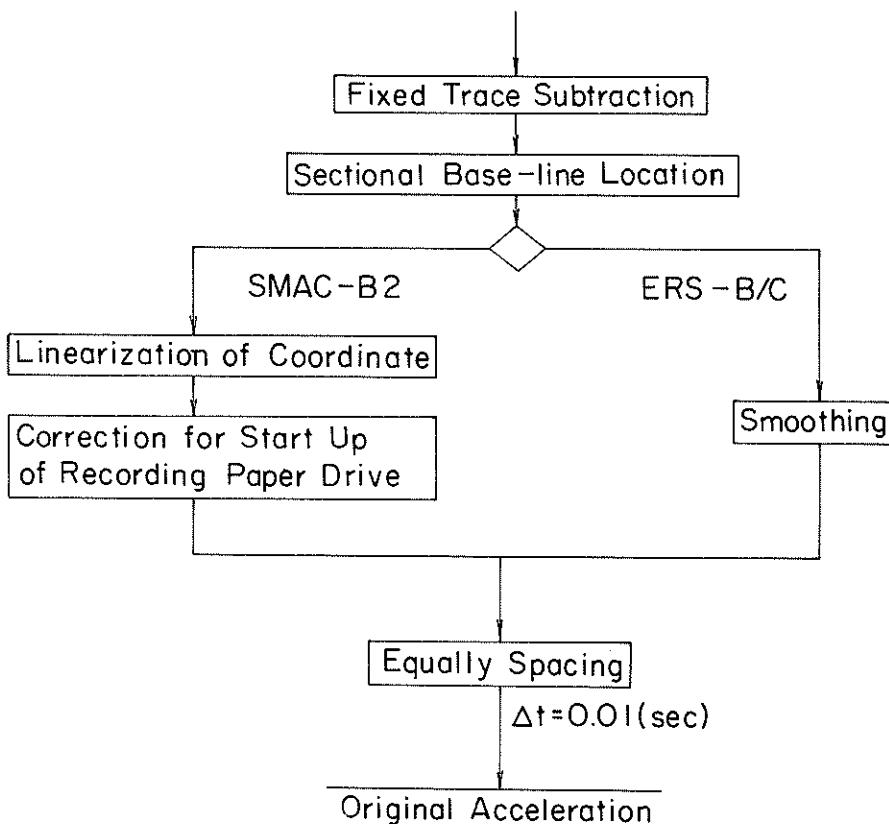


Fig. 27 Procedures of standard data processing

The procedure for the standard data processing described here is applied for records obtained since 1976, although the correction for start up of recording paper drive of the SMAC-B2 accelerograph was slightly modified for the improvement after the preceding annual report had been published. For the detailed description, see a separate report.<sup>36)</sup> The acceleration processed through the standard data processing will be called "Original Acceleration". The original acceleration is showed in a figure and listed on a table. Data numbers of junctions of sections for digitalization are listed also on the table, if any (See Table 8).

Standard date processing for a record by the SMAC-B2 accelerograph is performed under following procedures.

1. Fixed Trace Subtraction
2. Sectional Base-line Location
3. Linearization of Coordinate
4. Correction for Start up of Recording Paper Drive
5. Equally Spacing

Standard data processing for a record by the ERS-B, C, D accelerograph is performed under following procedures.

1. Fixed Trace Subtraction
2. Sectional Base-line Location
3. Smoothing
4. Equally Spacing

Each correction procedure is described briefly as follows.

i) Fixed Trace Subtraction

This correction is applied in order to eliminate the following errors.

Errors caused by the transverse motion of recording paper in the drive mechanism of the accelerograph

Systematic errors caused by an imperfect mechanical transverse mechanism of the digitizer cross-hair system

Errors of sectional rotation of the record on the table of the digitizer at the setting

The systematic errors of the digitizer cross-hair system were found to be negligible according to the tests with a straight line made of a stretched steel wire and a stretched gut.

Digitized fixed traces are smoothed by a weighted running average scheme before subtracted from the accelerogram. The wieght function is defined by

$$w(t) = \begin{cases} \sqrt{\frac{\alpha}{\pi}} \exp [-\alpha t^2] & \text{if } |t| \geq t_0 \\ 0 & \text{otherwise} \end{cases} \quad \dots \dots \dots \quad (2)$$

where

$$\alpha = \left(\frac{\pi}{2}\right)^2$$

$$t_0 = \sqrt{\alpha / 5} = 0.7 \text{ (s.)}$$

At both ends of a section for digitization,  $\alpha$  in the equation (2) is redefined by

$$\alpha = 5 / S^2 \quad \dots \dots \dots \quad (3)$$

where  $S$  is distance from the end of a section.

This weighted running average corresponds to a low pass filter of the cut off frequency of about 0.5 Hz.

The smoothed fixed traces are subtracted from the accelerogram. In the case of a record

Table 8 Example of digitized record

RECORD - S-1043  
STATION - ONAHAMA-S  
TOTAL NUMBER OF DATA - 4600  
SAMPLING INTERVAL - 0.010 (SEC)  
CORRECTION - ARC. ERR.  
SIGNAL - GR. ACC.

COMPONENT - W2SN

DATE AND TIME - 1977-12-17-00-10

No.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
0	-15	-15	-15	-15	-15	-14	-14	-14	-14	-14
10	-13	-13	-13	-13	-13	-12	-12	-12	-12	-12
20	-10	-10	-10	-10	-9	-9	-8	-8	-7	-6
30	-6	-6	-6	-6	-6	-6	-6	-7	-7	-7
40	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
50	-18	-13	-27	-28	-28	-25	-25	-25	-25	-25
60	-1	-1	-2	-1	-1	-1	-1	-1	-1	-1
70	-19	-26	-30	-28	-28	-25	-22	-15	-15	-15
80	-3	-6	-1	-6	-9	-12	-16	-18	-19	-19
90	-13	-6	-1	-7	-6	-12	-12	-12	-12	-12
100	-5	-3	-1	-8	-10	-8	-2	-1	-1	-1
110	-1	8	6	0	7	13	12	8	3	3
120	-20	-1	-4	2	3	1	-1	2	2	2
130	0	-5	-4	3	10	10	9	3	3	3
140	5	4	3	2	0	-4	-8	-6	-6	-6
150	-8	-12	-15	-15	-12	-9	-10	-12	-14	-18
160	-22	-22	-28	-29	-29	-26	-21	-15	-8	-8
170	-6	-11	-15	-15	-15	-13	-9	-9	-7	-4
180	0	-8	-18	-18	-24	-23	-32	-31	-29	-14
190	-7	-4	-11	-11	-12	-12	-9	-10	-11	-9
200	8	9	9	11	11	12	12	9	4	0
210	-3	3	3	1	2	-7	-8	-11	-10	-3
220	0	0	1	4	1	-1	-1	7	13	10
230	4	-1	-7	-6	-6	-3	-3	0	9	9
240	9	9	9	3	-14	-27	-30	-24	-24	-24
250	-10	-6	-3	1	3	-6	-11	-11	-8	-5
260	-5	1	6	-9	-9	-8	-11	-15	-5	6
270	-16	-10	-5	-5	-5	-5	-6	0	9	9
280	-20	-14	-16	-23	-17	-12	-9	-7	-4	-2
290	-11	-25	-25	-20	-19	-23	-23	-23	-18	-12
300	3	6	12	21	30	29	27	25	22	17
310	10	1	-4	-4	-3	-6	-11	-11	-8	-5
320	1	-1	0	0	0	0	-24	-24	-18	-12
330	19	21	28	24	17	14	6	1	-2	-9
340	-16	-15	-15	-12	-11	-11	-11	-10	-7	-4
350	0	-1	-1	-2	-1	-1	-1	-1	-1	-1
360	-16	-16	-22	-30	-30	-25	-25	-22	-17	-17
370	-16	-16	-17	-17	-17	-14	-14	-14	-14	-14
380	-1	-1	-2	-1	-1	-1	-1	-1	-1	-1
390	-9	-4	-1	-1	-3	-6	-6	-6	-6	-6
400	-6	-6	-3	0	4	5	5	5	5	5
410	17	13	10	10	10	3	1	-1	-1	-1
420	9	15	16	14	13	11	11	10	7	6
430	2	3	-13	-10	-13	-10	-8	-4	-4	-4
440	14	14	8	5	16	17	18	14	14	14
450	0	5	8	13	16	17	18	14	14	14
460	4	6	5	2	5	5	5	5	5	5
470	-29	-29	-30	-15	-9	-3	-5	16	21	21
480	25	24	20	15	5	-17	-27	-35	-32	-32
490	-27	-22	-16	-16	-16	-13	-10	-4	-4	-4
500	-2	-11	-13	-10	-6	-1	-6	8	12	18
510	22	20	15	6	2	2	2	2	2	2
520	-1	1	1	1	1	1	1	1	1	1
530	-5	9	15	20	20	20	20	20	20	20
540	-2	-8	-3	0	9	12	12	12	12	12
550	34	29	24	19	10	2	7	4	3	0
560	-4	0	7	14	22	28	28	28	28	28
570	-11	-10	-6	2	14	22	21	21	21	16
580	13	8	0	-4	-13	-18	-18	-18	-18	-16
590	-20	-27	-27	-27	-27	-27	-27	-27	-27	-27
600	6	15	22	21	25	24	24	24	24	24
610	4	6	12	19	23	20	18	16	14	14
620	5	-6	-16	-10	0	9	14	20	21	18
630	15	14	16	14	14	14	14	14	14	14
640	-2	-4	-1	8	1	-4	-4	-4	-4	-4
650	11	11	3	-4	-4	-21	-22	-22	-22	-22
660	-8	0	12	23	23	23	23	23	23	23
670	6	10	12	13	13	13	13	13	13	13
680	26	26	26	26	26	26	26	26	26	26
690	-65	-47	-53	-56	-49	-43	-30	-29	-29	-29
700	-157	-157	-157	-157	-157	-157	-157	-157	-157	-157
710	-358	-358	-358	-358	-358	-358	-358	-358	-358	-358
720	-210	-153	-210	-153	-153	-153	-153	-153	-153	-153
730	254	254	254	254	254	254	254	254	254	254
740	522	522	522	522	522	522	522	522	522	522
750	467	441	396	315	291	265	239	215	191	177
760	62	55	46	31	5	1	1	1	1	1
770	201	223	200	142	62	-90	-278	-391	-485	-671
780	-307	-801	-728	-605	-446	-241	-144	-215	-368	-444
790	492	500	452	372	239	147	102	236	305	444
800	-711	-711	-711	-711	-711	-711	-711	-711	-711	-711
810	135	177	184	176	130	60	-308	-397	-507	533
820	-234	-239	-215	-168	-103	-53	-53	-53	-53	482
830	246	257	239	202	163	135	113	102	97	64
840	138	151	152	120	65	17	-10	-8	-9	173
850	-130	-139	-119	-58	-10	45	93	156	229	305
860	328	344	355	342	320	250	182	118	45	10
870	-44	-70	-91	-93	-94	-94	-94	-94	-94	-94
880	150	163	154	128	95	62	32	10	75	125
890	-40	-41	-53	-70	-92	-105	-122	-134	-143	-155
900	-148	-136	-123	-113	-107	-103	-103	-102	-102	-102
910	-52	-24	-4	7	9	14	18	22	31	48
920	82	122	122	122	122	122	122	122	122	122
930	87	146	146	146	146	146	146	146	146	146
940	-7	-13	-22	-32	-40	-40	-40	-40	-40	-40
950	-34	-37	-43	-44	-44	-44	-44	-44	-44	-44
960	-48	-42	-36	-30	-20	-20	-20	-20	-20	-20
970	-73	-107	-129	-137	-130	-130	-130	-130	-130	-130
980	-23	2	22	36	46	52	55	57	59	59
990	-3	-12	-24	-18	-18	4	21	35	50	53
1000	134	106	87	70	58	61	71	95	176	156
1010	134	106	87	70	58	61	71	95	176	156
1020	88	55	7	-37	-72	-113	-113	-113	-113	-113
1030	-226	-224	-212	-200	-188	-179	-179	-179	-179	-179
1040	-132	-120	-106	-89	-89	-89	-89	-89	-89	-89

by the SMAC-B2 accelerograph, subtraction is made as follows;

An upper trace is corrected with an upper fixed trace.

A lower trace is corrected with a lower fixed trace.

A center trace is corrected with an average of an upper fixed trace and lower one.

In the case of a record by the ERS-B, C, D accelerograph, one fixed trace is subtracted from all the components of accelerogram.

ii) Sectional Base-line Location

As described previously, base-line is arbitrarily inserted for each section by the initialization of  $Y$  coordinate. Sectional translation brings mainly low frequency errors into the accelerogram and produces an unnatural response of a low cut filter for integration around a point of junction of digitized sections.

Base-line is located so as to make an ideal average of acceleration over almost infinite length zero. On the sectional base-line location, the authors assume that low frequency components up to about  $1/T$ , where  $T$  is minimum length of sections, is almost none if calculation of spectrum is done over the infinite length for the accelerogram which have been corrected by the fixed trace subtraction and which have an ideal true base-line for each section. Based on the detailed study of the base-line location in the frequency space, the base-line is located sectionally so as to make a weighted average of each sectional acceleration zero. The weight function is defined by

$$u(t) = \sqrt{\frac{\beta}{\pi}} \exp [-\beta t^2] \dots \dots \dots \quad (4)$$

Where  $\beta = 20/T^2$ , and  $T$  (s.) is length of each section.

The expected error of the location is almost proportional to the quantities of low frequency components up to about  $1/T$  (Hz).

Because the authors do not have enough space to describe the detailed study, the authors introduce an example calculation to illustrate the difference between the proposed base-line location and the base-line location of least square fit scheme for each section. A sine wave generated by a computer of 100 Gals, 5 Hz, 5000 data with time intervals of 0.01 sec is divided into two sections; one section is the first 2510 data and the other is the last 2490 data, which are looked upon as a sectionally digitized accelerogram. Sectional base-lines are located by the two methods. Displacements are calculated from the two accelerations by the fixed filter method described later and a portion of the results including the junction of two sections are shown in Fig. 18(a) and (b) respectively. (10.1 sec is the junction in these figures.) These figures indicate that the proposed base-line location is much better in this case because true displacement is a sine wave.

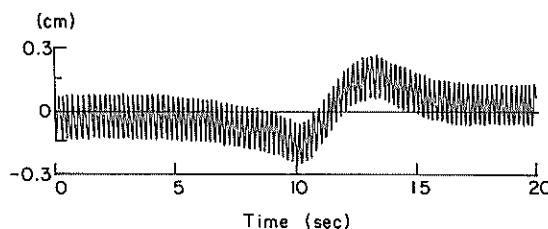


Fig. 28 (a) Integrated displacement from the acceleration with sectionally located base-line by a least square fit scheme

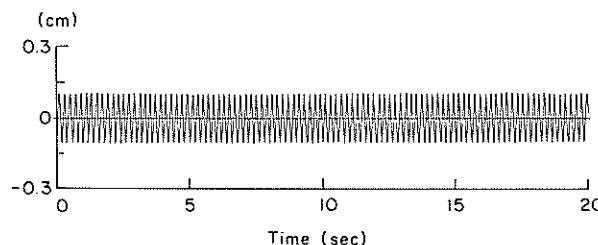


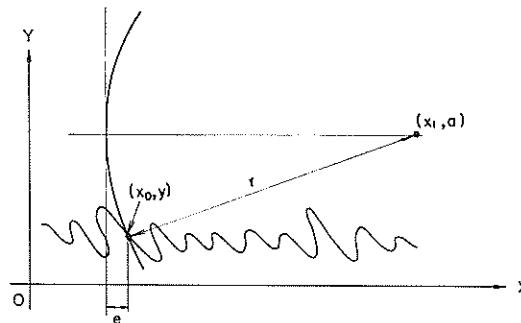
Fig. 28 (b) Integrated displacement from the acceleration with sectionally located base-lines by the proposed method

### iii) Linearization of Coordinate

This correction is applied to a record by the SMAC-B2 accelerograph to obtain a corrected  $X$  coordinate of each datum.  $Y$  coordinate of the pivot of the recording pen is calculated from the digitized arc trace.

Let  $r$  (mm) denote the radius of the arc (length of the arm of the recording pen),  $r$  (mm) denote  $Y$  coordinate of a point whose  $X$  coordinate is to be corrected,  $a$  (mm) denote  $Y$  coordinate of the center of the arc (the pivot of the pen) and  $e$  (mm) denote error of  $X$  coordinate of the point to be corrected then we have

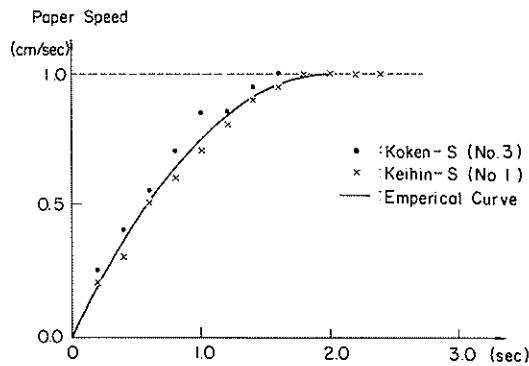
Although the arc trace is digitized with arbitrarily determined base-line, the linearization of coordinate is uniformly performed because  $(y - a)$  in the equation remains constant for any base-line.  $a$  (mm) in the equation will be set to be zero if arc traces are accidentally not drawn or length of the arc trace is short (if maximum difference of  $X$  coordinates of the arc trace is less than 0.5 mm.)



**Fig. 29** Linearization of coordinate

iv) Correction for start up of recording paper drive

The variation of recording paper speed of the SMAC-B2 accelerograph is represented by the following equation which is based on the tests made by the authors.



**Fig. 30** Variable recording speed on start up of recording paper drive

Where;  $v$  : paper speed at time  $t$  (cm/s.)

$v_a$  : paper speed after reaching constant speed (cm/s.)

*t* : time after triggering (s.)

$t_0$  : constant (s.)

*b* : constant (s.)

If  $t_0$  and  $b$  are given, the correction for the start up of recording paper drive is simple problem.

For the correction of the digitized records in the preceding annual report,  $t_0 = 2.0$  s. and  $b = 2.0$  s. were used. After the annual report had been published, it was found that more appropriate correction would be possible with a slight modification of  $t_0$  value. For the correction of the most of the digitized records in this report,  $t_0 = 1.9$  s. was used.

v) Smoothing

Smoothing is applied to a record by the ERS-B, C, D accelerograph. A record by the ERS-B, C, D accelerograph is digitized at intervals of 0.1 mm which corresponds to about 0.005 s. on a record by the ERS-B accelerograph and corresponds to about 0.0025 s. on a record by the ERS-C/D accelerograph. Frequency components higher than about 50 Hz are eliminated because there are almost no significant components of seismic acceleration over 50 Hz for the most of the record of ground according to the records obtained by the ERS-B, C, D accelerograph so far.

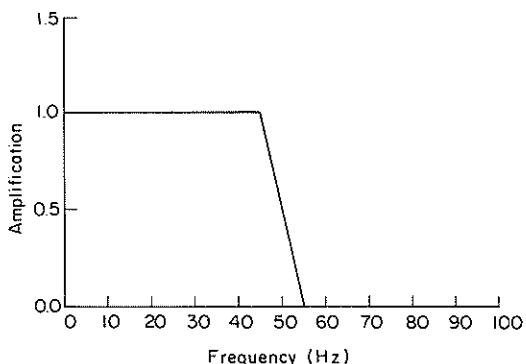


Fig. 31 Filter for the smoothing

The weight function is defined by

$$g(t) = \begin{cases} \frac{f_0 + f_1}{2} & \text{if } t = 0 \\ \frac{\cos(2\pi f_0 t) - \cos(2\pi f_1 t)}{(2\pi t)^2} & \text{if } 0 < |t| \leq \dots \\ 0 & \text{otherwise} \end{cases} \quad (8)$$

where  $f_0 = 45$  (Hz) and  $f_1 = 55$  (Hz)

The filer corresponding to this weighted running average is approximately expressed as follows. (Errors of the approximation is less than 0.3%)

$$G(f) = \begin{cases} 1 & \text{if } |f| \leq f_0 \\ \frac{f_1 - |f|}{f_1 - f_0} & \text{if } f_0 < |f| \leq f_1 \\ 0 & \text{if } |f| > f_1 \end{cases} \dots (9)$$

where  $f_0 = 45$  (Hz) and  $f_1 = 55$  (Hz)

**vi) Equally Spacing**

Data are equally spaced at intervals of 0.01 s. by means of linear interpolation.

A record by the SMAC-B2 accelerograph is digitized at intervals of 0.1 mm and is processed through the linearization of coordinate. The date processed through the linearization of coordinate are unequally spaced date, whose intervals of data are longer than 0.01 s. on portions of accelerogram where absolute value of acceleration decreases and intervals of data are shorter than 0.01 s. else where.

A record by the ERS-B, C, D accelerograph is digitized at intervals of 0.1 mm, which corresponds to about 0.005 s. on a record by the ERS-B accelerograph and about 0.0025 s. on a record by the ERS-C/D accelerograph. There is no possibility of aliasing by the equally spacing at intervals of 0.01 sec because their high frequency components over 50 Hz are eliminated by the smoothing. High density of sampling at digitization enables us to separate high frequency components which are possibly contaminated by digitization errors and assures us much accuracy of the interpolation.

(4) Processing of the Data obtained by the ERS-F Accelerograph

The main unit of the recording system, which has recorded the earthquake motions, is drawn out from the box of the recording system of the ERS-F Accelerograph and replaced by the another main unit ready for recording the coming earthquakes. The drawn out unit is packed in a case, shown in Fig. 18, with a static eliminator on the connector of the unit and sent to the Earthquake Resistant Structures Laboratory in the Port and Harbour Research Institute by mail.

In the Geotechnical Earthquake Engineering Laboratory, the unit is set on the reproducer, shown in Fig. 19, which is connected to a computer, and digital time histories of the earthquake motions are reproduced. Absolute time at the trigger of the record is also obtained from the record of the time signal.

As mentioned in Table 5, the recording system has digital delay memory for ten seconds. If the recording started well enough before the first motion of the earthquake, some

of the portion of the record preceding the first motion is omitted.

Data processing and the preliminary analyses for the records by the ERS-F Accelerograph is almost the same as the standard data processing and the preliminary analyses for the record by ERS-B/C/D Accelerograph. The differences are as follows:

- i) No smoothing is applied for the data at the standard data processing.
- ii) As an instrument correction at the preliminary analyses, correction for the phase is applied but no correction is applied for the amplitude. Low pass filter with cut-off frequency of 25 Hz and roll-off frequency of 40 Hz are applied by using a digital filter of "cosine" shape in frequency domain.
- iii) As the high pass filtering at the preliminary analyses, parameter  $E$  for the Variable Filter in Eq.(19) is determined by the following equation;

$$E = (p \times 0.001) \times 0.02236 \quad (10)$$

in which  $p$  ( $1000 \text{ Gal}/2^{1.5}$ ) is the sensitivity of ERS-F accelerograph.

The factors in Eq.(10) was obtained by the study on the noise level obtained by the power spectra of the noise under the conditions with connectors of signal conditioner in short circuit.

Details of the ERS-F Accelerograph and the data processing will be reported in a separate report.

## 5. Preliminary Analyses

The Standard procedures of preliminary analyses described here is applied for records obtained since 1976. For the detailed description, see separate reports.<sup>35,36</sup>) The standard procedures of preliminary analyses consist of filtering for instrument correction, filtering for correction of low or high frequency components, integration, calculation of response spectra and Fourier spectra (Fig. 32).

### (1) The Method of Correction and Integration

Instrument correction, filtering, integration is applied in frequency space. FFT is applied for the accelerogram which is extended with a section of zero outside the digitized portion in order to avoid link effect. The length of section of zero  $L$  (s.) is determined so as to meet the following condition.

$$L > \max \left[ \frac{2}{3} T, 10.0 \right] \dots \dots \dots \quad (11)$$

where  $T$  (s.) is the minimum length of sections made by the division of an accelerogram for the digitization. This condition is based on the examination of impulse responses of the high pass filters for integration to be described later. Length of the section of zero  $L$  is decided so as to make calculation time of FFT short as much as possible in the given memory size of the given computer.

- i) The Filter for Instrument Correction and the Supplementary Filter
  - (a) Filters for a Record by the SMAC-B2 Accelerograph  
The filter for instrument correction  $A_S(f)$  is defined by

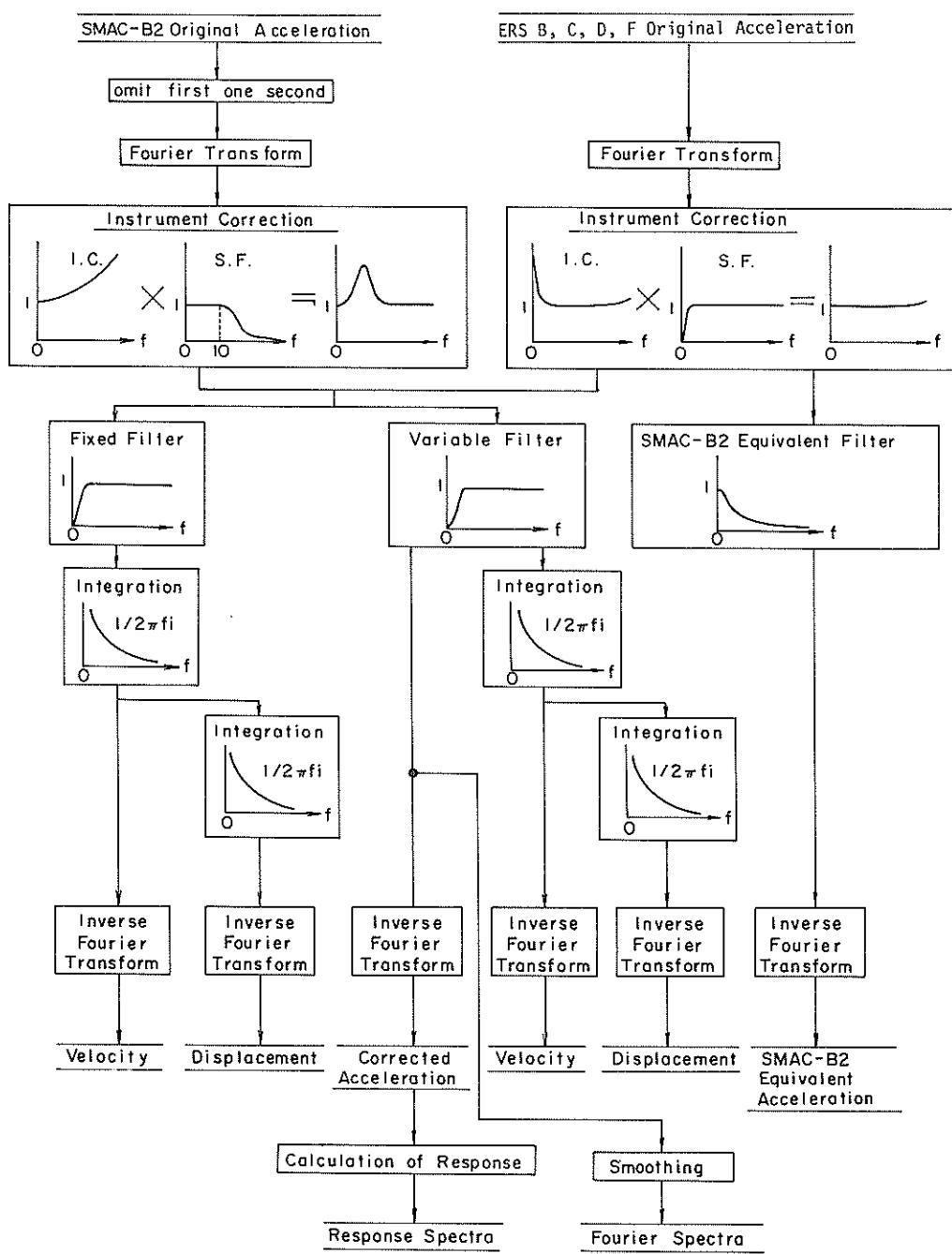


Fig. 32 Procedures of Preliminary Analyses

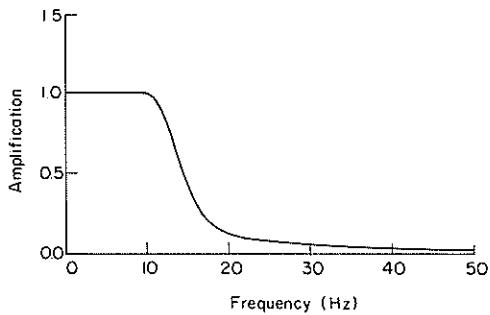
where  $f_S = 1/0.14$  (Hz) and  $h_S = 1.0$

The supplementary filter  $B_S(f)$  is defined by

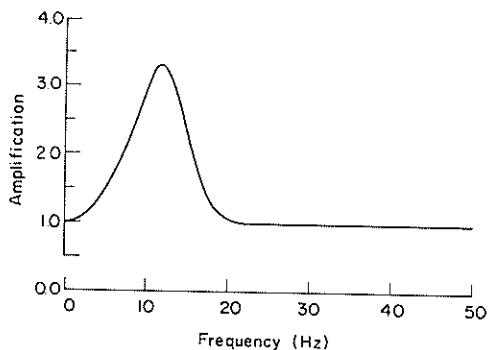
$$B_S(f) = \begin{cases} \frac{1}{[1 + (|A_S(f)| - 1) \exp\left\{-\frac{(|f| - f_0)^2}{20}\right\}] \frac{1}{|A_S(f)|}} & \text{if } |f| \leq f_0 \\ \dots & \text{otherwise} \end{cases} \quad (13)$$

where  $f_0 = 10$  (Hz)

The supplementary filter is designed to suppress high frequency digitization noise and at the same time preserve high-frequency components of an accelerogram in order to lessen an abnormal response of the filter to discontinuities at both ends of digitized portion of the accelerogram.



**Fig. 33** The Supplementary Filter for a record by the SMAC-B2 accelerograph



**Fig. 34** Combined frequency characteristics of the filter for instrument correction and the supplementary filter for records by the SMAC-B2 accelerograph

- (b) Filters for a Record by the ERS-B, C, D Accelerograph  
 The filter for the instrument correction  $A_E(f)$  is defined by

$$A_E(f) = A_p(f) \cdot A_G(f)$$

$$A_G(f) = 1 - \left(\frac{f}{f_G}\right)^2 + 2h_G \left(\frac{f}{f_G}\right) i$$

where for a record by the ERS-B accelerograph

$f_p = 2.0$  (Hz),  $h_p = 17$ ,  $f_G = 100$  (Hz) and  $h_G = 0.7$

and for a record by the ERS-C accelerograph

$f_p = 3.0$  (Hz),  $h_p = 17$ ,  $f_G = 250$  (Hz) and  $h_G = 0.7$

and for a record by the ERS-D accelerograph

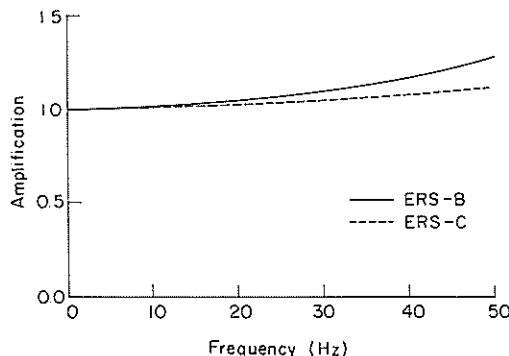
$f_p = 5.0$  (Hz),  $h_p = 10$ ,  $f_G = 100$  (Hz) and  $h_G = 0.7$

$1/A_p(f)$  is frequency characteristics of the pick up of the accelerograph and  $1/A_G(f)$  is those of the galvanometer.

The supplementary filter  $B_E(f)$  is defined by

$$B_E(f) = \begin{cases} 1 / |A_p(f)| & \text{if } |f| \leq f_p \\ 1 & \text{otherwise} \end{cases} \dots \dots \dots \quad (15)$$

where  $A_p(f)$  is the filter for the instrument correction of the pick up and  $f_p$  is the characteristic frequency of the instrument defined above for each type of accelerograph. The supplementary filter is designed to suppress low frequency digitization errors.



**Fig. 35** The Combined Filter of Instrument Correction and Supplementary Filtering for a Record by the ERS-B, C, D Accelerograph

### ii) SMAC-B2 Equivalent Filter

Frequency characteristics of SMAC-B2 accelerograph are different from that of ERS-B, C, D, F accelerograph. In order to make it easy to compare the accelerograms by these different types of accelerographs each other, a filter defined in the following equation is applied for a record by the ERS-B, C, D, F accelerograph.

where  $f_S = 1/0.14$  (Hz) and  $h_S = 1.0$

The filter has the same frequency characteristics as those of the SMAC-B2 accelerograph.

The filter is applied for the acceleration processed through the filter for instrument correction and the supplementary filter. Acceleration processed through this filter will be called "SMAC-B2 Equivalent Acceleration". This acceleration can be compared with the original acceleration by the SMAC-B2 accelerograph.

### iii) The High Pass Filters for Integration

Processed through the preliminary correction procedure, a digitized accelerogram is expected to have only such errors as random digitization errors and errors of sectional base-line location. Errors of sectional base-line location affect mainly to frequency components lower than about  $1/T$  where  $T$  is length of a section of an accelerogram devided for digitization.

As a result of the examination of random digitization errors, frequency characteristics of  $S/N$  ratio calculated for each frequency are found to be similar to those of digitized acceleration. In other words, ratio of digitized acceleration to digitization errors calculated for each frequency is large if the corresponding frequency components of the digitized acceleration is large. For the frequency components higher than about  $1/T$ , the result of the examination of digitization errors may remain valid. The result implies that  $S/N$  ratio of a frequency component varies with the frequency characteristics of accelerogram to be digitized.

The cut-off frequency of a high pass filter for integration of a digitized accelerogram should be varied in accordance with frequency characteristics of an accelerogram from such a point of view that  $S/N$  ratio should be kept higher than some constant level for every frequency component and at the same time the physically real signals should be preserved as much as possible. On the other hand, cut-off frequency of the filter should be kept constant for any accelerograms from such a point of view that the preserved real seismic signals should be filtered out by the same filter for the purpose of comparison between two or more velocities or displacements even if integrated errors are more or less included in them.

In order to satisfy a wide range of applications of the strong-motion records from the

0.552) deployed by the Japan Meteorological Agency of Ministry of Transport.  
Cut-off frequency (3 dB down) of this filter is 0.154 Hz.

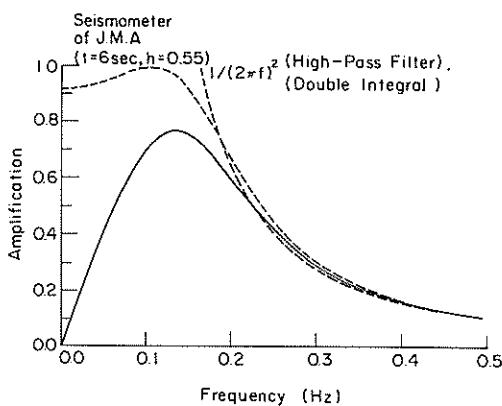


Fig. 36 Combined Frequency Characteristics of the Fixed Filter and Double Integral

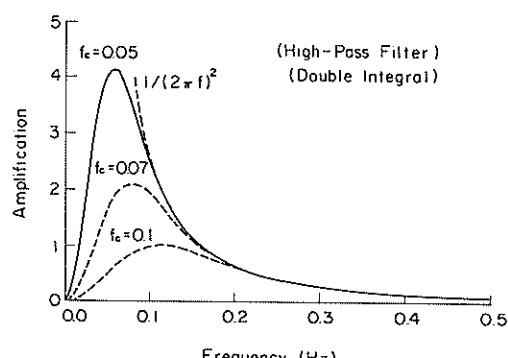


Fig. 37 Combined Frequency Characteristics of the Variable Filter and Double Integral

various view points, the authors proposed two methods of correction of an accelerogram to obtain velocities and displacements; one is a method with a fixed filter and another is a method with a variable filter.

(a) Fixed Filter

This filter is defined by

$$H_1(f) = \frac{1}{1 - (\frac{f_0}{f})^2 - 2h(\frac{f_0}{f})i} \cdot \sqrt{1 + (\frac{f_1}{f})^2} \quad \dots \dots \dots \quad (17)$$

where  $f_0 = 1/6$  (Hz),  $h = 0.552$  and  $f_1 = 0.1$  (Hz)

This filter is designed to make it easy to compare the integrated displacement with records obtained by the one magnification strong-motion seismometer ( $T = 6$  s. and  $h =$

(b) Variable Filter

This filter is defined by

The parameter  $f_C$  in the equation varies so as to make  $\sigma$  equal to  $E$ , where  $\sigma$  is defined by

$$\sigma^2 = \frac{1}{M} \int_{-\infty}^{\infty} |X(f)|^2 \cdot [1 - \exp\left\{- (fT)^2\right\}]^4 \cdot [1 - H_2(f)]^2 df \dots \dots \dots (19)$$

where  $M$  is length of whole digitized portion

$T$  is a minimum length of a section of accelerogram

$X(f)$  is Fourier Transform of the original acceleration

and  $E$  is the value listed below;

$E = 0.5$  (Gal) for a record by the SMAC-B2 accelerograph.

$E = 0.05p$  (Gal) for a record by the ERS-B, C, D accelerograph.

where  $p$  (Gal/mm) is the sensitivity of ERS-B, C, D accelerograph.

$E = (px \times 0.001) \times 0.02236$  (Gal) for a record by the ERS-F accelegraph.

where  $p$  (1000 Gal/ $2^{16}$ ) is the sensitivity of ERS-F accelegraph.

Cut-off frequency (3 dB down) of this filter is  $1.36 f_C$ .

Decision procedure of  $f_C$  is simply illustrated in Fig. 38.  $f_C$  is fundamentally determined so as to filter out some constant amount of low frequency components of an accelerogram higher than about  $1/T$ . The greater low frequency components of an accelerogram are, the lower  $f_C$  should be. Because the greater low frequency components of an accelerogram are, the higher  $SN$  ratio of these components are. Low frequency components lower than about  $1/T$  are eliminated for the decision procedure of  $f_C$  because they are possible to be contaminated by the errors at sectional base-line location and the relation between the  $SN$  ratio and the quantity of a frequency component of an accelerogram is afraid no longer remaining valid.

This decision procedure of  $f_C$  is, however, a compromise between such a view point as

to keep  $SN$  ratio over some constant level for every frequency component and such a view point as to keep  $f_C$  to be a constant. The reason why we proposed such a compromised method is that the compromise makes decision procedure of  $f_C$  more stable against possible fluctuation of the relation between quantity of a frequency component of an accelerogram and the  $SN$  ratio. The relation may, to some extent, depend on frequency characteristics of an accelerogram to be digitized, digitized length of an accelerogram non-stationarity of an accelerogram, etc. and the relation itself if valid only in a stochastic sense.

The reason why the authors proposed a fixed low pass supplementary filter instead of a variable one for a record by the SMAC-B2 accelerograph was that the possible fluctuation of the relation is expected to be greater for high frequency components.

Slope of both of the high pass filters proposed here are designed to be mild in order to lessen an artificial predominant frequency component around the cut-off frequency.

## (2) Corrected Acceleration, SMAC-B2 Equivalent Acceleration, Integrated Velocities and Integrated Displacement

A portion of first one second of the original acceleration of the SMAC-B2 accelerograph is omitted for the instrument correction and the integration because even a slight difference of start up of recording paper drive between SMAC-B2 accelerographs and even a small difference of selection of starting point of digitization may sensitively affect accuracy of the portion of first short section processed through the correction of start up of the recording paper drive. In the case of the original acceleration of the ERS-B, C, D, F accelerograph, no data is omitted. These accelerations are processed by the methods of correction and integration described previously. The calculated results are shown in figures and their maximum values are listed in a table.

"Corrected acceleration" denotes acceleration processed through the variable filter. "SMAC-B2 equivalent acceleration" denotes acceleration obtained by the SMAC-B2 equivalent filter. Integrated velocities and displacements are calculated with the fixed filter and the variable filter. The parameter  $f_C$  of the variable filter is also shown on the figures and the table.

The corrected acceleration of the different types of accelerographs can not necessarily be compared with each other freely because the difference of the supplementary filters produces difference mainly on the high frequency components over 10 Hz of the filtered accelerations. Instead of comparison of the corrected accelerations, "SMAC-B2 equivalent acceleration" can be freely compared with the original acceleration of the SMAC-B2 accelerograph except for the low frequency components lower than about 0.1 Hz.

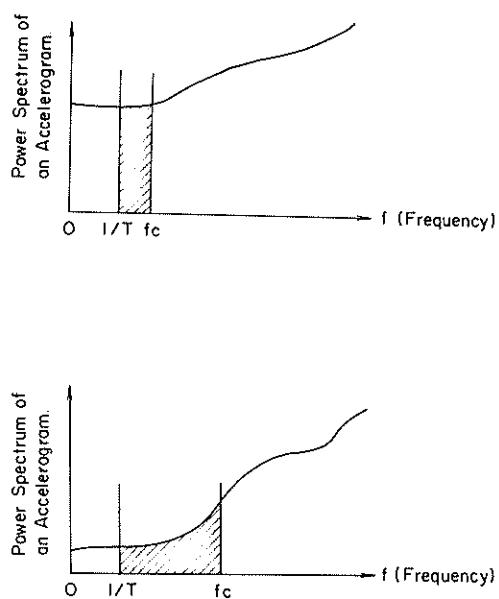


Fig. 38 Simplified illustration of decision procedure of  $f_C$

### (3) Response Spectra

Response spectra are calculated for the corrected acceleration, which is an acceleration processed through the variable filter as described previously.

The response spectra in the previous annual reports before 1968 were calculated from the digitized records by a digital computer using the Runge-Kuta-Gill method to integrate numerically the equation of motion of the oscillator. The response spectra in the present report were calculated with a step by step calculation of the exact solution to the governing differential equation.<sup>39)</sup> No significant difference was seen in the results calculated by the both methods, according to the trial calculations.

The time interval of each step of the calculation is 0.01 second for the oscillators of natural periods longer than 0.2 second. For the oscillators of shorter periods, the small time intervals are selected so that one cycle of the undamped free oscillation of the oscillator is covered at least by 20 steps of the numerical calculation to maintain the necessary accuracy. In these calculation, the digitized records at smaller time intervals are made by means of the interpolation in the computer. The response spectra are provided in numerical tables as well as in the figures.

To calculate the response spectrum, entire length of the record is not necessary; the last part of the record after the maximum response have appeared is practically meaningless in the response calculation. Besides, the shorter record is more preferable from view point of the calculation time. On some long records, their beginning parts of small acceleration are not used in the calculation so far as it is thought that the neglected parts do not affect the results of the calculation. The length of the record used for the calculation and the length of the beginning part which is not used are shown in the numerical table as the time length and the skipped length respectively.

Response spectra of the period longer than about  $1/f_C$  is influenced by the high pass filter ( $1.36/f_C$  is the period of 3 dB down of the filter); i.e., calculated response spectra is true if real seismic signals do not exist on the period longer than about  $1/f_C$  and calculated response spectra are smaller than the true value if real seismic signals do exist. In the case of the corrected acceleration by the SMAC-B2 accelerograph, response spectra of the period shorter than about 0.1 sec is also influenced by the low pass filter. Users of the response spectra should be careful about these characteristics of the response spectra calculated for the corrected acceleration and difference between the response spectra for the corrected acceleration and those for the uncorrected acceleration which had been calculated so far.

### (4) Fourier Spectrum

The Fourier spectra are calculated by the Fast Fourier Transform for whole length of the record, which are directly obtained at the filtering prosess with the variable filter. But, the spectra in this report are multiplied by the whole length of the record and then smoothed with the Parzen window of 1 Hz band width.

### (5) Loci of Acceleration and Displacement

The loci of acceleration and displacement in horizontal plane are included in this report. The records used for calculation are acceleration without instrument correction and displacement processed by the variable filter.

## 6. Summary of Observation

Since 1962, 3868 records were obtained in the network of the Port and Harbour Research Institute, and most of the important records were analysed by the authors. In Table 9, a statistical summary of the observation is given. In Table 10, record numbers of accelerograms of which the digitized records and the spectra have been published are shown. The number in the parentheses behind each record number is showing the number of the Technical Note of the Port and Harbour Research Institute in which the digitized record appeared.

*(Received on March 30, 1990)*

Table 9

STATION	TOTAL NUMBER OF RECORDS	NUMBER OF RECORDS EX- CEEDING 20 GALS IN MAX.	NUMBER OF RECORDS EX- CEEDING 50 GALS IN MAX.
AKITA-S	30	7	2
AMAGASAKI-S	8	1	0
AOMORI-S	40	14	5
CHIBA-S	85	16	4
HACHINOHE-S*	111	16	5
HACHINOHE-JI-S	9	4	3
HAKODATE-FB	3	0	0
HAKODATE-F	3	0	0
HAKODATE-FR	3	0	0
HAKODATE-M	43	12	3
HANASAKI-M	35	20	7
HIRARA-S	4	1	0
HIROSHIMA-S*	9	5	4
HIROSHIMA-JI-S	4	0	0
HITACHINAKA-F	118	59	17
HOSOSHIMA-S	54	19	7
ISHIGAKI-S	4	1	0
INA-E-S	15	6	0
INA-E-SANBASHI-M	13	6	1
INA-E-YAITA-M	20	10	2
KAGOSHIMA-S	26	4	0
KAMAISHI-M	24	7	1
KAMAISHI-MB	23	1	1
KANAZAWA-S	8	2	0
KASHIMA-S*	32	9	3
KASHIMA-JI-S*	30	6	3
KASHIMA-ZOKAN-S	115	26	10
KAWASAKI-CHI-M*	187	22	2
KAWASAKI-KO-M*	107	28	6
KAWASAKI-FB	22	3	2
KAWASAKI-F	22	5	2
KAWASAKI-FR	22	8	3
KEIHIN-JI-S	123	18	2
KINUURA-S*	8	4	2
KINUURA-JI-S	18	4	0
KOBE-DA16-S	11	3	0
KOBE-DA18-S	16	2	1
KOBE-JI-S	14	4	0
KOBE-MAYA-DA11-M	14	5	2
KOBE-MAYA-DA12-M	17	5	0
KOBE-MAYA-M	20	4	1
KOCHI-S*	21	3	1
KOCHI-JI-S	13	3	0
KOKEN-M	60	5	0
KOKEN-S	31	5	1
KOMATSUJIMA-S	17	2	0
KUSHIRO-S*	49	16	6
KUSHIRO-JI-S	7	4	2
MATSUYAMA-S	25	4	2
MINAMATA-M	3	0	0
MIYAKO-S	42	25	12
MIYAZAKI-M	38	9	4
MURORAN-S	67	14	6
NAGOYA-ZOKAN-S	21	5	2
NAHA-S*	1	0	0
NAHA-ZOKAN-S	2	1	0
NIGATA-S*	12	1	0
NIGATA-JI-S	5	1	0

(to be continued)

(Table 9, continued)

STATION	TOTAL NUMBER OF RECORDS	NUMBER OF RECORDS EX- CEEDING 20 GALS IN MAX.	NUMBER OF RECORDS EX- CEEDING 50 GALS IN MAX.
OFUNATO-S*	21	3	2
OFUNATO-BOCHI-S	61	14	5
OFUNATO-BO-S	98	34	19
OFUNATO-MOUND-M	47	13	4
OITA-S	13	7	4
OKITSU-S	27	4	0
OMAEZAKI-M	21	1	0
ONAHAMA-S*	67	13	4
ONAHAMA-JI-S	26	22	7
OSAKA-CHUO-S	8	1	0
OSAKA-JI-S	10	1	0
OTARU-S	11	0	0
SAKAIMINATO-S*	0	0	0
SAKAIMINATO-JI-S	10	4	2
SAKATA-S	47	6	0
SENDAI-M	67	13	2
SENDAI-MB	66	1	0
SHIBUSHI-S	12	0	0
SHIMIZU-KOJO-S	24	7	3
SHIMIZU-MIHO-S	25	4	1
SHIM.-SEKITAN-M*	23	11	5
SHIM.-SEKITAN-S*	10	5	2
SHINAGAWA-M*	1	1	1
SHINAGAWA-MB	48	1	0
SHINAGAWA-S	88	26	6
SHIOGAMA-S*	19	1	0
SHIOGAMA-KOJO-S	84	16	5
SHIMODA-F	4	0	0
SOMA-S	44	11	6
TAGONOURA-S	59	8	0
TOKACHI-M	75	42	15
TOMAKOMAI-S	22	7	4
TOYAMA-S	6	2	1
TSURUGA-S	30	3	1
URAKAWA-S	55	9	2
WAKA.-GANPEKI-S*	7	2	0
WAKAYAMA-S	34	15	3
WAKAYAMA-JI-S*	12	5	4
WAKA.-SUMIKIN-S*	0	0	0
YAMASHI.-DAI7-M*	81	6	1
YAMASHI.-DAI6-S*	102	31	11
YAMASHI.-HEN-M*	199	19	6
YAMASHITA-FB	41	2	0
YAMASHITA-F	41	10	3
YAMASHITA-FR	41	16	8
YAMASHITA-HEN-S*	119	24	8
YOKKA.-CHITOSE-S	9	5	1
YOKKA.-DAI2-M	18	3	2
YOKKA.-SEKITAN-M	46	8	2
YOKKAICHI-JI-S*	5	2	0
TOTAL	3868	904	287
E RS	1616	356	103
SMAC	2252	548	184

Table 10

STATION	RECORDS WHICH HAVE BEEN DIGITIZED(REF. NO.)			
AKITA-S	S-655(160)	S-1200(319)	S-1567(458)	S-1585(458)
	S-1586(458)			
AOMORI-S	S-235(80)	S-264(80)	S-304(80)	S-400(80)
	S-670(160)	S-1192(319)	S-1573(458)	S-1592(458)
CHIBA-S	S-1195(319)	S-1378(374)	S-1545(487)	S-1884(547)
	S-2107(619)			
HACHINOHE-S*	S-252(80)	S-310(80)	S-401(80)	S-669(160)
	S-857(202)	S-1202(319)	S-1453(426)	S-1575(458)
HACHINOHE-JI-S	S-1968(618)	S-2261(676)		
HAKODATE-M	M-357(374)	M-523(442)	M-630(458)	M-639(458)
HANASAKI-M	M-106(287)	M-262(338)	M-496(426)	M-887(547)
	M-1014(588)	M-1017(588)		
HIROSHIMA-S*	S-364(98)	S-1306(338)	S-1623(487)	
HITACHINAKA-F	F-12(588)	F-15(588)	F-19(588)	F-34(618)
	F-36(618)	F-43(618)	F-46(618)	F-107(649)
	F-174(649)			
HOSOSHIMA-S	S-213(98)	S-453(100)	S-544(116)	S-545(116)
	S-1231(338)	S-1625(487)	S-1729(503)	
KASHIMA-S*	S-196(64)	S-612(136)	S-647(136)	
KASHIMA-JI-S*	S-770(181)	S-813(202)	S-845(202)	S-882(202)
KASHIMA-ZOKAN-S	S-1206(319)	S-1506(446)	S-1678(519)	S-1867(547)
	S-1910(588)	S-1957(588)	S-2110(619)	S-2196(676)
	S-2206(676)			
KAWASAKI-CHI-M*	M-186(317)	M-220(319)	M-406(374)	
KAWASAKI-F	F-98(619)	F-123(649)		
KEIHIN-JI-S	S-1188(319)	S-1390(374)	S-2112(619)	
KINUURA-S*	S-480(100)	S-585(136)		
KOBE-MAYA-M	M-704(487)			
KOCHI-S*	S-211(98)			
KOCHI-JI-S	S-1730(503)			
KOKEN-S	S-1046(317)	S-2106(619)		
KOKEN-M	M-170(317)			
KUSHIRO-S*	S-98(62)	S-369(98)	S-634(136)	S-674(160)
	S-733(181)	S-741(181)		
KUSHIRO-JI-S	S-1976(618)	S-2171(649)		
MATSUYAMA-S	S-1303(338)	S-1731(503)	S-1624(487)	
MIYAKO-S	S-236(80)	S-271(80)	S-312(80)	S-273(98)
	S-420(98)	S-537(116)	S-1204(319)	S-1104(338)
	S-1317(338)	S-1972(618)	S-2255(676)	
MIYAZAKI-M	M-228(338)	M-877(547)	M-1107(618)	
MURORAN-S	S-234(80)	S-241(80)	S-399(80)	S-1425(426)
	S-1474(442)	S-1571(458)	S-1599(458)	S-1979(618)
NAGOYA-ZOKAN-S	S-1(55)	S-20(55)	S-578(136)	

(to be continued)

(Table 10, continued)

STATION	RECORDS WHICH HAVE BEEN DIGITIZED(REF. NO.)			
NIIGATA-S*	S-107(62)			
NIIGATA-JI-S	S-1203(319)			
OFUNATO-S*	S-140(64)	S-282(98)	S-361(98)	
OFUNATO-BOCHI-S	S-554(116) S-1120(338)	S-786(181)	S-1022(287)	S-1210(319)
OITA-S	S-924(236)	S-1629(487)	S-1734(503)	S-2021(618)
OKITSU-S	S-1071(317)			
ONAHAMA-S*	S-111(62)	S-1043(287)	S-1191(317)	
ONAHAMA-JI-S	S-1330(338) S-1946(588)	S-1505(446)	S-1602(487)	S-1633(487)
SAKAIMINATO-JI-S	S-2248(676)	S-2251(676)		
SAKATA-S	S-1568(458)			
SENDAI-M	M-1127(618)			
SHIMIZU-KOJYO-S	S-74(62)	S-1063(317)	S-1064(317)	
SHIMIZU-MIHO-S	S-1066(317)	S-1069(317)		
SHINAGAWA-S	S-192(64) S-1885(547)	S-340(98) S-2111(619)	S-1394(374)	S-1787(519) S-2130(649)
SHIOGAMA-S*	S-138(64)			
SHIOGAMA-KOJYO-S	S-782(181) S-2029(618)	S-1118(338)	S-1201(319)	S-2006(618)
SOMA-S	S-1872(547) S-2096(618)	S-2001(618)	S-2031(618)	S-2051(618) S-2220(676)
TAGONOURA-S	S-1055(317)			
TOKACHI-M	M-125(287) M-340(338) M-522(442) M-911(547) M-1242(649)	M-145(287) M-341(374) M-540(446) M-972(547)	M-247(338) M-439(426) M-636(487) M-1078(618)	M-260(338) M-521(442) M-703(487) M-1200(649)
TOMAKOMAI-S	S-877(202)	S-1418(426)	S-1472(442)	S-1977(618)
TOYAMA-S	S-1892(547)			
TSURUGA-S	S-1549(487)			
URAKAWA-S	S-1978(618)	S-2186(676)		
WAKAYAMA-S	S-945(236)	S-1028(287)		
WAKAYAMA-JI-S*	S-187(64)	S-265(98)	S-266(98)	S-788(181)
YAMASHITA-F	F-95(619)	F-168(649)	F-325(676)	
YAMASHITA-HEN-S	S-412(98) S-1362(374)	S-658(160) S-1386(374)	S-1058(317) S-1614(487)	S-1189(319) S-2113(619)
YAMASHITA-HEN-M	M-217(319) M-1183(619)	M-403(374) M-1195(649)	M-1022(588)	M-1056(588) M-1226(649)
YOKKA-CHITOSE-S	S-577(136)			

\* OBSERVATION OF THE STATIONS HAD ALREADY BEEN STOPPED.

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- 24) Hajime Tsuchida, Eiichi Kurata and Katsuko Sudo: Strong-Motion Earthquake Records on the 1968 Tokachi-Oki Earthquake and Its Aftershocks, *Technical Note of the Port and Harbour Research Institute*, No. 80, June 1969, 476p.
- 25) Eiichi Kurata, Susumu Iai and Hajime Tsuchida: Strong-Motion Earthquake Records on the 1978 Izu-Oshima-Kinkai Earthquake in Port Areas, *Technical Note of the Port and Harbour Research Institute*, No. 317, March 1979, 383p.
- 26) Eiichi Kurata, Susumu Iai, Yoshiko Yokoyama and Hajime Tsuchida: Strong-Motion Earthquake Records on the 1978 Miyagi-Ken-Oki Earthquake in Port Areas, *Technical Note of the Port and Harbour Research Institute*, No. 319, June 1979, 419p.
- 27) Eiichi Kurata and Setsuo Noda: Strong-Motion Earthquake Records on the 1982 Ura-kawa-Oki Earthquake in Port Areas, *Technical Note of the Port and Harbour Research Institute*, No. 442, Mar. 1983, 144p.
- 28) Eiichi Kurata, Tetsuo Fukuhara and Setsuo Noda: Strong-Motion Earthquake Records on the 1983 Nipponkai-Chubu Earthquake in Port Areas, *Technical Note of the Port and Harbour Research Institute*, No. 458, Sept. 1983, 327p.
- 29) Eiichi Kurata, Tetsuo Fukuhara and Setsuo Noda: Strong-Motion Earthquake Records on the 7 August 1984 Hyuganada Earthquake in Port Areas, *Technical Note of the Port and Harbour Research Institute*, No. 503, Dec. 1984, 113p.
- 30) Eiichi Kurata, Setsuo Noda and Toyoshi Higuchi: Strong-Motion Earthquake Records on the 17 December 1987 Chiba-ken-Toho-Oki Earthquake in Port Areas, *Technical Note of the Port and Harbour Research Institute*, No. 619, June 1988, 299p.
- 31) Hajime Tsuchida, Teiichiro Yamada and Eiichi Kurata: Site Characteristics of Strong-Motion Earthquake Stations in Ports and Harbour in Japan (Part 1), *Technical Note of the Port and Harbour Research Institute*, No. 34, November 1967, 306p.
- 32) Eiichi Kurata, Hajime Tsuchida and Katsuko Sudo: Site Characteristics of Strong-Motion Earthquake Stations in Ports and Harbours in Japan (Part 2), *Technical Note of the Port and Harbour Research Institute*, No. 107, December 1970, 87p.
- 33) Eiichi Kurata and Tokuzo Ishizaka: Site Characteristics of Strong-Motion Earthquake Stations in Ports and Harbours in Japan (Part 3), *Technical Note of the Port and Harbour Research Institute*, No. 156, March 1973, 54p.
- 34) Yoshiko Yokoyama and Eiichi Kurata: Site Characteristics of Strong-Motion Earthquake Stations in Ports and Harbours in Japan (Part 4), *Technical Note of the Port and Harbour Research Institute*, No. 298, June 1978, 110p.
- 35) Yoshiko Yokoyama and Eiichi Kurata: Site Characteristics of Strong-Motion Earthquake Stations in Ports and Harbours in Japan (Part 5), *Technical Note of the Port and Harbour Research Institute*, No. 351, September 1980, 72p.

- 36) Susumu Iai, Eiichi Kurata and Hajime Tsuchida: Digitization and Correction of Strong-Motion Accelerograms, *Technical Note of the Port and Harbour Research Institute*, No. 286, March 1978, 286p.
- 37) Susumu Iai and Eiichi Kurata: Integration of Strong-Motion Accelerograms, *Proceedings of the 5th Japan Earthquake Engineering Symposium*, November 1978, 225–232p.
- 38) The Seismological Bulletin of the Japan Meteorological Agency for January 1985, The Japan Meteorological Agency, 1985.
- 39) Naba C. Nigam and Paul C. Jennings: Calculation of Response Spectra from Strong-Motion Earthquake Records, *Bulletin of the Seismological Society of America*, Vol. 59, No. 2, April 1969, 909–922p.
- 40) Hajime Tsuchida: Present State and Outcomes of Strong-Motion Earthquake Observation in Port Areas in Japan, *Proceedings of the Annual Research Conference of the Port and Harbour Research Institute*, December 1979, 127–195p.

**Observation Results  
and  
Preliminary Analyses**

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

19:45 JAN. 2, 1989  
NEAR NIJIMA ISLAND  
EPICENTER :  $34^{\circ}3.5'N$   $139^{\circ}6.0'E$   
DEPTH : 15.8KM MAGNITUDE : 5.0

04:08 JAN. 7, 1989

JMA INTENSITIES

FAR E OFF IBARAKI PREF  
EPICENTER :  $36^{\circ}22'N$   $141^{\circ}57.8'E$   
DEPTH : 34.0KM MAGNITUDE : 5.6

JMA INTENSITIES

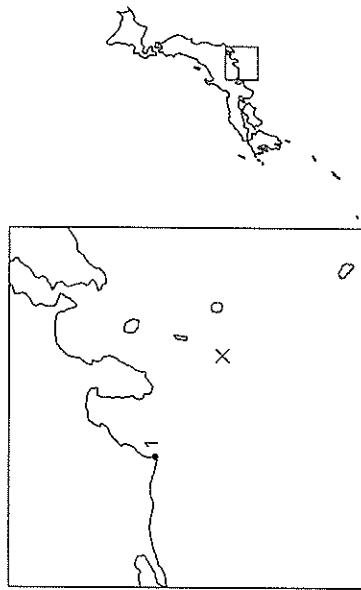
III : KAKIKA-CHOSHII

II : ONAHAMA,MITO-UTSUNOMIYA

II : SHIRAKAWA,FUKUSHIMA,

NIIGATA,TOKYO,YOKOHAMA,

CHIBA,MAEBASHI



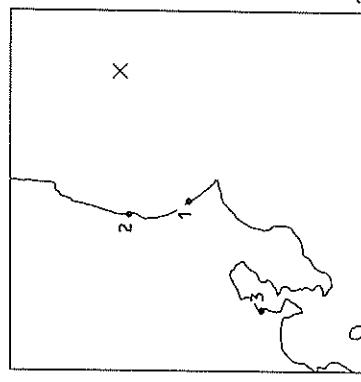
STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 OMAEZAKI-M	ON GROUND	M-1254	1 1 1	101

STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 KASHIMA-ZOKAN-S	ON GROUND	S-2182	3 3 1	123
2 HITACHINAKA-F	ON GROUND	F-222	13 11 5	120
3 YAMASHI-HEN-M*	ON GROUND	M-1256	1 1 1	231

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

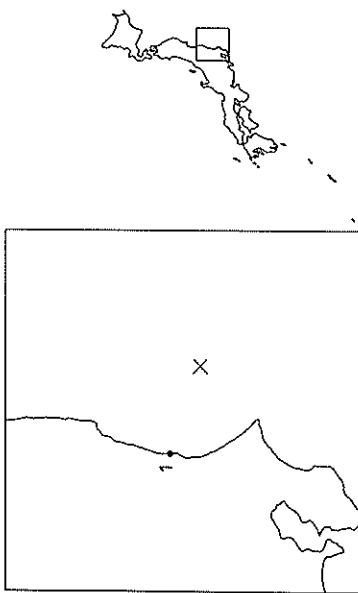
JMA INTENSITIES

JMA INTENSITIES



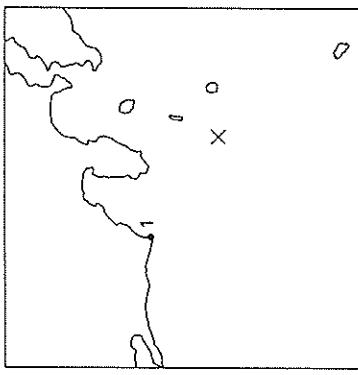
STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

07:11 JAN. 8, 1989 JMA INTENSITIES  
 FAR E OFF IBARAKI PREF II : MI TO  
 EPICENTER : 36°6.5' N 141°23.9' E I : UTSUNOMIYA, CHOSHII,  
 DEPTH : 17.0KM MAGNITUDE : 4.6 KAIKOYA



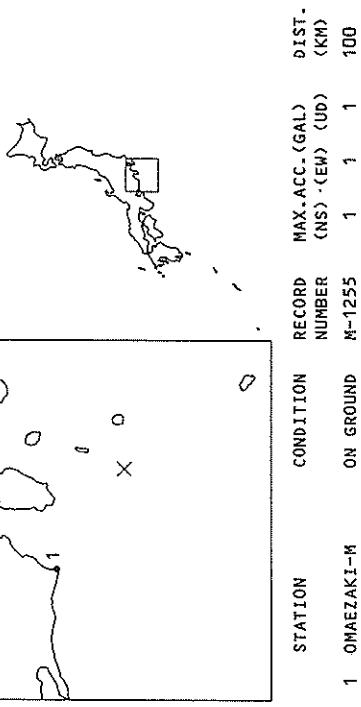
STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

12:15 JAN. 9 1989 JMA INTENSITIES  
 NEAR NIIJIMA ISLAND II : MIYAKEJIMA  
 EPICENTER :  $34^{\circ}3.4'N$   $139^{\circ}5.3'E$   
 DEPTH : 14.3KM MAGNITUDE : 4.9



STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

12:15 JAN. 9 1989 JMA INTENSITIES  
 NEAR NIIJIMA ISLAND II : MIYAKEJIMA  
 EPICENTER :  $34^{\circ}3.4'N$   $139^{\circ}5.3'E$   
 DEPTH : 14.3KM MAGNITUDE : 4.9



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL)	DIST.
		(NS) (EW) (UD)	(KM)	
HITACHINAKA-F	ON GROUND	F- 223	12 12 4	76

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

07:20 JAN. 23, 1989

SE OFF TOKACHI  
EPI CENTER :  $41^{\circ}44.9'N$   $144^{\circ}31.2'E$   
DEPTH : 64.0KM MAGNITUDE : 6.0  
I : ASAHIKAWA, NEMURO, AOMORI,  
HACHINOHE

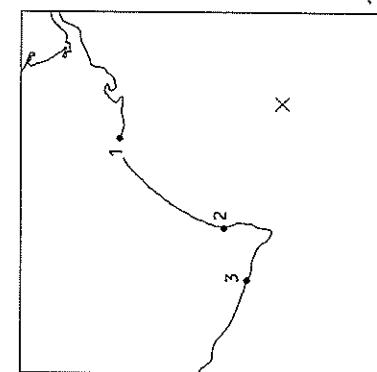
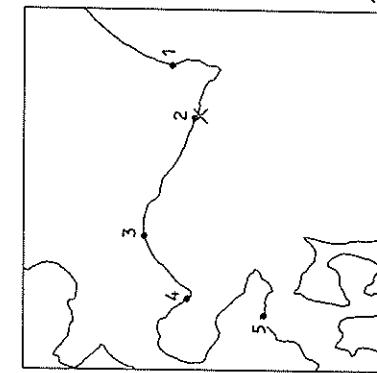
STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

05:03 JAN. 25, 1989

JMA INTENSITIES  
S OFF URAKAWA  
EPI CENTER :  $42^{\circ}7.2'N$   $142^{\circ}47.4'E$   
DEPTH : 49.0KM MAGNITUDE : 5.8

III : OBIHIRO, KUSHIRO, URAKAWA,  
HIROO  
II : TOMAKOMAI, NOROKA  
I : IWAHITAWA, HIROO,  
TOMAKOMAI, HACHINOHE,  
OBIHIRO

IV : URAKAWA  
III : IWAHITAWA, HIROO,  
TOMAKOMAI, HACHINOHE,  
OBIHIRO



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	
1	KUSHIRO-JI-S	S-2183	5 4 1	139	1	TOKACHI-M	ON GROUND	M-1258	26 32 24	47
2	TOKACHI-M	S-2157	24 33 11	115	2	URAKAWA-S	ON GROUND	S-2186	74 69 32	4
3	URAKAWA-S	S-2184	6 4 3	151	3	TOMAKOMAI-S	ON GROUND	S-2187	6 5 3	111
					4	MURORAN-S	ON GROUND	S-2185	16 19 4	153
					5	HAKODATE-FR	ON STRUC.	F- 228	5 5 2	174
					5	HAKODATE-F	ON GROUND	F- 227	6 4 3	174
								F- 226	3 2	174

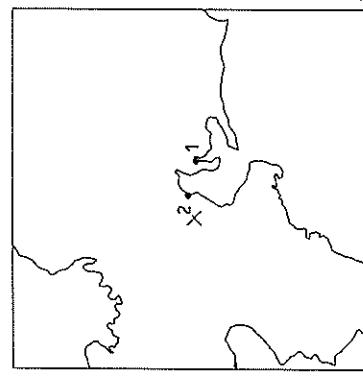
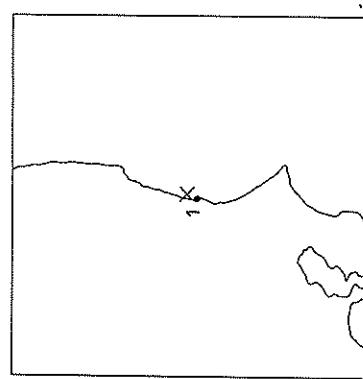
STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

16:35 JAN. 28, 1989  
 NORTHERN IBARAKI PREF  
 EPICENTER :  $36^{\circ}27'5''N$   $140^{\circ}40'1''E$   
 DEPTH : 50.0KM MAGNITUDE : 4.4

03:01 JAN. 30, 1989  
 NORTHERN MIE PREF  
 EPICENTER :  $34^{\circ}54'6''N$   $136^{\circ}26'1''E$   
 DEPTH : 15.5KM MAGNITUDE : 3.9

JMA INTENSITIES  
 III : MITO, KAKIOKA  
 II : UTSUNOMIYA  
 I : SHIRAKAWA, CHICHIBU

JMA INTENSITIES  
 III : YOKKAICHI  
 II : TSU, NAGOYA



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (NS) (EW)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (NS) (EW)	DIST. (KM)
1 HITACHINAKA-F	ON GROUND	F- 235	72 129	30	9	1 KINUURA-JI-S	S-2188	3 3	46

STATION	CONDITION	RECORD NUMBER	MAX. ACC. (NS) (EW)	DIST. (KM)
2 YOKKAICHI-K	ON GROUND	M-1259	33	11
	ON STRUC.			18

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

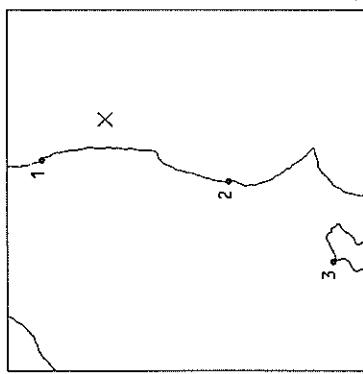
19:56 FEB. 4, 1989  
E OFF FUKUSHIMA PREF  
EPICENTER : 37°18.6'N 141°19.0'E  
DEPTH : 61.4KM MAGNITUDE : 5.4

JMA INTENSITIES

09:05 FEB. 15, 1989  
S OFF URAKAWA  
EPICENTER : 41°59.5'N 142°32.8'E  
DEPTH : 71.8KM MAGNITUDE : 4.6

JMA INTENSITIES

III : ONAHAMA, FUKUSHIMA, CHIBA,  
SHIRAKAWA, MITO,  
UTSUNOMIYA  
II : SENDAI, ISHINOMAKI,  
OFUNATO, YOKOHAMA  
I : YAMAGATA, MORIOKA, MIYAKO,  
MIÉBASHI, TOKYO



III : URAKAWA

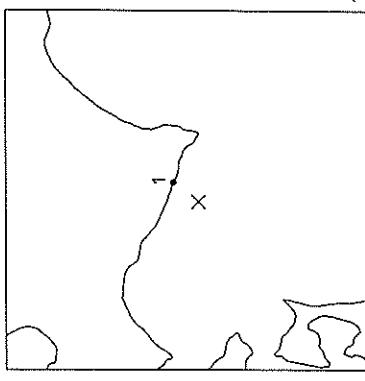
II : HIROO, TOMAKOMAI

I : HIROO

TOKYO

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

09:05 FEB. 15, 1989  
S OFF URAKAWA  
EPICENTER : 41°59.5'N 142°32.8'E  
DEPTH : 71.8KM MAGNITUDE : 4.6



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (NS) (CM/SEC <sup>2</sup> )	RECORD NUMBER	MAX. ACC. (EW) (CM/SEC <sup>2</sup> )	RECORD NUMBER	MAX. ACC. (GAL)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (NS) (CM/SEC <sup>2</sup> )	RECORD NUMBER	MAX. ACC. (EW) (CM/SEC <sup>2</sup> )	RECORD NUMBER	MAX. ACC. (GAL)	DIST. (KM)
1 SOMA-S	ON GROUND	S-2189	6	4	2	65	1	URAKAWA-S	ON GROUND	S-2191	6	4	3	26			
2 HITACHINAKA-F	ON GROUND	F-236	17	24	12	120											
3 SHINAGAWA-MB	IN GROUND	M-1260	1	1		233											
3 SHINAGAWA-S	ON GROUND	S-2190	3	3	2	233											

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

13:58 FEB. 19, 1989

NORTHERN MIE PREF JMA INTENSITIES

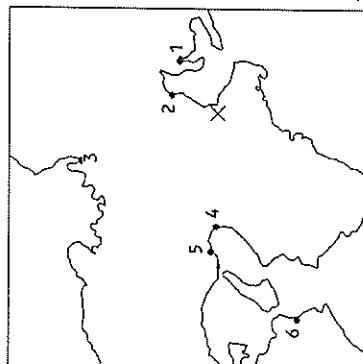
EPICENTER :  $34^{\circ}36.5'N$   $136^{\circ}28.1'E$   
DEPTH : 45.4KM MAGNITUDE : 5.3

I : HAKAMATSU, HAKAYAMA, KOBE,  
OSAKA  
II : TSURUGA, SURUGA, NAGOYA,  
MAIZURU, KYOTO, OKAYAMA,

TOKUSHIMA  
III : Gifu, Owase-Tsu,  
YOKAICHI, MARA  
IV : FUKUI, SURUGA, NAGOYA,  
MAIZURU, KYOTO, OKAYAMA,

I : HAKAMATSU, HAKAYAMA, KOBE,  
OSAKA  
II : TSURUGA, SURUGA, NAGOYA,  
MAIZURU, KYOTO, OKAYAMA,

TOKUSHIMA  
III : Gifu, Owase-Tsu,  
YOKAICHI, MARA  
IV : FUKUI, SURUGA, NAGOYA,  
MAIZURU, KYOTO, OKAYAMA,



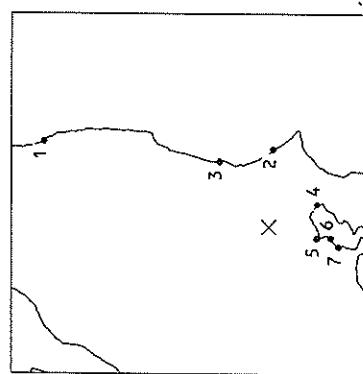
STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

21:27 FEB. 19, 1989

SW IBARAKI PREF JMA INTENSITIES

EPICENTER :  $36^{\circ}1.1'N$   $139^{\circ}54.5'E$   
DEPTH : 55.3KM MAGNITUDE : 5.6

I : SENDAI, MORIOKA, SHIZUOKA,  
MISHIMA  
II : FUKUSHIMA, AJIRO OSHIMA  
III : ONAHAMA, YOKOHAMA, CHOSHII,  
CHIBA  
IV : TOKYO-MITO, UTUSUNOMIYA



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 KINUURA-JI-S	ON GROUND	S-2193	8 13 3	53	1 SOMA-S	ON GROUND	S-2198	3 2 1	221
2 YOKKA.-DAIZ-M	ON STRUC.	M-1261	1 22 41	41	2 KASHIMA-ZOKAN-S	ON GROUND	S-2196	52 32 10	71
2 YOKKA.-CHITOSE-S	ON GROUND	S-2194	11 11 4	41	3 HITACHI-NAKA-F	ON GROUND	F- 237	57 102 24	75
2 YOKKA.-SEKITA-M	ON STRUC.	M-1262	1 40	40	4 CHIBA-S	ON GROUND	S-2192	19 26 7	49
3 TSURUGA-S	ON GROUND	S-2195	7 6 2	121	5 SHINAGAWA-MB	IN GROUND	M-1263	9 11 6	45
4 OSAKA-JI-S	ON GROUND	S-2212	4 5 3	93	5 SHINAGAWA-S	ON GROUND	S-2197	38 34 9	45
4 OSAKA-CHUO-S	ON STRUC.	S-2213	4 4 1	95	6 KAWASAKI-FR	ON STRUC.	F- 231	20 40 10	58
5 KOBE-DAI8-S	ON GROUND	S-2211	2 2 1	114	6 KAWASAKI-I-F	ON GROUND	F- 230	16 25 9	58
5 KOBE-JI-S	ON GROUND	S-2210	4 4 1	115	6 KAWASAKI-T-FB	IN GROUND	F- 229	8 12 4	58
6 KOMATSUJIMA-S	ON GROUND	S-2200	3 3 1	183	7 YAMASHITA-FR	ON STRUC.	F- 234	25 36 6	67
					7 YAMASHITA-F	ON GROUND	F- 233	17 22 8	67
					7 YAMASHITA-FB	IN GROUND	F- 232	6 7 4	67
					7 YAMASHITA-HEN-M*	ON GROUND	M-1264	24 21 8	67
					7 KEIHIN-JI-S	ON GROUND	S-2199	14 19 5	67

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

04:58 FEB. 28, 1989  
 NORTHERN CHIBA PREF  
 EPICENTER :  $35^{\circ}45'9''N$   $140^{\circ}12.7'E$   
 DEPTH : 73.2KM MAGNITUDE : 4.6

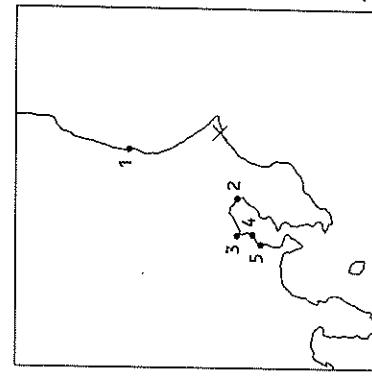
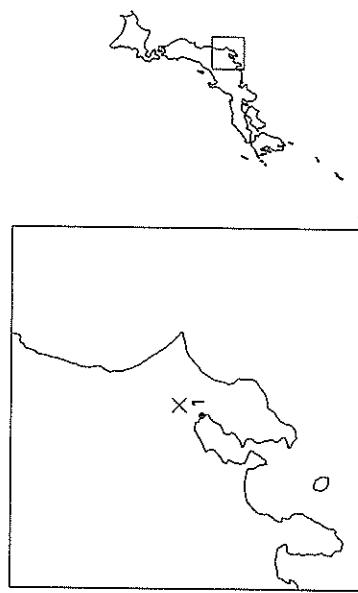
II : KAKIKA-YOKOHAMA  
 I : MITO-UTSUNOMIYA-TOKYO,  
 AJIRO, CHIBA

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

23:39 MAR. 6 /1989  
 NEAR CHOSHU CITY  
 EPICENTER :  $35^{\circ}41'6''N$   $140^{\circ}42.8'E$   
 DEPTH : 55.7KM MAGNITUDE : 6.0

V : CHOSHU  
 III : CHIBA-TOKYO-ONAHAMA,  
 UTSUNOMIYA-YOKOHAMA,  
 FUKUSHIMA-KATSUBURA,  
 MABASHI-SENDAI,

II : ISHINOMAKI  
 I : CHICHIBU-WAKAMATSU,  
 NIIGATA-NAGOYA-SAKATA

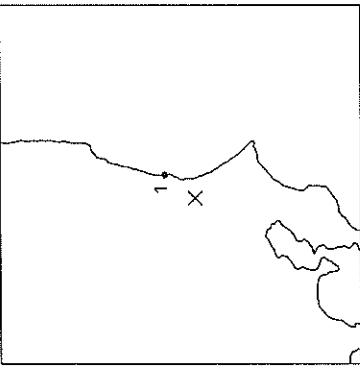
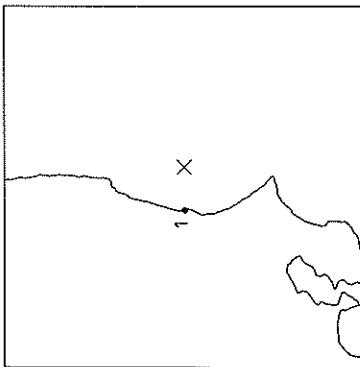


STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL)	DIST. (KM)
1 CHIBA-S	ON GROUND	S-2203	1 2 1	20

STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL)	DIST. (KM)
1 HITACHINAKA-F	ON GROUND	F- 238	23	8
2 CHIBA-S	ON GROUND	S-2204	17	12
3 SHINAGAWA-MB	IN GROUND	M-1265	2	3
3 SHINAGAWA-S	ON GROUND	S-2201	9	10
4 KAWASAKI-FR	ON STRUC.	F- 255	11	18
4 KAWASAKI-F	ON GROUND	F- 254	8	10
4 KAWASAKI-FB	IN GROUND	F- 253	3	4
5 YAMASHITA-FR	ON STRUC.	F- 246	23	22
5 YAMASHITA-F	ON GROUND	F- 245	9	8
5 YAMASHITA-FB	IN GROUND	F- 244	3	3
5 YAMASHITA-HEN-M*	ON GROUND	M-1267	11	9
5 KEIHIN-JI-S	ON GROUND	S-2207	6	5

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 08:37 MAR. 10/1989                            JMA INTENSITIES  
 E OFF IBARAKI PREF                            I : MITO  
 EPI CENTER : 36°22'0"N 141°1'2"E         I : UTSUNOMIYA, ONAHAMA,  
 DEPTH : 41.4KM           MAGNITUDE : 4.6      I : SHIRAKAWA, CHIBA, KAKIOKA

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 14:14 MAR. 10/1989                            JMA INTENSITIES  
 SOUTHERN IBARAKI PREF                            I : MITO, UTSUNOMIYA  
 EPI CENTER : 36°10'.3"N 140°22'.8"E         DEPTH : 73.4KM           MAGNITUDE : 4.0



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 HITACHINAKA-F	ON GROUND	F- 239	49    37    26	36	1 HITACHINAKA-F	ON GROUND	F- 240    9    11    5    31

## STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

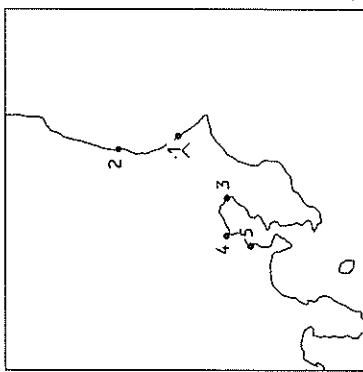
16:12 MAR. 11, 1989

SOUTHERN IBARAKI PREF

EPICENTER :  $35^{\circ}54.5'N$   $140^{\circ}33.8'E$ 

DEPTH : 44.6KM MAGNITUDE : 4.9

JMA INTENSITIES  
 III : CHOSHII-MITO-UTSUNOMIYA,  
 CHIBA  
 II : ONAHAMA-TOKYO-YOKOHAMA  
 I : MAEBASHI-CHICHIBU,  
 TATEYAMA



## STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

03:00 MAR. 15, 1989

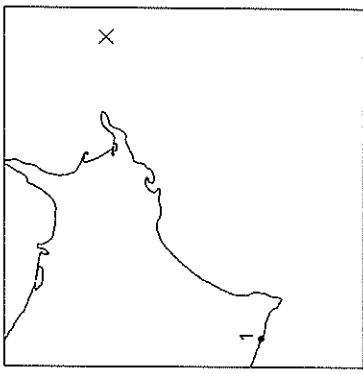
JMA INTENSITIES

OFF NEMURU PENINSULA

EPI CENTER :  $43^{\circ}14.4'N$   $146^{\circ}45.3'E$ 

DEPTH : 63.4KM MAGNITUDE : 4.8

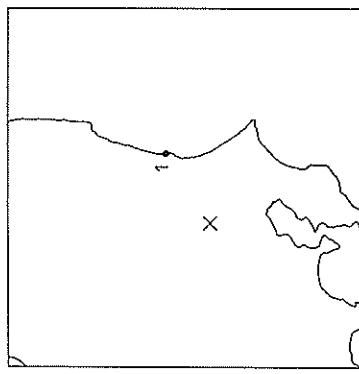
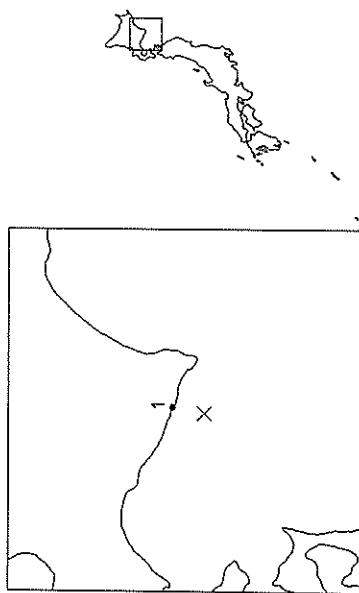
II : NEMURU



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	
1 KASHIMA-ZOKAN-S	ON GROUND	S-2206	58 16 5	12	1 URAKAWA-S	ON GROUND	S-2208	4 3 1 346
2 HITACHINAKA-F	ON GROUND	F-241	35 32 12	53				
3 CHIBA-S	ON GROUND	S-2205	3 2 1	53				
4 SHINAGAWA-MB	IN GROUND	M-1266	1 1 1	79				
4 SHINAGAWA-S	ON GROUND	S-2202	6 7 2	79				
5 YAMASHI-HEN-H*	ON GROUND	H-1268	4 2 3	96				

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 04:12 MAR. 15,1989                    JMA INTENSITIES  
 S OFF URAKAWA                        SW IBARAKI PREF.  
 EPICENTER :  $41^{\circ}56.0'N$   $142^{\circ}41.0'E$     II : URAKAWA  
 DEPTH : 29.7KM                      MAGNITUDE : 4.4

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 20:51 MAR. 17,1989                    JMA INTENSITIES  
 SW IBARAKI PREF.  
 EPICENTER :  $36^{\circ}5.9'N$   $139^{\circ}55.8'E$     II : MITO-UTSUNOMIYA-KAKIOKA  
 DEPTH : 57.6KM                      MAGNITUDE : 3.9    I : CHICHIBU



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 URAKAWA-S	ON GROUND	S-2209	8    5    3	2.6	1 HITACHINAKA-F	ON GROUND	F- 242	8    16    3	6.9

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

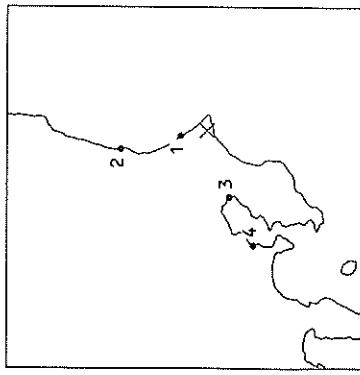
01:37 MAR. 18, 1989

NEAR CHOSHII CITY

EPICENTER :  $35^{\circ}43.9'N$   $140^{\circ}42.7'E$

DEPTH : 50.6KM MAGNITUDE : 5.2

JMA INTENSITIES  
 III : TOKYO, CHOSHII, CHIBA  
 II : MITO, TATEYAMA, YOKOHAMA  
 I : OSHIMA, ONHAMA, MAEBASHI,  
 UTSUNOMIYA



STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

04:22 MAR. 23, 1989

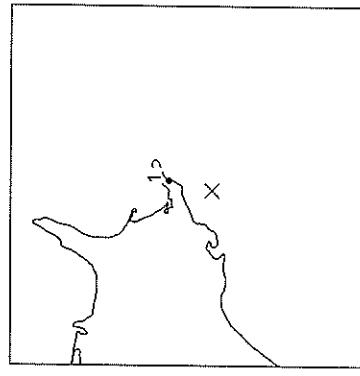
JMA INTENSITIES

OFF NEMURO PENINSULA

EPICENTER :  $42^{\circ}58.3'N$   $145^{\circ}25.7'E$

DEPTH : 44.2KM MAGNITUDE : 4.3

III : NEMURO



STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 KASHIMA-ZOKAN-S	ON GROUND	S-2214	8 9 3	22	1 HANASAKI-M	ON GROUND	M-1269	15 8 3	36
2 HITACHINAKA-F	ON GROUND	F-243	10 9 6	73					
3 CHIBA-S	ON GROUND	S-2215	6 4 2	58					
4 YAMASHI-HEN-N*	ON GROUND	M-1271	7 4 3	101					

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

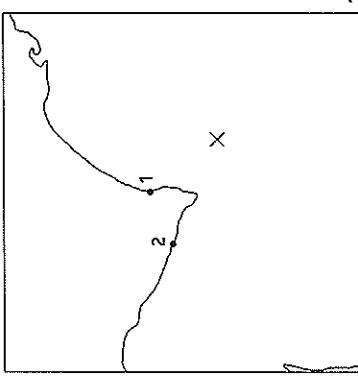
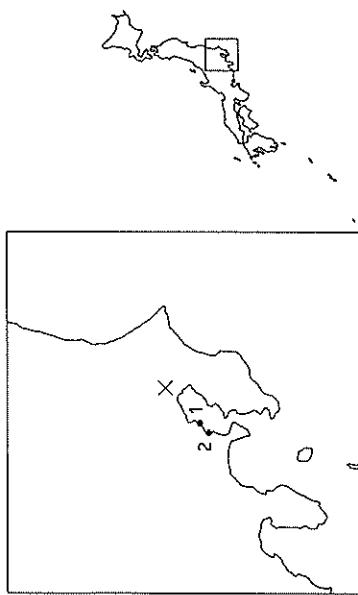
15:47 MAR. 26, 1989  
NORTHERN CHIBA PREF  
EPICENTER : 35°44'2" N 140°6'2" E  
DEPTH : 80.6KM MAGNITUDE : 4.3

JMA INTENSITIES  
II : CHIBA-YOKOHAMA-OISHIMA  
II : TOKYO-UTSUNOMIYA-AJIRO

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

23:12 MAR. 30, 1989  
SE OFF ERIMONISAKI  
EPICENTER : 41°46.5'N 143°47.0'E  
DEPTH : 40.1KM MAGNITUDE : 5.6

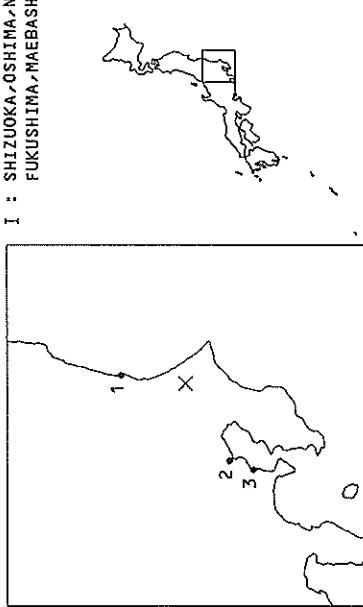
JMA INTENSITIES  
III : URAKAWA-TOMAKOMAI  
II : KUSHIRO-SAPPORO-HIROO,  
HACHINOHE-MORIOKA  
I : HAKODATE-OBIHIRO-AOMORI,  
AKITA



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (NS) (EW) (UD)	DIST. (KM)
1 KAHSAKI-FR	ON STRUC.	F- 258	5 16 2	41	1 TOKACHI-M	ON GROUND	M-1270	14 14 5	71
1 KAHSAKI-F	ON GROUND	F- 257	4 9 2	41	2 URAKAWA-S	ON GROUND	S-2216	27 21 7	95
1 KAHSAKI-FB	IN GROUND	F- 256	2 3 1	41					
2 YAMASHITA-FR	ON STRUC.	F- 249	18 9 2	51					
2 YAMASHITA-F	ON GROUND	F- 248	9 9 4	51					
2 YAMASHITA-FB	IN GROUND	F- 247	2 2 1	51					

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

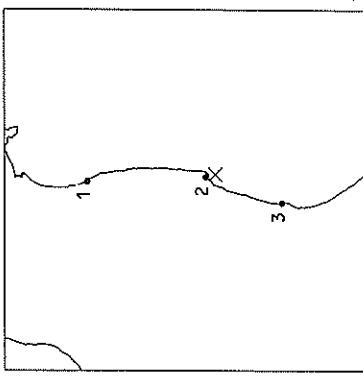
02:18 APR. 26, 1989  
SOUTHERN IBARAKI PREF  
EPICENTER : 35°54'.6"N 140°29.6"E  
DEPTH : 64.8KM MAGNITUDE : 5.4



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL)	DIST. (KM)
		(NS) (EW) (UD)		
1 HITACHINAKA-F	ON GROUND	F- 259	12 10	5 54
2 SHINAGAWA-MB	IN GROUND	N-1272	1 1	2 73
2 SHINAGAWA-S	ON GROUND	S-2217	7 5	2 73
3 YAMASHITA-FR	ON STRUC-	F- 252	9 9	2 90
3 YAMASHITA-F	ON GROUND	F- 251	6 5	2 90
3 YAMASHITA-FB	IN GROUND	F- 250	2 1	1 90
3 KEIHIN-I	ON GROUND	S-2218	4 3	1 92

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

05:45 APR. 26, 1989 JMA INTENSITIES  
 E OFF IBARAKI PREF. III : MITO, ONAHAMA  
 EPI CENTER :  $36^{\circ}32'N$   $140^{\circ}56'1'E$  III : UTSUNOMIA, KAKIOKA  
 DEPTH : 88.2KM MAGNITUDE : 4.7 II : SHIBAYAMA



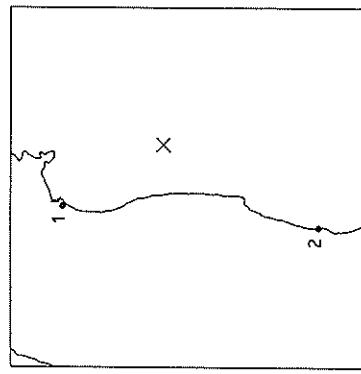
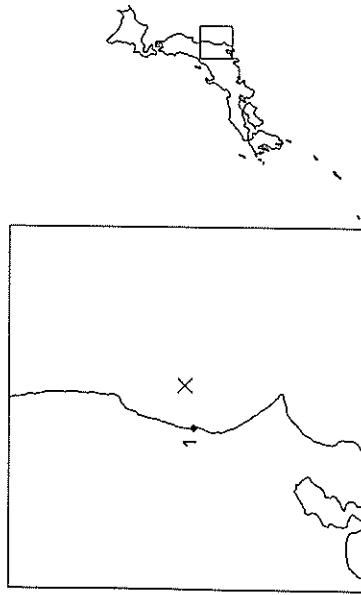
	STATION	CONDITION	RECORD NUMBER	(NS) (EW) (UD)	MAX.ACC.(GAL)	DIST. (KM)
1	SOMA-S	ON GROUND	S-22220	68	73	27
2	ONAHAMA-JI-S	ON GROUND	S-22119	22	16	8
3	HITACHINAKA-F	ON GROUND	F- 260	38	43	17

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 01:47 APR. 27, 1989  
 E OFF IBARAKI PREF.  
 EPICENTER :  $36^{\circ}25'8''N$   $141^{\circ}0'8''E$   
 DEPTH : 41.9KM MAGNITUDE : 3.9

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

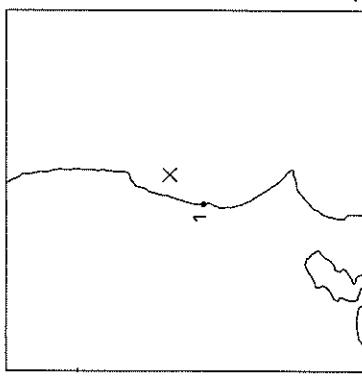
00:26 APR. 28, 1989  
 E OFF FUKUSHIMA PREF.  
 EPICENTER :  $37^{\circ}29'9''N$   $141^{\circ}31.0'E$   
 DEPTH : 52.3KM MAGNITUDE : 4.9

JMA INTENSITIES  
 III : FUKUSHIMA, SENDAI  
 II : ONAHAMA, MORIZAKA,  
 UTSUNOMIYA, ISHINOMAKI  
 I : WAKAMATSU, KAKIOKA



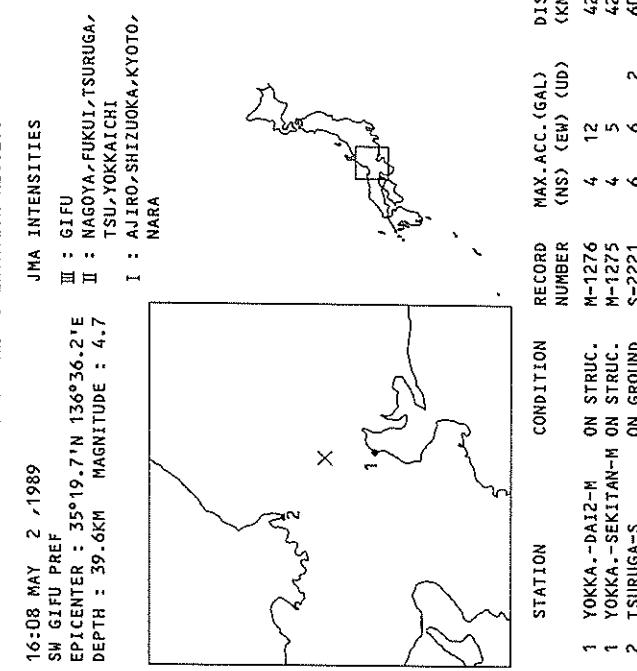
STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 HITACHINAKA-F	ON GROUND	F- 261	14 16 9	35	1 SENDAI-MB	IN GROUND	M-1274	3 4 2	97
					1 SENDAI-H	ON GROUND	M-1273	10	97
					2 HITACHINAKA-F	ON GROUND	F- 262	7 5 3	147

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 22:50 APR. 29, 1989      JMA INTENSITIES  
 E OFF IBARAKI PREF      SW GIFU PREF  
 EPI CENTER : 36°37'.71N 140°54'.91E      III : MITO, ONAHAMA  
 DEPTH : 49.8KM      MAGNITUDE : 4.1      II : UTSUNOMIYA

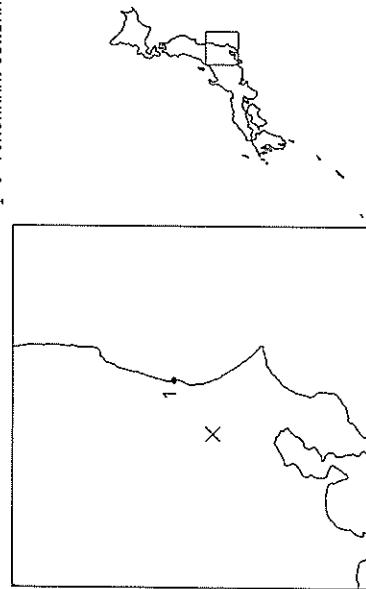


STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)										
1 HITACHINAKA-F	ON GROUND	F- 263	9    7    7	37	1 YOKKA-DAI2-M	ON STRUC.	M-1276	4    12	42	1 YOKKA-SEKITAN-M	ON STRUC.	M-1275	4    5	42	2 TSURUGA-S	ON GROUND	S-2221	6    6    2	60

#### STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

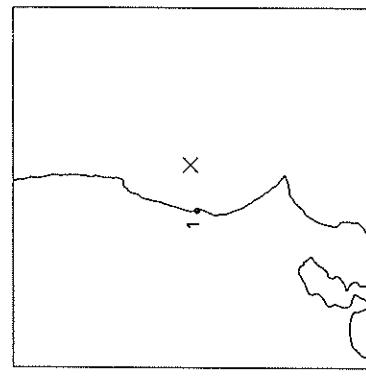


STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 02:51 MAY 9, 1989  
 SW IBARAKI PREF  
 EPICENTER :  $36^{\circ}7'7''N$   $140^{\circ}6'4''E$   
 DEPTH : 72.4KM MAGNITUDE : 4.7  
 I : YOKOHAMA, OSHIMA, AJIRO



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 HITACHINAKA-F	ON GROUND	F- 264	6 7 4	54	1 HITACHINAKA-F	ON GROUND	F- 265	14 19 8	37

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 01:36 MAY 21, 1989  
 JMA INTENSITIES  
 E OFF IBARAKI PREF  
 EPICENTER :  $36^{\circ}24'.5''N$   $141^{\circ}2'.3''E$   
 DEPTH : 39.2KM MAGNITUDE : 4.2  
 III : UTSUNOMIYA  
 II : MITO, KAKIOKA, KUNAGAYA,  
 CHICHIBU  
 I : ONAHAMA

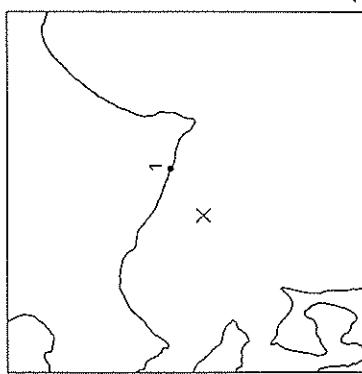


JMA INTENSITIES  
 E OFF IBARAKI PREF  
 EPICENTER :  $36^{\circ}24'.5''N$   $141^{\circ}2'.3''E$   
 DEPTH : 39.2KM MAGNITUDE : 4.2  
 III : MITO  
 II : ONAHAMA

RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
I : ONAHAMA	4.2	37

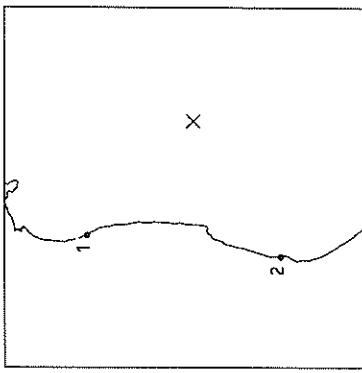
## STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

17:29 MAY 29, 1989 JMA INTENSITIES  
 S OFF URAKAWA : 41°57'.3"N 142°16.2"E II : URAKAWA-HACHIMANTAI  
 EPICENTER : DEPTH : 70.9KM MAGNITUDE : 4.7 I : TOMAKOMAI  
 DEPTH : 70.9KM MAGNITUDE : 4.7 I : OSHIRO-KUSHIMA



## STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

13:39 JUNE 1 1989 JMA INTENSITIES  
 E OFF FUKUSHIMA PREF II : FUKUSHIMA, MITO  
 EPICENTER :  $36^{\circ}57'.6''N$   $141^{\circ}57'.7''E$  I : ONAHAMA, SENDAI,  
 DEPTH : 54.7KM MAGNITUDE : 4.8 UTSUNOMIYA



## STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

13:39 JUNE 1 1989 JMA INTENSITIES  
 E OFF FUKUSHIMA PREF II : FUKUSHIMA, MITO  
 EPICENTER :  $36^{\circ}57'.6''N$   $141^{\circ}57'.7''E$  I : ONAHAMA, SENDAI,  
 DEPTH : 54.7KM MAGNITUDE : 4.8 UTSUNOMIYA



STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 URAKAWA-S	ON GROUND	S-2222	5 7 2	47	1 SOMA-S	ON GROUND	S-2223	3 3 1	130
					2 HITACHINAKA-F	ON GROUND	F- 266	7 7 3	135

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 09:01 JUNE 3, 1989  
 SE OFF TOKACHI  
 EPI CENTER :  $42^{\circ}7.5'N$   $143^{\circ}27.8'E$   
 DEPTH : 50.5KM MAGNITUDE : 4.4

JMA INTENSITIES  
 II : HIROO  
 I : URAKAWA, TOMAKOMAI

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

09:17 JUNE 14, 1989  
 E OFF FUKUSHIMA PREF  
 EPICENTER :  $37^{\circ}22.0'N$   $141^{\circ}2.2'E$   
 DEPTH : 65.8KM MAGNITUDE : 4.5

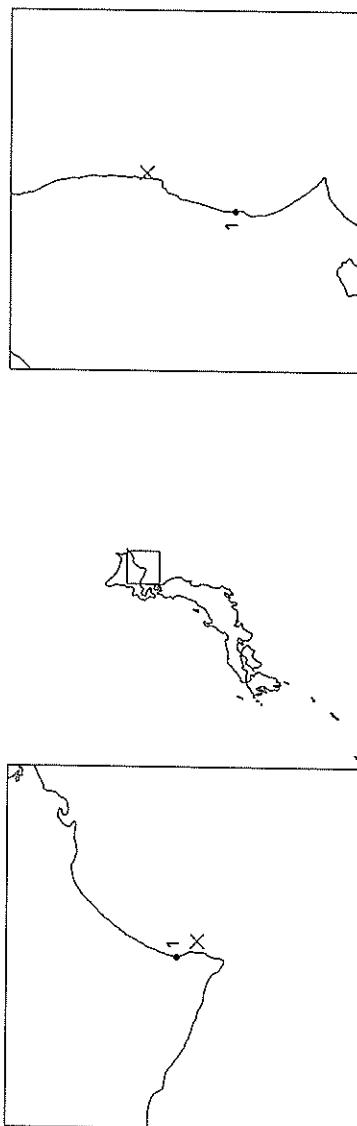
JMA INTENSITIES

II : ONAHAMA, SHIRAKAWA, MITO,

FUKUSHIMA

I : WAKAMATSU-KAKO-OKA,

UTSUNOMIYA, NIKKO



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 TOKACHI-M	ON GROUND	M-1277	23 33 7	21	1 HITACHINAKA-F	ON GROUND	F- 306	7 12 8	81

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

08:42 JUNE 17, 1989

JMA INTENSITIES

NEAR TORISHIMA IS

JMA INTENSITIES

EPICENTER :  $31^{\circ}53'4''N$   $138^{\circ}20'7'E$

JMA INTENSITIES

DEPTH : 385.2KM MAGNITUDE : 6.8

JMA INTENSITIES

III : TATEYAMA, YOKOHAMA, TOKYO,

JMA INTENSITIES

UTSUNOMIYA, FUKUSHIMA

JMA INTENSITIES

HACHIJOGIMA, MIYAKEJIMA,

JMA INTENSITIES

KATSURADA, CHIBA, CHO SHI,

JMA INTENSITIES

ONAHAMA, SENDAI

JMA INTENSITIES

OSHIWA, AIRO, NAGANO,

JMA INTENSITIES

MIYAKO, ISHINOMAKI,

JMA INTENSITIES

KUSHIRO

JMA INTENSITIES

I : OSHIMA, AIRO, NAGANO,

JMA INTENSITIES

MIYAKO, ISHINOMAKI,

JMA INTENSITIES

KUSHIRO

JMA INTENSITIES

I : FUKUSHIMA, OFUNATO,

JMA INTENSITIES

UTSUNOMIYA, ONAHAMA

JMA INTENSITIES

I : FUKUSHIMA, OFUNATO,

JMA INTENSITIES

UTSUNOMIYA, ONAHAMA

JMA INTENSITIES

I : FUKUSHIMA, OFUNATO,

JMA INTENSITIES

UTSUNOMIYA, ONAHAMA

JMA INTENSITIES

I : FUKUSHIMA, OFUNATO,

JMA INTENSITIES

UTSUNOMIYA, ONAHAMA

JMA INTENSITIES

I : FUKUSHIMA, OFUNATO,

JMA INTENSITIES

UTSUNOMIYA, ONAHAMA

JMA INTENSITIES

I : FUKUSHIMA, OFUNATO,

JMA INTENSITIES

UTSUNOMIYA, ONAHAMA

JMA INTENSITIES

I : FUKUSHIMA, OFUNATO,

JMA INTENSITIES

UTSUNOMIYA, ONAHAMA

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

12:08 JUNE 22, 1989

JMA INTENSITIES

E OFF FUKUSHIMA PREF

EPICENTER :  $37^{\circ}29.4'N$   $141^{\circ}30.0'E$

DEPTH : 56.7KM MAGNITUDE : 4.4

JMA INTENSITIES

I : FUKUSHIMA, OFUNATO,

JMA INTENSITIES

UTSUNOMIYA, ONAHAMA

JMA INTENSITIES

HACHIJOGIMA, MIYAKEJIMA,

JMA INTENSITIES

KATSURADA, CHIBA, CHO SHI,

JMA INTENSITIES

ONAHAMA, SENDAI

JMA INTENSITIES

OSHIWA, AIRO, NAGANO,

JMA INTENSITIES

MIYAKO, ISHINOMAKI,

JMA INTENSITIES

KUSHIRO

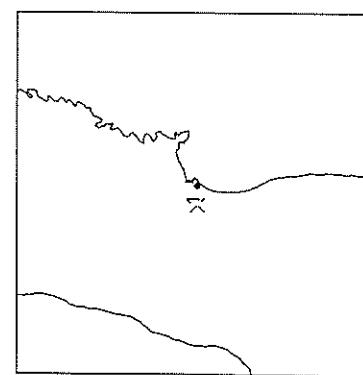
JMA INTENSITIES



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL)	DIST. (KM)
			(NS) (EW) (UD)					(NS) (EW) (UD)	
1 SOMA-S	ON GROUND	S-2226	3 8 1	701	1 SONA-S	ON GROUND	S-2227	6	60
2 KASHIMA-ZOKAN-S	ON GROUND	S-2225	4 4 2	498					
3 HITACHINAKA-F	ON GROUND	F- 307	10 15 5	541					
4 CHIBA-S	ON GROUND	S-2224	6 7 3	443					
5 SHINAGAWA-MB	IN GROUND	N-1280	2 3 2	435					
5 SHINAGAWA-S	ON GROUND	S-2228	14 18 6	435					
6 KAWASAKI-FR	ON STRUC.	F- 269	16 22 17	422					
6 KAWASAKI-F	ON GROUND	F- 268	13 11 5	422					
6 KAWASAKI-FB	IN GROUND	F- 267	7 4 2	422					
7 KEIHIN-JI-S	ON GROUND	S-2229	6 5 3	414					

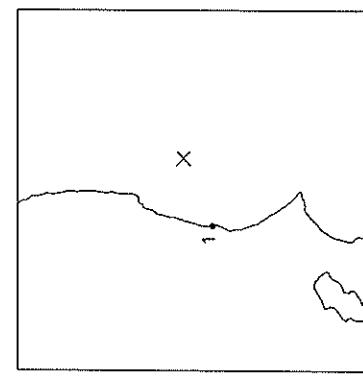
STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

06:59 JUNE 24, 1989  
 SOUTHERN MIYAGI PREF  
 EPICENTER : 38°17.8'N 140°49.8'E  
 DEPTH : 13.8KM MAGNITUDE : 4.1



STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

00:35 JULY 2 , 1989  
E OFF IBARAKI PREF  
EPICENTER :  $36^{\circ}33'8''N$   $141^{\circ}16'2''E$   
DEPTH : 37.9KM MAGNITUDE : 4.3



INTENSITIES  
MITO,  
ONAHAMA, FUKUSHIMA,  
UTSUNOMIYA, KUMAGAYA,



STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL)	DIST. (KM)
1 SENDAI-MB	IN GROUND	M-1279	2	1	1	ON GROUND	M-1278	5	5
1 SENDAI-MB	ON GROUND				1	ON GROUND		16	16

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

22:18 JULY 4, 1989

E OFF IZU PENINSULA

EPICENTER :  $34^{\circ}58'3N$   $139^{\circ}7'6'E$

DEPTH : 1.4KM MAGNITUDE : 4.9

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

JMA INTENSITIES

02:28 JULY 5, 1989

E OFF IZU PENINSULA

EPICENTER :  $34^{\circ}58.2'N$   $139^{\circ}7.4'E$

DEPTH : 2.4KM MAGNITUDE : 4.7

JMA INTENSITIES

IV : AJIRO

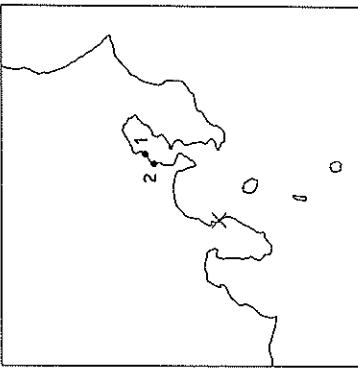
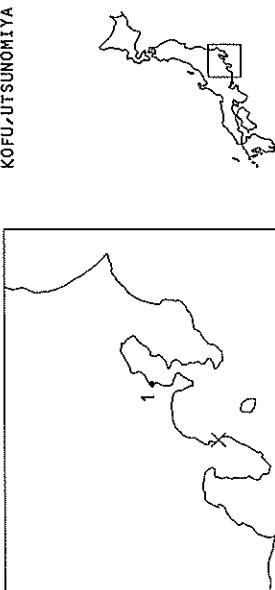
III : OSHIMA, TATEYAMA, MISHIMA

II : NIIJIMA, YOKOHAMA, TOKYO

I : IROZAKI, MIYAREJIMA,

KUMAGAYA, KAWAGUCHIKO,

UTSUNOMIYA



STATION	CONDITION	RECORD NUMBER	MAX.ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX.ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 YAMASHITA-FR	ON STRUC.	F- 284	7 15 1	71	1 KAWASAKI-FR	ON STRUC.	F- 272	4 10 1	81
1 YAMASHITA-F	ON GROUND	F- 283	8 10 4	71	1 KAWASAKI-F	ON GROUND	F- 271	3 5 2	81
1 YAMASHITA-FB	IN GROUND	F- 282	2 2 1	71	1 KAWASAKI-FB	IN GROUND	F- 270	1 2 1	81

STATION	CONDITION	RECORD NUMBER	MAX.ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
2 YAMASHITA-FR	ON STRUC.	F- 285	8 18 7	71
2 YAMASHITA-F	IN GROUND	F- 285	2 4 1	71

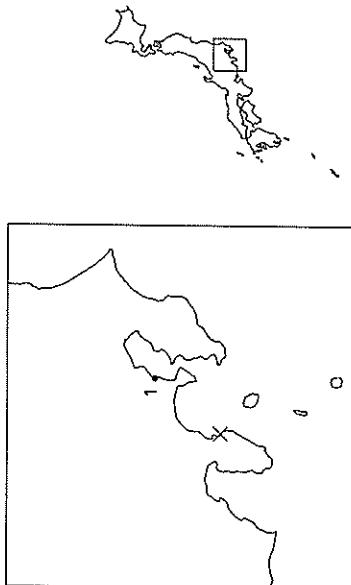
STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 08:58 JULY 5, 1989  
 E OFF IZU PENINSULA  
 EPICENTER : 34°58'6"N 139°7'4"E  
 DEPTH : 0.0KM MAGNITUDE : 4.2

JMA INTENSITIES  
 III : AUTO-OOSHIMA  
 II : YOKOHAMA, MIYASHIMA  
 I : TATEYAMA, TOKYO-KOFU

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

'12:37 JULY 5, 1989  
 E OFF IZU PENINSULA  
 EPICENTER : 34°58.5'N 139°7.4'E  
 DEPTH : 4.5KM MAGNITUDE : 4.2

I : IROZAKI, TOKYO-KOFU

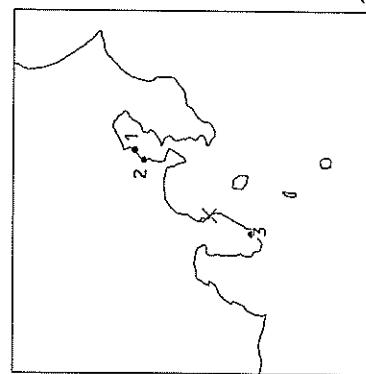


STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 YAMASHITA-FR	ON STRUC.	F- 290	5 8 2	71	1 YAMASHITA-FR	ON STRUC.	F- 293	9 12 2	71
1 YAMASHITA-F	ON GROUND	F- 289	5 9 3	71	1 YAMASHITA-F	ON GROUND	F- 292	8 8 3	71
1 YAMASHITA-FB	IN GROUND	F- 288	2 3 1	71	1 YAMASHITA-FB	IN GROUND	F- 291	2 2 1	71

### STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

00:01 JULY 7, 1989  
 E OFF IZU PENINSULA  
 EPICENTER :  $34^{\circ}58'5''N$   $139^{\circ}8'0''E$   
 DEPTH : 4.5KM MAGNITUDE : 5.2

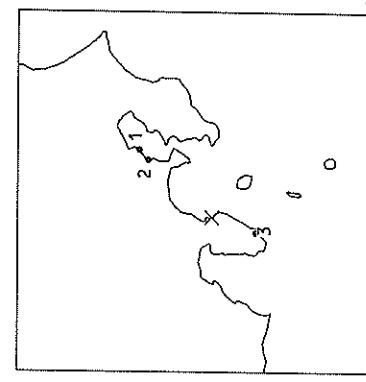
JMA INTENSITIES  
 IV : AJIRO, OSHIMA,  
 MISHIMA, TOKYO, KOFU  
 IROZAKI, YOKOHAMA,  
 TATEYAMA, KAWAGUCHIKO  
 MIYAKEJIMA, SHIZUOKA,  
 OMAEZAKI, CHIBA, CHOSHII,  
 KUMAGAYA, UTSUNOMIYA,  
 MAEBASHI, KAKIOKA



### STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

11:09 JULY 9, 1989  
 E OFF IZU PENINSULA  
 EPICENTER :  $34^{\circ}58'5''N$   $139^{\circ}6.7'E$   
 DEPTH : 3.4KM MAGNITUDE : 5.5

JMA INTENSITIES  
 IV : AJIRO  
 IROZAKI-OISHIMA, MISHIMA,  
 YOKOHAMA, TATEYAMA, TOKYO  
 II : SHIZUOKA, KAWAGUCHIKO,  
 CHIBA, KATSUURA, KOFU,  
 MAEBASHI  
 I : MIYAKEJIMA, OMAEZAKI,  
 KUMAGAYA, CHICHIBU, SURA



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (NS) (EW) (UD)	DIST. (KM)
1 KAWASAKI-FR	ON STRUC.	F- 275	4 9 1	81	1 KAWASAKI-FR	ON STRUC.	F- 278	6 16 2	81
1 KAWASAKI-F	ON GROUND	F- 274	3 5 2	81	1 KAWASAKI-F	ON GROUND	F- 277	3 9 2	81
1 KAWASAKI-FB	IN GROUND	F- 273	2 2 1	81	1 KAWASAKI-FB	IN GROUND	F- 276	2 3 1	81
2 YAMASHITA-FR	ON STRUC.	F- 296	12 18 3	71	2 YAMASHITA-FR	ON STRUC.	F- 299	23 47 4	71
2 YAMASHITA-F	ON GROUND	F- 295	11 16 8	71	2 YAMASHITA-F	ON GROUND	F- 298	18 21 8	71
2 YAMASHITA-FB	IN GROUND	F- 294	3 4 2	71	2 YAMASHITA-FB	IN GROUND	F- 297	4 5 2	71
3 SHIMODA-F	ON GROUND	F- 318	5 5 4	38	3 SHIMODA-F	ON GROUND	F- 319	9 5 4	38

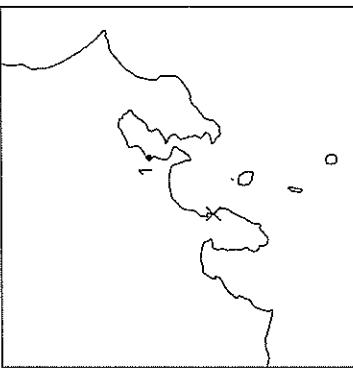
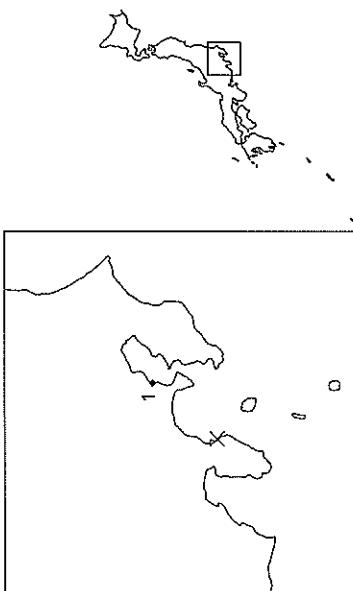
STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

12:22 JULY 9, 1989  
 E OFF IZU PENINSULA      JMA INTENSITIES  
 EPICENTER : 34°59'2"N 139°7'.6"E  
 DEPTH : 2.7KM      MAGNITUDE : 4.6

III : AJIRO  
 II : OSHIMA, MISHIMA, YOKOHAMA  
 I : TATEYAMA, TOKYO, CHIBA

05:13 JULY 10, 1989  
 E OFF IZU PENINSULA      JMA INTENSITIES  
 EPICENTER : 34°59'.4"N 139°6.6"E  
 DEPTH : 1.2KM      MAGNITUDE : 4.7

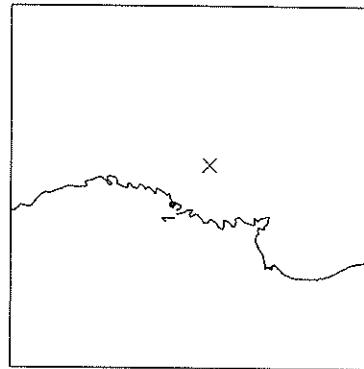
III : AJIRO  
 II : OSHIMA, MISHIMA, YOKOHAMA  
 I : TATEYAMA, TOKYO



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 YAMASHITA-FR	ON STRUC.	F- 302	5 10 1	70	1 YAMASHITA-FR	ON STRUC.	F- 305	7 6 1	71
1 YAMASHITA-F	ON GROUND	F- 301	3 6 2	70	1 YAMASHITA-F	ON GROUND	F- 304	5 4 2	71
1 YAMASHITA-FB	IN GROUND	F- 300	1 1 1	70	1 YAMASHITA-FB	IN GROUND	F- 303	1 1 1	71

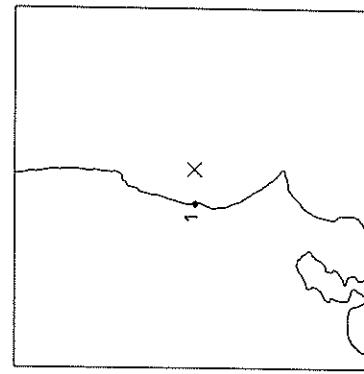
STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

00:10 JULY 29, 1989  
 E OFF MIYAGI PREF  
 EPICENTER : 38°42.8'N 142°4.9'E  
 DEPTH : 61.0KM MAGNITUDE : 4.4  
 JMA INTENSITIES  
 III : OFUNATO  
 II : MORIOKA, MIYAKO  
 I : SENDAI



STRUCTURE-MOTION ESTIMATION USING DESEPARATION

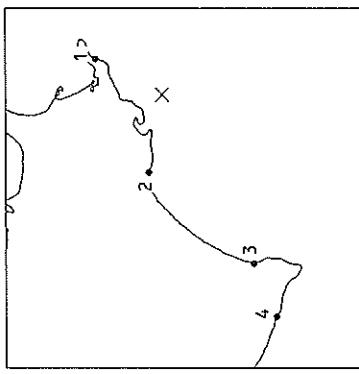
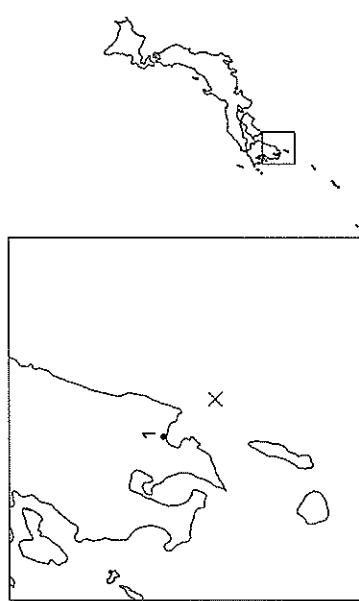
04:29 AUG. 4, 1989 JMA INTENSITIES  
 E OFF IBARAKI PREF I : MITO, KAKIOKA  
 EPICENTER :  $36^{\circ}22'.5''$ N  $140^{\circ}56'.3''$ E  
 DEPTH : 39.4KM MAGNITUDE : 3.6



STATION	CONDITION	RECORD NUMBER	MAX.ACC.(GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX.ACC.(GAL) (NS) (EW) (UD)	DIST. (KM)
1 OFUNATO-MOUND-M	ON STRUC.	N-12285	4 2 1	44	1 HITACHINAKA-F	ON GROUND	F- 309	26 20 11	28
1 OFUNATO-BO-S	ON STRUC.	S-22234	3 5 1	44					

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 14:10 AUG. 4, 1989                            JMA INTENSITIES  
 SE OFF OSUMI PEN                            II : KAGOSHIMA-NAKURAZAKI  
 EPICENTER :  $31^{\circ}5.3'N$   $131^{\circ}26.1'E$   
 DEPTH : 34.0KM MAGNITUDE : 5.3

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 07:53 AUG. 7 -1989                            JMA INTENSITIES  
 OFF NEMURO PENINSULA                            III : KUSHIRO-NEMURO  
 EPICENTER :  $42^{\circ}49.3'N$   $145^{\circ}8.0'E$   
 DEPTH : 46.4KM MAGNITUDE : 5.5  
 TOMAKOMAI



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 SHIBUSHI-S	ON GROUND	S-2232	3 3 1	52	1 HANASAKI-M	ON GROUND	M-1282	35 42 14	63
					2 KUSHIRO-JI-S	ON GROUND	S-2231	25 19 4	66
					3 TOKACHI-M	ON GROUND	M-1281	13 12 5	159
					4 URAKAWA-S	ON GROUND	S-2230	3 3 2	206

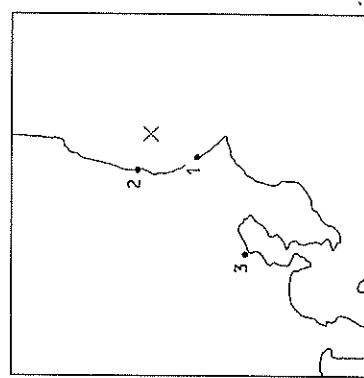
STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

09:11 AUG. 26, 1989  
E OFF IBARAKI PREF  
EPICENTER : 36°16.0'N 140°56.7'E  
DEPTH : 38.9KM MAGNITUDE : 5.1

JMA INTENSITIES

III : MITO-KAKIOKA  
II : FUKUSHIMA-ONAHAMA,  
UTSUNOMIYA-CHOSHII,  
YOKOHAMA-TOKYO-CHIBA,

MAEBASHI  
I : KUMAGAYA-TATEYAMA,  
OSHIMA

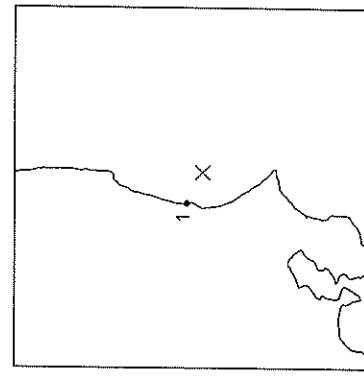


STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

12:21 AUG. 26, 1989  
E OFF IBARAKI PREF  
EPICENTER : 36°14.8'N 140°53.7'E  
DEPTH : 43.8KM MAGNITUDE : 5.8

JMA INTENSITIES

III : MITO  
II : HITACHINAKA-F



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	RECORD NUMBER	CONDITION	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 KASHIMA-ZOKAN-S	ON GROUND	S-2233	4.6 51 8	43	1	HITACHINAKA-F	ON GROUND	5
2 HITACHINAKA-F	ON GROUND	F-310	64 51 21	32				29
3 SHINAGAWA-MB	IN GROUND	N-1286	1 2 1	128				29
3 SHINAGAWA-S	ON GROUND	S-2236	4 5 3	128				29

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

15:42 AUG. 26, 1989  
 SOUTHERN IWATE PREF.  
 EPI CENTER :  $38^{\circ}52.9'N$   $141^{\circ}22.3'E$   
 DEPTH : 113.8KM MAGNITUDE : 4.2

JMA INTENSITIES  
 II : OFUNATO,ISHINOMAKI,  
 MIYAKO  
 I : MORIOKA

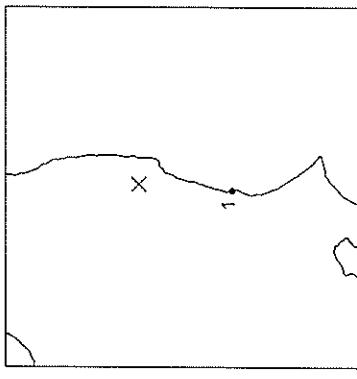
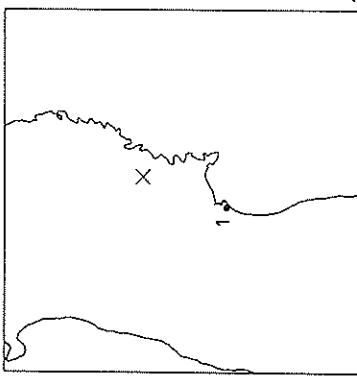
16:12 SEP. 4, 1989  
 EASTERN FUKUSHIMA PREF  
 EPI CENTER :  $37^{\circ}5.3'N$   $140^{\circ}44.5'E$   
 DEPTH : 77.7KM MAGNITUDE : 4.6

JMA INTENSITIES  
 III : UTSUNOMIYA  
 II : ONAHAMA,MITO,KAKIOKA,  
 NIKKO  
 I : OFUNATO,SHIRAKAWA,  
 KUMAGAYA,TOKYO,CHICHIBU

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

16:12 SEP. 4, 1989  
 EASTERN FUKUSHIMA PREF  
 EPI CENTER :  $37^{\circ}5.3'N$   $140^{\circ}44.5'E$   
 DEPTH : 77.7KM MAGNITUDE : 4.6

JMA INTENSITIES  
 III : UTSUNOMIYA  
 II : ONAHAMA,MITO,KAKIOKA,  
 NIKKO  
 I : OFUNATO,SHIRAKAWA,  
 KUMAGAYA,TOKYO,CHICHIBU



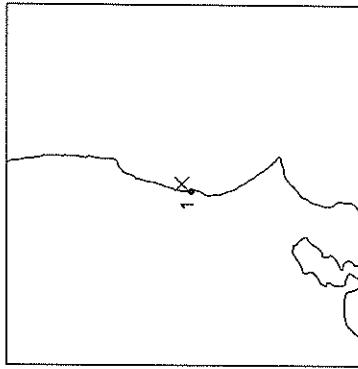
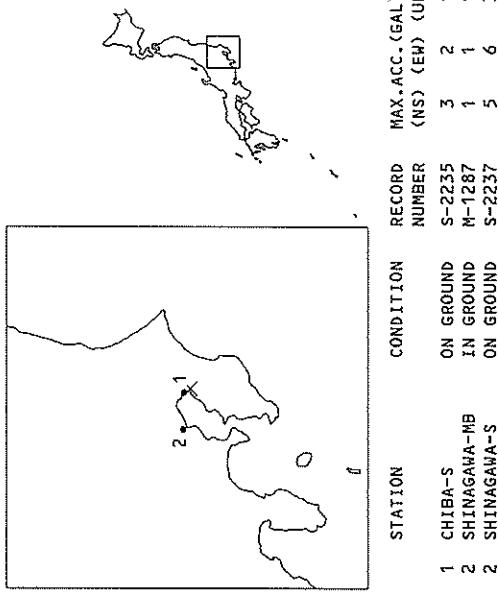
STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 SENDAI-MB	IN GROUND	M-1284	1 1 1	73	1 HITACHINAKA-F	ON GROUND	F- 312	19 32 10	78
1 SENDAI-M	ON GROUND	M-1283	6 5 2	73					

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

13:07 SEP. 5 1989                    JMA INTENSITIES  
 CENTRAL CHIBA PREF                    JMA INTENSITIES  
 EPI CENTER : 35°33'0"N 140°8'3"E    NORTHERN IBARAKI PREF  
 DEPTH : 78.2KM    MAGNITUDE : 4.6    EPICENTER : 36°27.2'N 140°41.4'E  
 I : KATSUURA,KUMAGAYA,              DEPTH : 51.1KM    MAGNITUDE : 3.8  
 CHOSHII,MITO,AJIRO

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

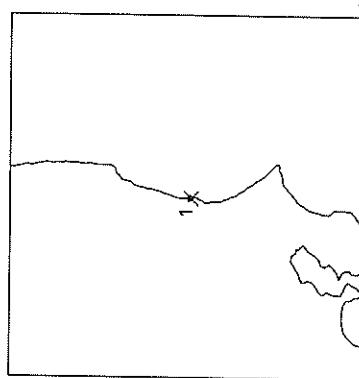
23:22 SEP. 17-1989                    JMA INTENSITIES  
 NORTHERN IBARAKI PREF                    JMA INTENSITIES  
 EPI CENTER : 36°27.2'N 140°41.4'E    I : MITO  
 DEPTH : 51.1KM    MAGNITUDE : 3.8    I : KAKIOKA



			RECORD NUMBER	MAX.AC.C.(GAL) (NS) (EW) (UD)	DIST. (KM)

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS  
 15:36 SEP. 19, 1989  
 NORTHERN IBARAKI PREF  
 EPICENTER :  $36^{\circ}22'7''\text{N}$   $140^{\circ}36.8'\text{E}$   
 DEPTH : 58.6KM MAGNITUDE : 3.8

JMA INTENSITIES  
 III : MITO  
 II : KAKILOKA  
 I : UTSUNOMIYA



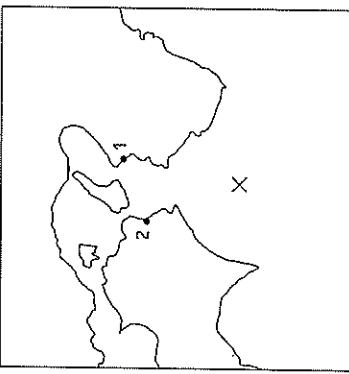
#### STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

JMA INTENSITIES

02:18 SEP. 25, 1989

SE OFF SHIKOKU  
 EPICENTER :  $33^{\circ}20.7'\text{N}$   $134^{\circ}54.7'\text{E}$   
 DEPTH : 52.5KM MAGNITUDE : 5.0

KOCHI



#### STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

JMA INTENSITIES

II : MUROTORIMISAKI, WAKAYAMA,  
 SUJUTO, TOKUSHIMA

I : OSAKA, HIROSHIMA, KOBE,  
 KOCHI

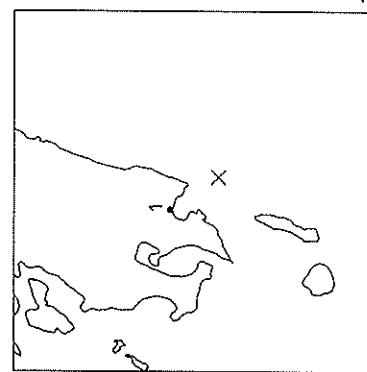


STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 HITACHINAKA-F	ON GROUND	F- 314	34 34 14	0	1 WAKAYAMA-S	ON GROUND	S-2238 7 8 5 99	
					2 KOMATSUJIMA-S	ON GROUND	S-2239 4 6 3 83	

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

04:24 OCT. 2, 1989  
SE OFF OSUMI PEN  
EPI CENTER :  $31^{\circ}6.9'N$   $131^{\circ}23.8'E$   
DEPTH : 33.0KM MAGNITUDE : 5.3

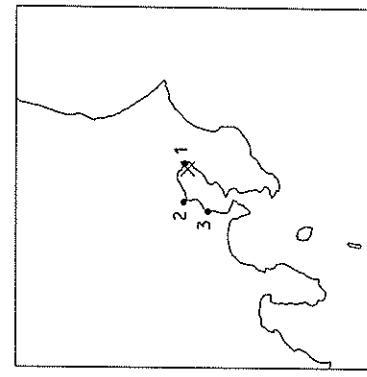
JMA INTENSITIES  
II : ABURATSU  
II : KAGOSHIMA, MIYAZAKI  
I : KUMAGAYA, AJIRO, KATSUURA



STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

15:28 OCT. 10, 1989  
CENTRAL CHIBA PREF  
EPI CENTER :  $35^{\circ}34.9'N$   $140^{\circ}3.5'E$   
DEPTH : 78.3KM MAGNITUDE : 4.7

JMA INTENSITIES  
III : TOKYO, YOKOHAMA, CHIBA  
II : UTSUNOMITA, MITO, KAKIOKA,  
OSHIMA  
I : KUMAGAYA, AJIRO, KATSUURA

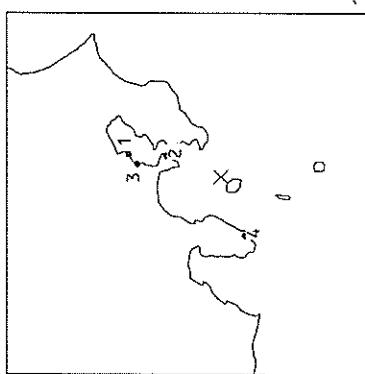


STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 SHIBUSHI-S	ON GROUND	S-2240	5 4 2	48	1 CHIBA-S	ON GROUND	S-2242	15 11 3	4
					2 SHINAGAWA-MB	IN GROUND	H-1288	2 2 3	27
					2 SHINAGAWA-S	ON GROUND	S-2241	6 8 4	27
					3 YAMASHITA-FR	ON STRUC.	F- 323	14 22 4	38
					3 YAMASHITA-F	ON GROUND	F- 322	10 19 5	38
					3 YAMASHITA-FB	IN GROUND	F- 321	3 3 2	38
					3 KEIHIN-JI-S	ON GROUND	S-2244	3 3 2	41

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

06:19 OCT. 14, 1989  
NEAR IZU-OISHIMA ISLAND  
EPICENTER : 34°49'4"N 139°30'2"E  
DEPTH : 21.2KM MAGNITUDE : 5.7

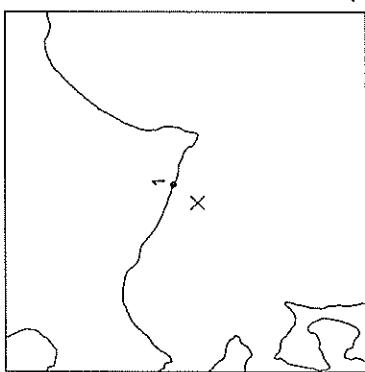
JMA INTENSITIES  
W : YOKOHAMA-OISHIMA  
III : TOKYO, KOFU, TATEYAMA,  
AIZU, CHIBA-UTSUNOMIYA  
II : KAKILOKA-KUMAGAYA,  
MAEBASHI, CHOSHII,  
MIYAKEJIMA  
I : ONAGAWA-SHIZOUKA,  
HAMAMATSU



STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

07:00 OCT. 14, 1989  
S OFF URAKAWA  
EPICENTER : 42°0.0'N 142°33.8'E  
DEPTH : 70.5KM MAGNITUDE : 4.3

JMA INTENSITIES  
II : URAKAWA, HIROO



STATION	CONDITION	RECORD NUMBER	MAX.ACC.(GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX.ACC.(GAL) (NS) (EW) (UD)	DIST. (KM)
1 KAWASAKI-FR	ON STRUC.	F- 329	16 48 6	79	1 URAKAWA-S	ON GROUND	S-2246	4 4 1	25
1 KAWASAKI-F	ON GROUND	F- 328	11 21 5	79					
1 KAWASAKI-FB	IN GROUND	F- 327	5 10 3	79					
2 KOKEN-M	ON GROUND	N-1289	13 14 6	48					
2 KOKEN-S	ON GROUND	S-2243	9 11 3	48					
3 YAMASHITA-FR	ON STRUC.	F- 326	161 165 20	70					
3 YAMASHITA-F	ON GROUND	F- 325	53 61 17	70					
3 YAMASHITA-FB	IN GROUND	F- 324	13 16 8	70					
3 KEIHIN-J-S	ON GROUND	S-2245	30 31 15	71					
4 SHIMODA-F	ON GROUND	F- 320	7 4 4	53					

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

15:05 OCT. 14, 1989  
 NW WAKAYAMA PREF  
 EPICENTER :  $34^{\circ}11'.0''N$   $135^{\circ}11'.3''E$   
 DEPTH : 5.3KM MAGNITUDE : 3.7

JMA INTENSITIES

III : WAKAYAMA

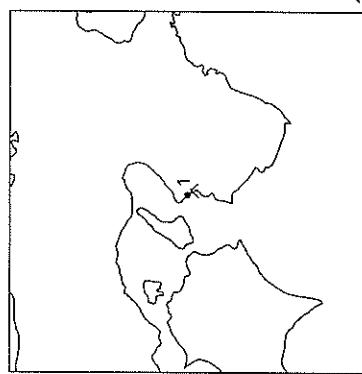
JMA INTENSITIES

III : YONAGO, SAKAI, MATSUE

II : TSUYAMA, HIROSHIMA,

OKAYAMA

I : SHIMONOSEKI, TAKANATSU



STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

07:41 OCT. 27, 1989  
 WESTERN TOTTORI PREF  
 EPICENTER :  $35^{\circ}0'15.5''N$   $135^{\circ}22'.6''E$   
 DEPTH : 13.3KM MAGNITUDE : 5.3

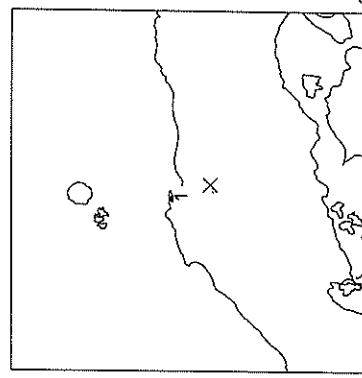
JMA INTENSITIES

III : YONAGO, SAKAI, MATSUE

II : TSUYAMA, HIROSHIMA,

OKAYAMA

I : SHIMONOSEKI, TAKANATSU

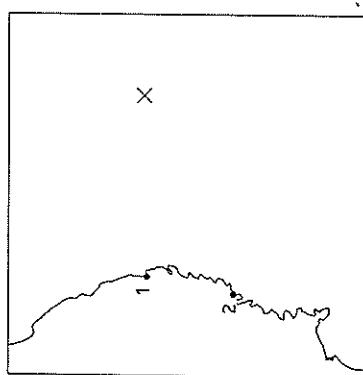


STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 WAKAYAMA-S	ON GROUND	S-2247	25 33 16	5	1 SAKAIMINATO-JI-S	ON GROUND	S-2248	39 72 8	33

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

14:25 OCT. 29, 1989  
 FAR E OFF SANRIKU  
 EPICENTER :  $39^{\circ}31'1''N$   $143^{\circ}44'6''E$   
 DEPTH : 0.0KM MAGNITUDE : 6.5

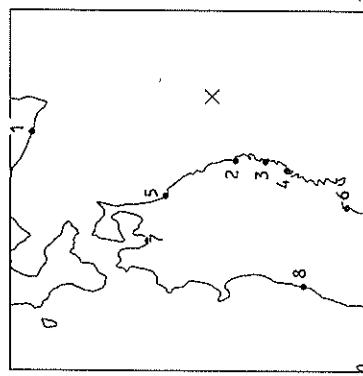
III : MORIOKA-HACHINOHE,  
 MIYAKO-OFUNATO, SAKATA  
 II : MITSU KUSHIRO AKITA,  
 AOMORI-TOMAKOMAI,  
 ISHINOHAKI-SENDAI  
 I : CHIBA/HAKODATE,  
 FUKUSHIMA, TOKYO, NIIGATA,  
 URAKAWA



STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

03:25 NOV. 2, 1989  
 FAR E OFF SANRIKU  
 EPICENTER :  $39^{\circ}51'3''N$   $143^{\circ}3'4''E$   
 DEPTH : 0.0KM MAGNITUDE : 7.1

IV : AOMORI-HACHINOHE,  
 MORIOKA-OFUNATO  
 III : URAKAWA KUSHIRO,  
 HAKODATE/TOMAKOMAI,  
 MIYAKO-SENDAI,  
 ISHINOHAKI-SAKATA  
 II : AKITA-FUKUSHIMA, HIRDO,  
 MURoran-UTSUNOMIYA,  
 TOKYO  
 I : NEMURO, SAPPORO, YAMAGATA,  
 ONAHANA, NIIGATA, NAGANO



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 MIYAKO-S	ON GROUND	S-2249	9 8 2	152	1 URAKAWA-S	ON GROUND	S-2252	4 3 2	257
2 OFUNATO-MOUND-M	ON STRUC.	M-1294	6 11 4	181	2 MIYAKO-S	ON GROUND	S-2255	106 94 38	95
2 OFUNATO-BO-S	ON STRUC.	S-2256	10 23 4	181	3 KAMAISHI-MB	IN GROUND	M-1291	11 14 10	118
2 OFUNATO-BOCHI-S	ON GROUND	S-2258	2 3 2	181	3 KAMAISHI-M	ON GROUND	M-1290	17 18 13	118
					4 OFUNATO-MOUND-M	ON STRUC.	M-1295	35 46 31	146
					4 OFUNATO-BO-S	ON STRUC.	S-2257	29 85 14	146
					4 OFUNATO-BOCHI-S	ON GROUND	S-2259	8 11 8	147
					5 HACHINOHE-JI-S	ON GROUND	S-2261	51 69 27	153
					6 SHIOGAMA-KOJO-YO-S	ON GROUND	S-2254	12 14 6	243
					6 SENDAI-MB	IN GROUND	M-1293	3 4 2	248
					6 SENDAI-M	ON GROUND	M-1292	7 7 3	248
					7 AOMORI-S	ON GROUND	S-2253	22 35 10	223
					8 SAKATA-S	ON GROUND	S-2250	9 11 4	295

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

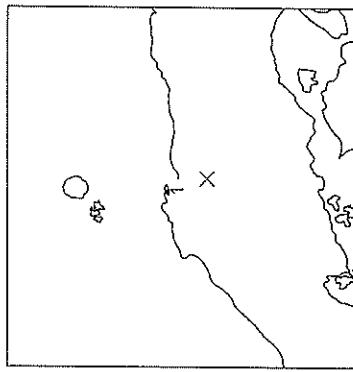
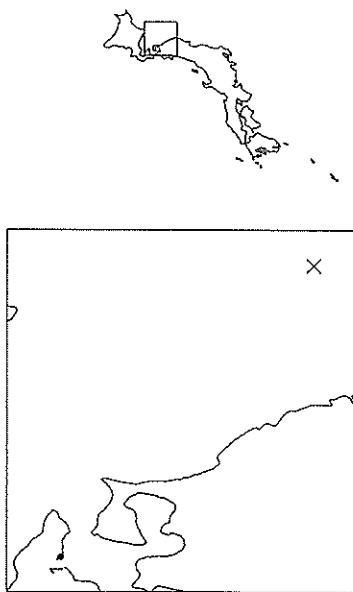
03:36 NOV. 2 ,1989  
 FAR E OFF SAHRIKU  
 EPICENTER : 39°39'4"N 143°22'0"E  
 DEPTH : 26.0KM MAGNITUDE : 6.3

JMA INTENSITIES  
 II : HIROO, MIYAKO, SENDAI,  
 NORIOKA, SAKATA, OFUNATO  
 I : HACHINOHE, FUKUSHIMA

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

04:57 NOV. 2 ,1989  
 WESTERN TOTTORI PREF  
 EPICENTER : 35°15'.1"N 133°22.3"E  
 DEPTH : 14.5KM MAGNITUDE : 5.4

JMA INTENSITIES  
 III : MATSUE, SAKAI, YONAGO  
 III : TSUYAMA, OKAYAMA  
 II : TOTTORI, TOYOKA,  
 HIROSHIMA, FUKUOKA



STATION	CONDITION	RECORD NUMBER	MAX.ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX.ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 HAKODATE-FR	ON STRUC.	F- 317	13 12 6	324	1 SAKAIMINATO-JI-S	ON GROUND	S-2251	75 105 16	34
1 HAKODATE-F	ON GROUND	F- 316	15 13 6	324					
1 HAKODATE-FB	IN GROUND	F- 315	5 5 4	324					

## STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

17:56 NOV. 6, 1989

NE OFF IWATE PREF

EPICENTER :  $40^{\circ}10'N$   $142^{\circ}27.5'E$ 

DEPTH : 38.0KM MAGNITUDE : 5.4

## JMA INTENSITIES

III : HACHINOHE, MURIOKA,

MIYAKO

II : AOMORI, FUNATO

05:53 NOV. 8, 1989

S OFF URAKAWA

EPICENTER :  $42^{\circ}3.0'N$   $142^{\circ}30.1'E$ 

DEPTH : 74.9KM MAGNITUDE : 4.6

## STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

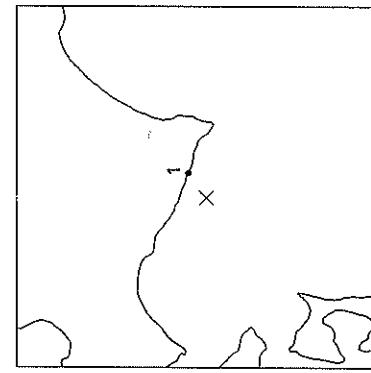
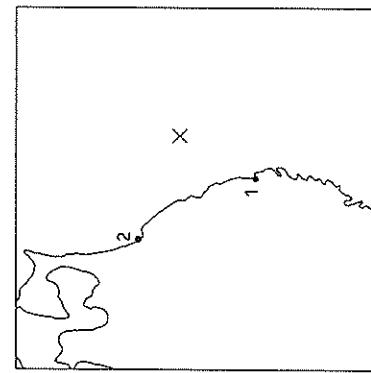
## JMA INTENSITIES

II : URAKAWA, HIROO

I : MURORAN, TOMAKOMAI

I : URAKAWA, KUSHIRO,

TOMAKOMAI, AKITA, SENDAI



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 MIYAKO-S	ON GROUND	S-2263	9 7 3	71	1 URAKAWA-S	ON GROUND	S-2260	8 6 2	25
2 HACHINOHE-JI-S	ON GROUND	S-2262	11 10 5	92					

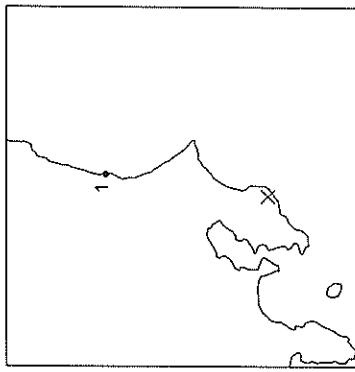
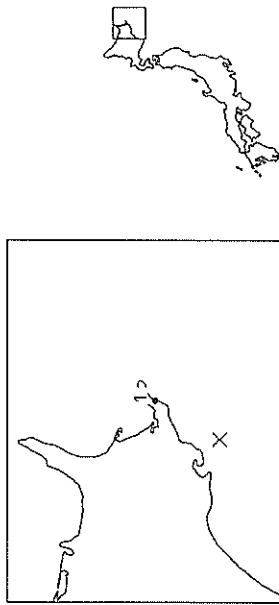
STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

00:56 NOV. 19, 1989  
 OFF NEMURO PENINSULA  
 EPICENTER : 42°50'2"N 145°6'2"E  
 DEPTH : 47.2KM MAGNITUDE : 5.3

JMA INTENSITIES  
 III : KUSHIRO/NENURO  
 II : URAKAWA/HIROO  
 I : OBIHIRO/TOMAKOMAI

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

16:02 NOV. 24, 1989  
 KUJUKURI COAST, BOSO PEN  
 EPICENTER : 35°10'9"N 140°18.2"E  
 DEPTH : 64.2KM MAGNITUDE : 3.9



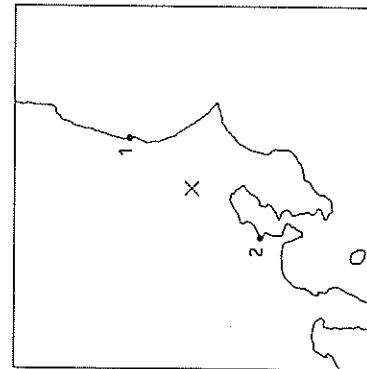
STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 HANASAKI-M	ON GROUND	M-1296	4.3 54 17	63	1 HITACHINAKA-F	ON GROUND	F- 330	18 18 8	136

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

16:02 NOV. 25, 1989

SOUTHERN IBARAKI PREF  
EPICENTER : 35°57'0"N 140°7'1"E  
DEPTH : 76.0KM MAGNITUDE : 4.6

JMA INTENSITIES  
II : UTSUNOMIYA-KAKIOKA-MITO,  
TOKYO-CHIBA  
I : CHOSHIAJIRYO-YOKOHAMA,  
NIKKO-OISHIMA



STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

02:23 DEC. 9, 1989

E OFF IBARAKI PREF  
EPICENTER : 36°35'.7"N 141°4.5"E  
DEPTH : 45.6KM MAGNITUDE : 5.6

JMA INTENSITIES  
IV : MITO-CHOSHIA  
EPICENTER : 36°35'.7"N 141°4.5"E  
DEPTH : 45.6KM MAGNITUDE : 5.6  
KAKIOKA  
II : CHIBA-FUKUSHIMA,  
KUMAGAYA-UTSUNOMIYA,  
MAEBASHI-YOKOHAMA  
I : SENDAI-MORIOKA,  
WAKAMATSU-TATEYAMA



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EW) (UD)	DIST. (KM)
1 HITACHINAKA-F	ON GROUND	F- 331	9 11 4	66	1 KASHIMA-ZOKAN-S	ON GROUND	S-2266	25 19 7	81
2 KEIHIN-JI-S	ON GROUND	S-2264	1 2 70	2	2 HITACHINAKA-F	ON GROUND	F- 332	76 100 31	47

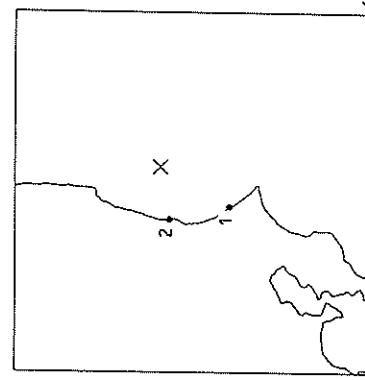
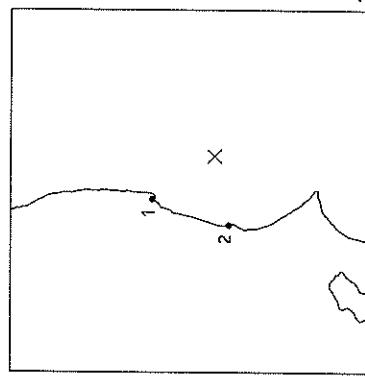
STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

13:25 DEC. 14, 1989  
 E. OFF IBARAKI PREF.  
 EPI CENTER :  $36^{\circ}27.1'N$   $141^{\circ}16.2'E$   
 DEPTH : 43.2KM MAGNITUDE : 4.5  
 I : ONAHAMA, FUKUSHIMA,  
 KAKIKA  
 II : CHOSHII, SHIRAKAWA,  
 UTSUNOMIYA, NIKKO

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

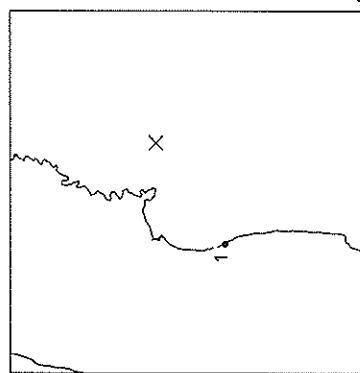
09:32 DEC. 22, 1989  
 JMA INTENSITIES  
 E. OFF IBARAKI PREF.  
 EPI CENTER :  $36^{\circ}25.5'N$   $141^{\circ}7.2'E$   
 DEPTH : 39.6KM MAGNITUDE : 4.8

III : MITO  
 II : ONAHAMA, SHIRAKAWA,  
 KAKIKA, UTSUNOMIYA  
 I : CHOSHII, KUMAGAYA, CHIBA,  
 TOKYO, FUKUSHIMA, SENDAI



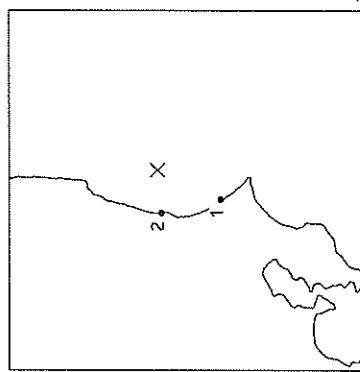
STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EN) (UD)	DIST. (KM)	STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL) (NS) (EN) (UD)	DIST. (KM)
1 ONAHAMA-JI-S	ON GROUND	S-2265	63 66 19	63	1 KASHIMA-ZOKAN-S	ON GROUND	S-2267	4 4 2	66
2 HITACHINAKA-F	ON GROUND	F- 333	21 21 10	58	2 HITACHINAKA-F	ON GROUND	F- 334	28 41 19	45

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS



STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

17:47 DEC. 25, 1989 JMA INTENSITIES  
 E OFF IBARAKI PREF III : MIKO  
 EPICENTER :  $36^{\circ}23'4''N$   $141^{\circ}0.6'E$  II : ONAHAMA-KAKI  
 DEPTH : 33.6KM MAGNITUDE : 4.5 I : CHO SHI-UTSUNOMIYA



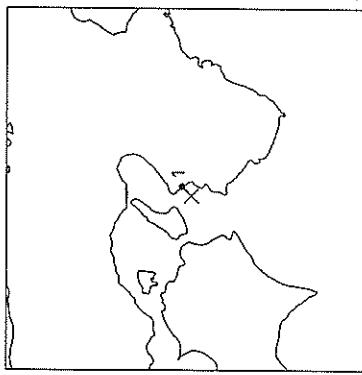
	STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL) (NS) (EW)	DIST. (KM) (UD)	STATION	CONDITION	RECORD NUMBER	MAX-ACC. (GAL) (NS) (EW)	DIST. (KM) (UD)
1	SOMA-S	ON GROUND	S-2269	4 4 3	101	1	KASHINA-ZOKAN-S	S-2268	4 4 2	58
						2	URITACHINADA-F	F-335	40 41 20	35

STRONG-MOTION EARTHQUAKE OBSERVATION RESULTS

19:35 DEC. 25, 1989  
NW WAKAYAMA PREF  
EPICENTER : 34°8'6" N 135°3'7"E  
DEPTH : 9.3KM MAGNITUDE : 3.8

JMA INTENSITIES

II : WAKAYAMA



STATION	CONDITION	RECORD NUMBER	MAX. ACC. (GAL)			DIST. (KM)
			(NS)	(EW)	(UD)	
1 WAKAYAMA-S	ON GROUND	S-2270	3	3	1	11

RECORD NUMBER  
STATION

S-2186 URAKAWA-S

EARTHQUAKE DATA (JI SHIN KAZAN GAI KYO)

DATA AND TIME

LOCATION OF HYPOCENTER

EP CENTRAL REGION

LATITUDE

42° 9.0' N

LONGITUDE

142° 48.0' E

DEPTH

43.0KM

MAGNITUDE

5.7

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PEAK VALUES OF COMPONENTS

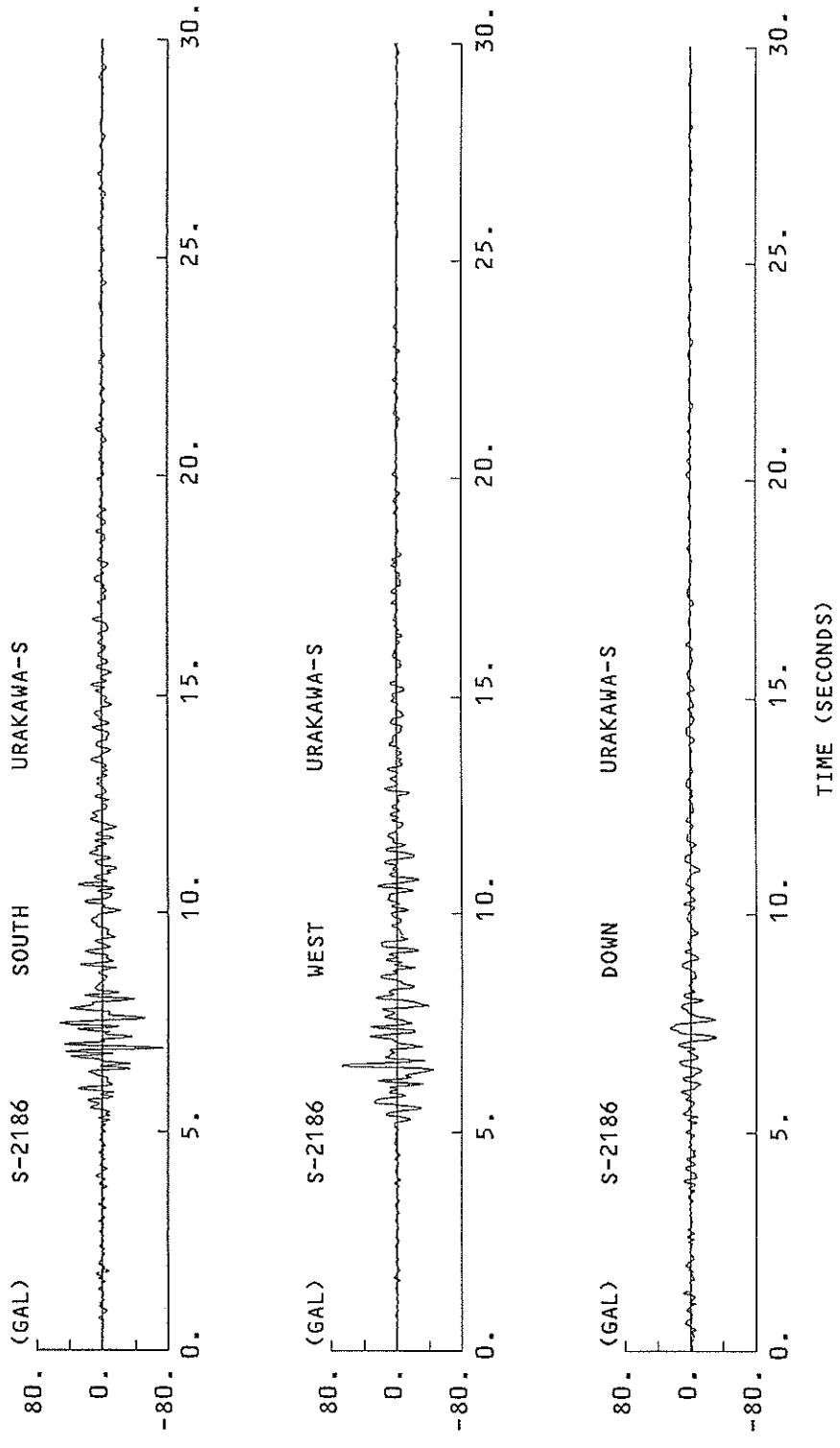
	N	S	E	W	U	D	HORIZONTAL*
PARAMETER OF THE VARIABLE FILTER							
FC (HZ)	0.658		0.597		0.804		

	ORIGINAL	CORRECTED				
MAXIMUM ACCELERATION (GAL)	74.1	68.6	32.1	74.6		
MAXIMUM VELOCITY (CM/SEC)	115.2	106.3	37.2	116.2		

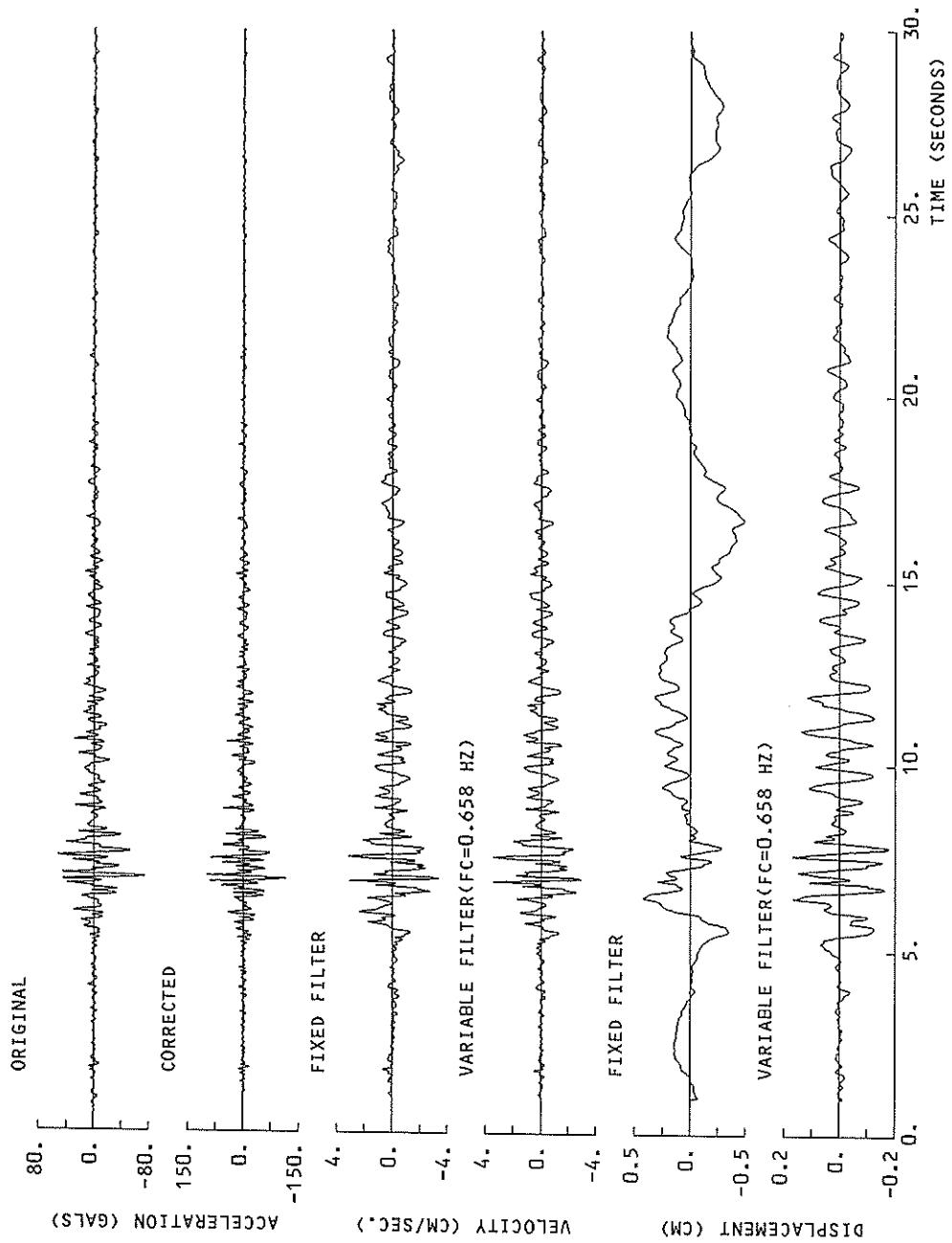
	FIXED FILTER	VARIABLE FILTER				
MAXIMUM DISPLACEMENT (CM)	3.38	5.61	2.67	5.69		
	3.54	5.01	2.54	5.09		

	FIXED FILTER	VARIABLE FILTER				
	0.490	0.503	0.444	0.695		
	0.179	0.294	0.169	0.296		

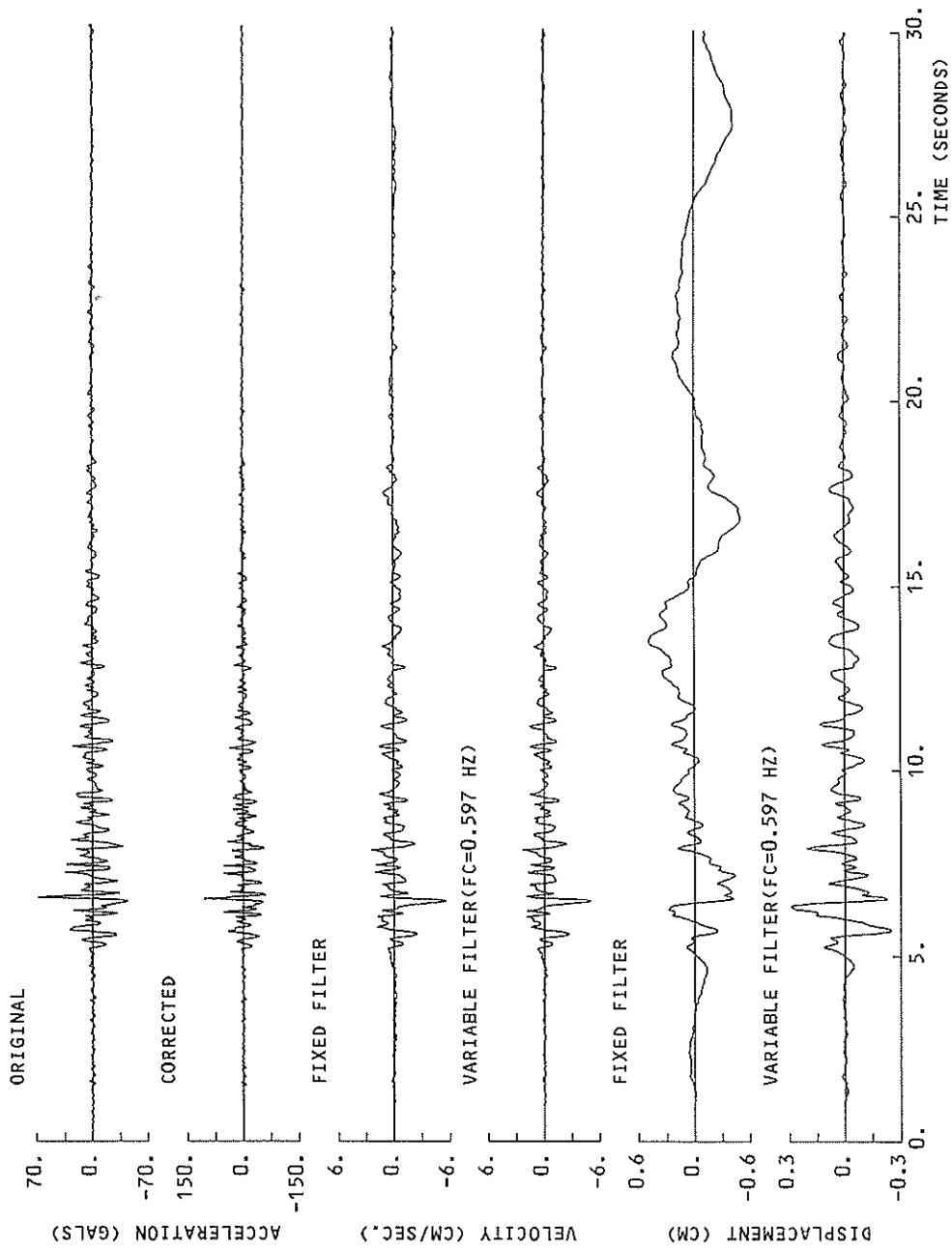
\* RESULTANT OF HORIZONTAL COMPONENTS



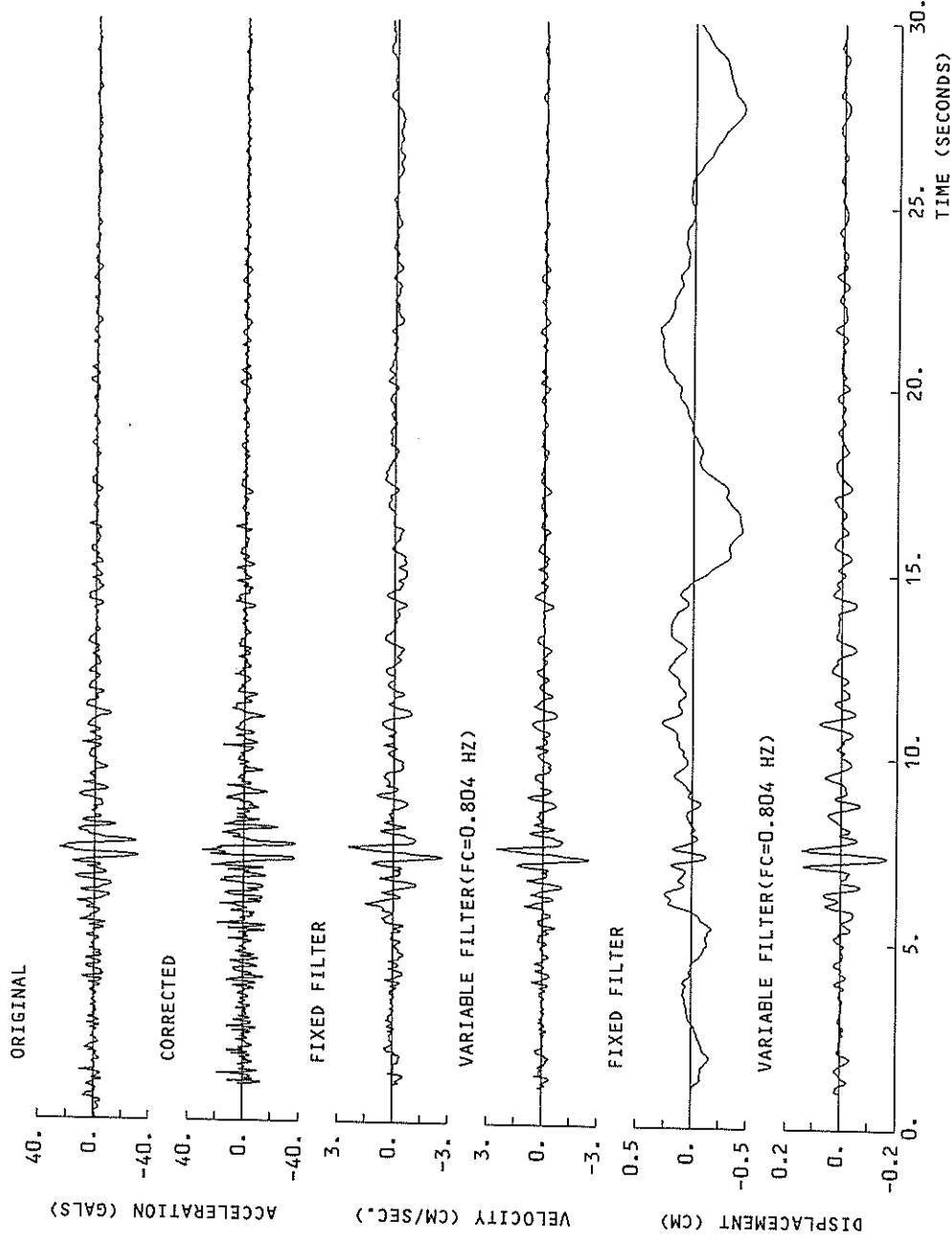
S-2186 SOUTH URAKAWA-S

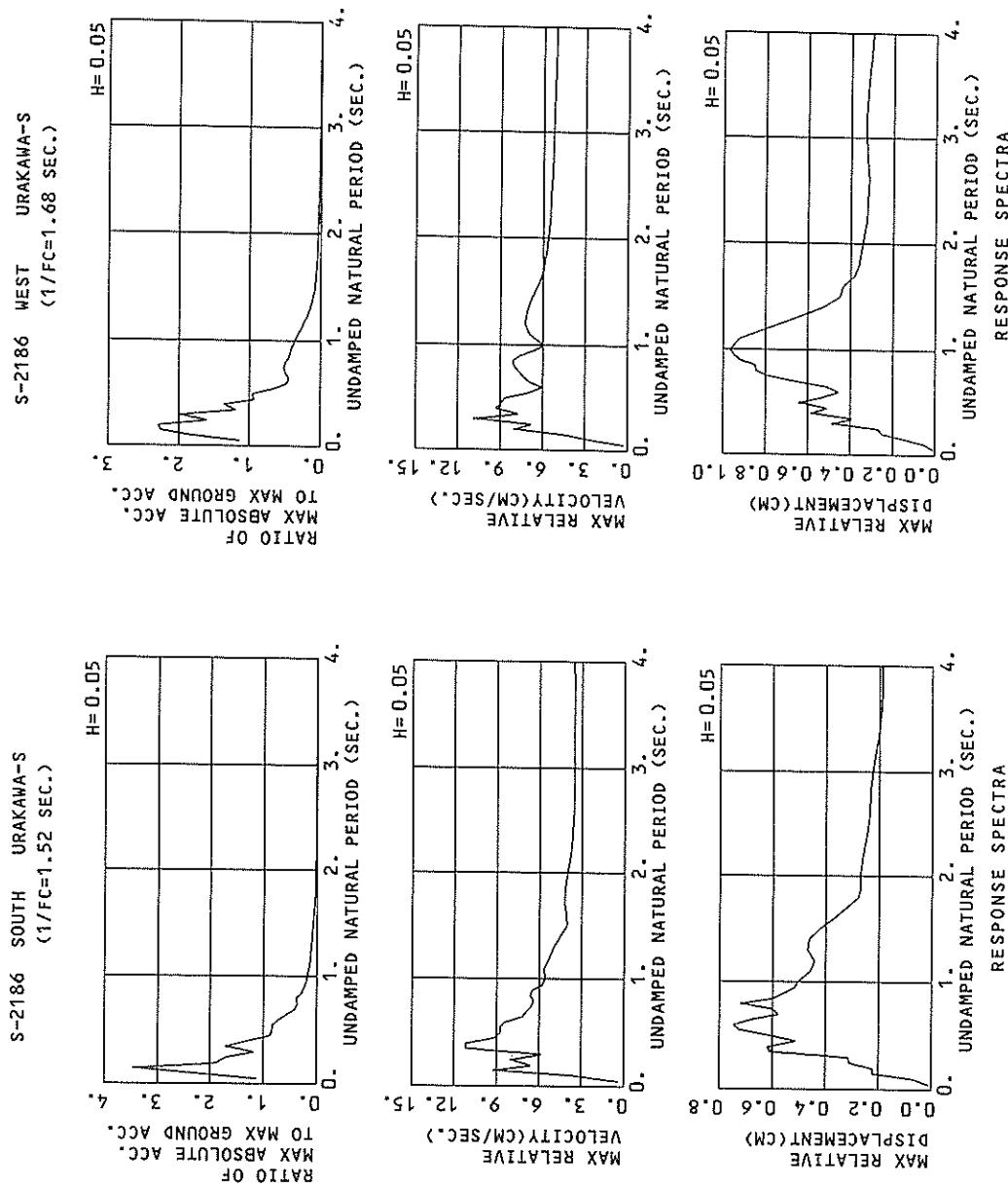


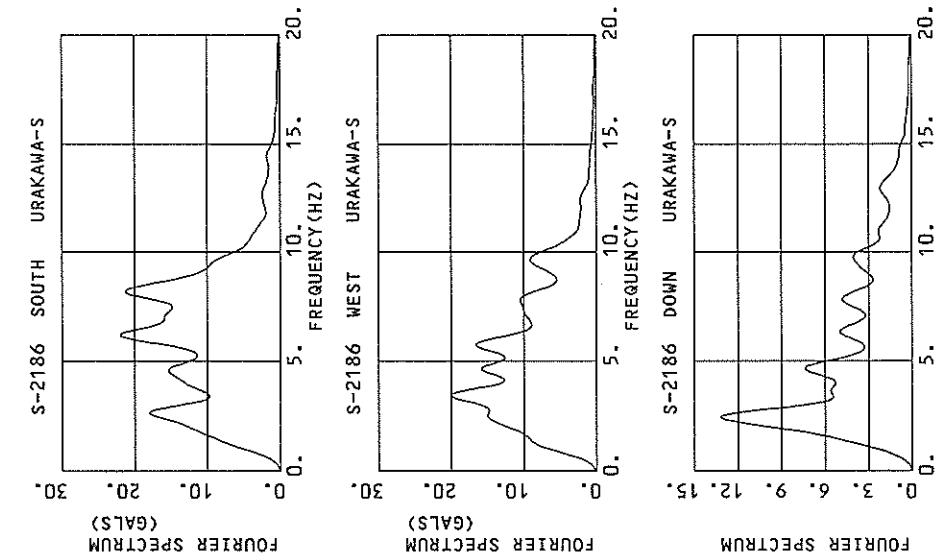
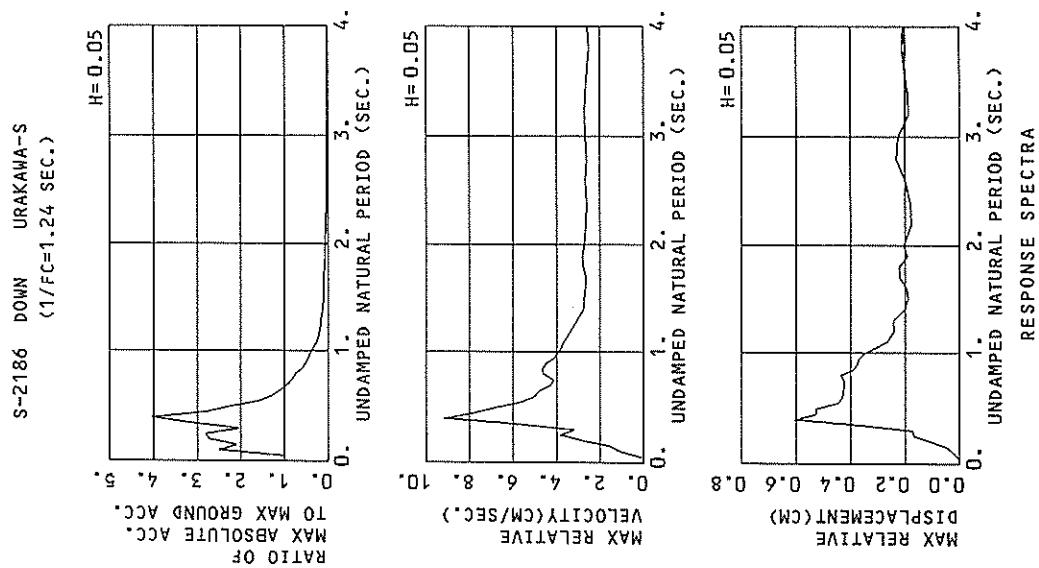
S-2186 WEST URAKAWA-S



S-2186 DOWN URAKAWA-S







## RESPONSE SPECTRUM

RECORD = S-2186    DATE AND TIME = 1989-1-25-5:03    COMPONENT = SOUTH  
 TIME LENGTH = 29.99 (SEC)    SAMPLING INTERVAL = 0.0100 (SEC)    CORRECTION = MAX.GROUND ACC. = 115.24 (GAL)  
 SKIPPED LENGTH = 0.00 (SEC)

PER	DAMPING = 0.			DAMPING = 0.025			DAMPING = 0.050			DAMPING = 0.100			DAMPING = 0.250		
	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	116.0	0.47	0.007	130.1	0.41	0.008	129.9	0.39	0.008	127.6	0.37	0.008	123.7	0.36	0.008
0.10	583.9	8.79	0.148	313.6	4.32	0.079	279.9	3.68	0.071	246.6	3.05	0.062	188.1	1.97	0.045
0.15	782.4	18.55	0.446	435.6	10.33	0.248	400.0	9.22	0.221	333.5	7.20	0.183	208.8	4.48	0.106
0.20	562.5	17.90	0.570	233.7	7.46	0.237	217.4	6.58	0.211	148.2	6.18	0.194	143.6	4.61	0.130
0.25	433.3	17.31	0.686	253.8	10.33	0.402	197.4	8.00	0.310	137.6	5.82	0.231	112.8	4.58	0.158
0.30	290.3	13.86	0.652	144.8	6.09	0.330	137.6	5.81	0.313	121.9	5.31	0.251	94.1	4.70	0.179
0.35	446.8	25.39	1.386	261.3	15.22	0.810	197.8	1.18	0.610	135.0	7.21	0.411	89.4	4.70	0.227
0.40	496.0	2.016	2.016	177.5	13.09	0.720	153.9	1.17	0.619	117.8	8.42	0.464	75.6	5.65	0.257
0.45	188.3	1.966	1.966	115.6	9.92	0.591	100.2	9.18	0.512	88.9	7.89	0.449	60.0	5.92	0.278
0.50	188.5	14.76	1.194	106.4	9.64	0.671	97.0	8.75	0.611	81.4	7.28	0.504	52.0	5.88	0.294
0.55	177.4	15.42	1.359	113.5	10.11	0.869	95.4	8.78	0.726	72.1	6.97	0.536	46.0	5.65	0.313
0.60	218.3	20.87	1.990	99.5	10.13	0.905	82.7	8.40	0.748	63.0	6.77	0.555	44.8	5.27	0.331
0.65	82.9	9.61	0.887	71.8	8.20	0.765	63.9	7.15	0.677	53.3	5.65	0.546	41.9	4.84	0.352
0.70	54.1	7.96	0.677	49.6	7.44	0.614	47.3	6.89	0.519	55.9	5.99	0.456	37.5	4.46	0.351
0.75	130.2	15.47	1.856	59.0	7.50	0.840	42.2	6.52	0.597	34.2	5.98	0.456	33.0	4.48	0.338
0.80	114.3	14.48	1.853	59.9	7.96	0.970	44.8	6.40	0.722	29.8	5.95	0.471	28.5	4.65	0.315
0.85	42.5	7.77	0.778	37.4	7.09	0.684	32.9	6.61	0.598	24.1	5.92	0.441	25.2	4.65	0.293
0.90	63.4	9.32	1.300	30.7	6.94	0.627	27.9	6.45	0.568	21.7	5.72	0.432	23.2	4.57	0.290
0.95	59.4	9.19	0.357	30.0	6.13	0.685	22.8	5.75	0.517	19.0	5.27	0.394	21.3	4.44	0.283
1.00	38.5	6.77	0.976	24.1	5.95	0.608	20.4	5.59	0.506	16.0	5.09	0.387	19.5	4.26	0.210
1.10	34.1	6.17	1.045	18.3	5.89	0.561	15.1	5.63	0.456	12.6	5.19	0.369	16.0	4.35	0.278
1.20	13.4	5.47	0.490	12.7	5.38	0.461	12.4	5.26	0.442	11.7	5.00	0.400	13.0	4.33	0.303
1.30	12.5	5.24	0.535	11.7	5.08	0.498	11.2	4.95	0.468	10.6	4.74	0.417	10.7	4.24	0.316
1.40	10.8	4.56	0.538	10.1	4.53	0.498	9.7	4.50	0.465	9.2	4.41	0.414	9.6	4.11	0.318
1.50	9.6	4.06	0.539	7.9	3.99	0.442	7.8	4.04	0.424	7.8	4.08	0.389	9.1	3.97	0.313
1.60	6.6	4.39	0.428	5.9	4.22	0.379	6.0	4.09	0.371	6.4	3.90	0.353	8.6	3.84	0.301
1.70	5.0	4.46	0.363	4.5	4.32	0.324	4.7	4.19	0.322	5.2	4.00	0.315	7.9	3.33	0.286
1.80	4.2	4.40	0.343	3.6	4.29	0.286	3.7	4.18	0.276	4.3	4.02	0.280	7.3	3.75	0.269
1.90	4.0	4.24	0.365	3.2	4.17	0.286	3.2	4.10	0.268	3.6	3.98	0.248	6.8	3.75	0.253
2.00	3.4	4.04	0.349	2.9	4.01	0.287	2.9	3.98	0.271	3.0	3.92	0.243	6.3	3.74	0.239
2.20	2.3	3.74	0.282	2.3	3.76	0.270	2.4	3.77	0.260	2.6	3.78	0.241	5.4	3.71	0.215
2.40	1.8	3.61	0.261	1.8	3.63	0.250	1.9	3.65	0.245	2.2	3.67	0.233	4.9	3.66	0.198
2.60	1.5	3.55	0.252	1.5	3.57	0.242	1.6	3.58	0.235	2.0	3.61	0.226	4.4	3.63	0.196
2.80	1.3	3.50	0.250	1.3	3.52	0.241	1.4	3.54	0.233	1.8	3.57	0.220	4.0	3.60	0.196
3.00	1.0	3.48	0.237	1.1	3.50	0.230	1.2	3.52	0.225	1.6	3.54	0.215	3.8	3.58	0.194
3.20	0.8	3.48	0.216	0.9	3.50	0.214	1.0	3.51	0.212	1.5	3.53	0.208	3.5	3.56	0.195
3.40	0.7	3.48	0.197	0.7	3.51	0.199	0.9	3.52	0.200	1.4	3.53	0.200	3.3	3.55	0.193
3.60	0.6	3.53	0.185	0.6	3.53	0.189	0.8	3.53	0.192	1.3	3.54	0.195	3.1	3.55	0.192
3.80	0.5	3.55	0.181	0.6	3.54	0.185	0.7	3.54	0.188	1.2	3.54	0.192	3.0	3.54	0.191
4.00	0.5	3.55	0.184	0.5	3.55	0.186	0.7	3.54	0.188	1.2	3.54	0.191	2.8	3.54	0.191

PER = PERIOD (SEC)    AA = ABSOLUTE ACC. (GAL)    RV = RELATIVE VELOCITY (CM/SEC)    RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

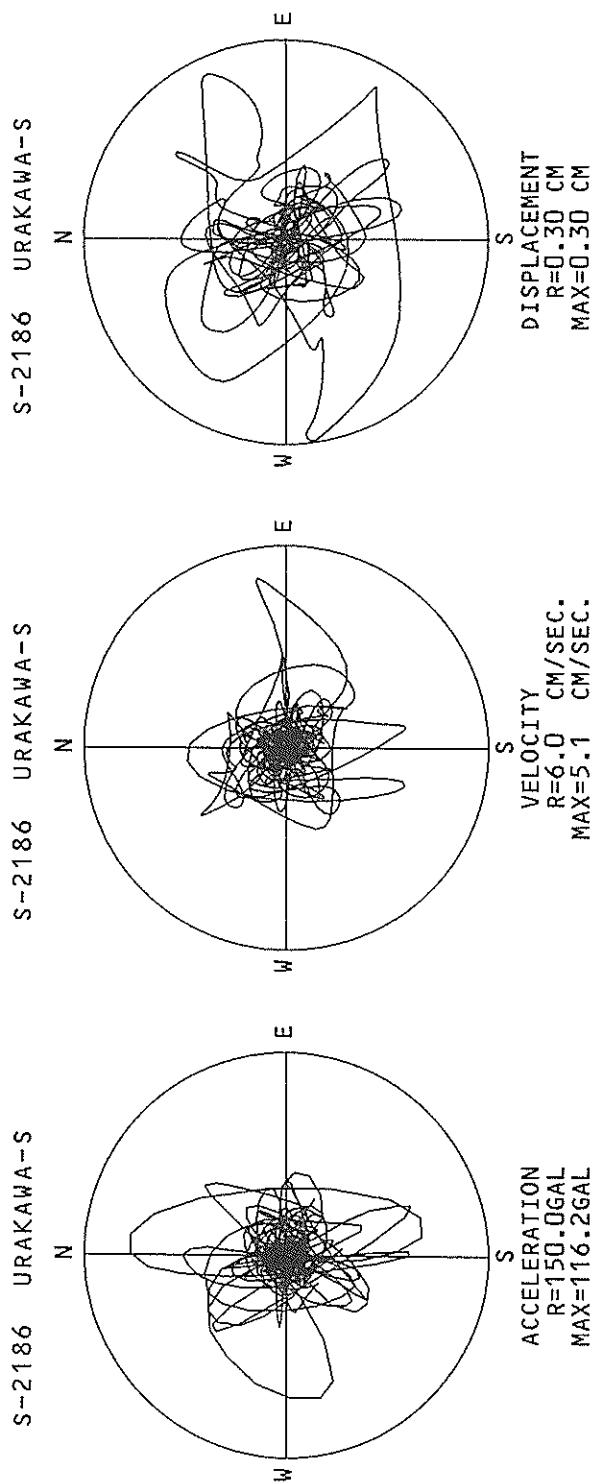
RECORD = S-2186    COMPONENT = WEST    SAMPLING INTERVAL = 0.100 (SEC)    CORRECTION = MAX. GROUND ACC. = 106.31 (GAL)  
 DATE AND TIME = 1989-5-03    SKIPPED LENGTH = 0.00 (SEC)    STATION = URAKAWA-S  
 TIME LENGTH = 29.99 (SEC)

PER	AA	RV	RD	DAMPING = 0.				DAMPING = 0.025				DAMPING = 0.050				DAMPING = 0.100				DAMPING = 0.250			
				AA	RV	RD	AA	AA	RV	RD	AA	AA	RV	RD	AA	AA	RV	RD	AA	AA	RV	RD	
0.05	120.2	0.30	0.008	120.7	0.25	0.008	121.6	0.25	0.008	122.1	0.24	0.008	120.7	0.23	0.008	120.7	0.23	0.008	120.7	0.23	0.008		
0.10	857.2	13.53	0.217	267.2	3.88	0.068	193.9	2.52	0.049	182.6	1.62	0.046	155.4	1.14	0.037	129.1	1.29	0.087	163.1	1.29	0.087		
0.15	384.4	8.73	0.219	290.6	5.58	0.166	229.6	4.30	0.136	194.8	3.29	0.111	163.1	2.29	0.087	152.1	2.29	0.087	152.1	2.29	0.087		
0.20	379.2	12.06	0.384	280.8	9.18	0.285	245.0	8.06	0.249	205.0	6.38	0.203	152.4	4.76	0.193	152.4	4.76	0.193	152.4	4.76	0.193		
0.25	275.6	10.52	0.436	191.7	7.41	0.303	170.8	6.80	0.269	162.9	6.38	0.251	135.4	4.76	0.193	135.4	4.76	0.193	135.4	4.76	0.193		
0.30	602.8	28.64	1.374	300.1	14.83	0.685	244.5	10.90	0.487	169.5	8.60	0.378	124.0	5.41	0.251	124.0	5.41	0.251	124.0	5.41	0.251		
0.35	361.7	20.55	1.122	163.4	9.99	0.055	127.1	7.75	0.391	122.9	6.99	0.372	105.8	5.49	0.285	105.8	5.49	0.285	105.8	5.49	0.285		
0.40	388.5	24.79	1.574	198.0	12.89	0.802	145.5	9.35	0.584	119.3	7.93	0.471	89.9	5.92	0.307	89.9	5.92	0.307	89.9	5.92	0.307		
0.45	194.3	14.34	0.997	122.3	9.82	0.627	100.4	8.97	0.512	87.4	7.85	0.434	72.9	5.97	0.306	72.9	5.97	0.306	72.9	5.97	0.306		
0.50	200.9	16.12	1.272	137.0	11.27	0.867	102.3	8.69	0.643	69.8	6.63	0.431	58.4	5.77	0.289	58.4	5.77	0.289	58.4	5.77	0.289		
0.55	127.5	11.85	0.977	82.8	8.23	0.634	71.0	7.01	0.540	55.1	5.69	0.407	47.8	5.55	0.278	47.8	5.55	0.278	47.8	5.55	0.278		
0.60	72.3	8.11	0.659	59.9	6.85	0.545	50.4	6.01	0.456	41.7	5.57	0.368	40.9	5.51	0.275	40.9	5.51	0.275	40.9	5.51	0.275		
0.65	119.4	11.99	1.278	61.9	7.60	0.661	48.0	6.93	0.511	41.2	5.97	0.431	35.7	5.57	0.302	35.7	5.57	0.302	35.7	5.57	0.302		
0.70	71.8	9.48	0.891	59.1	8.30	0.735	52.9	7.34	0.654	43.1	6.52	0.522	34.8	5.67	0.344	34.8	5.67	0.344	34.8	5.67	0.344		
0.75	105.5	12.65	1.503	64.4	8.19	0.917	55.4	7.70	0.785	42.7	7.00	0.597	34.7	5.74	0.395	34.7	5.74	0.395	34.7	5.74	0.395		
0.80	75.6	10.69	1.225	60.7	8.46	0.983	52.5	8.03	0.844	40.0	7.22	0.627	34.9	5.76	0.449	34.9	5.76	0.449	34.9	5.76	0.449		
0.85	92.1	13.25	1.777	59.7	8.83	1.082	46.5	8.13	0.847	38.2	7.18	0.665	34.9	5.76	0.449	34.9	5.76	0.449	34.9	5.76	0.449		
0.90	64.1	9.76	1.465	47.0	7.45	1.073	42.3	6.62	0.949	38.0	6.16	0.814	33.5	5.20	0.577	33.5	5.20	0.577	33.5	5.20	0.577		
0.95	45.4	7.78	4.12	6.37	1.038	3.88	5.91	0.965	35.6	5.43	0.838	32.2	4.89	0.597	32.2	4.89	0.597	32.2	4.89	0.597			
1.00	35.0	7.98	1.073	32.5	7.41	0.992	30.8	6.94	0.923	22.6	6.18	0.817	28.9	4.79	0.608	28.9	4.79	0.608	28.9	4.79	0.608		
1.20	27.7	8.09	1.071	22.1	7.64	0.827	22.4	7.24	0.794	22.6	6.56	0.733	25.3	5.16	0.588	25.3	5.16	0.588	25.3	5.16	0.588		
1.30	16.9	7.76	0.723	15.8	7.45	0.670	15.9	7.15	0.658	17.1	6.59	0.633	21.9	5.37	0.554	21.9	5.37	0.554	21.9	5.37	0.554		
1.40	17.1	7.35	0.847	10.7	7.11	0.526	11.2	6.89	0.532	13.1	6.47	0.537	19.0	5.45	0.514	19.0	5.45	0.514	19.0	5.45	0.514		
1.50	6.74	8.87	1.087	10.2	6.64	0.582	8.1	6.52	0.449	10.3	6.04	0.460	16.6	5.46	0.447	16.6	5.46	0.447	16.6	5.46	0.447		
1.60	11.2	6.23	0.723	8.1	6.22	0.520	6.8	6.18	0.434	8.4	6.04	0.409	14.7	5.44	0.445	14.7	5.44	0.445	14.7	5.44	0.445		
1.70	7.7	5.97	0.887	10.2	5.98	0.430	5.4	5.96	0.380	7.2	5.87	0.379	13.2	5.42	0.418	13.2	5.42	0.418	13.2	5.42	0.418		
1.80	5.3	5.86	0.433	4.5	5.84	0.365	4.7	5.82	0.361	6.3	5.75	0.359	12.0	5.38	0.397	12.0	5.38	0.397	12.0	5.38	0.397		
1.90	4.1	5.78	0.375	3.9	5.75	0.358	4.1	5.72	0.351	5.7	5.65	0.343	11.0	5.35	0.381	11.0	5.35	0.381	11.0	5.35	0.381		
2.00	3.7	5.67	0.370	3.5	5.65	0.351	3.6	5.63	0.343	5.1	5.58	0.331	10.1	5.32	0.367	10.1	5.32	0.367	10.1	5.32	0.367		
2.20	2.8	5.49	0.346	2.8	5.50	0.336	2.9	5.49	0.326	4.3	5.46	0.317	8.8	5.27	0.345	8.8	5.27	0.345	8.8	5.27	0.345		
2.40	5.42	2.3	0.344	2.3	5.42	0.331	2.5	5.41	0.320	3.8	5.38	0.309	7.8	5.23	0.329	7.8	5.23	0.329	7.8	5.23	0.329		
2.60	1.9	5.40	0.325	1.9	5.38	0.318	2.2	5.37	0.315	3.3	5.33	0.308	7.0	5.19	0.316	7.0	5.19	0.316	7.0	5.19	0.316		
2.80	1.7	5.36	0.334	1.7	5.34	0.328	1.9	5.32	0.322	2.9	5.29	0.312	6.4	5.17	0.305	6.4	5.17	0.305	6.4	5.17	0.305		
3.00	1.5	5.23	0.344	1.5	5.23	0.335	1.6	5.21	0.328	2.6	5.25	0.315	5.8	5.15	0.296	5.8	5.15	0.296	5.8	5.15	0.296		
3.20	1.3	5.18	0.335	1.1	5.18	0.328	1.3	5.17	0.322	2.4	5.21	0.315	5.4	5.12	0.289	5.4	5.12	0.289	5.4	5.12	0.289		
3.40	1.1	5.14	0.321	1.1	5.14	0.318	1.2	5.14	0.314	2.2	5.17	0.311	5.0	5.11	0.286	5.0	5.11	0.286	5.0	5.11	0.286		
3.60	0.8	5.12	0.306	0.9	5.12	0.307	1.1	5.12	0.305	1.9	5.12	0.301	4.4	5.08	0.285	4.4	5.08	0.285	4.4	5.08	0.285		
3.80	0.7	5.11	0.297	0.7	5.11	0.298	1.1	5.11	0.298	1.8	5.11	0.297	4.2	5.07	0.285	4.2	5.07	0.285	4.2	5.07	0.285		
4.00	0.7	5.11	0.297	0.7	5.11	0.298	1.1	5.11	0.298	1.8	5.11	0.297	4.2	5.07	0.285	4.2	5.07	0.285	4.2	5.07	0.285		

PER = PERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

RECORD = S-2186		COMPONENT = DOWN		SAMPLING INTERVAL = 0.0100(SEC)		CORRECTION = MAX. GROUND ACC. = 37.16 (GAL)		STATION = URAKAWA-S	
PERIOD	RATIO	AA	RV	RD	AA	RV	RD	AA	RV
<b>DAMPING = 0.</b>									
				<b>DAMPING = 0.025</b>		<b>DAMPING = 0.050</b>		<b>DAMPING = 0.100</b>	
0.05	55.4	0.21	0.004	38.0	0.12	0.002	38.0	0.11	0.002
0.10	393.9	6.09	0.100	122.9	0.156	0.031	93.2	0.09	0.024
0.15	225.4	4.77	0.293	114.2	3.27	0.054	78.1	0.102	0.044
0.20	289.2	9.20	0.220	115.9	3.45	0.115	101.2	0.158	0.044
0.25	129.2	4.90	0.294	89.6	3.95	0.184	104.5	0.166	0.044
0.30	212.6	6.00	0.660	139.9	7.29	0.204	75.8	0.196	0.035
0.35	179.7	11.79	1.267	189.9	11.94	0.435	120.7	0.172	0.035
0.40	312.7	19.92	1.847	189.9	11.94	0.767	150.8	0.17	0.035
0.45	165.4	11.87	0.847	118.9	9.11	0.527	103.0	0.606	0.296
0.50	176.2	14.25	1.116	100.9	7.98	0.639	103.0	0.527	0.493
0.55	92.1	8.09	0.706	64.2	6.31	0.492	58.5	5.62	0.446
0.60	70.0	7.59	0.639	53.2	5.76	0.485	47.4	5.03	0.430
0.65	87.4	9.16	0.935	48.7	5.33	0.519	40.4	4.77	0.427
0.70	45.3	5.58	0.562	36.1	4.65	0.446	34.2	4.26	0.423
0.75	45.4	5.49	0.646	31.1	4.27	0.451	30.0	4.16	0.423
0.80	49.7	6.30	0.805	30.1	4.98	0.486	27.3	4.66	0.437
0.85	29.4	5.33	0.538	23.3	4.99	0.425	21.6	4.66	0.390
0.90	22.7	5.16	0.466	20.2	4.76	0.413	18.4	4.47	0.375
0.95	18.9	4.39	0.432	17.5	4.26	0.400	16.3	4.09	0.369
1.00	16.4	4.31	0.416	14.9	4.09	0.377	13.9	3.90	0.347
1.10	12.0	3.76	0.368	8.7	3.71	0.265	8.8	3.82	0.265
1.20	12.1	3.44	0.443	6.9	3.37	0.250	6.7	3.32	0.239
1.30	7.1	3.05	0.305	6.3	3.04	0.267	5.8	3.03	0.242
1.40	5.6	2.64	0.280	4.3	2.66	0.209	4.2	2.75	0.202
1.50	3.8	2.75	0.217	3.3	2.71	0.187	3.5	2.72	0.188
1.60	3.4	2.76	0.222	3.1	2.70	0.198	3.2	2.68	0.192
1.70	3.6	2.60	0.222	3.3	2.63	0.235	3.3	2.65	0.218
1.80	3.4	2.93	0.276	3.0	2.83	0.242	2.9	2.76	0.211
1.90	2.5	2.01	0.222	2.2	2.88	0.220	2.3	2.80	0.190
2.00	2.4	2.81	0.258	2.3	2.77	0.225	2.1	2.73	0.205
2.20	1.5	2.73	0.181	1.4	2.68	0.171	1.5	2.64	0.175
2.40	1.5	2.65	0.220	1.4	2.63	0.196	1.4	2.62	0.181
2.60	1.2	2.79	0.208	1.2	2.72	0.201	1.3	2.68	0.196
2.80	1.4	2.67	0.278	1.3	2.64	0.250	1.3	2.62	0.230
3.00	1.2	2.76	0.264	1.1	2.71	0.241	1.1	2.68	0.224
3.20	0.7	2.79	0.192	0.8	2.74	0.188	0.8	2.70	0.185
3.40	0.8	2.71	0.231	0.7	2.68	0.207	0.8	2.66	0.181
3.60	0.8	2.59	0.251	0.7	2.59	0.223	0.8	2.59	0.189
3.80	0.7	2.53	0.259	0.7	2.52	0.231	0.8	2.52	0.183
4.00	0.6	2.62	0.248	0.6	2.59	0.224	0.7	2.57	0.206
PERIOD (SEC)	AA = ABSOLUTE ACC. (GAL)	RV = RELATIVE VELOCITY (CM/SEC)	RD = RELATIVE DISPLACEMENT (CM)						



RECORD NUMBER  
STATION

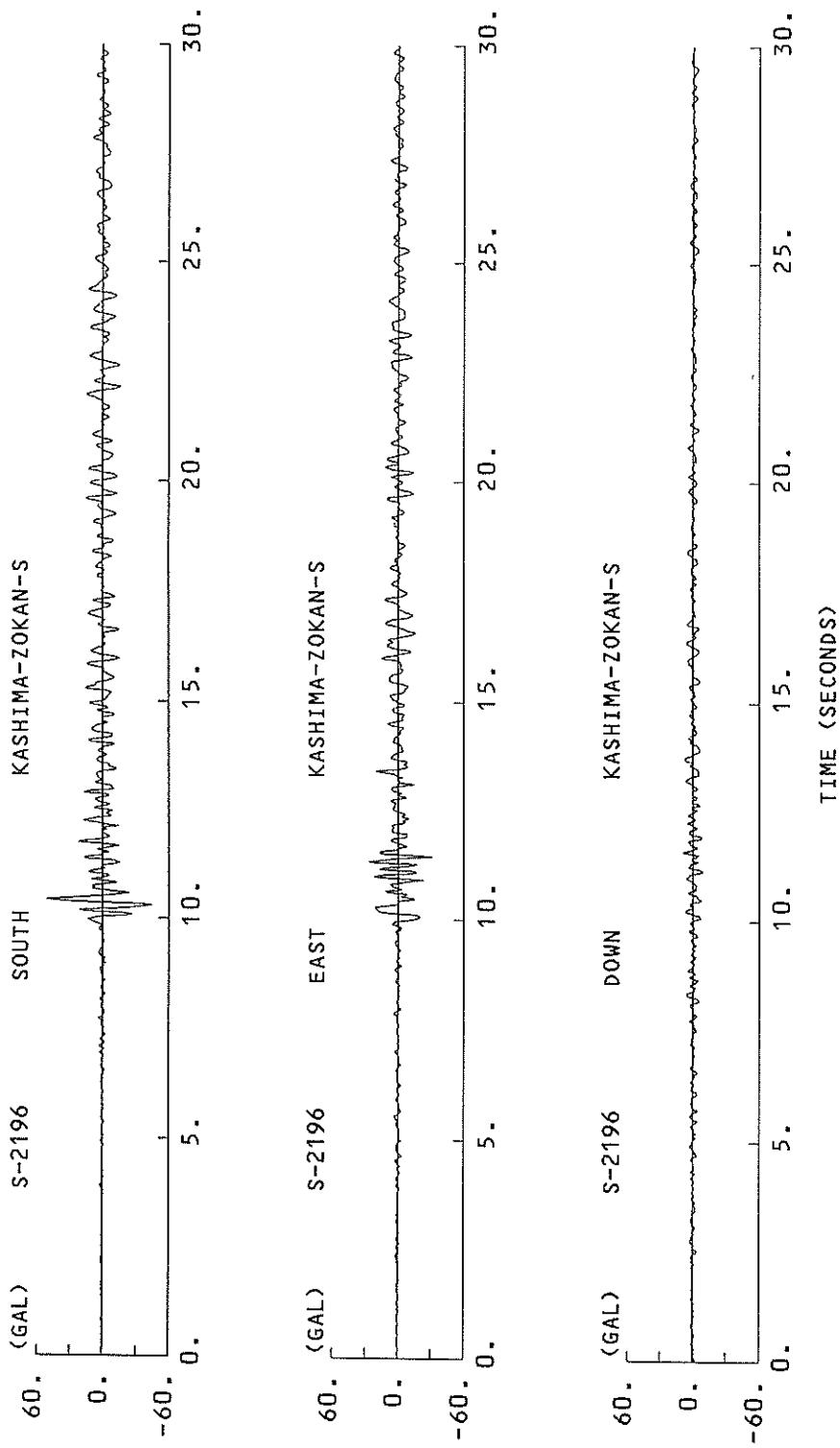
S-2196 KASHIMA-ZOKAN-S

EARTHQUAKE DATA (JISHIN KAZAN GAIKYO)  
 \*\*\*\*\*  
 DATA AND TIME 21:27 FEB. 19, 1989  
 LOCATION OF HYPOCENTER  
 EP CENTRAL REGION IBARAKI-KEN NANSE IBU  
 LATITUDE 36° 0' N  
 LONGITUDE 139° 55' 0" E  
 DEPTH 54.0 KM  
 MAGNITUDE 5.6  
 \*\*\*\*\*

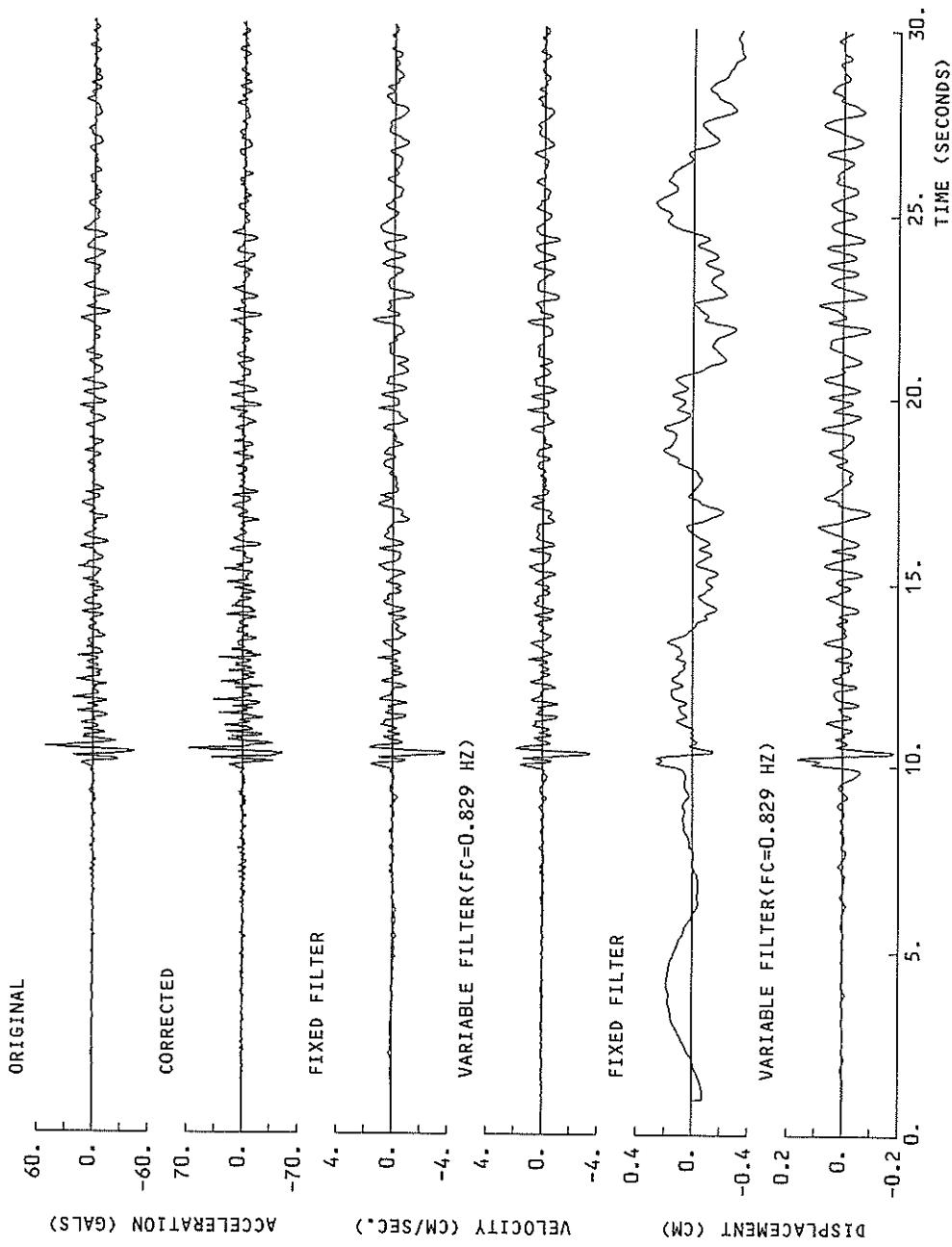
PEAK VALUES OF COMPONENTS

	N S	E W	U D	HORIZONTAL*
PARAMETER OF THE VARIABLE FILTER				
FC (HZ)	0.829	0.842	1.366	
MAXIMUM ACCELERATION (GAL)				
ORIGINAL	52.3	32.4	9.8	52.3
CORRECTED	69.2	56.5	17.7	69.2
MAXIMUM VELOCITY (CM/SEC)				
FIXED FILTER	3.87	2.23	0.73	4.07
VARIABLE FILTER	3.46	2.02	0.48	3.64
MAXIMUM DISPLACEMENT (CM)				
FIXED FILTER	0.365	0.343	0.345	0.477
VARIABLE FILTER	0.186	0.141	0.034	0.212

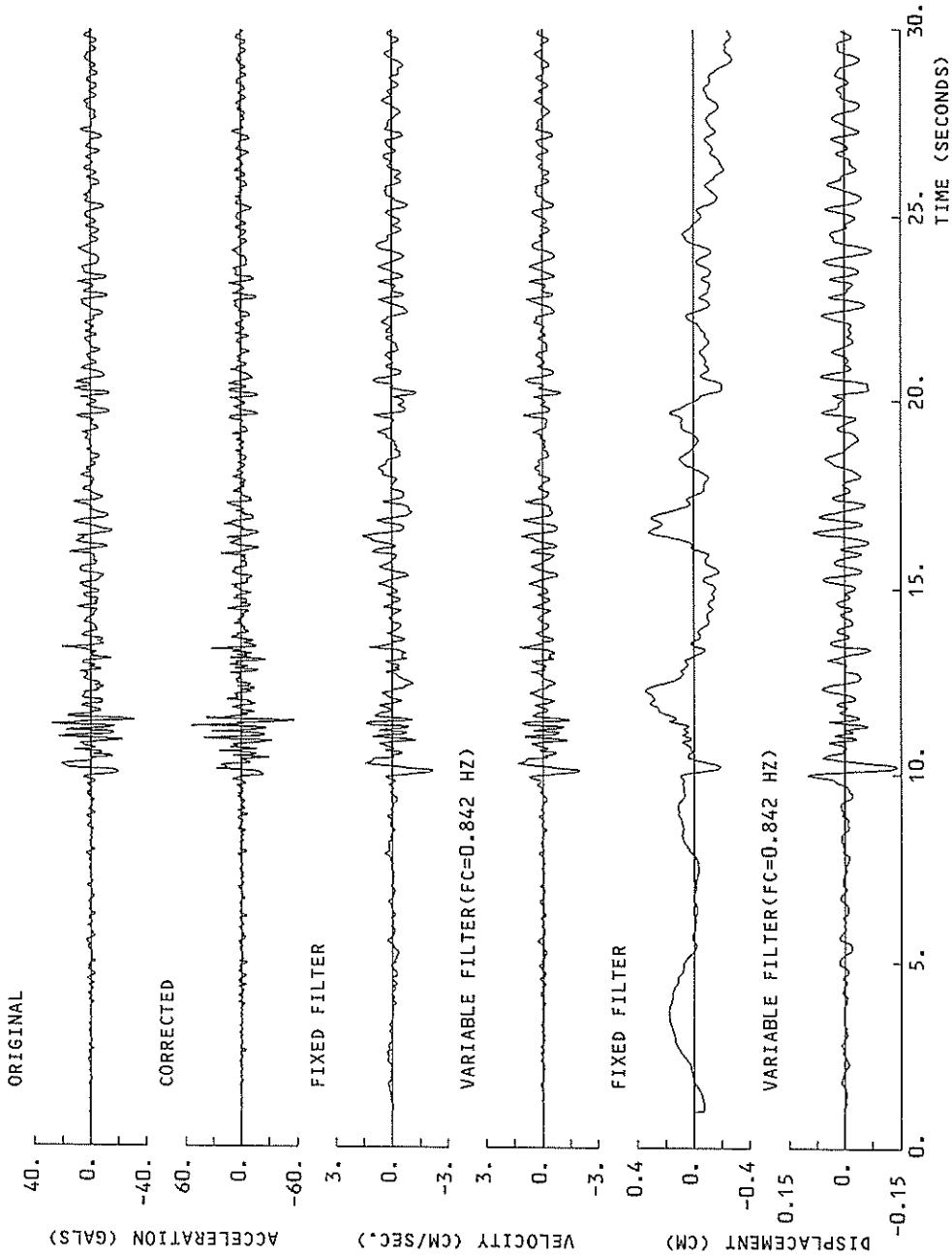
\* RESULTANT OF HORIZONTAL COMPONENTS



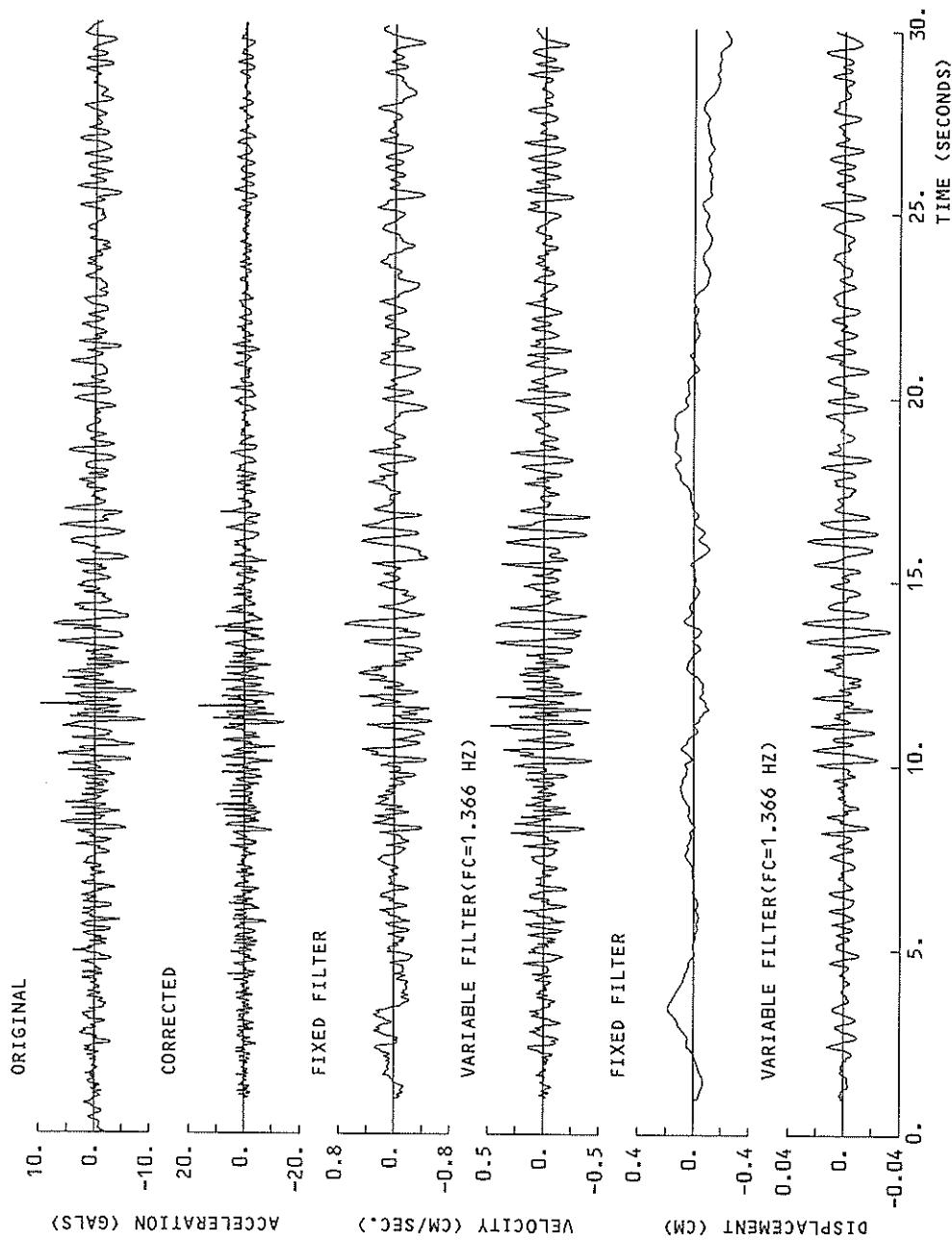
S-2196 SOUTH KASHIMA-ZOKAN-S



S-2196 EAST KASHIMA-ZOKAN-S

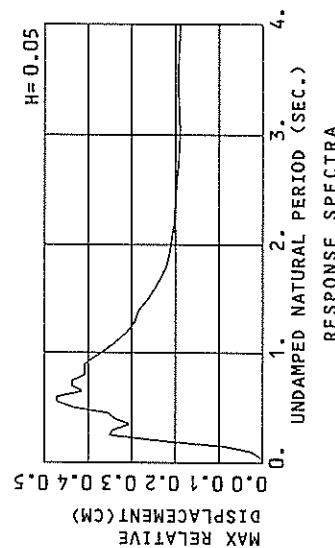
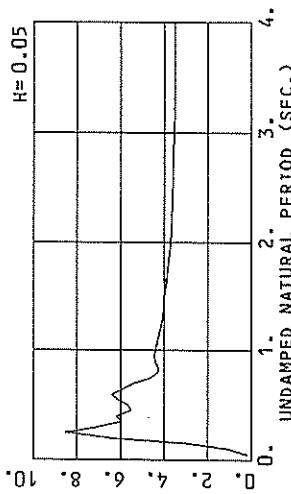
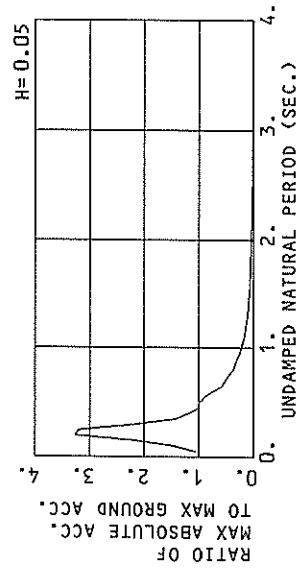


S-2196 DOWN KASHIMA-ZOKAN-S

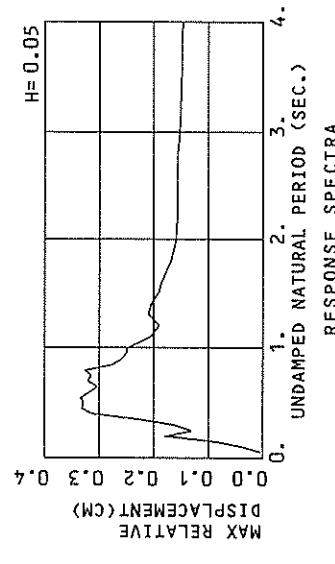
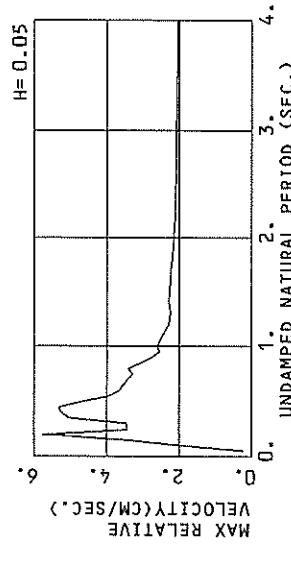
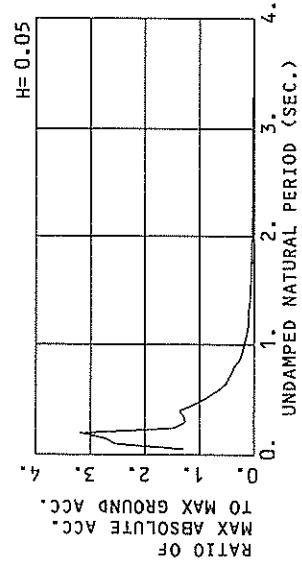


S-2196 SOUTH KASHIMA-ZOKAN-S  
(1/FC=1.21 SEC.)

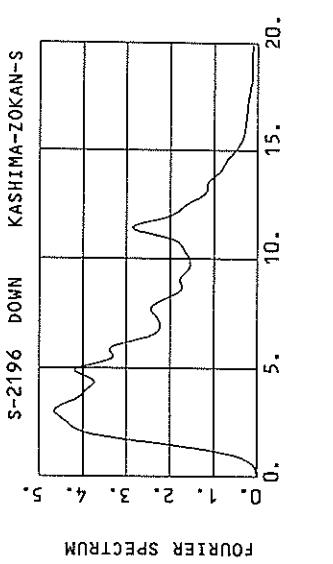
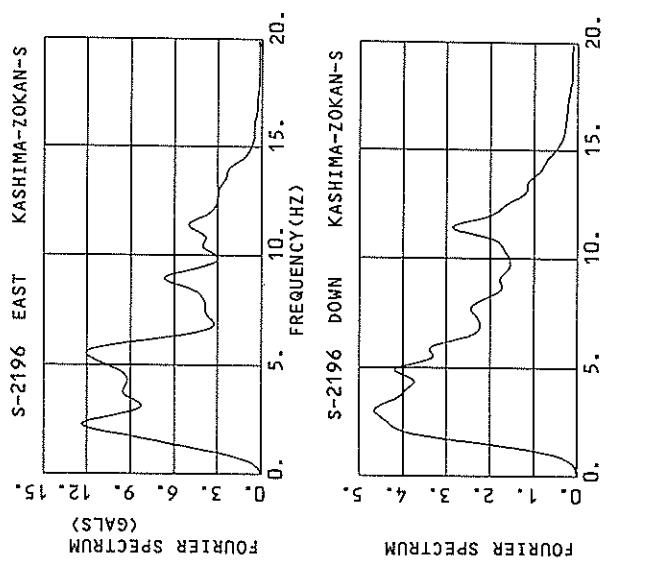
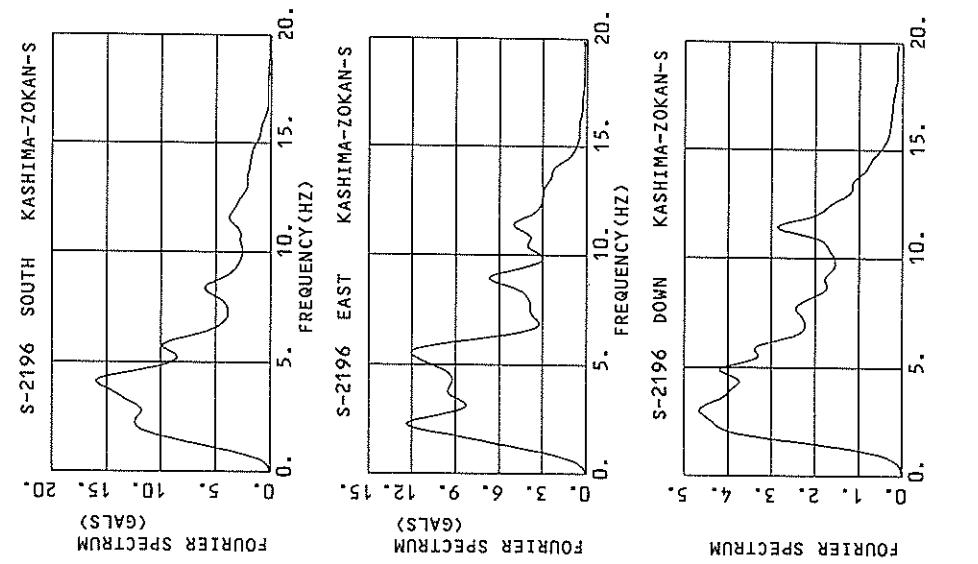
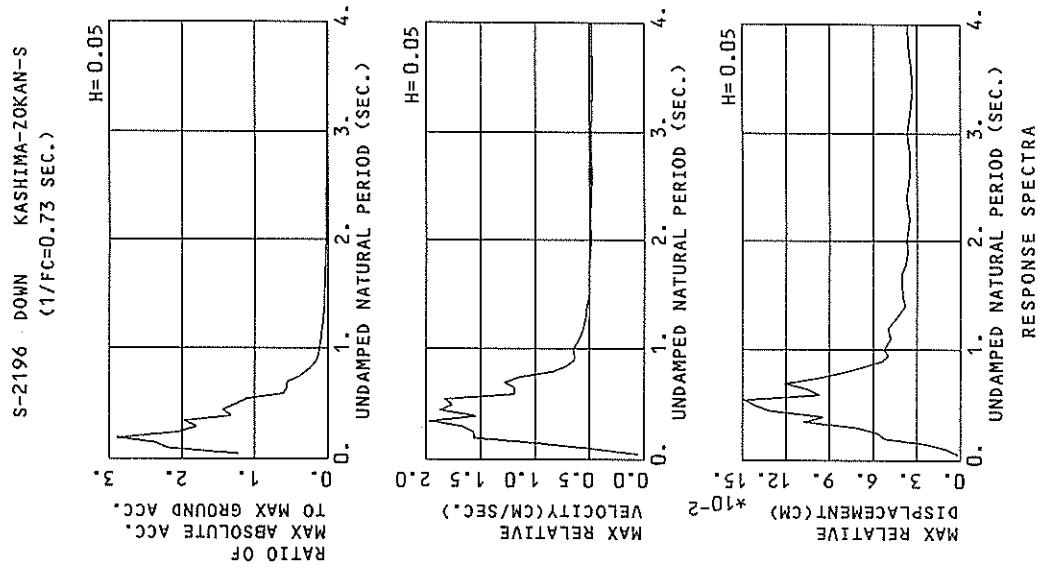
S-2196 EAST KASHIMA-ZOKAN-S  
(1/FC=1.19 SEC.)



RESPONSE SPECTRA



RESPONSE SPECTRA



RESPONSE SPECTRA

## RESPONSE SPECTRUM

RECORD = S-2196		COMPONENT = SOUTH		SIGNAL = GR. ACC.		CORRECTION = MAX. GROUND ACC.		STATION = KASHIMA-ZOKAN-S	
DATE AND TIME = 1939-2-19-21-27		SAMPLING INTERVAL = 0.0100 (SEC)		SKIPPED LENGTH = 0.00 (SEC)				TIME LENGTH = 59.99 (SEC)	
TIME LENGTH = 59.99		DAMPING = 0.		DAMPING = 0.025		DAMPING = 0.050		DAMPING = 0.100	
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	71.3	0.18	0.005	72.4	0.15	0.005	73.0	0.15	0.005
0.10	149.2	2.23	0.038	108.5	1.34	0.028	101.9	1.04	0.026
0.15	268.7	6.26	0.153	163.8	3.03	0.093	149.1	2.8	0.085
0.20	302.8	9.73	0.307	258.4	7.55	0.423	226.6	6.38	0.228
0.25	400.8	16.18	0.635	268.0	10.69	0.423	221.1	8.53	0.351
0.30	346.4	16.76	0.790	168.8	8.05	0.385	152.4	7.16	0.345
0.35	280.1	15.69	0.869	114.0	6.74	0.354	98.6	5.97	0.305
0.40	228.1	14.49	0.924	101.7	6.92	0.412	84.0	6.22	0.338
0.45	277.9	19.71	1.425	81.9	6.49	0.420	69.4	5.54	0.353
0.50	280.3	22.43	1.775	101.9	8.19	0.645	68.5	5.65	0.431
0.55	137.9	12.34	1.056	69.1	6.60	0.528	62.0	6.15	0.471
0.60	120.3	12.01	1.097	58.6	6.98	0.534	52.4	6.42	0.447
0.65	121.1	13.08	1.296	45.9	6.12	0.491	39.0	5.89	0.414
0.70	101.2	11.55	1.256	38.9	5.73	0.482	35.7	5.41	0.437
0.75	80.4	9.75	1.145	32.7	5.43	0.456	31.1	4.66	0.436
0.80	54.2	7.31	0.879	28.2	4.43	0.556	25.6	4.29	0.408
0.85	55.4	7.52	1.014	29.5	4.37	0.539	22.8	4.28	0.408
0.90	48.2	7.74	0.989	24.5	4.57	0.503	20.3	4.40	0.407
0.95	37.0	6.38	0.847	19.2	4.61	0.438	17.5	4.45	0.392
1.00	33.5	8.66	1.355	20.2	4.53	0.511	15.0	4.41	0.370
1.10	6.1	4.44	0.493	11.2	4.36	0.340	11.4	4.29	0.337
1.20	9.3	4.33	0.338	8.7	4.25	0.314	8.9	4.19	0.311
1.30	9.0	4.07	0.387	6.9	4.09	0.292	7.2	4.07	0.293
1.40	6.1	4.15	0.301	5.9	4.08	0.290	6.1	4.04	0.284
1.50	4.8	4.06	0.274	4.7	4.02	0.262	5.0	3.98	0.263
1.60	3.9	3.95	0.252	3.9	3.94	0.246	4.2	3.92	0.247
1.70	3.1	3.91	0.228	3.2	3.88	0.231	3.5	3.86	0.233
1.80	2.5	3.81	0.228	2.7	3.81	0.216	3.0	3.80	0.221
1.90	2.2	3.74	0.205	2.4	3.75	0.216	2.7	3.75	0.214
2.00	2.0	3.71	0.207	2.1	3.71	0.208	2.4	3.71	0.211
2.20	1.6	3.66	0.196	1.7	3.66	0.200	2.0	3.66	0.203
2.40	1.3	3.61	0.195	1.4	3.61	0.197	1.5	3.61	0.199
2.60	1.1	3.59	0.195	1.2	3.59	0.195	1.5	3.59	0.197
2.80	0.9	3.57	0.185	1.0	3.57	0.188	1.3	3.56	0.191
3.00	0.8	3.53	0.181	0.9	3.54	0.185	1.1	3.54	0.189
3.20	0.7	3.51	0.181	0.8	3.52	0.189	1.0	3.52	0.191
3.40	0.7	3.51	0.195	0.7	3.51	0.194	0.9	3.51	0.193
3.60	0.6	3.51	0.196	0.7	3.51	0.194	0.9	3.51	0.194
3.80	0.5	3.51	0.191	0.6	3.51	0.191	0.8	3.51	0.191
4.00	0.5	3.51	0.183	0.5	3.50	0.185	0.7	3.50	0.187

PER = PERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

RECORD = S-2196		COMPONENT = EAST		SAMPLING INTERVAL = 0.010 (SEC)		CORRECTION = MAX. GROUND ACC. = 56.45 (GAL)		STATION = KASHIMA-ZOKAN-S				
DATE AND TIME = 1989-2-19, 21-27		SKIPPED LENGTH = 0.00 (SEC)		DAMPING = 0.025		DAMPING = 0.050		DAMPING = 0.100		DAMPING = 0.250		
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	80.2	0.28	0.005	74.6	0.23	0.005	73.2	0.22	0.005	71.7	0.21	0.005
0.10	169.5	2.47	0.043	152.0	2.11	0.038	143.9	1.90	0.036	122.9	1.61	0.030
0.15	208.7	4.95	0.119	169.2	3.87	0.097	153.2	3.39	0.086	129.0	2.63	0.072
0.20	377.0	11.82	0.382	98.1	7.25	0.231	179.9	5.77	0.131	180.0	4.21	0.127
0.25	250.0	9.92	0.396	77.0	4.19	0.155	83.4	3.42	0.162	66.9	2.76	0.104
0.30	264.1	12.63	0.602	74.7	3.73	0.175	71.3	3.45	0.225	63.0	3.13	0.142
0.35	239.7	3.11	0.744	6.38	0.38	0.294	72.7	5.24	0.313	61.8	3.65	0.189
0.40	167.0	0.60	0.677	93.7	6.64	0.378	77.6	5.24	0.331	57.2	3.58	0.227
0.45	235.5	16.81	0.208	81.9	6.25	0.420	64.7	5.33	0.486	42.7	4.4	0.247
0.50	122.4	9.88	0.175	65.7	5.69	0.416	52.4	4.70	0.330	43.5	3.68	0.269
0.55	82.0	7.10	0.529	49.4	4.81	0.378	43.9	3.96	0.334	36.6	3.47	0.272
0.60	127.1	12.68	0.575	48.3	5.00	0.439	34.8	3.65	0.316	29.3	3.10	0.262
0.65	53.7	6.14	0.442	32.1	3.89	0.343	28.5	3.53	0.304	25.7	3.13	0.270
0.70	36.4	4.42	0.426	28.4	3.79	0.352	26.0	3.43	0.320	22.8	3.13	0.277
0.75	50.9	6.26	0.721	31.4	4.09	0.446	22.3	3.29	0.314	20.1	3.09	0.278
0.80	45.6	6.29	0.744	23.6	4.07	0.381	20.4	3.40	0.326	17.5	3.05	0.271
0.85	52.6	6.722	0.962	15.8	3.08	0.288	15.2	3.04	0.274	14.3	2.87	0.237
0.90	19.2	2.91	0.395	13.3	2.78	0.273	12.8	2.74	0.259	12.2	2.65	0.231
0.95	43.7	6.63	0.998	12.3	2.60	0.281	11.1	2.54	0.250	10.8	2.46	0.224
1.00	24.8	4.04	0.629	10.7	2.71	0.271	9.9	2.60	0.248	9.5	2.41	0.224
1.10	10.6	2.48	0.326	8.1	2.46	0.248	6.8	2.44	0.205	7.0	2.35	0.199
1.20	12.0	2.34	0.436	6.0	2.26	0.218	5.3	2.26	0.189	5.7	2.24	0.189
1.30	10.2	2.28	0.436	5.8	2.24	0.250	5.0	2.24	0.209	5.0	2.21	0.191
1.40	7.2	2.37	0.356	4.8	2.31	0.236	4.2	2.27	0.205	4.7	2.20	0.190
1.50	7.9	2.27	0.447	4.2	2.26	0.240	3.4	2.25	0.191	3.7	2.20	0.185
1.60	4.0	2.30	0.257	3.3	2.27	0.211	3.0	2.24	0.186	3.3	2.19	0.181
1.70	2.4	2.27	0.177	2.4	2.25	0.177	2.5	2.22	0.176	2.9	2.18	0.174
1.80	2.0	2.22	0.166	2.1	2.21	0.168	2.1	2.19	0.168	2.5	2.16	0.169
1.90	1.8	2.19	0.160	1.8	2.18	0.162	1.9	2.16	0.163	2.3	2.14	0.164
2.00	1.5	2.16	0.156	1.6	2.15	0.158	1.7	2.14	0.159	2.1	2.12	0.161
2.20	1.3	2.12	0.156	1.3	2.11	0.157	1.4	2.11	0.157	1.8	2.09	0.158
2.40	2.0	1.57	0.157	1.1	2.10	0.157	1.2	2.09	0.157	1.6	2.08	0.157
2.60	0.9	2.09	0.159	0.9	2.09	0.158	1.0	2.08	0.157	1.4	2.07	0.156
2.80	0.8	2.09	0.157	0.8	2.08	0.156	0.9	2.08	0.157	1.2	2.06	0.154
3.00	0.7	2.08	0.153	0.7	2.08	0.153	0.8	2.07	0.153	1.1	2.06	0.153
3.20	0.6	2.07	0.150	0.6	2.07	0.150	0.7	2.06	0.151	1.0	2.05	0.151
3.40	0.5	2.06	0.149	0.5	2.06	0.149	0.6	2.05	0.149	0.9	2.04	0.150
3.60	0.5	2.06	0.149	0.4	2.05	0.148	0.5	2.05	0.148	0.8	2.04	0.149
3.80	0.4	2.06	0.148	0.4	2.05	0.147	0.5	2.04	0.147	0.8	2.04	0.148
4.00	0.4	2.05	0.147	0.4	2.05	0.147	0.5	2.04	0.147	0.7	2.04	0.147

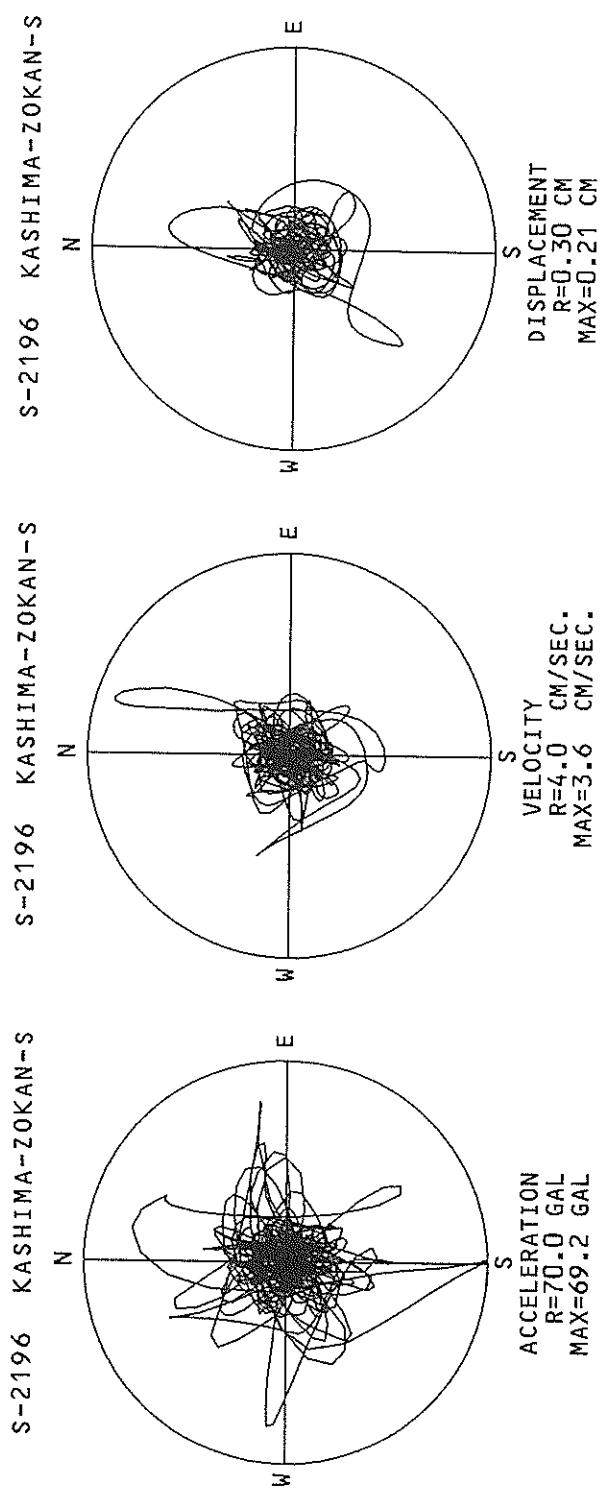
PER = PERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

RECORD = S-2196    COMPONENT = DOWN    SAMPLING INTERVAL = 0.0100 (SEC)    CORRECTION = MAX. GROUND ACC. = 17.67 (GAL)  
 DATE AND TIME = 1969-2-19-21-27    SKIPPED LENGTH = 0.00 (SEC)

PER	DAMPING = 0.			DAMPING = 0.025			DAMPING = 0.050			DAMPING = 0.100			DAMPING = 0.250		
	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	32.7	0.25	0.002	21.9	0.06	0.001	21.7	0.06	0.001	21.4	0.06	0.001	21.0	0.06	0.001
0.10	83.3	1.25	0.021	45.4	0.62	0.011	38.9	0.50	0.010	31.9	0.39	0.008	25.1	0.27	0.006
0.15	143.4	3.35	0.082	0.213	2.21	0.074	41.8	0.97	0.023	34.6	0.79	0.020	26.1	0.47	0.013
0.20	209.8	6.64	0.188	72.6	2.21	0.074	51.2	1.56	0.052	33.0	0.96	0.033	18.7	0.55	0.017
0.25	118.8	4.68	0.188	46.9	1.96	0.074	36.3	1.57	0.057	27.3	1.10	0.042	16.6	0.68	0.024
0.30	93.2	4.48	0.213	38.3	2.06	0.072	31.8	1.66	0.072	24.4	1.22	0.054	17.0	0.76	0.034
0.35	71.1	4.14	0.221	41.3	2.43	0.129	35.0	1.97	0.108	25.3	1.42	0.077	15.4	0.80	0.040
0.40	40.5	4.05	0.255	31.7	2.10	0.129	23.4	1.55	0.095	17.1	1.20	0.068	11.2	0.79	0.040
0.45	50.5	3.63	0.259	33.3	2.41	0.171	25.6	1.88	0.131	18.8	1.33	0.095	10.7	0.71	0.049
0.50	80.1	6.37	0.507	27.2	2.17	0.171	22.4	1.76	0.141	16.6	1.29	0.103	9.7	0.75	0.056
0.55	67.1	5.87	0.514	27.6	2.49	0.212	19.6	1.83	0.149	13.2	1.23	0.098	8.8	0.76	0.059
0.60	28.4	2.74	0.259	11.6	1.30	0.105	10.8	1.19	0.097	9.8	1.06	0.087	7.6	0.74	0.057
0.65	18.1	2.04	0.193	12.1	1.47	0.129	10.0	1.19	0.106	8.0	0.98	0.083	6.3	0.70	0.058
0.70	26.2	3.02	0.326	12.1	1.56	0.150	9.8	1.29	0.121	7.5	1.00	0.089	5.5	0.69	0.057
0.75	14.3	1.73	0.204	8.4	1.27	0.120	7.0	1.15	0.098	5.6	0.96	0.076	4.7	0.69	0.054
0.80	17.4	1.73	0.19	5.4	0.87	0.082	5.1	0.84	0.081	4.4	0.81	0.067	4.0	0.67	0.050
0.85	13.4	1.85	0.245	4.5	0.81	0.082	3.7	0.71	0.067	3.4	0.69	0.058	3.4	0.64	0.046
0.90	2.8	0.75	0.058	2.6	0.67	0.054	2.6	0.64	0.054	2.7	0.62	0.052	3.0	0.61	0.043
0.95	2.5	0.68	0.056	2.2	0.65	0.051	2.1	0.64	0.050	2.3	0.59	0.049	2.7	0.59	0.041
1.00	3.0	0.79	0.076	2.3	0.70	0.059	2.1	0.65	0.052	2.0	0.59	0.047	2.5	0.57	0.040
1.10	2.1	0.63	0.065	1.7	0.59	0.052	1.6	0.59	0.048	1.6	0.56	0.045	2.1	0.54	0.039
1.20	2.2	0.62	0.080	1.5	0.57	0.056	1.4	0.56	0.050	1.3	0.54	0.044	1.8	0.53	0.039
1.30	1.3	0.60	0.057	1.1	0.55	0.045	1.1	0.54	0.044	1.1	0.53	0.041	1.5	0.52	0.038
1.40	1.1	0.65	0.052	0.8	0.53	0.041	0.8	0.52	0.038	0.9	0.51	0.039	1.4	0.50	0.038
1.50	0.8	0.53	0.048	0.7	0.50	0.041	0.7	0.50	0.040	0.8	0.50	0.039	1.2	0.50	0.037
1.60	0.6	0.52	0.037	0.6	0.51	0.040	0.6	0.50	0.040	0.7	0.50	0.039	1.1	0.50	0.037
1.70	0.7	0.52	0.048	0.6	0.51	0.043	0.6	0.50	0.040	0.7	0.50	0.039	1.1	0.50	0.037
1.80	0.5	0.51	0.041	0.5	0.50	0.037	0.5	0.50	0.038	0.6	0.50	0.037	1.0	0.49	0.036
1.90	0.4	0.50	0.041	0.4	0.49	0.036	0.4	0.49	0.036	0.5	0.49	0.036	0.9	0.49	0.036
2.00	0.4	0.4	0.037	0.4	0.49	0.038	0.4	0.49	0.037	0.5	0.49	0.035	0.9	0.49	0.035
2.20	0.3	0.50	0.036	0.3	0.49	0.034	0.3	0.49	0.035	0.4	0.48	0.035	0.8	0.48	0.034
2.40	0.3	0.49	0.042	0.3	0.49	0.039	0.3	0.48	0.037	0.4	0.48	0.035	0.7	0.48	0.034
2.60	0.4	0.47	0.033	0.2	0.48	0.034	0.2	0.48	0.035	0.3	0.48	0.035	0.6	0.47	0.034
2.80	0.2	0.50	0.036	0.2	0.49	0.034	0.2	0.49	0.035	0.3	0.48	0.035	0.6	0.47	0.034
3.00	0.2	0.49	0.042	0.2	0.49	0.039	0.2	0.48	0.037	0.3	0.48	0.035	0.6	0.47	0.034
3.20	0.1	0.48	0.034	0.1	0.48	0.034	0.2	0.48	0.034	0.2	0.48	0.034	0.5	0.47	0.034
3.40	0.1	0.47	0.037	0.1	0.47	0.034	0.1	0.47	0.033	0.2	0.48	0.034	0.4	0.47	0.034
3.60	0.1	0.48	0.035	0.1	0.48	0.033	0.1	0.48	0.034	0.2	0.48	0.034	0.4	0.47	0.034
3.80	0.1	0.49	0.040	0.1	0.48	0.037	0.1	0.48	0.036	0.2	0.48	0.035	0.4	0.47	0.034
4.00	0.1	0.49	0.040	0.1	0.49	0.037	0.1	0.48	0.036	0.2	0.48	0.035	0.4	0.47	0.034

PER = PERIOD (SEC)    AA = ABSOLUTE ACC. (GAL)    RV = RELATIVE VELOCITY (CM/SEC)    RD = RELATIVE DISPLACEMENT (CM)



RECORD NUMBER  
STATION

S-2206 KASHIMA-ZOKAN-S

EARTHQUAKE DATA (JISHIN KAZAN GAIKYO)

DATA AND TIME 16:12 MAR. 11, 1989

LOCATION OF HYPOCENTER

EPICENTRAL REGION

IBARAKIEN NANBU

35°55'0" N

140°35'0" E

42.0KM

4.9

MAGNITUDE

PEAK VALUES OF COMPONENTS

	N	S	E	W	U	D
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PARAMETER OF THE VARIABLE FILTER

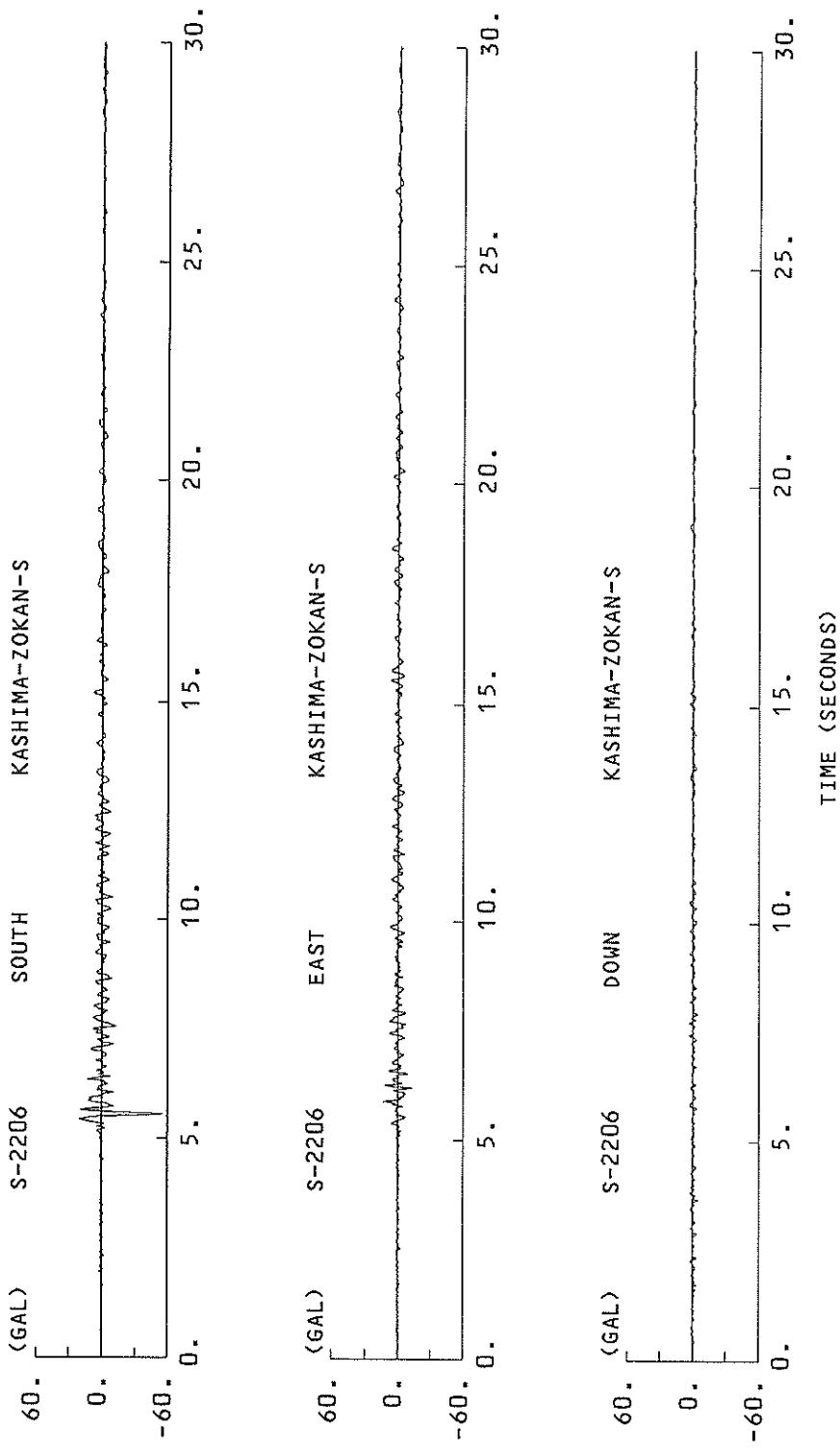
FC (HZ)	0.998	1.364	2.463
MAXIMUM ACCELERATION (GAL)			

ORIGINAL	58.4	15.6	4.7	58.4
CORRECTED	87.6	34.9	8.4	87.7
MAXIMUM VELOCITY (CM/SEC)				

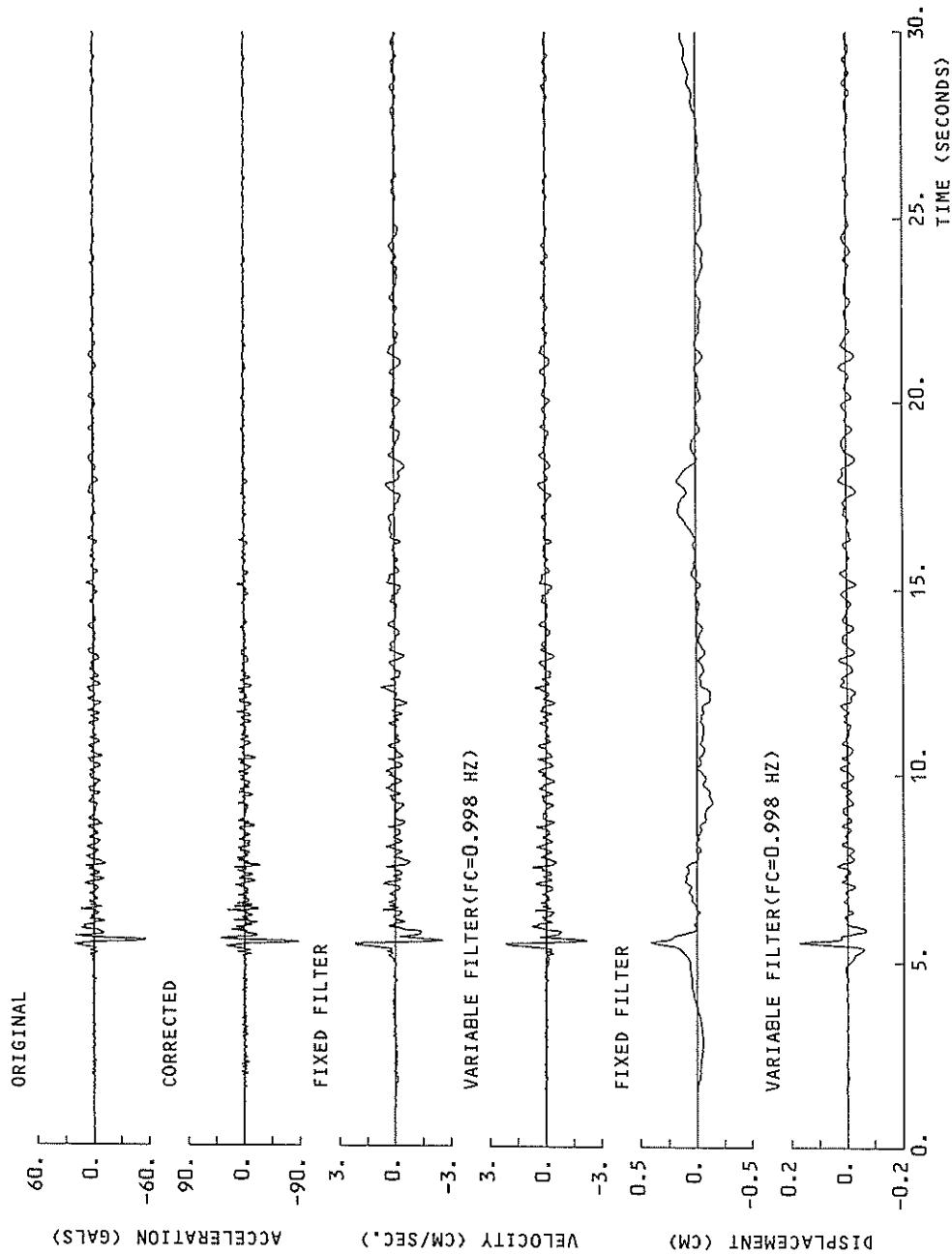
FIXED FILTER	2.53	1.10	0.31	2.53
VARIABLE FILTER	2.21	0.83	0.19	2.21
MAXIMUM DISPLACEMENT (CM)				

FIXED FILTER	0.412	0.282	0.105	0.483
VARIABLE FILTER	0.173	0.027	0.006	0.173
*				

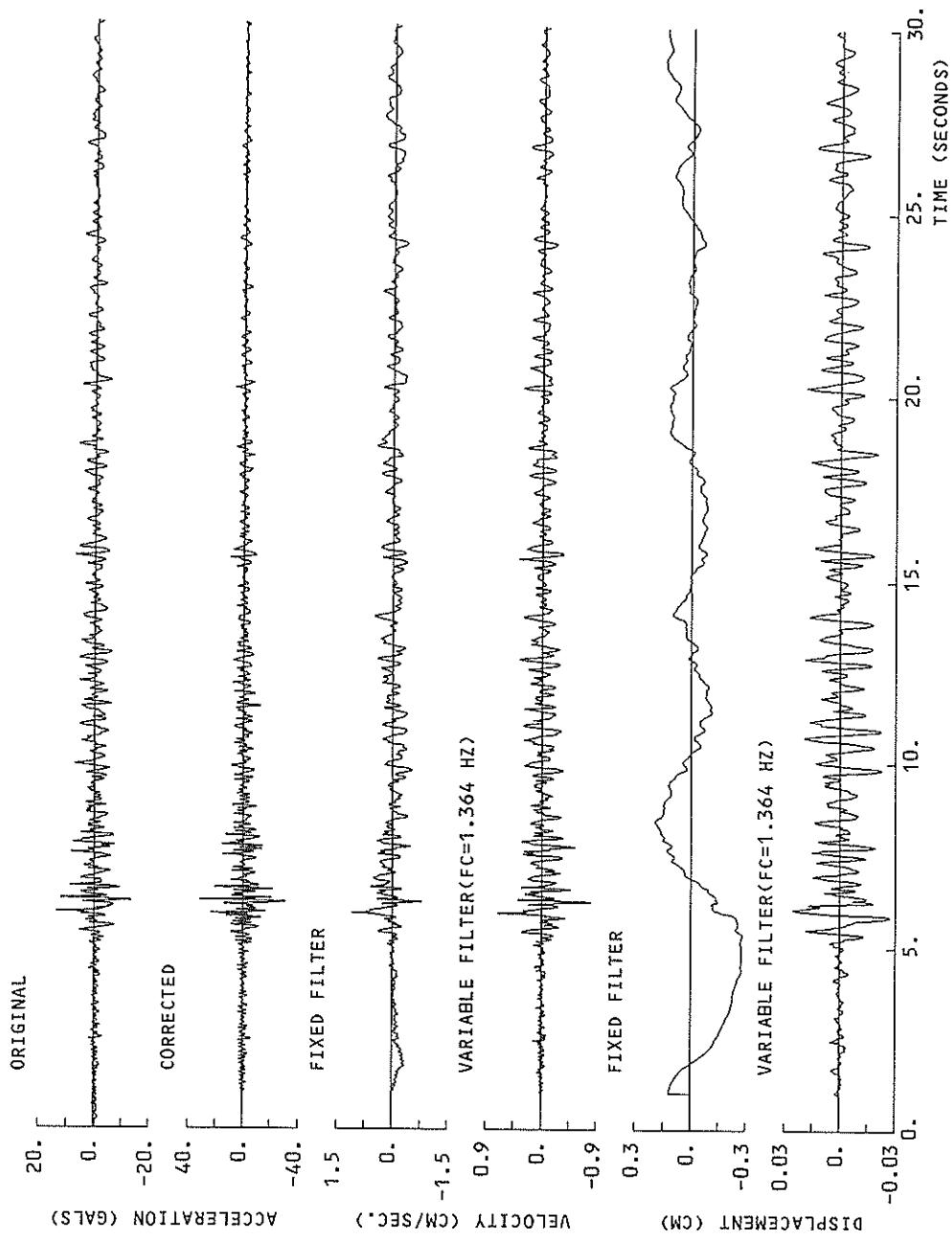
\* RESULTANT OF HORIZONTAL COMPONENTS



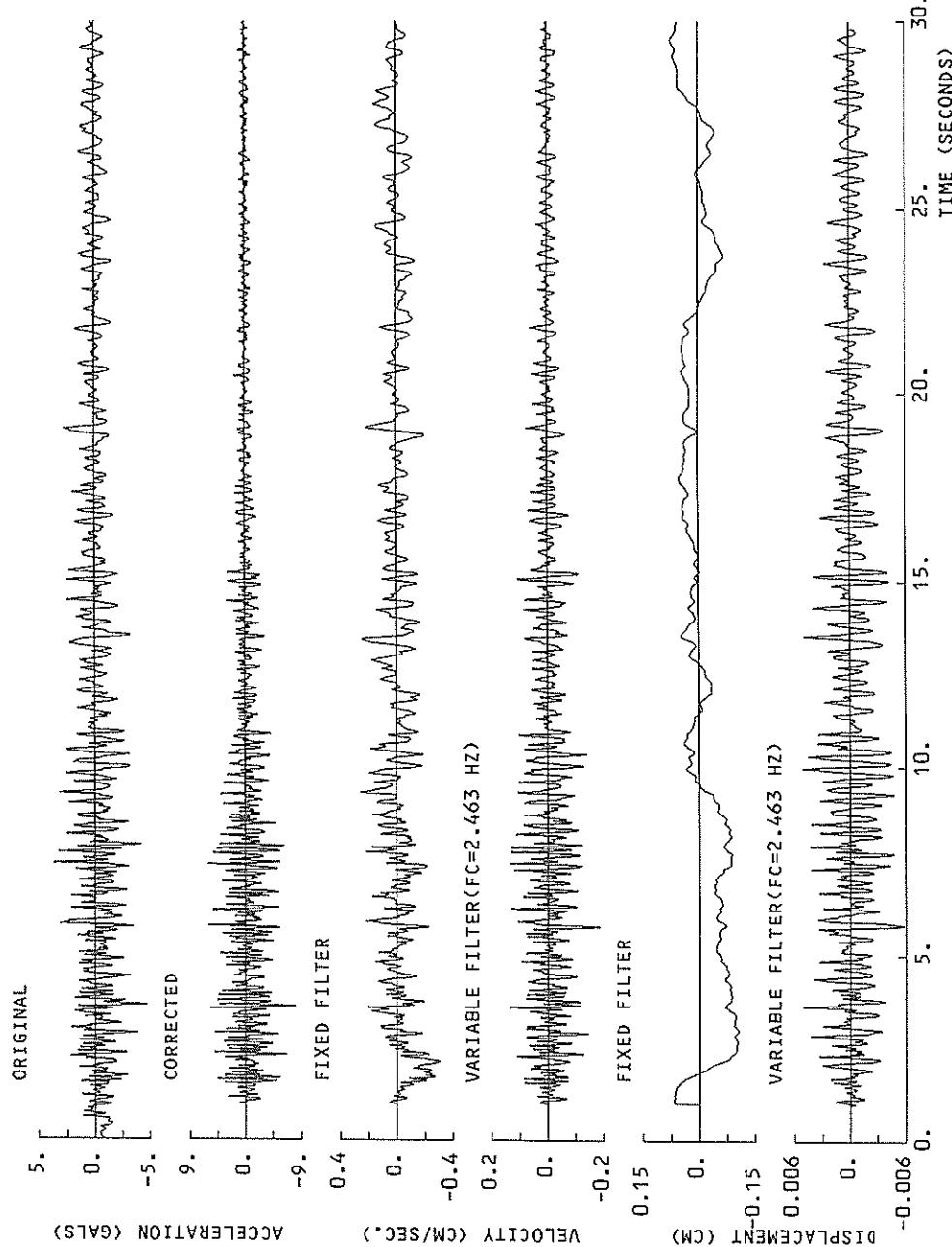
S-2206 SOUTH KASHIMA-ZOKAN-S

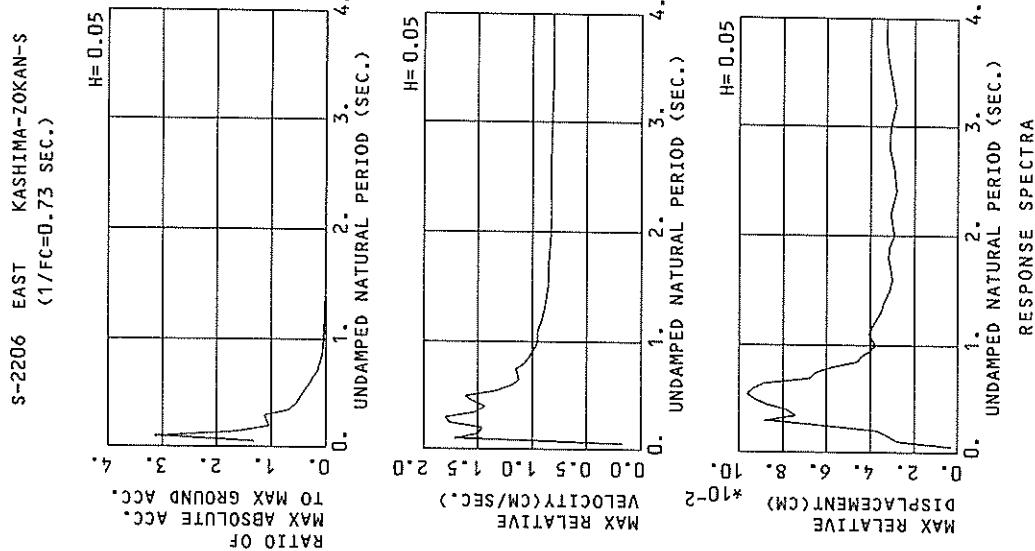
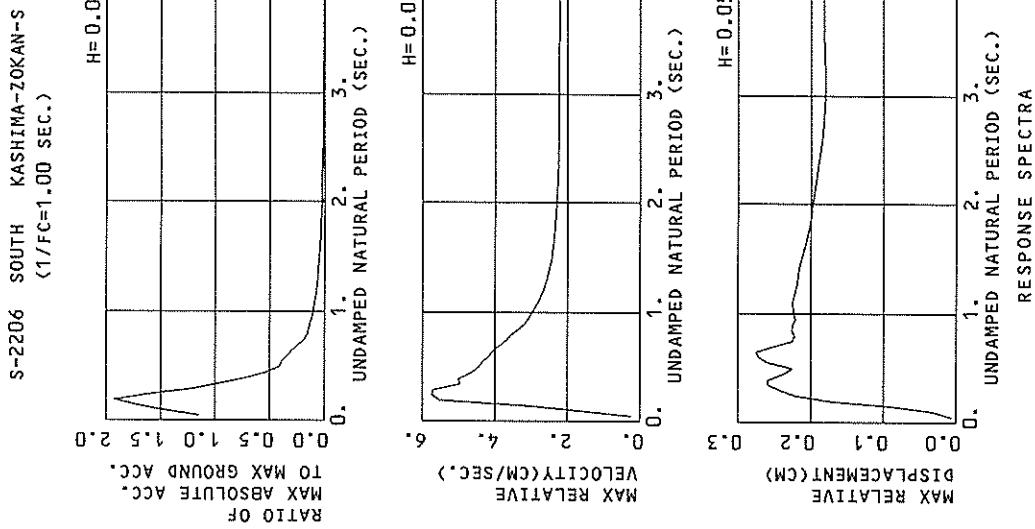


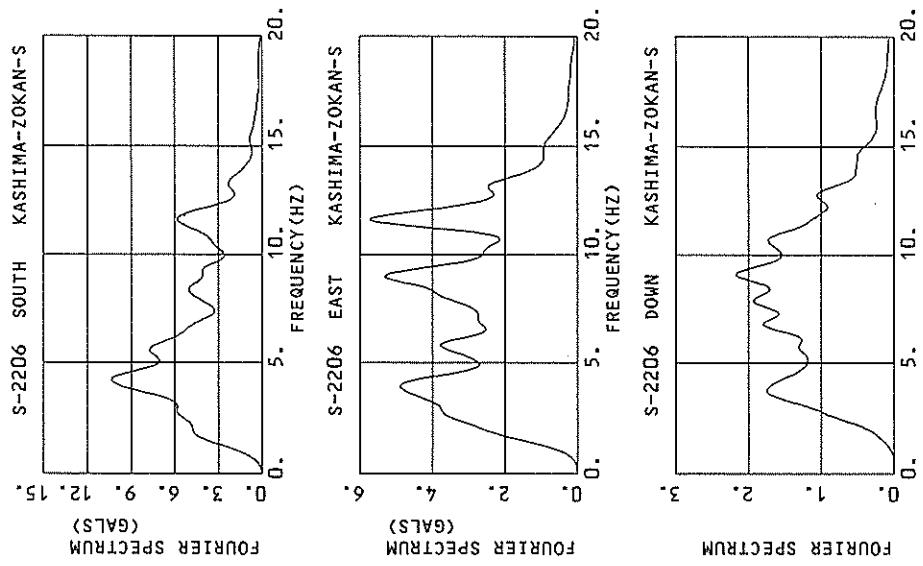
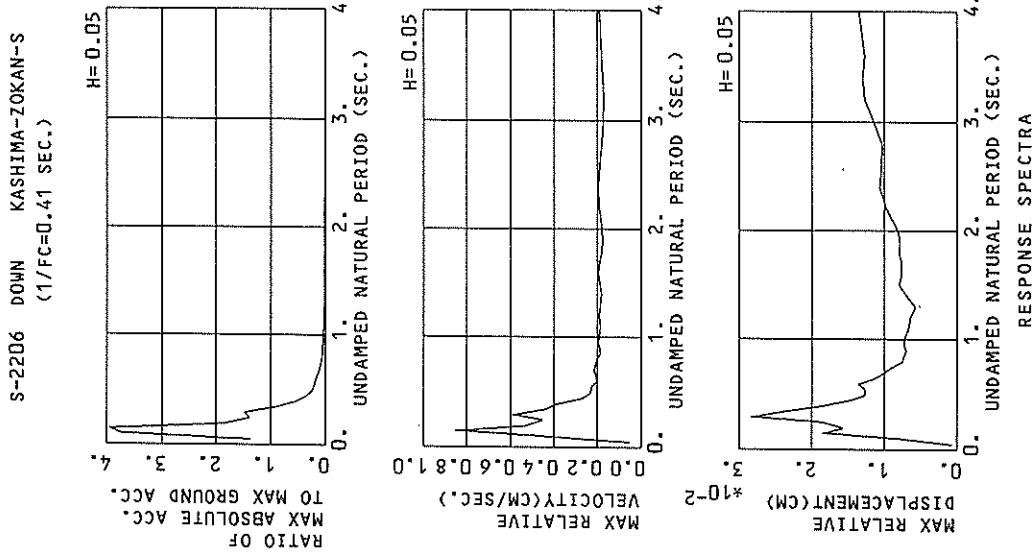
S-2206 EAST KASHIMA-ZOKAN-S



S-2206 DOWN KASHIMA-ZOKAN-S







## RESPONSE SPECTRUM

RECORD = S-2206  
 DATE AND TIME = 1989-3-11-16:12  
 TIME LENGTH = 29.99

COMPONENT = SOUTH  
 SAMPLING INTERVAL = 0.0100 (SEC)  
 SKIPPED LENGTH = 0.00 (SEC)

SIGNAL = GR. ACC. (SEC) CORRECTION = MAX. GROUND ACC. = 87.56 (GAL)

PER	DAMPING = 0.			DAMPING = 0.025			DAMPING = 0.050			DAMPING = 0.100			DAMPING = 0.250		
	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	101.8	0.22	0.006	101.7	0.23	0.006	101.0	0.24	0.006	99.8	0.23	0.006	98.1	0.23	0.006
0.10	155.3	0.239	0.039	129.7	0.170	0.033	130.6	0.173	0.033	125.5	0.159	0.032	113.7	0.116	0.027
0.15	262.9	0.25	0.150	162.4	0.362	0.093	151.4	0.201	0.076	134.0	0.176	0.075	107.4	0.206	0.057
0.20	237.6	0.740	0.241	199.3	6.18	0.258	141.0	5.75	0.222	116.5	4.94	0.142	106.1	2.92	0.096
0.25	229.1	9.68	0.363	162.5	6.38	0.256	106.8	5.69	0.241	96.4	4.90	0.214	95.3	3.34	0.131
0.30	154.0	0.725	0.351	113.8	6.22	0.276	84.2	4.96	0.259	76.6	4.56	0.230	66.3	3.37	0.157
0.35	155.6	8.93	0.483	88.8	5.18	0.274	64.2	5.02	0.259	58.9	4.65	0.231	53.4	3.81	0.171
0.40	85.2	5.56	0.345	68.0	5.23	0.246	46.7	4.66	0.238	44.4	4.44	0.219	43.1	3.85	0.175
0.45	74.1	5.30	0.380	48.0	4.74	0.262	35.9	4.46	0.226	34.4	4.29	0.209	34.9	3.82	0.172
0.50	97.0	7.76	0.64	41.4	4.54										
0.55	66.0	5.76	0.506	38.1	4.44	0.291	34.0	4.34	0.258	28.0	4.18	0.208	28.7	3.75	0.161
0.60	49.2	4.68	0.449	32.9	4.21	0.299	29.8	4.15	0.271	24.7	4.06	0.220	23.8	3.68	0.151
0.65	40.2	4.29	0.420	29.0	4.15	0.310	25.9	4.07	0.223	21.4	3.94	0.211	19.9	3.61	0.151
0.70	58.0	6.52	0.171	22.4	3.88	0.277	20.6	3.86	0.223	17.7	3.79	0.211	16.7	3.54	0.160
0.75	19.9	3.68	0.284	17.8	3.68	0.254	15.9	3.68	0.226	14.9	3.64	0.195	15.6	3.46	0.167
0.80	17.6	3.67	0.285	15.0	3.59	0.243	13.8	3.55	0.222	13.8	3.51	0.204	14.6	3.38	0.173
0.85	18.2	3.37	0.333	13.1	3.36	0.238	12.8	3.36	0.222	12.7	3.36	0.210	13.7	3.29	0.178
0.90	27.0	3.98	0.353	11.3	3.13	0.230	11.3	3.18	0.224	11.6	3.22	0.213	12.8	3.21	0.183
0.95	15.5	2.98	0.353	9.9	3.02	0.224	10.1	3.06	0.221	9.5	3.11	0.213	12.0	3.14	0.186
1.00	10.6	2.95	0.268	9.1	2.96	0.227	9.2	2.98	0.223	9.7	3.02	0.214	11.3	3.07	0.189
1.10	7.9	2.72	0.241	7.7	2.76	0.233	7.8	2.80	0.226	8.2	2.85	0.216	10.0	2.95	0.192
1.20	6.2	2.56	0.227	6.3	2.61	0.224	6.5	2.65	0.221	7.0	2.72	0.214	9.0	2.84	0.194
1.30	5.2	2.50	0.224	5.3	2.53	0.221	5.5	2.57	0.218	5.1	2.63	0.212	8.1	2.76	0.195
1.40	4.5	2.42	0.224	4.5	2.46	0.220	4.7	2.49	0.216	5.3	2.55	0.210	7.3	2.69	0.194
1.50	3.8	2.36	0.218	3.9	2.40	0.215	4.1	2.43	0.213	4.7	2.49	0.208	6.7	2.63	0.194
1.60	3.3	2.33	0.210	2.1	2.33	0.206	3.1	2.39	0.208	3.7	2.45	0.205	6.1	2.58	0.193
1.70	2.8	2.32	0.207	2.9	2.33	0.206	3.1	2.36	0.205	3.7	2.42	0.202	5.6	2.55	0.192
1.80	2.5	2.31	0.204	2.6	2.30	0.203	2.8	2.33	0.202	3.4	2.38	0.200	5.2	2.51	0.191
1.90	2.2	2.30	0.199	2.0	2.28	0.198	2.3	2.29	0.197	2.8	2.36	0.198	4.9	2.48	0.190
2.00	2.0	2.30	0.199	2.0	2.28	0.198	2.3	2.29	0.197	2.8	2.34	0.196	4.6	2.46	0.189
2.20	1.6	2.29	0.195	1.7	2.27	0.194	1.9	2.27	0.193	2.4	2.31	0.192	4.0	2.42	0.187
2.40	1.3	2.28	0.189	1.4	2.27	0.189	1.6	2.25	0.189	2.1	2.29	0.188	3.6	2.39	0.185
2.60	1.1	2.27	0.184	1.2	2.26	0.184	1.4	2.24	0.185	1.8	2.27	0.185	3.3	2.37	0.183
2.80	0.9	2.26	0.180	1.0	2.24	0.181	1.2	2.23	0.182	1.6	2.27	0.182	3.0	2.35	0.182
3.00	0.8	2.25	0.178	0.9	2.24	0.179	1.1	2.23	0.180	1.5	2.26	0.181	2.7	2.33	0.181
3.20	0.7	2.24	0.179	0.8	2.23	0.180	1.0	2.23	0.181	1.3	2.25	0.181	2.5	2.32	0.181
3.40	0.6	2.23	0.181	0.7	2.22	0.181	0.9	2.22	0.181	1.2	2.24	0.181	2.2	2.31	0.180
3.60	0.6	2.23	0.182	0.6	2.22	0.182	0.8	2.22	0.182	1.1	2.24	0.181	2.1	2.30	0.179
3.80	0.5	2.23	0.184	0.5	2.22	0.183	0.7	2.22	0.182	1.1	2.24	0.181	2.1	2.30	0.179
4.00	0.5	2.23	0.184	0.5	2.22	0.183	0.7	2.22	0.182	1.0	2.23	0.181	2.0	2.29	0.179

PER = RERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

PER	RECORD = S-2206			COMPONENT = EAST			SIGNAL = GR. ACC.			CORRECTION = 0.0100 (SEC)			MAX. GROUND ACC. = 34.87 (GAL)			STATION = KASHIMA-ZOKAN-S					
	DATE AND TIME = 1989-3-11-16-12	TIME LENGTH = 29.99	(SEC)	SAMPLING INTERVAL = 0.00100 (SEC)	SKIPPED LENGTH = 0.00 (SEC)	(SEC)	DAMPING = 0.0	DAMPING = 0.025	DAMPING = 0.050	DAMPING = 0.100	DAMPING = 0.250	RV	RD	AA	RV	RD	AA	RV	RD	AA	
0.05	49.1	0.19	0.003	46.9	0.17	0.003	46.0	0.17	0.003	45.3	0.16	0.003	43.9	0.16	0.003	43.3	0.16	0.003	42.7	0.16	0.003
0.10	192.5	3.04	0.049	129.1	2.00	0.032	109.2	1.71	0.027	89.4	1.34	0.022	64.3	0.82	0.015	64.3	1.01	0.021	62.7	1.01	0.021
0.15	124.6	3.07	0.049	70.4	1.68	0.040	57.0	1.50	0.032	52.0	1.38	0.030	42.7	0.96	0.020	42.7	1.01	0.021	42.7	1.01	0.021
0.20	133.3	4.24	0.135	44.5	1.51	0.045	36.5	1.46	0.037	30.2	1.32	0.029	25.3	0.96	0.020	25.3	1.01	0.021	25.3	1.01	0.021
0.25	14.1	4.56	0.181	47.8	2.15	0.076	33.9	1.76	0.060	28.1	1.1	0.044	19.2	0.85	0.026	19.2	1.01	0.021	19.2	1.01	0.021
0.30	83.8	8.75	0.419	51.7	2.30	0.117	39.2	1.80	0.088	27.6	1.31	0.061	16.3	0.79	0.031	16.3	0.79	0.031	16.3	0.79	0.031
0.35	76.4	4.30	0.237	34.2	2.01	0.106	24.2	1.53	0.074	18.9	1.22	0.057	12.7	0.75	0.033	12.7	0.75	0.033	12.7	0.75	0.033
0.40	61.3	3.98	0.248	25.4	1.78	0.103	19.4	1.44	0.078	13.5	1.04	0.054	9.9	0.86	0.034	9.9	0.86	0.034	9.9	0.86	0.034
0.45	48.3	3.51	0.248	23.2	1.96	0.109	17.1	1.54	0.087	13.0	1.29	0.064	9.0	0.94	0.039	9.0	0.94	0.039	9.0	0.94	0.039
0.50	41.6	3.51	0.264	18.5	1.88	0.117	14.8	1.62	0.093	11.1	1.29	0.068	8.6	0.93	0.041	8.6	0.93	0.041	8.6	0.93	0.041
0.55	19.8	1.88	0.151	15.0	1.59	0.115	12.6	1.34	0.096	10.3	1.06	0.074	8.7	0.86	0.048	8.7	0.86	0.048	8.7	0.86	0.048
0.60	26.7	2.58	0.243	12.8	1.36	0.117	10.3	1.19	0.093	8.8	0.94	0.073	8.7	0.79	0.051	8.7	0.79	0.051	8.7	0.79	0.051
0.65	15.5	1.72	0.166	10.6	1.20	0.111	8.3	1.13	0.088	7.1	1.05	0.068	6.6	0.84	0.049	6.6	0.84	0.049	6.6	0.84	0.049
0.70	12.3	1.46	0.152	7.2	1.20	0.089	5.6	1.14	0.068	5.7	1.05	0.062	5.9	0.87	0.049	5.9	0.87	0.049	5.9	0.87	0.049
0.75	1.67	1.67	0.152	6.2	1.23	0.088	4.6	1.15	0.065	4.5	1.06	0.053	4.5	0.89	0.043	4.5	0.89	0.043	4.5	0.89	0.043
0.80	13.7	0.80	0.176	3.7	1.23	0.079	3.6	1.08	0.058	3.5	1.03	0.048	3.5	0.89	0.041	3.5	0.89	0.041	3.5	0.89	0.041
0.85	5.2	1.06	0.095	3.1	1.05	0.086	2.5	1.03	0.046	2.5	1.01	0.045	2.4	0.89	0.039	2.4	0.89	0.039	2.4	0.89	0.039
0.90	3.1	0.66	0.063	2.2	0.97	0.039	1.8	0.97	0.040	1.8	0.94	0.042	1.8	0.89	0.038	1.8	0.89	0.038	1.8	0.89	0.038
0.95	2.1	0.96	0.049	1.7	0.97	0.039	1.5	0.95	0.038	1.5	0.94	0.039	1.5	0.89	0.037	1.5	0.89	0.037	1.5	0.89	0.037
1.00	4.4	0.94	0.112	1.9	0.95	0.048	1.5	0.95	0.038	1.5	0.94	0.039	1.5	0.89	0.037	1.5	0.89	0.037	1.5	0.89	0.037
1.10	2.0	1.00	0.060	1.4	0.97	0.044	1.4	0.95	0.040	1.4	0.94	0.040	1.4	0.93	0.039	1.4	0.93	0.039	1.4	0.93	0.039
1.20	1.3	0.92	0.046	1.1	0.92	0.039	1.1	0.91	0.038	1.2	0.90	0.037	1.2	0.87	0.035	1.2	0.87	0.035	1.2	0.87	0.035
1.30	0.8	0.89	0.034	0.8	0.89	0.035	0.9	0.89	0.035	1.0	0.88	0.035	1.0	0.86	0.034	1.0	0.86	0.034	1.0	0.86	0.034
1.40	0.7	0.88	0.035	0.7	0.87	0.034	0.7	0.87	0.034	0.9	0.87	0.034	0.9	0.85	0.033	0.9	0.85	0.033	0.9	0.85	0.033
1.50	0.6	0.85	0.032	0.5	0.85	0.031	0.6	0.86	0.030	0.7	0.86	0.032	0.7	0.84	0.031	0.7	0.84	0.031	0.7	0.84	0.031
1.60	0.5	0.85	0.030	0.5	0.85	0.029	0.5	0.85	0.030	0.6	0.85	0.031	0.6	0.83	0.030	0.6	0.83	0.030	0.6	0.83	0.030
1.70	0.4	0.86	0.031	0.4	0.86	0.031	0.5	0.85	0.031	0.6	0.85	0.031	0.6	0.83	0.030	0.6	0.83	0.030	0.6	0.83	0.030
1.80	0.4	0.86	0.034	0.4	0.84	0.032	0.4	0.85	0.033	0.4	0.84	0.032	0.4	0.82	0.031	0.4	0.82	0.031	0.4	0.82	0.031
1.90	0.3	0.84	0.034	0.3	0.82	0.029	0.3	0.83	0.029	0.3	0.82	0.029	0.3	0.80	0.028	0.3	0.80	0.028	0.3	0.80	0.028
2.00	0.3	0.82	0.032	0.3	0.82	0.032	0.3	0.82	0.032	0.3	0.82	0.032	0.3	0.81	0.030	0.3	0.81	0.030	0.3	0.81	0.030
2.20	0.3	0.82	0.035	0.3	0.82	0.032	0.3	0.82	0.031	0.3	0.82	0.031	0.3	0.81	0.028	0.3	0.81	0.028	0.3	0.81	0.028
2.40	0.2	0.83	0.029	0.2	0.83	0.029	0.2	0.83	0.029	0.2	0.83	0.029	0.2	0.82	0.029	0.2	0.82	0.029	0.2	0.82	0.029
2.60	0.2	0.84	0.030	0.2	0.84	0.030	0.2	0.84	0.030	0.2	0.83	0.030	0.2	0.82	0.030	0.2	0.82	0.030	0.2	0.82	0.030
2.80	0.1	0.83	0.034	0.1	0.82	0.032	0.1	0.82	0.032	0.1	0.82	0.032	0.1	0.81	0.031	0.1	0.81	0.031	0.1	0.81	0.031
3.00	0.1	0.82	0.033	0.1	0.82	0.032	0.1	0.82	0.032	0.1	0.82	0.032	0.1	0.81	0.031	0.1	0.81	0.031	0.1	0.81	0.031
3.20	0.1	0.81	0.029	0.1	0.81	0.029	0.1	0.81	0.029	0.1	0.81	0.029	0.1	0.80	0.028	0.1	0.80	0.028	0.1	0.80	0.028
3.40	0.1	0.80	0.032	0.1	0.80	0.032	0.1	0.80	0.032	0.1	0.80	0.032	0.1	0.79	0.031	0.1	0.79	0.031	0.1	0.79	0.031
3.60	0.1	0.80	0.035	0.1	0.80	0.033	0.1	0.80	0.033	0.1	0.80	0.033	0.1	0.79	0.032	0.1	0.79	0.032	0.1	0.79	0.032
3.80	0.1	0.81	0.036	0.1	0.81	0.034	0.1	0.81	0.034	0.1	0.81	0.034	0.1	0.80	0.033	0.1	0.80	0.033	0.1	0.80	0.033
4.00	0.1	0.81	0.035	0.1	0.81	0.034	0.1	0.81	0.034	0.1	0.81	0.034	0.1	0.80	0.033	0.1	0.80	0.033	0.1	0.80	0.033

PER = RERIOD (SEC)

AA = ABSOLUTE ACC. (GAL)

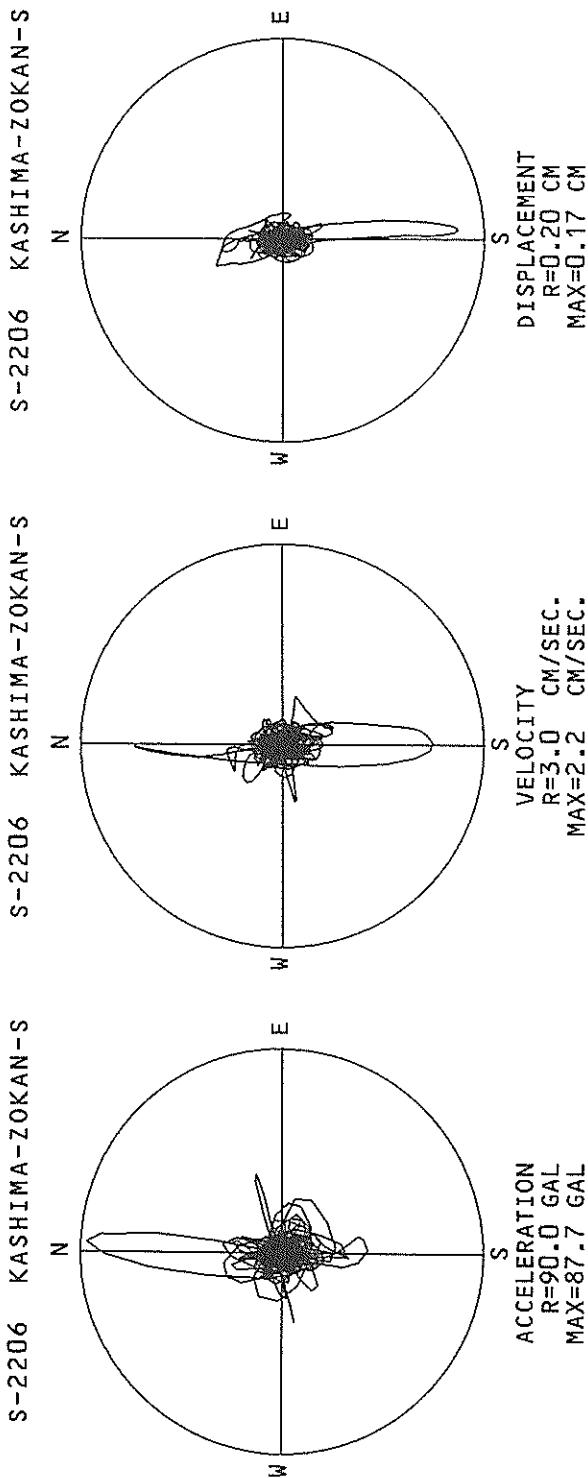
RV = RELATIVE VELOCITY (CM/SEC)

RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

RECORD = S-2206  
 DATE AND TIME = 1989-  
 TIME LENGTH = 29.99  
 COMPONENT = DOWN  
 SAMPLING INTERVAL = 0.0100 (SEC)  
 SKIPPED LENGTH = 0.00 (SEC)

PER	DAMPING = 0.			DAMPING = 0.025			DAMPING = 0.050			DAMPING = 0.100			DAMPING = 0.250		
	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	13.2	0.08	0.001	11.5	0.05	0.001	11.6	0.05	0.001	11.4	0.05	0.001	10.9	0.04	0.001
0.10	157.3	2.50	0.040	40.3	0.62	0.010	31.6	0.47	0.008	21.6	0.32	0.005	14.4	0.18	0.003
0.15	84.4	2.00	0.094	49.0	0.23	0.028	33.3	0.85	0.019	20.2	0.11	0.011	10.3	0.24	0.005
0.20	92.9	2.90	0.094	21.1	0.71	0.021	15.6	0.54	0.016	12.1	0.39	0.012	8.6	0.27	0.007
0.25	61.1	2.42	0.097	17.8	0.68	0.027	11.7	0.45	0.019	8.3	0.35	0.013	5.5	0.24	0.007
0.30	42.1	2.03	0.096	17.8	0.84	0.040	12.5	0.59	0.028	8.2	0.24	0.018	4.5	0.22	0.009
0.35	17.3	1.02	0.054	9.9	0.57	0.031	7.7	0.44	0.024	5.3	0.32	0.016	3.8	0.22	0.010
0.40	27.3	1.73	0.111	6.8	0.51	0.018	4.7	0.39	0.019	3.3	0.31	0.013	2.8	0.21	0.009
0.45	7.1	0.52	0.36	3.5	0.32	0.025	2.9	0.27	0.015	2.3	0.25	0.011	2.3	0.20	0.009
0.50	3.9	0.36	0.025	2.2	0.25	0.014	2.0	0.23	0.013	1.8	0.22	0.011	2.0	0.18	0.008
0.55	3.1	0.28	0.023	1.7	0.25	0.013	1.7	0.23	0.013	1.4	0.21	0.011	1.7	0.19	0.008
0.60	2.1	0.24	0.019	1.8	0.23	0.016	1.5	0.21	0.014	1.2	0.20	0.010	1.4	0.19	0.008
0.65	1.5	0.24	0.016	0.9	0.20	0.012	1.1	0.21	0.011	1.0	0.20	0.010	1.3	0.19	0.007
0.70	2.1	0.25	0.026	0.9	0.23	0.012	0.8	0.22	0.010	0.3	0.21	0.009	1.1	0.19	0.007
0.75	0.7	0.21	0.011	0.7	0.21	0.009	0.7	0.21	0.009	0.7	0.20	0.009	1.0	0.19	0.007
0.80	0.8	0.22	0.013	0.5	0.21	0.007	0.5	0.20	0.008	0.5	0.20	0.008	0.9	0.19	0.007
0.85	0.8	0.20	0.014	0.5	0.18	0.009	0.4	0.19	0.007	0.4	0.19	0.007	0.8	0.19	0.007
0.90	0.5	0.19	0.011	0.4	0.19	0.007	0.4	0.19	0.007	0.4	0.19	0.007	0.7	0.19	0.007
0.95	0.4	0.21	0.009	0.4	0.20	0.008	0.4	0.19	0.007	0.4	0.19	0.007	0.7	0.18	0.006
1.00	0.4	0.20	0.009	0.3	0.19	0.008	0.3	0.19	0.007	0.4	0.19	0.007	0.7	0.18	0.006
1.10	0.2	0.18	0.007	0.2	0.19	0.007	0.2	0.19	0.007	0.2	0.19	0.006	0.6	0.18	0.006
1.20	0.2	0.20	0.008	0.2	0.20	0.007	0.2	0.19	0.006	0.2	0.19	0.006	0.6	0.18	0.006
1.30	0.2	0.18	0.008	0.2	0.19	0.006	0.2	0.18	0.006	0.2	0.18	0.006	0.5	0.18	0.006
1.40	0.2	0.17	0.009	0.2	0.18	0.007	0.2	0.17	0.007	0.2	0.18	0.006	0.5	0.18	0.006
1.50	0.2	0.19	0.011	0.2	0.19	0.009	0.2	0.19	0.008	0.2	0.19	0.007	0.4	0.18	0.006
1.60	0.1	0.21	0.010	0.1	0.20	0.008	0.2	0.19	0.008	0.2	0.19	0.007	0.4	0.18	0.006
1.70	0.1	0.20	0.010	0.1	0.19	0.008	0.1	0.19	0.008	0.2	0.19	0.007	0.4	0.18	0.006
1.80	0.1	0.17	0.011	0.1	0.18	0.009	0.1	0.18	0.008	0.1	0.18	0.007	0.3	0.18	0.006
1.90	0.1	0.17	0.012	0.1	0.17	0.009	0.1	0.18	0.008	0.1	0.18	0.007	0.3	0.18	0.006
2.00	0.1	0.17	0.011	0.1	0.18	0.009	0.1	0.18	0.008	0.1	0.18	0.007	0.3	0.18	0.006
2.20	0.1	0.20	0.013	0.1	0.19	0.011	0.1	0.19	0.010	0.1	0.19	0.008	0.3	0.18	0.006
2.40	0.1	0.21	0.013	0.1	0.20	0.012	0.1	0.20	0.011	0.1	0.20	0.010	0.1	0.18	0.006
2.60	0.1	0.19	0.014	0.1	0.19	0.011	0.1	0.19	0.010	0.1	0.19	0.009	0.2	0.18	0.007
2.80	0.1	0.17	0.014	0.1	0.18	0.011	0.1	0.18	0.010	0.1	0.18	0.009	0.2	0.18	0.007
3.00	0.1	0.17	0.014	0.1	0.17	0.012	0.1	0.17	0.011	0.1	0.17	0.010	0.2	0.18	0.008
3.20	0.1	0.17	0.015	0.1	0.17	0.014	0.1	0.17	0.013	0.1	0.18	0.011	0.2	0.18	0.009
3.40	0.1	0.17	0.016	0.1	0.18	0.014	0.1	0.18	0.013	0.1	0.18	0.012	0.2	0.18	0.009
3.60	0.0	0.19	0.017	0.0	0.19	0.015	0.0	0.19	0.014	0.0	0.19	0.013	0.1	0.18	0.009
3.80	0.0	0.20	0.015	0.0	0.19	0.014	0.0	0.19	0.013	0.0	0.19	0.012	0.2	0.18	0.010
4.00	0.0	0.20	0.015	0.0	0.19	0.014	0.0	0.19	0.013	0.0	0.19	0.012	0.2	0.18	0.010
PER = PERIOD (SEC)	AA = ABSOLUTE ACC. (GAL)	RV = RELATIVE VELOCITY (CM/SEC)	RD = RELATIVE DISPLACEMENT (CM)												



RECORD NUMBER  
STATION

S-2220 SOMA-S

EARTHQUAKE DATA (JISHIN KAZAN GAIKYO)  
\*\*\*\*\*  
DATA AND TIME 5:45 APR 26, 1989  
LOCATION OF HYPOCENTER

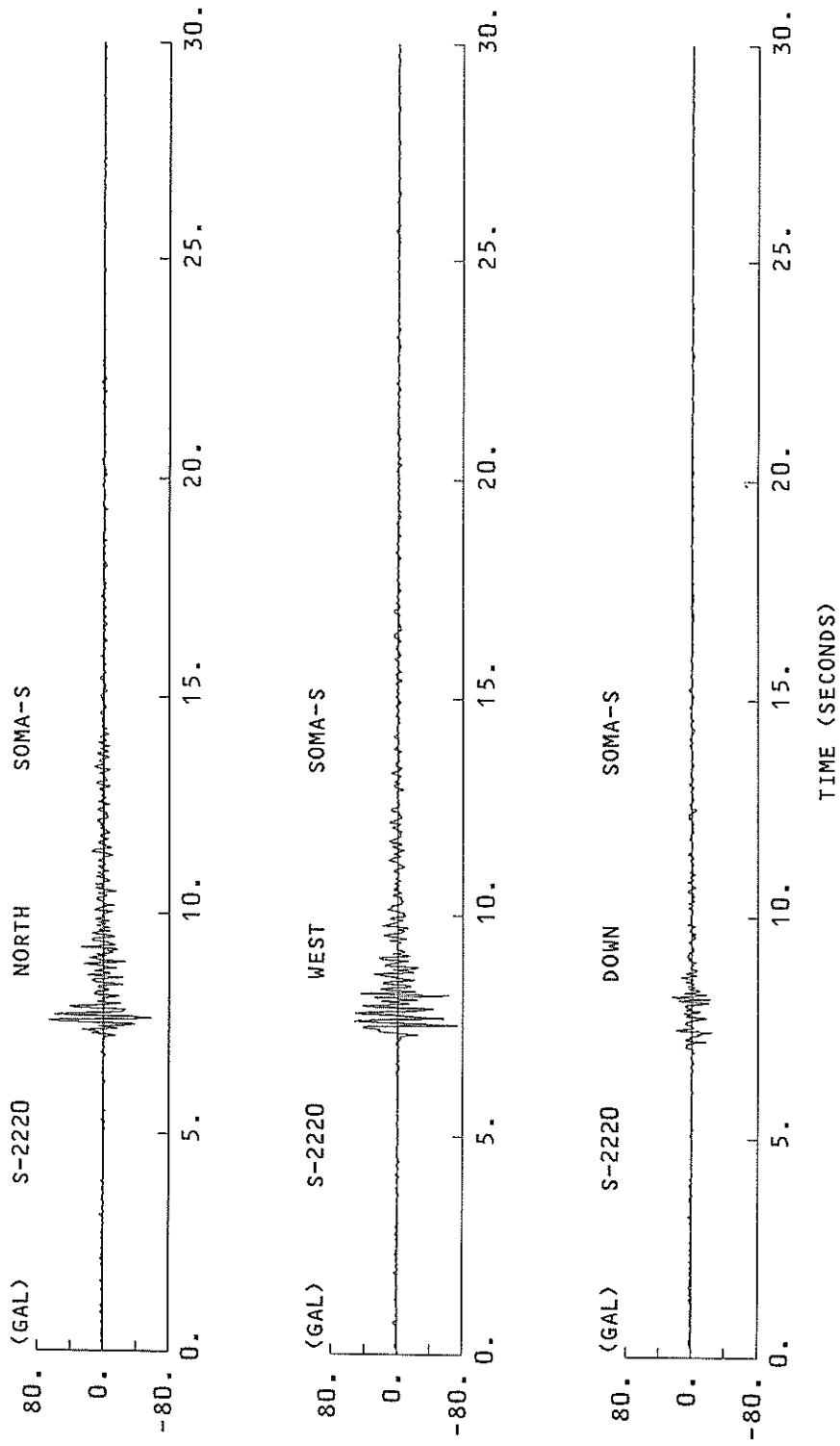
EP CENTRAL REGION  
LATITUDE 36° 52' 0" N  
LONGITUDE 140° 56' 0" E  
DEPTH 91.0KM  
MAGNITUDE 4.7

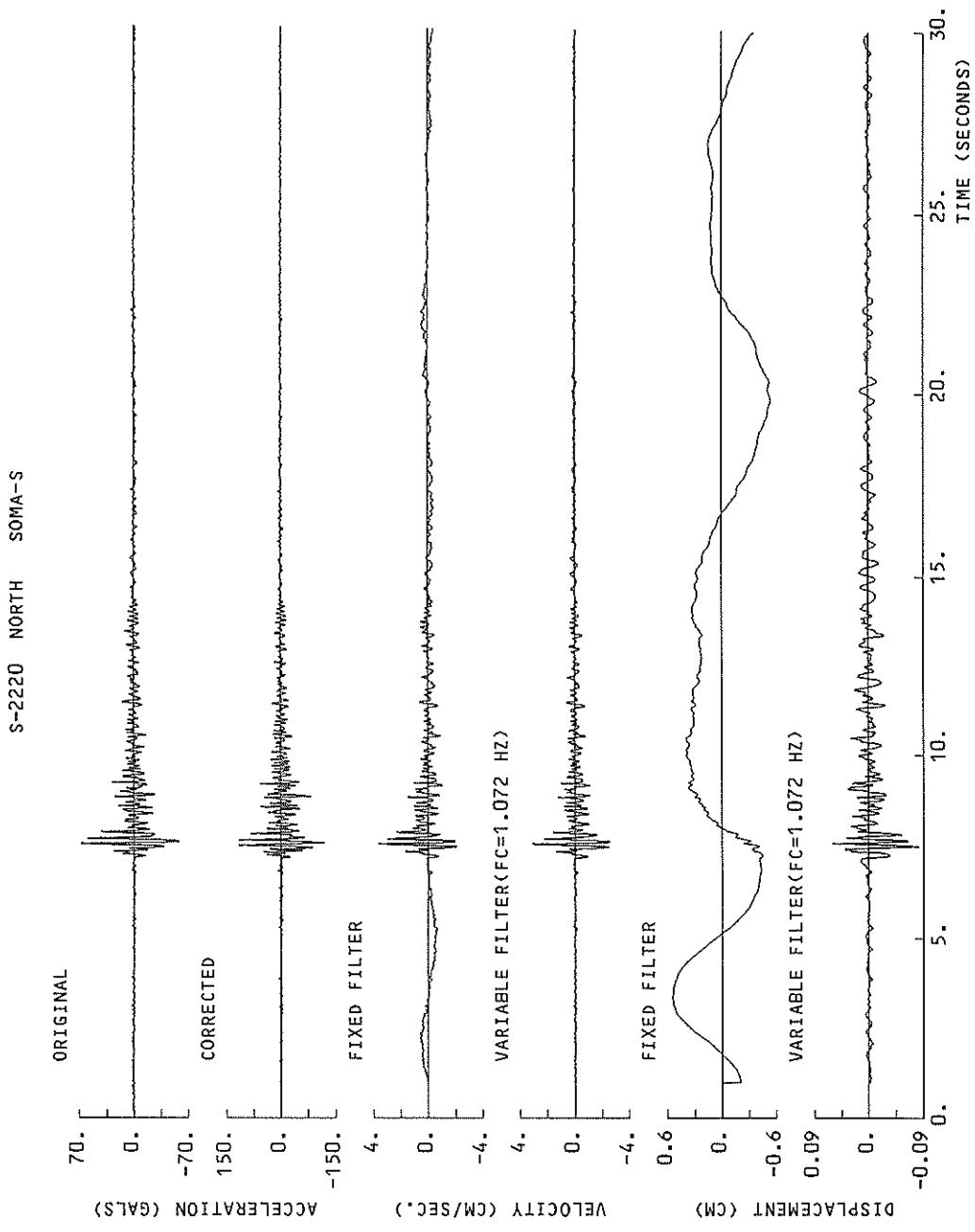
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PEAK VALUES OF COMPONENTS

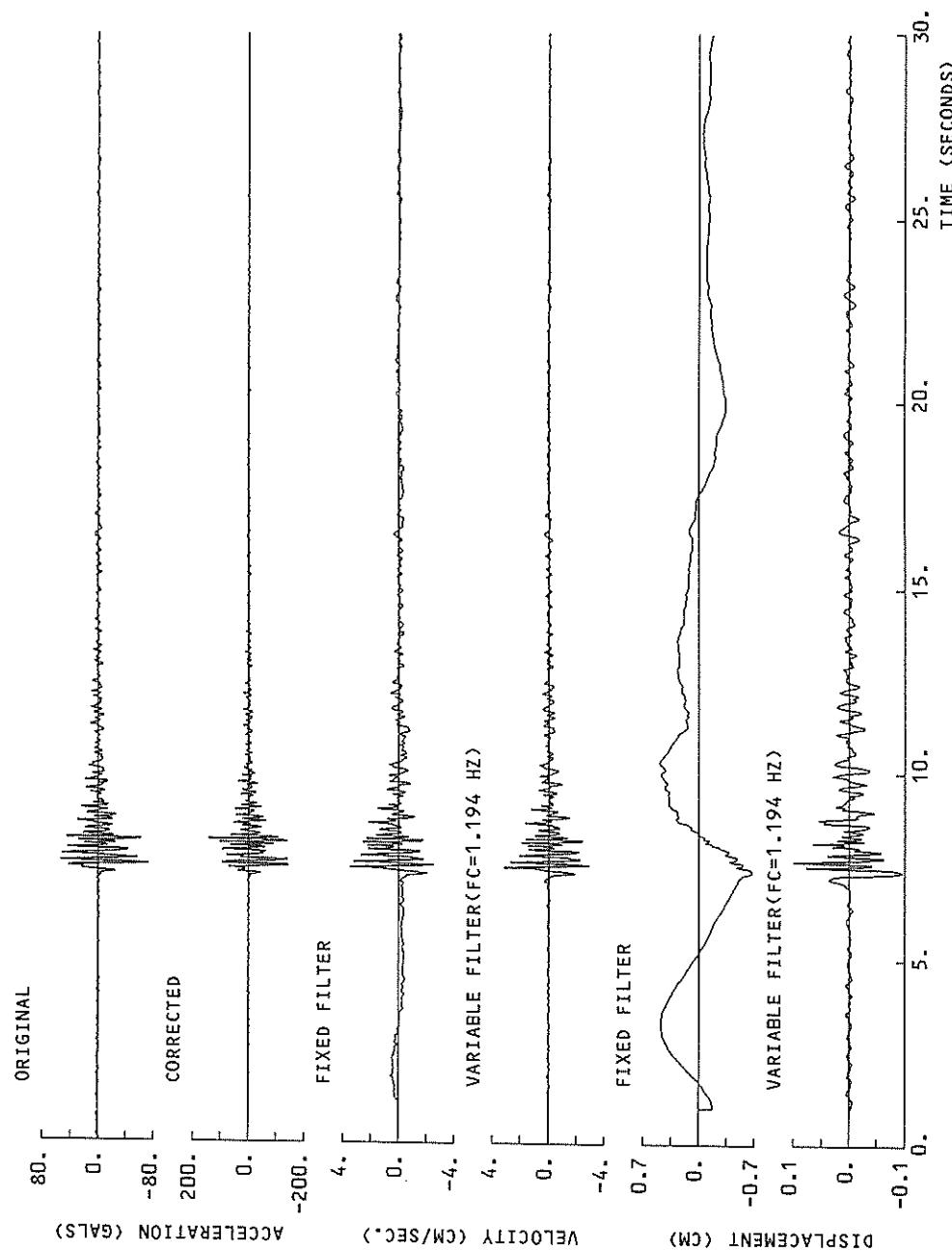
	N S	E W	U D	HORIZONTAL*
PARAMETER OF THE VARIABLE FILTER				
FC (HZ)	1.072	1.194	1.256	
MAXIMUM ACCELERATION (GAL)				
ORIGINAL	67.8	73.2	27.2	78.4
CORRECTED	134.9	170.5	87.6	170.8
MAXIMUM VELOCITY (CM/SEC)				
FIXED FILTER	3.67	3.54	1.77	3.72
VARIABLE FILTER	3.14	3.26	1.40	3.58
MAXIMUM DISPLACEMENT (CM)				
FIXED FILTER	0.545	0.675	0.795	0.788
VARIABLE FILTER	0.082	0.100	0.037	0.105

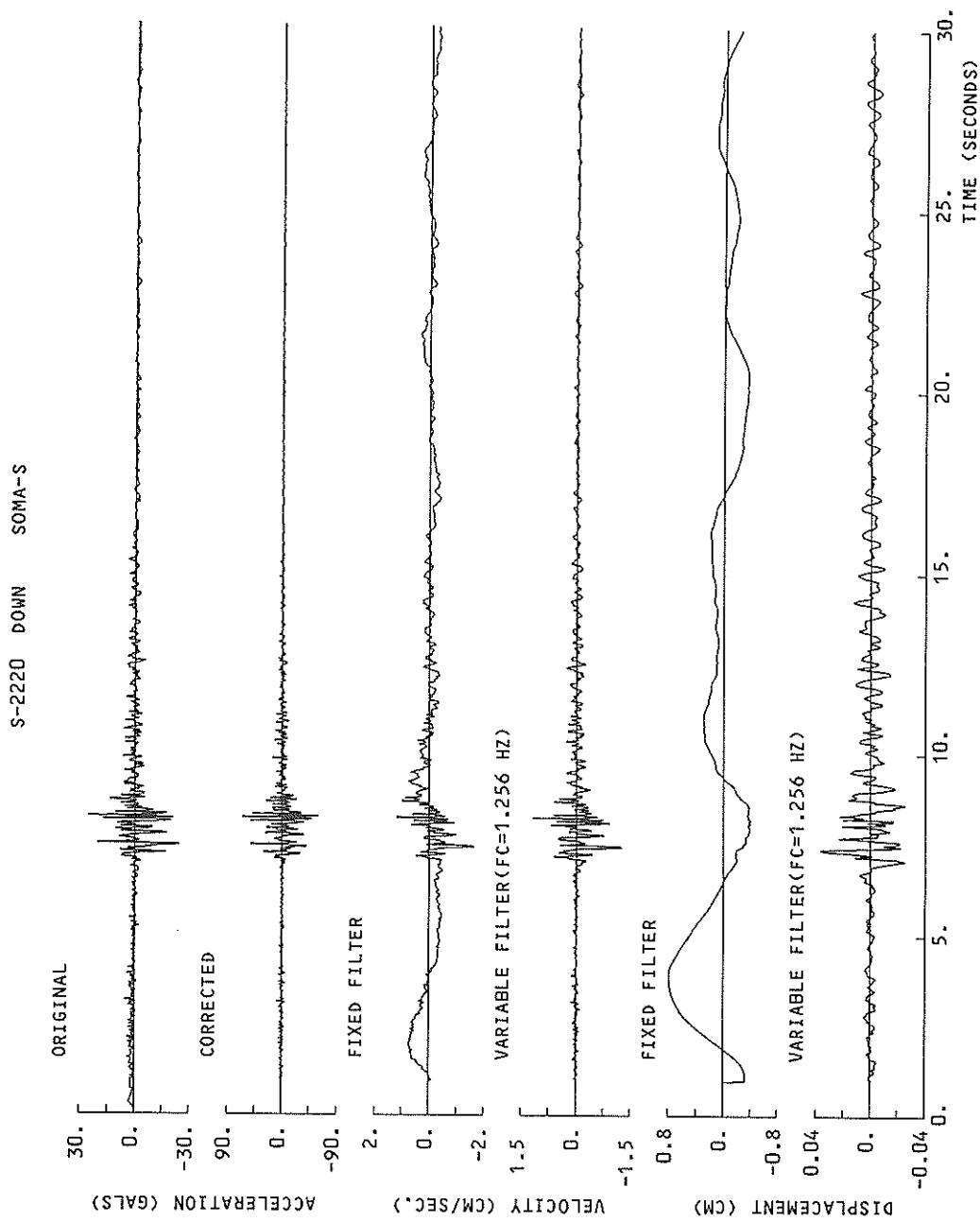
\* RESULTANT OF HORIZONTAL COMPONENTS

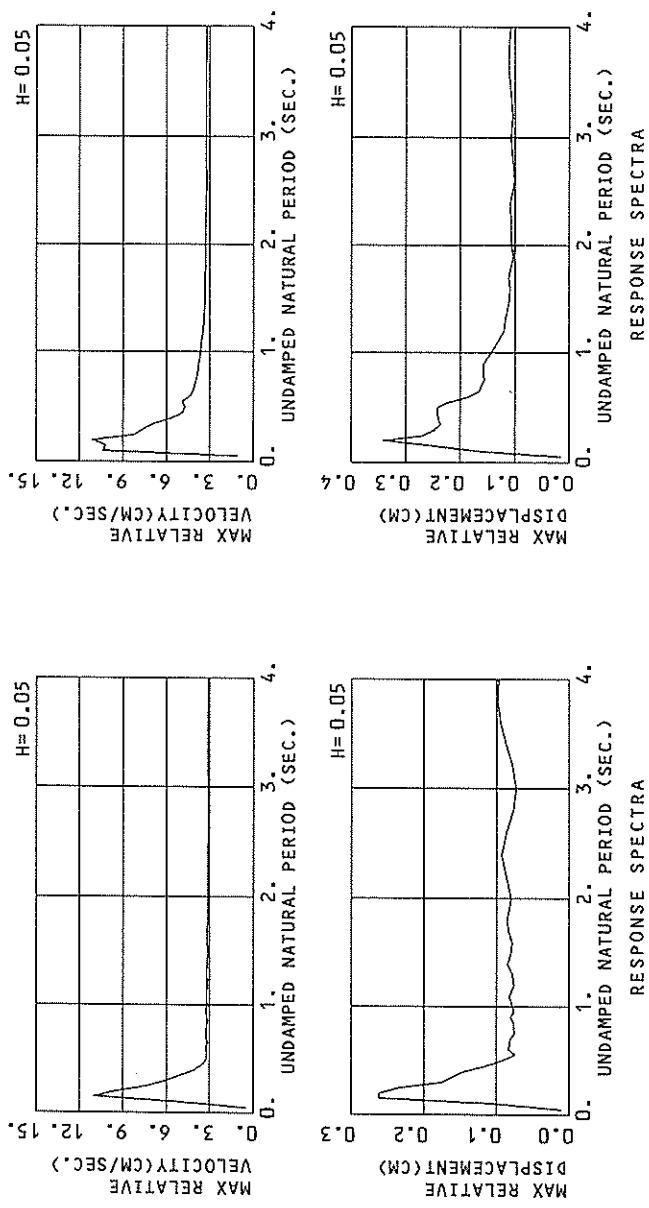
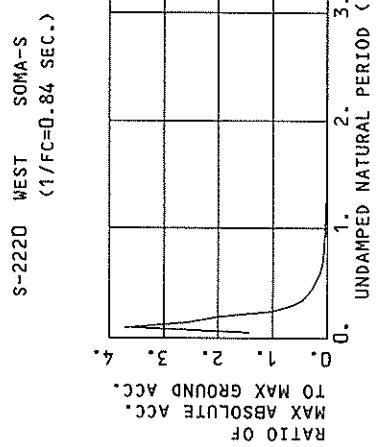
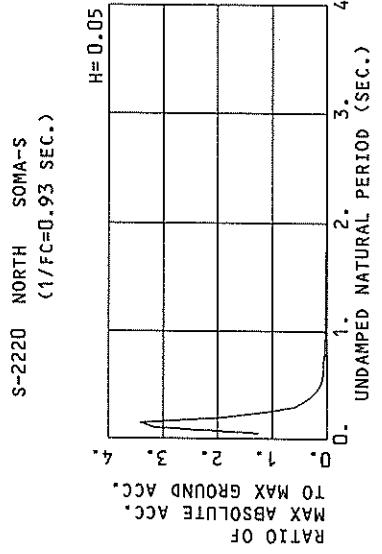


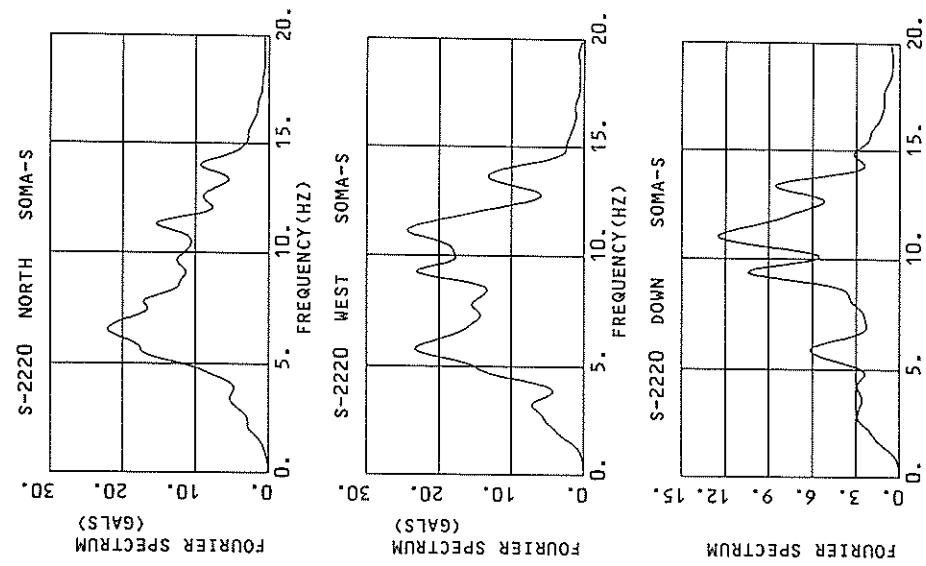
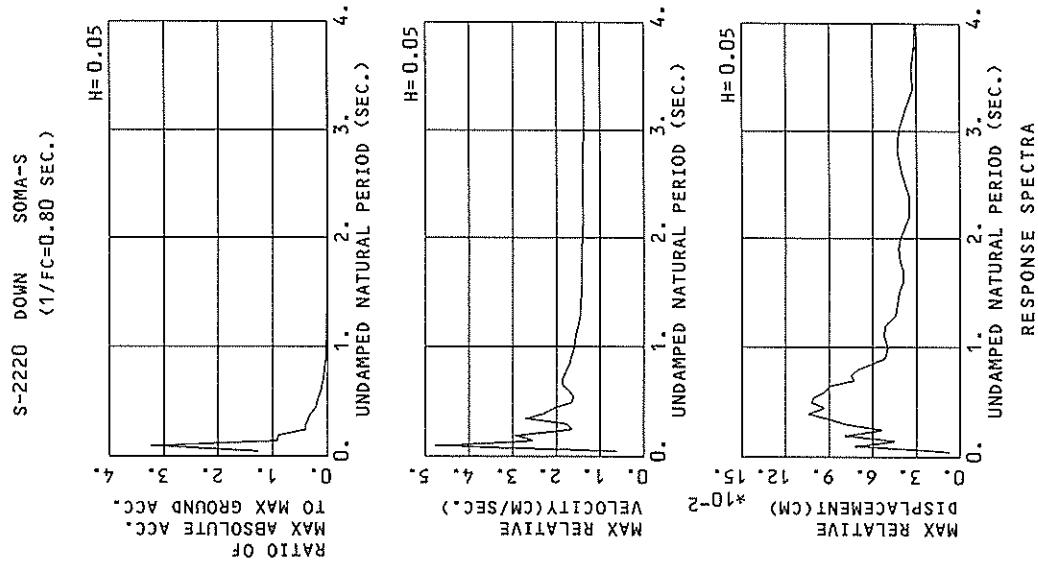


S-2220 WEST SOMA-S









## RESPONSE SPECTRUM

RECORD = S-22220		COMPONENT = NORTH		SIGNAL = GR. ACC. (SEC)		CORRECTION = MAX. GROUND ACC. = 0.0100 (SEC)		STATION = SOMA-S	
DATE AND TIME = 1989-4-26-5:45		SAMPLING INTERVAL = 0.000 (SEC)		SKIPPED LENGTH = 0.000 (SEC)					
TIME LENGTH = 29.99 (SEC)		DAMPING = 0.		DAMPING = 0.025		DAMPING = 0.050		DAMPING = 0.100	
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	184.6	0.88	0.012	173.7	0.55	0.011	169.2	0.51	0.011
0.10	858.7	13.52	0.218	484.2	6.59	0.122	426.1	5.48	0.107
0.15	1099.7	26.13	0.627	584.4	13.83	0.334	461.7	11.03	0.262
0.20	398.5	1.38	0.404	298.8	10.91	0.305	263.4	9.69	0.234
0.25	191.2	8.91	0.303	164.0	7.85	0.259	147.4	7.35	0.176
0.30	171.1	8.33	0.369	81.8	6.30	0.186	77.9	6.03	0.161
0.35	92.8	5.54	0.241	54.0	4.99	0.168	52.9	4.94	0.146
0.40	59.3	3.95	0.224	37.4	4.05	0.151	36.4	4.05	0.134
0.45	43.8	3.56	0.224	23.5	3.53	0.120	23.0	3.50	0.115
0.50	49.0	3.94	0.310	21.0	3.25	0.133	15.2	3.20	0.094
0.55	27.2	3.67	0.209	11.2	3.31	0.086	10.3	3.22	0.075
0.60	14.1	3.44	0.128	10.3	3.29	0.093	9.3	3.25	0.084
0.65	16.2	3.26	0.173	10.7	3.07	0.114	7.7	3.16	0.082
0.70	14.4	3.40	0.179	7.7	3.28	0.095	7.2	3.24	0.081
0.75	14.4	5.8	0.083	5.6	3.26	0.076	6.0	3.25	0.076
0.80	7.2	3.25	0.117	4.9	3.22	0.079	5.2	3.21	0.076
0.85	6.0	3.07	0.110	4.3	3.15	0.076	4.7	3.18	0.076
0.90	4.9	3.27	0.100	4.5	3.24	0.087	4.0	3.22	0.076
0.95	6.0	3.33	0.138	3.7	3.27	0.084	4.0	3.24	0.076
1.00	4.4	3.19	0.111	3.2	3.22	0.079	3.6	3.22	0.078
1.10	3.1	3.26	0.096	3.0	3.22	0.087	3.2	3.20	0.083
1.20	3.3	3.08	0.119	3.26	3.13	0.074	2.6	3.16	0.077
1.30	2.1	3.26	0.092	1.9	3.21	0.077	2.3	3.19	0.078
1.40	2.0	3.16	0.099	1.9	3.17	0.090	2.2	3.17	0.085
1.50	1.3	3.11	0.075	1.5	3.12	0.099	1.9	3.14	0.080
1.60	1.2	3.17	0.075	1.3	3.16	0.016	1.7	3.15	0.079
1.70	1.2	3.18	0.089	1.3	3.16	0.085	1.6	3.15	0.080
1.80	1.1	3.13	0.093	1.2	3.13	0.088	1.5	3.13	0.080
1.90	0.9	3.10	0.082	1.0	3.11	0.083	1.3	3.13	0.081
2.00	0.7	3.12	0.074	0.9	3.12	0.078	1.2	3.12	0.082
2.20	0.7	3.16	0.088	0.8	3.14	0.087	1.1	3.14	0.085
2.40	0.7	3.11	0.103	0.8	3.11	0.097	1.0	3.11	0.088
2.60	0.5	3.06	0.090	0.6	3.08	0.088	0.9	3.09	0.087
2.80	0.4	3.07	0.070	0.5	3.08	0.074	0.8	3.08	0.077
3.00	0.3	3.10	0.079	0.5	3.0	0.073	0.7	3.10	0.078
3.20	0.3	3.13	0.073	0.4	3.12	0.076	0.7	3.12	0.081
3.40	0.3	3.14	0.090	0.4	3.13	0.088	0.6	3.12	0.085
3.60	0.3	3.12	0.104	0.4	3.12	0.098	0.6	3.11	0.090
3.80	0.3	3.10	0.110	0.4	3.10	0.103	0.6	3.10	0.092
4.00	0.3	3.07	0.107	0.4	3.08	0.102	0.5	3.08	0.097

PER = PERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

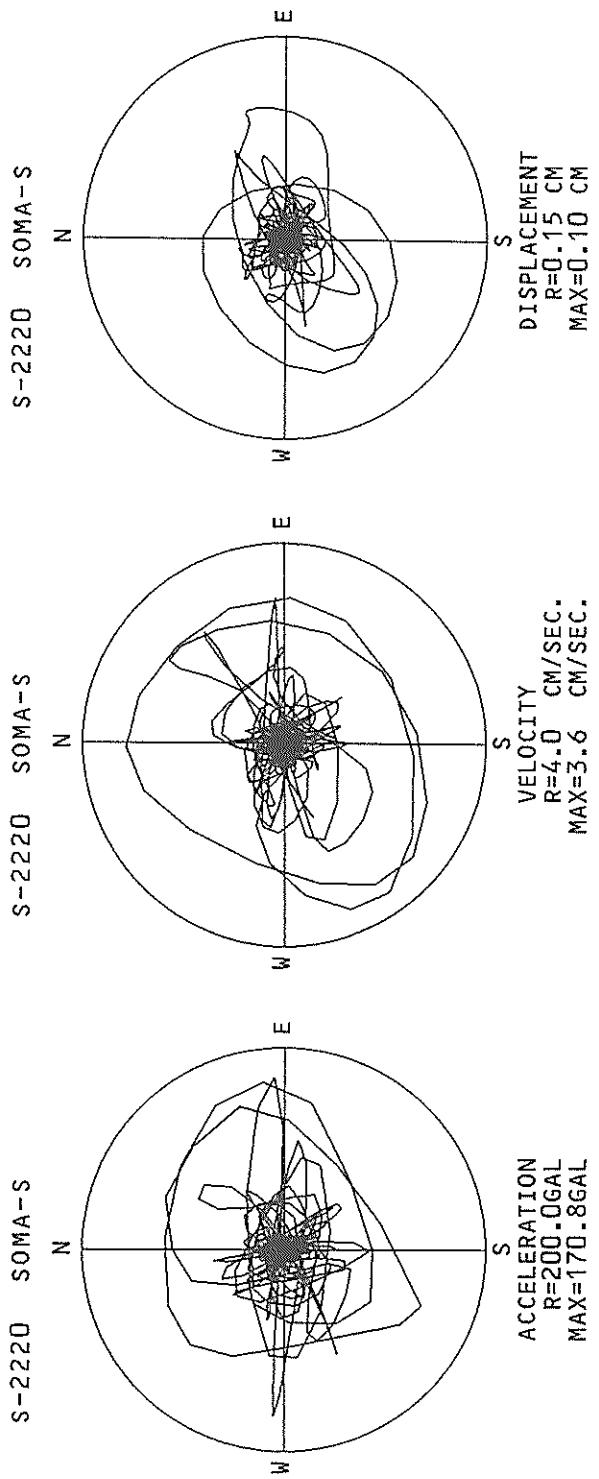
RECORD = S-22220		COMPONENT = WEST		SIGNAL = GR. ACC.		CORRECTION = 0.100 (SEC)		MAX. GROUND ACC. = 170.51 (GAL)		STATION = SOMA-S					
DATE AND TIME = 1989-4-26-5-45		SAMPLING INTERVAL = 0.00 (SEC)		SKIPPED LENGTH = 0.00 (SEC)		PERIOD (SEC)		DAMPING = 0.025		DAMPING = 0.050		DAMPING = 0.100		DAMPING = 0.250	
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	255.8	1.22	0.016	240.8	1.09	0.015	241.7	1.08	0.015	238.3	1.07	0.015	226.8	1.00	0.014
0.10	1217.7	19.25	0.414	767.1	12.14	0.195	633.4	10.39	0.160	477.9	7.64	0.118	286.2	4.23	0.064
0.15	726.4	17.33	0.515	503.6	12.28	0.286	435.4	10.18	0.145	369.9	7.7	0.202	239.7	5.02	0.120
0.20	508.6	16.31	0.515	410.3	13.25	0.414	336.8	11.16	0.342	246.8	8.53	0.240	156.9	5.42	0.138
0.25	188.0	13.98	0.44	298.6	8.91	0.288	169.7	8.22	0.266	149.3	7.03	0.229	123.6	5.17	0.157
0.30	292.0	17.70	0.317	666.1	7.95	0.271	109.6	7.55	0.247	97.2	6.86	0.213	86.7	5.49	0.149
0.35	102.0	9.34	0.591	87.7	7.23	0.272	76.2	6.91	0.236	70.4	6.43	0.209	61.6	5.30	0.156
0.40	145.8	9.34	0.591	69.4	5.96	0.281	60.8	5.58	0.241	58.0	5.49	0.222	54.6	4.98	0.174
0.45	54.5	5.43	0.279	5.13	0.258	0.242	48.3	4.86	0.242	46.5	4.71	0.222	47.1	4.57	0.179
0.50	56.9	5.21	0.360	41.3	5.10	0.261	38.7	4.73	0.243	37.6	4.14	0.219	40.4	4.17	0.178
0.55	71.3	6.29	0.546	36.3	5.33	0.277	29.8	4.93	0.222	30.1	4.35	0.207	34.5	3.84	0.174
0.60	24.2	4.58	0.221	21.8	4.48	0.199	20.9	4.32	0.183	23.3	4.03	0.184	29.7	3.58	0.167
0.65	17.2	4.18	0.189	16.6	4.15	0.174	16.3	4.10	0.166	18.5	3.95	0.153	25.7	3.42	0.159
0.70	16.1	4.37	0.200	14.4	4.17	0.175	13.6	4.05	0.162	15.2	3.89	0.146	22.6	3.44	0.151
0.75	10.6	3.85	0.151	11.4	3.92	0.158	11.6	3.91	0.156	12.6	3.81	0.146	20.0	3.45	0.143
0.80	10.9	3.97	0.177	10.4	3.89	0.165	9.3	3.84	0.158	11.1	3.76	0.146	18.0	3.45	0.137
0.85	9.9	3.83	0.165	9.1	3.83	0.163	9.2	3.80	0.158	10.1	3.72	0.147	16.3	3.44	0.131
0.90	8.8	3.91	0.154	8.3	3.82	0.166	8.3	3.77	0.158	9.1	3.68	0.146	14.9	3.43	0.125
0.95	6.7	3.76	0.154	6.9	3.73	0.153	7.1	3.70	0.150	8.2	3.63	0.142	13.7	3.42	0.122
1.00	5.6	3.61	0.142	5.9	3.64	0.144	6.2	3.63	0.143	7.4	3.59	0.138	12.7	3.41	0.121
1.10	4.7	3.61	0.144	4.5	3.57	0.133	4.8	3.55	0.131	6.0	3.51	0.129	11.0	3.38	0.119
1.20	3.2	3.45	0.116	3.4	3.44	0.118	3.8	3.45	0.120	5.0	3.44	0.121	9.8	3.35	0.113
1.30	2.9	3.45	0.124	2.9	3.43	0.119	3.3	3.41	0.117	4.3	3.39	0.116	8.8	3.32	0.113
1.40	2.3	3.33	0.125	2.3	3.35	0.114	2.8	3.36	0.113	3.8	3.36	0.112	8.0	3.30	0.111
1.50	2.0	3.34	0.114	2.1	3.34	0.111	2.5	3.34	0.110	3.4	3.34	0.110	7.4	3.29	0.109
1.60	1.8	3.37	0.114	1.9	3.35	0.111	2.1	3.33	0.110	3.1	3.32	0.109	6.9	3.27	0.107
1.70	1.6	3.32	0.119	1.6	3.32	0.114	1.9	3.31	0.111	2.8	3.30	0.108	6.4	3.26	0.106
1.80	1.3	3.26	0.109	1.4	3.28	0.108	1.7	3.28	0.107	2.6	3.28	0.106	6.0	3.26	0.105
1.90	1.1	3.26	0.103	1.3	3.27	0.103	1.6	3.27	0.103	2.4	3.27	0.104	5.6	3.25	0.104
2.00	1.1	3.28	0.112	1.2	3.28	0.108	1.5	3.28	0.106	2.3	3.27	0.104	5.3	3.24	0.103
2.20	0.9	3.30	0.112	1.0	3.28	0.109	1.3	3.27	0.107	2.0	3.26	0.105	4.8	3.23	0.103
2.40	0.8	3.24	0.115	0.8	3.25	0.111	1.1	3.25	0.108	1.8	3.24	0.105	4.4	3.23	0.102
2.60	0.6	3.21	0.099	0.7	3.23	0.106	1.0	3.23	0.100	1.7	3.23	0.101	4.0	3.22	0.101
2.80	0.5	3.22	0.108	0.7	3.23	0.106	0.9	3.23	0.104	1.5	3.23	0.102	3.7	3.22	0.100
3.00	0.5	3.25	0.115	0.6	3.25	0.110	0.8	3.24	0.107	1.4	3.23	0.103	3.5	3.22	0.100
3.20	0.4	3.27	0.108	0.5	3.26	0.106	0.8	3.25	0.104	1.3	3.24	0.104	3.2	3.22	0.100
3.40	0.4	3.26	0.112	0.5	3.25	0.109	0.7	3.24	0.107	1.2	3.23	0.104	3.0	3.21	0.101
3.60	0.4	3.24	0.120	0.4	3.24	0.115	0.6	3.23	0.111	1.2	3.23	0.106	2.9	3.21	0.101
3.80	0.3	3.22	0.120	0.4	3.22	0.115	0.5	3.22	0.112	1.1	3.22	0.106	2.7	3.21	0.100
4.00	0.3	3.20	0.115	0.3	3.20	0.111	0.5	3.21	0.108	1.0	3.21	0.104	2.6	3.21	0.100

PER = PERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

PER	RECORD = S-2220			COMPONENT = DOWN			SIGNAL = GR. ACC.			CORRECTION = MAX. GROUND ACC. =			STATION = SOMA-S			
	DATE AND TIME = 1989-29-99	4-26-5-45 (SEC)	TIME LENGTH = 0.25	SAMPLING INTERVAL = 0.0100 (SEC)	SKIPPED LENGTH = 0.00 (SEC)	DAMPING = 0.025	DAMPING = 0.050	DAMPING = 0.075	DAMPING = 0.100	DAMPING = 0.125	DAMPING = 0.150	DAMPING = 0.175	DAMPING = 0.200	DAMPING = 0.225	DAMPING = 0.250	
	PERIOD (SEC)	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	1.13.1	0.70	0.007	112.9	0.62	0.007	110.8	0.61	0.007	117.4	0.61	0.007	116.4	0.51	0.007	
0.10	5.04	2.61	0.080	395.6	2.65	0.082	285.2	4.78	0.072	219.7	3.57	0.054	126.8	1.90	0.029	
0.15	1.18.1	2.61	0.115	91.7	3.31	0.092	79.7	2.54	0.045	75.6	2.20	0.041	61.7	1.52	0.030	
0.20	1.13.1	3.87	0.154	39.1	1.77	0.062	34.5	1.64	0.054	62.1	2.48	0.062	43.9	1.74	0.036	
0.25	97.5	4.47	0.213	37.8	1.93	0.087	36.8	1.76	0.078	33.8	1.76	0.051	32.0	1.56	0.040	
0.30	83.6	3.49	0.166	36.8	3.06	0.114	29.8	2.70	0.091	23.7	2.20	0.071	24.7	1.45	0.042	
0.35	53.5	2.77	0.271	2.60	2.60	0.127	26.0	2.28	0.104	19.3	1.90	0.076	20.9	1.57	0.048	
0.40	66.9	2.39	0.130	21.1	2.16	0.108	18.3	2.02	0.093	15.9	1.81	0.077	18.9	1.43	0.055	
0.45	25.4	34.4	0.218	21.5	1.89	0.136	16.2	1.64	0.102	13.8	1.52	0.085	17.1	1.39	0.061	
0.50	34.4	2.89	0.218	21.5	1.89	0.136	16.2	1.64	0.102	13.8	1.52	0.085	15.3	1.30	0.064	
0.55	31.0	2.73	0.237	16.1	1.64	0.123	13.3	1.61	0.100	11.8	1.54	0.086	13.7	1.35	0.065	
0.60	27.7	2.67	0.253	11.1	1.81	0.100	10.4	1.69	0.093	10.2	1.61	0.081	12.2	1.42	0.065	
0.65	11.2	2.19	0.120	9.5	1.98	0.101	8.8	1.85	0.090	8.6	1.71	0.079	10.8	1.47	0.064	
0.70	10.7	1.97	0.133	7.0	1.92	0.087	5.9	1.86	0.073	6.8	1.75	0.068	9.6	1.51	0.061	
0.75	1.15	1.88	0.163	6.3	1.84	0.090	5.3	1.81	0.075	5.4	1.73	0.059	8.5	1.53	0.061	
0.80	9.0	1.85	0.146	5.7	1.80	0.081	4.5	1.76	0.070	4.3	1.70	0.057	7.6	1.53	0.057	
0.85	4.0	1.68	0.072	3.7	1.70	0.067	3.5	1.69	0.061	3.6	1.66	0.052	6.8	1.53	0.049	
0.90	3.7	1.70	0.076	2.9	1.67	0.059	2.6	1.66	0.052	2.7	1.60	0.047	6.7	1.52	0.045	
0.95	2.2	1.64	0.062	2.4	1.63	0.055	2.3	1.62	0.050	2.4	1.60	0.047	5.7	1.52	0.042	
1.00	2.2	1.58	0.056	2.1	1.59	0.052	2.0	1.59	0.049	2.4	1.58	0.047	5.2	1.51	0.039	
1.10	1.60	0.058	1.8	1.57	0.055	1.8	1.56	0.052	1.9	1.54	0.048	4.5	1.49	0.040		
1.20	1.46	0.060	1.5	1.48	0.055	1.5	1.49	0.051	1.6	1.48	0.047	4.0	1.47	0.040		
1.30	0.9	0.42	0.040	1.0	1.44	0.043	1.1	1.44	0.044	1.4	1.44	0.044	3.6	1.45	0.040	
1.40	0.9	0.45	0.045	0.9	1.44	0.044	0.9	1.44	0.043	1.3	1.44	0.042	3.3	1.44	0.039	
1.50	0.8	1.41	0.044	0.8	1.42	0.042	0.8	1.42	0.042	1.2	1.43	0.041	3.0	1.43	0.039	
1.60	0.5	1.40	0.036	0.6	1.42	0.038	0.7	1.42	0.039	1.1	1.42	0.039	2.8	1.42	0.038	
1.70	0.5	1.43	0.037	0.5	1.42	0.038	0.6	1.42	0.039	1.0	1.42	0.039	2.6	1.41	0.038	
1.80	0.5	1.43	0.047	0.5	1.42	0.042	0.6	1.42	0.041	0.9	1.41	0.040	2.5	1.41	0.038	
1.90	0.4	1.41	0.047	0.5	1.41	0.044	0.5	1.41	0.042	0.9	1.41	0.040	2.3	1.40	0.037	
2.00	0.4	1.38	0.044	0.4	1.39	0.042	0.5	1.39	0.041	0.8	1.40	0.039	2.2	1.40	0.037	
2.20	0.3	1.38	0.035	0.3	1.38	0.034	0.4	1.39	0.035	0.8	1.39	0.037	2.0	1.40	0.037	
2.40	0.2	1.41	0.032	0.3	1.40	0.034	0.4	1.40	0.035	0.7	1.40	0.036	1.8	1.39	0.037	
2.60	0.2	1.41	0.042	0.3	1.41	0.041	0.3	1.40	0.040	0.7	1.40	0.038	1.7	1.39	0.037	
2.80	0.2	1.39	0.048	0.2	1.39	0.045	0.3	1.39	0.043	0.6	1.39	0.040	1.6	1.39	0.037	
3.00	0.2	1.37	0.046	0.2	1.37	0.044	0.3	1.38	0.042	0.6	1.38	0.039	1.4	1.38	0.037	
3.20	0.1	1.37	0.036	0.2	1.37	0.035	0.3	1.37	0.033	0.5	1.38	0.037	1.3	1.38	0.036	
3.40	0.1	1.36	0.038	0.2	1.37	0.036	0.3	1.37	0.033	0.5	1.38	0.034	1.3	1.38	0.036	
3.60	0.1	1.37	0.039	0.2	1.37	0.036	0.3	1.38	0.033	0.5	1.38	0.032	1.2	1.38	0.035	
3.80	0.1	1.39	0.037	0.1	1.38	0.033	0.2	1.38	0.032	0.5	1.38	0.032	1.1	1.38	0.036	
4.00	0.1	1.40	0.036	0.1	1.39	0.033	0.2	1.39	0.032	0.4	1.39	0.033	1.1	1.38	0.036	

PER = RERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)



RECORD NUMBER  
STATION

F-325 YAMASHITA-F

EARTHQUAKE DATA (JISHIN KAZAN GAI KYO)

DATA AND TIME 6:20 OCT. 14, 1989

LOCATION OF HYPOCENTER

EPCENTRAL REGION

LATITUDE 34° 48.0' N

LONGITUDE 139° 32.0' E

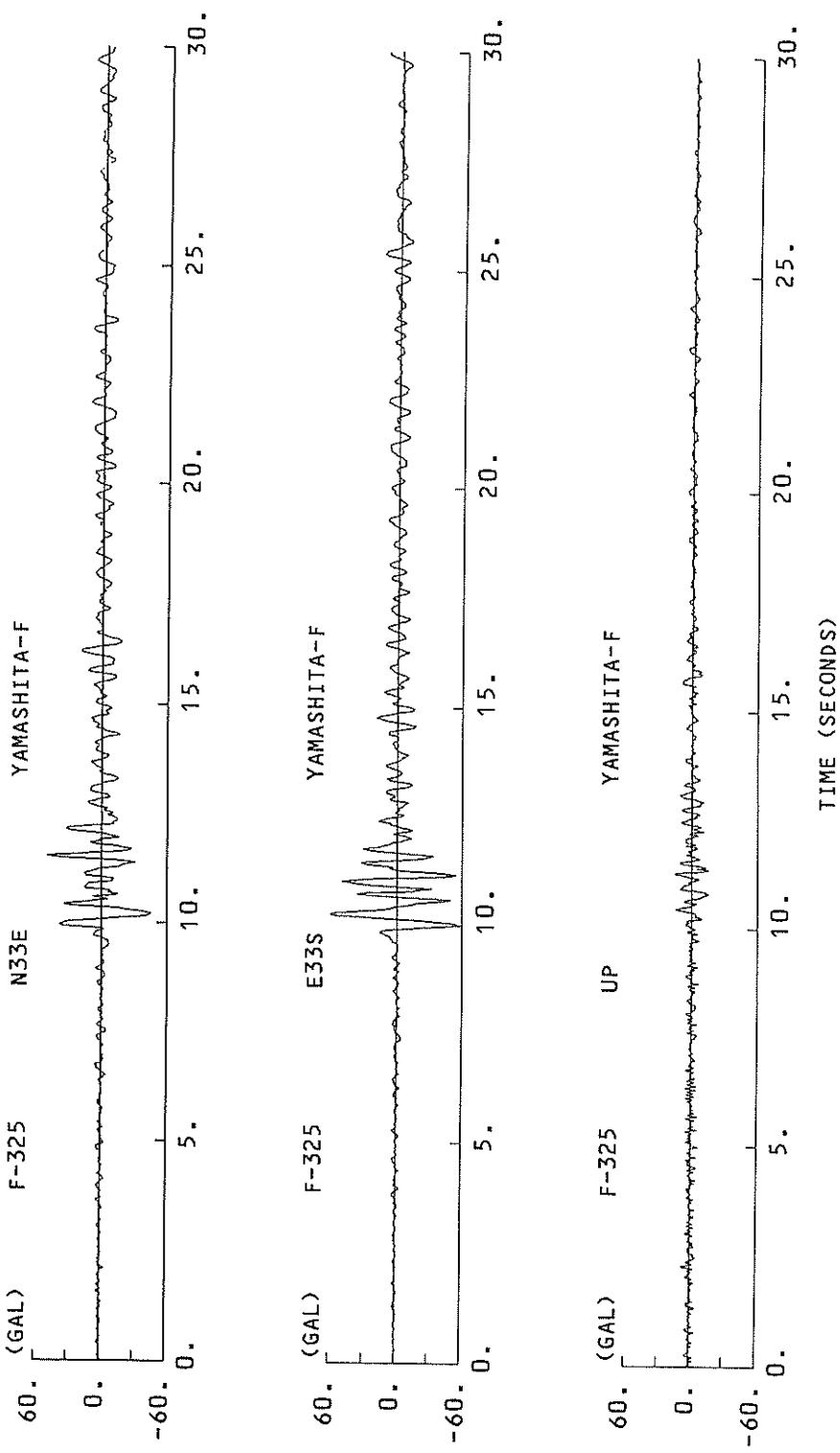
DEPTH 25.0KM

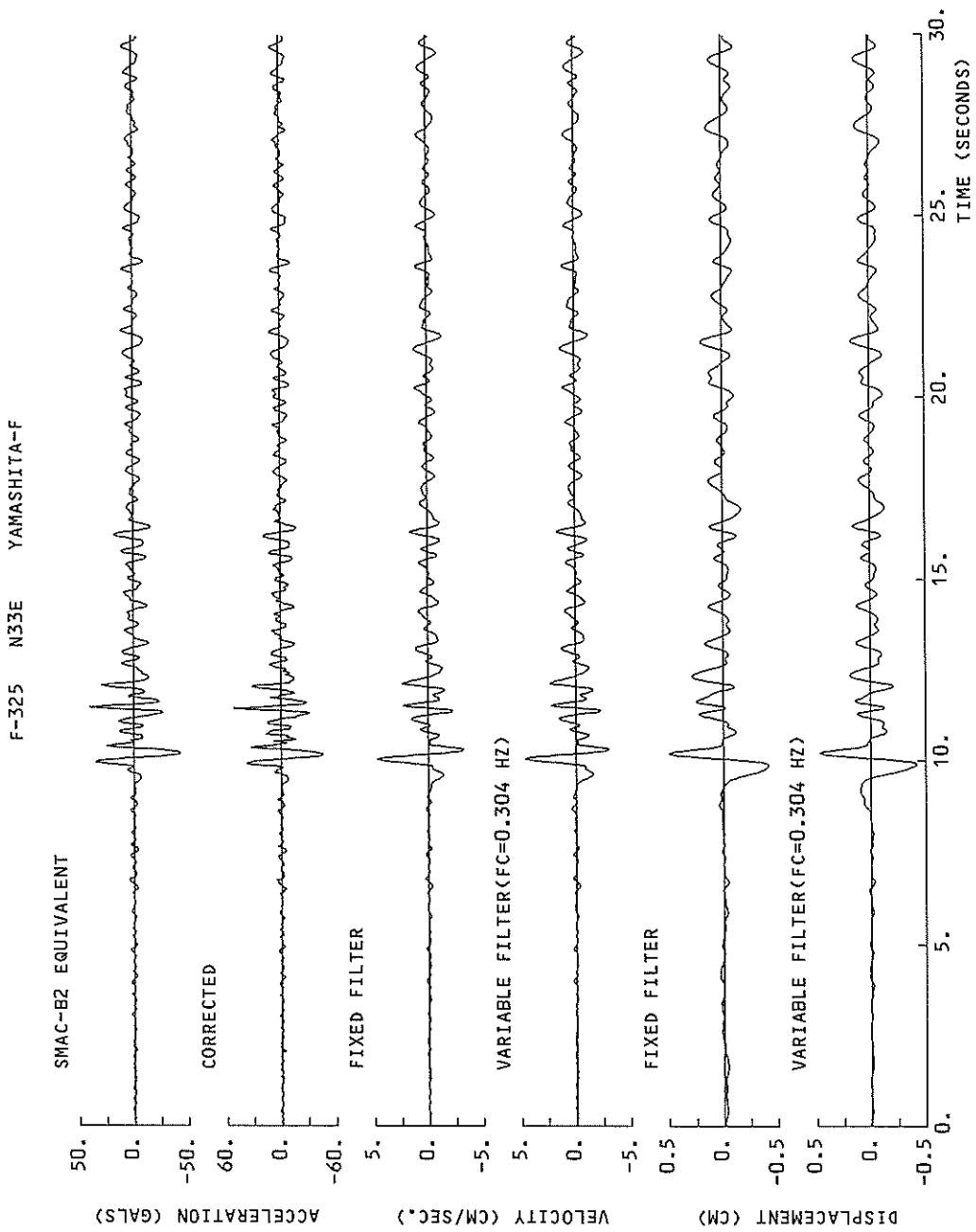
MAGNITUDE 5.7

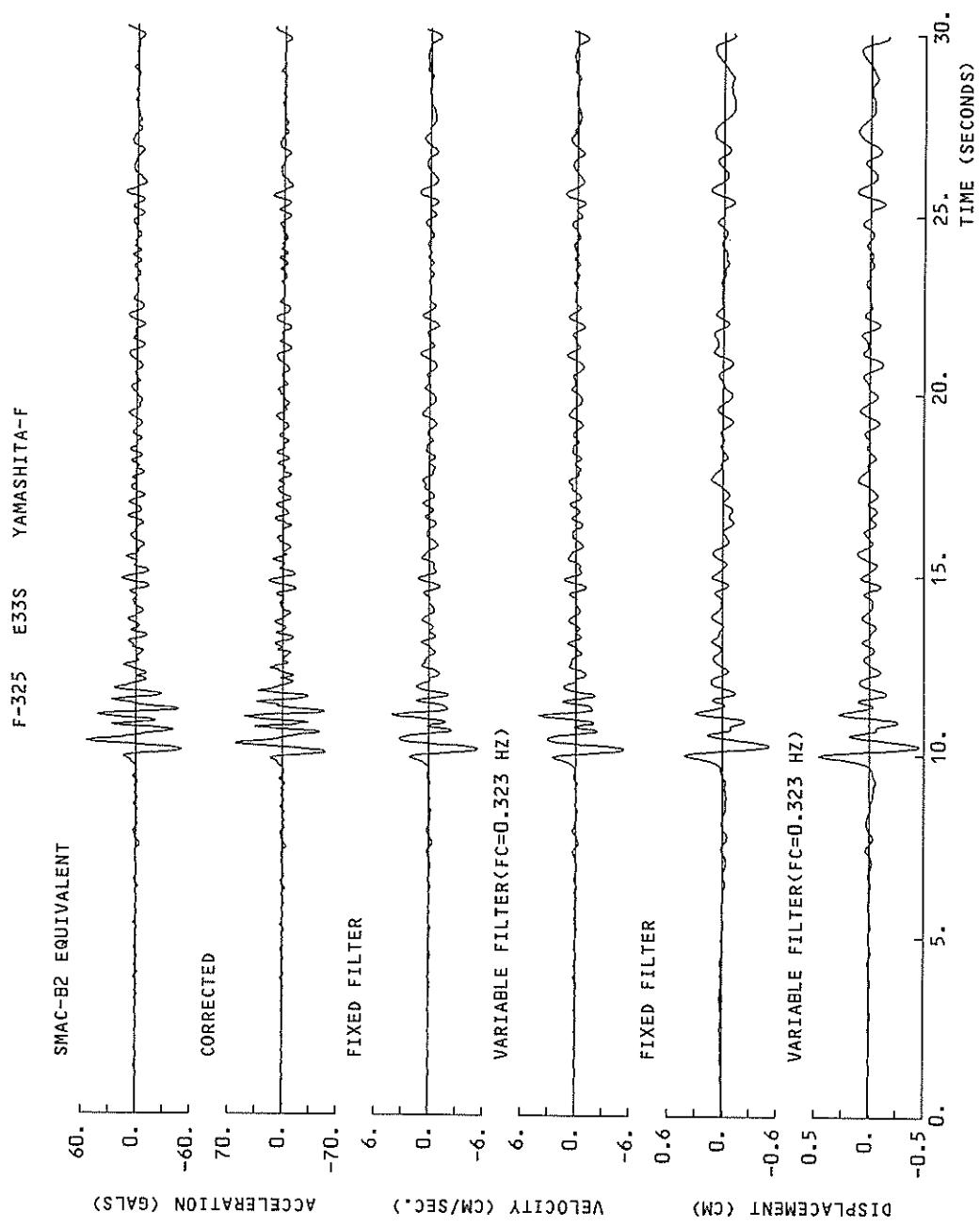
PEAK VALUES OF COMPONENTS

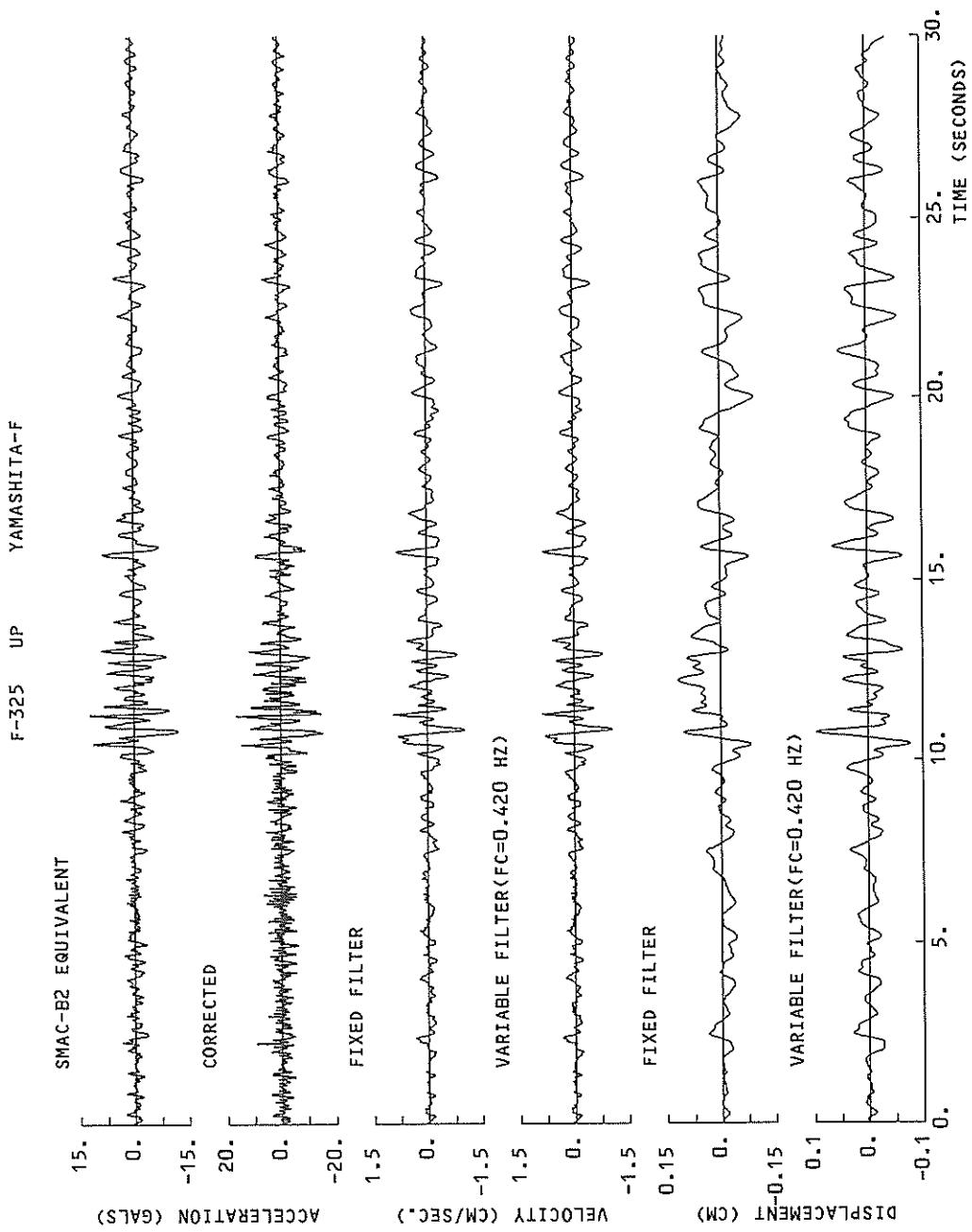
	N	S	E	W	U	D	HORIZONTAL*
PARAMETER OF THE VARIABLE FILTER							
FC (HZ)	0.304		0.323		0.420		
MAXIMUM ACCELERATION (GAL)							
SMAC-B2 EQUIVALENT	43.0	55.0	12.3	68.1			
ORIGINAL	52.6	60.9	16.6	75.6			
CORRECTED	52.1	60.7	16.4	75.4			
MAXIMUM VELOCITY (CM/SEC)							
FIXED FILTER	4.71	5.41	1.06	6.89			
VARIABLE FILTER	4.67	5.38	1.08	6.86			
MAXIMUM DISPLACEMENT (CM)							
FIXED FILTER	0.501	0.516	0.119	0.706			
VARIABLE FILTER	0.473	0.464	0.095	0.648			

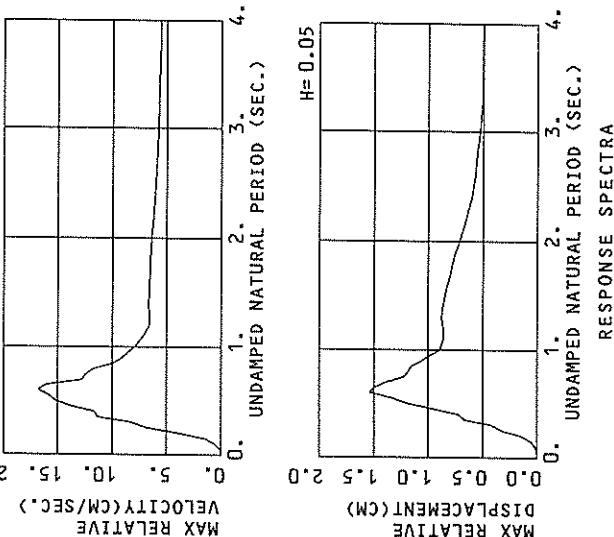
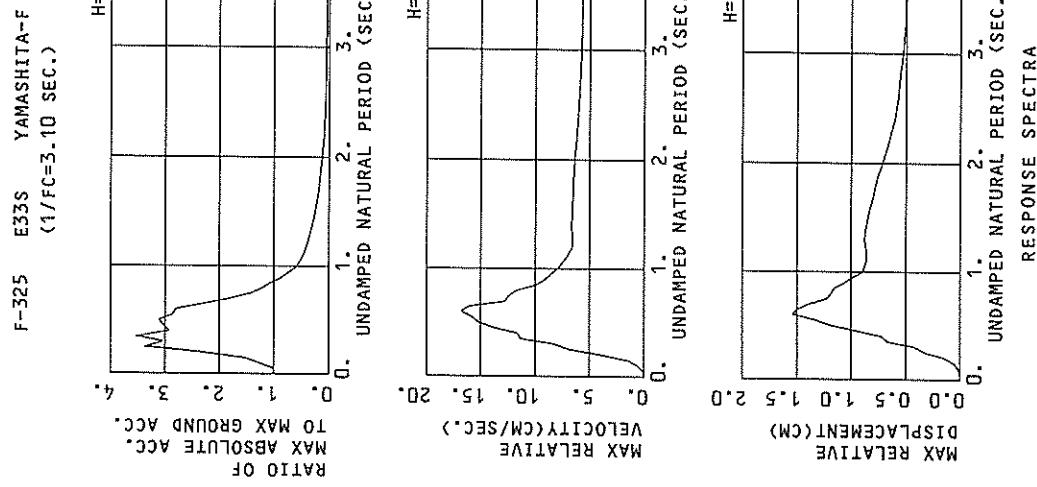
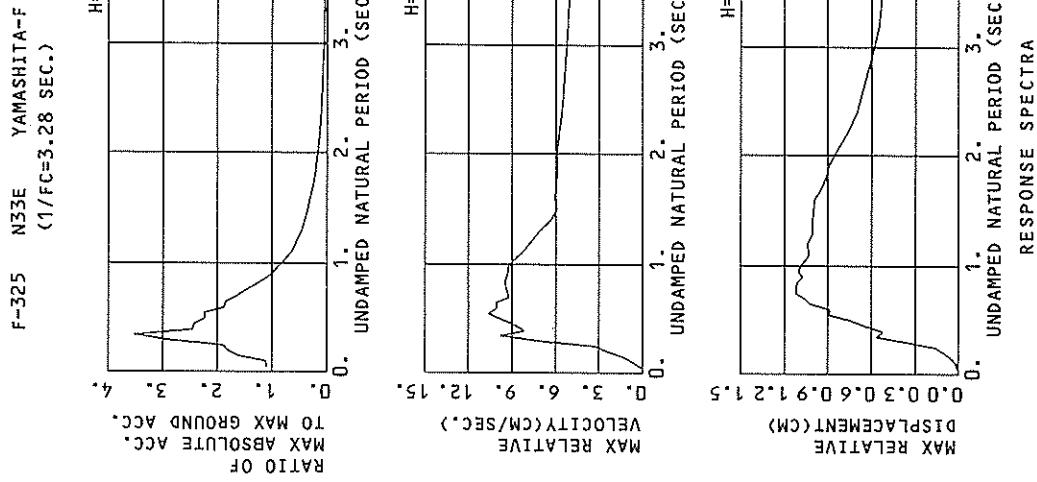
\* RESULTANT OF HORIZONTAL COMPONENTS

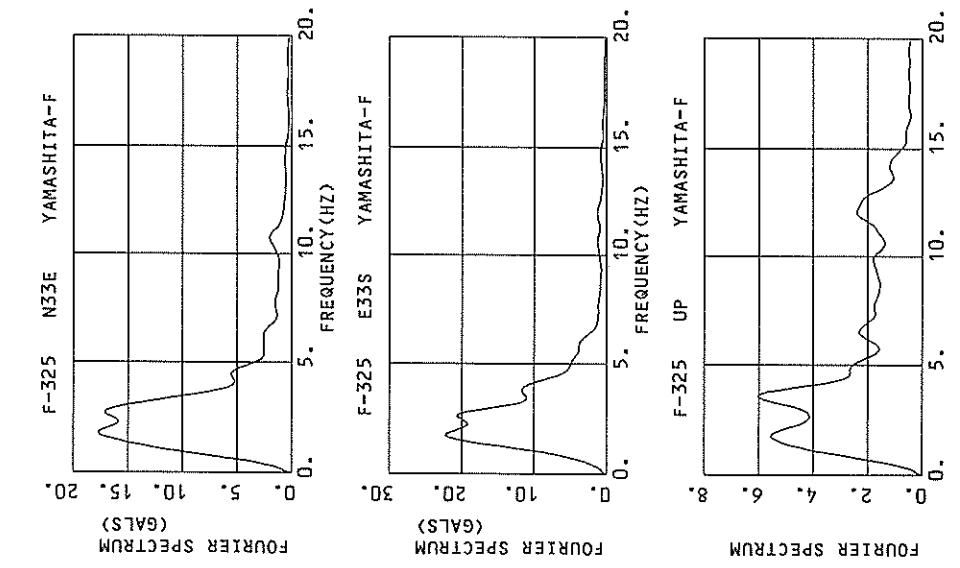
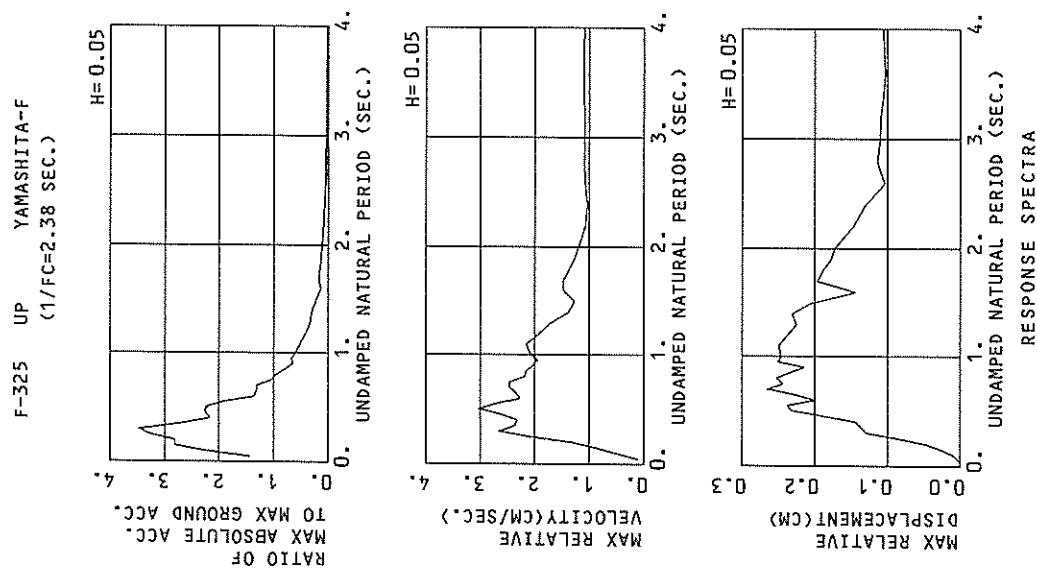












## RESPONSE SPECTRUM

RECORD = F-325 DATE AND TIME = 1988-10-14-6-20 TIME LENGTH = 59.99 (SEC)			COMPONENT = N33E SAMPLING INTERVAL = 0.0100 (SEC) SKIPPED LENGTH = 0.00 (SEC)			SIGNAL = GR. ACC. INTERVAL = 0.00 (SEC)			CORRECTION = MAX. GROUND ACC. = 52.13 (GAL)			STATION = YAMASHITA-F				
DAMPING = 0.			DAMPING = 0.025			DAMPING = 0.050			DAMPING = 0.100			DAMPING = 0.250				
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	
0.05	69.3	0.23	0.004	56.0	0.10	0.004	57.1	0.09	0.004	56.9	0.09	0.004	55.5	0.07	0.003	
0.10	119.4	1.48	0.030	67.6	0.80	0.017	58.2	0.68	0.015	55.9	0.48	0.014	57.0	0.30	0.034	
0.15	134.0	2.48	0.076	96.4	1.61	0.055	84.3	1.32	0.048	75.6	1.05	0.042	67.7	0.76	0.037	
0.20	120.4	3.41	0.122	89.3	2.15	0.090	93.3	2.33	0.094	90.0	2.17	0.090	75.6	1.48	0.072	
0.25	123.0	4.69	0.195	3.62	0.171	0.171	99.2	3.23	0.156	91.2	3.00	0.143	75.8	2.23	0.111	
0.30	400.5	1.8	0.89	91.3	1.95	0.445	152.7	7.05	0.347	107.6	4.66	0.241	77.8	3.01	0.162	
0.35	388.1	2.1	0.204	237.1	13.05	0.734	184.0	8.17	0.568	127.5	6.87	0.388	80.2	3.67	0.234	
0.40	245.7	1.6	0.696	152.2	10.58	0.614	128.4	8.17	0.519	107.9	6.42	0.429	80.7	4.28	0.303	
0.45	309.5	2.2	0.05	1.587	143.6	10.77	0.736	126.7	8.18	0.548	103.5	7.57	0.520	79.1	5.02	0.333
0.50	274.7	21.74	1.739	151.2	12.51	0.956	116.9	9.70	0.736	98.3	8.29	0.601	76.7	5.49	0.442	
0.55	385.7	33.65	2.555	163.7	14.11	1.251	116.8	10.62	0.891	92.8	8.57	0.697	73.6	5.67	0.507	
0.60	221.9	21.1	0.023	107.7	11.05	0.982	97.7	10.08	0.886	88.7	8.59	0.791	70.0	5.63	0.566	
0.65	180.6	1.8	0.47	1.933	105.5	11.29	96.5	10.08	0.026	84.4	8.35	0.881	65.8	5.72	0.613	
0.70	169.6	1.9	0.0	1.05	90.5	10.02	86.1	9.20	1.061	77.2	7.7	0.932	61.0	6.05	0.648	
0.75	164.7	20.02	2.446	91.9	1.1	1.15	79.1	9.31	1.120	69.8	8.32	0.966	56.0	6.30	0.670	
0.80	193.0	24.64	3.129	73.7	9.93	1.194	69.5	9.43	1.118	62.0	8.50	0.974	50.7	6.48	0.678	
0.85	88.2	1.3	0.07	66.0	10.35	1.207	61.1	9.47	1.110	54.3	8.53	0.965	45.7	6.59	0.676	
0.90	133.8	1.9	0.13	2.146	58.1	9.66	1.191	52.8	9.30	0.76	47.4	8.47	0.945	40.8	6.65	0.646
0.95	101.6	15.21	2.322	58.2	9.68	1.328	48.8	9.32	1.105	41.4	8.47	0.922	36.4	6.68	0.645	
1.00	105.4	16.79	2.670	55.4	9.88	1.403	43.3	9.25	1.087	36.0	8.37	0.890	32.2	6.64	0.645	
1.10	58.2	1.1	0.54	1.785	43.0	9.01	1.316	33.8	8.36	1.028	29.3	7.87	0.861	27.9	6.50	0.692
1.20	43.8	1.9	0.89	1.597	35.6	8.31	1.281	28.7	7.75	1.041	25.8	7.34	0.894	25.3	6.28	0.727
1.30	35.9	8.8	0.43	1.538	26.6	7.37	1.136	23.8	7.14	1.004	22.8	6.82	0.923	22.9	6.00	0.752
1.40	24.8	5.3	1.32	1.432	20.9	6.38	1.035	20.5	6.38	1.003	20.0	6.26	0.934	20.7	5.73	0.767
1.50	25.6	6.23	1.456	18.3	6.02	1.040	17.9	6.04	0.993	17.6	5.74	0.934	18.8	5.44	0.775	
1.60	17.1	6.57	1.106	16.1	6.26	1.040	15.6	6.04	0.993	15.4	5.70	0.922	17.1	5.16	0.776	
1.70	17.6	6.30	1.291	13.2	6.15	0.959	13.2	5.99	0.943	13.4	5.71	0.898	15.6	5.00	0.771	
1.80	12.3	6.06	1.009	11.4	6.01	0.929	11.4	5.91	0.912	11.7	5.70	0.873	14.2	5.04	0.763	
1.90	13.4	6.14	1.222	10.1	6.02	0.920	10.0	5.90	0.892	10.4	5.68	0.850	13.0	5.08	0.752	
2.00	9.0	6.17	0.008	8.8	6.02	0.881	8.7	5.89	0.858	9.2	5.66	0.822	11.9	5.10	0.738	
2.20	7.4	5.92	0.904	6.3	5.83	0.769	6.5	5.75	0.767	7.2	5.57	0.756	10.2	5.10	0.709	
2.40	5.6	5.65	0.810	4.8	5.60	0.694	5.0	5.56	0.699	5.8	5.45	0.700	8.8	5.08	0.679	
2.60	3.8	5.43	0.695	5.46	5.65	4.1	5.43	5.43	0.658	4.8	5.35	0.659	7.8	5.05	0.651	
2.80	3.1	5.31	0.617	3.9	5.38	0.618	3.4	5.34	0.619	4.1	5.27	0.624	6.9	5.02	0.626	
3.00	2.4	5.18	0.598	2.6	5.28	0.569	2.8	5.25	0.578	3.5	5.19	0.590	6.2	4.98	0.605	
3.20	2.0	5.08	0.519	1.8	5.08	0.522	2.0	5.15	0.547	3.0	5.11	0.564	5.7	4.95	0.587	
3.40	1.7	5.03	0.511	1.6	5.03	0.518	1.8	5.07	0.531	2.7	5.05	0.546	5.2	4.92	0.571	
3.60	1.4	5.01	0.504	1.6	5.00	0.510	1.6	5.02	0.523	2.4	5.00	0.533	4.8	4.97	0.558	
3.80	1.2	4.98	0.492	1.3	4.97	0.496	1.5	4.95	0.501	2.0	4.93	0.511	4.2	4.85	0.537	

PER = RERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

RECORD = F-325 DATE AND TIME = 1988-10-14-6-20 TIME LENGTH = 59.99 (SEC)		COMPONENT = E33S		SAMPLING INTERVAL = 0.0100 (SEC)		CORRECTION = GR. ACC. SKIPPED LENGTH = 0.00 (SEC)		MAX. GROUND ACC. = 60.73 (GAL)		STATION = YAMASHITA-F	
DAMPING = 0.		DAMPING = 0.025		DAMPING = 0.050		DAMPING = 0.100		DAMPING = 0.250		RD	
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV
0.05	73.9	0.23	0.005	60.8	0.11	0.004	61.1	0.11	0.004	61.7	0.10
0.10	88.1	0.92	0.022	78.0	0.70	0.020	75.8	0.59	0.019	68.9	0.40
0.15	107.6	1.63	0.061	98.7	1.51	0.056	92.9	1.47	0.053	75.4	0.91
0.20	26.3	8.9	0.265	170.4	4.68	0.72	144.7	3.95	0.46	115.0	3.05
0.25	33.1	12.83	0.506	244.8	8.35	0.388	204.6	6.86	0.323	154.1	0.241
0.30	222.0	10.14	0.506	195.6	9.1	0.443	184.7	8.24	0.421	161.3	0.59
0.35	498.9	27.59	1.548	282.0	14.88	0.878	214.8	11.32	0.661	156.5	7.84
0.40	395.0	25.30	1.601	241.0	15.50	0.978	177.9	11.61	0.718	149.1	7.91
0.45	256.6	18.53	1.316	214.9	16.92	1.000	183.3	13.76	0.935	147.5	10.44
0.50	459.3	36.49	2.908	215.8	17.90	1.368	188.9	15.23	1.190	149.3	10.42
0.55	411.1	35.70	3.150	224.3	19.81	1.715	173.6	15.79	1.321	136.9	11.18
0.60	258.3	26.41	2.356	207.6	20.78	1.890	169.8	16.82	1.541	119.5	12.38
0.65	339.6	35.03	3.634	169.9	19.17	1.817	140.9	16.14	1.498	105.4	1.067
0.70	226.8	25.62	2.815	128.7	14.57	1.588	112.9	12.49	1.392	89.5	11.03
0.75	174.1	20.57	2.481	97.7	13.88	1.390	86.5	12.45	1.222	72.4	10.11
0.80	134.4	17.21	2.179	12.17	13.39	1.299	73.4	11.74	1.182	64.2	9.49
0.85	76.5	11.53	1.400	69.0	10.57	1.264	63.7	9.89	1.156	55.9	8.95
0.90	102.1	14.64	2.094	55.2	9.52	1.130	52.4	9.17	1.065	47.6	8.48
0.95	60.5	9.49	1.384	45.7	8.94	0.944	43.5	8.57	0.983	34.6	8.85
1.00	64.2	10.25	1.627	36.6	8.14	0.925	35.8	7.97	0.896	34.6	7.57
1.10	31.0	7.48	0.950	29.0	7.32	0.884	28.6	7.16	0.863	28.5	6.88
1.20	24.5	6.82	0.893	24.2	6.72	0.881	24.1	6.60	0.864	24.2	6.38
1.30	32.6	6.87	1.395	18.1	6.74	0.914	16.9	6.61	0.881	21.0	6.40
1.40	18.4	6.97	0.914	18.1	6.81	0.893	17.9	6.66	0.870	18.1	6.42
1.50	38.6	9.30	2.203	15.3	6.73	0.870	15.3	6.63	0.848	15.7	6.41
1.60	26.0	6.82	0.882	13.1	6.69	0.842	13.1	6.59	0.825	13.7	6.39
1.70	11.2	6.66	0.882	11.2	6.60	0.813	11.1	6.52	0.801	12.0	6.35
1.80	1.80	6.66	0.916	9.8	6.57	0.796	9.9	6.48	0.780	10.5	6.32
1.90	9.8	6.65	0.916	8.4	6.54	0.762	8.5	6.44	0.750	9.3	6.28
2.00	12.1	6.52	1.227	7.2	6.45	0.721	7.4	6.37	0.716	8.3	6.24
2.20	5.4	6.36	0.665	5.5	6.30	0.661	5.7	6.24	0.659	6.6	6.12
2.40	4.40	6.17	0.588	4.2	6.13	0.599	4.5	6.10	0.606	5.4	6.01
2.60	3.3	5.98	0.559	3.4	5.98	0.567	3.7	5.96	0.574	4.6	5.91
2.80	2.8	5.92	0.550	2.9	5.90	0.551	3.1	5.88	0.564	4.0	5.84
3.00	2.3	5.95	0.519	2.4	5.83	0.525	2.6	5.81	0.531	3.5	5.78
3.20	2.0	5.75	0.519	2.0	5.75	0.506	2.3	5.74	0.513	3.1	5.72
3.40	1.7	5.68	0.503	1.8	5.68	0.497	2.0	5.68	0.505	2.6	5.72
3.60	1.5	5.64	0.497	1.6	5.64	0.500	1.8	5.64	0.503	2.8	5.67
3.80	1.4	5.63	0.500	1.4	5.62	0.499	1.7	5.62	0.501	2.4	5.64
4.00	1.2	5.62	0.492	1.3	5.61	0.493	1.5	5.60	0.495	2.2	5.59
PER = PERIOD (SEC)	AA = ABSOLUTE ACC. (GAL)	RV = RELATIVE VELOCITY (CM/SEC)	RD = RELATIVE DISPLACEMENT (CM)								

## RESPONSE SPECTRUM

RECORD = F-325  
 DATE AND TIME = 1989-10-14-6-20  
 TIME LENGTH = 59.99 (SEC)

COMPONENT = UP  
 SAMPLING INTERVAL = 0.0100 (SEC)  
 SKIPPED LENGTH = 0.00 (SEC)

DAMPING = 0.

DAMPING = 0.025

DAMPING = 0.050

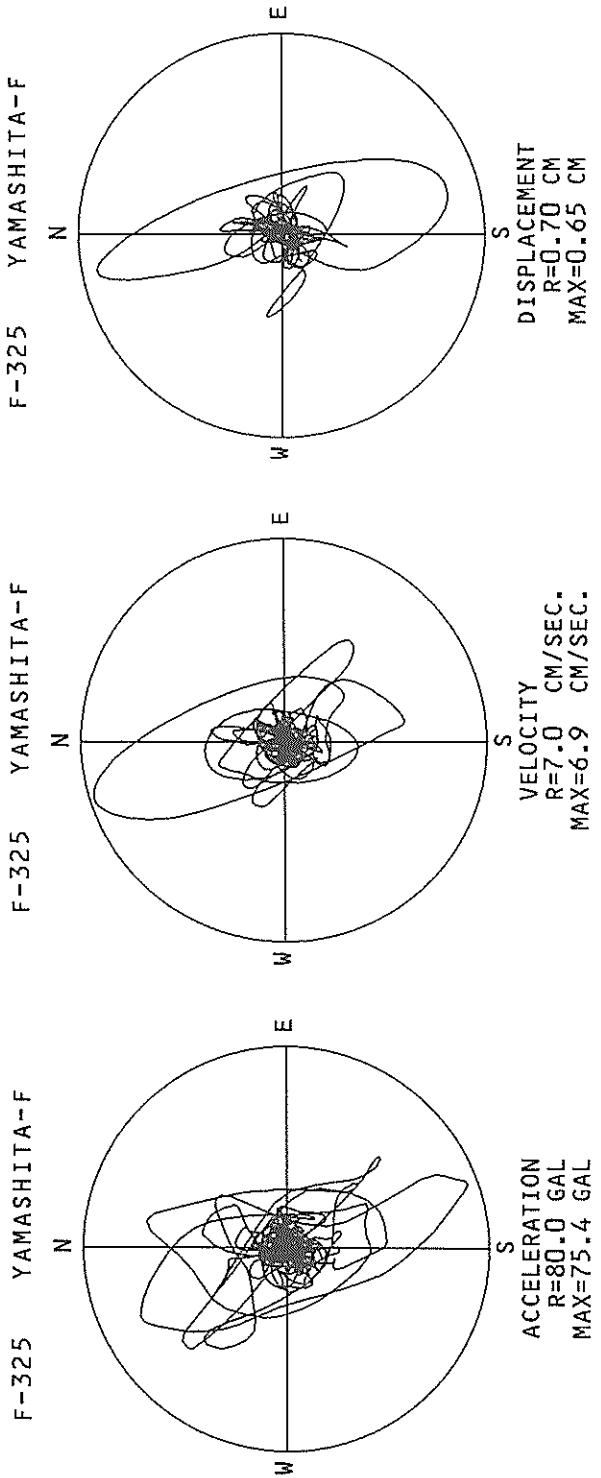
DAMPING = 0.100

DAMPING = 0.250

PER AA RV RD AA RV RD AA RV RD AA RV RD AA RV RD

PER	AA	RV	RD	DAMPING = 0.			DAMPING = 0.025			DAMPING = 0.050			DAMPING = 0.100			DAMPING = 0.250		
				AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	38.6	0.23	0.002	26.1	0.15	0.002	23.7	0.11	0.001	21.4	0.08	0.001	18.3	0.06	0.001	16.37 (GAL)	STATION = YAMASHITA-F	MAX. GROUND ACC. = 0.00 (SEC)
0.10	143.3	2.27	0.036	53.5	0.82	0.014	37.6	0.54	0.009	32.5	0.36	0.008	25.6	0.25	0.006			
0.15	138.2	3.28	0.220	57.5	1.74	0.032	46.1	1.31	0.046	36.3	1.05	0.021	28.1	0.49	0.015			
0.20	216.7	6.77	0.250	82.6	3.07	0.058	54.0	2.13	0.086	41.2	1.60	0.064	25.9	0.75	0.024			
0.25	128.9	4.81	0.204	77.7	3.70	0.131	54.0	2.66	0.129	40.4	2.05	0.090	24.1	1.08	0.038			
0.30	196.7	9.30	0.448	77.7	2.91	0.176	44.2	2.37	0.136	32.9	1.77	0.100	19.7	1.01	0.049			
0.35	64.7	3.66	0.201	52.7	2.91	0.163	44.2	2.37	0.144	28.5	1.77	0.113	19.0	1.21	0.054			
0.40	65.3	4.45	0.265	41.3	2.96	0.168	35.5	2.32	0.189	2.64	2.16	0.150	20.0	1.38	0.070			
0.45	74.7	5.24	0.383	41.0	2.99	0.210	36.9	2.32	0.189	2.64	2.16	0.150	20.0	1.38	0.094			
0.50	70.7	5.57	0.448	42.7	3.56	0.270	36.8	3.04	0.232	28.0	2.40	0.173	20.1	1.46	0.112			
0.55	70.5	6.13	0.540	40.5	40.5	0.230	31.3	2.71	0.238	24.4	2.15	0.181	18.7	1.43	0.122			
0.60	57.1	5.34	0.520	25.3	2.57	0.328	22.2	2.27	0.201	18.3	1.88	0.162	16.7	1.32	0.126			
0.65	93.3	9.69	0.999	29.0	3.38	0.365	21.6	2.35	0.231	15.0	1.97	0.155	14.9	1.31	0.129			
0.70	74.0	8.29	0.919	29.4	3.38	0.311	17.3	2.47	0.266	13.4	2.00	0.167	13.4	1.43	0.133			
0.75	52.7	6.23	0.751	21.9	3.15	0.311	17.3	2.47	0.244	12.7	1.97	0.184	12.2	1.43	0.136			
0.80	33.5	4.26	0.543	19.7	2.89	0.318	15.8	2.18	0.253	12.1	1.80	0.198	11.1	1.49	0.139			
0.85	44.7	6.09	0.818	15.5	2.39	0.284	13.0	2.16	0.236	11.1	1.80	0.194	10.1	1.54	0.139			
0.90	46.9	6.65	0.963	14.1	2.16	0.288	10.6	2.04	0.215	9.3	1.91	0.183	9.0	1.57	0.138			
0.95	17.7	2.78	0.405	14.2	2.31	0.324	9.0	1.94	0.251	8.2	1.95	0.180	8.2	1.60	0.136			
1.00	19.1	2.95	0.483	11.6	2.31	0.293	9.8	2.08	0.246	7.5	1.95	0.187	7.4	1.62	0.132			
1.10	38.5	6.82	1.181	10.9	2.33	0.334	8.2	2.16	0.250	6.2	1.97	0.185	5.8	1.63	0.120			
1.20	22.6	4.30	0.824	8.8	1.98	0.322	6.6	1.93	0.239	5.0	1.83	0.172	4.6	1.59	0.126			
1.30	12.1	2.57	0.516	6.3	1.77	0.269	5.3	1.72	0.225	4.3	1.66	0.173	4.0	1.53	0.130			
1.40	6.9	1.71	0.343	5.3	1.40	0.265	4.7	1.38	0.231	3.5	1.47	0.169	3.6	1.47	0.131			
1.50	2.59	10.5	0.596	5.0	1.37	0.285	3.6	1.27	0.206	2.7	1.39	0.149	3.2	1.42	0.130			
1.60	1.74	1.74	0.308	3.4	1.55	0.202	2.2	1.47	0.144	2.3	1.41	0.142	2.7	1.39	0.131			
1.70	6.3	1.82	0.458	3.4	1.52	0.252	2.2	1.47	0.147	2.3	1.41	0.155	2.7	1.35	0.132			
1.80	4.2	1.32	0.349	2.5	1.35	0.207	2.3	1.36	0.189	2.2	1.35	0.162	2.5	1.32	0.133			
1.90	2.6	1.24	0.333	2.1	1.26	0.200	2.0	1.27	0.178	2.0	1.28	0.162	2.3	1.29	0.134			
2.00	2.9	1.26	0.294	1.8	1.18	0.183	1.8	1.20	0.173	1.8	1.23	0.159	2.2	1.26	0.132			
2.20	1.8	1.12	0.222	1.3	1.06	0.153	1.3	1.07	0.148	1.4	1.13	0.141	1.4	1.21	0.127			
2.40	0.7	1.07	0.19	0.7	1.07	0.163	0.9	1.04	0.131	1.0	1.09	0.106	1.0	1.17	0.120			
2.80	0.7	1.10	0.137	0.6	1.09	0.123	0.7	1.07	0.09	0.8	0.8	0.09	0.8	1.14	0.114			
3.00	0.4	1.06	0.103	0.5	1.08	0.110	0.6	1.05	0.09	0.7	0.7	0.104	0.7	1.14	0.109			
3.20	0.5	1.06	0.129	0.4	1.08	0.116	0.5	1.08	0.08	0.6	0.6	0.104	0.6	1.13	0.107			
3.40	0.4	1.10	0.111	0.4	1.09	0.108	0.4	1.09	0.08	0.5	0.5	0.104	0.5	1.11	0.105			
3.60	0.3	1.11	0.100	0.3	1.10	0.104	0.4	1.10	0.08	0.5	0.5	0.102	0.5	1.12	0.103			
3.80	0.3	1.10	0.123	0.3	1.10	0.108	0.3	1.10	0.08	0.4	0.4	0.102	0.4	1.12	0.102			
4.00	0.3	1.08	0.115	0.3	1.08	0.109	0.3	1.09	0.08	0.4	0.4	0.102	0.4	1.11	0.101			

PER = PERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)



RECORD NUMBER  
STATION

S-2248 SAKAIMINATO-JI-S

EARTHQUAKE DATA (JISHIN KAZAN GA IKYO)  
\*\*\*\*\*  
DATA AND TIME 7:41 OCT.27,1989

LOCATION OF HYPOCENTER

EPCENTRAL REGION

LATITUDE

TOTTORIKEN SEIBU

35°15.0' N

LONGITUDE

133°22.0' E

DEPTH

10.0KM

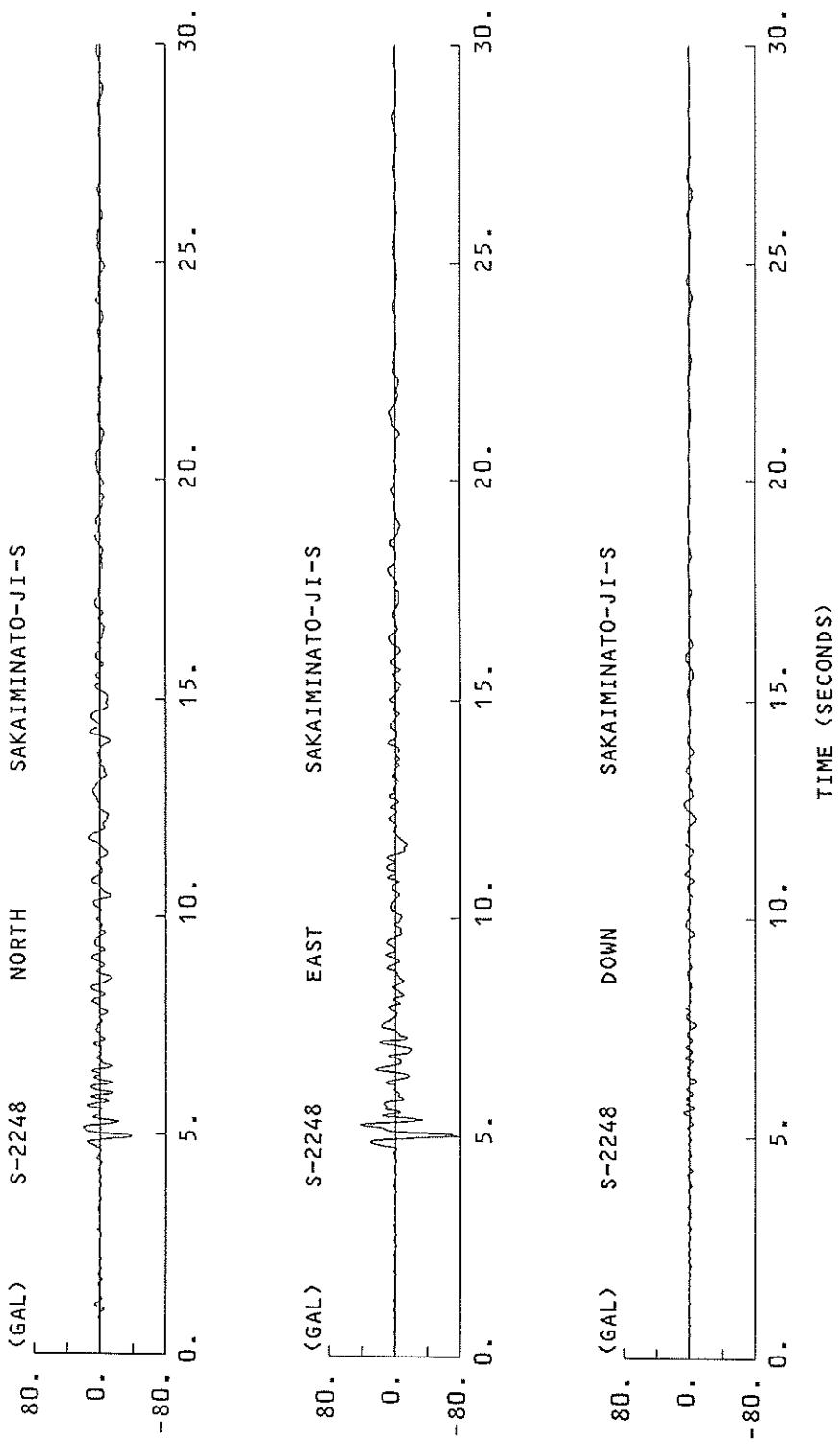
MAGNITUDE

5.3

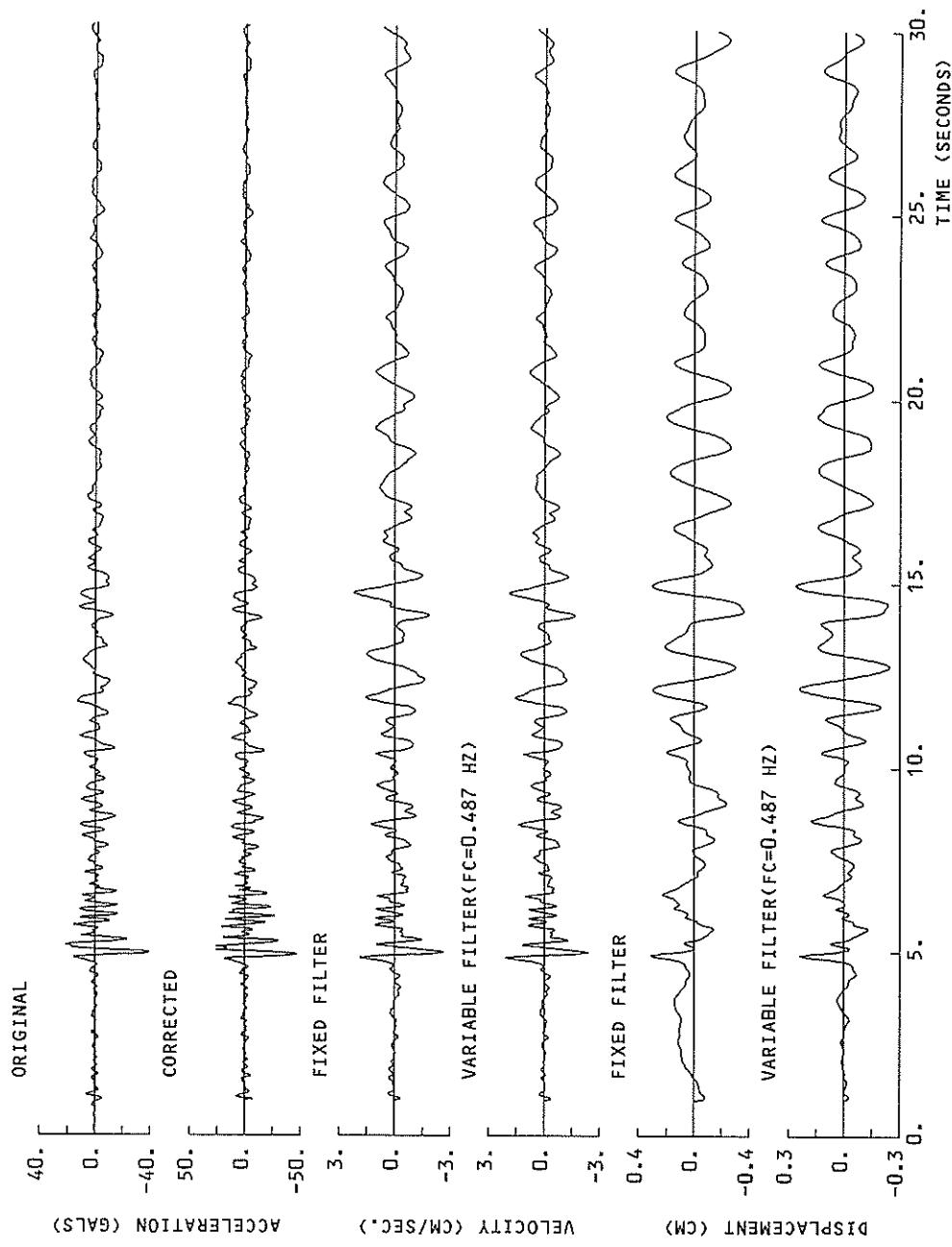
PEAK VALUES OF COMPONENTS

	N	S	E	W	U	D	HORIZONTAL*
PARAMETER OF THE VARIABLE FILTER							
FC (HZ)	0.487		0.426		0.865		
MAXIMUM ACCELERATION (GAL)							
ORIGINAL	39.4		71.7		7.9		
CORRECTED	47.1		84.4		10.4		
MAXIMUM VELOCITY (CM/SEC)							
FIXED FILTER	2.66		4.70		0.88		
VARIABLE FILTER	2.38		4.33		0.63		
MAXIMUM DISPLACEMENT (CM)							
FIXED FILTER	0.361		0.672		0.153		
VARIABLE FILTER	0.260		0.517		0.068		

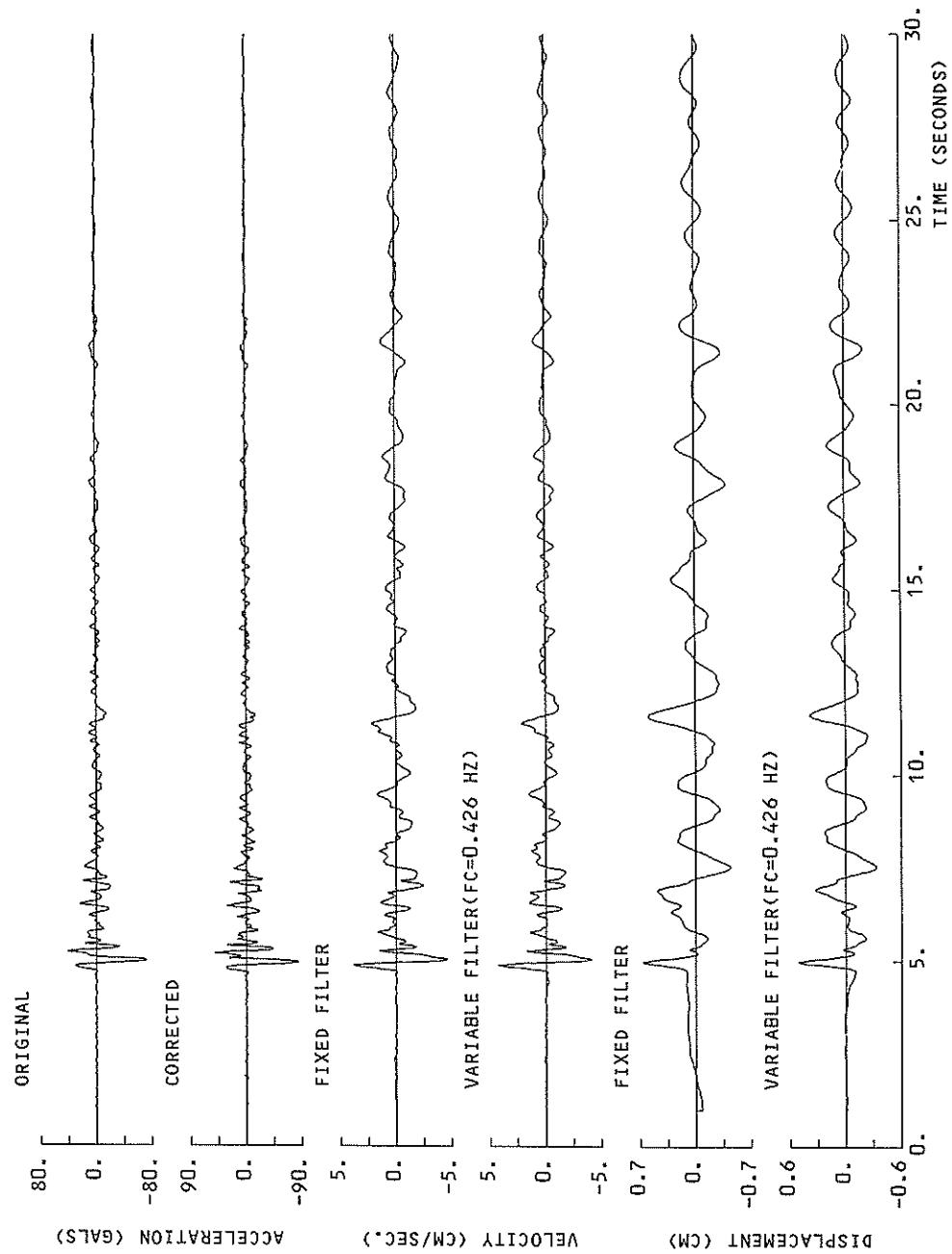
\* RESULTANT OF HORIZONTAL COMPONENTS



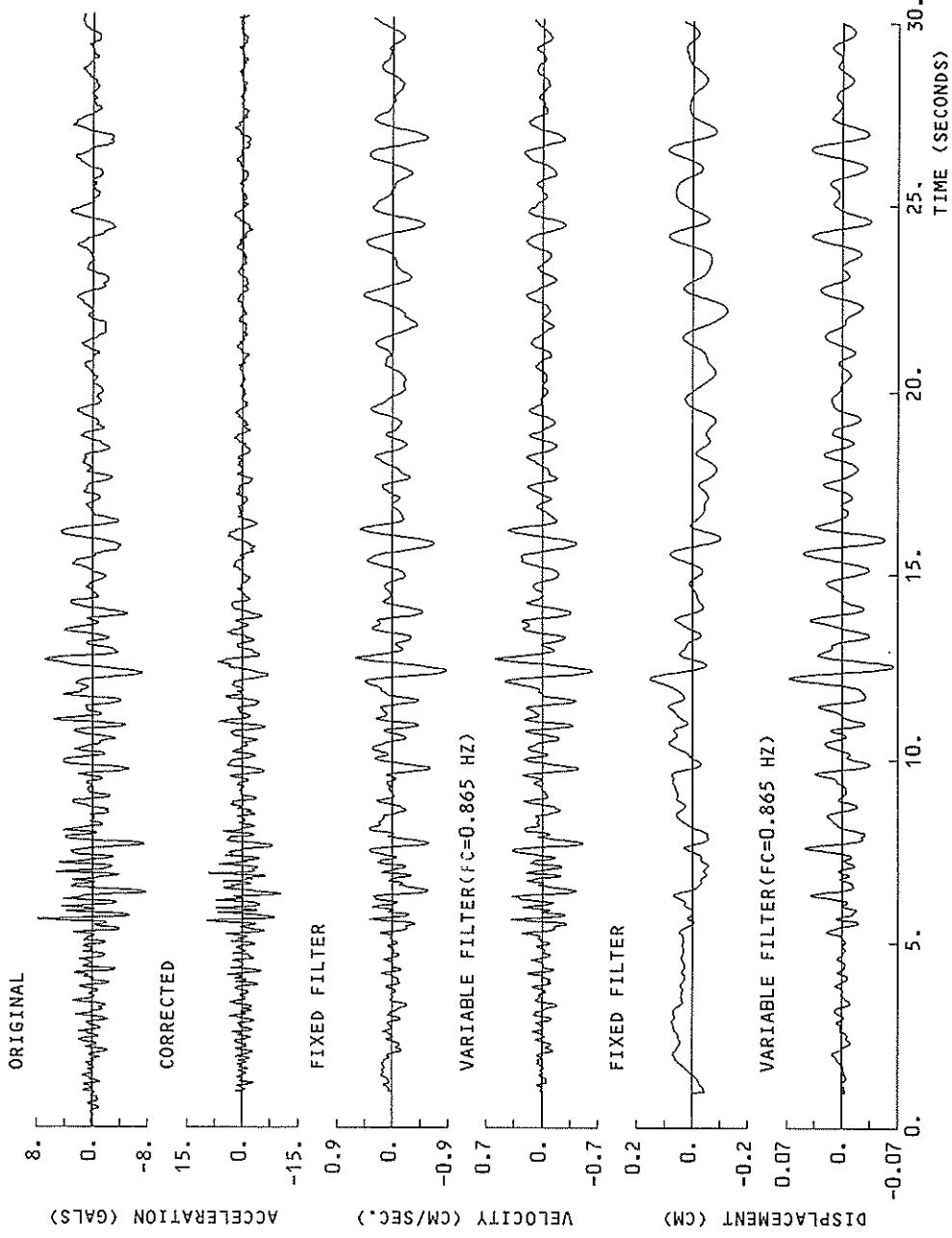
S-2248 NORTH SAKAMINATO-JI-S

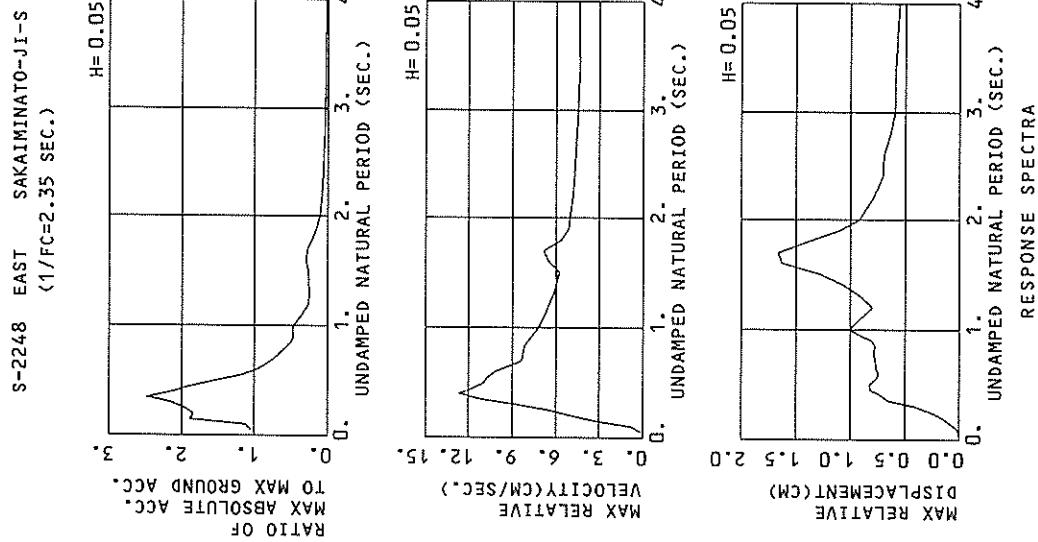
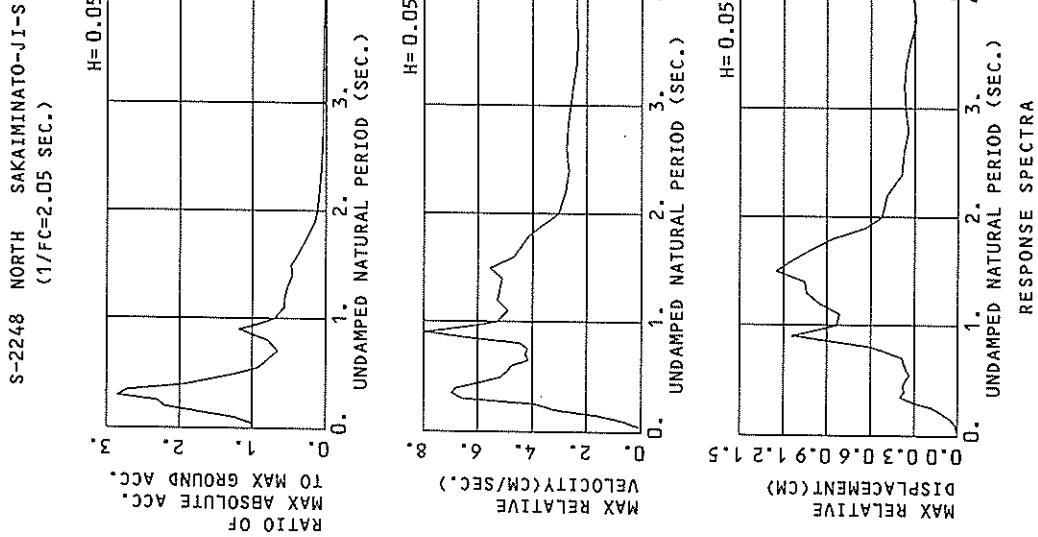


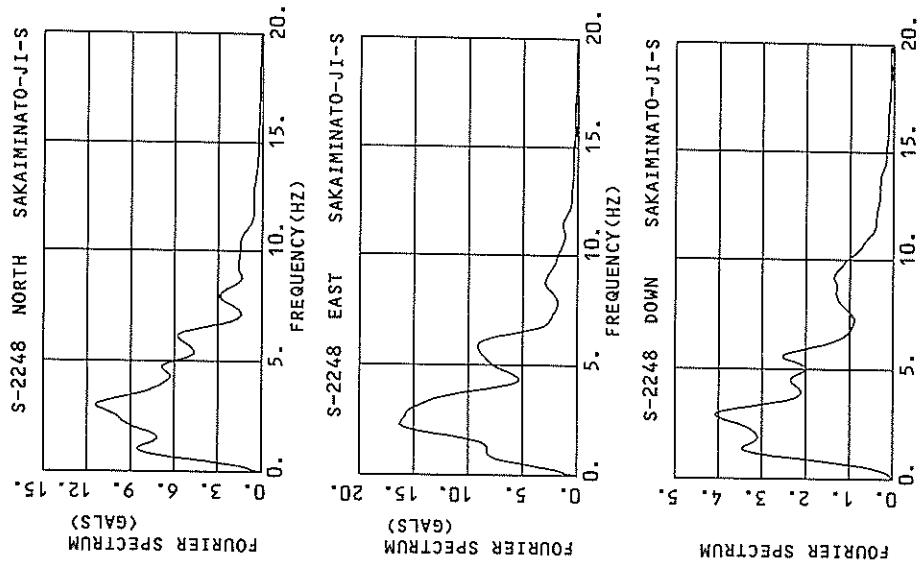
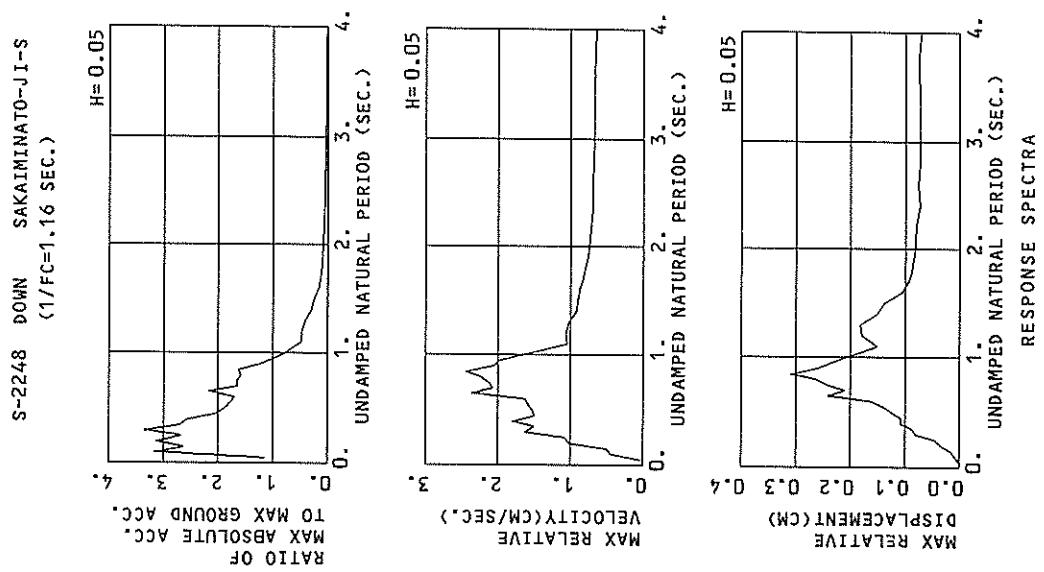
S-2248 EAST SAKAIMINATO-JI-S



S-2248 DOWN SAKAMINATO-JI-S







## RESPONSE SPECTRUM

RECORD = S-2248    COMPONENT = NORTH    SIGNAL = GR. ACC.    CORRECTION = MAX. GROUND ACC. = 47.10 (GAL)  
 DATE AND TIME = 1989-10-27-7-41    SAMPLING INTERVAL = 0.0100 (SEC)    STATION = SAKAIMINATO-JI-S  
 TIME LENGTH = 29.99 (SEC)    SKIPPED LENGTH = 0.00 (SEC)

PER	DAMPING = 0.			DAMPING = 0.025			DAMPING = 0.050			DAMPING = 0.100			DAMPING = 0.250		
	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	55.3	0.15	0.004	48.3	0.09	0.003	48.1	0.08	0.003	48.1	0.08	0.003	48.4	0.08	0.003
0.10	130.0	1.90	0.033	69.8	0.89	0.018	59.1	1.61	0.046	55.7	1.53	0.042	54.9	0.85	0.036
0.15	158.0	3.61	0.090	95.8	2.10	0.054	82.0	1.14	0.105	74.8	1.15	0.042	65.1	1.68	0.067
0.20	265.0	8.34	0.269	140.0	4.36	0.141	103.9	3.14	0.105	86.0	2.32	0.087	69.6	1.61	0.103
0.25	266.2	10.37	0.421	133.6	5.43	0.212	108.4	3.89	0.177	92.8	3.41	0.145	70.3	2.88	0.143
0.30	241.1	11.31	0.550	161.7	7.93	0.369	134.9	6.57	0.305	103.3	4.79	0.231	68.0	3.08	0.174
0.35	152.9	8.62	0.474	144.9	7.86	0.450	128.1	6.95	0.395	99.0	5.50	0.300	63.3	0.95	0.196
0.40	249.9	15.57	0.426	105.1	7.61	0.428	91.6	6.79	0.369	77.6	5.55	0.308	55.7	3.35	0.212
0.45	132.4	9.51	0.679	83.3	6.65	0.426	74.0	5.86	0.378	63.1	4.89	0.316	48.7	3.20	0.226
0.50	126.6	9.91	0.802	62.7	5.51	0.396	57.6	5.17	0.362	50.1	4.55	0.308	42.8	3.22	0.226
0.55	129.3	11.04	0.991	60.9	5.19	0.465	44.0	4.91	0.335	40.3	4.42	0.299	37.8	3.24	0.236
0.60	141.0	13.26	1.286	55.7	5.17	0.508	39.3	4.77	0.357	35.4	4.22	0.212	33.2	3.25	0.243
0.65	63.5	6.55	0.680	44.6	4.65	0.477	35.2	4.15	0.375	30.3	3.93	0.314	29.4	3.39	0.247
0.70	82.9	9.11	1.029	38.8	4.48	0.481	31.0	4.27	0.383	26.2	3.97	0.314	26.0	3.39	0.248
0.75	46.7	5.44	0.665	35.4	4.36	0.504	33.8	4.17	0.480	28.6	3.91	0.402	23.1	3.39	0.253
0.80	100.3	44.7	0.724	60.0	4.99	0.648	37.0	4.44	0.598	30.9	3.76	0.493	20.6	3.39	0.287
0.85	13.46	8.35	1.835	60.6	8.02	1.108	47.0	6.35	0.857	32.9	4.32	0.590	19.3	3.39	0.317
0.90	169.8	24.17	3.484	83.9	12.14	1.719	55.9	7.98	1.141	43.7	4.69	0.679	18.4	3.40	0.340
0.95	96.4	14.32	2.203	58.7	8.92	1.339	43.9	6.57	0.993	28.9	4.35	0.647	17.5	3.40	0.359
1.00	44.4	7.13	1.124	35.7	5.87	0.903	33.1	5.30	0.833	25.7	4.21	0.637	16.5	3.41	0.371
1.10	26.8	4.90	0.822	28.8	5.13	0.883	26.7	4.90	0.813	21.5	4.06	0.647	14.8	3.41	0.393
1.20	58.8	1.07	2.145	33.8	6.81	1.231	26.2	5.29	1.059	19.4	3.83	0.691	13.9	3.38	0.429
1.30	35.6	1.33	2.525	28.6	6.11	1.204	24.4	5.21	1.039	18.9	3.83	0.787	12.9	3.32	0.468
1.40	58.7	13.43	2.955	27.4	6.40	1.359	21.3	5.12	1.053	16.7	4.16	0.809	11.4	3.25	0.462
1.50	54.0	13.14	3.080	31.8	6.34	1.581	22.1	5.56	1.256	13.6	4.19	0.761	10.2	3.17	0.479
1.60	39.7	10.04	2.513	24.4	6.34	1.222	17.7	4.70	1.139	12.4	4.02	0.775	9.7	3.09	0.501
1.70	22.1	6.46	1.618	16.7	5.13	1.581	13.9	4.42	1.007	11.1	3.67	0.780	8.8	3.00	0.505
1.80	14.0	5.58	1.49	12.1	4.75	0.987	10.7	4.13	0.867	9.0	3.34	0.711	7.9	2.86	0.494
1.90	9.2	4.07	0.813	7.5	3.85	0.687	7.1	3.62	0.641	6.9	3.18	0.604	7.1	2.86	0.475
2.00	6.9	3.04	0.696	5.9	3.01	0.593	5.2	3.05	0.526	5.4	2.94	0.521	6.3	2.81	0.453
2.20	5.3	3.04	0.651	4.4	2.88	0.536	4.0	2.80	0.488	3.9	2.69	0.456	5.0	2.75	0.415
2.40	3.5	2.71	0.569	2.9	2.68	0.426	2.7	2.67	0.335	2.9	2.67	0.397	4.2	2.65	0.384
2.60	2.5	2.82	0.436	2.3	2.77	0.390	2.2	2.74	0.374	2.3	2.70	0.368	3.5	2.69	0.361
2.80	2.3	2.77	0.453	1.9	2.73	0.379	1.8	2.70	0.342	2.1	2.67	0.343	3.1	2.66	0.344
3.00	1.8	2.62	0.410	1.7	2.61	0.383	1.8	2.60	0.360	2.0	2.60	0.327	2.9	2.58	0.330
3.20	1.7	2.44	0.429	1.6	2.46	0.394	1.6	2.48	0.371	1.8	2.43	0.334	2.7	2.54	0.312
3.40	1.4	2.45	0.423	1.3	2.34	0.377	1.4	2.37	0.357	1.6	2.43	0.324	2.5	2.54	0.305
3.60	1.4	2.47	0.453	1.1	2.40	0.373	1.2	2.35	0.327	1.4	2.36	0.302	2.3	2.50	0.301
3.80	1.1	2.49	0.389	0.8	2.43	0.326	1.0	2.38	0.285	1.3	2.32	0.281	2.2	2.47	0.298
4.00	1.0	2.48	0.398	0.8	2.42	0.333	0.8	2.37	0.311	1.1	2.29	0.299	2.0	2.45	0.298

PER = PERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

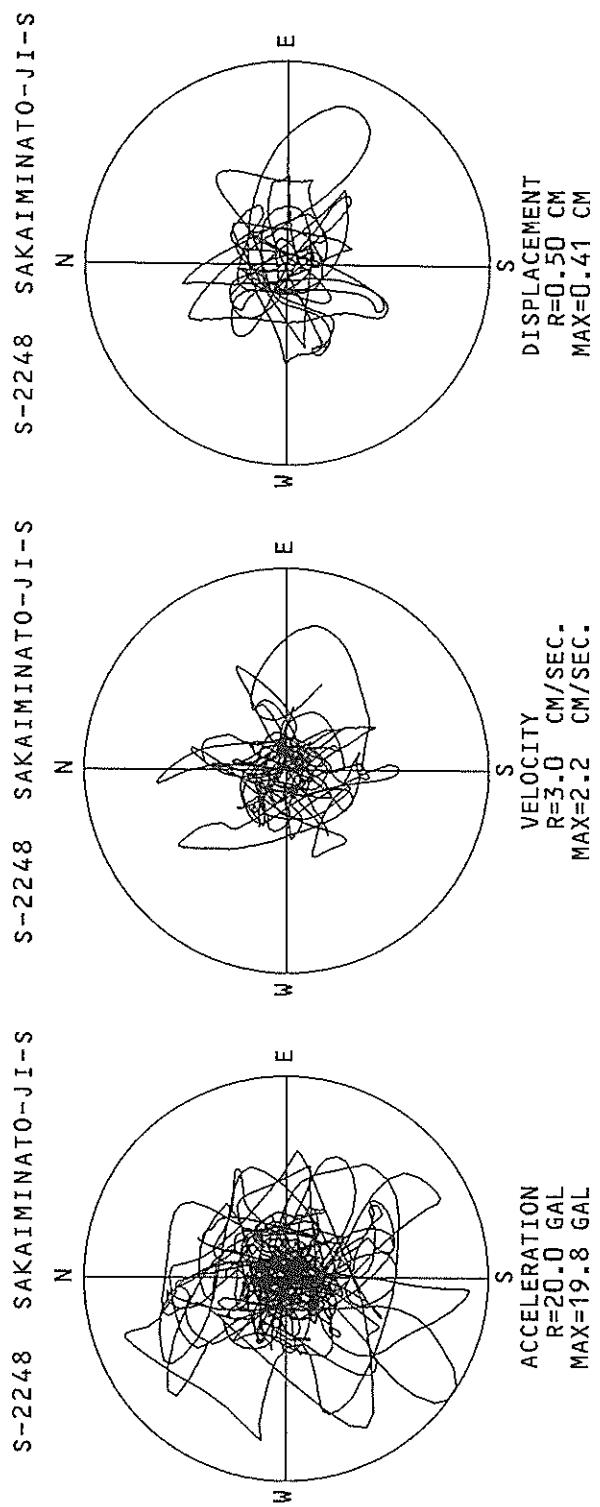
RECORD = S-2248 DATE AND TIME = 1989-10-27-7:41 TIME LENGTH = 29.99 (SEC)				COMPONENT = EAST SAMPLING INTERVAL = 0.0100 (SEC) SKIPPED LENGTH = 0.00 (SEC)				CORRECTION = MAX. GROUND ACC. = 84.36 (GAL)											
DAMPING = 0.				DAMPING = 0.025				DAMPING = 0.050				DAMPING = 0.100				DAMPING = 0.250			
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	
0.05	88.6	0.16	0.006	88.5	0.16	0.006	88.7	0.16	0.006	88.9	0.15	0.006	88.8	0.15	0.006	88.6	0.15	0.006	
0.10	177.0	2.67	0.045	94.0	0.87	0.024	94.5	0.78	0.024	96.7	0.64	0.024	97.6	0.56	0.024	10.0	1.45	0.060	
0.15	228.2	4.67	0.090	189.2	3.80	0.197	159.6	3.94	0.158	124.0	2.39	0.070	117.4	2.68	0.114	11.0	0.0	0.060	
0.20	294.9	8.87	0.299	183.8	6.95	0.289	165.8	6.44	0.261	148.4	5.61	0.233	125.7	3.90	0.087	12.7	3.3	0.266	
0.25	224.4	8.51	0.355	211.2	10.51	0.482	182.5	8.89	0.446	158.1	7.24	0.354	127.3	4.71	0.266	13.0	3.34	0.338	
0.30	278.1	13.25	0.634	184.0	1.013	244.3	12.99	0.755	210.0	1.256	0.647	159.6	8.83	0.483	120.6	5.01	0.431		
0.35	326.6	18.04	1.013	19.88	1.258	203.6	14.28	0.825	179.4	1.267	0.721	149.8	10.07	0.594	109.7	5.73	0.431		
0.40	310.5	19.88	1.258	18.7	1.769	18.7	13.62	0.964	160.0	1.073	0.816	133.6	9.44	0.669	97.6	5.72	0.431		
0.45	348.9	24.68	1.247	144.7	11.92	0.914	131.1	1.073	0.825	110.2	9.34	0.678	86.4	6.15	0.463	11.0	0.0	0.463	
0.50	196.9	16.90	0.500	12.23	0.930	110.5	11.45	0.846	100.9	10.69	0.768	86.0	9.32	0.643	75.7	6.43	0.486		
0.55	121.4	12.69	0.233	86.0	10.82	0.784	81.8	10.15	0.741	74.9	8.98	0.668	66.3	6.59	0.503	11.0	0.0	0.518	
0.60	135.2	1.14	0.58	11.14	76.2	9.88	8.13	72.0	9.32	0.766	65.6	8.39	0.686	58.2	6.71	0.529	11.0	0.0	0.529
0.65	104.1	1.26	1.263	65.3	8.63	0.809	62.5	8.40	0.769	57.6	7.97	0.697	55.1	6.16	0.536	11.0	0.0	0.536	
0.70	101.8	1.01	1.02	57.5	8.47	0.818	55.0	8.28	0.777	57.6	7.88	0.704	45.0	6.80	0.540	11.0	0.0	0.540	
0.75	77.3	9.18	1.02	57.5	8.47	0.818	48.9	8.24	0.785	45.0	7.80	0.706	39.8	6.80	0.540	11.0	0.0	0.540	
0.80	59.1	8.75	0.959	51.5	8.48	0.834	48.9	8.10	0.782	39.5	7.69	0.698	35.3	6.76	0.539	11.0	0.0	0.539	
0.85	48.0	8.63	0.838	44.9	8.35	0.820	42.7	8.10	0.800	34.4	7.50	0.675	31.7	6.70	0.535	11.0	0.0	0.535	
0.90	89.1	12.95	1.829	52.0	7.99	1.066	39.2	7.82	0.915	28.3	7.29	0.650	28.6	6.61	0.528	11.0	0.0	0.528	
0.95	148.6	22.34	3.398	56.4	8.23	0.288	40.2	7.20	1.011	28.3	7.07	0.702	25.9	6.52	0.518	11.0	0.0	0.518	
1.00	64.9	10.05	1.645	49.8	7.51	1.261	40.2	7.20	1.011	28.3	7.07	0.702	25.9	6.52	0.518	11.0	0.0	0.518	
1.10	75.8	13.25	2.323	41.9	7.19	1.284	29.9	6.32	0.912	21.7	6.73	0.653	17.9	6.18	0.495	11.0	0.0	0.495	
1.20	42.5	8.68	1.561	29.6	6.53	1.077	22.0	6.49	0.799	15.8	6.44	0.555	17.4	6.18	0.495	11.0	0.0	0.495	
1.30	26.2	6.17	1.122	23.8	5.18	1.017	21.3	6.17	0.907	16.9	6.17	0.709	15.9	6.02	0.463	11.0	0.0	0.463	
1.40	25.8	6.13	1.282	5.92	1.078	21.5	5.92	1.020	17.7	5.94	0.837	14.6	5.87	0.476	11.0	0.0	0.476		
1.50	61.2	14.82	3.186	28.5	6.82	1.619	22.5	5.73	1.028	16.8	5.76	0.929	13.4	5.74	0.521	11.0	0.0	0.521	
1.60	48.3	12.61	1.162	32.7	8.50	2.117	25.3	6.49	1.631	17.2	5.60	1.090	12.4	5.62	0.551	11.0	0.0	0.551	
1.70	58.1	15.89	4.250	29.3	8.50	2.143	22.9	6.87	1.663	15.6	5.45	1.16	11.6	5.51	0.559	11.0	0.0	0.559	
1.80	48.6	14.18	3.989	24.0	7.60	1.969	17.2	5.64	1.396	12.5	5.32	0.986	10.8	5.41	0.551	11.0	0.0	0.551	
1.90	117.0	6.21	1.556	14.0	5.21	1.274	12.2	5.13	1.109	10.1	5.20	0.881	10.1	5.32	0.550	11.0	0.0	0.550	
2.00	11.7	4.93	1.181	10.3	4.97	1.038	9.2	5.01	0.920	7.9	5.09	0.768	9.5	5.23	0.551	11.0	0.0	0.551	
2.20	8.5	4.76	1.041	6.9	4.80	0.845	6.6	4.84	0.792	6.2	4.93	0.701	8.4	5.09	0.538	11.0	0.0	0.538	
2.40	5.7	4.65	0.832	5.1	4.69	0.737	5.0	4.73	0.707	5.1	4.81	0.651	4.71	4.88	0.539	11.0	0.0	0.539	
2.60	4.57	4.47	0.809	4.4	4.60	0.744	4.1	4.64	0.696	4.5	4.63	0.602	6.8	4.88	0.542	11.0	0.0	0.542	
2.80	3.4	4.49	0.669	3.3	4.52	0.656	3.3	4.56	0.638	3.6	4.56	0.602	6.3	4.80	0.542	11.0	0.0	0.542	
3.00	2.7	4.42	0.609	2.7	4.45	0.601	3.0	4.49	0.593	3.6	4.56	0.579	5.8	4.73	0.544	11.0	0.0	0.544	
3.20	2.2	4.44	0.607	2.1	4.40	0.599	2.6	4.42	0.591	3.2	4.50	0.578	5.3	4.67	0.544	11.0	0.0	0.544	
3.40	2.0	4.45	0.600	2.1	4.41	0.593	2.3	4.37	0.586	2.9	4.44	0.574	4.9	4.62	0.543	11.0	0.0	0.543	
3.60	1.8	4.46	0.590	1.9	4.42	0.584	2.1	4.38	0.579	2.7	4.40	0.568	4.6	4.58	0.543	11.0	0.0	0.543	
3.80	1.6	4.46	0.577	1.7	4.42	0.573	1.9	4.39	0.569	2.5	4.36	0.561	4.3	4.54	0.543	11.0	0.0	0.543	
4.00	1.4	4.46	0.564	1.5	4.42	0.561	1.7	4.39	0.559	2.3	4.34	0.553	4.1	4.51	0.535	11.0	0.0	0.535	

PER = RERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

RECORD = S-2248		COMPONENT =	DOWN	SIGNAL = GR. ACC.	CORRECTION = MAX. GROUND ACC. =	STATION = SAKAIMINATO-JI-S	
DATE AND TIME = 1989-0-27-7-41		SAMPLING INTERVAL = 0.0100 (SEC)	SKIPPED LENGTH = 0.00 (SEC)			10.41 (GAL)	
TIME LENGTH = 29.99 (SEC)		DAMPING = 0.	DAMPING = 0.025	DAMPING = 0.050	DAMPING = 0.100	DAMPING = 0.250	
PER	AA	RV	RD	AA	RV	RD	AA
0.05	12.2	0.07	0.001	12.7	0.03	0.001	11.7
0.10	11.3	0.07	0.029	42.7	0.59	0.011	24.1
0.15	51.6	1.21	0.029	28.9	0.63	0.017	32.5
0.20	104.6	3.21	0.106	40.9	1.31	0.041	32.6
0.25	63.7	3.45	0.101	37.6	1.43	0.060	27.9
0.30	124.3	5.90	0.233	45.7	2.15	0.104	35.0
0.35	69.7	4.04	0.216	37.6	2.24	0.116	28.1
0.40	69.3	4.46	0.281	37.8	2.46	0.153	26.9
0.45	42.2	3.07	0.216	26.4	1.87	0.135	21.2
0.50	60.5	4.80	0.383	23.8	1.85	0.151	19.6
0.55	29.8	2.57	0.228	20.6	1.80	0.157	18.5
0.60	23.9	2.28	0.217	18.6	1.77	0.169	17.7
0.65	65.5	6.71	0.701	30.8	3.13	0.329	22.7
0.70	39.2	3.40	0.374	20.3	2.27	0.251	17.1
0.75	52.2	6.30	0.473	23.2	2.27	0.331	21.2
0.80	43.3	5.59	0.709	22.1	2.81	0.358	16.4
0.85	57.8	7.87	0.058	23.9	3.42	0.436	22.3
0.90	29.9	4.38	0.613	16.7	2.60	0.342	17.0
0.95	16.8	2.97	0.385	12.7	2.33	0.290	10.4
1.00	18.2	2.92	0.462	10.1	2.02	0.256	8.2
1.10	10.5	1.88	0.323	6.1	1.22	0.188	5.0
1.20	9.7	1.90	0.309	6.3	1.30	0.231	4.9
1.30	7.2	1.61	0.247	5.4	1.24	0.229	4.3
1.40	5.0	1.24	0.247	3.8	0.95	0.187	3.1
1.50	5.0	1.37	0.126	3.1	0.89	0.176	2.4
1.60	5.0	1.91	0.104	1.3	0.82	0.097	1.6
1.70	1.4	0.82	0.095	1.0	0.80	0.090	1.1
1.80	1.2	0.82	0.076	1.0	0.76	0.087	1.0
1.90	1.0	0.76	0.081	0.8	0.74	0.082	0.8
2.00	0.8	0.74	0.081	0.8	0.74	0.082	0.8
2.20	0.7	0.72	0.085	0.7	0.71	0.082	0.7
2.40	0.5	0.68	0.073	0.5	0.69	0.073	0.5
2.60	0.5	0.70	0.076	0.5	0.69	0.075	0.5
2.80	0.4	0.63	0.078	0.4	0.68	0.075	0.4
3.00	0.3	0.66	0.071	0.3	0.67	0.071	0.3
3.20	0.3	0.68	0.078	0.3	0.67	0.075	0.3
3.40	0.3	0.68	0.074	0.3	0.68	0.073	0.3
3.60	0.2	0.65	0.081	0.2	0.67	0.077	0.2
3.80	0.2	0.65	0.078	0.2	0.65	0.076	0.2
4.00	0.2	0.64	0.070	0.2	0.65	0.070	0.2

PER = PERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)



RECORD NUMBER  
STATION

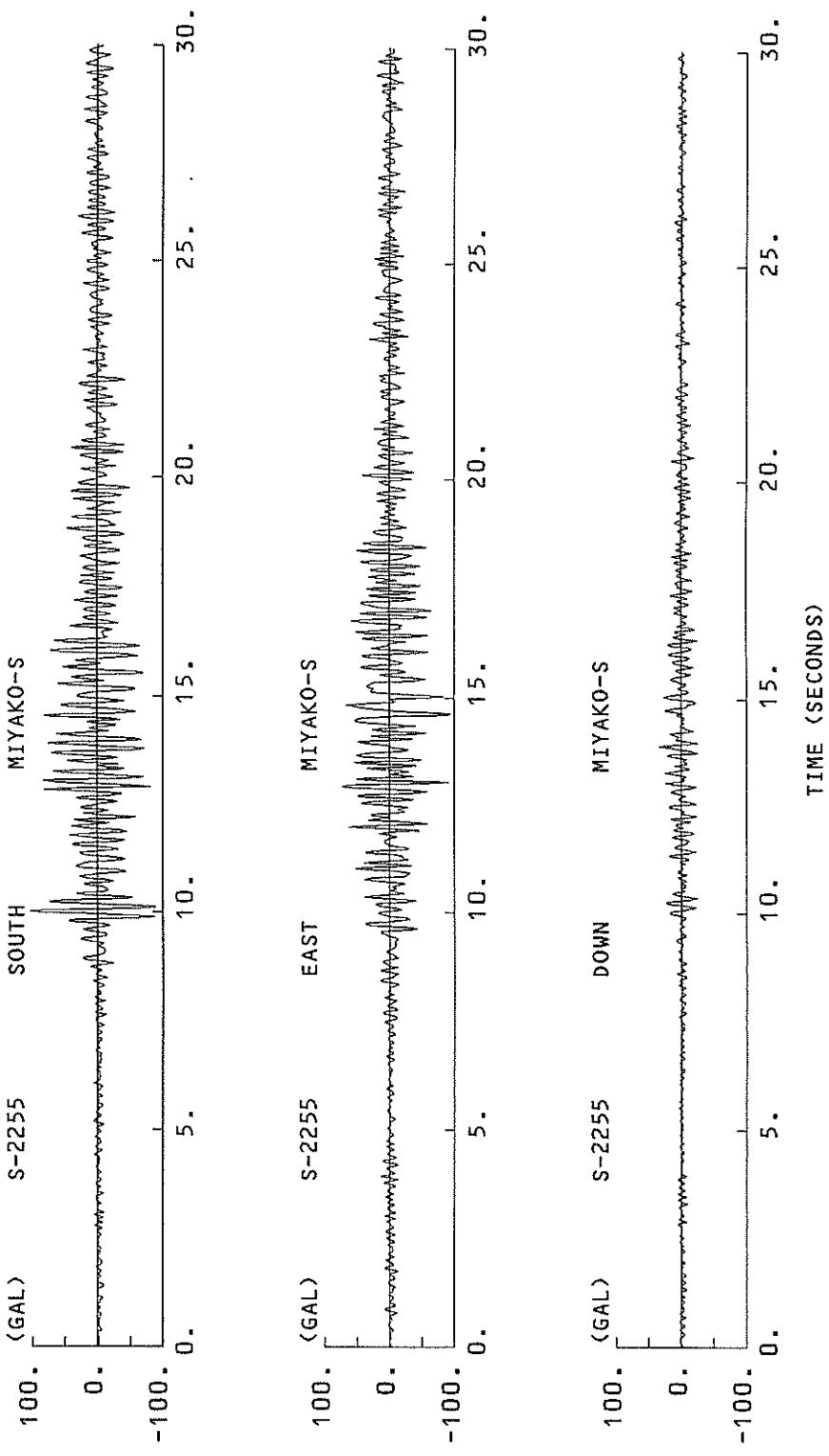
S-2255 MI YAKO-S

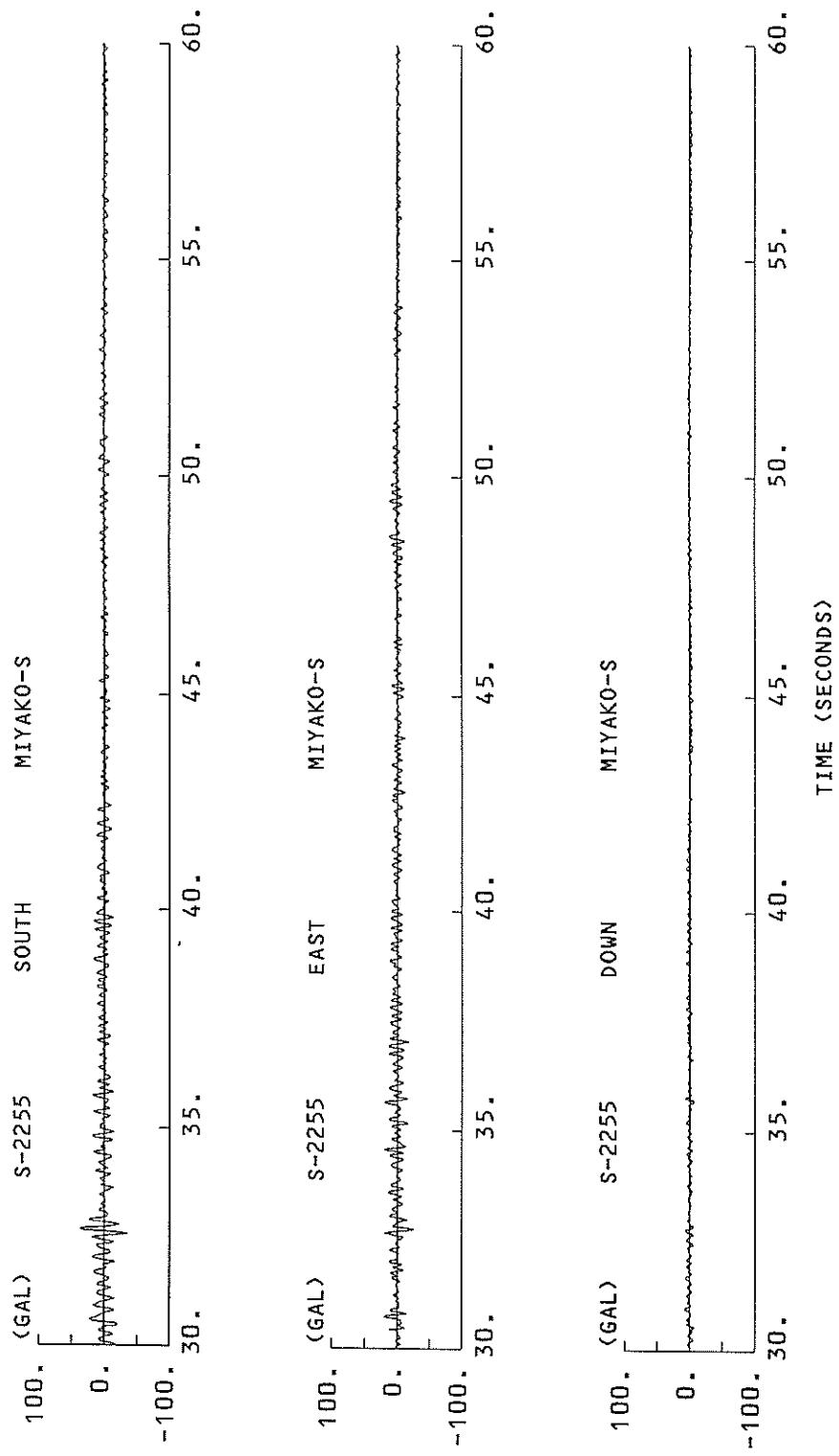
EARTHQUAKE DATA (JISHIN KAZAN GAIKYO)  
\*\*\*\*\*  
DATA AND TIME 3:25 NOV. 2, 1989  
LOCATION OF HYPOCENTER IWATEKEN OKI  
EPCENTRAL REGION 39°50' N  
LATITUDE 143°4.0' E  
LONGITUDE 0.0KM  
DEPTH 7.1  
MAGNITUDE \*\*\*\*\*

PEAK VALUES OF COMPONENTS

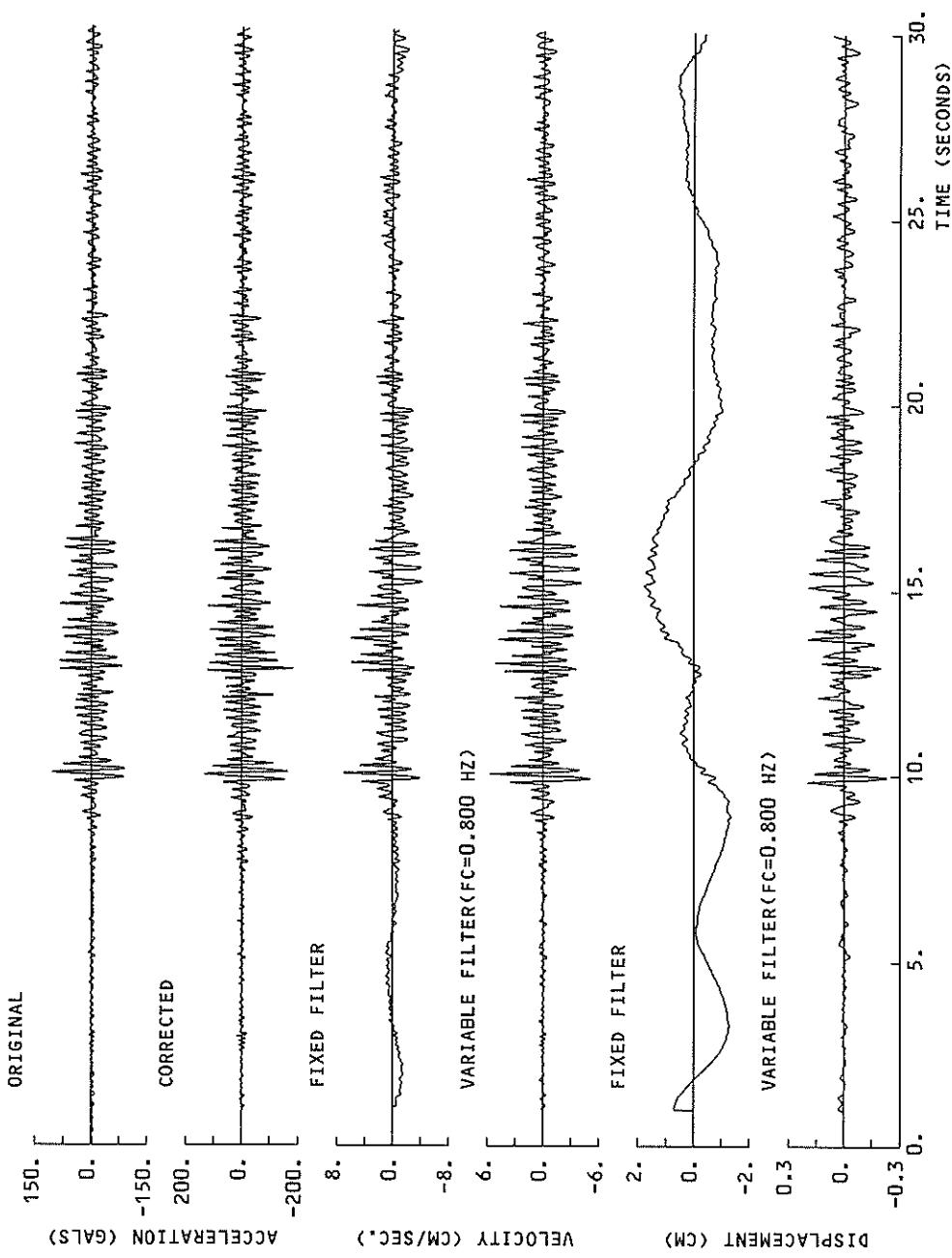
	N	S	E	W	U	D	HORIZONTAL*
-----							
PARAMETER OF THE VARIABLE FILTER							
FC (HZ)	0.800	0.800	0.800	0.800	0.800	0.800	
MAXIMUM ACCELERATION (GAL)							
ORIGINAL	105.5		93.8		37.5		123.9
CORRECTED	183.1		137.4		64.0		206.3
MAXIMUM VELOCITY (CM/SEC)							
FIXED FILTER	7.04		5.56		2.39		7.04
VARIABLE FILTER	5.80		4.73		1.73		5.91
MAXIMUM DISPLACEMENT (CM)							
FIXED FILTER	1.764		1.713		1.252		2.334
VARIABLE FILTER	0.234		0.286		0.088		0.298

\* RESULTANT OF HORIZONTAL COMPONENTS

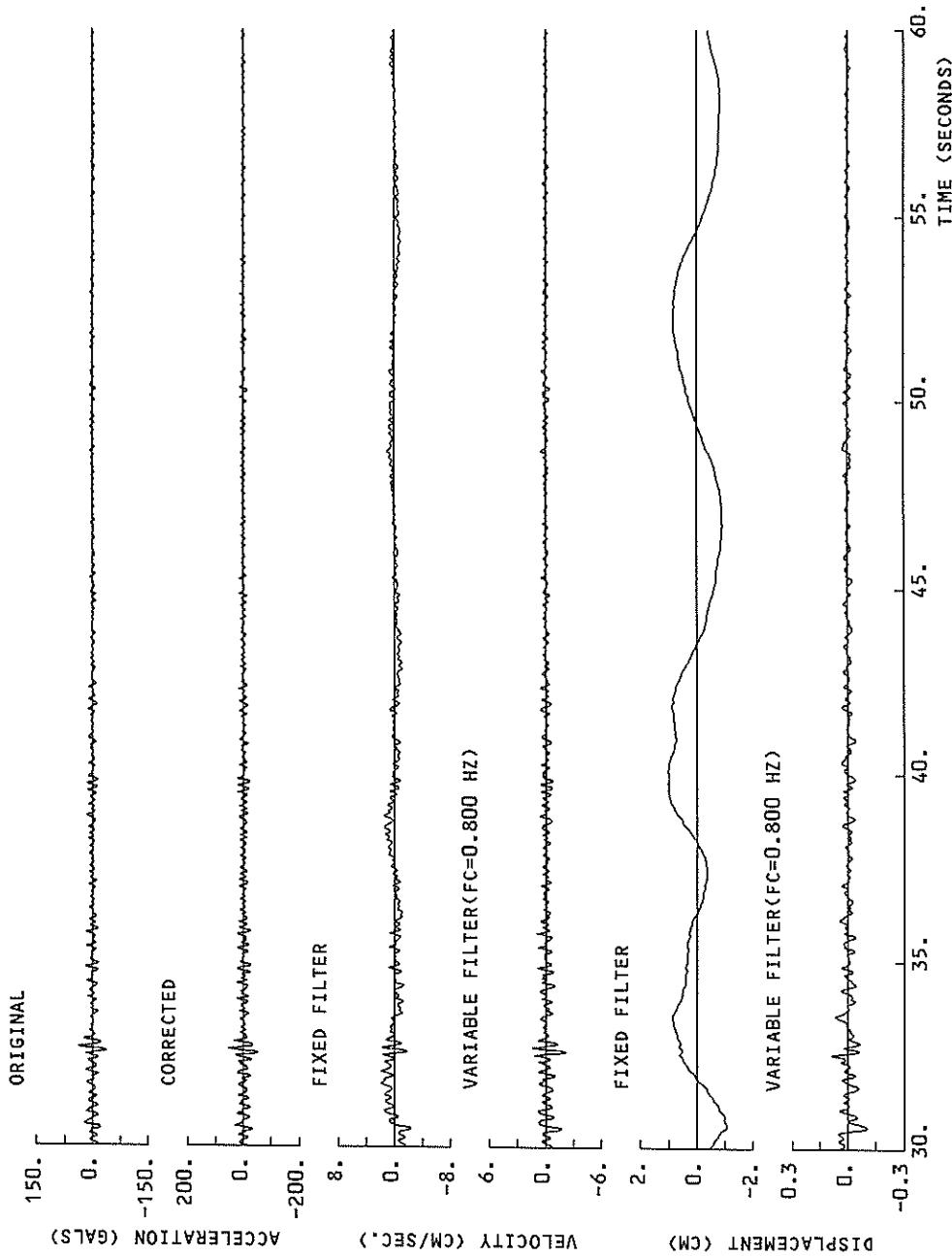




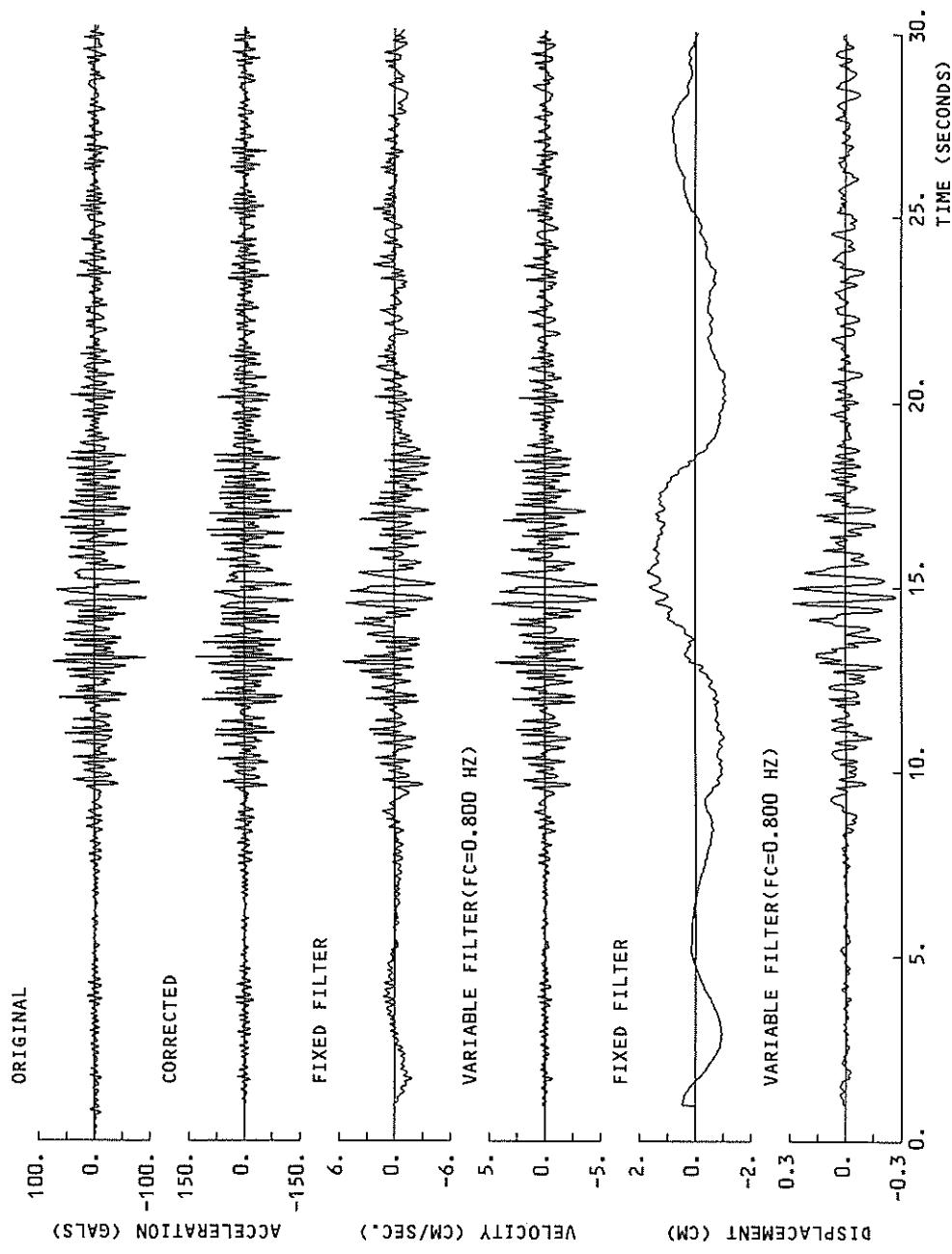
S-2255 SOUTH MIYAKO-S



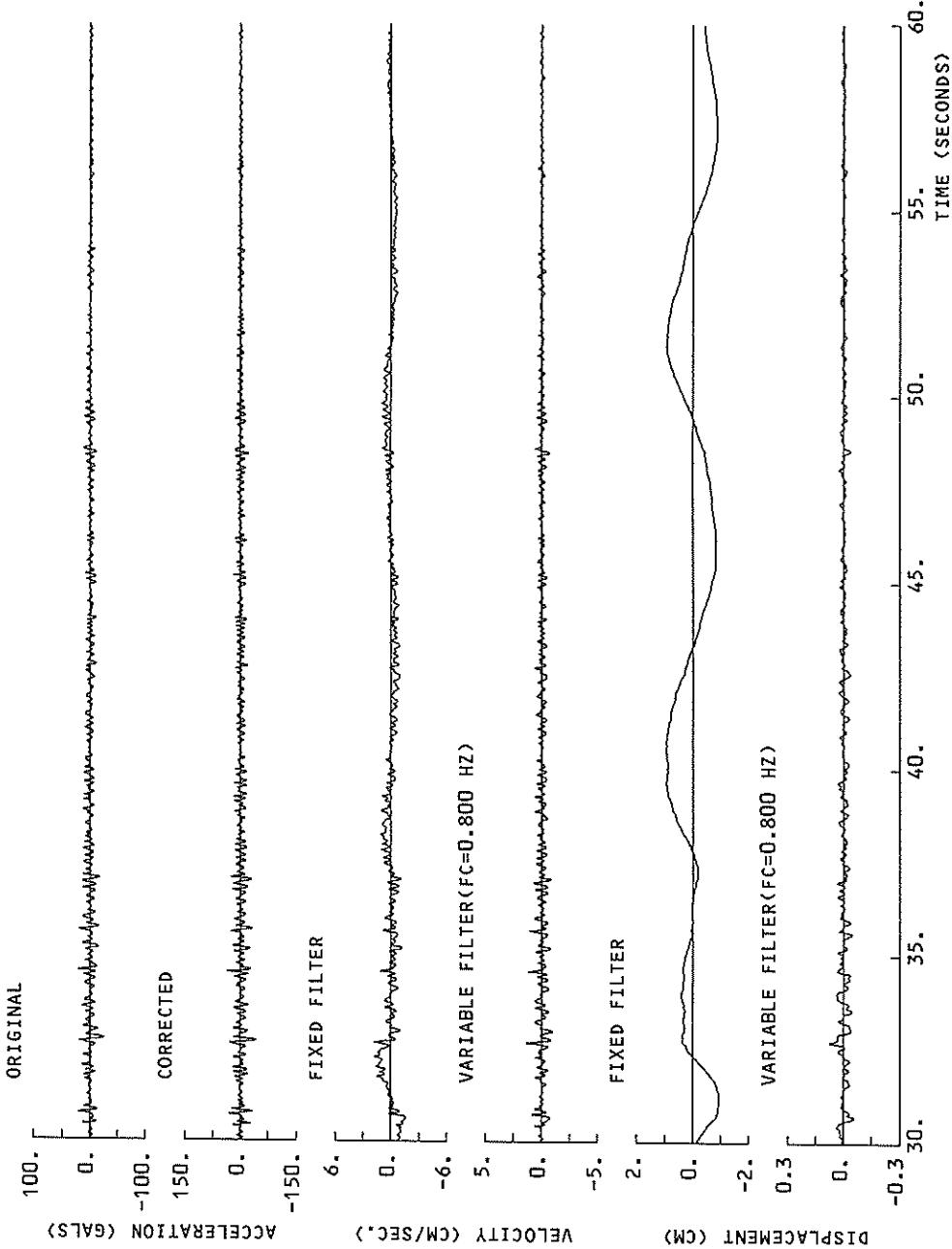
S-2255 SOUTH MIYAKO-S

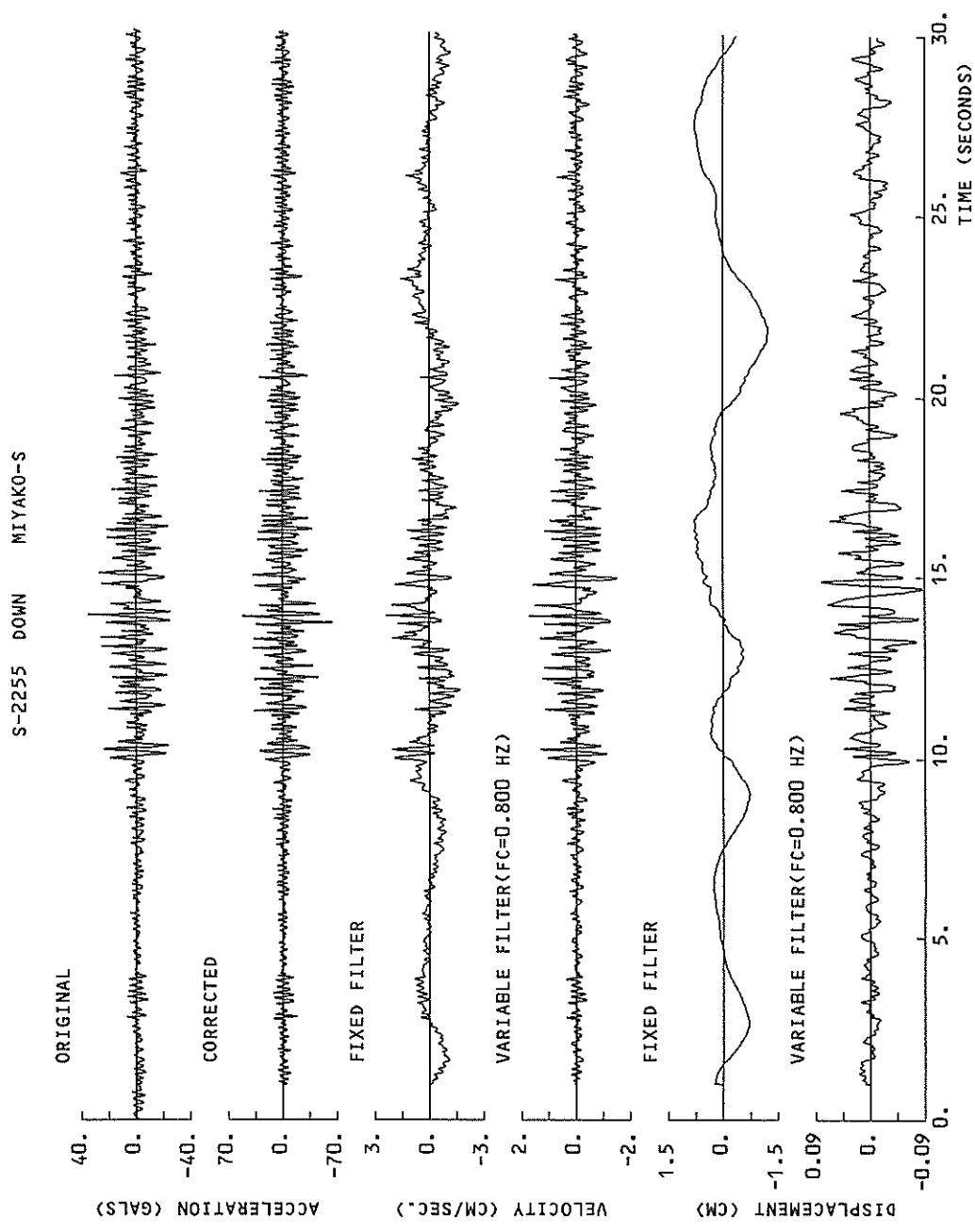


S-2255 EAST MIYAKO-S

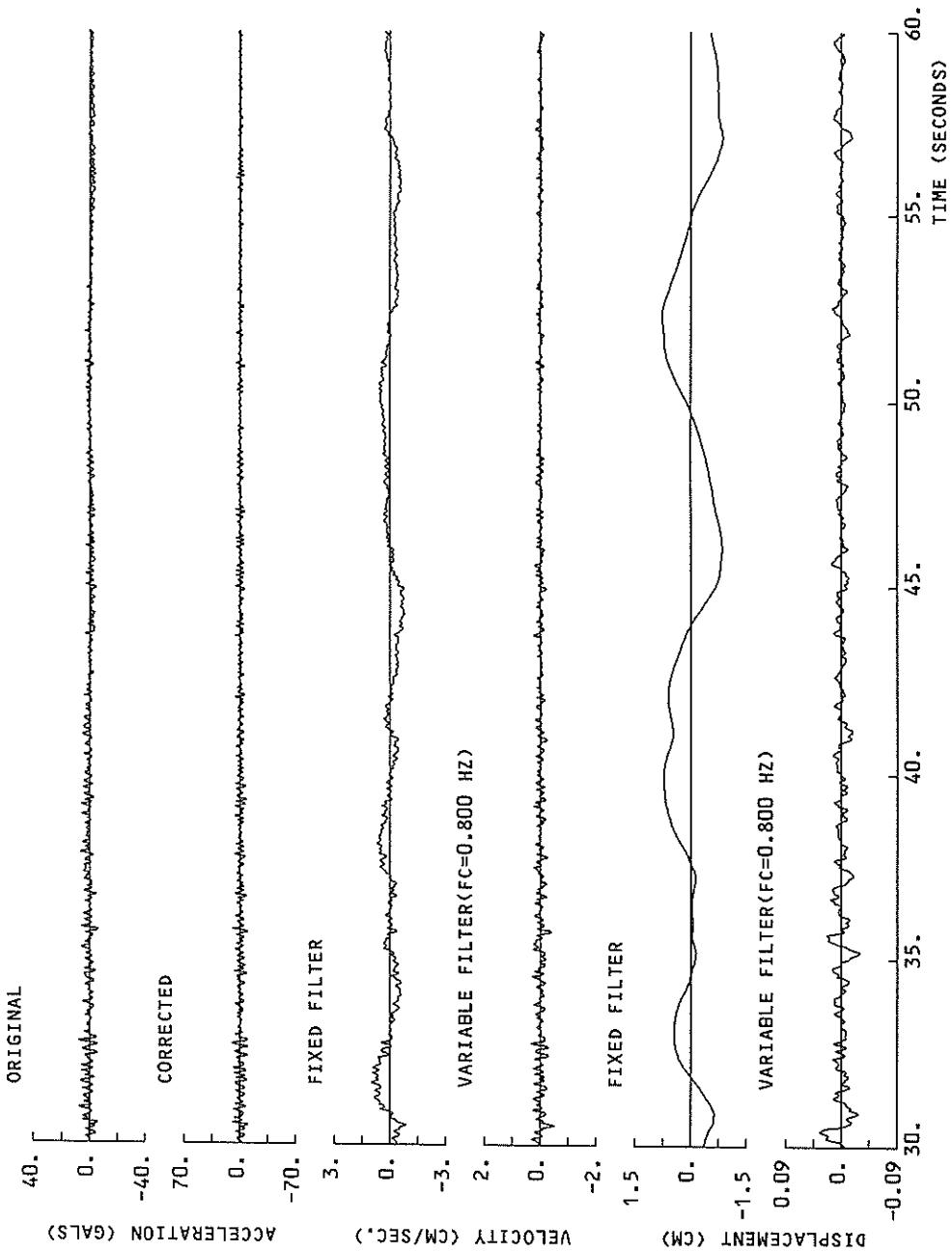


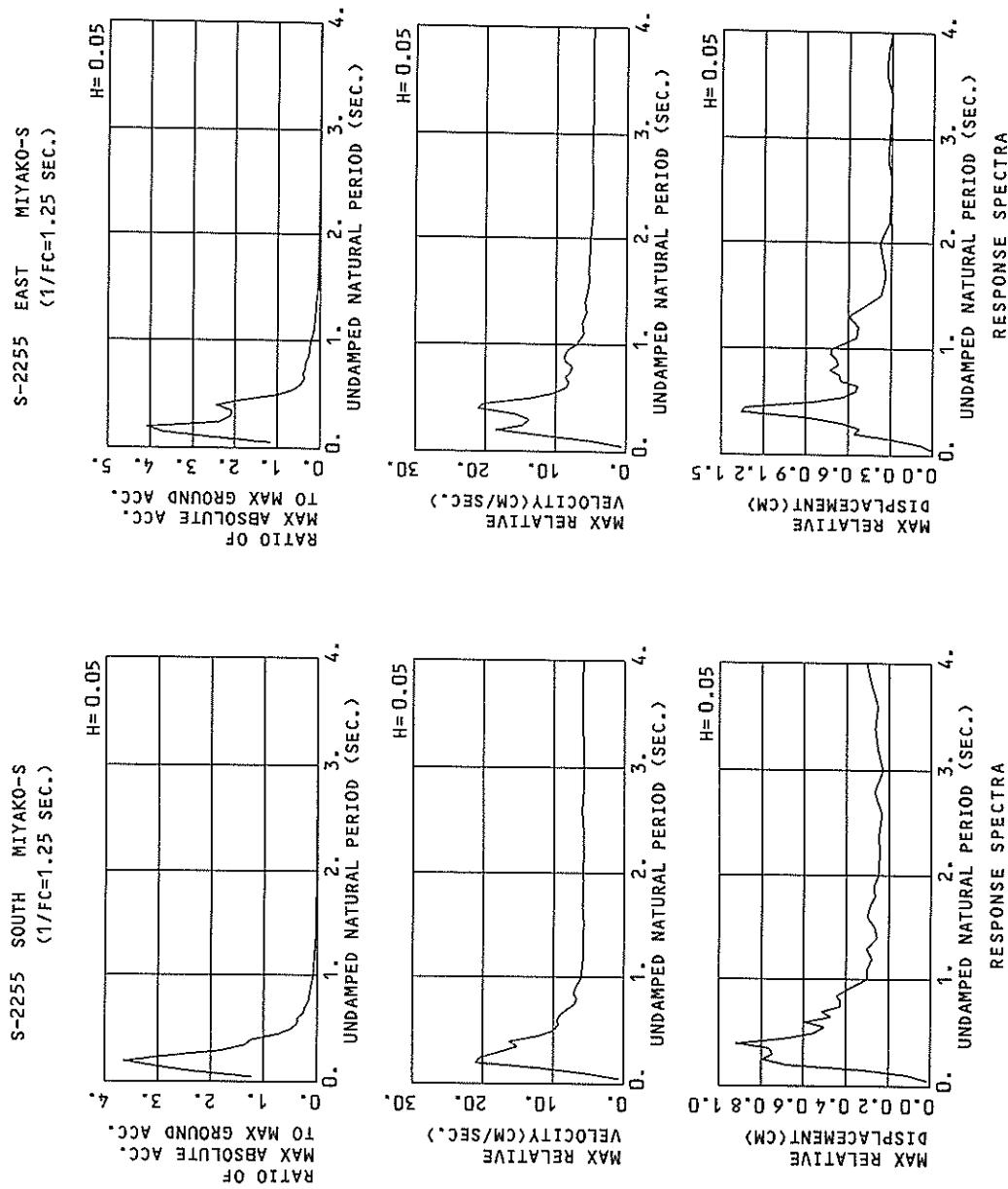
S-2255 EAST MIYAKO-S

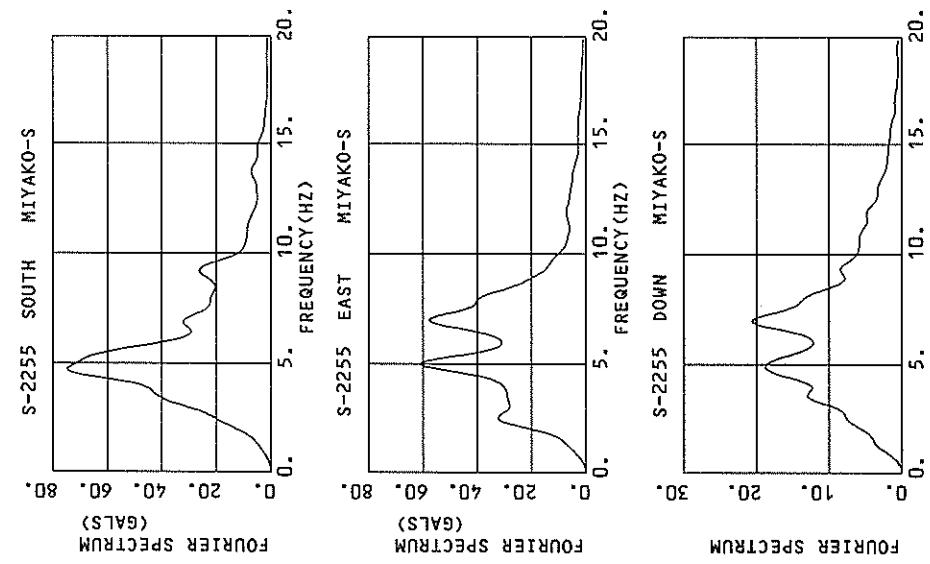
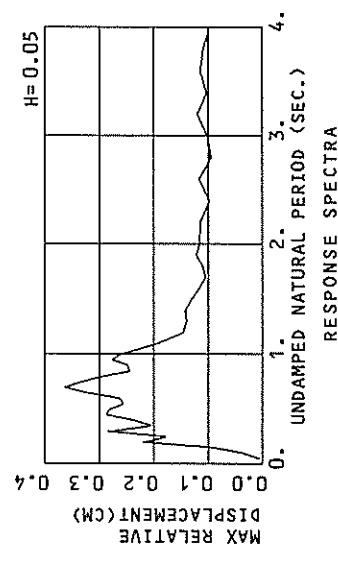
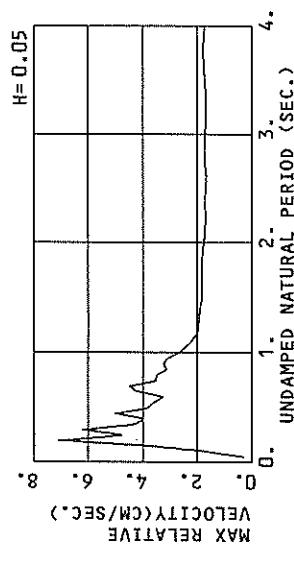
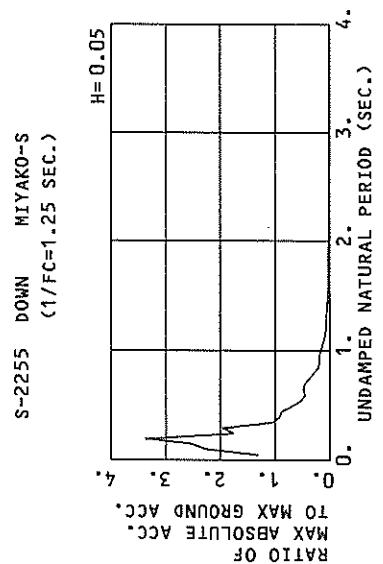




S-2255 DOWN MIYAKO-S







## RESPONSE SPECTRUM

RECORD = S-2255    COMPONENT = SOUTH    SAMPLING INTERVAL = 0.0100 (SEC)    CORRECTION = MIYAKO-S  
 DATE AND TIME = 1989-11-25    3-25    MAX. GROUND ACC. = 183.13 (GAL)  
 TIME LENGTH = 59.99 (SEC)    SKIPPED LENGTH = 0.00 (SEC)

PER	DAMPING = 0.				DAMPING = 0.025				DAMPING = 0.050				DAMPING = 0.100				DAMPING = 0.250				
	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	242.2	1.36	0.015	226.0	0.66	0.014	225.1	0.62	0.014	220.4	0.57	0.014	212.8	0.56	0.013	212.8	0.65	0.017	281.9	0.65	0.017
0.10	543.1	1.68	0.239	495.4	0.76	0.126	434.6	1.16	0.126	349.0	4.01	0.087	284.7	4.97	0.147	284.7	4.97	0.147	299.3	8.08	0.274
0.15	1086.5	2.57	0.619	714.6	15.75	0.409	563.8	12.14	0.3116	400.3	8.37	0.221	284.7	8.08	0.221	284.7	8.08	0.221	299.3	8.08	0.221
0.20	3629.8	1.15	0.68	3.678	24.53	0.878	669.9	21.03	0.680	486.3	14.26	0.488	299.3	8.08	0.221	299.3	8.08	0.221	299.3	8.08	0.221
0.25	1845.1	1.74	0.26	865.6	24.53	0.921	502.9	20.34	0.747	392.0	16.17	0.603	249.7	9.80	0.274	249.7	9.80	0.274	191.5	9.84	0.373
0.30	1289.1	62.58	0.27	583.0	26.13	1.147	330.1	17.65	0.747	247.4	15.15	0.755	152.3	8.58	0.373	152.3	8.58	0.373	11.82	0.575	0.373
0.35	862.9	48.75	0.27	502.8	26.13	0.863	247.4	15.15	0.755	191.5	11.93	0.650	116.2	8.25	0.385	116.2	8.25	0.385	9.20	0.553	0.385
0.40	394.7	27.36	0.27	1.600	27.8	1.677	228.0	16.26	0.920	165.1	12.05	0.650	90.9	7.99	0.366	90.9	7.99	0.366	11.93	0.553	0.366
0.45	272.6	20.84	0.27	1.398	1.293	1.046	133.4	12.05	0.678	112.0	9.86	0.553	90.9	7.99	0.355	90.9	7.99	0.355	11.93	0.553	0.355
0.50	167.2	15.08	0.27	1.144	11.40	0.722	87.3	9.95	0.547	66.1	8.54	0.400	74.2	7.80	0.325	74.2	7.80	0.325	11.93	0.553	0.325
0.55	88.2	9.95	0.676	79.0	9.51	0.603	66.5	9.25	0.504	53.7	8.80	0.390	61.7	7.75	0.306	61.7	7.75	0.306	52.1	5.12	0.322
0.60	129.4	1.99	0.180	83.3	9.84	0.556	66.5	9.39	0.599	52.1	8.80	0.454	51.7	7.69	0.322	51.7	7.69	0.322	50.1	4.47	0.333
0.65	73.1	9.60	0.783	50.8	9.33	0.543	44.9	8.79	0.412	43.9	8.46	0.429	44.7	7.53	0.333	44.7	7.53	0.333	38.0	4.43	0.334
0.70	84.8	10.91	0.053	50.1	8.12	0.621	42.4	7.99	0.516	38.0	7.78	0.430	40.4	7.30	0.334	40.4	7.30	0.334	31.1	4.01	0.329
0.75	34.7	6.97	0.494	30.0	6.98	0.424	30.6	6.68	0.425	26.4	6.67	0.382	32.3	6.80	0.329	32.3	6.80	0.329	22.0	4.42	0.329
0.80	50.4	7.41	0.817	29.1	6.83	0.468	27.0	6.68	0.427	20.0	6.42	0.354	28.8	6.60	0.313	28.8	6.60	0.313	18.2	3.99	0.313
0.85	103.7	14.30	1.899	30.1	7.79	0.562	25.0	7.10	0.444	22.0	6.42	0.354	26.0	6.44	0.303	26.0	6.44	0.303	16.0	3.55	0.293
0.90	23.3	6.73	0.478	21.6	6.85	0.440	20.0	6.33	0.399	16.0	6.14	0.317	23.7	6.32	0.293	23.7	6.32	0.293	13.8	0.302	0.285
0.95	24.4	7.44	0.557	17.6	6.68	0.388	16.0	6.33	0.355	13.8	6.03	0.291	21.8	6.23	0.285	21.8	6.23	0.285	12.3	0.302	0.285
1.00	24.2	6.17	0.613	12.5	6.02	0.314	12.3	6.01	0.302	11.8	6.03	0.291	11.8	6.03	0.285	11.8	6.03	0.285	11.8	6.03	0.285
1.10	16.4	6.22	0.502	11.1	5.96	0.340	10.1	5.85	0.299	11.2	5.89	0.268	18.7	6.10	0.271	18.7	6.10	0.271	9.4	5.85	0.260
1.20	10.8	6.04	0.394	8.4	5.86	0.305	8.1	5.82	0.278	7.5	5.81	0.266	16.4	6.01	0.260	16.4	6.01	0.260	8.1	5.83	0.251
1.30	9.0	6.00	0.386	7.8	5.89	0.328	7.5	5.81	0.301	8.1	5.81	0.269	15.9	5.92	0.244	15.9	5.92	0.244	8.1	5.81	0.244
1.40	9.4	6.01	0.466	5.7	5.83	0.280	5.6	5.80	0.253	6.9	5.81	0.239	13.3	5.89	0.239	13.3	5.89	0.239	5.7	5.79	0.239
1.50	5.2	5.67	0.296	4.9	5.63	0.274	4.9	5.61	0.264	6.0	5.5	0.237	12.4	5.89	0.239	12.4	5.89	0.239	5.7	5.79	0.239
1.60	6.6	5.96	0.426	5.3	5.85	0.341	4.9	5.81	0.300	5.5	5.81	0.257	11.7	5.88	0.235	11.7	5.88	0.235	5.8	5.82	0.235
1.70	4.1	5.97	0.302	4.2	5.88	0.299	4.2	5.84	0.287	5.3	5.82	0.257	11.0	5.87	0.235	11.0	5.87	0.235	5.8	5.82	0.235
1.80	4.0	5.59	0.329	3.6	5.79	0.285	3.8	5.77	0.266	5.0	5.80	0.249	10.3	5.86	0.230	10.3	5.86	0.230	5.8	5.80	0.229
1.90	3.8	5.79	0.349	3.4	5.79	0.295	3.5	5.80	0.271	4.6	5.80	0.250	9.3	5.84	0.229	9.3	5.84	0.229	5.8	5.81	0.229
2.00	2.5	6.02	0.250	2.5	5.91	0.244	3.0	5.85	0.248	4.3	5.81	0.244	9.3	5.84	0.229	9.3	5.84	0.229	5.8	5.81	0.229
2.20	2.5	5.59	0.312	2.3	5.69	0.264	2.6	5.74	0.245	3.7	5.78	0.234	8.4	5.83	0.228	8.4	5.83	0.228	5.8	5.80	0.228
2.40	2.1	5.81	0.312	2.0	5.81	0.270	2.2	5.81	0.246	3.3	5.80	0.223	7.7	5.83	0.225	7.7	5.83	0.225	5.8	5.80	0.225
2.80	1.7	5.80	0.340	1.6	5.98	0.260	1.9	5.91	0.234	3.0	5.84	0.226	7.1	5.82	0.226	7.1	5.82	0.226	5.8	5.80	0.226
3.00	1.2	5.56	0.278	1.2	5.65	0.231	1.5	5.81	0.268	2.7	5.76	0.227	6.6	5.81	0.227	6.6	5.81	0.227	5.8	5.77	0.227
3.20	1.2	5.67	0.323	1.2	5.71	0.280	1.4	5.74	0.252	2.4	5.77	0.227	6.1	5.81	0.227	6.1	5.81	0.227	5.8	5.77	0.227
3.40	1.2	5.91	0.357	1.2	5.87	0.298	1.4	5.84	0.265	2.2	5.81	0.235	5.7	5.80	0.227	5.7	5.80	0.227	5.8	5.81	0.227
3.60	1.0	6.02	0.332	1.0	5.95	0.282	1.2	5.87	0.252	2.1	5.83	0.231	5.1	5.80	0.230	5.1	5.80	0.230	5.8	5.79	0.230
3.80	0.9	5.96	0.343	1.0	5.91	0.302	1.2	5.87	0.280	1.9	5.82	0.255	4.8	5.78	0.234	4.8	5.78	0.234	5.8	5.79	0.234
4.00	0.9	5.81	0.380	1.0	5.80	0.335	1.2	5.80	0.304	1.8	5.79	0.267	4.5	5.78	0.234	4.5	5.78	0.234	5.8	5.79	0.234

## RESPONSE SPECTRUM

RECORD = S-2255    COMPONENT = EAST    SIGNAL = GR. ACC.    CORRECTION = STATION = MIYAKO-S  
 DATE AND TIME = 1989-11-2-3-25    SAMPLING INTERVAL = 0.0100 (SEC)    MAX. GROUND ACC. = 137.35 (GAL)  
 TIME LENGTH = 59.99 (SEC)    SKIPPED LENGTH = 0.00 (SEC)

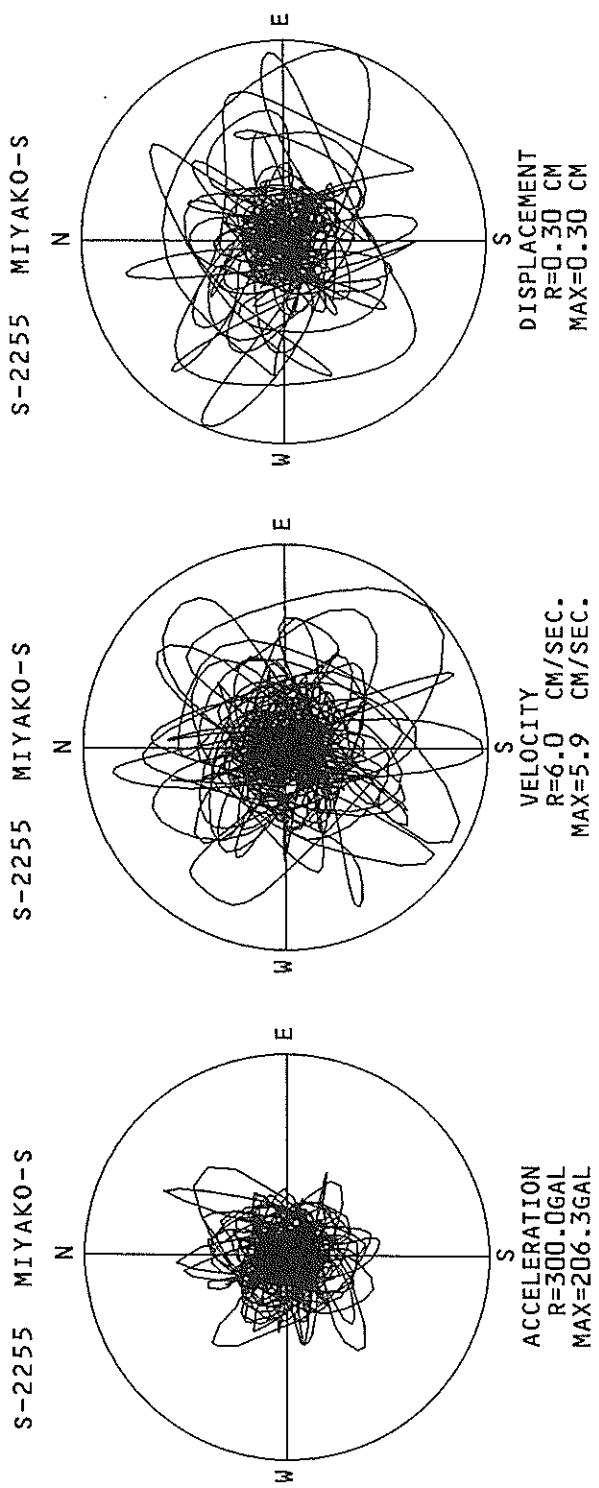
PER	DAMPING = 0.			DAMPING = 0.025			DAMPING = 0.050			DAMPING = 0.100			DAMPING = 0.250		
	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	185.7	1.04	0.012	159.2	0.66	0.010	159.3	0.63	0.010	157.8	0.59	0.010	153.4	0.53	0.010
0.10	734.5	11.36	0.186	398.3	5.57	0.101	349.2	4.74	0.088	293.1	3.72	0.073	228.0	2.37	0.054
0.15	226.5	53.19	1.289	896.6	16.81	0.095	505.7	1.53	0.283	371.9	8.15	0.212	237.4	4.75	0.122
0.20	431.4	138.80	4.429	28.95	0.906	0.906	560.3	1.852	0.561	390.15	13.43	0.387	238.5	7.40	0.217
0.25	1466.5	59.31	2.322	434.1	17.98	0.689	326.4	14.70	0.517	267.3	11.78	0.416	196.5	7.50	0.281
0.30	450.5	24.07	1.113	293.0	14.36	0.654	287.9	13.80	0.652	249.6	11.28	0.560	174.2	7.71	0.350
0.35	290.1	16.20	0.900	300.7	16.05	0.334	284.9	15.66	0.877	233.3	12.80	0.711	155.8	7.33	0.430
0.40	890.7	56.88	3.619	410.4	25.49	1.664	21.10	14.54	240.8	14.54	1.952	147.3	8.13	0.510	
0.45	510.6	38.39	2.619	334.7	25.28	1.716	260.4	20.25	1.329	183.7	15.08	0.924	119.8	8.75	0.511
0.50	241.5	19.64	1.529	141.5	13.67	0.897	135.5	13.63	0.851	119.0	12.40	0.730	89.0	8.80	0.465
0.55	96.2	11.12	0.737	88.4	10.58	0.678	83.9	10.30	0.637	78.2	9.78	0.578	69.0	8.29	0.437
0.60	155.2	16.14	1.415	63.9	8.28	0.578	60.4	8.47	0.543	59.5	8.57	0.514	58.4	7.81	0.426
0.65	88.7	10.05	0.949	56.9	8.11	0.508	50.5	8.66	0.533	50.0	8.11	0.502	52.4	7.43	0.435
0.70	183.6	20.56	2.279	68.1	9.51	0.844	53.5	8.66	0.653	48.4	7.91	0.563	47.5	7.03	0.441
0.75	60.7	10.19	0.866	53.4	9.08	0.759	47.1	7.82	0.659	44.7	7.21	0.594	42.9	6.60	0.439
0.80	83.8	11.04	0.035	52.1	8.09	0.842	45.9	7.68	0.730	40.0	7.00	0.600	38.4	6.39	0.427
0.85	52.8	10.60	0.965	42.1	9.52	0.699	37.4	8.68	0.670	33.1	7.49	0.547	33.8	6.39	0.401
0.90	57.4	11.55	1.177	41.5	9.73	0.849	33.7	8.73	0.683	27.7	7.34	0.537	25.4	6.28	0.365
0.95	48.9	9.61	1.118	36.5	9.09	0.830	32.2	8.34	0.724	26.4	7.34	0.568	22.1	6.14	0.358
1.00	48.7	10.89	1.235	35.0	7.73	0.881	28.8	7.06	0.716	23.1	6.76	0.549	22.1	6.14	0.370
1.10	5.64	0.494	17.2	5.89	0.522	18.2	6.00	0.541	18.2	5.80	0.507	17.8	5.76	0.376	0.356
1.20	24.7	7.61	0.901	17.1	6.71	0.619	15.1	6.25	0.530	14.0	5.76	0.445	15.0	5.42	0.330
1.30	21.6	7.04	0.925	16.9	5.83	0.120	14.3	5.58	0.597	12.1	5.34	0.466	13.1	5.08	0.336
1.40	11.3	6.52	0.560	10.16	6.16	0.495	10.1	5.84	0.482	10.0	5.42	0.435	12.1	5.08	0.331
1.50	7.0	5.61	0.399	6.4	5.51	0.358	6.8	5.47	0.368	7.8	5.36	0.377	11.2	5.11	0.322
1.60	5.4	5.16	0.347	5.5	5.16	0.350	5.7	5.25	0.350	6.5	5.22	0.348	10.6	5.08	0.311
1.70	5.9	5.73	0.435	5.0	5.12	0.358	4.9	5.31	0.339	6.0	5.15	0.326	10.6	5.08	0.301
1.80	4.8	5.21	0.394	4.7	5.19	0.369	4.9	5.19	0.350	5.7	5.15	0.324	9.5	5.05	0.292
1.90	5.28	4.4	0.386	4.4	5.16	0.383	4.6	5.12	0.367	5.4	5.03	0.336	8.6	5.01	0.293
2.00	5.0	5.49	0.510	4.3	5.23	0.419	4.3	5.12	0.376	5.1	5.03	0.336	8.6	5.01	0.293
2.20	2.9	4.94	0.354	2.6	4.81	0.299	3.0	4.85	0.308	4.2	4.92	0.308	7.7	4.97	0.293
2.40	2.6	4.97	0.373	2.4	4.85	0.227	2.6	4.83	0.307	3.6	4.86	0.296	6.9	4.94	0.291
2.60	2.3	4.85	0.395	2.0	4.81	0.330	2.1	4.80	0.302	3.2	4.84	0.289	6.3	4.91	0.289
2.80	2.1	5.07	0.413	1.9	4.93	0.352	1.8	4.87	0.322	2.9	4.84	0.300	5.8	4.89	0.288
3.00	1.7	5.03	0.393	1.6	4.88	0.342	1.8	4.79	0.315	2.6	4.80	0.293	5.4	4.87	0.288
3.20	1.6	4.71	0.405	1.4	4.85	0.298	1.5	4.82	0.295	2.4	4.78	0.282	4.7	4.84	0.288
3.40	1.1	4.97	0.332	1.2	4.85	0.340	1.3	4.73	0.307	2.2	4.80	0.292	4.7	4.84	0.287
3.60	1.3	4.93	0.437	1.3	4.86	0.371	1.5	4.82	0.334	2.1	4.79	0.302	4.4	4.83	0.287
3.80	1.1	4.97	0.419	0.8	4.86	0.359	1.3	4.79	0.326	2.0	4.76	0.296	4.2	4.82	0.286
4.00	0.8	4.90	0.344	0.8	4.82	0.316	1.1	4.77	0.299	1.8	4.76	0.284	3.9	4.81	0.285

PER = RERIOD (SEC)    AA = ABSOLUTE ACC. (GAL)    RV = RELATIVE VELOCITY (CM/SEC)    RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

RECORD = S-2255			COMPONENT = DOWN			SIGNAL = GR. ACC. (SEC)			CORRECTION = 0.000 (SEC)			MAX. GROUND ACC. = 64.02 (GAL)			STATION = MIYAKO-S			
DATE AND TIME = 1989-11-2-59.99 (SEC)			SAMPLING INTERVAL = 0.000 (SEC)			SKIPPED LENGTH = 0.00 (SEC)			DAMPING = 0.025			DAMPING = 0.050			DAMPING = 0.100			
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	85.5	0.46	0.005	84.2	0.35	0.005	83.7	0.30	0.005	81.9	0.26	0.005	77.9	0.21	0.005	92.6	1.01	0.022
0.10	778.3	12.34	0.197	155.1	2.14	0.039	145.9	1.77	0.037	129.0	1.54	0.032	83.7	1.58	0.044	92.7	1.01	0.078
0.15	959.9	22.92	0.221	10.54	5.13	0.119	162.1	3.80	0.092	108.7	2.47	0.060	96.8	2.49	0.096	69.3	2.89	0.096
0.20	1040.4	33.23	0.254	323.9	10.64	0.328	216.7	7.10	0.221	147.1	4.46	0.144	60.0	4.01	0.144	62.0	2.63	0.112
0.25	3283.0	15.33	0.606	133.8	5.57	0.212	113.1	4.79	0.18	93.2	4.28	0.202	3.72	0.188	4.4	2.75	0.122	0.136
0.30	329.4	15.97	1.251	164.0	8.16	0.244	66.8	4.27	0.205	60.0	3.72	0.195	3.82	0.195	3.80	2.86	0.156	0.156
0.35	86.1	5.20	0.267	78.6	4.49	0.281	58.6	3.97	0.236	49.4	3.82	0.227	35.3	3.44	0.248	31.9	2.60	0.168
0.40	122.4	8.13	0.496	69.3	4.81	0.281	56.3	3.84	0.286	45.0	4.05	0.227	35.3	3.44	0.248	31.9	2.60	0.168
0.45	115.5	8.65	0.593	70.7	5.98	0.362	45.0	4.02	0.285	40.5	3.84	0.286	40.5	3.44	0.248	31.9	2.60	0.168
0.50	108.0	8.81	0.684	45.1	4.02	0.285	45.0	3.84	0.286	40.5	3.44	0.248	31.9	3.44	0.248	31.9	2.60	0.168
0.55	59.1	5.16	0.453	33.5	3.93	0.256	33.7	3.60	0.256	32.2	3.20	0.237	27.8	2.43	0.170	23.7	2.55	0.165
0.60	47.8	4.58	0.436	29.7	3.05	0.269	29.7	3.25	0.262	27.3	3.22	0.237	19.7	2.60	0.162	23.9	2.42	0.170
0.65	52.9	5.72	0.567	37.7	4.73	0.402	30.8	4.26	0.326	23.9	3.65	0.273	17.9	2.58	0.170	22.8	2.73	0.170
0.70	57.1	7.54	0.709	36.7	5.30	0.454	29.5	4.50	0.364	19.6	3.19	0.273	16.1	2.48	0.170	22.5	2.58	0.170
0.75	48.5	5.85	0.691	25.9	3.76	0.368	23.5	3.94	0.336	16.0	3.04	0.251	14.1	2.45	0.167	22.3	2.53	0.170
0.80	35.4	4.75	0.575	20.3	3.10	0.328	18.5	3.13	0.296	12.8	2.94	0.223	12.1	2.40	0.158	21.4	2.40	0.146
0.85	30.0	4.04	0.550	13.2	3.10	0.242	13.5	3.13	0.244	10.2	2.88	0.198	10.3	2.36	0.146	20.3	2.31	0.134
0.90	41.5	6.02	0.852	14.8	3.45	0.303	12.3	3.23	0.248	10.2	2.71	0.201	8.9	2.26	0.129	21.7	2.31	0.129
0.95	24.6	4.28	0.563	15.9	3.50	0.363	12.2	3.10	0.278	8.6	2.47	0.196	8.4	2.26	0.129	21.9	2.31	0.129
1.00	35.2	5.64	0.892	13.5	2.81	0.340	10.4	2.67	0.260	8.6	2.60	0.196	8.4	2.26	0.129	21.9	2.31	0.129
1.10	7.0	2.29	0.213	6.3	2.33	0.192	6.5	2.21	0.191	6.2	2.07	0.173	7.3	2.13	0.130	6.3	2.03	0.128
1.20	3.8	1.93	0.140	3.9	1.98	0.140	4.2	1.97	0.146	4.6	1.91	0.148	4.3	1.95	0.124	3.8	1.95	0.124
1.30	9.6	2.07	0.409	4.3	1.93	0.185	3.5	1.91	0.140	3.8	1.85	0.139	5.4	5.4	0.124	3.7	1.89	0.115
1.40	7.5	2.09	0.372	3.9	1.95	0.194	3.0	1.89	0.142	3.2	1.81	0.134	4.7	4.7	0.125	4.2	1.84	0.115
1.50	3.2	1.87	0.80	2.4	1.84	0.133	2.5	1.81	0.130	2.7	1.81	0.115	3.8	3.8	0.110	3.4	1.78	0.105
1.60	2.3	1.99	0.20	1.88	1.88	0.126	1.9	1.84	0.116	1.6	1.84	0.105	2.1	2.1	0.105	1.7	1.77	0.100
1.70	1.4	1.79	0.103	1.5	1.84	0.106	1.5	1.84	0.105	1.6	1.84	0.105	1.8	1.81	0.096	1.7	1.76	0.096
1.80	1.7	1.89	0.142	1.5	1.89	0.120	1.5	1.85	0.110	1.6	1.85	0.110	1.8	1.81	0.096	1.7	1.77	0.096
1.90	1.8	1.66	0.164	1.5	1.79	0.113	1.4	1.79	0.121	1.2	1.79	0.115	1.4	1.78	0.110	1.3	1.76	0.106
2.00	1.1	1.73	0.114	1.1	1.73	0.113	1.2	1.73	0.115	1.2	1.75	0.115	1.3	1.76	0.110	1.2	1.75	0.096
2.20	1.3	1.66	0.156	1.0	1.68	0.124	1.0	1.69	0.115	1.2	1.71	0.108	2.5	2.5	0.097	2.3	1.74	0.097
2.40	0.9	1.66	0.129	0.7	1.73	0.101	0.8	1.71	0.098	1.0	1.71	0.103	2.1	2.1	0.097	2.0	1.74	0.097
2.60	0.6	1.67	0.164	0.8	1.67	0.131	0.8	1.68	0.116	0.9	1.68	0.105	1.7	1.7	0.097	1.7	1.74	0.097
2.80	0.6	1.80	0.127	0.5	1.75	0.098	0.6	1.75	0.095	0.7	1.70	0.100	1.9	1.9	0.096	1.8	1.73	0.096
3.00	0.6	1.66	0.134	0.5	1.70	0.104	0.5	1.70	0.102	0.8	1.71	0.101	1.8	1.8	0.096	1.7	1.73	0.096
3.20	0.7	1.64	0.175	0.6	1.64	0.139	0.5	1.66	0.120	0.7	1.70	0.103	1.7	1.7	0.093	1.7	1.73	0.093
3.40	0.6	1.72	0.161	0.5	1.69	0.120	0.5	1.70	0.102	0.7	1.71	0.092	1.6	1.6	0.093	1.5	1.7	0.093
3.60	0.5	1.84	0.167	0.5	1.79	0.134	0.5	1.76	0.114	0.7	1.74	0.094	1.6	1.6	0.093	1.5	1.74	0.093
3.80	0.4	1.84	0.143	0.3	1.74	0.115	0.3	1.74	0.098	0.6	1.75	0.092	1.4	1.4	0.089	1.3	1.74	0.089
4.00	0.4	1.74	0.143	0.3	1.74	0.115	0.3	1.74	0.098	0.6	1.74	0.087	1.3	1.3	0.086	1.2	1.74	0.086

PER = PERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)



RECORD NUMBER  
STATION

S-2261 HACHINOHE-JI-S

EARTHQUAKE DATA (JISHIN KAZAN GAI KYO)

DATA AND TIME 3:25 NOV. 2, 1989

LOCATION OF HYPOCENTER

EPCENTRAL REGION

LATITUDE

LONGITUDE 143° 4.0' E

DEPTH 0.0KM

MAGNITUDE 7.1

\*\*\*\*\*

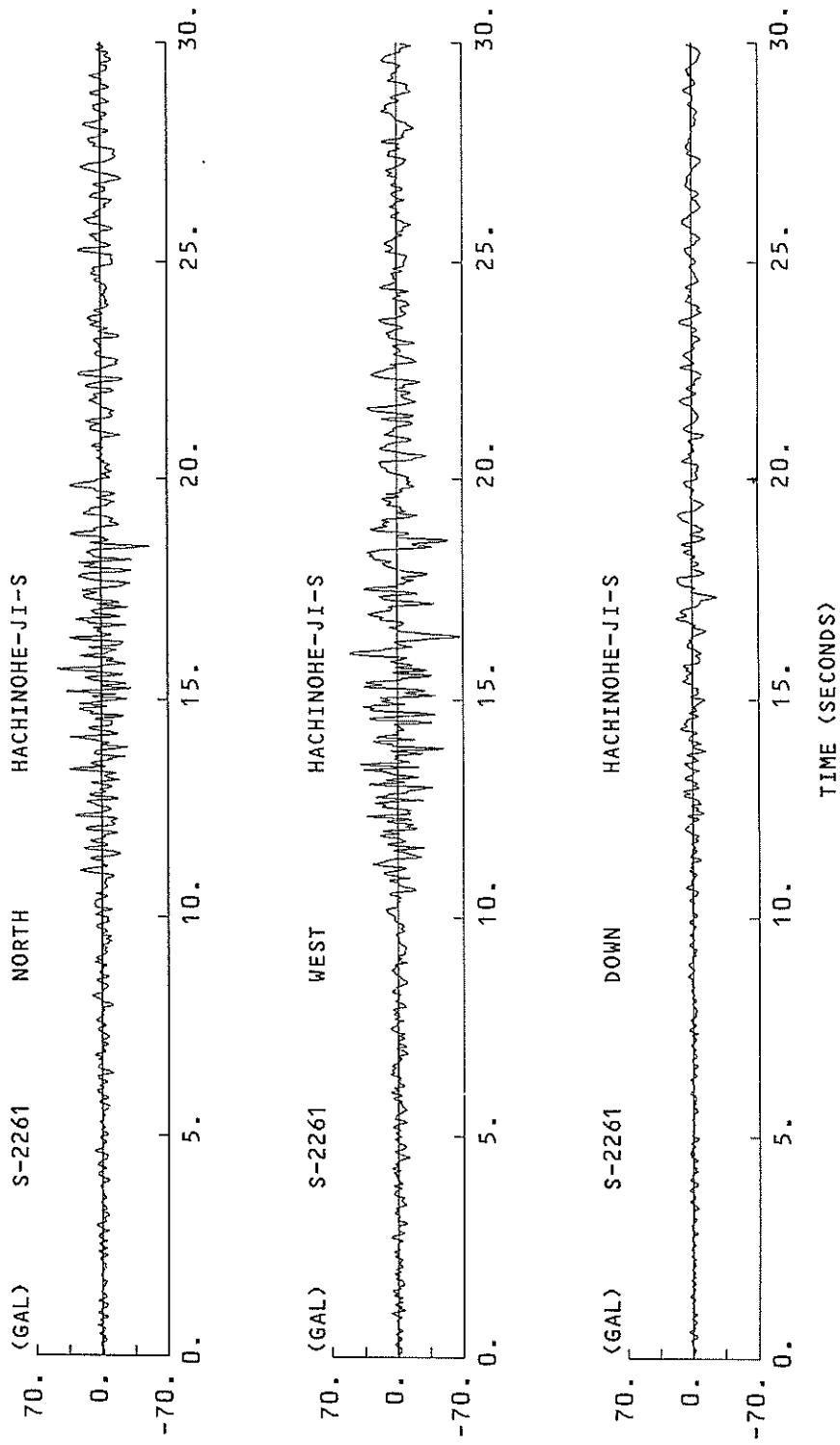
PEAK VALUES OF COMPONENTS

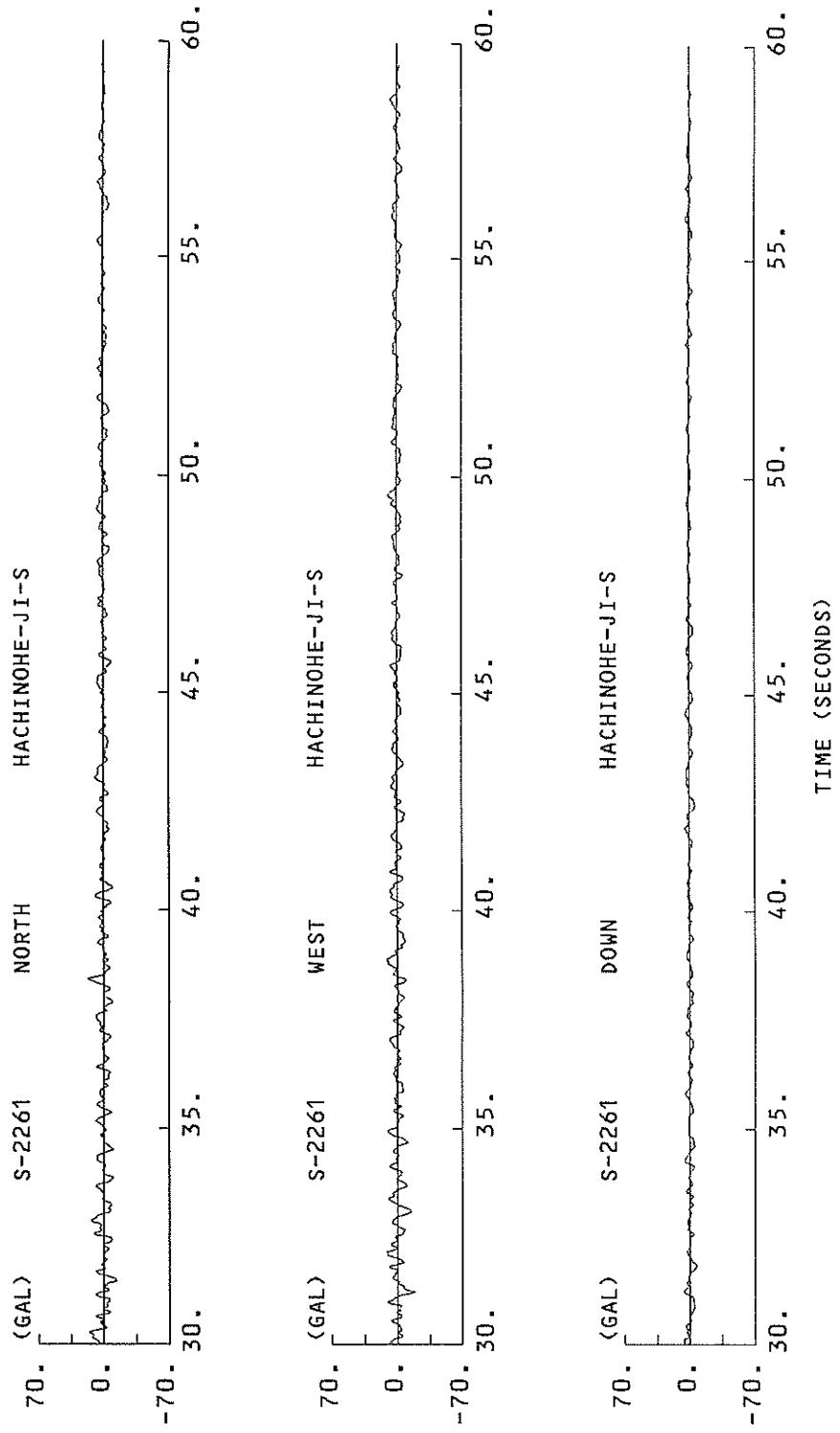
	N	S	E	W	U	D	HORIZONTAL*
FC (HZ)	0.341		0.329				

PARAMETER OF THE VARIABLE FILTER

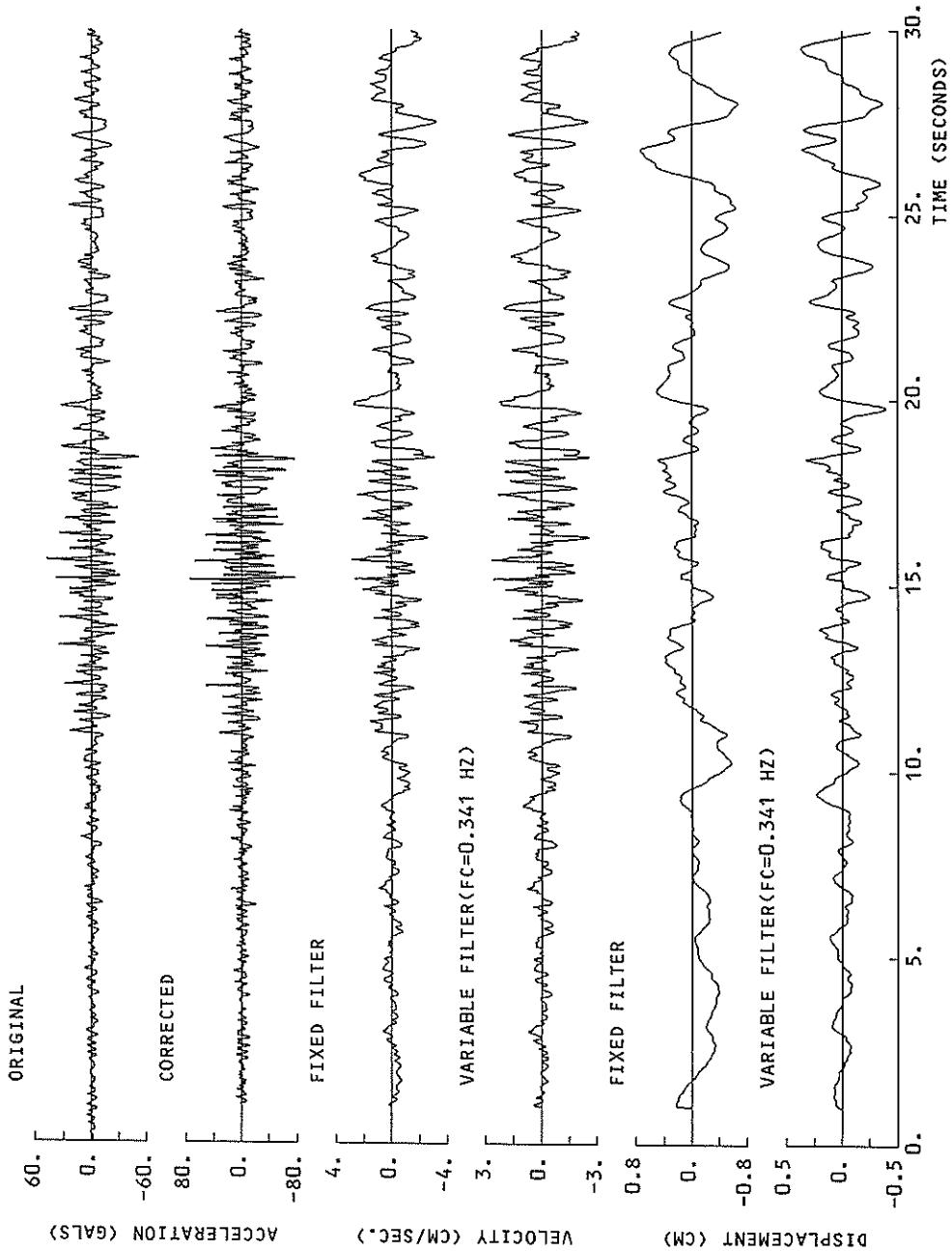
	ORIGINAL	CORRECTED	MAXIMUM VELOCITY (CM/SEC)				
FC (HZ)	51.4	68.5	62.5	51.4	68.5	62.5	51.4
MAXIMUM ACCELERATION (GAL)	76.8			76.8			76.8
FIXED FILTER	3.25	6.02	5.46	3.25	6.02	5.46	3.25
VARIABLE FILTER	2.69	5.46		2.69	5.46		2.69
MAXIMUM DISPLACEMENT (CM)							
FIXED FILTER	0.743	1.193	1.017	0.743	1.193	1.017	0.743
VARIABLE FILTER	0.492	0.284		0.492	0.284		0.492

\* RESULTANT OF HORIZONTAL COMPONENTS

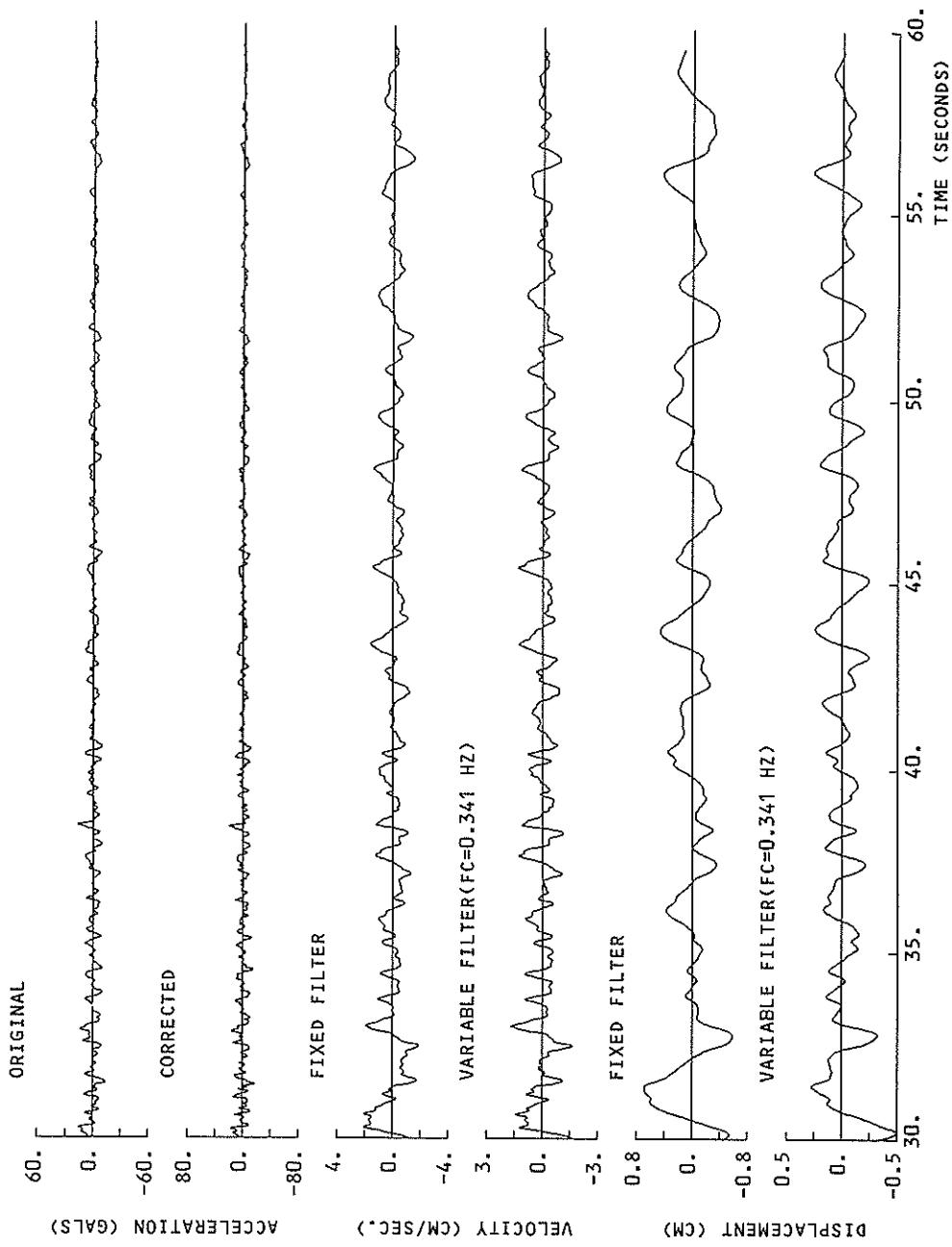




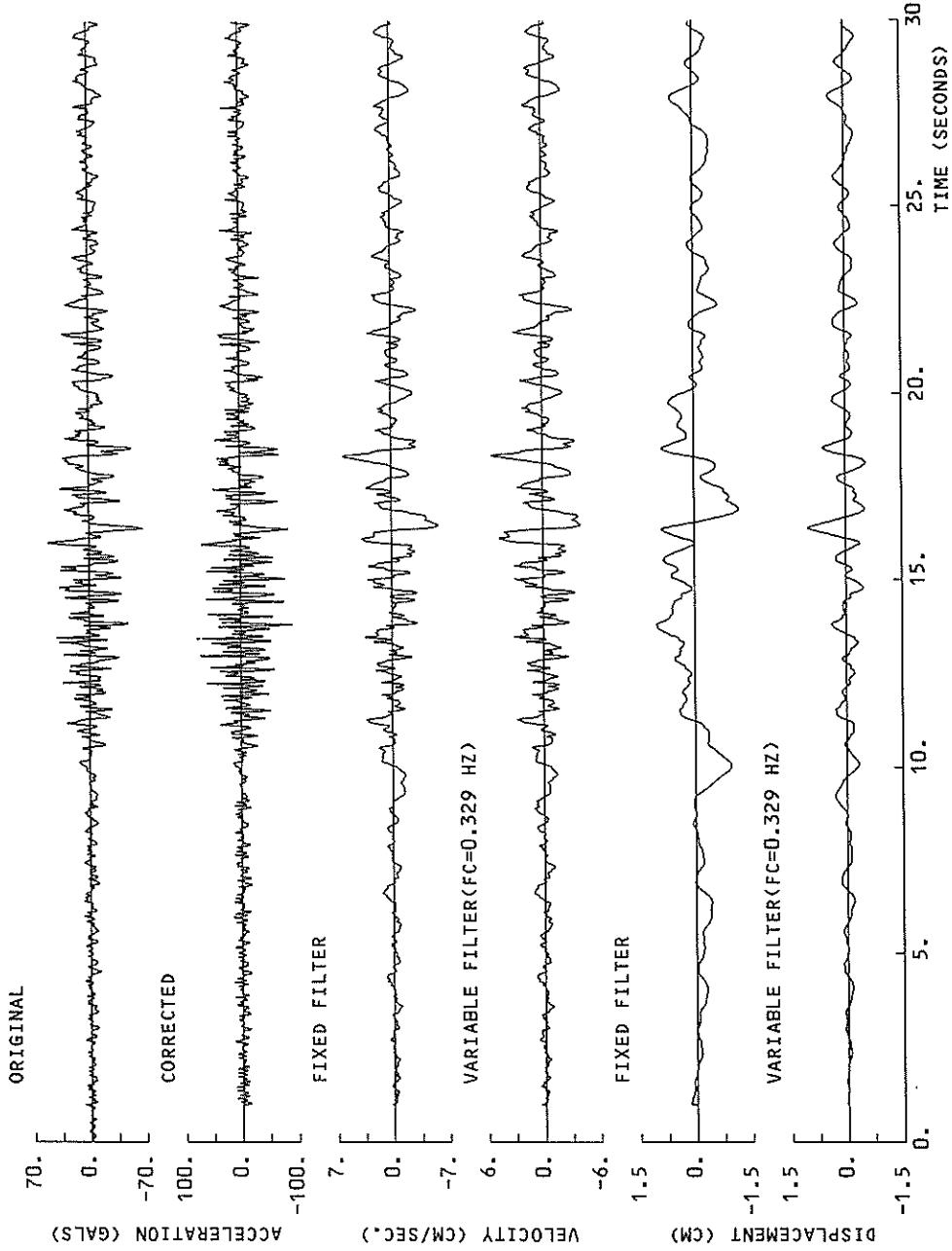
S-2261 NORTH HACHINOHE-JI-S



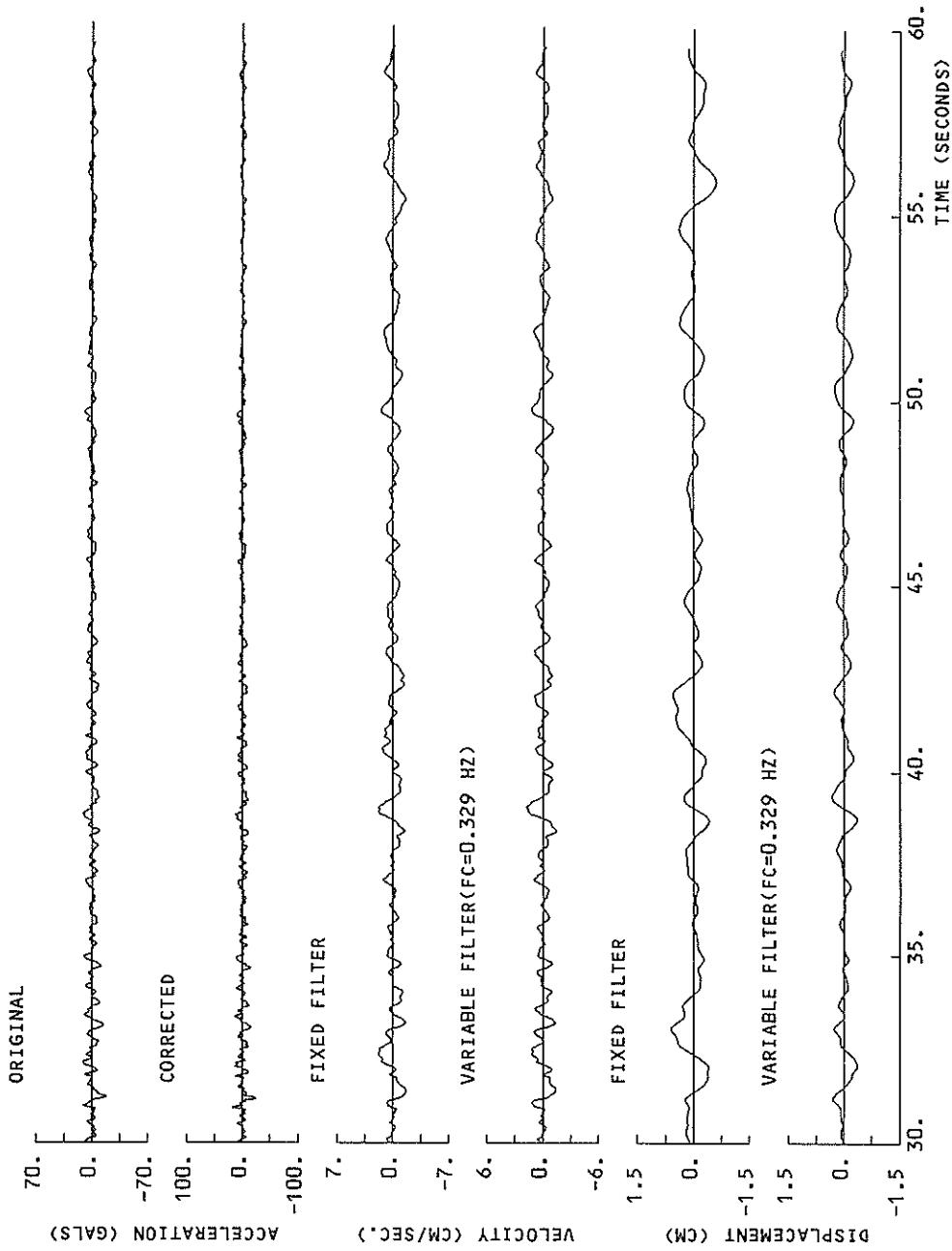
S-2261 NORTR HACHINOHE-JI-S



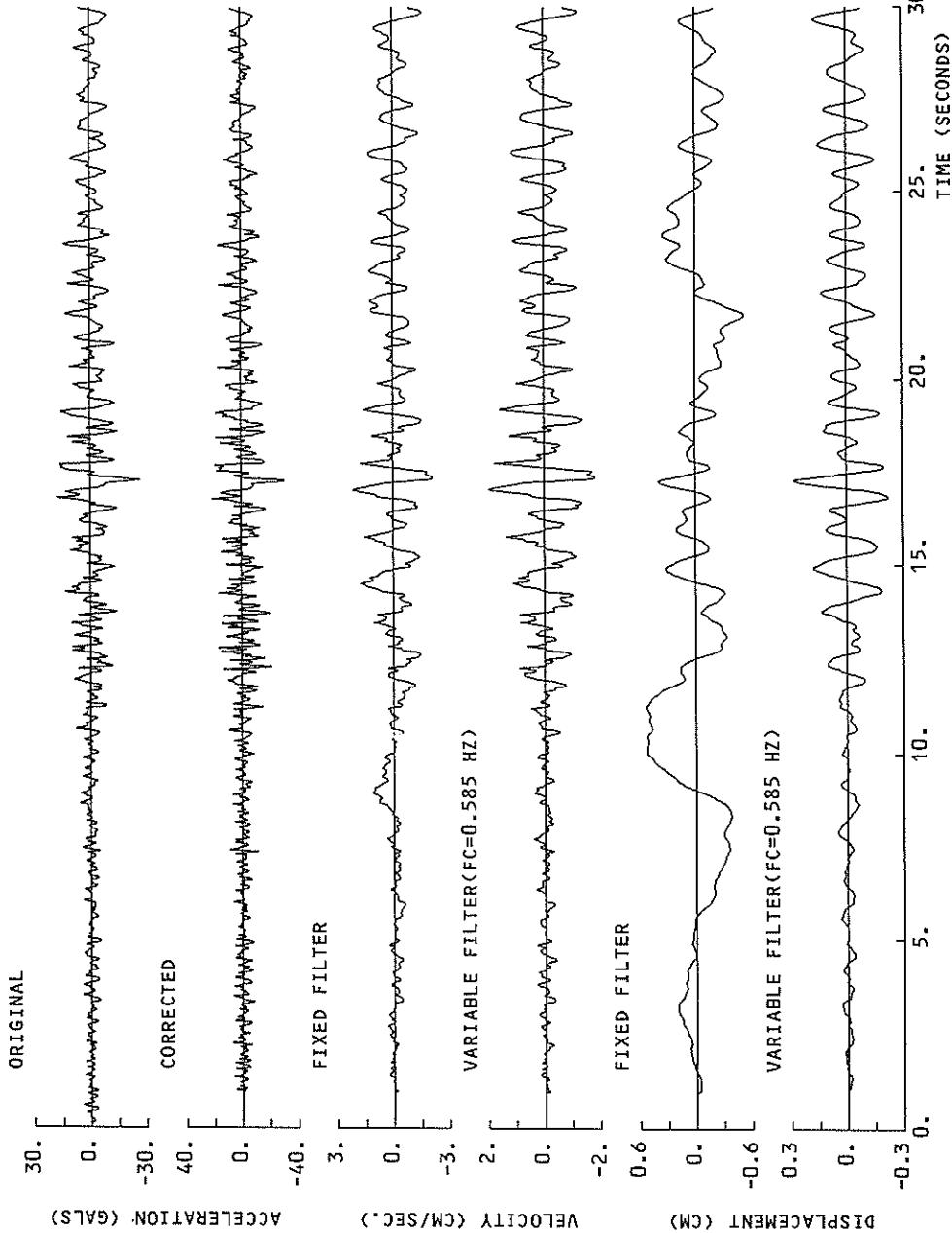
S-2261 WEST HACHINOHE-JI-S

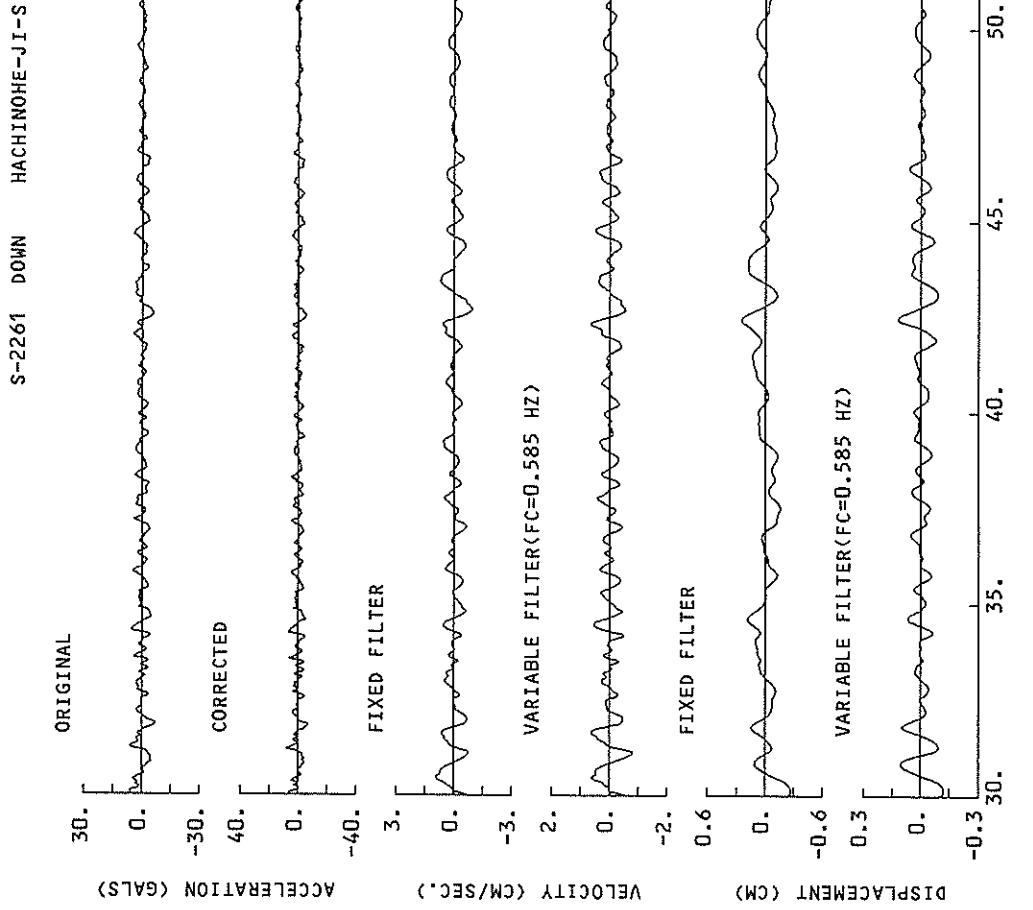


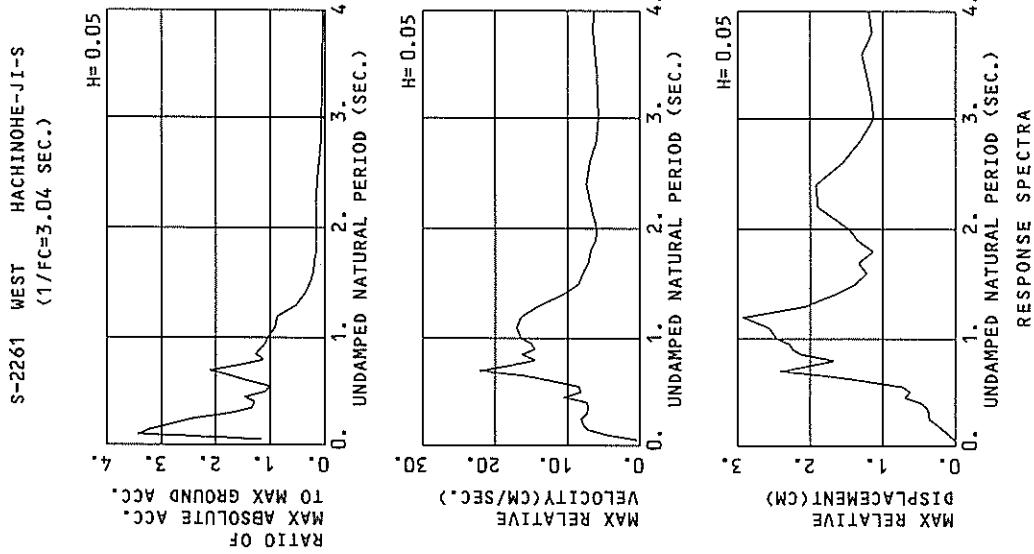
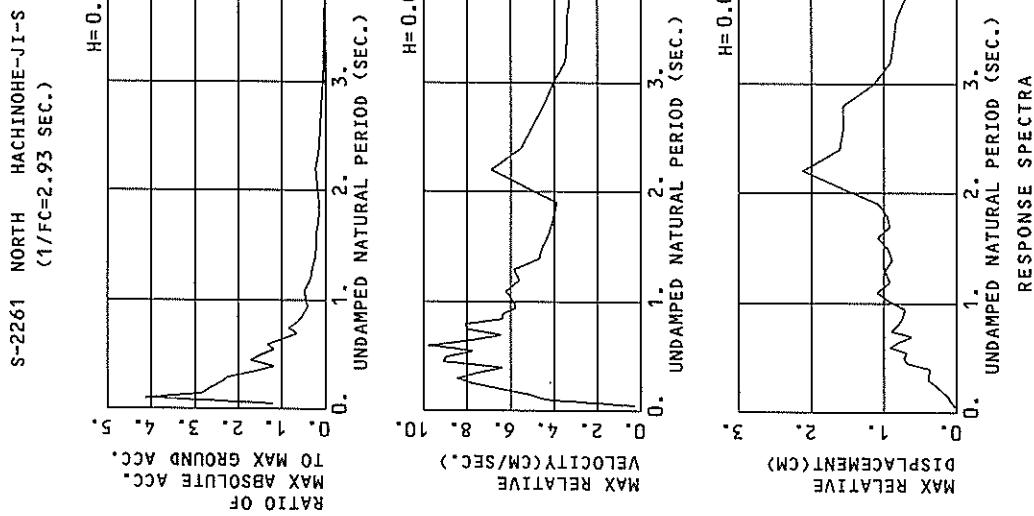
S-2261 WEST HACHINOHE-JI-S

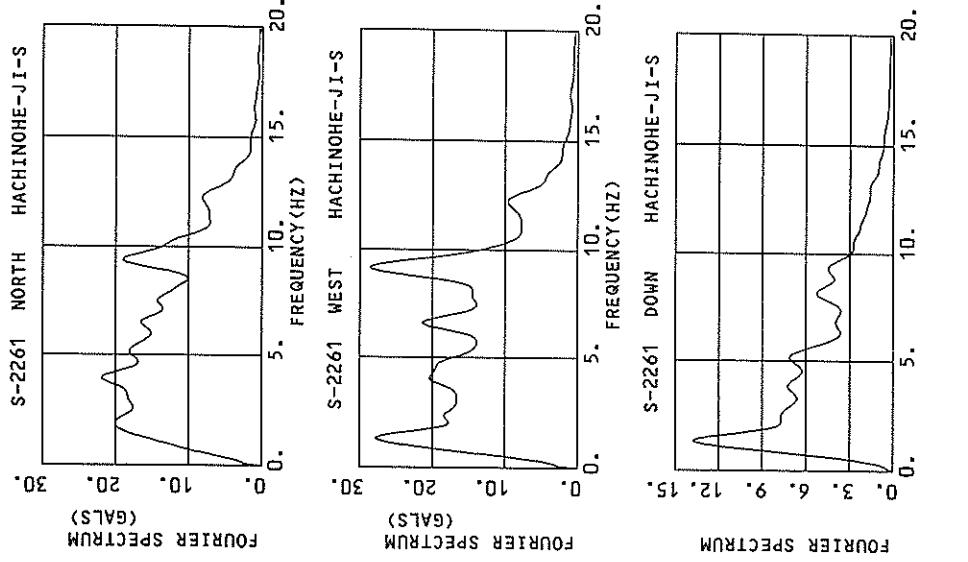
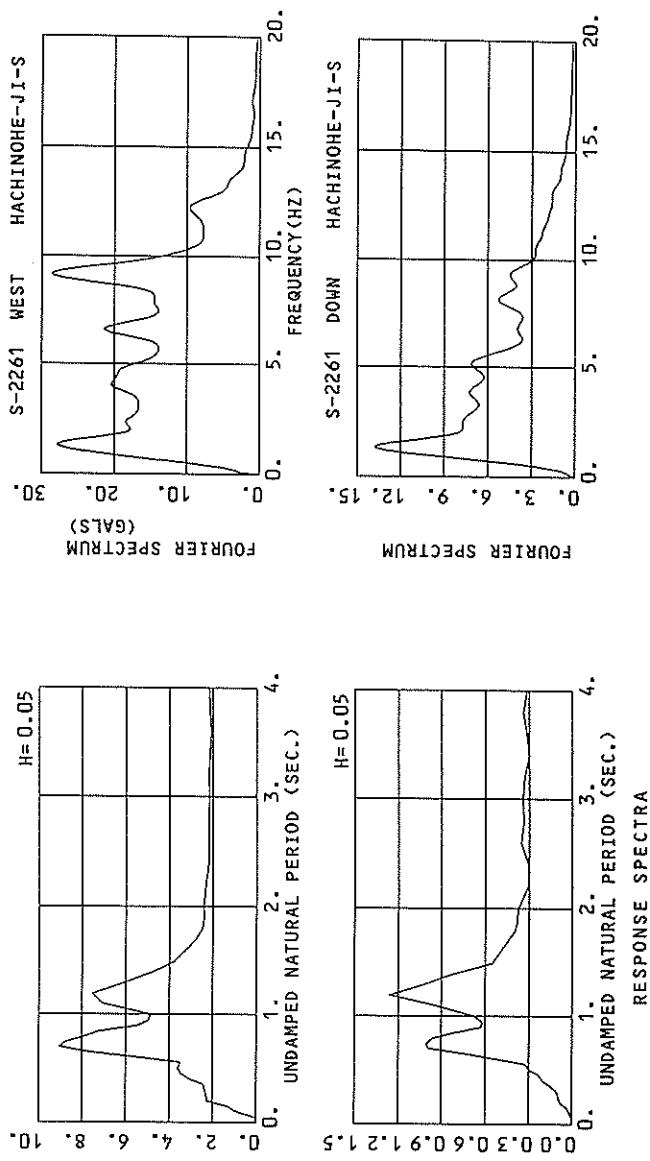
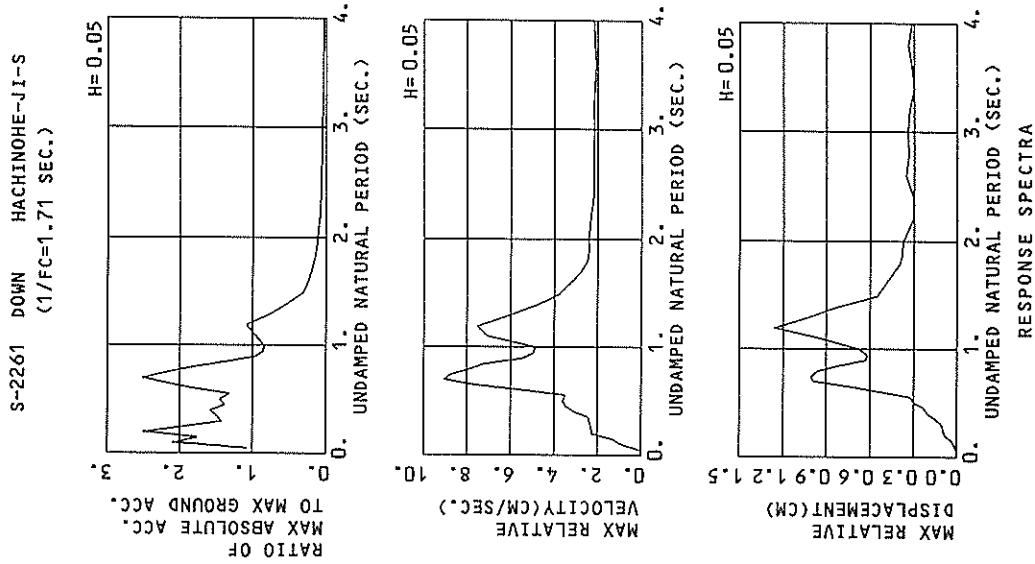


S-2261 DOWN HACHINOHE-JI-S









## RESPONSE SPECTRUM

PER	DAMPING = 0.			DAMPING = 0.025			DAMPING = 0.050			DAMPING = 0.100			DAMPING = 0.250			
	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD	
0.05	94.4	0.33	0.006	94.8	0.29	0.006	93.3	0.29	0.006	91.8	0.28	0.006	90.0	0.26	0.006	
0.10	64.8	9.49	0.156	375.3	5.53	0.095	317.8	4.35	0.080	232.7	3.05	0.058	146.7	1.68	0.034	
0.15	42.2	22.50	0.537	323.3	8.01	0.190	226.9	5.12	0.123	170.6	3.96	0.095	120.1	2.63	0.060	
0.20	67.8	21.20	0.687	248.1	7.82	0.561	203.5	6.38	0.203	137.5	4.07	0.136	100.0	2.53	0.092	
0.25	79.3	30.82	1.257	216.5	8.81	0.342	184.3	7.75	0.246	141.9	5.71	0.220	97.3	3.23	0.138	
0.30	403.7	18.49	0.920	198.0	9.79	0.452	171.7	8.46	0.389	129.1	6.22	0.287	86.0	3.45	0.169	
0.35	562.9	31.22	1.747	176.5	9.65	0.548	123.3	7.53	0.378	94.2	5.91	0.284	64.0	3.70	0.164	
0.40	361.7	22.90	1.466	117.7	7.25	0.775	90.6	6.39	0.363	79.0	6.08	0.314	56.7	3.90	0.203	
0.45	418.1	29.56	2.145	202.4	14.18	1.038	132.5	9.11	0.677	87.0	6.29	0.433	53.8	3.68	0.233	
0.50	398.1	31.64	2.521	155.5	12.36	0.982	116.2	9.00	0.732	75.9	6.13	0.473	49.4	3.73	0.262	
0.55	158.9	13.87	1.218	99.9	8.31	0.764	90.4	7.76	0.690	72.7	5.94	0.546	44.8	3.66	0.299	
0.60	456.6	43.59	4.164	159.3	15.22	1.214	101.7	9.78	0.923	65.9	6.09	0.590	34.6	3.86	0.317	
0.65	356.6	36.70	3.817	113.5	11.86	1.214	74.5	7.88	0.792	51.5	5.49	0.536	31.7	3.88	0.324	
0.70	173.9	19.51	2.158	56.6	1.78	0.695	50.6	6.44	0.624	44.6	5.42	0.539	31.7	3.84	0.343	
0.75	202.2	24.06	2.885	89.5	10.93	1.273	64.1	7.96	0.908	42.5	5.52	0.589	29.1	3.82	0.351	
0.80	375.3	47.47	6.91	2.885	89.5	10.93	1.273	64.1	8.09	0.817	36.7	5.93	0.568	25.9	3.90	0.345
0.85	575.9	8.60	1.023	50.7	7.91	0.226	42.1	6.40	0.764	32.6	5.59	0.576	23.1	4.08	0.356	
0.90	89.6	13.03	1.839	48.6	7.22	0.996	36.0	6.31	0.735	28.2	4.97	0.558	22.1	4.14	0.376	
0.95	128.2	19.39	2.931	47.7	7.72	1.072	31.3	5.77	0.712	26.5	4.78	0.590	21.0	4.15	0.391	
1.00	88.5	14.17	2.241	42.4	7.36	1.072	34.7	5.84	0.876	26.3	4.55	0.648	19.7	4.13	0.407	
1.10	93.2	16.28	2.855	45.0	8.50	1.377	35.9	6.22	1.094	25.8	4.93	0.774	17.6	4.05	0.447	
1.20	89.2	17.82	3.253	34.5	7.62	1.256	25.5	5.61	0.922	18.7	4.22	0.669	15.3	3.87	0.464	
1.30	52.6	10.96	2.250	30.2	6.92	1.291	23.2	5.84	0.866	17.1	4.33	0.716	13.1	3.64	0.475	
1.40	29.6	6.60	1.471	20.6	5.14	0.019	18.0	4.68	0.891	14.8	3.98	0.708	11.3	3.42	0.492	
1.50	58.5	13.99	3.335	24.4	6.33	1.390	16.7	4.53	0.945	11.8	3.30	0.657	10.0	3.21	0.513	
1.60	39.2	10.22	2.542	23.3	6.00	1.506	16.8	4.28	0.984	10.9	3.39	0.698	9.4	3.04	0.537	
1.70	29.2	8.01	2.139	15.7	4.79	1.149	12.7	4.11	0.922	10.7	3.50	0.766	8.9	3.04	0.581	
1.80	28.6	8.61	2.347	16.6	5.16	1.361	11.7	3.98	0.959	10.0	3.44	0.802	8.5	3.13	0.630	
1.90	31.9	9.81	2.916	15.4	4.87	1.409	12.0	3.85	1.081	10.3	3.59	0.911	8.4	3.24	0.714	
2.00	24.3	7.75	2.467	16.9	5.1	1.709	14.2	4.91	1.428	11.4	4.07	1.120	8.3	3.35	0.714	
2.20	47.4	17.00	5.806	24.3	8.96	2.973	17.4	6.90	2.124	11.8	5.12	1.423	7.6	3.48	0.744	
2.40	33.4	12.84	4.872	14.5	6.56	2.119	11.1	5.53	1.611	9.3	4.32	1.313	6.6	3.35	0.799	
2.60	15.0	6.96	2.577	10.0	5.3	1.712	9.2	4.98	1.560	8.0	4.01	1.319	6.1	3.25	0.845	
2.80	11.8	5.82	2.348	9.3	5.02	1.845	8.0	4.46	1.567	6.7	3.72	1.257	5.4	3.23	0.840	
3.00	6.9	4.91	1.575	5.5	4.36	1.249	4.03	1.143	4.9	3.58	1.049	4.6	3.18	0.800	3.12	
3.20	3.8	3.65	0.994	3.7	3.58	0.953	3.56	3.50	0.914	3.25	0.839	0.781	3.6	3.06	0.689	
3.40	3.1	3.55	0.907	3.1	3.48	0.896	3.0	3.41	0.862	2.8	0.742	3.22	3.01	0.642	2.9	
3.60	3.60	3.62	1.045	2.8	3.51	0.908	2.6	3.40	0.831	2.5	0.742	3.22	3.01	0.606	2.9	
3.80	2.8	3.75	1.023	2.1	3.43	0.755	2.0	3.29	0.707	1.8	0.684	2.15	2.9	0.580	2.7	
4.00	2.2	3.60	0.905	1.6	3.35	0.625	1.5	3.19	0.594	1.8	0.640	2.7	2.95	0.580	2.7	

PER = RERIOD (SEC)

AA = ABSOLUTE ACC. (GAL)

RV = RELATIVE VELOCITY (CM/SEC)

RD = RELATIVE DISPLACEMENT (CM)

## RESPONSE SPECTRUM

DATE AND TIME = 1989-11-25 TIME LENGTH = 59.49 (SEC)		COMPONENT = WEST		SAMPLING INTERVAL = 0.0100 (SEC)		CORRECTION = MAX. GROUND ACC. = 92.552 (GAL)		STATION = HACHINOHE-JI-S	
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD
<b>DAMPING = 0.</b>									
				<b>DAMPING = 0.025</b>			<b>DAMPING = 0.050</b>		
0.05	117.5	0.52	0.007	111.5	0.37	0.007	107.2	0.35	0.007
0.10	807.6	11.93	0.205	406.9	5.99	0.102	317.1	4.58	0.080
0.15	1453.4	34.54	0.828	437.9	10.76	0.249	298.7	7.84	0.167
0.20	507.4	16.15	0.514	315.0	9.35	0.317	259.4	0.259	0.167
0.25	808.3	31.82	1.276	312.8	11.92	0.494	225.4	7.09	0.356
0.30	440.6	20.33	1.004	220.2	9.87	0.503	160.4	7.29	0.363
0.35	242.9	13.80	0.754	146.8	8.69	0.455	123.5	7.14	0.381
0.40	204.4	12.88	0.829	142.6	9.49	0.515	119.0	7.28	0.481
0.45	674.9	48.39	3.462	188.6	13.74	0.966	136.1	10.54	0.697
0.50	155.2	12.38	0.983	106.7	8.32	0.673	100.4	8.12	0.631
0.55	159.1	13.73	1.219	103.4	9.48	0.792	93.7	8.36	0.716
0.60	422.9	40.89	3.405	165.4	15.20	1.507	133.9	12.17	1.217
0.65	318.2	32.51	3.405	194.6	19.82	2.082	162.7	15.97	1.732
0.70	611.2	68.09	7.586	282.4	31.47	3.098	95.9	22.13	2.419
0.75	222.8	28.04	3.175	165.3	20.15	2.351	144.3	17.94	2.044
0.80	268.4	34.02	4.351	132.6	17.80	2.146	104.1	14.47	1.676
0.85	224.8	32.50	4.297	147.6	20.80	2.685	116.5	16.32	2.122
0.90	166.9	23.64	3.422	124.8	16.78	2.657	109.4	14.47	2.236
0.95	276.9	41.88	6.329	116.4	16.99	2.654	100.7	14.95	2.285
1.00	181.6	30.62	4.601	124.6	21.23	3.151	97.7	16.40	2.459
1.10	173.6	31.48	5.321	98.5	18.62	3.013	84.1	17.06	2.565
1.20	179.5	35.34	6.549	109.3	21.75	3.980	80.8	16.43	2.927
1.30	96.5	20.23	4.130	54.5	15.38	2.332	48.8	13.94	2.076
1.40	40.8	10.73	2.026	37.5	10.95	1.859	34.6	10.69	1.700
1.50	39.9	10.04	2.272	22.6	4.000	1.502	24.9	7.39	1.383
1.60	67.6	17.31	4.386	2.911	24.8	8.32	1.800	7.78	1.222
1.70	39.8	10.70	4.037	13.02	3.533	17.7	7.51	1.448	1.337
1.80	43.7	13.22	4.037	19.7	7.39	1.797	14.8	6.12	1.343
1.90	44.1	13.22	4.037	18.3	6.43	1.845	14.6	5.98	1.559
2.00	26.5	8.74	2.684	2.684	7.43	1.811	18.4	6.78	1.337
2.20	33.2	11.80	4.065	19.8	8.03	2.425	15.7	6.72	1.899
2.40	39.5	15.29	5.767	15.1	8.51	2.195	13.4	7.39	1.925
2.60	13.9	7.95	2.373	11.0	7.32	1.867	9.9	6.90	1.345
2.80	17.8	8.73	3.529	8.1	6.34	1.612	6.9	5.94	1.311
3.00	8.9	5.60	2.030	6.0	5.73	1.355	5.2	5.72	1.129
3.20	5.7	5.91	1.479	4.6	5.80	1.184	4.7	5.75	1.161
3.40	4.4	5.70	1.289	4.4	5.83	1.270	4.4	5.85	1.225
3.60	5.1	6.41	1.669	4.4	6.29	1.434	4.2	6.16	1.289
3.80	4.1	7.26	1.497	3.5	6.76	1.251	3.4	6.44	1.153
4.00	3.7	6.92	1.489	3.3	6.59	1.307	3.2	6.35	1.195
PER = PERIOD (SEC)		AA = ABSOLUTE ACC. (GAL)		RV = RELATIVE VELOCITY (CM/SEC)		RD = RELATIVE DISPLACEMENT (CM)			

## RESPONSE SPECTRUM

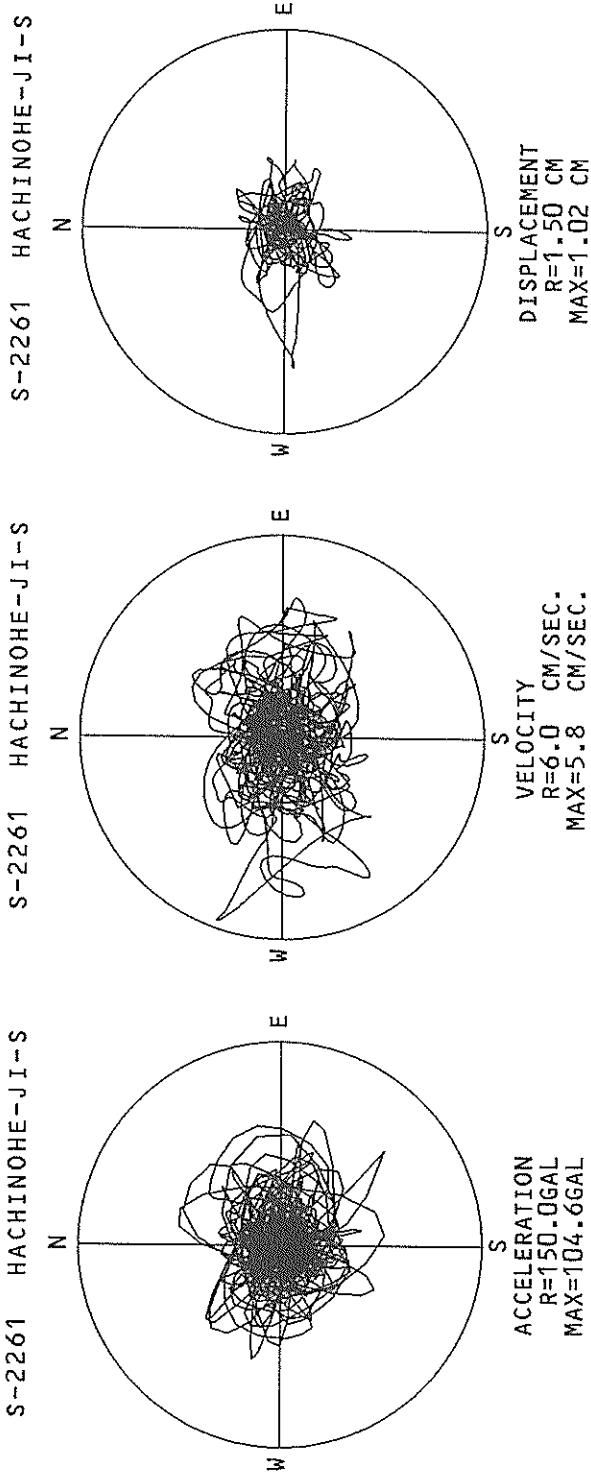
RECORD = S-2261		COMPONENT = DOWN		SAMPLING INTERVAL = 0.0100 (SEC)		CORRECTION = MAX. GROUND ACC. = 31.91 (GAL)		STATION = HACHINOHE-JI-S	
DATE AND TIME = 1969-11-2-59.49 (SEC)		SKIPPED LENGTH = 0.00 (SEC)		DAMPING = 0.025		DAMPING = 0.050		DAMPING = 0.100	
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	66.4	0.33	0.004	34.2	0.08	0.002	34.4	0.08	0.002
0.10	205.5	3.16	0.052	90.5	1.26	0.023	67.0	0.89	0.059
0.15	122.9	2.90	0.070	71.1	1.62	0.041	56.3	1.28	0.032
0.20	253.5	7.55	0.256	107.8	3.09	0.109	80.0	2.24	0.081
0.25	201.5	7.66	0.319	85.6	3.27	0.136	61.6	2.31	0.097
0.30	179.1	8.38	0.408	64.5	3.28	0.147	45.7	2.35	0.104
0.35	200.2	11.36	0.634	68.9	3.51	0.233	48.0	2.42	0.148
0.40	17.17	1.097	76.6	4.67	0.309	50.7	3.07	0.205	1.70
0.45	181.9	12.87	0.933	63.9	4.87	0.327	44.3	3.45	0.206
0.50	118.4	9.31	0.750	54.8	4.26	0.346	46.5	3.59	0.235
0.55	96.0	8.41	0.736	50.0	4.26	0.383	42.2	3.48	0.321
0.60	178.3	16.93	1.626	69.8	6.18	0.636	57.5	5.39	0.522
0.65	116.7	12.03	1.249	83.0	8.85	0.887	70.2	7.80	0.748
0.70	245.8	27.10	3.051	117.6	13.07	1.457	80.4	9.07	0.993
0.75	175.7	20.41	2.503	88.2	7.44	1.256	71.0	8.77	1.005
0.80	113.4	15.23	1.839	77.4	10.58	1.201	59.3	7.77	0.956
0.85	115.9	16.08	2.121	62.4	8.66	1.41	45.1	7.22	0.821
0.90	77.6	11.20	1.592	35.2	5.57	0.731	30.8	5.44	0.627
0.95	60.2	9.22	1.376	52.2	5.62	0.736	27.2	4.94	0.618
1.00	73.5	11.80	1.863	39.3	6.03	0.984	26.8	4.86	0.676
1.10	49.6	9.14	1.520	38.8	7.99	1.187	31.1	7.05	0.950
1.20	117.0	22.44	4.268	45.7	9.56	1.663	34.9	7.54	1.263
1.30	43.0	8.21	1.839	28.9	6.97	1.235	24.1	6.11	0.266
1.40	20.6	6.21	1.025	18.6	5.46	0.920	16.6	4.78	0.816
1.50	14.1	3.44	0.806	10.2	3.74	0.580	9.7	3.74	0.546
1.60	12.1	3.76	0.744	7.76	9.2	3.37	5.96	3.24	0.497
1.70	10.9	3.11	0.796	6.8	2.86	0.498	6.1	2.78	0.446
1.80	7.4	2.67	0.607	5.3	2.58	0.437	4.9	2.47	0.395
1.90	7.7	2.79	0.654	4.9	2.49	0.447	4.2	2.39	0.377
2.00	5.3	2.73	0.534	4.2	2.51	0.420	3.8	2.43	0.373
2.20	2.7	2.29	0.326	2.6	2.33	0.310	2.6	2.33	0.308
2.40	2.5	2.25	0.367	2.2	2.22	0.316	2.1	2.20	0.301
2.60	2.6	2.30	0.449	2.3	2.22	0.385	2.2	2.20	0.355
2.80	1.5	2.23	0.295	1.7	2.22	0.326	1.8	2.20	0.334
3.00	1.6	2.13	0.376	1.6	2.17	0.352	1.6	2.18	0.340
3.20	1.4	2.34	0.360	1.0	2.25	0.339	1.4	2.20	0.329
3.40	1.1	2.10	0.312	1.0	2.13	0.274	1.1	2.13	0.296
3.60	0.9	2.08	0.312	1.0	2.05	0.313	1.0	2.09	0.313
3.80	1.2	2.17	0.421	1.0	2.15	0.366	1.0	2.11	0.331
4.00	0.9	2.31	0.350	0.8	2.21	0.326	0.8	2.16	0.313

PER = RERIOD (SEC)

AA = ABSOLUTE ACC. (GAL)

RV = RELATIVE VELOCITY (CM/SEC)

RD = RELATIVE DISPLACEMENT (CM)



RECORD NUMBER  
STATION

S-2251 SAKAIMINATO-JI-S

EARTHQUAKE DATA (JISHIN KAZAN GAIKYO)

DATA AND TIME \*\*\*\*4:57 NOV. 2, 1989

LOCATION OF HYPOCENTER

EPCENTRAL REGION

LATITUDE

35°16.0' N

133°22.0' E

16.0KM

5.4

MAGNITUDE

PEAK VALUES OF COMPONENTS

	N	S	E	W	U	D	HORIZONTAL*
	-	-	-	-	-	-	-

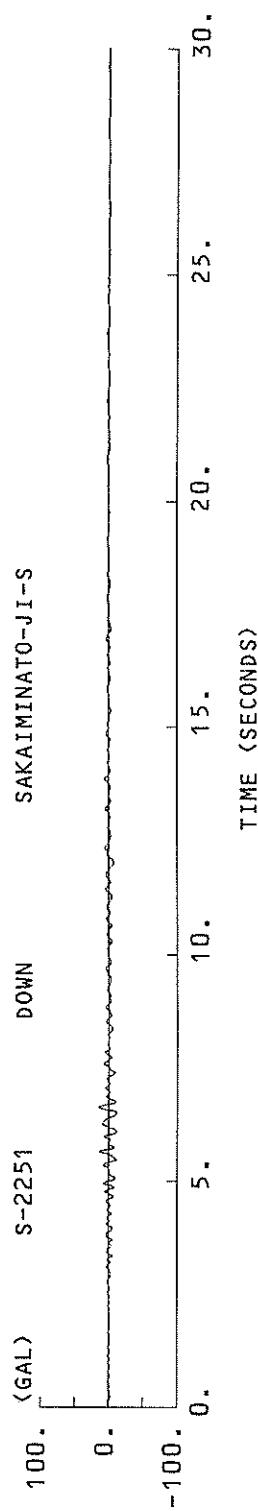
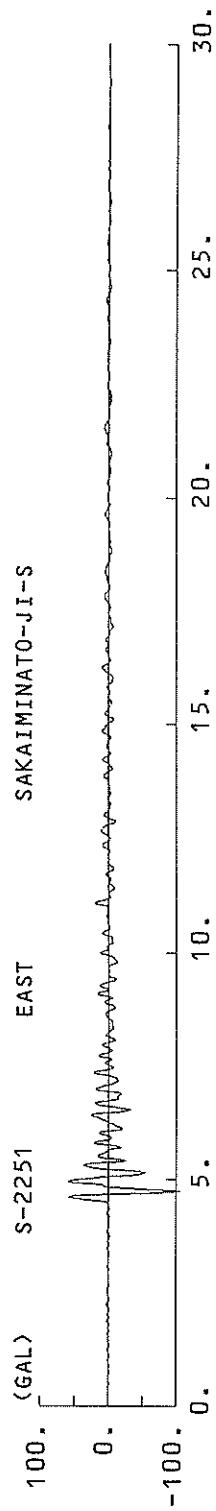
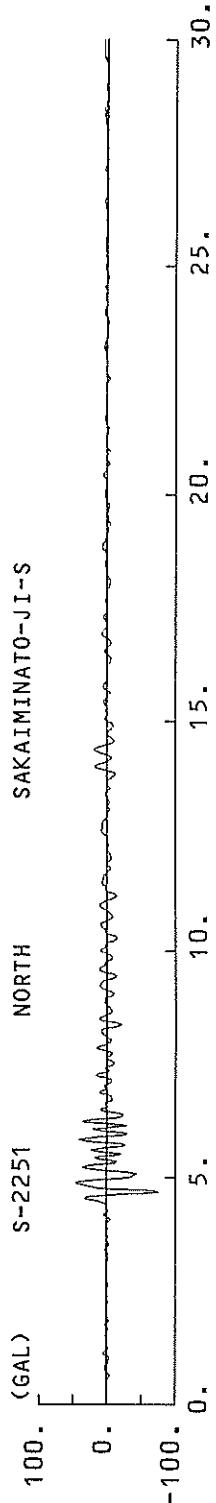
PARAMETER OF THE VARIABLE FILTER

FC (HZ)	0.438	0.438	0.987
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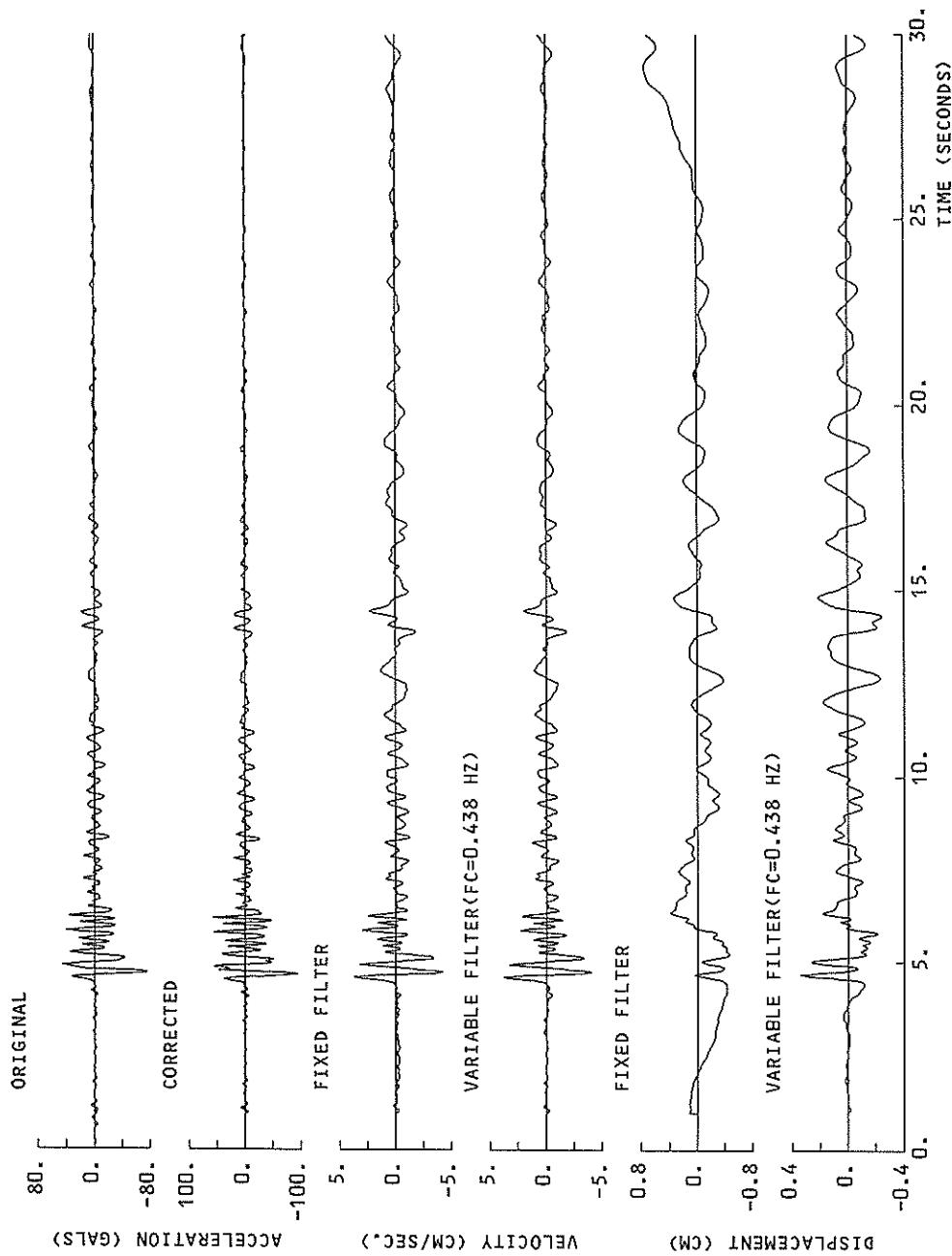
MAXIMUM ACCELERATION (GAL)	
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ORIGINAL	75.3	104.7	15.7	117.2
CORRECTED	95.6	137.3	22.7	150.1
MAXIMUM VELOCITY (CM/SEC)				
FIXED FILTER	4.23	6.23	0.91	6.60
VARIABLE FILTER	4.06	6.20	0.91	6.61
MAXIMUM DISPLACEMENT (CM)				
FIXED FILTER	0.743	0.534	0.331	0.748
VARIABLE FILTER	0.342	0.485	0.053	0.552

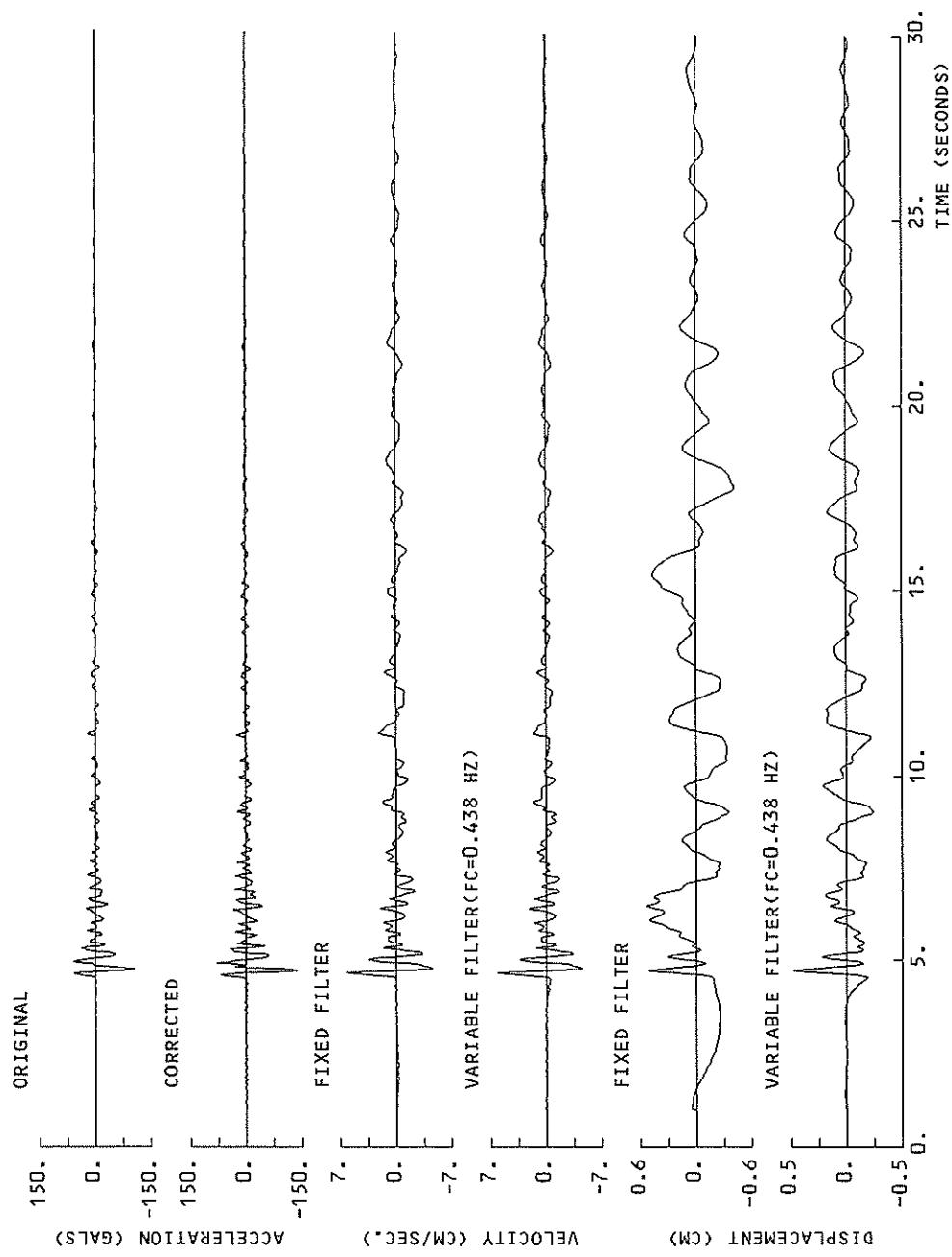
\* RESULTANT OF HORIZONTAL COMPONENTS



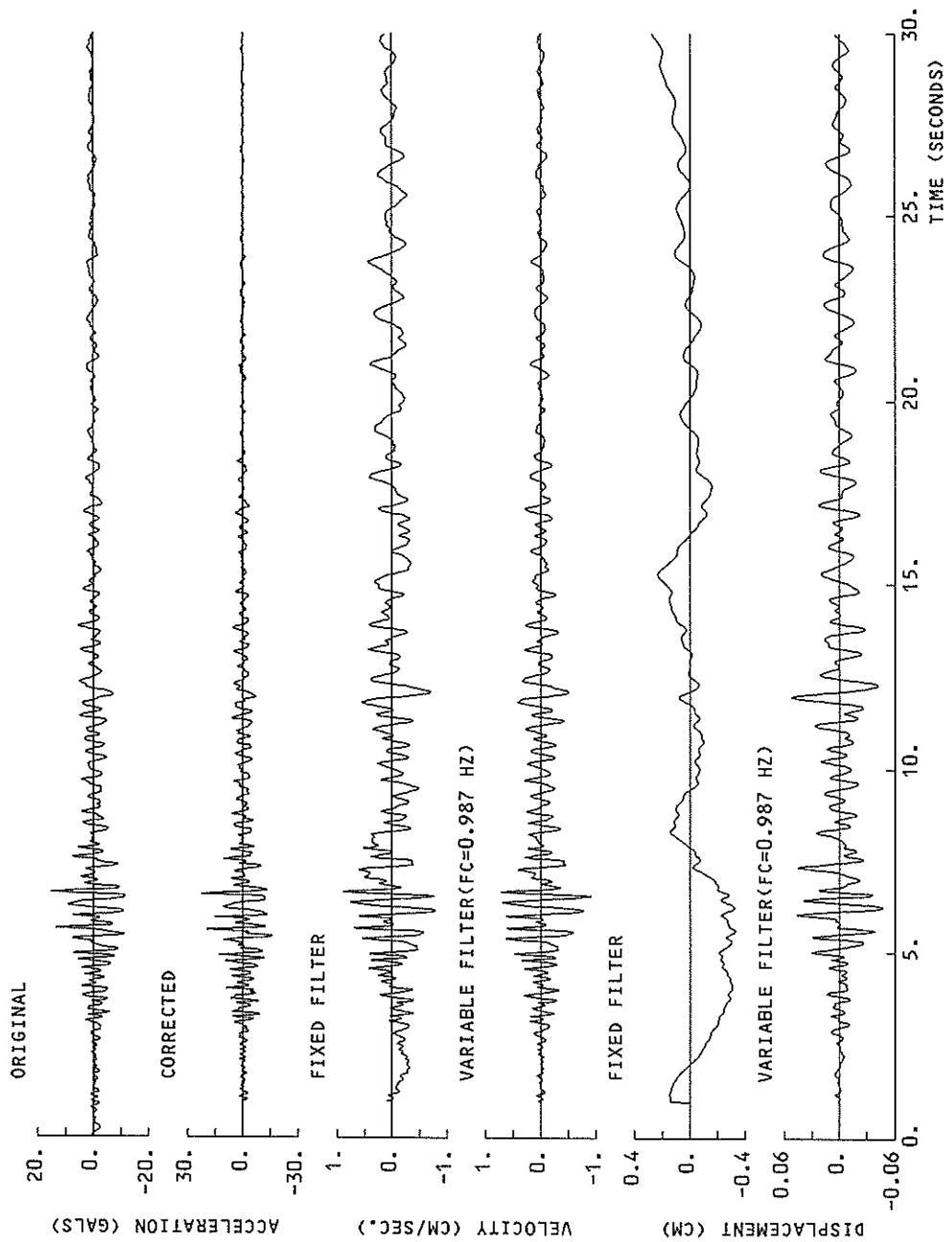
S-2251 NORTH SAKAIMINATO-JI-S

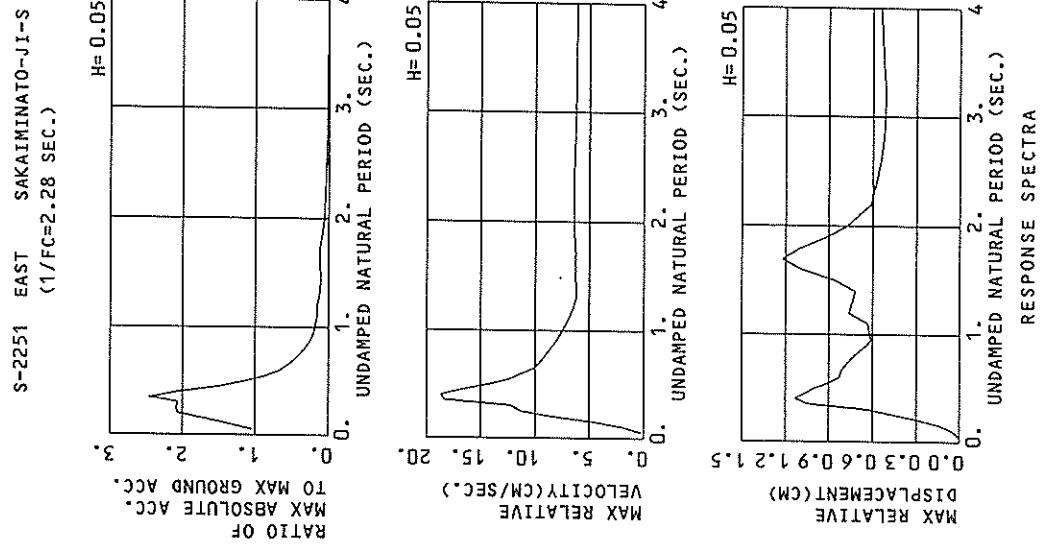
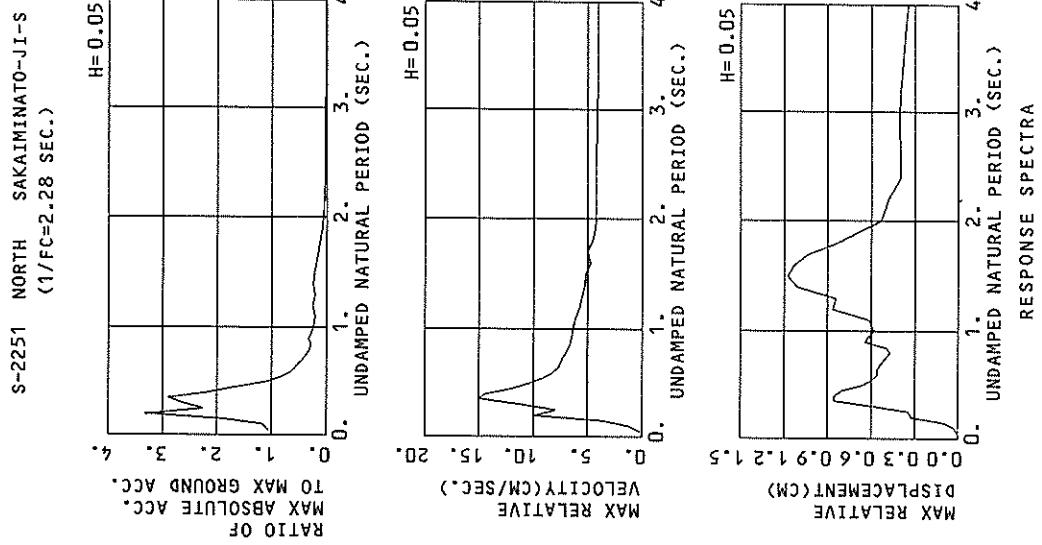


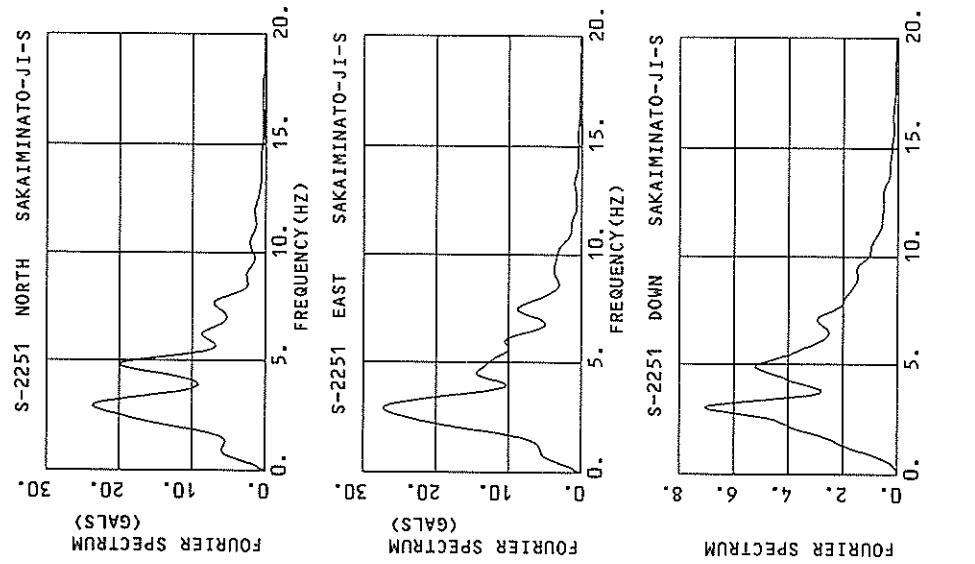
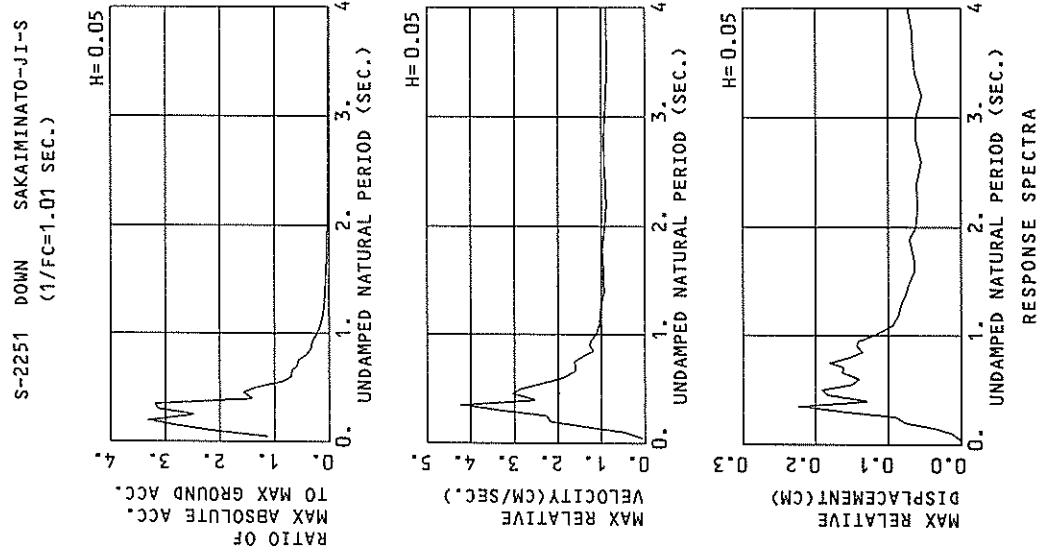
S-2251 EAST SAKAIMINATO-JI-S



S-2251 DOWN SAKAIMINATO-JI-S







## RESPONSE SPECTRUM

RECORD = S-2251		COMPONENT = NORTH		SIGNAL = GR. ACC.		CORRECTION = 0.0100 SEC)		MAX. GROUND ACC. = 95.63 (GAL)		STATION = SAKAIMINATO-JI-S	
DATE AND TIME = 1989-11-2-		SAMPLING INTERVAL = 0.00 (SEC)		SKIPPED LENGTH = 0.00 (SEC)							
TIME LENGTH = 29.99 (SEC)		DAMPING = 0.025		DAMPING = 0.050		DAMPING = 0.100		DAMPING = 0.250			
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV
0.05	108.4	0.29	0.007	101.7	0.19	0.006	101.6	0.18	0.006	101.3	0.17
0.10	169.4	2.23	0.043	124.6	1.57	0.031	110.8	1.28	0.028	105.0	0.06
0.15	280.7	6.33	0.118	92.9	3.97	0.458	177.6	3.54	0.324	153.6	1.95
0.20	916.6	29.16	0.929	455.4	14.10	0.377	217.4	1.96	0.342	204.5	2.26
0.25	304.3	12.86	0.482	293.7	8.93	0.671	252.9	1.12	0.576	195.8	2.85
0.30	453.2	21.98	1.033	14.33	1.43	1.035	278.2	1.50	0.855	201.4	1.09
0.35	481.8	26.80	1.495	334.4	8.50	0.989	211.2	1.45	0.853	169.7	1.21
0.40	458.7	29.03	1.859	244.3	16.74	0.899	156.4	1.90	0.797	128.0	0.98
0.45	19.01	1.303	1.303	175.8	1.10	0.899	105.2	1.34	0.661	92.0	0.02
0.50	156.5	1.280	0.991	114.3	1.15	0.724	105.2	1.0	0.661	92.0	0.09
0.55	96.8	10.40	0.742	84.4	9.64	0.647	77.7	9.06	0.591	68.4	1.12
0.60	121.1	1.32	1.04	63.9	8.58	0.581	61.3	8.24	0.555	57.2	1.51
0.65	59.2	8.24	0.633	55.2	7.93	0.590	52.2	7.68	0.554	48.3	2.24
0.70	70.0	7.86	0.869	45.1	7.69	0.558	43.3	7.50	0.532	40.6	1.14
0.75	38.6	7.51	0.550	37.1	7.37	0.526	35.8	7.24	0.505	34.1	1.97
0.80	37.1	7.23	0.601	30.3	7.08	0.491	29.6	6.98	0.474	28.7	1.78
0.85	38.6	6.79	0.706	31.1	6.76	0.568	26.9	6.71	0.490	24.3	1.60
0.90	99.5	14.25	2.041	46.6	6.77	0.955	31.3	6.53	0.680	20.9	1.45
0.95	54.6	8.02	2.824	36.1	6.53	0.824	27.3	6.46	0.620	19.0	1.25
1.00	23.6	6.65	0.997	25.1	6.51	0.634	23.1	6.40	0.581	18.4	1.25
1.10	28.4	6.23	0.876	22.6	6.17	0.692	20.2	6.11	0.617	16.9	1.99
1.20	63.2	12.37	2.366	33.7	6.24	1.227	23.8	5.77	0.864	17.1	5.99
1.30	31.0	6.86	1.328	20.2	5.55	0.862	19.8	5.53	0.843	17.0	6.08
1.40	50.8	11.38	2.523	29.8	6.77	1.480	22.4	5.30	1.048	16.2	5.28
1.50	55.9	13.42	3.844	30.8	7.51	1.751	20.7	5.21	1.174	14.7	5.06
1.60	43.1	11.65	4.041	24.5	6.48	1.588	17.5	4.55	1.130	12.7	4.84
1.70	24.9	17.62	1.824	17.9	5.95	1.309	14.2	5.02	1.032	10.7	4.66
1.80	16.9	6.20	1.389	12.5	5.24	1.025	10.3	4.60	0.836	8.3	4.52
1.90	12.4	4.49	1.130	9.2	4.24	0.841	7.6	4.31	0.689	6.1	4.44
2.00	7.9	4.23	0.804	6.2	4.21	0.626	5.3	4.27	0.531	5.3	4.38
2.20	5.8	4.20	0.715	4.6	4.23	0.562	4.0	4.27	0.483	4.4	4.33
2.40	3.6	4.23	0.528	3.1	4.25	0.450	3.0	4.26	0.399	3.8	4.31
2.60	2.4	4.21	0.404	2.4	4.22	0.409	2.4	4.24	0.398	3.4	4.23
2.80	2.1	4.16	0.414	2.2	4.18	0.409	2.4	4.20	0.404	3.0	4.27
3.00	1.8	4.10	0.415	1.9	4.13	0.408	2.1	4.15	0.403	2.7	4.19
3.20	1.6	4.06	0.406	1.7	4.08	0.401	1.9	4.11	0.397	2.5	4.16
3.40	1.3	4.05	0.392	1.4	4.05	0.389	1.7	4.08	0.386	2.2	4.13
3.60	1.1	4.04	0.375	1.2	4.03	0.374	1.5	4.06	0.374	2.0	4.11
3.80	1.0	4.03	0.358	1.1	4.02	0.359	1.3	4.05	0.360	1.9	4.09
4.00	0.8	4.02	0.342	0.9	4.02	0.345	1.2	4.04	0.348	1.7	4.09

PER = PERIOD (SEC)

AA = ABSOLUTE ACC. (GAL)

RV = RELATIVE VELOCITY (CM/SEC)

RD = RELATIVE DISPLACEMENT (CM)

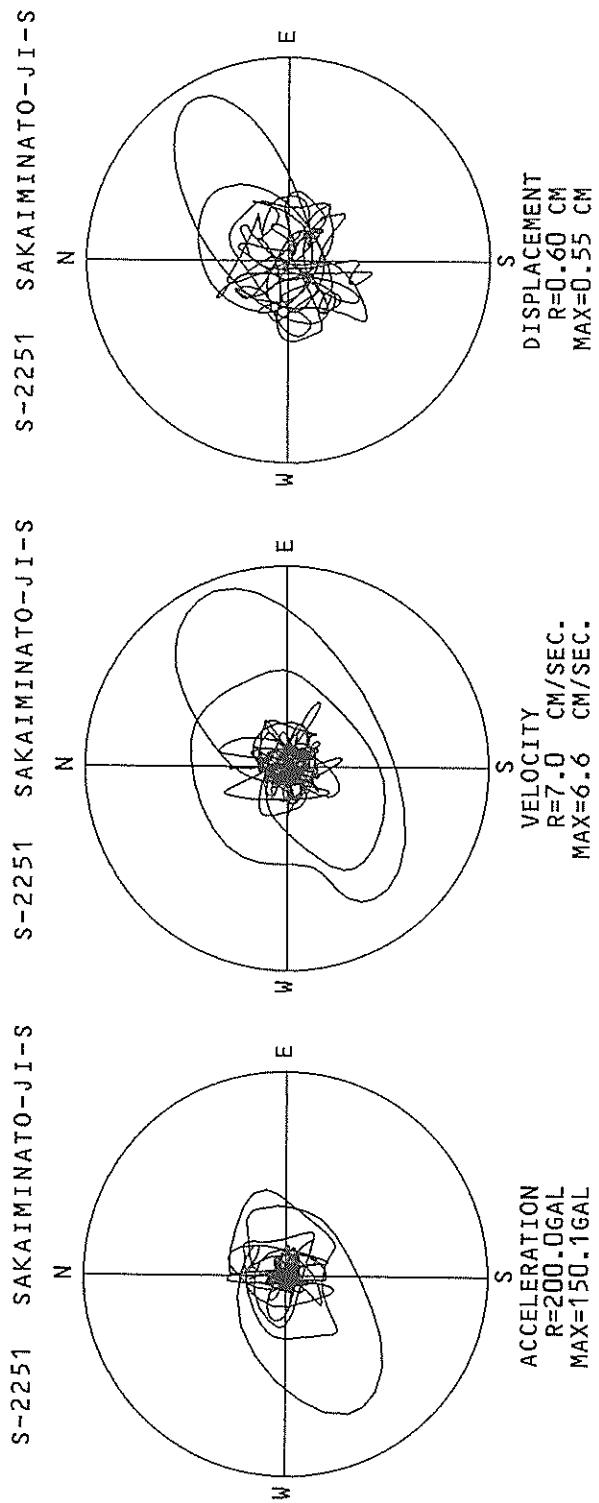
## RESPONSE SPECTRUM

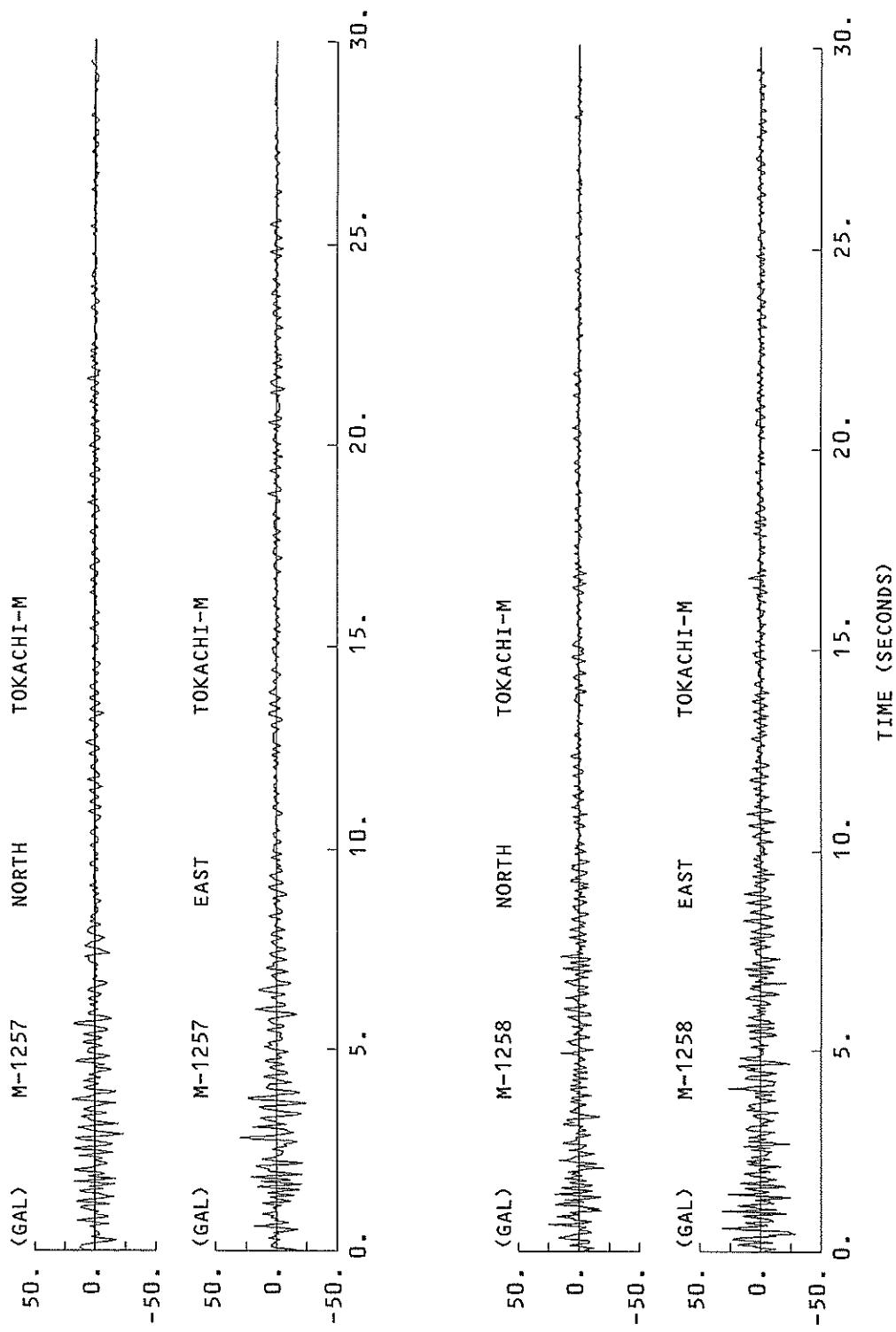
RECORD = S-2251		COMPONENT = EAST		SIGNAL = GR. ACC.		CORRECTION = 0.100 (SEC)		MAX. GROUND ACC. = 0.00 (SEC)		STATION = SAKAIMINATO-JI-S	
DATE AND TIME = 1989-11-2-4-57		SAMPLING INTERVAL = 0.0100 (SEC)		SKIPPED LENGTH = 0.00 (SEC)							
TIME LENGTH = 29.99 (SEC)		DAMPING = 0.		DAMPING = 0.025		DAMPING = 0.050		DAMPING = 0.100		DAMPING = 0.250	
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV
0.05	144.2	0.21	0.009	144.2	0.21	0.009	144.3	0.21	0.009	144.1	0.20
0.10	275.5	0.34	0.016	190.4	0.35	0.048	186.4	0.33	0.131	179.5	0.29
0.15	286.0	0.59	0.013	256.4	0.37	0.147	230.3	0.45	0.286	210.8	0.46
0.20	512.6	1.58	0.019	302.4	0.48	0.306	284.0	0.60	0.286	258.0	0.26
0.25	348.8	1.45	0.052	309.3	1.20	0.490	286.7	1.31	0.451	257.1	0.49
0.30	673.5	32.06	0.535	330.6	1.63	0.757	283.6	2.00	0.644	234.5	0.91
0.35	685.2	38.28	2.126	409.8	2.22	0.64	338.1	1.831	1.045	248.1	1.29
0.40	414.7	36.60	1.681	322.1	2.01	1.305	281.3	1.874	219.8	1.756	1.29
0.45	397.9	28.42	2.041	240.9	1.82	1.234	209.8	1.683	1.069	162.3	7.69
0.50	219.4	17.87	1.389	173.4	15.58	1.094	158.1	14.22	0.996	168.8	0.846
0.55	141.0	14.20	1.081	128.7	13.25	0.985	118.3	12.36	0.900	102.5	10.91
0.60	94.4	11.62	1.069	95.6	11.88	0.872	91.2	10.22	0.825	83.3	10.05
0.65	81.4	9.97	1.010	81.1	10.50	0.868	77.3	10.05	0.819	71.2	9.63
0.70	60.7	6.97	1.010	67.2	9.80	0.833	64.6	9.62	0.792	60.6	9.26
0.75	48.5	9.49	0.865	56.2	9.35	0.797	54.2	9.20	0.763	51.4	8.90
0.80	40.2	8.57	0.787	46.7	8.92	0.756	45.3	8.81	0.725	43.7	8.58
0.85	42.9	8.18	0.735	38.9	8.51	0.768	38.0	8.44	0.684	37.1	8.27
0.90	34.4	12.75	0.879	32.3	8.15	0.661	31.8	8.10	0.639	31.6	7.98
0.95	37.4	7.46	0.946	35.9	7.80	0.819	27.6	7.78	0.613	28.2	7.71
1.00	37.1	6.90	1.136	22.1	6.94	0.676	21.4	6.97	0.633	22.3	7.00
1.10	45.2	8.36	1.649	26.5	6.53	0.964	21.1	6.57	0.763	19.3	6.63
1.20	21.4	6.41	0.916	18.9	6.31	0.807	17.4	6.22	0.740	16.9	6.32
1.30	16.7	6.46	0.827	15.0	6.35	0.744	14.6	6.26	0.718	14.9	6.08
1.40	48.9	11.78	2.788	19.7	6.36	1.21	15.1	6.27	0.857	13.2	6.14
1.50	34.2	9.24	2.220	22.3	6.46	1.443	17.0	6.28	1.096	11.8	6.16
1.60	41.4	11.70	3.033	23.2	6.46	1.699	16.8	6.30	1.223	11.1	6.16
1.70	42.8	12.48	3.515	21.1	6.71	1.750	13.4	6.33	0.995	9.7	6.16
1.80	18.5	6.51	1.691	13.3	6.44	1.217	10.2	6.37	0.922	8.9	6.23
1.90	2.00	9.5	6.56	9.67	8.6	0.866	7.8	6.41	0.779	8.1	6.26
2.00	2.20	6.61	0.756	5.2	6.53	0.619	5.6	6.45	0.611	6.9	6.31
2.10	6.40	6.58	0.581	6.51	6.51	0.578	4.6	6.44	0.577	5.8	6.32
2.20	3.6	6.51	0.616	3.3	6.45	0.542	3.8	6.40	0.546	5.0	6.30
2.30	2.80	2.6	0.522	2.8	6.48	0.518	3.2	6.34	0.525	4.4	6.26
2.40	3.00	2.2	0.500	2.4	6.32	0.508	2.5	6.29	0.515	4.0	6.23
2.50	3.20	1.9	0.503	2.1	6.27	0.509	2.5	6.25	0.514	3.6	6.20
2.60	3.40	1.8	0.513	1.9	6.24	0.516	2.3	6.22	0.519	3.3	6.18
2.70	3.60	1.6	0.524	1.8	6.22	0.526	2.1	6.21	0.527	3.1	6.17
2.80	3.80	1.5	0.538	1.6	6.22	0.537	2.0	6.20	0.536	2.9	6.17
2.90	4.00	1.4	0.550	1.5	6.22	0.546	1.9	6.20	0.543	2.7	6.17
3.00	4.20	1.4	0.560	1.5	6.22	0.556	1.9	6.20	0.553	2.7	6.17
3.10	4.40	1.4	0.570	1.5	6.22	0.566	1.9	6.20	0.563	2.7	6.17
3.20	4.60	1.4	0.580	1.5	6.22	0.576	1.9	6.20	0.573	2.7	6.17
3.30	4.80	1.4	0.590	1.5	6.22	0.586	1.9	6.20	0.583	2.7	6.17
3.40	5.00	1.4	0.600	1.5	6.22	0.596	1.9	6.20	0.593	2.7	6.17
3.50	5.20	1.4	0.610	1.5	6.22	0.606	1.9	6.20	0.603	2.7	6.17
3.60	5.40	1.4	0.620	1.5	6.22	0.616	1.9	6.20	0.613	2.7	6.17
3.70	5.60	1.4	0.630	1.5	6.22	0.626	1.9	6.20	0.623	2.7	6.17
3.80	5.80	1.4	0.640	1.5	6.22	0.636	1.9	6.20	0.633	2.7	6.17
3.90	6.00	1.4	0.650	1.5	6.22	0.646	1.9	6.20	0.643	2.7	6.17
4.00	6.20	1.4	0.660	1.5	6.22	0.656	1.9	6.20	0.653	2.7	6.17
4.10	6.40	1.4	0.670	1.5	6.22	0.666	1.9	6.20	0.663	2.7	6.17
4.20	6.60	1.4	0.680	1.5	6.22	0.676	1.9	6.20	0.673	2.7	6.17
4.30	6.80	1.4	0.690	1.5	6.22	0.686	1.9	6.20	0.683	2.7	6.17
4.40	7.00	1.4	0.700	1.5	6.22	0.696	1.9	6.20	0.693	2.7	6.17
4.50	7.20	1.4	0.710	1.5	6.22	0.706	1.9	6.20	0.703	2.7	6.17
4.60	7.40	1.4	0.720	1.5	6.22	0.716	1.9	6.20	0.713	2.7	6.17
4.70	7.60	1.4	0.730	1.5	6.22	0.726	1.9	6.20	0.723	2.7	6.17
4.80	7.80	1.4	0.740	1.5	6.22	0.736	1.9	6.20	0.733	2.7	6.17
4.90	8.00	1.4	0.750	1.5	6.22	0.746	1.9	6.20	0.743	2.7	6.17
5.00	8.20	1.4	0.760	1.5	6.22	0.756	1.9	6.20	0.753	2.7	6.17
5.10	8.40	1.4	0.770	1.5	6.22	0.766	1.9	6.20	0.763	2.7	6.17
5.20	8.60	1.4	0.780	1.5	6.22	0.776	1.9	6.20	0.773	2.7	6.17
5.30	8.80	1.4	0.790	1.5	6.22	0.786	1.9	6.20	0.783	2.7	6.17
5.40	9.00	1.4	0.800	1.5	6.22	0.796	1.9	6.20	0.793	2.7	6.17
5.50	9.20	1.4	0.810	1.5	6.22	0.806	1.9	6.20	0.803	2.7	6.17
5.60	9.40	1.4	0.820	1.5	6.22	0.816	1.9	6.20	0.813	2.7	6.17
5.70	9.60	1.4	0.830	1.5	6.22	0.826	1.9	6.20	0.823	2.7	6.17
5.80	9.80	1.4	0.840	1.5	6.22	0.836	1.9	6.20	0.833	2.7	6.17
5.90	10.00	1.4	0.850	1.5	6.22	0.846	1.9	6.20	0.843	2.7	6.17
6.00	10.20	1.4	0.860	1.5	6.22	0.856	1.9	6.20	0.853	2.7	6.17
6.10	10.40	1.4	0.870	1.5	6.22	0.866	1.9	6.20	0.863	2.7	6.17
6.20	10.60	1.4	0.880	1.5	6.22	0.876	1.9	6.20	0.873	2.7	6.17
6.30	10.80	1.4	0.890	1.5	6.22	0.886	1.9	6.20	0.883	2.7	6.17
6.40	11.00	1.4	0.900	1.5	6.22	0.896	1.9	6.20	0.893	2.7	6.17
6.50	11.20	1.4	0.910	1.5	6.22	0.906	1.9	6.20	0.903	2.7	6.17
6.60	11.40	1.4	0.920	1.5	6.22	0.916	1.9	6.20	0.913	2.7	6.17
6.70	11.60	1.4	0.930	1.5	6.22	0.926	1.9	6.20	0.923	2.7	6.17
6.80	11.80	1.4	0.940	1.5	6.22	0.936	1.9	6.20	0.933	2.7	6.17
6.90	12.00	1.4	0.950	1.5	6.22	0.946	1.9	6.20	0.943	2.7	6.17
7.00	12.20	1.4	0.960	1.5	6.22	0.956	1.9	6.20	0.953	2.7	6.17
7.10	12.40	1.4	0.970	1.5	6.22	0.966	1.9	6.20	0.963	2.7	6.17
7.20	12.60	1.4	0.980	1.5	6.22	0.976	1.9	6.20	0.973	2.7	6.17
7.30	12.80	1.4	0.990	1.5	6.22	0.986	1.9	6.20	0.983	2.7	6.17
7.40	13.00	1.4	1.000	1.5	6.22	0.996	1.9	6.20	0.993	2.7	6.17
7.50	13.20	1.4	1.010	1.5	6.22	1.006	1.9	6.20	1.003	2.7	6.17
7.60	13.40	1.4	1.020	1.5	6.22	1.016	1.9	6.20	1.013	2.7	6.17
7.70	13.60	1.4	1.030	1.5	6.22	1.026	1.9	6.20	1.023	2.7	6.17
7.80	13.80	1.4	1.040	1.5	6.22	1.036	1.9	6.20	1.033	2.7	6.17
7.90	14.00	1.4	1.050	1.5	6.22	1.046	1.9	6.20	1.043	2.7	6.17
8.00	14.20	1.4	1.060	1.5	6.22	1.056	1.9	6.20	1.053	2.7	6.17
8.10	14.40	1.4	1.070	1.5	6.22	1.066	1.9	6.20	1.063	2.7	6.17
8.20	14.60	1.4	1.080	1.5	6.22	1.076	1.9	6.20	1.073	2.7	6.17
8.30	14.80	1.4	1.090	1.5	6.22	1.086	1.9	6.20	1.083	2.7	6.17
8.40	15.00	1.4	1.100	1.5	6.22	1.096	1.9	6.20	1.093	2.7	6.17
8.50	15.20	1.4	1.110	1.5	6.22	1.106	1.9	6.20	1.103	2.7	6.17
8.60	15.40	1.4	1.120	1.5	6.22	1.116	1.9	6.20	1.113	2.7	6.17
8.70	15.60	1.4	1.130	1.5	6.22	1.126	1.9	6.20	1.123	2.7	6.17
8.80	15.80	1.4	1.140	1.5	6.22	1.136	1.9	6.20	1.133	2.7	6.17
8.90	16.00	1.4	1.150								

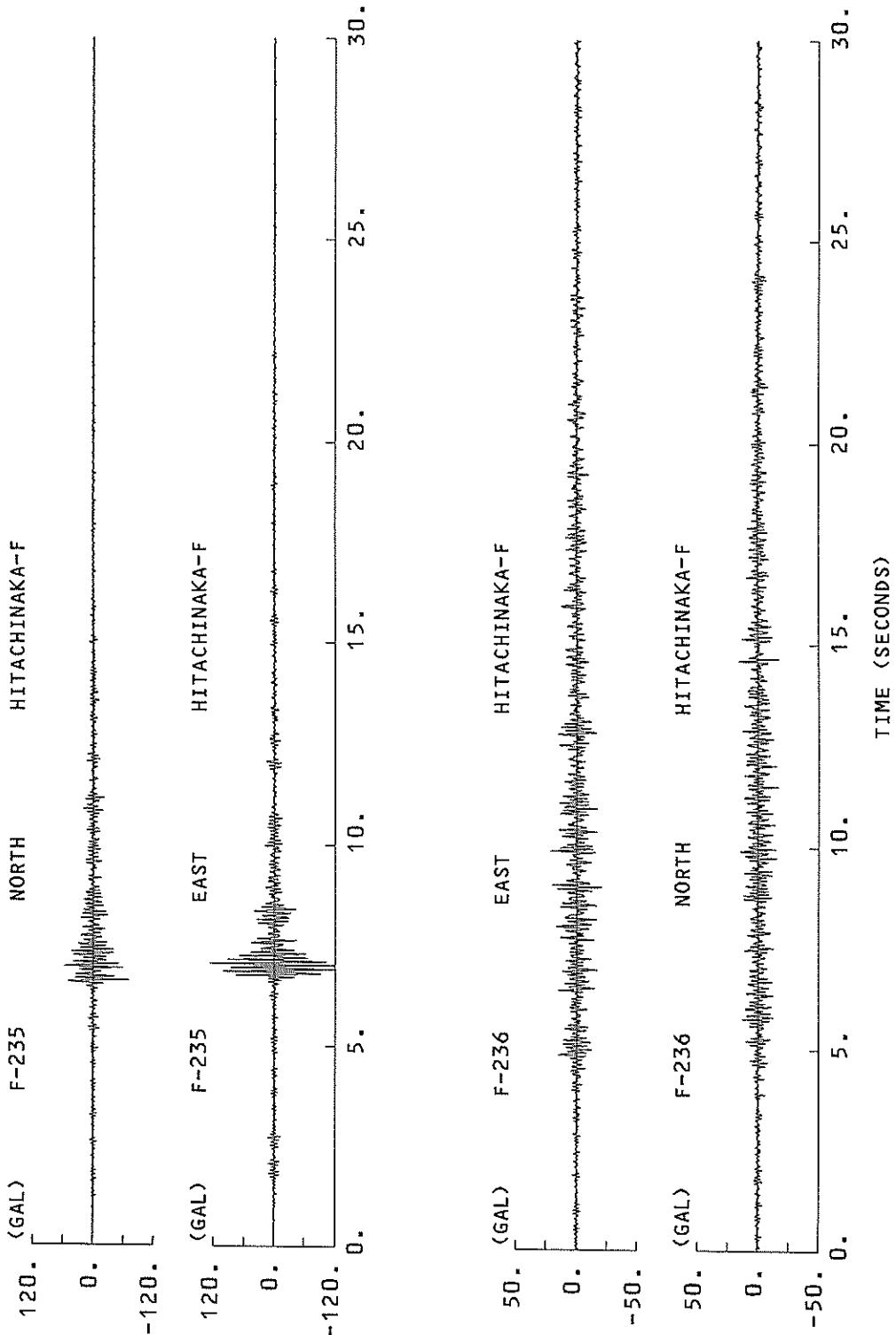
## RESPONSE SPECTRUM

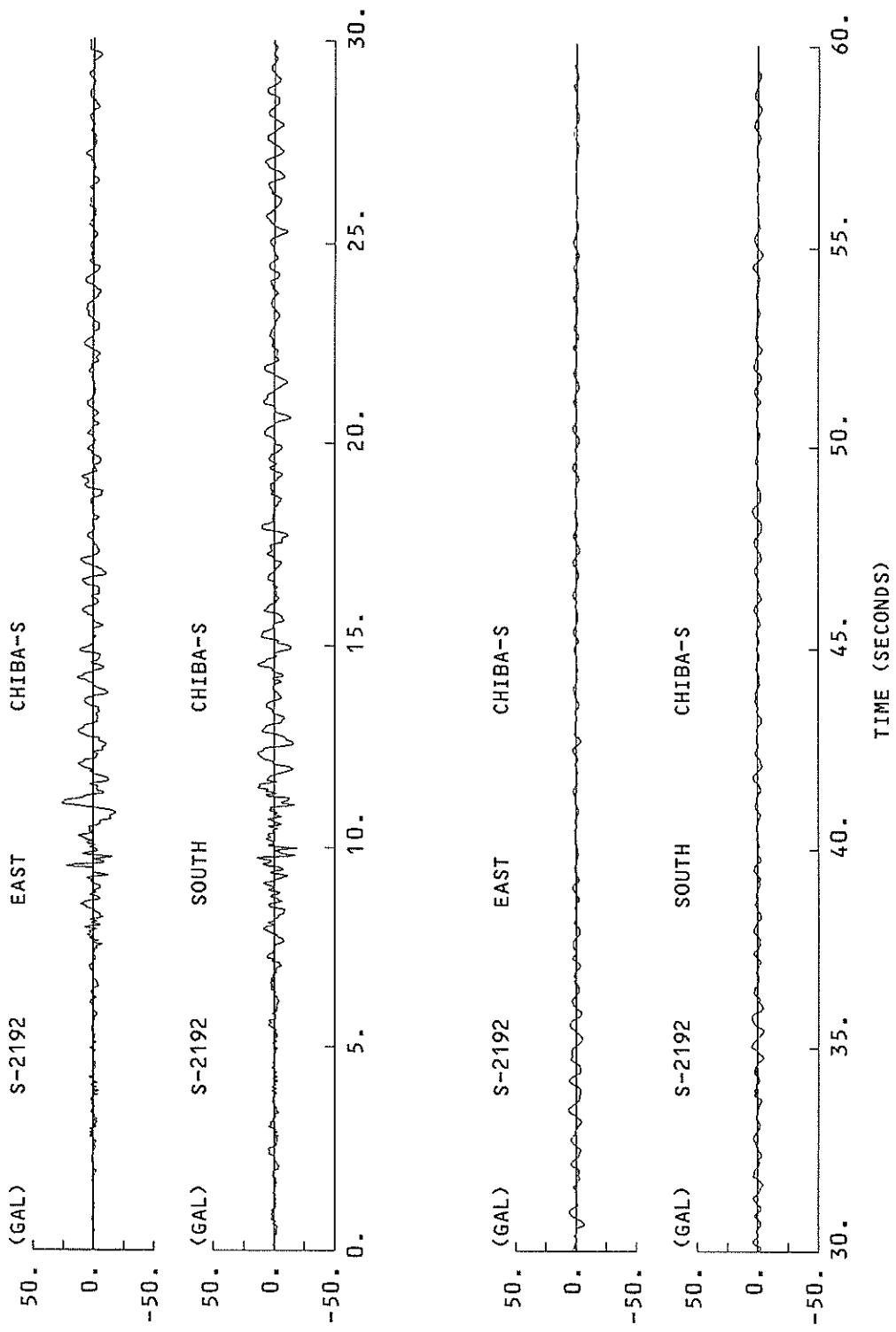
RECORD = S-2251		COMPONENT = DOWN		SAMPLING INTERVAL = 0.0100 (SEC)		CORRECTION = 0.00 (SEC)		MAX. GROUND ACC. = 22.72 (GAL)		STATION = SAKAIMINATO-JI-S		
DATE AND TIME = 1989-11-2-4:57		SKIPPED LENGTH = 0.00 (SEC)										
TIME LENGTH = 29.99 (SEC)												
DAMPING = 0.		DAMPING = 0.025		DAMPING = 0.050		DAMPING = 0.100		DAMPING = 0.250				
PER	AA	RV	RD	AA	RV	RD	AA	RV	RD	AA	RV	RD
0.05	25.1	0.12	0.002	25.3	0.07	0.002	25.7	0.06	0.002	25.8	0.06	0.002
0.10	112.3	1.50	0.028	56.0	0.58	0.014	48.3	0.45	0.012	40.9	0.37	0.008
0.15	107.5	2.55	0.042	72.6	1.50	0.042	63.7	2.17	0.036	47.2	1.48	0.054
0.20	255.9	8.08	0.269	108.9	3.19	0.110	75.5	2.25	0.089	46.2	2.44	0.90
0.25	115.4	4.63	0.163	66.6	2.79	0.110	56.3	2.24	0.225	51.4	1.15	0.033
0.30	146.7	7.05	0.394	90.9	4.38	0.208	71.1	3.32	0.161	3.01	0.155	0.048
0.35	153.7	8.62	0.477	96.4	5.58	0.299	72.6	4.24	0.225	30.5	1.71	0.068
0.40	139.6	3.92	0.161	35.1	2.75	0.142	32.1	2.52	0.130	2.46	0.121	0.080
0.45	73.3	5.37	0.316	44.2	3.51	0.226	35.9	2.05	0.183	29.6	1.76	0.086
0.50	49.5	4.09	0.314	36.5	3.33	0.230	30.6	2.84	0.192	24.1	1.65	0.093
0.55	26.4	2.47	0.202	21.2	2.47	0.163	19.7	2.34	0.150	17.1	2.07	0.127
0.60	32.3	3.16	0.295	19.3	1.95	0.176	15.5	1.89	0.140	13.0	1.77	0.114
0.65	30.1	1.70	0.316	18.9	1.93	0.202	15.4	1.61	0.164	11.6	1.55	0.121
0.70	21.6	2.16	0.232	15.1	1.81	0.187	13.0	1.58	0.161	10.9	1.39	0.132
0.75	37.8	4.55	0.216	17.9	2.21	0.255	12.8	1.63	0.181	9.8	1.27	0.136
0.80	18.9	2.52	0.336	11.6	1.58	0.188	9.5	1.41	0.153	8.0	1.19	0.127
0.85	18.8	2.53	0.344	9.5	1.37	0.173	7.5	1.19	0.136	6.5	1.11	0.120
0.90	17.0	2.41	0.349	8.6	1.49	0.176	7.0	1.27	0.143	5.8	1.08	0.115
0.95	8.9	1.67	0.224	7.4	1.42	0.169	6.3	1.24	0.142	4.0	1.05	0.111
1.00	9.1	1.50	0.229	5.8	1.27	0.146	4.8	1.12	0.121	4.0	1.02	0.097
1.10	5.3	1.14	0.163	3.7	1.09	0.112	3.1	1.05	0.094	3.1	0.99	0.086
1.20	6.5	1.25	0.238	2.9	1.06	0.107	2.4	1.03	0.086	2.4	0.98	0.078
1.30	3.3	1.04	0.143	2.4	1.02	0.104	1.9	1.00	0.082	1.8	0.96	0.068
1.40	3.1	0.99	0.099	1.54	1.07	0.096	1.5	0.94	0.075	1.5	0.92	0.066
1.50	1.9	0.95	0.076	1.5	0.95	0.086	1.3	0.95	0.071	1.3	0.93	0.066
1.60	1.3	0.95	0.085	1.0	0.95	0.068	1.0	0.95	0.065	1.2	0.94	0.063
1.70	1.0	1.00	0.072	0.9	0.98	0.067	0.9	0.97	0.064	1.1	0.95	0.062
1.80	0.9	1.02	0.075	0.9	0.99	0.070	0.9	0.97	0.068	1.0	0.95	0.064
1.90	0.9	0.98	0.095	0.9	0.96	0.079	0.8	0.95	0.071	0.8	0.94	0.064
2.00	0.7	0.91	0.070	0.6	0.92	0.063	0.6	0.92	0.062	0.7	0.92	0.061
2.20	0.6	0.85	0.071	0.5	0.87	0.063	0.5	0.89	0.059	0.6	0.90	0.059
2.40	0.5	0.90	0.071	0.5	0.91	0.065	0.5	0.91	0.061	0.6	0.91	0.058
2.60	0.4	0.97	0.068	0.4	0.95	0.058	0.4	0.94	0.055	0.5	0.93	0.055
2.80	0.4	0.96	0.074	0.4	0.97	0.067	0.4	0.95	0.062	0.5	0.92	0.057
3.00	0.3	0.94	0.077	0.3	0.93	0.067	0.3	0.93	0.062	0.4	0.91	0.054
3.20	0.3	0.90	0.065	0.2	0.90	0.059	0.3	0.90	0.054	0.4	0.91	0.053
3.40	0.3	0.87	0.076	0.2	0.88	0.069	0.3	0.88	0.063	0.3	0.89	0.057
3.60	0.2	0.85	0.081	0.2	0.87	0.073	0.3	0.88	0.067	0.3	0.89	0.059
3.80	0.2	0.86	0.083	0.2	0.87	0.073	0.2	0.88	0.068	0.3	0.89	0.062
4.00	0.2	0.88	0.093	0.2	0.88	0.080	0.2	0.89	0.073	0.3	0.89	0.065

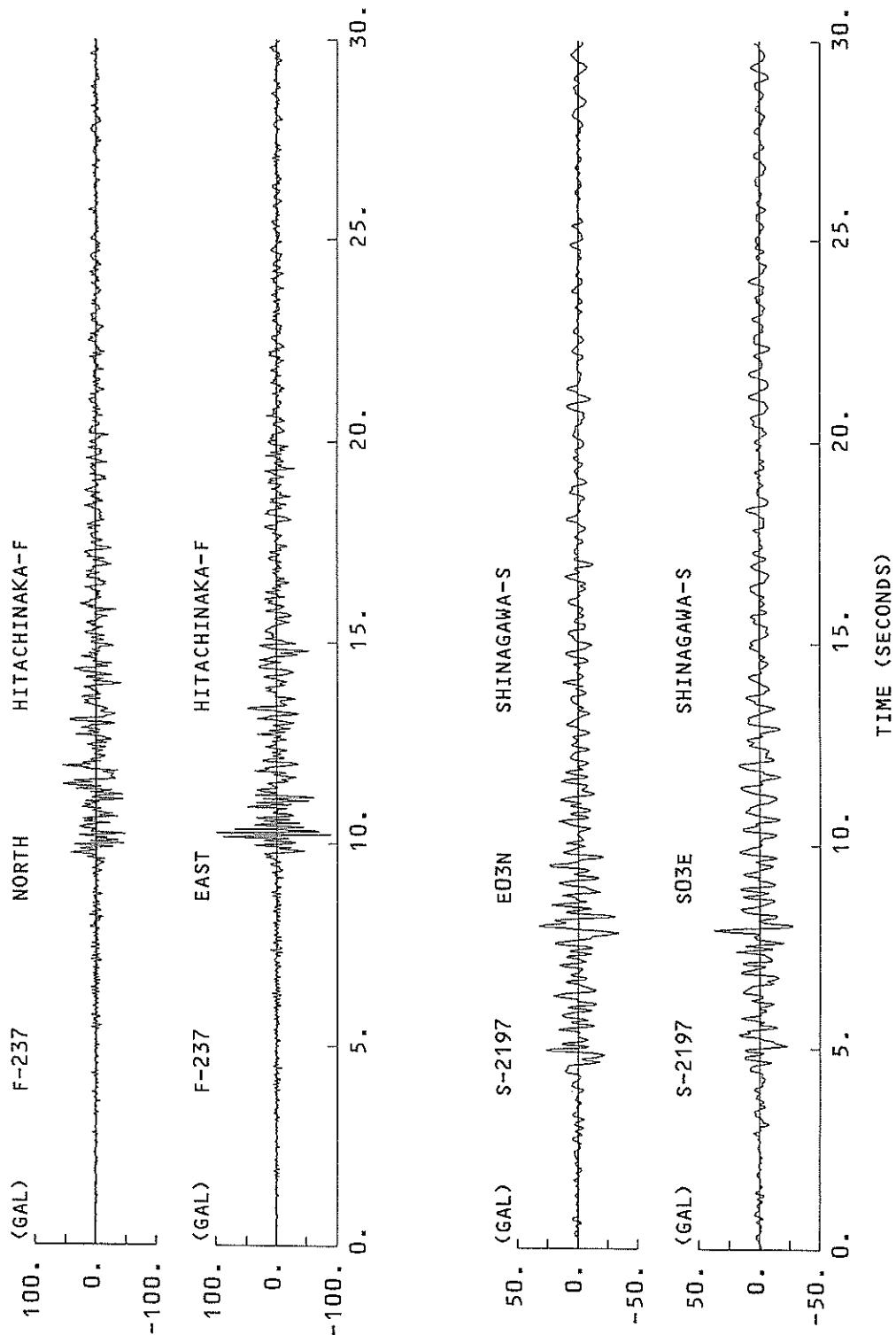
PER = PERIOD (SEC) AA = ABSOLUTE ACC. (GAL) RV = RELATIVE VELOCITY (CM/SEC) RD = RELATIVE DISPLACEMENT (CM)

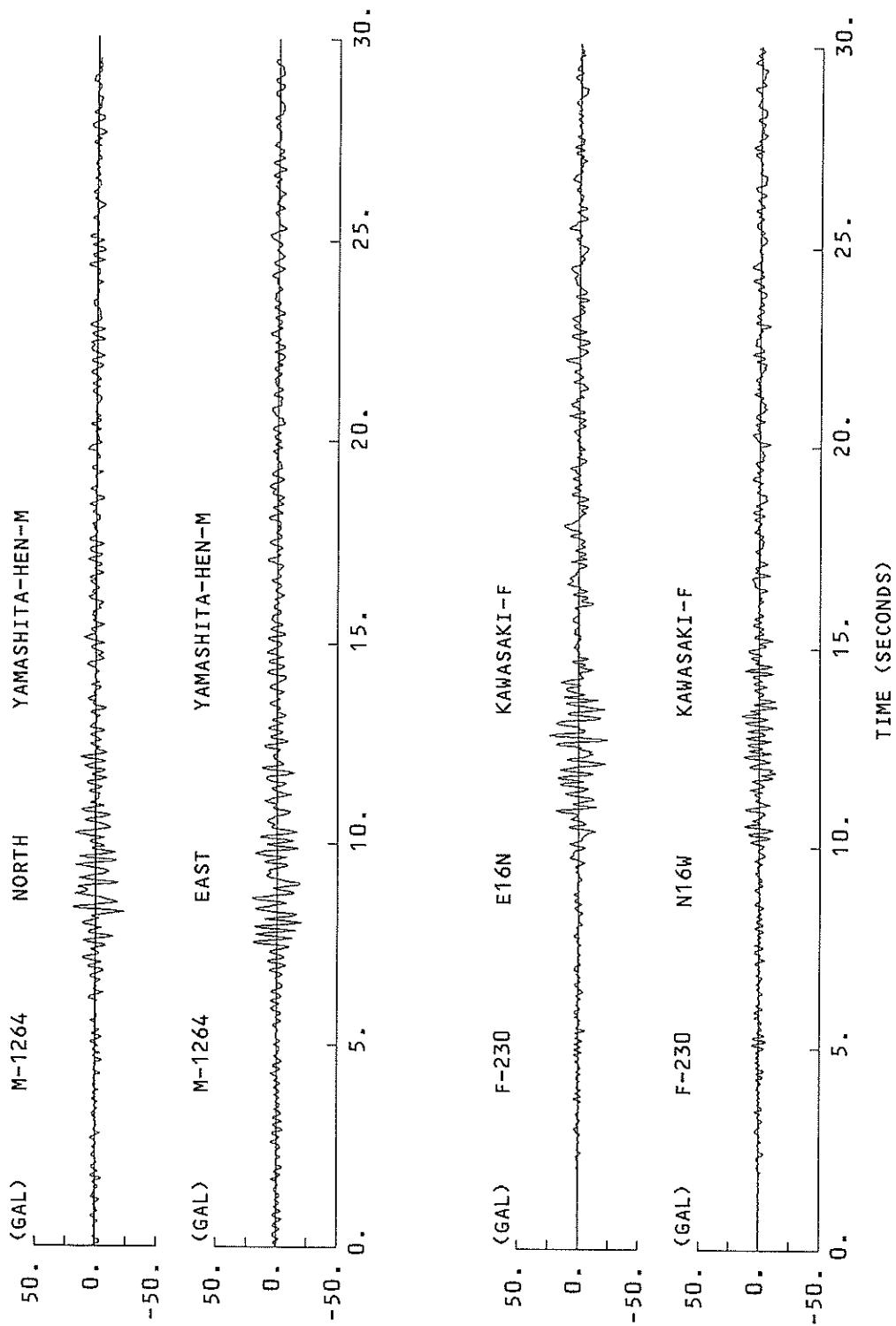


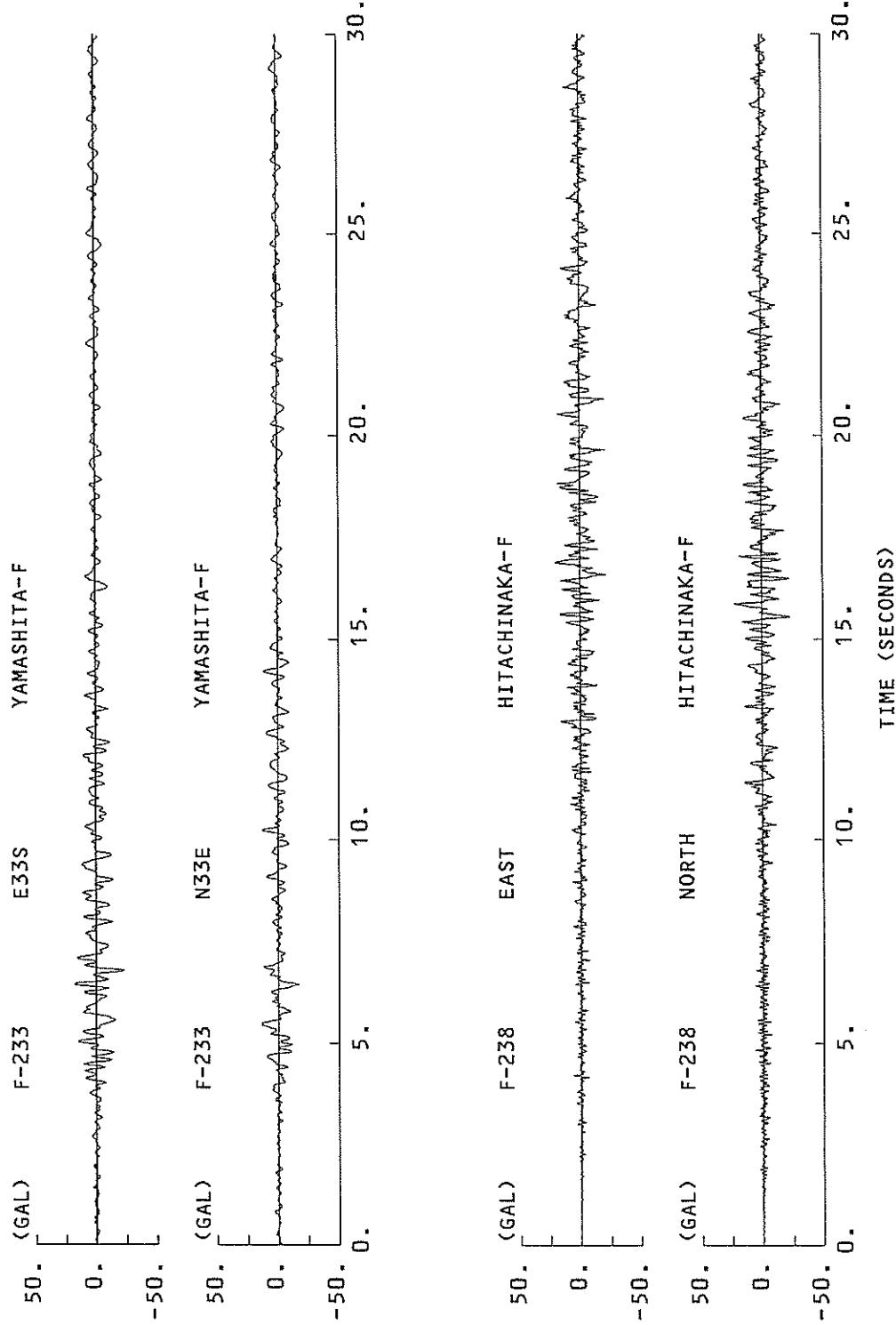


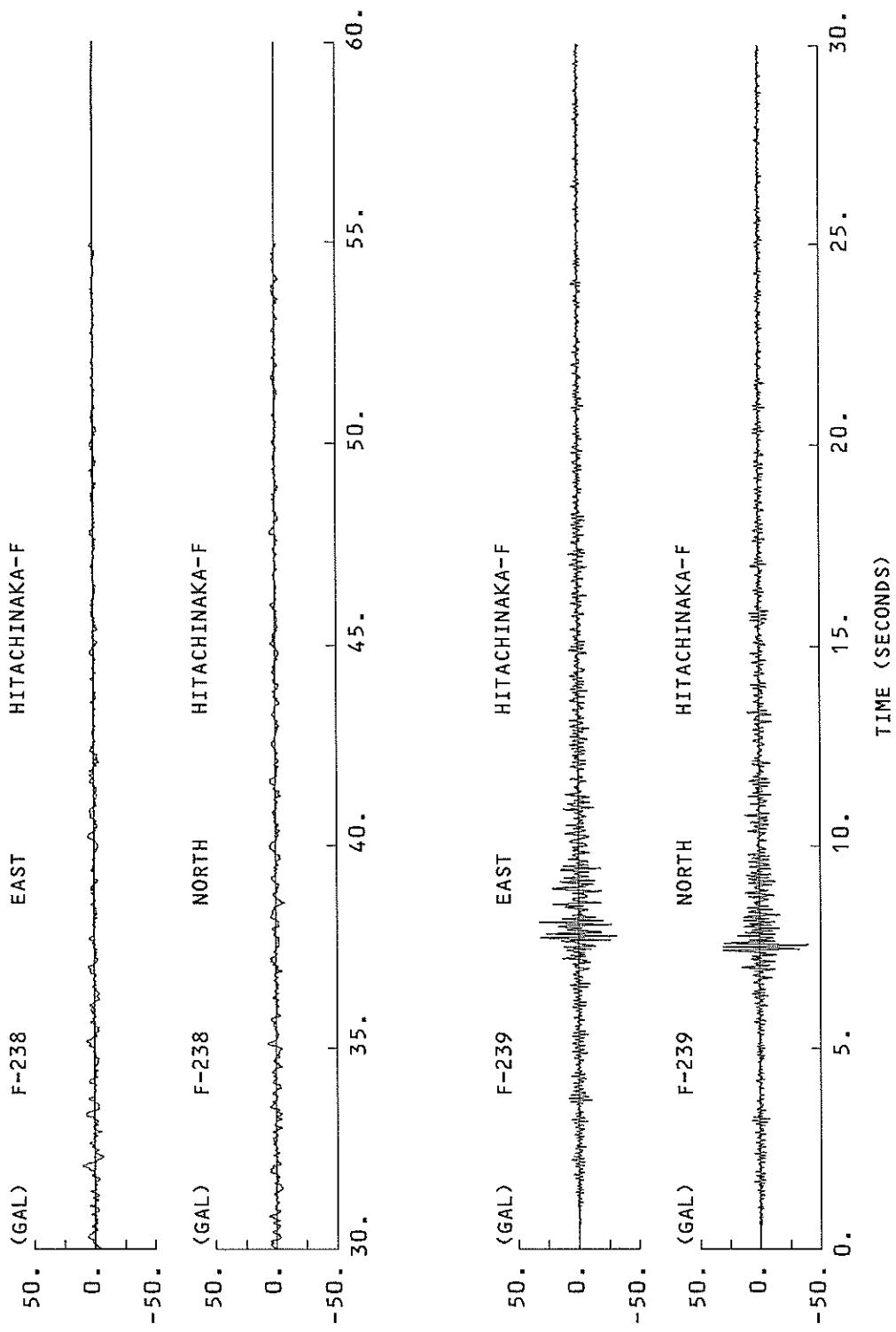


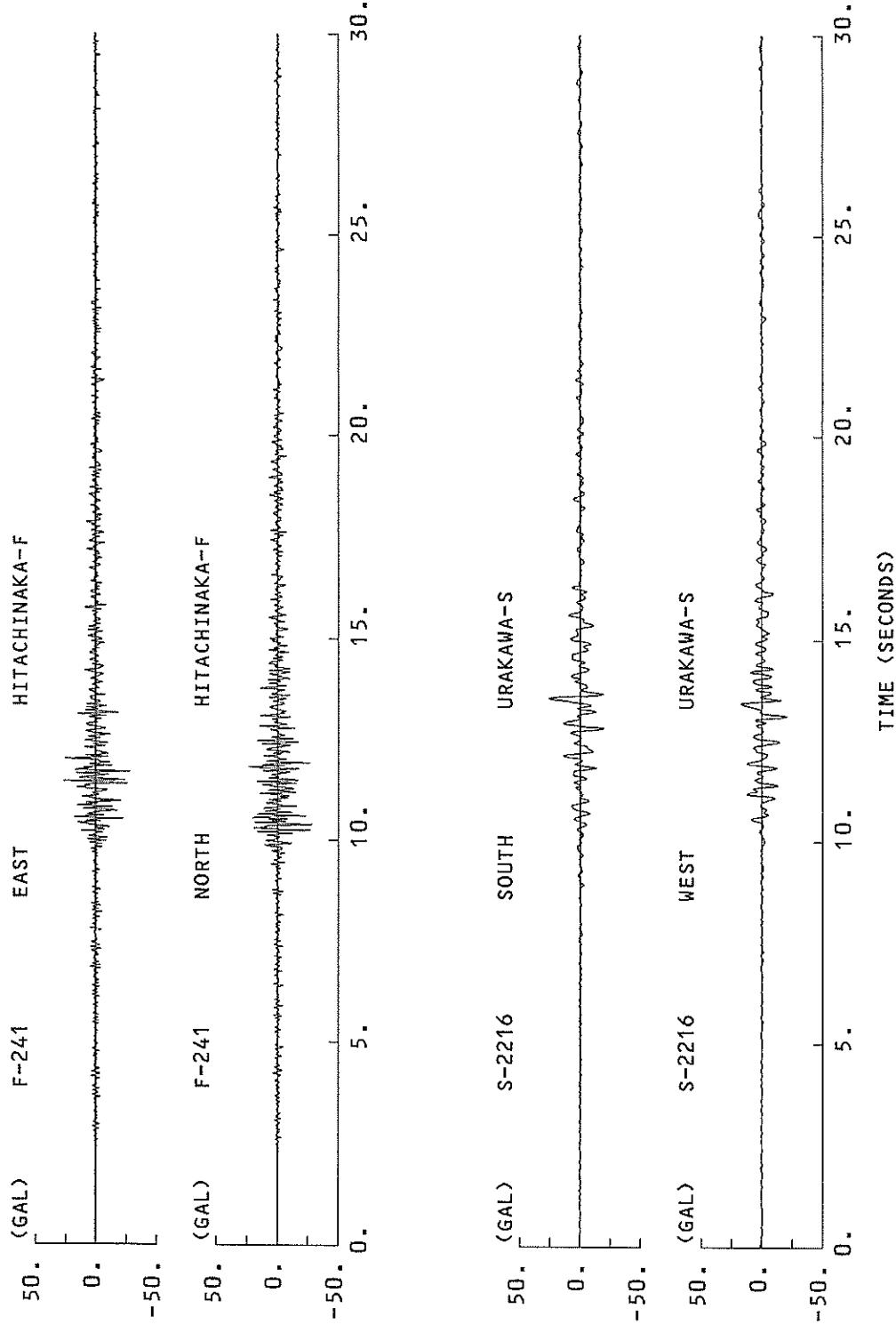


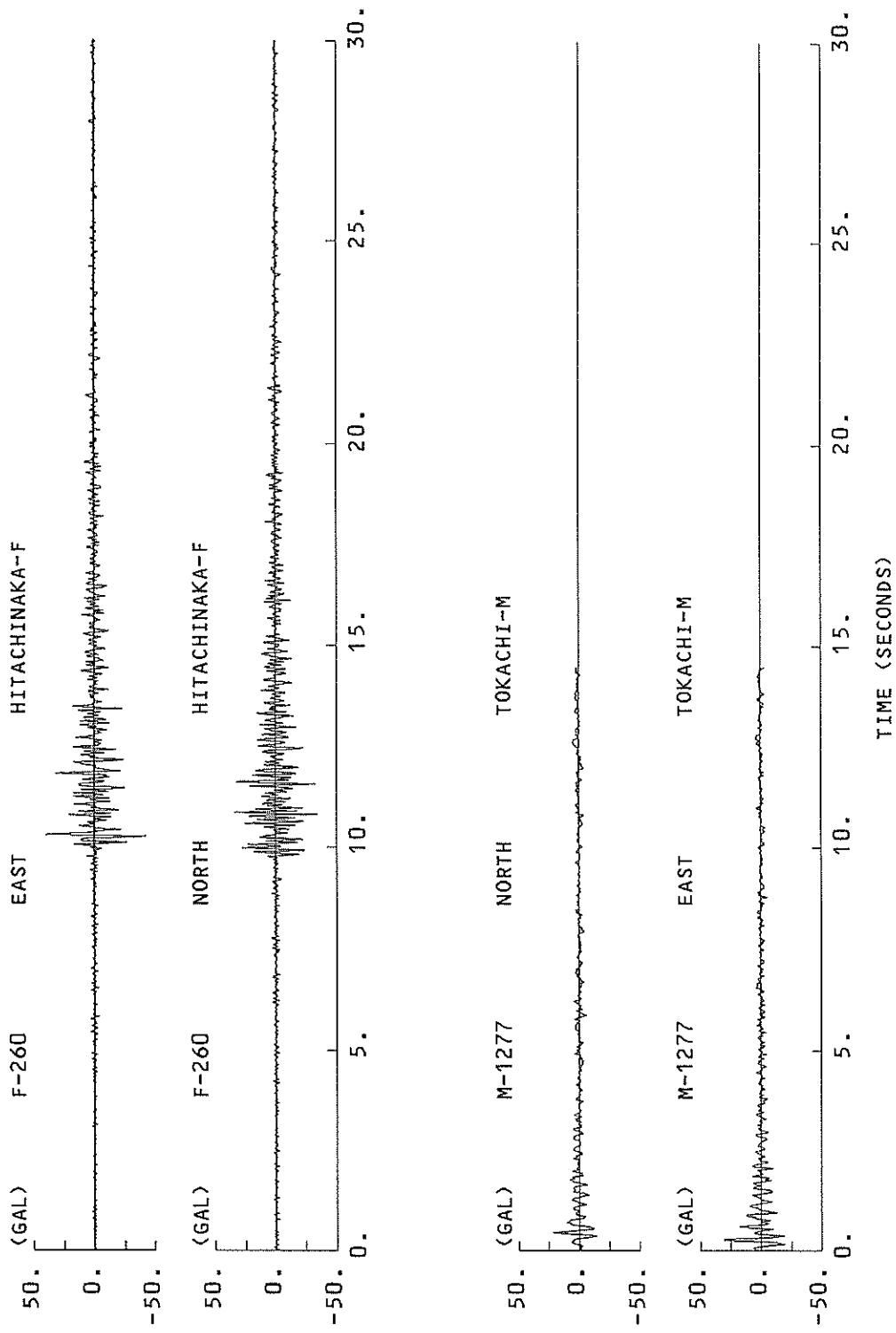


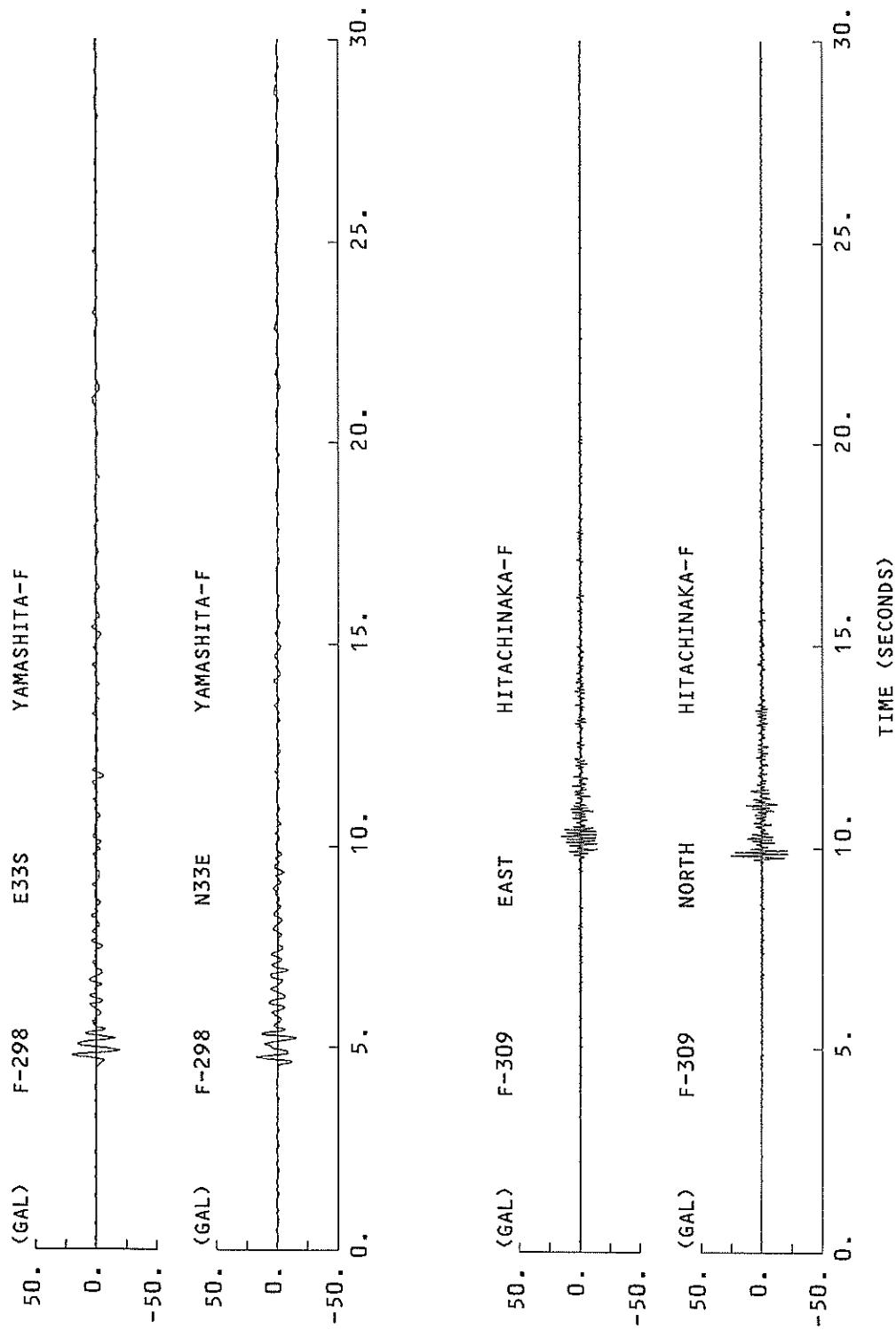


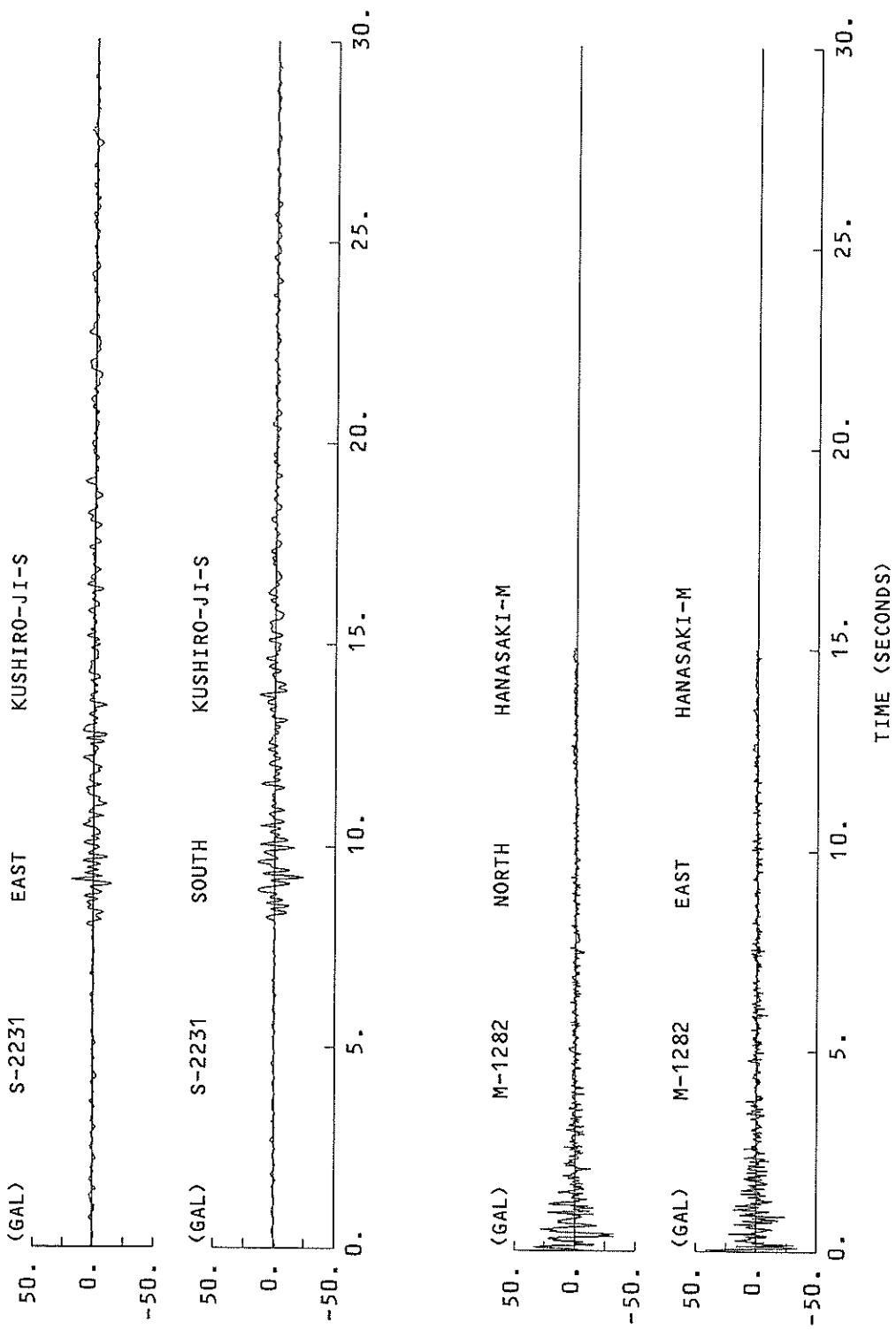


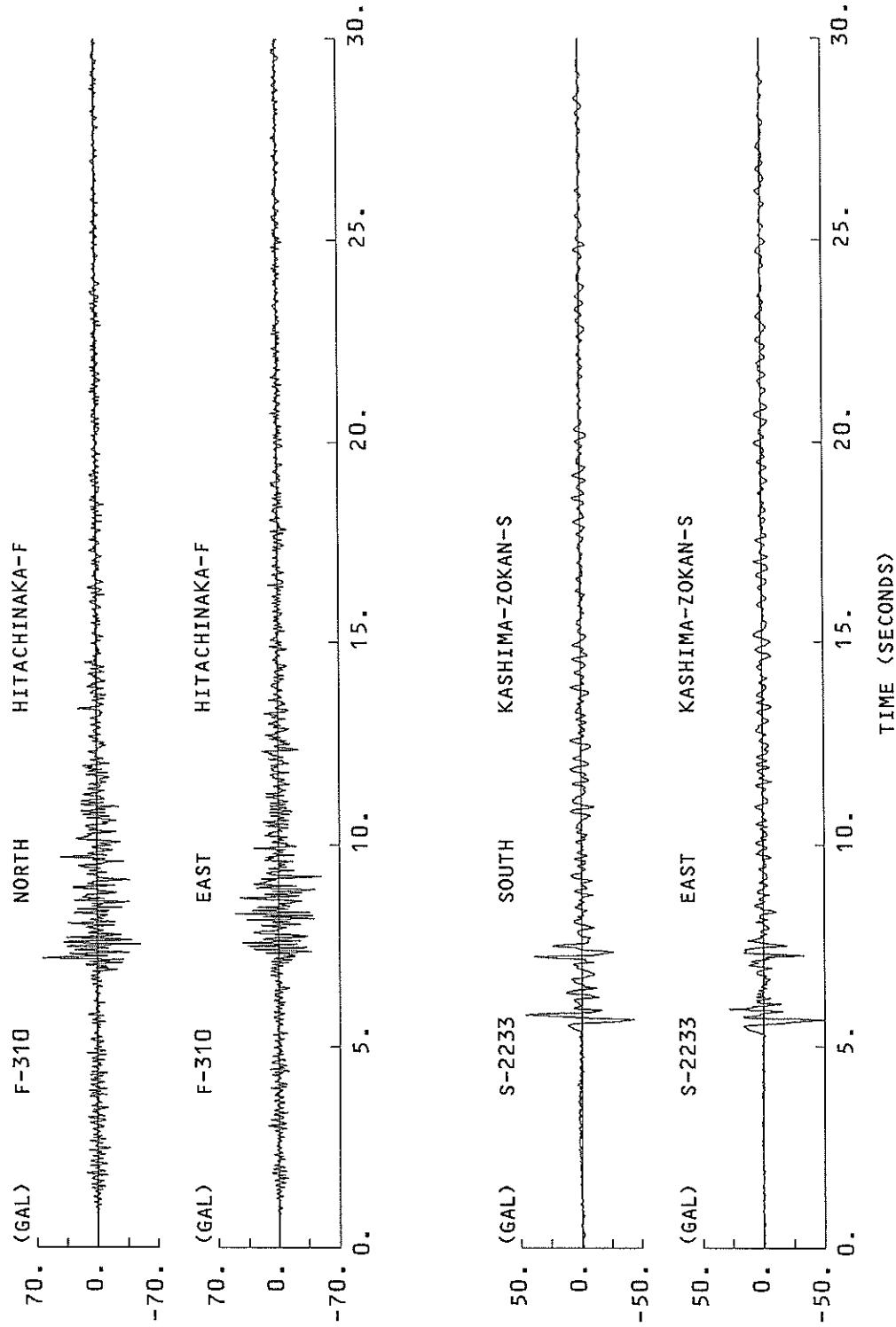


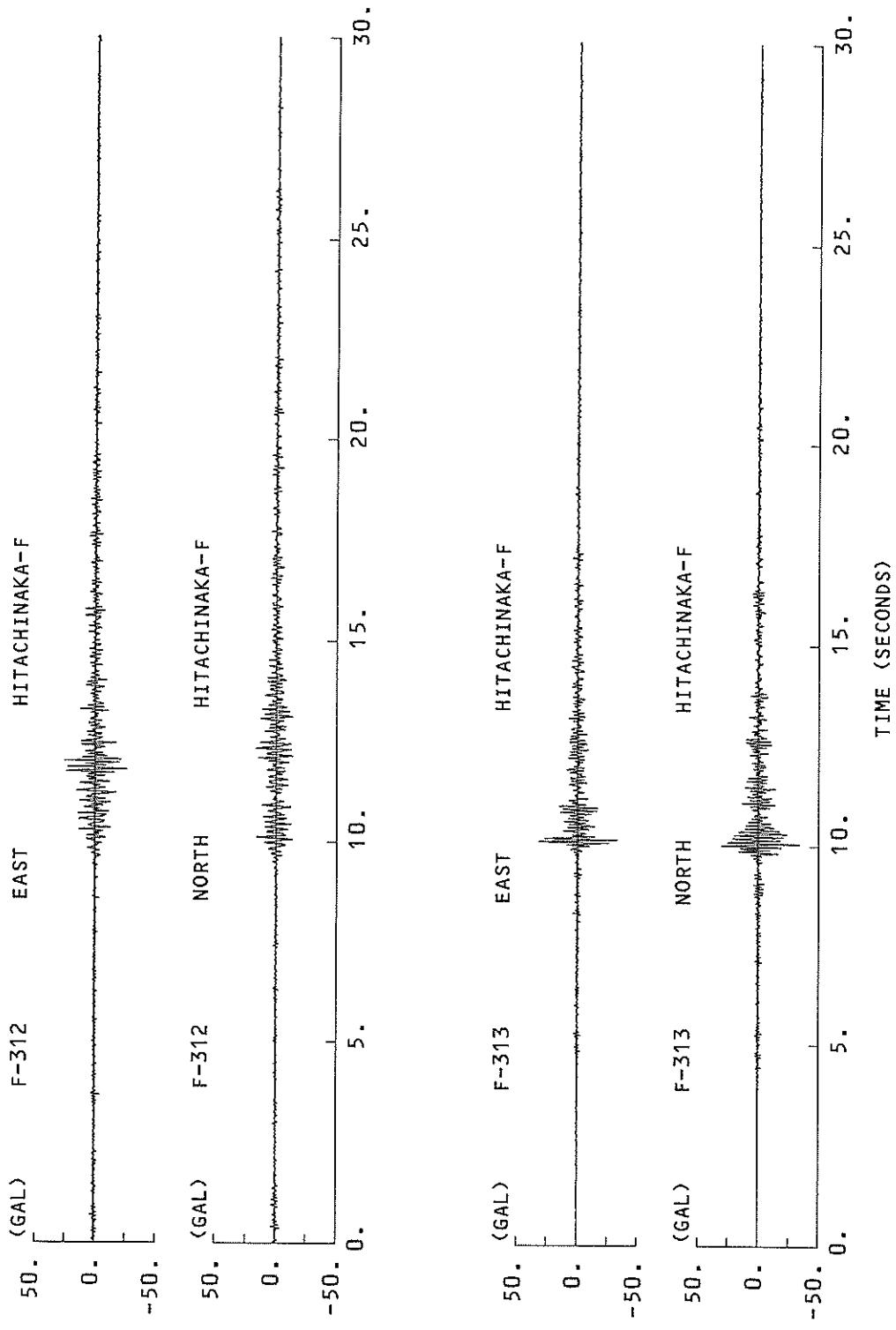


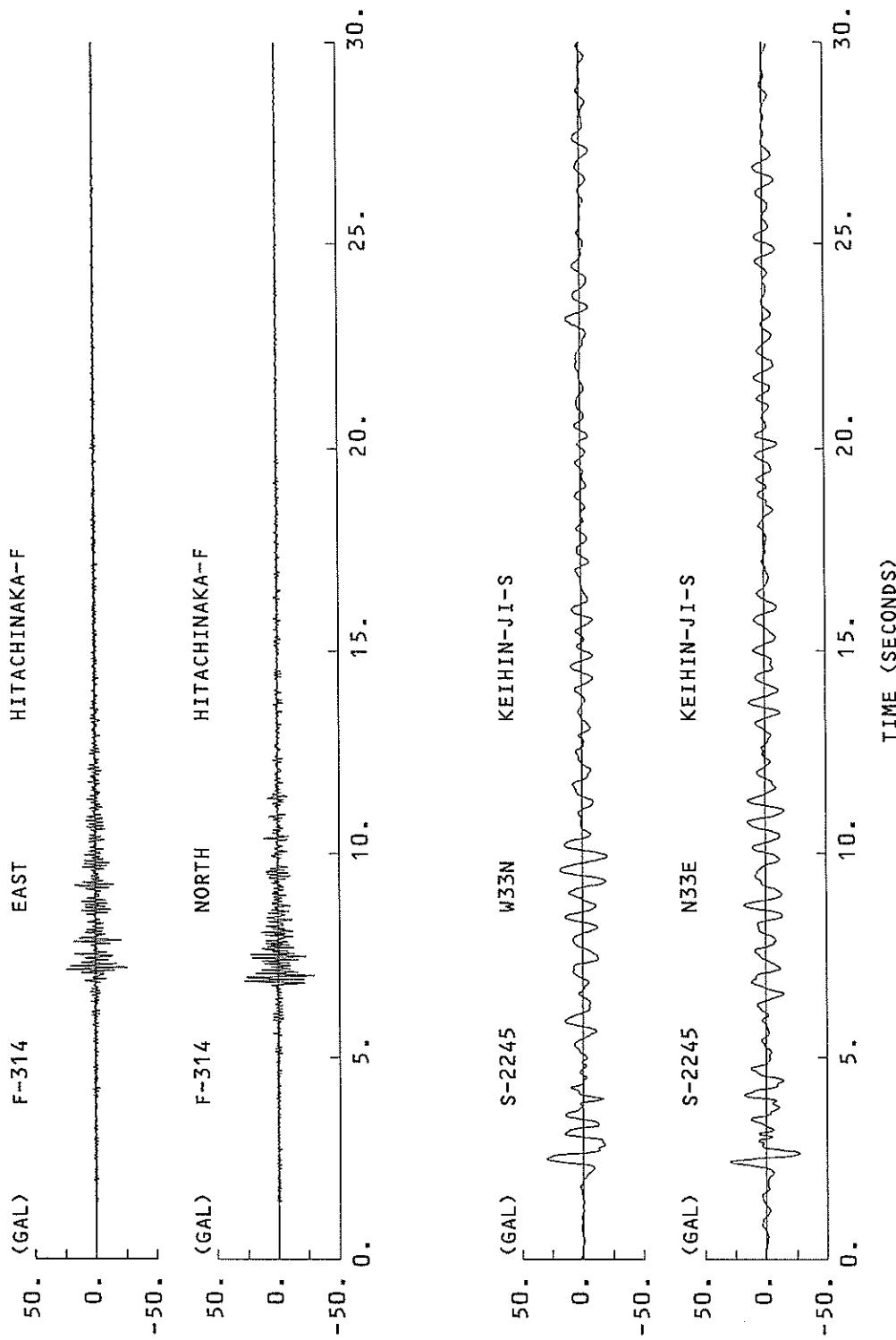


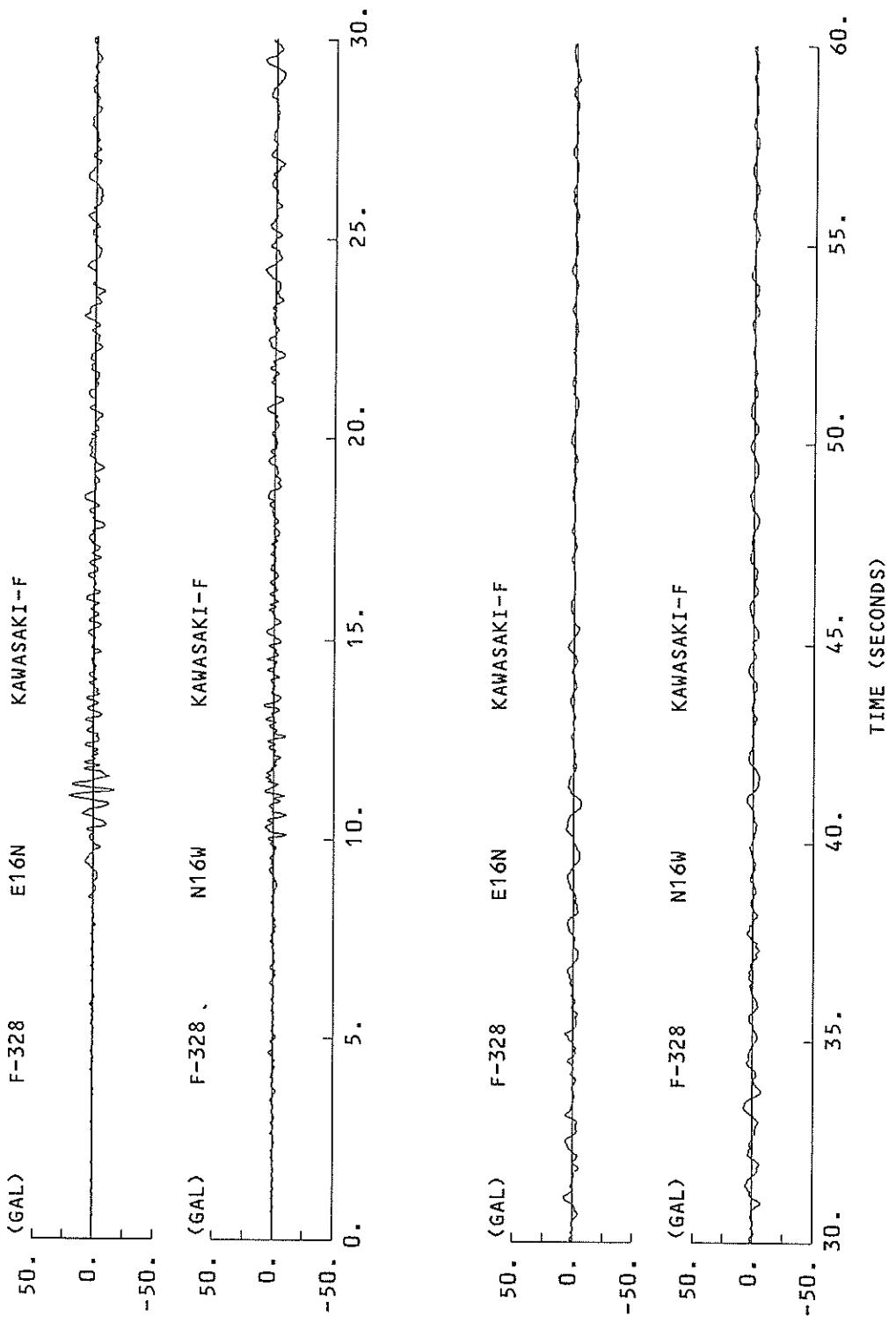


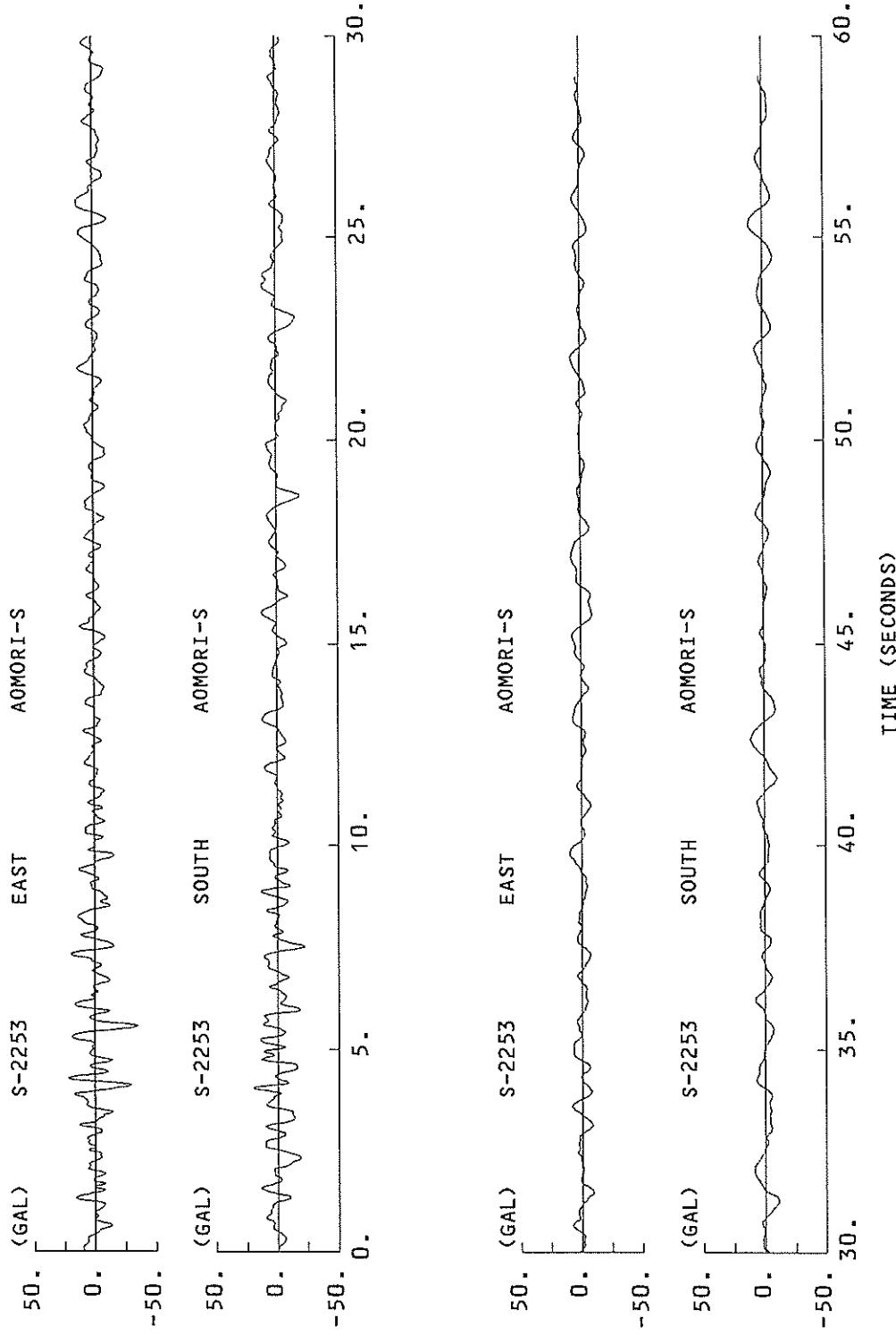


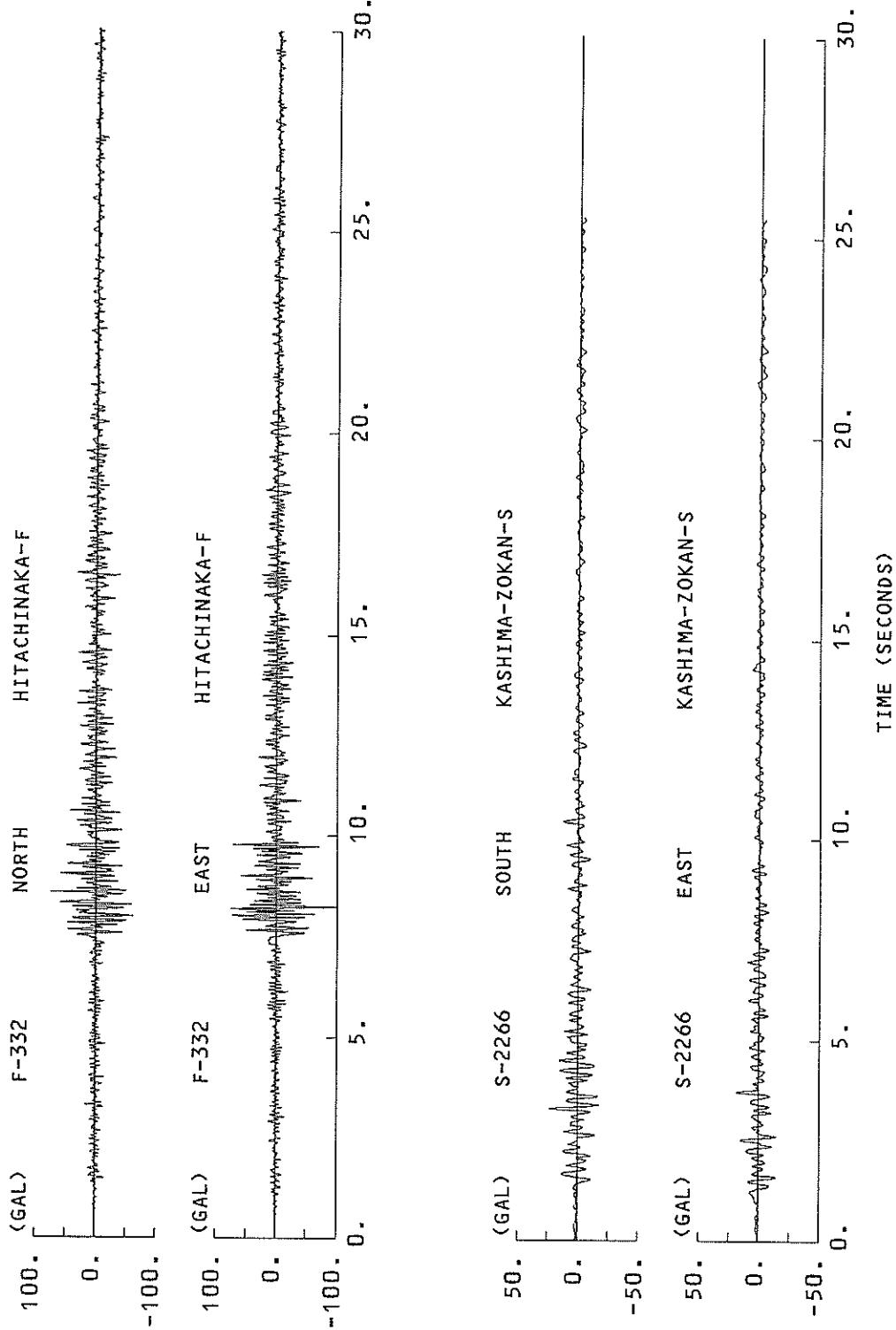


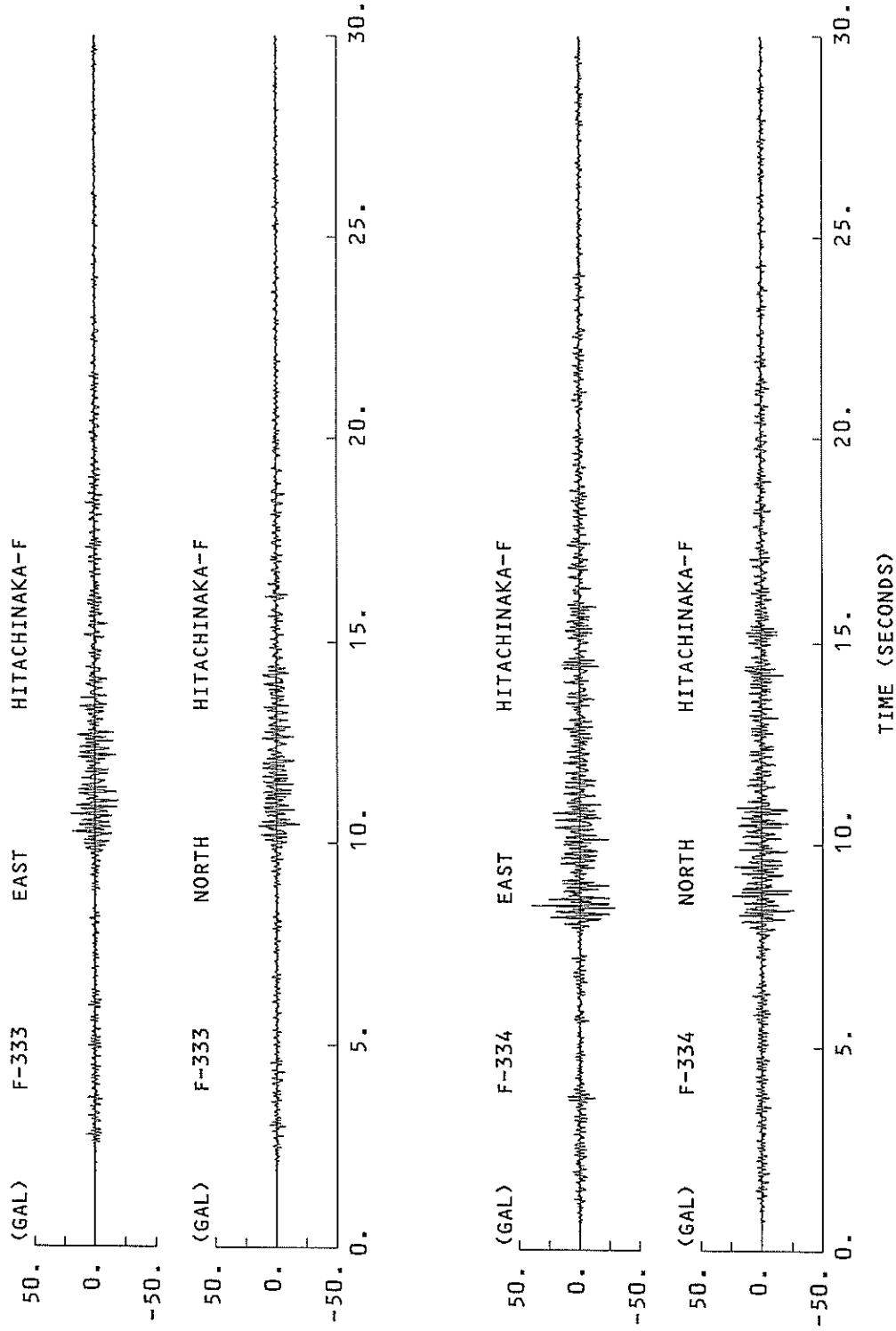


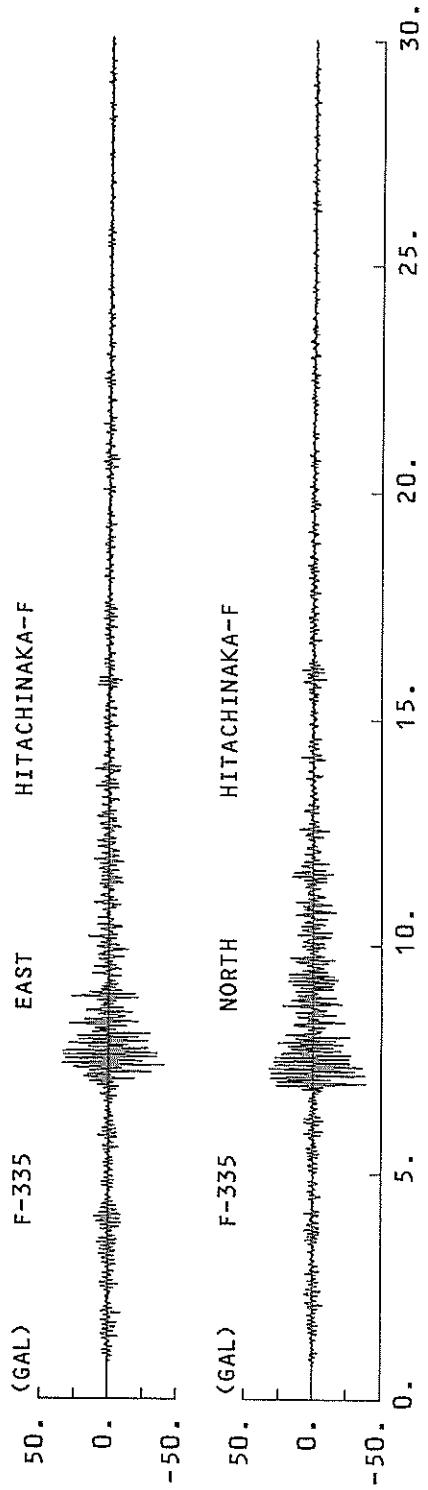












RECORD = S-2186    COMPONENT = SOUTH  
 DATE AND TIME = 1969-1-25 5:03  
 AMPLIFYING INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 30000, 3000,  
 NO. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)  
 0 4 5 6 7 8 9 10 11 (10)  
 10 12 12 12 12 12 12 11 11 11  
 20 10 9 8 7 6 5 6 7 7  
 30 9 10 11 12 13 12 11 9 7  
 40 5 4 4 4 4 5 3 0 -5  
 50 -11 -14 -17 -15 -12 -7 -3 1 5  
 60 -9 9 4 0 -5 -9 -12 -9 -2  
 70 18 28 33 36 28 20 11 4 0  
 80 -1 0 -4 -10 -18 -35 -43 -52 -57  
 90 -59 -56 -47 -33 -18 -4 6 18 25  
 100 30 29 27 24 22 25 28 29 23  
 110 8 -9 -19 -15 -8 -6 -4 -6 -6  
 120 -6 -4 -7 -12 -13 -9 -3 2 4  
 130 0 -8 -14 -8 -1 13 29 44 51  
 140 39 27 13 0 -8 -11 11 11 11  
 150 1 0 -6 -18 -29 -34 -31 -18 -2  
 160 26 45 56 55 40 18 3 4 18  
 170 59 74 77 63 35 4 27 -58  
 180 -66 -40 -17 -77 -65 -5 -10  
 190 -3 10 23 31 34 36 32 28  
 200 25 21 18 13 7 -4 -8 -9  
 210 -3 2 6 0 -9 -22 -26 -19  
 220 -4 6 12 9 1 -8 -16 -26  
 230 -11 -2 8 24 31 33 28 22  
 240 7 -2 -7 -12 -18 -23 -18  
 250 -6 1 2 6 9 -7 -2 -4  
 260 -10 -6 -3 1 4 8 14 22  
 270 23 16 6 -2 -10 -16 -17 -13  
 280 -1 4 6 -1 -19 -20 -11 -1  
 290 16 27 36 39 33 22 12 2  
 300 -23 -27 -29 -36 -4 21 21 21  
 310 13 3 -3 -7 -18 -5 0 4  
 320 4 -7 -24 -50 -42 -50 -40 -21  
 330 44 49 43 30 18 7 2 0  
 340 -5 -7 -13 -20 -27 -31 -28 -22  
 350 -8 -5 -4 2 4 4 7 -1  
 360 17 16 12 9 9 12 12 3  
 370 -28 -39 -52 -46 -21 3 19 26  
 380 28 27 23 17 10 2 6 -17  
 390 -38 -24 0 21 43 66 80 90  
 400 56 39 26 13 3 0 -4 -6  
 410 -25 -33 -43 -50 -54 -50 -41  
 420 4 19 29 30 26 19 14 12  
 430 23 20 1 1 1 1 1 1  
 440 12 22 19 8 -5 -19 -25  
 450 38 45 41 30 13 1 -12  
 460 -11 -8 -6 -4 -3 -28 -38  
 470 -29 -28 -25 -4 16 28 -4  
 3000 TOTAL NUMBER OF DATA =  
 0.10000 SCAL = 0.10000

CONTINUED ( S-2186    SOUTH )  
 NO. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)  
 480 38 36 28 20 9 0 -5 -4 -2 3  
 490 12 21 25 27 13 0 -13 -24 -31  
 500 -37 -36 -32 -25 -15 -5 4 17 26 27  
 510 23 10 -5 -21 -39 -47 -36 -19 -5 5  
 520 15 22 15 -6 -35 -65 -86 -83 -50 -25  
 530 12 43 56 51 -24 -21 -69 -93 -92 -77  
 540 -59 -44 -39 -47 -47 -62 -75 -86 -87 -71  
 550 -14 -22 -67 110 134 144 144 133 114 98  
 560 86 73 57 46 41 42 50 65 85 111  
 570 142 167 185 189 172 128 67 1 66  
 580 -130 -135 -135 -117 76 -286 6 25 20 -17 -69  
 590 -115 -143 -140 -100 -100 -32 45 121 189 251  
 600 -296 284 247 192 128 68 -10 -47 -90 -114  
 610 -121 -112 -96 -84 -71 -58 -71 -57 -52 -63  
 620 -62 -68 -72 -73 -73 -10 -10 -10 -1 29  
 630 44 59 59 73 73 100 119 139 159 175  
 640 162 117 36 -78 -197 -289 -334 -329 -282 -197  
 650 -79 12 34 0 -78 -161 -246 -316 -343 -316  
 660 -239 -139 -139 -52 5 31 35 30 23 27  
 670 163 244 312 372 372 398 345 257 138 12  
 680 -122 -97 8 184 365 465 453 360 215 31  
 690 -176 -387 -576 -707 -741 -669 -538 286 -12 243  
 700 389 459 459 420 420 344 338 122 26 -42  
 710 -22 26 26 55 -135 -220 -300 -300 -358 -378  
 720 -362 -308 -211 -111 -46 -22 -24 -38 -57 -84  
 730 -87 -28 71 161 161 305 305 262 -120 -111  
 740 -115 -183 -199 -145 -24 158 158 465 518 533  
 750 514 464 464 521 521 286 163 28 370 -452  
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 770 -64 -74 -84 -93 -98 -61 7 91 176  
 780 268 342 395 415 395 349 293 233 175 139  
 790 -115 102 109 122 125 112 74 32 -17 -97  
 800 -195 -286 -356 -393 -393 -350 -257 -120 23 133  
 810 202 232 222 180 111 257 -140 -199 -219  
 820 -187 -118 -46 -73 73 79 82 89  
 830 95 92 80 64 53 52 52 48 39 30  
 840 25 15 2 -5 -5 -8 -12 -19 -26 -30  
 850 -37 -43 -50 -54 -54 -46 -33 -16 0 16  
 860 31 42 45 43 35 27 23 18 6 -9  
 880 -31 -64 -112 -152 -171 -163 -125 -47 62 172  
 890 -129 -111 -78 87 87 111 -54 -101 -126  
 900 -66 -69 -61 -78 -78 -54 -44 -46 -56  
 910 -209 218 205 175 139 106 68 26 -14 -64  
 920 -94 -62 -98 -80 -82 -49 -38 -7 -44  
 930 19 39 57 73 87 92 88 71 44 12  
 940 -21 -61 -104 -139 -149 -130 -107 -87 -69  
 950 -56 -52 -58 -63 -62 -65 -70 -76 -81  
 960 -70 -55 -39 -19 2 21 42 60 73  
 970 76 74 70 66 71 87 102 113 123  
 980 133 139 142 139 130 106 92 78 66  
 990 60 59 55 55 55 55 55 55 55 55

TO BE CONTINUED

TO BE CONTINUED

## CONTINUED( S-2186 )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
1000	-109	-150	-190	-218	-227	-216	-192	-157	-106	-52	1520	61	96	124	134	128	114	94	63	22	-14
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1020	137	182	205	219	202	169	121	67	13	1540	19	16	10	4	-4	-17	-31	-46	-63	-82	
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1100	-173	-185	-116	-156	-134	-104	-92	-75	-104	-120	1620	25	48	37	34	29	23	16	-1	-7	-15
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TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-2186 )										CONTINUED ( S-2186 )											
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TO BE CONTINUED

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 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 30000, 30000,  
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STATION = URAKAWA-S  
 TOTAL NUMBER OF DATA = 30000  
 SCAL = 0.10000

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 830 830 -121 -165 -196 -211 -217 -211 -189 -118 -118 -118  
 840 840 -63 -54 -52 -54 -56 -52 -35 -1 39 76  
 850 850 109 140 165 182 192 196 194 172 139  
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 870 870 43 12 39 -101 -163 -235 -218 -206 164 -98  
 880 880 -32 13 34 38 28 5 -21 -46 -57 -41  
 890 890 5 63 112 136 140 127 94 49 9 13  
 900 900 -15 0 26 58 36 104 109 101 70 20  
 910 910 -49 -127 -181 -181 -252 -252 -263 -243 -199 -135  
 920 920 -61 7 129 129 167 180 185 186 184  
 930 930 187 191 195 196 145 90 23 40 96  
 940 940 -132 -139 -128 -128 -60 -55 -57 -62 -66 -66  
 950 950 -68 -64 -58 -52 -47 -44 -42 -42 -41 -41  
 960 960 -39 -37 -34 -28 -22 -10 3 17 35 51  
 970 970 59 62 53 35 17 0 -16 -29 -39  
 980 980 -45 -50 -54 -55 -52 -41 -25 -25 -9 5 5  
 990 990 18 28 37 46 53 59 66 70 73 73

TO BE CONTINUED

TO BE CONTINUED

## CONTINUED( S-2186 WEST )

## CONTINUED( S-2186 WEST )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
1000	65	47	16	-30	-79	-114	-133	-141	-137	-112	1520	-84	-70	-52	-33	-13	11	35	58	73	79
1010	-74	-31	8	60	73	75	64	42	10	1530	-81	-79	68	49	3	-3	-10	-11	-10	-7	
1020	-17	-32	-38	-31	-12	17	49	71	89	103	1540	-8	-10	-11	-10	-12	-13	-13	-14	-13	
1030	112	115	111	102	92	84	80	81	82	84	1550	-15	-15	-14	-12	-8	-2	2	5	5	
1040	88	92	81	58	26	-13	-61	-104	-147	1560	-1	1	-5	-10	-20	-33	-3	-5	-5		
1050	-176	-192	-196	-190	-165	-117	-33	52	120	178	1570	-60	-61	-58	-51	-44	-38	-38	-44	-48	
1060	226	245	228	192	141	87	42	14	-19	1580	-51	-52	-49	-40	-42	-42	1	10	19	26	
1070	-58	-100	-144	-179	-214	-251	-269	-257	-220	1580	31	37	40	41	42	39	36	30	24	24	
1080	-165	-101	-46	-5	37	67	83	92	95	94	1600	21	19	20	21	22	19	13	7	16	
1090	84	66	45	29	11	10	13	21	32	1610	-1	-5	-5	-5	-5	-5	-8	-12	-16	-5	
1100	39	45	48	44	34	20	4	-4	-3	1620	-20	-23	-30	-35	-37	-38	-33	-24	-14	-5	
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1120	116	98	76	42	-5	-101	-141	-174	-195	-195	1640	-72	-72	-63	-65	-29	-11	3	9	10	-8
1130	-207	-213	-214	-209	-201	-191	-178	-160	-130	-84	1650	-18	-27	-32	-32	-30	-23	-14	-4	5	13
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1150	78	49	19	-16	-55	-87	-107	-107	-109	-81	1670	-13	-20	10	21	30	36	40	39	33	
1160	-37	3	35	53	61	51	36	27	25	25	1680	21	16	12	10	10	11	12	13	12	
1170	44	60	60	75	95	92	99	105	106	103	1690	10	10	6	6	0	-6	-12	-17	-15	
1180	100	98	91	75	56	38	23	15	10	8	1700	-12	-8	-6	-8	-11	-14	-18	-8	5	
1190	7	5	5	1	-9	-23	-36	-47	-55	-55	1710	23	42	54	58	58	52	43	34	25	
1200	-63	-68	-69	-71	-72	-73	-76	-76	-66	-43	1720	13	11	8	7	7	5	3	-1	-1	
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1220	-14	11	42	66	79	84	79	84	79	68	1740	58	45	30	36	30	25	20	12	0	
1230	52	33	17	0	-15	-29	-36	-37	-31	-18	1750	-12	-20	-31	-43	-51	-54	-55	-54	-51	
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1270	-8	-17	-34	-61	-91	-118	-142	-157	-160	-145	1790	2	0	-1	2	12	27	40	50	54	
1280	-43	11	63	108	134	142	144	139	121	1800	50	45	38	29	22	19	18	21	42		
1290	97	72	49	27	8	-6	-14	-19	-21	-17	1810	52	57	54	48	39	26	10	-6	-33	
1300	-10	-1	6	13	19	23	28	37	48	60	1820	-43	-50	-55	-58	-57	-53	-46	-36	-29	
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1320	-3	-4	-6	-9	-13	-116	-22	-12	-12	-39	1840	-3	2	2	7	7	8	10	14	20	
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1360	-1	-2	3	-2	-21	-34	-42	-50	-50	-23	1880	-25	-23	-19	-15	-12	-7	-4	-1	-25	
1370	-57	-61	-62	-56	-47	-36	-26	-23	-22	-23	1890	-1	-3	-6	-10	-11	-8	-4	-1	0	
1380	-24	-33	-30	-23	0	23	48	71	87	1900	3	5	6	7	4	3	1	-8	-12		
1390	95	96	89	77	64	54	48	44	42	43	1910	-14	-14	-13	-11	-4	6	16	23	36	
1400	43	42	41	40	40	39	39	39	39	39	1920	36	31	23	13	3	-4	-1	-17	-22	
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1420	-38	-48	-54	-57	-57	-54	-51	-49	-51	-57	1940	7	10	13	19	24	30	33	35	36	
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1450	46	34	11	-14	-40	-61	-77	-86	-90	-88	1970	-2	7	14	18	15	11	7	4	1	
1460	-86	-80	-71	-61	-53	-47	-40	-33	-24	-16	1980	0	2	3	4	3	0	-11	-17	-21	
1470	-8	-3	2	6	7	4	0	-5	-3	-1	1990	-21	-18	-11	-11	-1	0	6	0	-7	
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1500	32	42	48	56	59	52	41	27	9	2020	11	-7	1	-4	-8	-10	-13	-14	-11		
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TO BE CONTINUED

TO BE CONTINUED

## CONTINUED ( S-2186 WEST )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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2050	0	4	7	8	9	10	10	7	4	-1	2570	-14	-11	-10	-9	-10	-9	-10	-11	-11	-11
2060	0	-3	-4	-5	-7	-10	-12	-8	-7	-5	2580	-9	-5	0	0	6	10	11	13	14	13
2070	-6	-6	-5	-4	-7	-11	-12	-9	-5	2590	9	7	4	2	0	1	3	0	-2	13	
2080	-1	0	1	2	4	4	4	4	4	3	2600	-15	-15	-15	-15	-15	-17	-15	-15	-15	-15
2090	2	2	3	4	3	4	4	6	7	7	2610	-16	-15	-13	-11	-10	-7	-2	4	-4	-4
2100	8	10	11	12	11	12	13	15	15	15	2620	4	4	4	1	-3	-7	-12	-17	-21	-24
2110	17	18	16	13	10	5	-1	-8	-14	-21	2630	-25	-20	-18	-17	-14	-11	-8	-7	-7	-6
2120	-27	-29	-28	-24	-22	-20	-18	-17	-15	-13	2640	-4	-4	1	4	8	11	13	9	13	13
2130	-12	-13	-15	-18	-21	-26	-31	-35	-37	-36	2650	2	-2	-10	-15	-18	-19	-18	-17	-15	-13
2140	-33	-30	-23	-13	-1	9	18	25	27	29	2660	-10	-9	-11	-13	-16	-20	-21	-21	-21	-21
2150	31	32	28	25	23	20	15	11	8	6	2670	-21	-20	-18	-15	-11	-8	-7	-5	-5	-5
2160	7	7	7	9	12	16	18	19	19	19	2680	-4	-2	-2	-3	-5	-6	-5	-5	-5	-7
2170	17	15	14	8	4	1	0	-2	-6	-6	2690	-7	-8	-10	-11	-12	-12	-9	-11	-12	-12
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2240	-1	-6	-9	-10	-11	-14	-15	-15	-16	-15	2760	-11	-8	-6	-5	-6	-6	-8	-11	-14	-15
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2280	-1	1	8	-8	-6	-5	-5	-7	-12	-12	2800	-1	0	0	0	0	0	0	-2	-3	-5
2290	-17	-23	-30	-36	-40	-41	-39	-34	-26	-14	2810	-6	-7	-8	-10	-11	-11	-10	-9	-6	-4
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2320	-10	-11	-10	-10	-10	-7	-9	-7	-6	-6	2840	-15	-14	-12	-9	-8	-6	-2	0	0	0
2330	-5	-5	-6	-9	-12	-12	-13	-13	-15	-16	2850	0	-1	-3	-4	6	8	7	3	1	1
2340	-18	-15	-6	-1	9	15	22	27	31	34	2860	14	14	12	8	7	3	0	-1	-3	-3
2350	33	30	26	19	10	1	-6	-14	-26	-14	2870	-5	-6	-6	-5	-4	-4	-5	-9	-5	-6
2360	-15	-14	-13	-12	-8	-4	-2	-2	0	0	2880	-10	-12	-11	-10	-11	-11	-10	-9	-5	-6
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2380	-5	-9	-12	-14	-14	-13	-12	-11	-9	-6	2900	-6	-5	-3	-1	0	2	2	0	0	0
2390	-7	-3	5	13	19	20	19	15	9	3	2910	0	-2	-3	-2	-1	0	-1	0	0	0
2400	-2	-6	-9	-13	-14	-12	-10	-8	-7	-7	2920	-2	-4	-7	-11	-14	-16	-16	-14	-12	-12
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2420	9	8	6	3	2	0	-3	-5	-6	-8	2940	8	9	8	-6	-7	-8	-7	2	1	0
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2440	-12	-9	-8	-2	-2	0	3	8	8	8	2960	-7	-2	-1	-6	-11	-17	-20	-24	-27	-29
2450	10	9	6	8	9	9	8	7	8	8	2970	-3	-1	-6	-1	-11	-17	-20	-24	-27	-29
2460	7	5	3	0	5	-5	-7	-10	-14	-15	2980	-30	-29	-28	-25	-22	-19	-14	-10	-7	-2
2470	-11	-10	-6	-4	-4	-2	-1	-4	-6	-6	2990	3	7	10	12	15	12	19	22	24	24
2480	-8	-10	-11	-12	-9	-6	-3	-1	3	1	3000	-1	0	0	0	0	0	0	0	0	0
2490	3	2	0	0	0	-3	-4	-5	-7	-8	3010	-1	0	0	0	0	0	0	0	0	0
2500	0	-1	-3	-4	-4	-2	-5	-7	-8	-9	3020	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1
2510	-10	-9	-7	-8	-8	-6	-5	-7	-8	-9	3030	-1	0	0	0	0	0	0	0	0	0
2520	-8	-10	-9	-10	-9	-10	-9	-7	-6	-5	3040	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4
2530	-5	-6	-7	-7	-7	-7	-7	-5	-4	-4	3050	-1	0	0	0	0	0	0	0	0	0
2540	-12	-1	0	0	-1	-3	-3	-4	-5	-8	3060	-18	-16	-15	-14	-14	-14	-14	-14	-14	-14
2550	-12	-15	-15	-20	-20	-18	-18	-18	-18	-18	3070	-18	-18	-18	-18	-18	-18	-18	-18	-18	-18

END

TO BE CONTINUED

RECORD = S-2186 COMPONENT = DOWN  
 DATE AND TIME = 1989-1-25-5-03  
 AMPLIFYING INTERVAL = 0.010 SEC  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 30000, 30000,  
 NO. ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 ) ( 8 ) ( 9 ) ( 10 )

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										DOWN										
										NO. ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 ) ( 8 ) ( 9 ) ( 10 )										
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10	-14	-13	-13	-12	-10	-9	-8	-7	-6	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	
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70	46	37	17	0	-16	-19	-11	2	9	7	7	7	6	6	6	6	6	6	6	
80	0	-14	-19	-19	-13	-13	-5	2	1	1	1	1	1	1	1	1	1	1	1	
90	39	46	49	52	51	44	32	17	1	8	8	8	93	-106	-113	-116	-116	-116	-116	
100	9	11	12	6	-12	-36	-59	-69	-51	-11	-11	-11	620	18	41	59	73	83	89	
110	10	21	8	-9	-9	-18	-22	-23	-23	-24	-28	-28	630	43	2	-37	-44	-44	-44	
120	-35	-45	-49	-45	-35	-27	-21	-15	-1	-1	-1	-1	640	-81	-98	-112	-119	-119	-119	
130	84	105	107	95	58	19	-2	-1	-1	-1	-1	-1	650	-58	-58	-58	-58	-58	-58	
140	-5	-3	-2	-1	-3	-4	-6	-9	-9	-10	-10	-10	660	124	124	124	124	124	124	
150	-9	-9	-1	5	9	13	16	15	7	7	7	7	670	1	-36	-64	-79	-86	-86	
160	-23	-35	-40	-41	-39	-33	-24	-19	-19	-18	-18	-18	680	-41	-32	-26	-23	-19	-19	
170	-20	-17	-12	-12	-15	0	1	1	1	-13	-23	-23	690	50	32	-3	-35	-48	-48	
180	-27	-18	-12	-12	-34	38	32	20	11	5	5	5	700	126	145	154	154	154	154	
190	34	52	61	65	62	55	47	41	37	35	710	28	28	-26	-26	-63	-109	-109	-109	
200	33	31	28	15	-5	-18	-25	-22	-18	-16	-14	-14	720	-312	-320	-320	-320	-320	-320	
210	-26	-26	-26	-26	-22	-22	-18	-16	-16	-14	-14	-14	730	114	134	143	148	152	158	
220	-2	13	22	19	22	19	6	-1	-4	0	2	4	740	248	253	253	244	228	212	
230	6	9	8	5	0	0	0	2	4	4	4	4	750	177	147	90	26	-42	-109	
240	-5	-18	-24	-22	-9	-12	23	26	12	23	14	14	760	-299	-300	-299	-299	-299	-299	
250	1	-15	-30	-34	-34	-9	29	45	48	770	-299	-299	-299	-299	-299	-299	-299	-299	-299	
260	44	37	27	19	9	-4	-21	-33	-36	-32	-32	-32	770	41	38	40	44	44	44	
270	-10	4	17	17	28	37	43	44	39	22	118	118	109	109	109	109	109	109	109	
280	0	-11	-12	-6	-1	-7	10	8	4	0	800	-69	-110	-139	-151	-153	-141	-105	-54	
290	-3	-10	-15	-13	-13	-17	-15	-12	-7	-4	810	54	74	84	87	88	87	85	78	
300	-2	-4	-9	-12	-13	-9	-5	3	15	23	-30	-30	820	-8	-42	-42	-42	-30	-11	
310	24	18	18	2	-1	-18	-18	-17	-15	-10	-5	-5	830	7	4	0	-2	-1	-1	
320	-1	3	10	17	20	14	7	2	0	840	16	5	-4	-12	-16	-21	-16	-5	-7	
330	0	0	0	2	6	9	8	4	-5	850	14	12	0	-24	-65	-64	-61	-57	-57	
340	-14	-19	-22	-22	-18	-12	-3	6	15	22	880	-53	-50	-49	-50	-50	-49	-46	-38	-23
350	-25	25	26	23	16	8	3	0	-1	870	-4	7	12	15	19	25	36	55	73	
360	-2	-1	-6	-21	-40	-48	-48	-48	-48	-37	-17	-3	880	109	115	118	118	116	116	
370	1	29	38	37	21	0	-16	-28	-43	-52	-52	-52	890	70	58	42	20	-9	-44	
380	-58	-53	-32	0	33	54	66	66	80	82	82	82	900	-93	-87	-77	-59	-52	-44	
390	60	69	42	0	-40	-63	-70	-68	-59	-49	910	8	29	56	82	81	71	50	25	
400	-46	-47	-53	-57	-56	-42	-42	-32	-22	-11	920	0	-5	0	5	6	8	8	8	
410	1	15	27	38	45	48	53	58	60	61	930	9	13	18	25	31	32	33	33	
420	60	53	34	3	-27	-43	-50	-51	-49	-43	940	30	25	19	12	6	1	-3	-4	
430	-36	-26	-14	6	6	-1	-1	-1	-1	-1	950	-8	-12	-12	-12	-12	-93	-85	-85	
440	44	57	48	23	-9	-33	-47	-55	-56	-47	960	-61	-50	-44	-40	-35	-29	-17	-11	
450	-31	-18	-13	-15	-23	-35	-44	-49	-46	-31	970	4	11	14	12	5	-3	-11	-8	
460	-4	2	1	22	31	34	33	25	14	12	980	-1	9	20	29	34	37	39	41	
470	5	0	-3	6	12	16	19	18	16	12	990	43	44	42	37	32	29	29	29	

TO BE CONTINUED

TO BE CONTINUED

## CONTINUED( S-2186 DOWN )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
1000	30	32	31	26	19	10	2	-3	-7	-13
1010	-21	-29	-36	-40	-43	-43	-37	-26	-8	-15
1020	45	73	89	94	94	72	46	17	-10	-28
1030	-37	-44	-48	-47	-42	-34	-23	-15	-9	-4
1040	-1	0	1	6	13	22	32	39	42	1560
1050	39	28	15	0	-15	-27	-35	-39	-33	1520
1060	-26	-16	-6	4	14	25	37	45	51	1530
1070	57	53	49	49	45	42	39	37	34	1540
1080	31	28	25	22	19	14	11	8	6	1550
1090	-5	-12	-18	-24	-30	-36	-43	-58	-78	1560
1100	-109	-115	-112	-118	-107	-99	-88	-76	-65	1560
1110	-38	-27	-18	-11	-6	-1	4	11	22	1570
1120	51	60	65	67	68	67	66	63	60	1580
1130	57	58	59	59	56	51	41	25	7	1590
1140	-14	-19	-22	-23	-20	-17	-14	-10	-6	1600
1150	-5	-6	-8	-8	-12	-16	-21	-28	-37	1610
1160	-62	-57	-46	-46	-28	-10	5	19	30	1620
1170	40	43	45	47	48	48	45	41	38	1630
1180	34	32	31	32	32	32	29	25	22	1640
1190	12	9	8	3	0	-2	-8	-16	-18	1650
1200	-21	-24	-27	-27	-28	-26	-21	-16	-15	1660
1210	-5	3	16	32	41	41	46	47	45	1670
1220	41	42	39	31	24	19	14	11	10	1680
1230	13	11	4	6	-18	-25	-29	-31	-34	1690
1240	-34	-33	-31	-31	-28	-25	-23	-20	-19	1700
1250	-20	-19	-22	-23	-20	-19	-17	-15	-10	1710
1260	-5	1	10	17	22	24	20	19	11	1720
1270	-8	-15	-12	-25	-23	-20	-16	-12	-9	1730
1280	-8	-9	-13	-15	-19	-23	-26	-20	-11	1740
1290	-1	10	20	28	32	36	40	42	46	1750
1300	53	52	49	47	46	43	40	41	41	1760
1310	42	41	39	35	30	25	21	16	13	1770
1320	7	5	2	0	0	0	-3	-10	-15	1780
1330	-24	-26	-26	-24	-22	-20	-17	-16	-15	1790
1340	-4	-14	-10	-9	-9	-9	-9	-9	-9	1800
1350	-6	-4	-2	2	5	8	6	2	-3	1810
1360	-9	-14	-15	-13	-9	-5	-2	0	0	1820
1370	-1	-3	-4	-6	-9	-12	-14	-16	-16	1830
1380	-16	-16	-15	-13	-10	-8	-5	-3	-1	1840
1390	7	8	11	12	10	5	1	-4	-4	1850
1400	-24	-34	-42	-49	-53	-54	-52	-48	-41	1860
1410	-16	-4	-16	-4	-8	21	34	44	50	1870
1420	43	41	41	40	42	44	47	48	48	1880
1430	47	46	43	40	38	34	27	15	3	1890
1440	-14	-19	-23	-23	-25	-25	-28	-28	-29	1900
1450	-47	-51	-52	-46	-46	-46	-39	-21	-18	1910
1460	-18	-20	-22	-23	-25	-27	-26	-24	-19	1920
1470	-2	8	19	24	25	24	18	7	-6	1930
1480	-20	-31	-37	-39	-41	-41	-39	-37	-32	1940
1490	-28	-27	-24	-21	-16	-12	-7	-5	-4	1950
1500	-6	-6	-2	-19	-31	-2	10	20	28	1960
1510	36	37	34	30	23	12	-2	-19	-31	1970

## CONTINUED( S-2186 DOWN )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
1000	30	32	31	26	19	10	2	-3	-7	-13
1010	-21	-29	-36	-40	-43	-43	-37	-26	-8	-15
1020	45	73	89	94	94	72	46	17	-10	-15
1030	-37	-44	-48	-47	-42	-34	-23	-15	-9	-28
1040	-1	0	1	6	13	22	32	39	42	1550
1050	39	28	15	0	-15	-27	-35	-39	-33	1560
1060	-26	-16	-6	4	14	25	37	45	51	1570
1070	57	53	49	49	45	42	39	37	34	1580
1080	31	28	25	22	19	14	11	8	6	1590
1090	-5	-12	-18	-24	-30	-36	-43	-58	-78	1600
1100	-109	-115	-112	-118	-107	-99	-88	-76	-65	1610
1110	-38	-27	-18	-11	-6	-1	4	11	22	1620
1120	51	60	65	67	68	67	66	63	60	1630
1130	57	58	59	59	56	51	41	25	7	1640
1140	-14	-19	-22	-23	-20	-17	-14	-10	-6	1650
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1170	40	43	45	47	48	48	45	41	38	1680
1180	34	32	31	32	32	32	29	25	22	1690
1190	12	9	8	3	0	-2	-8	-16	-18	1700
1200	-21	-24	-27	-27	-28	-26	-21	-16	-15	1710
1210	-5	3	16	32	41	41	46	47	45	1720
1220	41	42	39	31	24	19	14	11	10	1730
1230	13	11	4	6	-18	-25	-29	-31	-34	1740
1240	-34	-33	-31	-31	-28	-25	-23	-20	-19	1750
1250	-20	-19	-22	-23	-20	-19	-17	-15	-10	1760
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1270	-8	-15	-12	-25	-23	-20	-16	-12	-9	1780
1280	-8	-9	-13	-15	-19	-23	-26	-20	-11	1790
1290	-1	10	20	28	32	36	40	42	46	1800
1300	53	52	49	47	46	43	40	41	41	1810
1310	42	41	39	35	30	25	21	16	13	1820
1320	7	5	2	0	0	0	-3	-10	-15	1830
1330	-24	-26	-26	-24	-22	-20	-17	-16	-15	1840
1340	-4	-14	-10	-9	-9	-9	-9	-9	-9	1850
1350	-6	-4	-2	2	5	8	6	2	-3	1860
1360	-9	-14	-15	-13	-9	-5	-2	0	0	1870
1370	-1	-3	-4	-6	-9	-12	-14	-16	-16	1880
1380	-16	-16	-15	-13	-10	-8	-5	-3	-1	1890
1390	7	8	11	12	10	5	1	-4	-4	1900
1400	-24	-34	-42	-49	-53	-54	-52	-48	-41	1910
1410	-16	-4	-16	-4	-8	21	34	44	50	1920
1420	46	43	41	40	42	44	47	48	48	1930
1430	47	46	43	40	38	34	27	15	3	1940
1440	-14	-19	-23	-23	-25	-25	-28	-28	-29	1950
1450	-47	-51	-52	-46	-46	-46	-39	-21	-18	1960
1460	-18	-20	-22	-23	-25	-27	-26	-24	-19	1970
1470	-2	8	19	24	24	25	24	18	7	1980
1480	-20	-31	-37	-39	-41	-41	-39	-37	-32	1990
1490	-28	-27	-24	-21	-16	-12	-7	-5	-4	2000
1500	-6	-6	-2	-19	-31	-2	10	20	28	2010
1510	36	37	34	30	23	12	-2	-19	-31	2020

## CONTINUED( S-2186 DOWN )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
1000	30	32	31	26	19	10	2	-3	-7	-13
1010	-21	-29	-36	-40	-43	-43	-37	-26	-8	-15
1020	45	73	89	94	94	72	46	17	-10	-15
1030	-37	-44	-48	-47	-42	-34	-23	-15	-9	-28
1040	-1	0	1	6	13	22	32	39	42	1550
1050	39	28	15	0	-15	-27	-35	-39	-33	1560
1060	-26	-16	-6	4	14	25	37	45	51	1570
1070	57	53	49	49	45	42	39	37	34	1580
1080	31	28	25	22	19	14	11	8	6	1590
1090	-5	-12	-18	-24	-30	-36	-43	-58	-78	1600
1100	-109	-115	-112	-118	-107	-99	-88	-76	-65	1610
1110	-38	-27	-18	-11	-6	-1	4	11	22	1620
1120	51	60	65	67	68	67	66	63	60	1630
1130	57	58	59	59	56	51	41	25	7	1640
1140	-14	-19	-22	-23	-20	-17	-14	-10	-6	1650
1150	-5	-6	-8	-8	-12	-16	-21	-28	-37	1660
1160	-62	-57	-46	-46	-28	-10	5	19	30	1670
1170	40	43	45	47	48	48	45	41	38	1680
1180	34	32	31	32	32	32	29	25	22	1690
1190	12	9	8	3	0	-2	-8	-16	-18	1700
1200	-21	-24	-27	-27	-28	-26	-21	-16	-12	1710
1210	-5	3	16	32	41	41	46	47	45	1720
1220	41	42	39	31	24	19	14	11	10	1730
1230	13	11	4	6	-18	-25	-29	-31	-34	1740
1240	-34	-33	-31	-31	-28	-25	-23	-20	-17	1750
1250	-20	-19	-22	-23	-20	-17	-14	-10	-6	1760
1260	-5	1	10	17	22	24	20	19	11	1770
1270	-8	-15	-12	-25	-23	-20	-16	-12	-9	1780
1280										

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2040	16	21	26	31	35	35	32	28	26	20
2050	15	9	2	-4	-9	-11	-11	-10	-7	-5
2060	-5	-4	-2	-1	-1	-1	-1	-1	-1	-4
2070	4	2	-1	0	-1	-3	-4	-4	-4	-4
2080	-5	-3	-2	0	-3	6	8	10	11	11
2090	8	6	-3	0	-2	-3	-3	-6	-4	-4
2100	-4	-4	-4	-5	-7	-9	-8	-5	-5	0
2110	12	18	22	24	25	23	19	14	9	6
2120	2	-3	-9	-12	-14	-15	-15	-13	-11	-8
2130	-5	-4	-3	-2	-1	-2	-2	0	3	5
2140	10	13	16	17	20	22	22	22	22	22
2150	22	21	18	15	10	7	3	0	2650	-12
2160	-4	-8	-10	-11	-12	-16	-18	-21	-20	-2650
2170	-22	-30	-32	-30	-29	-29	-29	-28	-28	-2650
2180	-26	-16	-11	-4	0	2	5	6	7	-19
2190	9	11	14	15	16	15	12	11	11	2750
2200	10	8	8	8	9	10	9	8	7	-19
2210	7	4	1	0	-1	-1	0	1	2	2750
2220	6	3	1	0	-2	-2	0	2	5	-16
2230	9	12	15	18	20	21	21	19	14	2750
2240	9	5	0	-3	-7	-10	-12	-14	-15	-2750
2250	-14	-13	-12	-11	-11	-10	-9	-8	-5	2750
2260	-4	-3	-2	-1	-1	-1	0	0	-5	2750
2270	-2	-3	-4	-6	-9	-11	-12	-11	-8	2750
2280	-5	-1	2	6	9	12	15	18	21	2850
2290	28	27	25	24	23	20	18	16	14	2850
2300	13	10	7	4	0	0	-1	-1	-2	2850
2310	-5	-7	-7	-12	-17	-20	-21	-23	-25	2850
2320	-26	-28	-28	-28	-26	-23	-21	-18	-14	2850
2330	-8	-2	3	-7	10	13	12	11	11	2850
2340	12	14	16	16	16	16	14	12	11	2850
2350	11	6	6	5	3	1	1	0	0	2850
2360	-3	-6	-9	-10	-11	-10	-10	-8	-6	2850
2370	-1	4	8	11	14	17	20	22	22	2850
2380	21	19	17	13	10	7	5	3	1	2950
2390	1	0	-2	-2	-2	-2	-2	-3	-4	2950
2400	-3	-2	-3	-2	-3	-5	-8	-10	-12	2950
2410	-15	-14	-12	-8	-5	-2	0	0	0	2950
2420	0	-1	0	1	3	6	7	8	7	2950
2430	5	3	2	-1	-3	-8	-12	-14	-16	2950
2440	-18	-19	-19	-21	-21	-20	-19	-16	-14	2950
2450	-12	-11	-11	-10	-9	-6	-3	0	1	2950
2460	5	8	9	9	9	9	9	9	9	2950
2470	0	-1	0	1	0	2	4	5	7	2950
2480	7	6	5	4	4	3	1	1	2	2950
2490	3	4	4	4	7	10	13	12	8	2950
2500	0	-2	-2	0	0	0	0	1	2	2950
2510	6	6	7	8	9	9	9	8	7	2950
2520	-1	-5	-7	-10	-12	-12	-12	-12	-12	2950
2530	-12	-12	-12	-12	-12	-12	-12	-12	-12	2950
2540	-6	-5	-3	0	2	3	4	4	4	2950
2550	3	2	-2	0	0	0	-2	-4	-6	2950

CONTINUED( S-2186 DOWN )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
2560	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
2570	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16
2580	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12
2590	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11
2600	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11
2610	3	1	0	1	0	0	0	0	0	0
2620	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
2630	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16
2640	-3	0	2	4	6	6	6	6	6	6
2650	6	5	3	2	0	0	0	0	0	0
2660	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12
2670	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4
2680	-20	-18	-16	-15	-14	-13	-12	-11	-10	-9
2690	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2
2700	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2710	-15	-19	-22	-21	-21	-21	-21	-21	-21	-21
2720	-11	-9	-6	-6	-6	-6	-6	-6	-6	-6
2730	-16	-17	-16	-16	-16	-16	-16	-16	-16	-16
2740	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
2750	-5	-6	-6	-6	-6	-6	-6	-6	-6	-6
2760	-1	3	2	3	4	5	6	5	4	3
2770	8	8	8	8	8	8	8	8	8	8
2780	0	0	0	0	0	0	0	0	0	0
2790	14	14	14	14	14	14	14	14	14	14
2800	3	0	-2	-3	-3	-3	-3	-3	-3	-3
2810	-17	-18	-18	-18	-18	-18	-18	-18	-18	-18
2820	-12	-11	-10	-10	-10	-10	-10	-10	-10	-10
2830	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1
2840	-2	-1	0	0	0	0	0	0	0	0
2850	-9	-8	-7	-6	-6	-6	-6	-6	-6	-6
2860	-16	-15	-15	-15	-15	-15	-15	-15	-15	-15
2870	-1	0	0	0	0	0	0	0	0	0
2880	0	0	0	0	0	0	0	0	0	0
2890	14	15	16	16	16	16	16	16	16	16
2900	8	8	8	8	8	8	8	8	8	8
2910	-1	1	1	1	1	1	1	1	1	1
2920	0	0	0	0	0	0	0	0	0	0
2930	-11	-10	-10	-10	-10	-10	-10	-10	-10	-10
2940	-1	0	0	0	0	0	0	0	0	0
2950	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11
2960	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7
2970	3	3	3	3	3	3	3	3	3	3
2980	0	0	0	0	0	0	0	0	0	0
2990	-1	1	1	1	1	1	1	1	1	1

END

TO BE CONTINUED

RECORD = S-2196    COMPONENT = SOUTH    STATION = KASHIMA-ZOKAN-S  
 DATE AND TIME = 1989-2-19-21-27    TOTAL NUMBER OF DATA = 30000  
 AMPLIFYING INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.    SCAL = 0.10000  
 CONNECTION POINT IN DATA NUMBER = 30000,

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10	8	8	8	0	0	2	3	5	6	3
20	2	1	0	0	0	-2	-2	-1	-1	-1
30	0	0	0	0	0	-1	0	0	0	0
40	1	2	2	3	3	3	4	4	4	4
50	3	3	3	2	3	3	3	3	3	3
60	3	3	3	3	3	3	2	2	2	2
70	0	1	5	6	6	5	5	4	3	2
80	4	5	6	6	6	5	4	3	2	1
90	2	2	2	4	5	4	3	2	1	1
100	2	4	5	4	3	2	1	0	0	0
110	5	5	3	1	0	0	0	0	0	0
120	3	3	4	4	3	3	3	3	3	3
130	4	4	1	1	0	0	1	1	1	1
140	1	0	-1	0	0	0	0	0	0	0
150	6	11	11	7	5	2	1	0	0	0
160	7	7	5	4	2	4	4	4	4	4
170	-2	-5	-4	-1	2	4	4	4	4	4
180	5	6	4	0	-4	-6	-9	-8	-3	-3
190	-1	0	0	0	0	3	4	4	4	4
200	0	0	0	0	0	1	1	1	1	1
210	15	17	12	10	11	11	13	12	7	7
220	16	13	10	8	6	6	3	2	-2	-2
230	-12	-12	-4	4	7	5	3	0	-3	-3
240	1	1	0	0	0	0	1	2	2	2
250	0	13	13	13	10	5	2	0	0	0
260	-1	-1	0	2	3	4	3	3	5	5
270	9	10	9	7	7	6	5	4	4	4
280	4	4	3	2	1	1	2	5	8	9
290	8	7	5	5	3	3	2	2	2	2
300	3	2	2	4	6	8	12	10	8	8
310	-1	0	-1	-7	-7	-5	-3	-1	0	0
320	0	0	0	2	3	4	3	3	5	5
330	9	8	6	7	6	5	5	4	4	4
340	3	2	2	2	2	4	6	9	8	7
350	8	8	7	6	5	4	3	5	6	5
360	5	1	1	0	0	-2	-3	-3	-5	-5
370	-7	-6	-3	-1	-1	-2	-7	-8	-8	-8
380	-1	5	11	13	11	9	9	10	13	18
390	21	20	17	14	12	10	9	9	9	9
400	2	4	4	4	4	2	0	-3	-7	-9
410	-7	-4	-2	0	0	0	0	-1	-1	-1
420	-1	-2	-4	-8	-10	-5	2	7	8	7
430	9	5	3	5	9	11	1	8	0	-5
440	-5	0	6	11	10	6	3	0	-2	-2
450	-2	-3	-6	-5	-2	-2	0	4	8	11
460	9	6	5	6	7	7	4	0	-2	-2
470	-2	-2	-3	-6	-5	-5	-5	-6	-5	-5

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
0	480	-4	-5	-5	-7	-11	-13	-11	-7	-4
10	490	12	15	15	15	15	13	13	7	9
20	510	-11	-8	-4	-5	-7	-4	-7	0	3
30	520	6	6	4	3	4	5	9	11	10
40	530	3	6	7	5	0	1	2	1	1
50	540	-8	-5	-5	-2	0	-2	-18	-17	-14
60	550	11	7	7	8	6	2	-6	-7	-5
70	560	-2	0	4	8	6	2	-2	-7	-5
80	570	-3	-2	-4	-9	-13	-14	-4	0	0
90	580	0	-3	-5	-6	-5	-2	0	2	3
100	590	3	3	7	8	7	5	6	5	5
110	600	-1	1	1	1	1	1	1	1	1
120	610	-4	-3	-2	-2	-2	-2	-7	-6	-5
130	620	1	0	0	0	0	0	0	0	0
140	630	23	17	10	9	9	7	5	0	0
150	640	-13	11	10	9	9	7	7	5	0
160	650	-14	-10	-7	-7	-7	-13	-21	-24	-21
170	660	5	7	5	6	10	12	14	13	8
180	670	0	-4	-4	-2	-1	4	8	11	10
190	680	6	7	6	4	1	-3	-10	-15	-16
200	690	-13	-6	-2	2	13	19	22	21	19
210	700	2	-4	-10	-14	-13	-7	3	14	22
220	710	32	28	21	14	5	0	-6	-13	-20
230	720	-23	-19	-12	-2	10	19	22	21	18
240	730	-1	-3	-8	-16	-16	-23	-29	-32	-28
250	740	-7	-1	0	0	-5	-5	-3	0	-4
260	750	8	2	2	4	-12	-13	-7	4	14
270	760	17	15	15	15	14	12	5	19	19
280	770	17	30	35	39	38	31	22	16	15
290	780	0	-7	-15	-19	-20	-17	-14	-13	-15
300	790	-16	-14	-16	-14	-17	-16	-20	-18	-18
310	800	9	9	9	9	12	14	10	5	2
320	810	3	2	2	2	2	2	1	1	1
330	820	3	3	3	3	3	3	3	3	3
340	830	-21	-12	-8	-4	-4	-3	-3	-1	-3
350	840	16	15	10	7	7	6	7	6	6
360	850	7	6	5	4	4	4	4	4	4
370	860	-23	-15	-7	-2	0	0	0	0	0
380	870	3	6	5	4	4	4	4	4	4
390	880	18	19	19	20	20	23	26	21	16
400	890	-8	-12	-13	-13	-13	-22	-25	-27	-23
410	900	-17	-11	-8	-9	-10	-12	-15	-18	-20
420	910	-20	-13	-3	8	7	20	19	22	26
430	920	34	40	40	35	28	23	19	18	21
440	930	20	17	12	10	9	10	9	10	9
450	940	0	-2	-4	-8	-12	-5	3	4	6
460	950	-8	-4	0	2	-1	-3	-8	-11	-12
470	960	-6	-7	-10	-13	-10	-12	-15	-17	-16
480	970	7	15	15	15	15	15	15	15	15
490	980	26	18	4	-2	-4	9	29	42	53
500	990	63	66	76	76	93	112	126	132	126

TO BE CONTINUED

TO BE CONTINUED

## CONTINUED ( S-2196 SOUTH )

## CONTINUED ( S-2196 SOUTH )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
1000	96	73	42	3	-50	-112	-182	-245	-273	-271	1520	-87	-82	-71	-49	-16	22	65	105	138	56
1010	-244	-199	-137	-63	12	89	162	209	217	187	1530	161	156	138	113	89	69	58	57	62	67
1020	126	42	-56	-18	-224	-277	-312	-405	-440	-141	1540	67	63	53	36	16	-5	-28	-49	-66	-78
1030	-448	-456	-365	-277	-178	-24	-141	-251	350	1560	-87	-95	-109	-110	-106	-10	-94	-79	-8	-61	
1040	440	500	523	511	464	335	317	239	164	95	1560	-54	-48	-43	-35	-22	-13	-9	-8	-11	-17
1050	44	9	-96	-55	-10	-150	-214	-250	-246	-208	1570	-19	-21	-16	-10	-4	5	5	54	78	
1060	-168	-130	-94	-50	-10	-43	89	107	106	90	1580	100	114	126	136	143	142	132	113	84	46
1070	72	65	73	88	96	90	59	6	-43	-83	1580	12	18	-54	-94	-124	-146	-158	-162	-157	-142
1080	-115	-130	-129	-34	16	63	107	160	122	-97	1600	-12	-10	-12	-10	-22	2	23	42	77	
1090	97	68	30	-6	-32	-45	-50	-54	-59	-62	1610	90	98	102	104	101	92	81	71	64	58
1100	-53	-23	24	75	109	125	131	126	116	102	1620	26	-19	-19	-21	6	-2	-11	-18	-22	-27
1110	80	47	8	-29	-13	8	18	15	2	15	1630	-2	-2	-9	-17	-23	-29	15	16	11	6
1120	-7	-11	-14	-26	-71	-128	-154	-160	-155	-140	1640	2	-10	-15	-15	-21	-31	-26	-18	-12	-12
1130	-126	-119	-115	-99	-46	21	91	137	163	174	1650	-9	-8	-10	-15	-32	-48	-73	-98	-123	
1140	167	145	114	80	45	14	0	-3	-1	-2	1660	-145	-155	-150	-133	-110	-81	-52	-31	-10	10
1150	-16	-40	-60	-61	-41	-7	27	49	53	43	1670	25	33	41	44	36	31	21	9	-2	10
1160	22	0	-22	-4	-81	-115	-139	-152	-151	-131	1680	-14	-21	-21	-25	-25	-20	-13	-5	2	10
1170	-89	-30	43	14	172	216	224	206	172	134	1690	29	40	56	77	96	110	120	125	127	127
1180	94	68	49	-5	-32	-52	-62	-65	-64	-60	1700	123	117	109	86	86	48	27	10	-1	-1
1190	-56	-48	-40	-33	-25	-18	-13	-9	-6	-3	1710	-14	-27	-44	-58	-65	-69	71	-72	-72	-67
1200	-1	-1	-4	-16	-16	-33	-41	-14	-4	1	1720	-53	-23	12	43	64	77	84	87	83	66
1210	-41	-96	-139	-139	-148	-124	-81	-10	-11	2	1730	36	-35	-75	-106	-116	-116	-109	-96	-85	
1220	1	25	56	105	155	179	181	171	150	123	1740	-77	-68	-60	-47	-28	-11	0	10	16	19
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1240	-56	-42	-32	-28	-30	-43	-61	-61	-94	-95	1760	-16	-11	-4	2	8	10	9	3	0	0
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1270	40	41	44	44	55	66	72	65	45	19	1790	-2	-2	-9	-14	-17	-19	-20	-18	-12	0
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1290	165	179	173	142	95	95	-33	-83	-83	-103	1810	36	31	28	23	17	12	6	2	10	19
1300	-101	-91	-84	-79	-84	-86	-80	-80	-80	-63	1820	-1	-5	-14	-28	-46	-64	-64	-82	-79	-79
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1340	-28	-64	-96	-112	-124	-131	-130	-117	-94	-74	1860	-84	-94	-99	-100	-100	-96	-83	-58	-26	7
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1360	8	23	33	39	44	45	44	45	45	45	1880	-1	-5	-12	-14	-9	-2	1	4	5	4
1370	41	34	23	9	-8	-24	-34	-36	-31	-28	1890	4	6	8	12	13	14	12	11	13	
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1410	128	130	122	101	66	23	-21	-52	-72	-81	1930	-88	-80	-67	-48	-23	0	16	26	30	33
1420	-84	-85	-85	-88	-91	-95	-97	95	89	95	1940	35	32	38	38	37	35	30	19	5	6
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1440	79	71	67	65	57	57	43	17	-6	-26	1960	145	151	150	138	113	70	18	-33	-75	-109
1450	-41	-48	-47	-36	-19	2	5	5	3	3	1970	-132	-140	-138	-129	-113	-92	-72	-53	-36	-23
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1470	-102	-93	-81	-64	-43	-119	6	29	44	50	1990	22	43	66	87	103	112	117	117	111	102
1480	44	24	-3	-30	-48	-53	-49	-39	-25	-11	2000	88	71	51	25	-8	-39	-65	-87	-105	-123
1490	4	26	60	93	115	126	123	103	75	42	2010	-133	-136	-130	-122	-113	-94	-81	-59	99	121
1500	16	0	-14	-23	-27	-28	-29	-33	-39	-2020	-31	-9	6	23	38	54	77	99	121	134	
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TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-2196 )										CONTINUED ( S-2196 )										SOUTH )									
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )								
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2050	-33	-47	-59	-67	-73	-77	-79	-81	-88	2570	29	28	28	29	32	35	36	40	46	52									
2060	-90	-91	-88	-83	-75	-64	-53	-40	-27	2580	54	52	49	43	33	21	11	5	5	5									
2070	-17	-8	0	3	9	13	17	23	31	2590	-8	-18	-29	-45	-60	-69	-71	-69	-63	-53									
2080	-46	51	54	55	51	42	26	4	-19	2600	-1	-31	-23	-17	-10	-3	7	9	10	-1									
2090	-62	-75	-84	-88	-89	-82	-68	-49	-28	2610	9	5	1	-2	-6	-11	-16	-19	-23	-25									
2100	7	22	34	48	60	72	80	84	88	2620	-26	-26	-27	-27	-25	-21	-18	-14	-11	-1									
2110	86	77	69	60	50	40	29	17	2	2630	-11	-14	-16	-20	-18	-18	-15	-12	-11	-1									
2120	1	3	5	7	9	5	0	-3	-8	2640	-6	0	6	14	20	25	27	31	37	42									
2130	-9	-5	-1	1	3	7	11	14	12	2650	45	48	52	55	54	50	43	32	32	-1									
2140	5	-3	-15	-27	-38	-47	-54	-58	-56	2660	18	6	-6	-21	-35	-47	-56	-70	-74	-74									
2150	-50	-4	-28	-17	-9	-4	-3	-4	-7	2670	-80	-81	-81	-78	-72	-74	-72	-69	-65	-63									
2160	-9	-9	-12	-13	-15	-22	-33	-46	-57	2680	-61	-57	-49	-39	-24	-9	2	10	21	28									
2170	-66	-70	-69	-64	-52	-35	-22	-15	-9	2690	33	36	36	33	29	27	28	30	35	35									
2180	-4	-4	-3	0	4	9	11	15	26	2700	41	46	53	58	61	63	62	61	59	55									
2190	42	49	57	63	73	85	101	116	131	142	50	50	43	33	22	12	7	4	0	-1									
2200	149	149	142	131	115	98	82	65	45	2710	-3	-4	-7	-11	-16	-19	-15	-8	-3	-3									
2210	-2	-30	-59	-85	-109	-135	-156	-168	-170	2720	1	5	9	10	10	8	4	0	-5	-13									
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2230	81	85	82	72	57	41	26	13	3	2740	-22	-32	-41	-48	-33	-58	-61	-63	-65	-65									
2240	-14	-18	-20	-19	-17	-13	-8	-3	0	2750	-65	-62	-59	-57	-53	-50	-47	-44	-41	-41									
2250	8	8	11	17	23	23	19	13	0	2760	-38	-37	-38	-37	-39	-39	-36	-32	-27	-27									
2260	-38	-59	-79	-99	-120	-138	-147	-154	-156	2770	-21	-14	-9	-5	-5	-1	5	15	26	40									
2270	-140	-128	-112	-95	-74	-53	-35	-20	-4	2780	67	76	83	85	83	79	70	60	44	31									
2280	29	44	57	68	78	91	107	117	122	2790	28	18	13	13	13	17	21	27	31	31									
2290	116	103	88	74	61	48	35	24	15	2800	35	39	40	39	36	22	11	0	-11	-11									
2300	6	8	13	17	18	15	16	13	8	2810	-24	-37	-47	-53	-55	-54	-48	-43	-36	-36									
2310	-3	-3	-2	-1	-1	-4	-10	-16	-20	2820	-17	-6	4	15	23	30	35	39	41	39									
2320	-31	-36	-41	-45	-49	-51	-56	-39	-32	2830	34	24	11	-3	-19	-35	-49	-59	-65	-69									
2330	-18	-15	-13	-19	-34	-47	-58	-64	-62	2840	-70	-68	-68	-53	-44	-33	-18	-13	-10	-10									
2340	-50	-43	-35	-25	-12	2	22	46	71	2850	-12	-15	-18	-23	-29	-36	-43	-47	-45	-45									
2350	103	111	115	113	106	98	88	78	61	2860	-41	-34	-27	-19	-14	-7	-2	7	13	19									
2360	43	25	6	-8	-18	-26	-33	-41	-48	2870	24	24	27	27	26	23	19	14	11	9									
2370	-57	-64	-74	-63	-94	-103	-110	-115	-116	2880	7	6	4	2	0	-2	-5	-1	-16	-16									
2380	-99	-80	-58	-38	-19	0	19	41	58	2890	3	7	10	11	13	12	9	2	-3	-10									
2390	73	77	78	79	78	77	75	71	62	2900	-21	-31	-38	-43	-48	-51	-49	-46	-39	-39									
2400	52	45	41	36	33	31	31	25	22	2920	-29	-18	-4	13	-27	38	46	52	55	56									
2410	21	19	15	9	0	-11	-25	-44	-63	2930	58	58	51	44	32	3	-6	-13	-18	-18									
2420	-93	-108	-121	-129	-130	-127	-121	-110	-97	2940	-22	-23	-24	-21	-16	-10	-6	-4	0	-1									
2430	-65	-37	-5	-28	58	82	80	104	120	2950	1	2	0	-4	-7	-11	-12	-11	-11	-11									
2440	129	125	115	102	90	79	68	59	52	2960	-9	-6	-4	1	10	18	23	26	28	27									
2450	44	37	32	27	23	22	20	17	13	2970	22	13	2	-6	-15	-24	-32	-38	-40	-41									
2460	8	3	-2	-2	-23	-32	-37	-39	-39	2980	-40	-37	-34	-29	-23	-19	-16	-13	-10	-7									
2470	-37	-35	-31	-29	-28	-26	-24	-22	-21	2990	-5	-4	-3	0	3	7	10	14	16	19									
2480	-30	-43	-47	-48	-48	-47	-46	-43	-42	-30	-37	-30	-37	-30	-37	-30	-37	-30	-37	-30									
2490	-27	-23	-20	-18	-15	-12	-4	5	17	26	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1									
2500	36	43	48	51	53	55	58	61	63	65	65	65	65	65	65	65	65	65	65	65									
2510	66	64	57	45	29	15	2	-10	-20	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28	-28									
2520	-34	-37	-39	-39	-37	-33	-26	-18	-11	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7									
2530	-7	-11	-19	-44	-54	-61	-64	-61	-62	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59	-59									
2540	-54	-48	-40	-28	-19	-15	-10	-6	-8	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13	-13									
2550	-19	-22	-22	-16	-11	-8	-7	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5									

END

TO BE CONTINUED

RECORD = S-2196 COMPONENT = EAST  
 DATE AND TIME = 1989-2-19 21-27  
 AMPLIFICATION INTERVAL = 0.010 SEC  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 3000.  
 NO. ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 ) ( 8 ) ( 9 ) ( 10 )

STATION = KASHIMA-ZOKAN-S									
TOTAL NUMBER OF DATA = 3000									
SCAL = 0.10000									
0	-9	-8	-6	-5	-3	-2	0	0	1
10	1	0	2	2	1	1	1	0	0
20	0	0	1	1	1	1	1	1	1
30	2	2	3	3	3	4	4	4	4
40	5	5	5	5	5	4	4	3	3
50	1	0	0	0	0	1	2	3	3
60	3	3	3	3	3	4	5	4	4
70	2	2	2	2	1	0	0	2	3
80	2	2	2	1	3	6	8	9	9
90	7	7	8	9	9	9	8	9	9
100	3	5	5	5	5	0	0	0	0
110	2	2	0	0	0	0	1	2	3
120	3	5	7	9	11	10	9	9	8
130	4	0	-1	-12	0	1	2	2	1
140	0	0	5	10	11	9	6	3	2
150	5	8	12	11	8	6	3	1	2
160	4	3	4	7	10	12	13	11	8
170	7	7	6	4	1	-2	-6	-9	-12
180	-8	-8	-8	-7	-7	-2	-1	-2	-2
190	-2	-2	-2	-2	-0	0	1	2	3
200	4	5	6	7	8	4	0	-2	-3
210	-5	-4	-3	-2	0	3	7	10	8
220	3	2	4	7	9	13	14	16	16
230	18	19	18	19	17	11	6	4	4
240	4	3	0	0	-3	-1	4	9	12
250	12	11	11	12	13	15	15	17	14
260	-19	-19	-14	-7	0	4	6	8	10
270	14	15	15	11	6	2	-5	-3	-5
280	-7	-8	-8	-7	-7	-6	-6	-5	-3
290	-2	0	1	2	2	3	6	7	7
300	-1	0	-1	1	1	2	4	8	12
310	13	12	11	10	8	5	2	0	-2
320	-3	-1	0	1	4	5	6	9	13
330	13	9	4	0	0	-2	-3	-1	-1
340	1	1	0	0	0	-2	-2	0	0
350	0	2	3	4	4	1	-1	2	0
360	7	8	6	4	1	4	5	2	0
370	-3	0	3	5	6	3	1	0	0
380	-1	0	0	0	-1	-15	-17	-16	-11
390	-4	3	11	16	17	13	10	9	8
400	4	0	-6	-5	-3	0	5	1	1
410	20	24	24	19	11	5	1	1	1
420	-4	-8	-13	-17	-18	-12	-8	-4	-2
430	-1	2	9	15	16	9	-2	-13	-21
440	-23	-8	-10	-3	3	6	7	1	13
450	22	23	24	23	21	17	14	9	4
460	-16	-26	-30	-31	-17	-20	-17	-15	-12
470	-9	-3	4	10	13	18	20	19	15

CONTINUED( S-2196 EAST )  
 NO. ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 ) ( 8 ) ( 9 ) ( 10 )

S-2196 EAST										
NO. ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 ) ( 8 ) ( 9 ) ( 10 )										
480	17	14	11	8	9	14	17	18	17	13
490	9	7	7	8	6	0	-10	-21	-29	-31
500	-28	-19	-9	-10	-11	-11	-8	-5	-4	-5
510	-10	-520	-8	-9	-15	-15	-4	-5	-4	0
520	530	8	11	12	14	16	17	19	20	21
530	20	14	9	7	6	10	14	18	21	22
540	22	22	24	7	27	30	32	28	19	9
550	1	-5	-8	-11	-11	-16	-22	-26	-24	-19
560	-14	-10	-10	-10	-13	-13	-13	-10	-6	-3
570	-14	-1	0	0	-1	-1	-4	-2	0	1
580	-1	0	-1	-1	-1	-1	-4	-2	0	0
590	4	7	13	18	22	21	20	17	12	5
600	-1	-6	-9	-9	-7	-7	-6	-4	-3	-3
610	-1	4	10	13	13	11	10	13	17	17
620	17	11	0	-11	-20	-26	-20	-14	-14	-14
630	-7	-2	1	5	9	11	13	15	15	15
640	14	10	6	5	6	7	6	5	5	5
650	8	10	9	8	7	7	9	12	15	16
660	15	14	12	10	8	7	4	0	-3	-8
670	-16	-21	-23	-21	-15	-11	-8	-8	-7	-5
680	-8	-6	-5	-5	-4	-5	-7	-8	-7	-5
690	-3	-5	-5	-5	-3	0	3	9	14	18
700	22	24	25	25	22	15	22	15	7	0
710	-9	-10	-12	-13	-12	-13	-11	-8	-5	-7
720	0	1	0	0	2	4	5	3	-1	-5
730	-5	-2	0	0	2	0	4	5	4	0
740	-2	2	2	2	2	8	8	1	1	1
750	15	13	10	7	6	4	5	4	4	1
760	-5	-5	-5	-5	-3	0	3	5	9	12
770	14	13	13	13	13	13	13	13	13	13
780	10	12	13	13	13	15	20	25	30	35
790	31	23	11	1	1	1	1	9	9	9
800	-15	-6	1	1	1	1	4	7	7	5
810	4	3	2	3	3	3	3	3	6	7
820	10	9	7	0	-6	-9	-11	-10	-10	-9
830	-7	0	4	6	5	6	5	1	-3	-7
840	-11	-10	-8	-5	-3	-2	-1	1	1	1
850	-16	-20	-19	-19	-19	-19	-12	-7	-7	-7
860	19	21	22	20	21	21	15	18	20	20
870	0	1	1	1	1	1	1	6	6	2
880	0	8	16	22	24	25	25	25	26	26
890	24	12	-7	-22	-33	-28	-22	-15	-10	-9
900	-7	-3	-10	-11	-11	-11	-14	-11	-1	-2
910	8	1	-14	-14	-14	-14	-14	-11	1	0
920	-5	-4	-4	-4	-4	-4	-7	-9	-9	-15
930	-25	-23	-17	-10	-10	-10	-8	-6	-3	-3
940	16	23	26	25	26	25	25	26	24	24
950	26	20	12	5	5	5	5	5	-1	-2
960	-5	-9	-9	-7	-7	-7	-7	-7	1	-2
970	20	28	31	28	28	31	28	28	26	26
980	-26	-26	-26	-26	-26	-26	-26	-26	6	6
990	52	50	44	38	32	32	32	32	30	30

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-2196 EAST )										CONTINUED ( S-2196 EAST )											
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
1000	-134	-159	-177	-188	-194	-196	-195	-193	-186	-176	1520	-26	-36	-43	-49	-54	-59	-64	-66	-66	-66
1010	-157	-120	-71	-16	-49	-108	146	168	178	183	1530	-65	-68	-76	-85	-92	-96	-96	-90	-77	-58
1020	184	185	190	197	203	207	210	211	205	182	1540	-37	-18	0	16	34	49	61	70	76	70
1030	139	92	49	19	0	-6	-9	-8	-9	-7	1550	81	79	77	74	73	73	72	70	68	61
1040	-4	-7	-25	-123	-156	-156	-160	-135	-90	-49	1560	64	54	36	15	-3	-17	-23	-32	-35	-35
1050	-45	-24	-23	-36	-54	-72	-81	-82	-76	-49	1570	-38	-43	-47	-45	-40	-30	-22	-18	-19	-22
1060	-4	41	88	118	119	91	49	5	-28	-42	1580	-26	-27	-27	-27	-29	-29	-25	-20	-17	-17
1070	-30	-4	25	43	50	51	49	54	55	75	1590	-20	-23	-22	-12	17	62	99	130	150	155
1080	75	63	38	7	-22	-50	-80	-119	-168	-209	1600	149	132	109	84	57	34	17	3	16	42
1090	-227	-213	-161	-75	28	121	182	213	228	230	1610	-67	-88	-106	-118	-123	-117	-97	-67	-40	-17
1100	110	212	170	106	30	-43	-95	-130	-155	-164	1655	-166	-1620	2	20	39	58	76	101	104	96
1110	-157	-133	-83	0	88	150	175	169	133	82	1630	92	88	82	73	60	47	40	48	65	66
1120	26	-63	-96	-131	-161	-170	-143	-51	71	1640	84	94	92	75	47	19	-5	-28	-46	-64	
1130	202	266	278	257	214	166	132	111	91	55	1650	-82	-82	-104	-123	-142	-151	-155	-157	-115	
1140	-5	-84	-175	-259	-314	-323	-282	-200	-79	35	1660	-92	-73	-63	-57	-51	-45	-38	-25	-11	0
1150	108	147	164	169	169	164	148	119	84	49	1670	10	21	21	43	63	88	109	118	120	117
1160	23	9	4	-2	-16	-16	-41	-63	-75	-77	1680	110	101	93	86	79	67	48	21	11	-43
1170	-68	-32	-36	-25	-19	-13	-2	15	36	54	1690	-71	-91	-103	-113	-122	-129	-133	-134	-127	-113
1180	63	65	64	60	53	38	10	-29	-63	1700	-95	-77	-65	-59	-55	-53	-53	-56	-53	-64	
1190	-79	-83	-82	-78	-79	-81	-85	-85	-73	-41	1710	10	10	4	3	-8	-11	-13	-9	-4	-1
1200	0	38	57	62	63	61	56	51	49	47	1720	2	4	8	17	34	54	67	79	91	101
1210	46	42	39	41	43	47	49	46	32	1730	111	119	123	120	102	70	28	-10	31	34	
1220	8	-17	-39	-39	-62	-62	-54	-44	-40	-44	1740	-53	-62	-72	-80	-85	-88	-83	-71	-60	-52
1230	-60	-81	-95	-98	-88	-88	-66	-43	-43	-30	1750	-47	-40	-32	-49	-19	-14	-10	-9	-8	-8
1240	-50	-61	-67	-69	-65	-65	-53	-36	-20	-5	1760	-1	13	32	46	54	55	54	52	49	49
1250	17	21	25	31	40	46	50	50	44	37	1770	46	42	34	21	8	-1	-6	-8	-9	-9
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1280	-69	-79	-78	-64	-39	-17	0	9	10	0	1800	49	61	67	70	70	67	63	54	44	32
1290	-18	-30	-34	-26	-3	24	43	53	57	58	1810	20	9	2	0	0	9	20	26	31	31
1300	56	54	52	51	49	46	37	15	-19	-66	1820	29	27	26	25	24	19	12	3	-11	-11
1310	-111	-140	-150	-135	-96	-49	-14	0	-3	-43	1830	-19	-25	-26	-32	-36	-33	-29	-23	-16	-9
1320	-20	-9	2	8	5	-10	-31	-43	-40	-40	1840	-5	-1	0	-4	-9	-17	-25	-33	-43	-43
1330	-21	4	23	32	31	36	55	92	45	1850	-51	-57	-60	-63	-65	-63	-60	-55	-46	-32	
1340	186	205	187	150	150	95	31	13	-13	-15	1860	-19	-9	-4	-3	-5	-7	-9	-8	-10	-10
1350	-83	-69	-92	-91	-82	-71	-59	-50	-46	-48	1870	19	24	27	28	24	17	7	-2	-8	-12
1360	-59	-72	-83	-88	-86	-86	-72	-51	-28	-6	1880	-14	-10	-7	-4	-3	-3	-5	-11	-16	-18
1370	33	51	63	68	69	64	55	46	42	40	1890	10	6	1	-2	29	52	65	77	87	87
1380	38	37	34	24	8	-10	-29	-42	-47	-48	1900	34	40	42	39	33	28	25	22	19	19
1390	-46	-41	-38	-36	-34	-35	-36	-36	-34	-36	1910	14	11	13	22	35	48	59	64	64	64
1400	-31	-26	-21	-17	-14	-10	0	12	29	42	1920	57	41	18	0	15	-27	-35	-41	-44	-49
1410	48	47	43	39	32	28	29	31	33	33	1930	-53	-55	-52	-46	-38	-30	-22	-16	-11	-7
1420	30	21	14	14	14	14	14	1	-5	-12	1940	-5	-5	-5	-4	-4	-3	-3	-5	-11	-16
1430	-24	-21	-19	-19	-21	-24	-27	-28	-30	-32	1950	-19	-18	-15	-10	-2	29	52	65	77	87
1440	-37	-46	-52	-52	-36	-5	-10	-29	-42	-47	1960	92	97	97	92	97	96	99	90	93	90
1450	91	93	90	81	61	34	4	-20	-37	-45	1970	-101	-125	-135	-139	-137	-133	-126	-117	-101	-58
1460	-45	-42	-36	-29	-26	-30	-37	-44	-47	-50	1980	-61	-48	-36	-25	-15	-6	5	17	27	32
1470	-51	-51	-46	-29	-29	-2	0	12	33	41	1990	32	30	37	30	25	15	10	-28	-35	-39
1480	45	44	46	48	50	49	43	30	11	-7	2000	-40	-37	-29	-19	-12	-7	-2	5	13	24
1490	-33	-52	-59	-60	-58	-48	-33	-21	-10	-2	2010	39	56	66	65	55	31	-2	-37	-69	-98
1500	2	6	12	32	42	49	53	53	53	53	2020	-116	-128	-136	-140	-132	-109	-77	-38	2	32
1510	54	60	71	79	81	74	55	28	4	-14	2030	50	55	40	113	115	102	80	56	56	56

TO BE CONTINUED

TO BE CONTINUED

## CONTINUED( S-2196 EAST )

## CONTINUED( S-2196 EAST )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
2040	35	14	-1	-7	-9	-7	0	19	45	67	2560	40	34	25	18	13	10	10	10	10	12
2050	81	98	10	1	95	93	83	72	59	46	2570	12	7	4	0	-9	-8	-9	-8	-5	-4
2050	32	18	-2	-15	-35	-56	-73	-84	-92	-96	2580	-3	-2	0	0	-6	-16	-31	-44	-51	-56
2050	-97	-97	-96	-94	-91	-87	-79	-71	-64	-57	2590	-62	-64	-62	-62	-61	-60	-59	-55	-46	-35
2050	-46	-35	-24	-13	0	15	36	53	63	66	2600	-12	4	-4	-13	-22	-29	-33	-37	-24	18
2050	66	62	56	51	45	42	39	32	19	3	2610	12	4	-4	-13	-23	-16	-8	3	39	45
2100	-12	-25	-32	-37	-41	-43	-39	-31	-21	-12	2620	-38	-32	-47	-44	-40	35	30	24	17	12
2110	-3	9	13	12	10	10	9	10	9	10	2630	47	44	44	44	40	-13	-14	-13	-11	-9
2120	18	19	22	25	25	23	16	6	-1	2640	5	0	-4	-9	-12	-13	-14	-13	-11	-9	
2130	-6	-11	-17	-23	-23	-23	-14	-56	-64	-70	2650	-8	-5	-2	0	5	13	22	28	30	31
2140	-65	-53	-39	-19	-13	-10	-7	-4	-3	2650	32	31	28	25	22	17	10	2	-3	-11	
2150	0	1	2	2	2	0	0	1	6	2670	-21	-30	-38	-48	-59	-66	-69	-68	-63	-53	
2160	14	20	24	27	31	34	33	36	39	2680	-42	-28	-11	3	16	24	26	28	29	29	
2170	37	32	28	23	15	1	-13	-29	-42	-46	2690	27	25	22	20	19	17	14	11	10	9
2180	-45	-39	-30	-16	-14	0	16	27	35	37	2700	9	10	11	9	7	3	-4	-14	-28	-28
2190	-22	-22	-16	-11	-7	-1	-4	-9	-14	-18	2710	-44	-59	-69	-75	-79	-82	-86	-84	-78	-66
2200	-21	-22	-24	-19	-11	-4	3	10	17	23	2720	-56	-45	-32	-20	-12	-2	11	25	39	52
2210	29	35	39	42	43	42	37	32	23	9	2730	60	66	70	73	70	62	50	35	22	22
2220	-3	-12	-19	-24	-28	-24	-20	-20	-20	-19	2740	9	-2	-12	-12	-12	-12	-12	-7	-4	-3
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2280	34	12	-12	-40	-97	-114	-123	-128	-127	-127	2800	18	20	23	29	34	38	41	43	41	41
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2350	43	46	47	45	44	45	44	41	42	45	2870	14	20	17	13	22	21	21	-14	-24	-36
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2380	-54	-53	-56	-60	-61	-60	-60	-61	-61	-60	2900	-25	-32	-37	-39	-38	-36	-33	-28	-20	-12
2390	-58	-55	-52	-50	-48	-45	-40	-31	-19	-7	2910	-4	1	1	1	1	1	1	1	1	1
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2420	52	47	42	34	27	22	15	11	6	2	2940	-3	-9	-17	-17	-25	-25	-33	-41	-40	-37
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2480	19	-1	-12	-25	-21	-13	-4	2	8	14	2990	21	15	8	-1	-5	-8	-12	-14	-17	-17
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END

TO BE CONTINUED



CONTINUED ( S-2196 )										S-2196 DOWN )												
NO.	( 1 )	( 2 )	( 3 )	DOWN	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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1010	-63	-56	-47	-37	-28	-17	-1	16	35	51	1530	5	15	24	28	30	31	31	32	33	33	
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1080	-29	-31	-32	-24	-16	-10	-4	0	2	1600	37	32	27	20	11	1	-7	-13	-19	-26		
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1100	56	46	37	33	32	36	33	36	35	24	1620	-48	-40	-45	-40	-33	-24	-7	0	9	18	
1110	-82	-88	-90	-88	-83	-76	-63	-40	-40	-40	1630	26	34	41	49	56	61	63	62	59	53	
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1380	25	16	5	2	-4	-14	-14	-27	-38	-48	1900	16	16	16	16	16	13	11	9	7	6	
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1500	-12	-12	-8	-2	3	9	14	19	21	22	2020	-22	13	6	-1	-1	-8	-16	-17	-14	-14	
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TO BE CONTINUED

TO BE CONTINUED

## CONTINUED ( S-2196 DOWN )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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2060	-18	-16	-15	-15	-14	-14	-14	-15	-16	2580
2070	-13	-8	-3	1	6	10	16	24	32	2590
2080	41	42	44	43	39	33	27	22	18	2600
2090	13	9	5	3	0	-1	-3	-7	-11	2610
2100	-12	-14	-13	-11	-11	-7	-2	-3	-8	2620
2110	13	15	15	15	13	-5	-2	-8	-16	2630
2120	-36	-42	-46	-47	-47	-3	-39	-32	-24	2640
2130	-3	8	16	20	25	28	30	30	25	2650
2140	13	5	-2	-7	-10	-10	-11	-10	-6	2660
2150	-1	1	2	2	0	-2	-6	-12	-17	2670
2160	-20	-18	-16	-15	-15	-15	-14	-14	-11	2680
2170	-1	4	6	8	10	9	9	9	14	2690
2180	24	25	25	24	22	18	14	11	8	2700
2190	-7	-10	-13	-14	-14	-15	-15	-15	-13	2710
2200	-4	-1	1	5	9	12	13	12	14	2720
2210	9	7	4	1	-1	-1	-1	-1	-1	2730
2220	-22	-20	-20	-20	-20	-21	-20	-17	-17	2740
2230	-13	-9	-5	-5	-1	3	6	8	10	2750
2240	13	13	13	15	17	16	17	18	20	2760
2250	21	20	19	14	6	7	3	-8	-13	2770
2260	-18	-19	-19	-19	-21	-21	-20	-19	-15	2780
2270	-5	-6	-6	-6	-7	-10	-11	-12	-14	2790
2280	-19	-19	-19	-19	-19	-19	-17	-16	-18	2800
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2310	20	19	19	17	13	9	5	2	1	2830
2320	-1	0	-1	0	0	-1	-4	-6	-8	2840
2330	-10	-11	-10	-9	-5	-3	-1	0	0	2850
2340	13	14	15	17	17	14	9	2	0	2860
2350	0	3	7	4	1	1	1	1	1	2870
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2470	-14	-10	-7	-8	-9	-11	-14	-11	-10	2990
2480	-11	-9	-11	-13	-13	-11	-9	-7	-4	3000
2490	1	6	10	13	17	22	26	27	28	3010
2500	28	26	25	20	14	8	3	-1	-6	3020
2510	-14	-15	-15	-12	-12	-16	-22	-27	-32	3030
2520	-1	-4	-8	-12	-16	-16	-16	-10	-10	3040
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2540	-14	-14	-45	-45	-45	-45	-45	-45	-45	3060
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2070	-13	-8	-3	1	6	10	16	24	32	2590
2080	41	42	44	43	39	33	27	22	18	2600
2090	13	9	5	3	0	-1	-3	-7	-11	2610
2100	-12	-14	-13	-11	-11	-7	-2	-3	-8	2620
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2120	-36	-42	-46	-47	-47	-3	-39	-32	-24	2640
2130	-3	8	16	20	25	28	30	30	25	2650
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2150	-1	1	2	2	0	-2	-6	-12	-17	2670
2160	-20	-18	-16	-15	-15	-15	-14	-14	-11	2680
2170	-1	4	6	8	10	9	9	9	14	2690
2180	24	25	25	24	22	18	14	11	8	2700
2190	-7	-10	-13	-14	-14	-15	-15	-15	-13	2710
2200	-4	-1	1	5	9	12	13	12	14	2720
2210	9	7	4	1	-1	-1	-1	-1	-1	2730
2220	-22	-20	-20	-20	-20	-21	-20	-17	-17	2740
2230	-13	-9	-5	-5	-1	3	6	8	10	2750
2240	13	13	13	15	17	16	17	18	20	2760
2250	21	20	19	14	6	7	3	-8	-13	2770
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2270	-5	-6	-6	-6	-7	-10	-11	-12	-14	2790
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2340	13	14	15	17	17	14	9	2	0	2860
2350	0	3	7	4	1	1	1	1	1	2870
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2430	0	2	6	8	11	12	13	15	15	2950
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2460	-10	-12	-14	-15	-16	-17	-16	-16	-16	2980
2470	-14	-10	-7	-8	-9	-11	-14	-11	-10	2990
2480	-11	-9	-11	-13	-13	-11	-9	-7	-4	3000
2490	1	6	10	13	17	22	26	27	28	3010
2500	28	26	25	20	14	8	3	-1	-6	3020
2510	-14	-15	-15	-12	-12	-16	-22	-27	-32	3030
2520	-1	-4	-8	-12	-16	-22	-32	-38	-42	3040
2530	-44	-45	-45	-44	-43	-40	-34	-30	-26	3050
2540	-14	-14	-45	-45	-45	-45	-45	-45	-45	3060
2550	33	31	30	28	25	22	17	12	4	3070

END

TO BE CONTINUED

RECORD = S-2206    COMPONENT = SOUTH    STATION = KASHIMA-ZOKAN-S  
 DATE AND TIME = 1989-3-11-16-12    TOTAL NUMBER OF DATA = 3000  
 AMPLIFICATION INTERVAL = 0.010 (SEC)    SCAL = 0.10000  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 3000.

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
0	-14	-14	-13	-13	-12	-11	-11	-10	-10	-10
10	-9	-8	-7	-7	-6	-6	-6	-6	-6	-6
20	-6	-6	-7	-8	-9	-9	-8	-7	-7	-7
30	-6	-6	-5	-4	-4	-5	-5	-5	-5	-5
40	-7	-7	-6	-5	-4	-3	-2	-3	-3	-3
50	-3	-3	-4	-4	-5	-5	-4	-3	-2	-2
60	-3	-4	-5	-4	-4	-5	-4	-3	-2	-2
70	-3	-4	-5	-4	-3	-1	0	-1	-2	-1
80	-2	-2	-3	-4	-5	-6	-6	-5	-4	-3
90	-1	0	2	4	5	4	1	-2	-4	-4
100	-3	0	2	3	2	1	0	-1	-2	-3
110	-3	-1	0	1	3	4	2	-1	-2	-3
120	0	-1	-3	-4	-3	-2	0	4	5	3
130	0	-1	-2	1	3	4	0	-2	-1	-2
140	-5	-3	0	0	-1	-2	0	2	1	5
150	0	-2	-2	-4	-5	-10	-15	-1	5	8
160	9	4	-13	-13	-15	-10	-10	-4	-1	1
170	0	-1	-2	-3	-5	-6	-8	-9	-9	-8
180	-5	-2	-1	0	0	-1	-4	-4	-5	-3
190	0	2	4	7	13	20	23	20	6	-10
200	-20	-17	-4	10	16	19	16	9	5	0
210	-2	-8	-11	-15	-11	0	9	13	7	-3
220	-11	-16	-17	-11	-3	13	19	19	1	-6
230	-22	-27	-21	-9	0	2	-1	-6	-5	4
240	13	15	8	-1	-14	-14	-8	0	3	5
250	5	2	-1	-6	-5	-1	-6	-1	1	1
260	-4	-1	-4	-9	11	12	10	7	5	2
270	-3	-12	-16	-18	-11	6	7	8	8	8
280	6	5	7	6	5	2	-3	-5	-9	-10
290	-12	-14	-8	0	2	4	5	3	4	10
300	15	18	19	15	4	-6	-15	-20	-17	-8
310	4	15	18	13	6	0	-5	-6	-3	2
320	6	8	7	1	-8	-14	-18	-19	-14	-1
330	12	18	21	17	10	12	10	5	-2	0
340	3	4	3	0	-4	-13	-13	-4	1	1
350	20	21	13	3	-1	-2	-1	2	7	0
360	9	6	0	-3	-5	-3	-1	0	-1	-1
370	0	-1	-2	0	2	4	5	6	3	2
380	-8	-9	-3	4	9	11	10	5	2	1
390	2	3	2	3	6	10	10	5	-2	-1
400	-8	-9	-7	-3	-1	-1	0	-1	0	0
410	-4	-8	-2	6	11	8	2	-3	-3	-3
420	-7	-7	-6	0	8	15	18	16	7	-2
430	-10	-13	-12	-6	0	4	7	8	5	0
440	-3	-6	-7	-7	-5	0	3	6	1	-1
450	-11	-20	-22	-12	3	13	14	12	11	-1
460	13	15	14	9	3	-3	-4	-4	-1	0
470	2	3	2	7	5	1	0	-2	-1	-1

CONTINUED ( S-2206    SOUTH    )  
 NO.    ( 1 )    ( 2 )    ( 3 )    ( 4 )    ( 5 )    ( 6 )    ( 7 )    ( 8 )    ( 9 )    ( 10 )

480	-1	-4	-5	-5	-4	-4	0	3	6	4
490	-6	-10	-9	-6	-1	0	-1	-1	7	5
500	13	17	17	14	20	22	28	31	35	37
510	8	14	14	12	17	17	14	11	9	7
520	29	9	14	-32	-38	-27	-3	22	38	45
530	41	21	5	-20	-26	-17	10	43	66	81
540	98	123	159	192	208	210	200	176	147	120
550	94	54	54	-16	-127	-260	-400	-534	-583	-556
560	-372	-265	-147	-15	75	133	181	201	196	168
570	120	60	-20	-66	-109	-111	-102	-85	-68	-68
580	-55	-48	-45	-36	-10	34	82	113	130	129
590	109	90	84	90	103	112	113	96	62	23
600	-2	-11	-4	-11	-4	-18	-55	-113	-92	-92
610	-41	14	44	47	34	21	19	22	26	28
620	28	25	19	8	-10	-34	-52	-51	-35	-35
630	-23	-20	-23	-26	8	66	113	137	138	138
640	115	65	0	-60	-82	-76	-44	0	29	37
650	31	2	-23	-29	-17	9	-37	47	50	40
660	21	5	-24	-13	-43	-47	-40	-40	-40	-40
670	-10	-3	2	3	0	-6	-9	-5	9	32
680	48	51	45	29	38	-40	-42	-41	-36	-30
690	-18	-26	-34	-38	9	36	64	83	96	102
700	-17	-7	9	36	29	6	-10	92	100	92
710	76	54	29	54	29	6	-107	-98	-98	-98
720	-105	-79	-42	-42	-12	4	13	25	35	37
730	35	21	-8	-39	-57	-66	-65	-35	-35	-35
740	-16	-7	4	25	46	56	58	48	29	11
750	5	21	52	78	85	63	13	-44	-90	-118
760	-128	-125	-107	-87	-75	-70	-67	-50	-50	-25
770	-12	27	39	42	41	41	48	62	75	79
780	75	57	34	15	5	-2	-15	-15	-15	-16
790	-19	-25	-36	-46	-49	-36	-8	24	24	28
800	33	38	47	61	71	76	78	70	51	29
810	3	21	-36	-28	-39	-39	-41	-41	-34	-34
820	-67	-68	-62	-44	-24	9	6	22	35	44
830	47	42	33	25	20	15	9	-3	-21	-39
840	-49	-47	-39	-29	-21	-16	-11	-15	-12	-16
850	-5	-4	-4	-3	16	30	39	-34	-38	-38
860	59	59	46	7	42	47	53	57	58	58
870	-52	-54	-58	-60	-53	-33	-9	-83	-66	-55
880	48	51	52	48	39	30	22	14	9	8
890	7	4	-4	-6	-6	-4	-4	-4	-4	-7
900	-12	-17	-20	-19	-16	-11	-7	-5	-8	-14
910	-23	-29	-31	-30	-28	-28	-28	-29	-34	-38
920	-31	-16	3	27	27	23	23	14	46	46
930	32	29	28	27	23	23	24	3	4	37
940	18	23	20	18	18	18	18	7	3	12
950	-66	-40	-10	13	13	13	13	-72	-75	-75
960	34	37	42	48	52	48	33	35	34	34
970	-26	-23	-13	-11	-15	-15	-15	-32	-41	-51
980	-60	-65	-67	-63	-63	-63	-63	-14	2	26
990	31	33	33	29	25	23	23	26	34	42

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-2206 )										CONTINUED ( S-2206 )											
SOUTH					SOUTH					SOUTH					SOUTH						
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
1000	44	36	22	5	-7	-13	-14	-12	33	33	1520	80	80	76	63	45	27	15	5	-3	
1010	42	45	28	14	-14	-9	-9	-23	-35	-35	1530	-4	-3	-1	-3	-4	-4	-5	0	-2	
1020	-46	-59	-70	-77	-78	-66	-57	-30	-30	-52	1540	0	3	6	4	0	-7	-17	-5	-4	
1030	-19	-4	11	24	31	35	32	31	32	1550	-48	-52	-50	-44	-44	-35	-28	-20	-37	-44	
1040	39	48	55	58	54	37	-37	-72	-91	1560	8	12	14	14	14	15	17	17	17	15	
1050	-97	-91	-73	-51	-37	-27	-17	-3	14	1570	12	9	6	3	2	0	-1	-4	-7	-12	
1060	-92	25	24	20	15	12	11	12	12	1580	-16	-19	-21	-19	-12	-2	-1	-2	-7	16	
1070	9	10	14	23	35	45	49	41	41	1590	26	25	24	21	14	5	-2	-7	-16	-12	
1080	34	25	15	4	-8	-25	-44	-55	-61	1600	-12	-12	-5	13	17	20	21	16	16	-10	
1090	-64	-59	-49	-39	-24	-5	-11	24	31	1610	5	3	-2	-3	-3	-2	-1	4	6	6	
1100	23	11	-2	-15	-26	-3	-30	-18	-2	1620	6	-3	-10	-18	-26	-28	-36	-43	-45	-45	
1110	12	19	18	11	2	-1	0	10	13	1630	-44	-39	-25	-8	9	25	39	47	51	51	
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1150	-44	-54	-31	-17	-17	-2	14	22	27	1670	-1	-4	-4	-4	-4	-4	-3	-4	-5	-5	
1160	25	13	-8	-28	-49	-60	-64	-63	-51	1680	-5	-4	-2	-2	-2	-2	-7	10	10	10	
1170	-8	43	58	63	59	42	19	5	-2	1690	11	13	17	20	21	20	17	12	9	7	
1180	-9	-6	-6	-9	-6	-9	-1	-1	-13	1700	2	-8	-17	-25	-28	-30	-31	-26	-18	-18	
1190	-27	-41	-56	-68	-76	-80	-76	-61	-37	1710	-11	-4	0	0	-2	-6	-10	-12	-13	-11	
1200	6	21	33	45	56	61	64	63	52	1720	-9	-7	-4	-1	3	6	10	12	11	11	
1210	22	10	-2	-5	-19	-36	44	46	41	1730	-6	-5	-1	-1	-1	-1	-16	-20	-21	-23	
1220	-11	-10	-8	-2	-5	51	61	67	68	1740	-10	-10	-10	-10	-10	-10	-19	-10	-9	-9	
1230	43	37	36	43	43	-35	-58	-72	-76	1750	-35	59	-16	-16	-16	-14	-12	-9	-9	3	
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1260	35	28	14	-3	-23	-23	-41	-54	-58	1780	20	21	22	18	13	7	2	-14	-24	-24	
1270	-32	-20	-12	-9	-12	-16	-19	-19	-19	1790	-34	-42	-48	-53	-55	-54	-51	-45	-38	-33	
1280	-14	-3	8	3	34	33	34	33	31	1800	-29	-26	-22	-18	-18	-13	-10	-10	-1	-2	
1290	26	22	16	10	28	3	7	10	14	1810	-15	-12	-24	-24	-24	-15	-7	-7	-3	-7	
1300	16	19	23	26	26	26	22	16	7	1820	-4	-13	-18	-23	-26	-27	-28	-29	-29	-29	
1310	-14	-22	-30	-38	-51	-56	-59	-56	-59	1830	-27	-27	-18	-13	-8	-2	-1	-6	-10	-10	
1320	-52	-48	-48	-47	-42	-33	-20	-6	6	1840	13	15	18	19	21	25	28	30	32	34	
1330	27	32	36	40	42	44	47	50	50	1850	34	35	37	39	40	40	36	35	33	33	
1340	48	39	45	39	45	39	16	2	-8	1860	31	30	26	20	12	4	-1	-6	-15	-15	
1350	-2	6	9	10	9	7	-12	-12	-12	1870	-18	-18	-17	-15	-15	-15	-7	-6	-3	-3	
1360	-4	-8	-9	-12	-14	-17	-19	-22	-23	1880	0	3	4	2	-2	-9	-2	-9	-15	-16	
1370	-19	-17	-12	-8	-7	-3	-2	-5	-5	1890	-21	-16	-12	-13	-13	-13	-13	-13	-13	-13	
1380	-16	-19	-23	-25	-20	-18	-13	-10	-8	1900	-11	-13	-16	-16	-16	-16	-15	-15	-15	-15	
1390	-7	-8	-6	-1	-4	11	16	18	21	1910	-6	-5	-6	-7	-7	-9	-11	-12	-10	-10	
1400	28	34	39	44	49	42	35	29	29	1920	-10	-7	-3	0	7	13	17	22	27	20	
1410	23	16	10	4	-3	-14	-23	-28	-28	1930	31	35	38	40	41	41	39	34	27	20	
1420	-27	-24	-21	-20	-19	-18	-16	-14	-14	1940	12	4	-1	-5	-9	-10	-10	-11	-10	-7	
1430	-12	-10	-8	-5	-2	0	1	0	0	1950	-3	0	3	2	0	-4	-7	-10	-12	-15	
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1450	3	-1	-3	-6	-7	-6	-5	-6	-6	1970	-7	8	9	11	11	10	9	9	8	7	
1460	0	-1	-2	0	0	6	17	24	28	1980	6	7	7	6	6	6	6	5	3	-4	
1470	33	31	27	23	16	8	0	-2	-2	1990	-5	-8	-11	-15	-15	-23	-25	-25	-25	-25	
1480	-11	-9	-6	-2	1	4	3	0	0	2000	-23	-2	-19	-17	-16	-16	-16	-20	-21	-20	
1490	-3	-12	-4	-35	-42	-45	-42	-45	-45	2010	-17	-11	-3	3	3	3	3	31	35	37	
1500	-7	-4	-9	-16	-21	-24	-24	-25	-25	2020	-12	-12	-12	-12	-12	-12	-12	32	39	32	
1510	-18	-12	-8	-3	16	31	49	45	45	2030	5	0	36	36	36	36	36	33	32	-2	

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-2206 )										S-2206 ( SOUTH )											
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
2040	-2	-7	-10	-13	-14	-13	-10	-7	-5	-2	2560	-1	-3	0	5	12	16	16	15	15	
2050	-4	-7	-7	-2	4	4	-1	-1	-4	-3	2570	16	17	15	13	10	7	4	3	3	
2060	-2	-1	0	3	6	7	8	8	12	17	2580	-1	-1	-5	-8	-8	-7	-7	-6	-6	
2070	-2	-1	0	21	20	19	17	15	12	8	2590	-4	-1	4	7	9	10	10	8	5	
2080	20	21	21	20	19	17	15	12	8	3	2600	5	7	6	3	0	-1	-4	-9	-17	
2090	0	-4	-6	-7	-12	-18	-25	-29	-32	-35	2610	-19	-22	-24	-22	-19	-17	-14	-10	-5	
2100	-34	-33	-34	-33	-29	-28	-25	-23	-22	-22	2620	-5	-2	-2	-7	9	10	9	11	11	
2110	-20	-17	-14	-11	-8	-6	-6	-2	-1	3	2630	9	9	6	1	4	2	0	1	3	
2120	7	8	9	13	19	24	28	30	32	35	2640	5	4	6	4	3	1	0	0	0	
2130	37	36	34	32	30	31	33	34	31	31	2650	0	0	-1	-2	-1	-3	-3	-1	-1	
2140	25	18	12	7	3	0	-1	-3	-5	-6	2660	-2	-3	-3	-3	-1	1	3	5	5	
2150	-7	-6	-3	-3	0	-1	-12	-19	-16	-19	2670	4	2	2	2	4	6	1	-2	-2	
2160	-29	-32	-33	-32	-31	-28	-23	-23	-16	-16	2680	-3	-7	-1	-13	-14	-13	-10	-4	-4	
2170	-5	-1	4	7	6	3	0	-5	-9	-11	2690	0	1	1	0	1	4	5	8	9	
2180	-7	-4	-7	-9	-9	-10	-12	-11	-10	-10	2700	9	9	10	7	7	7	5	4	4	
2190	-10	-10	-8	0	6	11	17	20	21	21	2710	2	-1	-5	-7	-8	-4	0	2	2	
2200	19	16	17	18	16	15	13	8	4	0	2720	4	6	9	12	10	11	10	6	2	
2210	-6	-11	-14	-18	-20	-21	-18	-16	-14	-9	2730	-1	1	1	2	1	1	1	-3	-3	
2220	-1	5	7	8	9	10	8	6	4	4	2740	-3	-5	-6	-7	-9	-11	-13	-10	-7	
2230	4	6	4	1	0	-2	-4	-4	-4	-3	2750	-4	0	0	2	4	5	4	4	4	
2240	-3	-4	-4	-2	-3	-4	-4	-4	-2	-3	2760	4	2	2	1	2	4	6	7	8	
2250	-3	-4	-3	-6	-9	-9	-11	-14	-14	-13	2770	8	8	8	4	6	7	8	11	12	
2260	-11	-8	-6	-2	0	-1	4	6	1	12	2780	9	8	9	7	7	7	8	8	8	
2270	10	9	10	9	7	11	13	15	15	13	2790	6	4	3	2	0	-5	-7	-9	-10	
2280	14	14	13	10	13	16	16	18	23	25	2800	-10	-9	-5	-2	-1	-1	-1	-1	-3	
2290	21	13	6	-3	-3	-11	-13	-14	-14	-13	2810	-5	-6	-4	-4	-4	-5	-5	-4	-5	
2300	-11	-8	-6	-5	-7	-9	-9	-11	-11	-11	2820	-5	-6	-8	-9	-6	-4	-2	0	4	
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 AMPLING INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.

STATION = KASHIMA-ZOKAN-S  
 TOTAL NUMBER OF DATA = 30000  
 SCAL = 0.10000

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TO BE CONTINUED

CONTINUED( S-2206 EAST )										S-2206 EAST										CONTINUED( S-2206 EAST )									
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TO BE CONTINUED

TO BE CONTINUED

## CONTINUED ( S-2206 EAST )

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2080	-22	-26	-28	-29	-30	-26	-22	-17	-12	-12
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2110	7	1	-2	-9	-15	-20	-24	-8	-30	2570
2120	-26	-24	-20	-13	-5	0	3	8	16	2580
2130	23	20	16	13	11	7	5	3	1	2590
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2210	23	15	8	3	-2	-6	-9	-14	-20	2670
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2340	-14	-11	-9	-6	-3	0	4	7	10	2800
2350	15	18	20	19	18	18	17	16	15	2810
2360	10	7	5	3	1	0	-1	1	0	2820
2370	0	0	-2	-2	-1	-1	-2	-2	-1	2830
2380	-10	-9	-8	-9	-10	-8	-6	-4	0	2840
2390	5	6	6	5	4	3	4	2	4	2850
2400	-15	-20	-24	-27	-30	-32	-29	-25	-22	2860
2410	-19	-16	-11	-4	-4	-1	-4	-1	0	2870
2420	40	42	43	42	40	36	28	23	20	2880
2430	14	8	2	-2	-4	-6	-8	-10	-9	2890
2440	-6	-5	-5	-5	-6	-6	-4	-4	-4	2900
2450	2	6	11	16	19	20	19	17	14	2910
2460	13	11	8	3	0	-3	-8	-12	-15	2920
2470	-7	-4	-1	4	9	12	13	14	16	2930
2480	18	15	10	7	6	5	3	0	-2	2940
2490	-5	-5	-4	-4	-4	-5	-6	-5	-3	2950
2500	3	6	8	12	16	17	15	13	10	2960
2510	6	3	1	0	-1	-3	-3	-3	-3	2970
2520	-4	-5	-6	-5	-6	-8	-8	-7	-5	2980
2530	-1	-1	-1	-1	-1	-2	-3	-4	-4	2990
2540	-5	-4	-1	-1	-1	-1	-1	-1	-1	3000

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
2550	4	4	4	4	4	4	4	4	4	4
2560	5	5	5	5	5	5	5	5	5	5
2570	2	4	8	11	13	15	17	16	13	9
2580	7	5	3	1	3	7	7	12	16	19
2590	17	12	6	0	-2	-5	-7	-10	-13	-19
2600	-20	-19	-19	-19	-19	-19	-18	-16	-16	-10
2610	-5	-1	3	8	12	13	14	14	12	10
2620	7	1	-3	-3	-3	-3	-4	-5	-5	-13
2630	-12	-12	-12	-12	-12	-12	-14	-14	-14	-13
2640	-3	-3	-3	-3	-3	-3	-7	-5	-5	-1
2650	-4	-4	-4	-4	-4	-4	-2	0	1	1
2660	13	17	19	22	28	34	35	35	35	35
2670	35	34	30	24	19	19	19	19	19	19
2680	-14	-20	-25	-25	-25	-25	-25	-25	-23	-24
2690	-25	-24	-22	-19	-19	-19	-16	-16	-16	-16
2700	-4	-1	1	1	1	1	1	1	1	1
2710	11	9	6	6	6	6	5	5	5	5
2720	-6	-4	1	4	6	6	6	6	6	6
2730	21	18	15	15	13	10	11	13	14	16
2740	18	18	20	20	20	18	14	14	11	10
2750	9	10	11	11	11	11	11	11	11	10
2760	-5	-7	-10	-10	-10	-10	-12	-12	-12	-12
2770	-4	-2	0	3	3	3	6	8	9	10
2780	8	9	9	9	9	9	8	8	8	8
2790	4	5	6	6	6	6	6	6	6	6
2800	2	0	-4	-4	-4	-4	-8	-13	-13	-18
2810	-16	-16	-16	-16	-16	-16	-11	-8	-6	-5
2820	-2	-2	-2	-2	-2	-2	-7	-7	2	2
2830	3	5	7	7	7	7	6	6	7	9
2840	10	13	15	16	16	16	18	18	20	21
2850	21	19	17	17	17	17	15	15	15	15
2860	6	5	0	-5	-5	-5	-5	-5	-5	-2
2870	1	0	1	3	3	3	3	3	3	3
2880	8	9	10	10	10	10	8	8	8	8
2890	-7	-8	-7	-7	-7	-7	-6	-6	-6	-6
2900	-1	1	2	4	6	6	6	6	3	3
2910	-1	0	-5	-6	-6	-6	-7	-9	-9	-7
2920	-6	-6	-6	-6	-6	-6	-5	-5	-5	-2
2930	1	3	4	3	3	3	4	4	4	4
2940	5	5	5	5	5	5	5	5	5	5
2950	16	14	12	12	12	12	14	13	12	11
2960	15	14	12	12	12	12	10	9	8	8
2970	1	1	1	1	1	1	1	1	1	1
2980	2	3	4	4	4	4	4	4	4	4
2990	0	0	0	0	0	0	-1	-1	-1	-1
3000	5	5	5	5	5	5	5	5	5	5

END

TO BE CONTINUED

RECORD = S-2206 COMPONENT = DOWN  
 DATE AND TIME = 1989-3-11-16-12  
 AMPLIFICATION INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 3000,  
 NO. ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 ) ( 8 ) ( 9 ) ( 10 )

	STATION = KASHIMA-ZOKAN-S									
	TOTAL NUMBER OF DATA = 3000									
	SCAL = 0.10000									
0	-8	-7	-7	-6	-6	-5	-5	-5	-5	(10)
10	-5	-5	-5	-5	-4	-4	-4	-4	-5	
20	-4	-5	-5	-6	-6	-7	-8	-9	-7	
30	-6	-7	-5	-3	-4	-5	-7	-10	-11	
40	-12	-14	-15	-16	-15	-14	-12	-11	-11	
50	-11	-12	-13	-13	-13	-12	-10	-10	-9	
60	4	7	10	8	10	5	6	7	9	
70	-3	2	6	9	9	7	6	4	2	
80	1	1	2	5	6	5	3	2	1	
90	0	0	-2	-7	-12	-15	-15	-9	-3	
100	4	5	4	2	2	0	-1	-1	-2	
110	-7	-10	-13	-13	-16	-16	-12	-5	-1	
120	10	8	4	0	-4	-6	-4	-2	0	
130	-1	2	1	2	-2	-6	-8	-8	-7	
140	-3	0	1	3	0	-4	-8	-10	-12	
150	-12	-11	-7	0	7	12	8	5	-16	
160	-25	-23	-16	-6	1	5	7	4	-7	
170	-22	-29	-20	-6	0	-1	-2	-8	-12	
180	-9	-3	3	4	2	-1	-4	-9	-11	
190	-3	1	5	10	13	12	7	0	-2	
200	-4	-2	-1	-5	-8	-13	-16	-17	-16	
210	-19	-18	-16	-16	-18	-12	0	6	7	
220	1	4	14	21	22	22	20	15	11	
230	-1	-15	-27	-33	-28	-28	-26	13	15	
240	5	0	-1	1	1	10	13	11	4	
250	-8	-4	-4	-1	7	10	10	8	3	
260	-16	-19	-18	-14	-7	0	7	12	13	
270	5	-2	-7	-8	-2	5	9	10	6	
280	1	0	-2	-9	-10	-15	-23	-33	-37	
290	-21	-4	4	9	9	5	2	-1	3	
300	13	17	21	20	12	5	2	5	6	
310	2	-6	-15	-20	-23	-21	-19	-14	-9	
320	0	0	-1	-3	-4	-6	-6	-7	-7	
330	-6	1	8	0	-10	-14	-11	-12	-2	
340	7	10	12	13	17	18	16	12	13	
350	9	3	-5	-13	-16	-13	-6	1	10	
360	15	8	-15	-38	-47	-44	-32	-20	-12	
370	-7	-7	-13	-21	-27	-13	-14	-15	-1	
380	17	18	19	15	14	13	10	1	-9	
390	-16	-10	-19	-10	-14	-11	-12	-2	-9	
400	-15	-12	-6	3	7	19	18	16	11	
410	-8	-13	-16	-18	-14	-10	-4	-1	5	
420	4	2	6	9	12	13	12	11	7	
430	3	0	-1	-3	-7	-12	-15	-16	-18	
440	-24	-30	-32	-26	-16	-9	-5	-1	2	
450	6	9	10	8	7	6	5	4	6	
460	10	8	4	3	2	-7	-10	-11	-14	
470	-16	-12	-4	3	8	12	14	11	7	

CONTINUED ( S-2206 DOWN )  
 NO. ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 ) ( 8 ) ( 9 ) ( 10 )

	S-2206 DOWN									
	NO. ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 ) ( 8 ) ( 9 ) ( 10 )									
480	2	-5	9	11	12	8	-1	-12	-19	-24
490	-25	-24	-15	-10	-9	-8	0	6	10	5
500	-1	-7	-9	-10	-13	-11	1	10	14	7
510	1	520	-10	-9	-8	-7	-5	-3	-5	-8
520	-10	-9	-8	-7	-6	-5	-4	-4	-4	-6
530	-7	-8	-9	-8	-9	-9	-5	-5	-5	-5
540	-1	-13	-18	-11	-16	-18	0	5	8	7
550	7	11	16	11	16	18	0	-7	-10	1
560	7	9	2	-9	-8	-22	-20	-12	-8	-4
570	0	-1	-2	-8	-16	-25	-30	-34	-27	-27
580	-11	7	20	27	31	28	26	23	21	21
590	22	24	23	17	9	-9	-11	-11	-13	-13
600	-6	-20	-24	-24	-21	-16	-16	-12	-10	-10
610	-13	-16	-15	-15	-12	-9	-5	-2	-5	-12
620	-16	-12	-8	-28	-20	-28	-20	-9	-5	10
630	-13	-15	-17	-17	-13	-13	-8	-1	-8	-13
640	12	8	2	0	0	0	0	0	0	0
650	0	0	0	0	0	0	0	0	0	0
660	10	0	-7	-11	-10	-7	-1	-4	-1	-4
670	-5	-17	-27	-31	-29	-14	-8	-1	-1	-3
680	8	10	12	10	12	10	4	-1	-1	-3
690	-6	-9	-13	-15	-15	-17	-17	-1	-8	-1
700	13	13	10	10	17	-13	-8	-4	-9	-15
710	-17	-13	-8	-3	0	0	0	-4	-9	-15
720	-19	-20	-14	-6	-6	-6	0	5	10	15
730	17	17	16	-16	-16	-16	-23	-30	-28	-16
740	14	14	13	-8	-8	-8	23	34	37	22
750	-4	-9	-11	-9	-9	-13	-16	-18	-16	-10
760	6	1	-4	1	1	-4	17	8	0	-7
770	-3	5	17	26	32	34	32	27	17	2
780	-12	-21	-24	-21	-24	-25	-25	-22	-15	-16
790	10	-5	-20	-33	-40	-40	-34	-33	-30	-10
800	4	5	-5	-5	-6	-6	-6	-12	-12	-8
810	-6	-3	0	1	0	-4	-5	-5	-5	-7
820	15	22	25	25	24	17	8	0	-7	-12
830	-14	-16	-19	-22	-14	-3	9	9	14	14
840	16	17	19	16	11	-7	-1	-1	-1	-1
850	-2	-13	-24	-30	-30	-30	-23	-23	-23	-1
860	-2	-3	-3	-3	-3	-3	5	5	5	5
870	9	7	10	15	16	14	10	4	4	4
880	-10	-12	-11	-9	-9	-9	-10	-12	-12	-13
890	-13	-12	-10	-8	-7	-6	-7	-8	-10	-10
900	10	11	9	7	5	4	1	-1	-1	-1
910	10	6	4	4	3	2	-1	-1	-1	-1
920	-10	-9	-7	-7	-6	-5	-5	-4	-4	-4
930	23	28	31	30	27	24	19	9	0	-5
940	-7	-7	-8	-9	-9	-9	-10	-12	-12	-12
950	-12	-11	-10	-9	-8	-6	-5	-3	-1	6
960	15	19	19	19	19	19	19	17	17	17
970	-16	-16	-16	-16	-16	-16	-16	-17	-17	-17
980	11	17	22	25	26	24	20	16	11	5
990	0	-2	-2	-2	-2	-2	-2	-2	-18	-24

TO BE CONTINUED

TO BE CONTINUED

## CONTINUED ( S-2206 )

## CONTINUED ( S-2206 )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
1000	-28	-30	-31	-31	-30	-26	-19	-12	-3	2	1520	-18	-20	-19	-15	-10	-3	4	12	17	
1010	8	15	19	19	17	17	18	15	13	2	1530	22	22	21	21	18	14	11	9	5	
1020	10	6	2	0	-2	-4	-6	-7	-9	-7	1540	2	0	-1	-1	-2	-5	-5	-9	-10	
1030	-12	-15	-23	-23	-29	-31	-27	-16	-5	2	1550	-10	-8	-6	-5	-5	-8	-9	-10	-10	
1040	11	14	17	21	23	24	25	25	23	25	1560	-10	-9	-7	-5	-4	-1	0	-1	2	
1050	20	17	12	6	-1	-6	-10	-11	-8	-3	1570	7	9	9	8	9	8	9	10	10	
1060	0	3	4	4	1	-4	-10	-16	-21	-24	1580	10	10	8	7	5	3	1	0	-3	
1070	-26	-23	-17	-13	-12	-10	-9	-8	-5	-1	1590	-4	-5	-6	-5	-4	-2	-2	-2	-2	
1080	-4	-7	10	12	13	16	16	13	11	6	1600	-2	-2	-2	-1	0	-1	0	1	4	
1090	-3	-13	-20	-23	-27	-24	-17	-12	-7	-2	1610	9	9	9	7	4	1	0	-2	6	
1100	1	4	5	5	5	5	5	5	3	2	1620	-3	-2	0	0	1	2	3	4	4	
1110	13	2	1	1	1	1	1	1	1	3	1630	4	4	3	0	-1	-3	-5	-6	-7	
1120	1	0	-2	-4	-2	0	-5	0	1	3	1640	-6	-5	-4	-4	-5	-6	-6	-8	-7	
1130	4	3	1	-2	-12	-6	-15	-11	-11	-7	1650	-7	-6	-5	-3	-1	1	5	9	12	
1140	-3	-6	-9	-12	-12	-15	-13	-9	-6	-3	1660	17	18	17	17	16	15	12	9	14	
1150	0	0	1	1	3	6	8	9	13	15	14	1670	-1	-1	-3	-6	-8	-11	-12	-15	
1160	13	12	9	7	4	0	-1	0	0	0	1680	-17	-15	-12	-12	0	0	4	9		
1170	3	4	2	0	-3	-6	-10	-14	-16	-18	1690	12	13	15	14	13	10	10	12		
1180	-21	-20	-20	-16	-11	-6	-11	-1	1	2	1700	-7	-8	-10	-8	-7	-8	-8	-8	-5	
1190	0	-3	-4	-16	-9	-9	-11	-11	-7	0	1710	-2	0	-1	-3	5	7	6	4	-1	
1200	8	11	15	16	15	15	15	13	12	9	1720	-4	-7	-10	-9	-6	-4	-5	-5	-3	
1210	6	2	0	-4	-7	-9	-8	-4	-2	-1	1730	-1	0	0	3	4	5	7	7	9	
1220	0	1	1	0	0	0	0	0	2	4	1740	16	19	19	18	14	10	6	4	2	
1230	5	7	8	9	13	13	13	10	9	8	1750	-1	-2	0	0	1	1	4	8	10	
1240	3	0	-3	-1	-1	-1	-4	-6	-7	-8	1760	10	8	7	5	-2	0	-4	-6	-7	
1250	-11	-10	-7	-4	-3	-1	-1	-1	0	0	1770	-8	-8	-5	-5	-2	-1	0	-1	-2	
1260	0	1	-4	7	9	10	12	11	9	5	1780	-2	-3	-6	-9	-11	-10	-10	-9	-10	
1270	0	-4	-6	-7	-8	-6	-2	0	3	5	1790	-6	-4	-1	0	0	0	2	3	5	
1280	7	7	7	7	8	11	13	12	11	1	1800	7	7	6	6	8	7	6	4	4	
1290	8	6	3	0	-3	-6	-9	-11	-12	-10	1810	-3	-3	-3	-3	-4	-3	-4	-4	-6	
1300	-9	-10	-13	-14	-15	-13	-11	-11	-11	-9	1820	2	0	0	0	0	0	0	0	0	
1310	-6	-2	0	1	2	0	-4	-10	-13	-9	1830	-5	-4	-3	-3	0	3	4	5	5	
1320	-15	-14	-11	-5	-1	-2	4	5	7	10	1840	-5	-6	-3	-4	-5	-6	-5	-6	-5	
1330	12	15	18	20	21	22	23	22	20	1850	3	5	8	10	12	12	10	7	6		
1340	18	16	16	16	16	14	12	10	8	5	1860	4	1	0	0	-1	-3	-3	-3	-3	
1350	1	-2	-6	-13	-27	-31	-33	-32	-29	-29	1870	-8	-3	-3	-3	-4	-6	-7	-8	-8	
1360	-25	-18	-13	-11	-10	-10	-10	-10	-10	-7	1880	-8	-9	-7	-7	-8	-8	-11	-13	-6	
1370	-3	0	2	4	7	9	10	9	6	3	1890	-13	-13	-11	-10	-5	-1	4	6	10	
1380	0	-1	-1	-2	-3	-4	-3	-5	-7	1900	14	17	19	20	21	20	15	11	25		
1390	-12	-14	-15	-14	-10	-3	0	4	7	9	1910	25	26	24	24	25	25	20	17	0	
1400	9	8	8	8	11	14	16	16	15	14	1920	-2	-4	-7	-8	-10	-11	-11	-11	-11	
1410	8	4	3	2	2	1	1	2	4	5	1930	-11	-11	-9	-6	-5	-3	-2	-3	-3	
1420	6	8	10	10	12	12	11	6	0	-6	1940	-3	-3	-2	-2	-3	-2	-1	0	1	
1430	-12	-17	-20	-20	-21	-21	-21	-20	-17	-14	1950	-1	0	-4	-7	-9	-10	-11	-10	-7	
1440	-11	-9	-6	-5	-4	-4	-2	1	7	13	1960	-5	-3	-2	0	0	0	0	0	4	
1450	20	24	25	27	22	20	13	7	0	-3	1970	6	9	10	11	13	10	7	3	3	
1460	-3	-5	-7	-4	-1	1	2	1	0	-2	1980	0	-1	-4	-4	-4	-3	-3	-3	-2	
1470	-4	-5	-6	-3	-2	-2	-2	-2	-3	-3	1990	0	0	0	2	4	4	4	4	3	
1480	-2	-1	0	-1	-4	-4	-4	-3	-1	0	2000	4	5	4	2	-1	-1	-1	-1	1	
1490	0	0	-3	-7	-10	-13	-15	-14	-10	-10	2010	-1	-2	-1	-1	0	1	1	1	1	
1500	-4	2	8	8	14	19	22	25	26	24	2020	1	1	1	1	1	1	1	1	1	
1510	14	6	-9	-11	-12	-13	-15	-15	-12	-12	2030	5	6	6	6	6	6	6	6	6	

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-2206 )										CONTINUED ( S-2206 )											
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
2040	-1	-3	-3	-3	-4	-3	-4	-5	-4	0	2560	0	-1	-1	0	-1	-2	-3	-3	-2	-2
2050	2	6	8	8	9	8	7	5	2	-4	2570	-1	0	0	0	-1	-1	0	0	2	2
2060	-6	-8	-10	-11	-13	-14	-13	-12	-12	-12	2580	5	6	7	8	8	7	6	5	4	4
2070	-7	-6	-7	-4	-1	-1	0	4	8	10	2590	4	2	0	-2	-5	-6	-9	-11	-13	-13
2080	10	12	14	13	13	13	10	7	5	5	2600	-12	-11	-10	-10	-10	-9	-7	-7	-6	-6
2090	2	0	-2	-3	-4	-3	-4	-3	-3	-2	2610	-6	-6	-6	-6	-6	-5	-3	-2	-1	0
2100	-1	0	0	1	2	1	1	1	1	1	2620	0	2	3	2	3	4	4	2	2	2
2110	-1	1	2	1	2	0	0	0	0	0	2630	-1	1	0	-3	-6	-6	-8	-6	-6	-6
2120	0	0	-2	-3	-2	-3	-3	-3	-3	-3	2640	-6	-5	-5	-4	-4	-2	3	5	9	9
2130	-2	-1	-1	-2	-1	0	0	0	0	0	2650	10	11	12	13	14	12	10	8	7	7
2140	-1	2	4	3	1	0	-2	0	-3	-4	2660	5	4	3	2	2	2	0	-2	-2	-2
2150	-5	-6	-6	-7	-7	-7	-6	-5	-6	-5	2670	-3	-2	-3	-5	-6	-4	-4	-4	-6	-6
2160	-6	-4	-3	-3	-3	-1	0	2	5	5	2680	-7	-7	-7	-8	-8	-7	-7	-6	-4	-4
2170	8	11	14	16	16	16	17	15	14	14	2690	-3	-2	-3	-3	-3	-2	-1	0	0	0
2180	13	11	10	6	0	-1	-4	-7	-10	-10	2700	8	9	7	6	5	6	9	9	10	10
2190	-14	-15	-15	-15	-15	-14	-12	-11	-9	-9	2710	8	9	7	6	5	6	9	10	10	10
2200	-9	-8	-5	-5	-4	-4	-4	-3	0	0	2720	11	11	10	10	9	9	6	3	3	3
2210	0	1	2	1	0	0	0	0	-1	-1	2730	3	3	3	1	0	-2	-3	-3	-4	-4
2220	-1	0	0	0	0	0	0	0	0	0	2740	-4	-5	-6	-7	-8	-7	-7	-5	-3	-2
2230	7	7	6	5	3	2	1	0	0	0	2750	0	0	1	0	0	-1	-2	-3	-3	-3
2240	-2	-1	-1	0	0	0	0	0	0	0	2760	0	1	0	0	0	2	3	4	4	4
2250	-1	-2	-1	0	0	0	0	-3	-4	-4	2770	4	5	6	5	6	5	6	10	10	10
2260	-4	-4	-4	-4	-4	-4	-4	-3	0	0	2780	10	10	9	9	9	5	4	-1	-2	-2
2270	-2	-3	-2	-2	-3	-3	-4	-4	-4	-5	2790	-2	-2	-2	-3	-5	-7	-6	-6	-6	-6
2280	2	4	5	6	8	8	9	9	7	7	2800	-5	-3	-4	-4	-4	-4	-4	-6	-8	-8
2290	-1	-2	-1	0	0	0	-2	-3	-3	-3	2810	8	8	8	8	8	7	6	5	3	0
2300	0	-1	0	0	0	0	0	0	0	0	2820	-2	-3	-4	-5	-6	-6	-8	-9	-8	-8
2310	-3	-5	-6	-5	-5	-6	-5	-6	-5	-5	2830	-9	-8	-6	-5	-5	-3	-2	-1	-2	-2
2320	-3	-4	-5	-5	-6	-6	-7	-6	-5	-5	2840	4	4	4	5	4	3	3	0	-1	-1
2330	-2	-1	-1	1	2	5	7	8	10	10	2850	0	0	-1	-3	-3	-1	-1	-1	-1	0
2340	10	10	7	5	4	3	2	1	0	0	2860	0	0	0	0	0	0	2	5	5	0
2350	1	0	-1	-4	-4	-4	-1	-1	-1	-1	2870	6	5	4	5	3	2	0	0	0	0
2360	-15	-15	-15	-14	-10	-9	-10	-5	-2	-2	2880	1	1	1	1	1	1	2	3	4	4
2370	3	5	8	9	8	9	8	7	5	3	2890	4	4	4	4	4	3	2	3	5	4
2380	13	11	9	9	8	8	7	7	5	3	2900	-1	0	0	0	0	0	-2	-4	-4	-4
2390	0	-1	-2	3	2	5	7	8	10	10	2910	-6	-7	-9	-9	-8	-6	-4	-3	-2	-2
2400	1	1	2	3	4	5	5	5	3	1	2920	-2	0	-1	1	1	1	1	1	1	1
2410	0	1	1	-1	-4	-4	-4	-1	-1	-1	2930	9	7	7	10	10	10	6	5	4	2
2420	-5	-6	-6	-7	-7	-7	-8	-8	-2	-2	2940	0	0	0	0	0	0	0	0	0	0
2430	0	0	4	7	7	7	7	7	7	7	2950	-3	-4	-3	-4	-3	-4	-7	-8	-7	-7
2440	3	3	3	3	3	3	4	4	4	4	2960	-6	-5	-5	-4	-3	-3	-3	-1	-1	-1
2450	9	9	9	9	7	7	7	7	6	3	2970	1	2	3	4	4	4	4	4	4	4
2460	1	1	1	1	1	1	0	-4	-7	-10	2980	5	6	6	3	1	0	0	0	0	0
2470	-16	-14	-13	-13	-13	-13	-13	-13	-13	-13	2990	-1	1	1	1	1	1	1	1	1	1
2480	-5	-3	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2490	7	8	7	7	7	7	7	7	7	7	0	0	0	0	0	0	0	0	0	0	
2500	1	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2510	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2520	5	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2530	-4	-3	-5	-5	-5	-5	-5	-5	-5	-5	0	0	0	0	0	0	0	0	0	0	
2540	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	0	0	0	0	0	0	0	0	0	0	
2550	7	7	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	

END

TO BE CONTINUED

RECORD = S-2220 COMPONENT = NORTH  
 DATE AND TIME = 1959-4-26-5:45  
 AMPLIFYING INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 30000,  
 NO. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

NO.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
0	2	2	3	3	3	4	4	4	4	4
10	3	2	1	1	0	0	-1	-2	2	8
20	14	18	14	11	8	7	7	10	15	15
30	19	16	12	8	9	9	10	11	13	17
40	22	18	14	10	7	6	6	8	14	17
50	14	11	7	2	-1	-3	-3	-3	-3	-3
60	0	0	1	3	14	26	30	29	24	17
70	10	9	3	2	4	5	6	9	22	19
80	5	5	5	5	8	12	19	34	32	21
90	19	10	6	5	5	7	10	13	16	15
100	5	14	25	30	25	10	16	5	5	5
110	7	10	14	15	14	12	8	8	8	13
120	15	13	12	11	6	2	3	5	7	7
130	14	19	19	13	7	7	11	13	20	20
140	25	25	21	18	10	5	6	8	12	6
150	14	14	10	7	-2	8	22	34	35	35
160	24	14	6	-12	4	7	9	12	12	12
170	12	15	13	9	8	5	2	5	7	5
180	7	10	15	14	9	5	1	0	6	9
190	10	10	7	6	10	18	22	21	19	710
200	16	13	10	7	3	4	10	17	23	27
210	30	32	31	25	10	-4	-2	12	19	20
220	20	21	24	23	18	13	9	6	5	3
230	0	1	1	23	27	26	21	15	5	5
240	-1	0	-1	-2	3	8	9	6	3	-2
250	-5	4	3	1	14	11	10	13	19	23
260	-21	17	11	6	1	1	1	1	1	1
270	21	27	28	17	3	-2	8	13	12	7
280	-5	-1	-5	-1	5	12	8	15	15	15
290	5	-7	-17	-12	-4	-2	-1	2	14	14
300	25	22	13	0	-16	-21	-4	7	6	9
310	27	37	41	33	19	2	-3	-5	-10	-15
320	-15	-5	-1	10	11	14	15	16	14	840
330	10	6	-2	-4	-3	0	3	8	13	13
340	5	-1	-12	-15	-1	14	29	32	22	5
350	3	15	13	7	1	2	8	15	13	4
360	-4	-12	-13	-6	-1	8	7	2	1	0
370	9	16	16	14	13	11	11	10	7	4
380	-1	-6	-8	-6	-4	-6	-16	-13	21	36
390	38	31	18	9	3	-1	-2	-6	3	1
400	5	5	6	6	7	1	0	-1	-9	9
410	14	9	-9	-7	-6	-9	-5	-3	0	-3
420	420	-9	-9	-7	-4	-5	-7	-7	0	7
430	6	0	-3	-6	-1	1	9	8	-1	-13
440	-9	-8	-6	3	3	3	3	-3	-1	-1
450	-8	-7	1	1	0	-3	0	7	7	7
460	5	-1	-7	-8	-6	-11	-11	-14	-4	4
470	0	5	4	6	10	17	16	15	9	4

STATION = SONA-S  
 TOTAL NUMBER OF DATA = 30000  
 SCAL = 0.100000

NO.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
480	-1	-2	-2	-2	-2	-2	-2	-2	-2	-2
490	-10	-7	-4	-4	-4	-4	-4	-4	-4	-4
500	-4	-1	-1	-1	-1	-1	-1	-1	-1	-1
510	-11	-15	-25	-18	-16	-14	-16	-16	-11	-1
520	0	0	0	0	0	0	0	0	0	0
530	15	27	21	21	21	21	21	21	21	21
540	-4	-7	-3	-7	-3	-7	-3	-7	-3	-7
550	-19	-29	-33	-13	-13	-5	-13	-13	-13	-13
560	4	-8	-16	-17	-6	-17	-6	-17	-6	-17
570	5	2	-3	-1	-1	-1	-1	-1	-1	-1
580	2	7	12	12	12	6	2	0	2	3
590	3	2	0	0	0	0	0	0	0	0
600	-8	10	19	10	19	14	11	11	11	11
610	9	11	11	11	11	11	11	11	11	11
620	-20	-16	-10	-10	-10	-10	-10	-10	-10	-10
630	6	8	8	8	8	8	8	8	8	8
640	23	7	-8	-8	-8	-8	-8	-8	-8	-8
650	6	2	-1	-1	-1	-1	-1	-1	-1	-1
660	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
670	2	2	4	5	5	5	5	5	5	5
680	-26	-28	-14	-14	-14	-14	-14	-14	-14	-14
690	9	19	24	20	20	20	20	20	20	20
700	9	12	13	11	11	11	11	11	11	11
710	6	-4	-16	-13	-13	-13	-13	-13	-13	-13
720	-28	-53	-145	-145	-145	-145	-145	-145	-145	-145
730	27	27	27	27	27	27	27	27	27	27
740	30	143	102	102	102	102	102	102	102	102
750	-175	-175	-55	-55	-55	-55	-55	-55	-55	-55
760	-244	-425	-565	-609	-609	-609	-609	-609	-609	-609
770	600	544	404	168	168	168	168	168	168	168
780	-262	-269	-171	-171	-171	-171	-171	-171	-171	-171
790	202	83	-13	-13	-13	-13	-13	-13	-13	-13
800	188	-211	66	12	12	12	12	12	12	12
820	107	127	90	4	54	54	54	54	54	54
830	36	62	74	72	72	72	72	72	72	72
840	-85	29	87	98	101	113	128	138	141	141
850	48	-36	-150	-242	-139	15	148	201	202	202
860	128	11	-78	-108	-65	61	61	61	61	61
870	73	30	-33	-102	-157	-151	-105	-50	-15	0
880	23	75	150	212	250	255	255	255	255	255
890	-268	-126	8	56	72	83	111	149	177	172
900	84	-8	-35	-12	51	94	97	44	-60	-128
910	-120	-88	-52	-42	-42	-42	-42	-42	-42	-42
920	143	254	280	212	101	-19	-114	-150	-117	-117
930	-78	-57	-61	-32	36	110	142	145	136	136
940	123	123	94	36	-52	-113	-142	-131	-69	-37
950	37	81	124	146	121	65	-78	-52	-78	-52
960	20	65	66	39	-57	-75	-75	-61	-26	23
970	69	91	89	52	-16	-57	-30	32	67	68
980	15	-61	-76	-54	14	84	104	104	69	22
990	-8	-16	-11	-11	-16	-35	23	23	-7	-19

TO BE CONTINUED

CONTINUED ( S-2220 )										NORTH )											
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
1000	-22	-37	-69	-97	-105	-74	-7	75	112	105	1520	-1	-4	-16	-31	-33	-26	-18	-14	-17	-20
1010	70	53	42	39	40	-71	-124	-124	-131	-131	1530	-17	-8	3	11	18	20	15	10	16	27
1020	-79	-23	11	15	7	6	13	22	31	38	1540	-40	47	43	39	33	25	24	20	14	27
1030	50	68	89	97	93	84	64	33	4	-23	1550	-8	-20	-30	-33	-30	-25	-20	-17	-14	-14
1040	-43	-44	-43	-31	-6	32	72	64	23	-44	1560	-12	-12	-7	-3	-2	0	0	-2	0	-4
1050	-110	-145	-159	-136	-94	-39	25	71	93	103	1570	-7	-12	-20	-31	-29	-15	-7	0	5	6
1060	84	44	-2	-29	-67	-60	65	107	106	72	1580	5	5	4	2	-2	-9	-14	-10	2	12
1070	20	11	12	-9	-48	-67	-69	-53	-44	-39	1590	23	32	36	36	27	19	11	3	-3	-9
1080	-32	-17	6	43	76	93	85	52	-16	-25	1600	-5	6	13	15	8	-4	-14	-21	-26	-26
1090	-8	4	26	68	83	72	12	-43	-61	-35	1610	-25	-22	-17	-9	-1	2	11	18	18	17
1100	-11	10	26	17	2	-3	19	46	65	71	1620	-14	9	-1	-10	-22	-33	-45	-50	-42	-32
1110	51	16	-28	-39	-25	-14	-2	-1	-10	-6	1630	-26	-20	-9	0	13	22	22	17	13	14
1120	16	35	68	72	63	41	10	12	21	21	1640	15	13	11	9	8	7	3	0	-10	-10
1130	17	-34	"79	-96	-115	-113	-103	-72	-45	-45	1650	-18	-22	-19	-4	9	16	18	20	12	-3
1140	-12	38	107	147	155	144	135	122	105	78	1660	-13	-21	-34	-39	-38	-37	-34	-27	-22	-22
1150	20	-26	-75	-107	-97	-67	-39	-19	-15	-17	1670	-13	-2	10	22	20	15	2	-14	-25	-30
1160	-22	0	25	46	58	59	61	56	37	27	1680	-34	-31	-23	-14	-2	6	1	8	0	0
1170	9	-28	-52	-66	-53	-17	1	47	45	38	1690	-5	-2	4	-2	6	6	2	-4	-6	-9
1180	38	44	48	37	5	-33	-75	-85	-81	-56	1700	-15	-27	-37	-33	-19	-6	5	13	18	13
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1200	-7	-11	7	33	48	40	28	23	24	29	1720	-6	-16	-19	-12	-7	1	1	17	36	47
1210	36	48	46	46	51	56	76	80	68	41	1730	25	16	3	8	-10	-13	-5	0	0	0
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1230	-30	-36	-36	-31	-23	-19	-2	18	32	61	1750	-15	-19	-22	-26	-26	-26	-27	-27	-27	-29
1240	69	83	80	48	41	27	10	-3	-11	-4	1760	-24	-19	-6	-6	-6	-6	-7	-13	-13	-5
1250	-3	-23	-64	-71	-57	-24	16	66	77	77	1770	3	6	5	2	0	0	-1	-4	0	3
1260	60	40	21	8	16	24	13	-4	-29	-22	1780	3	3	2	0	-3	0	6	9	9	7
1270	-1	0	30	30	30	21	5	5	5	5	1790	0	-9	-10	-6	-10	-12	-19	-32	-43	-49
1280	5	11	14	15	19	34	35	42	49	49	1800	-41	-38	-33	-26	-23	-24	-24	-18	-13	-3
1290	41	27	-24	-46	-80	-89	-56	-25	1	33	1810	7	7	3	-2	-10	-14	-3	11	20	18
1300	47	58	91	103	94	60	22	-5	-35	-38	1820	11	-4	-9	-9	-12	-12	-1	-11	-11	-11
1310	-30	-26	-19	-18	-20	-21	-20	-17	-14	-14	1830	-10	-7	-7	-7	-4	-3	0	2	7	4
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1330	-35	-52	-63	-77	-57	0	22	58	100	100	1850	8	-7	0	-10	-17	-17	-27	-32	-35	-25
1340	119	108	97	70	51	33	11	5	-10	-22	1860	-13	-4	1	7	10	8	0	-5	-9	-12
1350	-7	24	37	55	56	45	45	37	24	12	1870	-3	0	0	-7	-14	-18	-13	-25	-37	-37
1360	-18	-43	-62	-88	-56	-22	3	34	55	73	1880	-16	-20	-27	-33	-21	-9	-7	-12	-16	-17
1370	81	74	59	-2	-43	-58	-56	-35	-23	-23	1890	-9	-19	-16	-17	-20	-21	-23	-24	-19	-19
1380	15	34	48	41	15	-18	-68	-69	-49	-49	1900	-14	-11	-9	-12	-15	-14	-13	-4	3	3
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TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-2220 )										NORTH											
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TO BE CONTINUED

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 30 7 9 12 15 14 13 10 7 5  
 40 1 5 10 10 8 7 6 5 7  
 50 14 16 13 11 10 8 3 4 6  
 60 11 10 9 8 7 7 13 21 32  
 70 41 40 36 30 21 13 6 2 0  
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 90 12 10 7 3 0 0 -1 2 8 12  
 100 12 7 2 0 1 13 16 14 14  
 110 17 12 10 6 4 2 1 1 14  
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 400 7 5 3 4 -1 1 -21 -25  
 410 21 32 30 12 11 4 -2 0  
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 TOTAL NUMBER OF DATA = 30000  
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TO BE CONTINUED

TO BE CONTINUED

## CONTINUED ( S-2220 WEST )

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1360	-4	10	12	6	2	-3	-9	-15	-12	7	1880	1	1	1	0	-3	-9	-12	-16	-16	-16
1370	-1	0	4	10	8	6	0	-27	-43	-54	1890	-22	-24	-24	-24	-15	-10	-1	7	5	0
1380	-45	-35	-9	15	34	44	45	43	38	7	1900	19	16	12	9	6	0	-10	-12	-13	-15
1390	-5	-2	2	5	2	-3	-9	-10	-11	-5	1910	-16	-11	-10	-9	-19	-34	-36	-25	-20	-14
1400	-6	-10	-17	-24	-24	-10	-14	-10	-1	1920	-14	-16	-16	-20	-24	-27	-32	-33	-26	-24	
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1420	3	-4	-9	-8	-1	2	12	16	18	19	1940	-2	-5	-9	-14	-15	-5	-15	-17	-15	-15
1430	15	11	7	11	13	17	18	12	7	6	1950	7	4	0	-5	-7	-12	-13	-15	-22	-22
1440	5	2	1	0	-12	-23	-28	-25	-7	-5	1960	-23	-23	-18	-13	-15	-16	-17	-10	0	6
1450	-10	-15	-19	-20	-22	-23	-20	-6	-6	22	1970	7	6	0	-3	-6	-3	-6	-16	-23	-25
1460	31	34	25	15	7	2	4	8	8	5	1980	-19	-5	6	9	12	11	10	6	4	1
1470	0	-3	0	-3	0	-8	-9	4	12	19	1990	-11	-13	-11	-6	-11	-6	-7	3	2	2
1480	25	31	32	30	25	20	13	5	-8	-20	2000	1	1	1	-11	-17	-15	-9	-9	-9	-9
1490	-33	-38	-35	-32	-28	-25	-22	-16	-6	-3	2010	-9	-10	-11	-12	-12	-12	-12	-3	-4	-4
1500	10	20	24	28	21	14	7	1	-6	-3	2020	13	18	18	16	12	9	5	3	2	2
1510	-9	-5	-1	3	12	18	13	7	-1	1	2030	1	-17	-17	-17	-47	-47	-47	-47	-27	-6

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-22220 WEST )										CONTINUED ( S-22220 WEST )											
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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2050	-30	-24	-23	-21	-14	-11	-3	4	8	12	2510	18	8	5	-1	-9	-10	-13	-10	-18	
2060	11	9	7	4	3	2	-1	-2	-3	-6	2480	-24	-2	-18	-14	-12	-3	-3	-3	-9	
2070	-7	-8	-6	-8	-8	-9	-9	-12	-13	-13	2490	-9	-5	-2	2	8	15	14	13	7	
2080	-13	-4	0	1	7	12	10	6	3	1	2600	1	0	-7	-10	-12	-12	-12	-11	-9	
2090	-3	-9	-15	-24	-30	-35	-36	-28	-18	-8	2610	-10	-4	-3	-4	-7	-10	-10	-9	-10	
2100	-6	-4	-20	-26	-10	-15	-15	-17	2	21	2620	-10	-9	-8	-6	-12	-1	5	5	5	
2110	19	10	7	6	15	17	17	9	2	2	2630	5	4	4	3	7	12	11	10	6	
2120	0	-1	-6	-11	-15	-17	-17	-15	-13	-13	2640	-8	-5	-5	-5	-5	-8	-10	-14	-14	
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2140	-4	-9	-7	-2	-5	-4	-6	-9	-12	-11	2660	-13	-10	-5	-3	0	1	0	1	3	
2150	-3	0	4	5	-2	-9	-12	-14	-17	-13	2670	9	4	7	6	6	6	6	6	4	
2160	-5	-4	-4	-4	-2	-3	-7	-7	-13	-19	2680	0	6	6	1	1	0	-3	-3	-9	
2170	-22	-24	-23	-15	-5	2	5	4	4	4	2690	-15	-10	-10	-1	-1	-3	-3	-4	-8	
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2200	4	8	9	8	-4	-13	-13	-18	-24	-31	2720	1	1	-2	-5	-5	-2	-4	-8		
2210	-27	-21	-19	-17	-13	-11	-11	-9	-9	-9	2730	-7	-4	-4	-4	-4	-7	-12	-6		
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2240	-8	-10	-13	-17	-22	-20	-13	-5	-2	-2	2760	-3	-6	-6	-3	-3	-3	-10	-15		
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2260	-17	-18	-18	-15	-15	-12	-12	-9	-5	-1	2780	0	-1	-2	-3	-4	-9	-11	-12		
2270	0	2	4	5	10	16	17	14	12	18	2790	-9	-10	-10	-3	-2	-4	-4	0		
2280	21	16	12	9	5	-1	-7	-8	-5	-4	2800	1	-3	4	2	0	-2	-5	-8		
2290	-3	-3	-5	-5	-7	-8	-10	-11	-13	-13	2810	-8	-8	-6	-3	-3	-3	-2	-2		
2300	-13	-11	-15	-20	-26	-28	-25	-23	-23	-22	2820	-2	-4	-6	-4	-4	2	2	2		
2310	-20	-15	-10	-10	-8	-8	-7	-6	-9	-13	2830	3	4	4	4	1	0	3	3		
2320	-18	-12	-2	-5	14	21	23	26	26	24	2840	7	2	0	-1	-2	-8	-14	-17		
2330	18	5	-1	-2	-5	-14	14	12	-12	-3	2850	-14	-15	-14	-12	-11	-15	-15	-12		
2340	-11	-14	-16	-20	-24	-28	-24	-15	-12	-6	2860	-12	-11	-8	-4	-4	-1	-3	0		
2350	-3	-4	-4	-4	-6	-9	-15	-15	-22	-24	2870	0	-2	-5	-3	-3	-1	0	2		
2360	-20	-11	-2	-6	8	11	6	-1	3	0	2880	0	0	1	1	0	-4	-8	-15		
2370	-7	-11	-15	-16	-13	-12	-9	-6	-6	-5	2890	-14	-11	-6	-2	-2	5	5	-3		
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2400	-7	-9	-10	-9	-5	-3	-3	-4	-3	-4	2920	-2	-3	-4	-7	-9	-4	-1	-1		
2410	-6	-3	-2	-4	-6	-6	-4	-5	-5	-5	2930	-5	-7	-7	-4	-2	-3	-5	-8		
2420	-9	-7	-5	-5	-6	-9	-14	-18	-18	-18	2940	-11	-6	-5	-3	-3	-6	-9	-12		
2430	-9	-4	-4	-4	-4	-3	-5	-5	-8	-8	2950	-13	-13	-13	-12	-12	-7	-7	-10		
2440	-13	-12	-7	-7	-10	-14	-15	-13	-12	-9	2960	-11	-12	-12	-13	-15	-17	-16	-15		
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2490	-13	-12	-10	-8	-9	-9	-12	-12	-12	-10	2990	-11	-12	-10	-9	-9	-11	-11	-12		
2500	-11	-7	-5	-5	-6	-8	-3	-3	-3	-3	2990	-13	-13	-13	-12	-12	-12	-12	-12		
2510	3	-2	-3	-3	-3	-3	-9	-13	-14	-13	2990	-11	-12	-12	-13	-13	-13	-13	-13		
2520	4	4	4	3	-1	-2	-5	-6	-8	-11	2990	-11	-11	-10	-10	-10	-10	-10	-10		
2530	-3	2	0	-4	-4	-5	-8	-10	-12	-12	2990	-11	-11	-11	-11	-11	-11	-11	-11		
2540	-17	-22	-22	-22	-19	-14	-14	-14	-14	-14	2990	-11	-11	-11	-11	-11	-11	-11	-11		
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END

TO BE CONTINUED

RECORD = S-22220 COMPONENT = DOWN  
 DATE AND TIME = 1989-4-26-  
 AMPLIFYING INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 30000, 30000,  
 TOTAL NUMBER OF DATA = 30000  
 SCAL = 0.10000

NO.	SOMA-S					S-22220					CONTINUED ( S-22220 )									
	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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10	0	0	0	0	0	1	2	3	4	490	14	14	11	10	9	8	8	7	13	5
20	5	6	8	10	13	14	15	18	20	500	1	9	9	8	7	6	9	13	17	7
30	23	24	25	26	27	28	27	26	25	510	17	13	4	1	12	16	16	15	0	-7
40	26	24	21	21	21	21	20	17	16	520	-25	-7	6	6	5	2	0	-2	-11	0
50	16	16	16	15	15	14	14	14	13	530	10	22	18	7	-2	0	-1	0	-1	-1
60	8	11	12	14	11	8	6	5	3	540	8	-17	1	15	29	11	-10	-7	3	8
70	7	10	15	21	24	16	13	15	15	550	-4	-11	-7	-2	0	3	4	7	6	1
80	21	11	21	18	13	18	24	21	16	560	0	14	10	0	10	11	11	13	14	6
90	11	11	21	26	22	16	14	18	26	570	-4	1	10	20	21	15	10	1	-1	3
100	15	7	0	-1	15	26	21	13	9	580	6	1	-3	-8	3	4	8	9	10	14
110	3	4	8	9	9	9	7	2	0	590	14	9	3	2	0	8	9	14	17	17
120	8	12	14	16	16	15	15	11	16	600	4	-5	-8	1	8	1	-14	-24	-13	-4
130	26	25	23	18	13	10	3	3	11	610	0	4	8	8	1	12	13	13	9	9
140	24	26	27	27	25	22	19	20	21	620	-7	-8	-3	0	-6	-3	2	8	10	11
150	19	16	17	16	15	15	27	36	39	630	-7	0	0	5	4	9	15	10	4	-4
160	33	26	21	15	13	15	16	17	17	640	-6	11	23	18	1	-6	12	13	13	9
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180	12	1	-5	0	8	20	30	29	22	660	14	-3	-1	-16	-7	3	28	49	75	73
190	14	14	21	27	27	23	17	14	11	670	14	-3	-1	-16	-7	3	28	49	75	73
200	11	29	35	27	16	11	4	3	13	680	14	-3	-1	-16	-7	3	28	49	75	73
210	27	18	-2	-6	9	35	40	20	8	690	14	-3	-1	-16	-7	3	28	49	75	73
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230	0	6	21	30	27	17	11	7	0	710	14	-3	-1	-16	-7	3	28	49	75	73
240	9	20	30	37	35	29	20	8	3	720	14	-3	-1	-16	-7	3	28	49	75	73
250	3	10	23	28	23	15	9	7	1	730	14	-3	-1	-16	-7	3	28	49	75	73
260	27	36	33	24	19	15	13	16	11	740	14	-3	-1	-16	-7	3	28	49	75	73
270	17	4	-5	-2	14	14	11	1	1	750	14	-3	-1	-16	-7	3	28	49	75	73
280	19	6	6	14	17	13	0	-14	8	760	14	-3	-1	-16	-7	3	28	49	75	73
290	19	22	20	12	5	5	9	9	8	770	14	-3	-1	-16	-7	3	28	49	75	73
300	3	-1	8	18	27	35	37	25	7	780	14	-3	-1	-16	-7	3	28	49	75	73
310	13	23	28	27	17	3	-7	-9	1	790	14	-3	-1	-16	-7	3	28	49	75	73
320	53	32	25	18	10	5	7	16	16	800	14	-3	-1	-16	-7	3	28	49	75	73
330	10	7	17	16	11	1	1	1	1	810	14	-3	-1	-16	-7	3	28	49	75	73
340	7	4	11	21	17	-1	-8	-1	11	820	14	-3	-1	-16	-7	3	28	49	75	73
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360	2	8	25	16	16	31	17	-4	-24	840	14	-56	-56	-56	-56	-56	-56	-56	-56	-56
370	-13	15	18	12	15	8	11	13	4	850	14	-22	-1	-25	-25	-25	-25	-25	-25	-25
380	14	15	21	22	10	5	7	16	17	860	14	-60	-39	-60	-23	-25	-25	-25	-25	-25
390	14	30	40	31	26	4	2	0	-5	870	14	-10	-43	-80	19	15	15	15	15	-23
400	4	9	30	15	15	-1	-19	2	17	880	14	-57	-115	-121	-140	-140	-140	-140	-140	-140
410	5	-6	2	9	7	-3	-3	3	4	890	14	-57	-115	-121	-140	-140	-140	-140	-140	-140
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430	2	4	10	15	9	6	5	9	7	910	14	-57	-115	-121	-140	-140	-140	-140	-140	-140
440	7	9	11	11	8	5	9	10	4	920	14	-57	-115	-121	-140	-140	-140	-140	-140	-140
450	3	12	13	13	19	18	3	5	9	930	14	-57	-115	-121	-140	-140	-140	-140	-140	-140
460	9	10	10	12	13	13	19	17	17	940	14	-57	-115	-121	-140	-140	-140	-140	-140	-140
470	4	5	2	12	16	6	-6	-5	-5	950	14	-57	-115	-121	-140	-140	-140	-140	-140	-140

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-22220 DOWN )										S-22220 DOWN )	S-22220 DOWN )										
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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1010	-9	-6	0	-6	-8	-11	-17	-18	-6	-16	1530	2	-2	-5	-7	-3	-6	-4	-4	-7	
1020	21	38	49	38	26	16	0	-1	-8	-16	1540	-8	-11	-16	-11	-8	-5	-3	-2	-1	
1030	-7	27	54	57	44	20	-2	-18	-30	-33	1550	-2	-4	1	9	15	17	15	11	7	
1040	-18	-3	-10	-10	-7	1	6	-1	-17	-33	1560	3	1	0	0	1	4	6	11	12	
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1090	11	17	21	20	17	16	11	-9	-34	1610	-11	-1	-11	-10	-7	-6	-8	-11	-15		
1100	-38	-21	-6	1	28	41	36	5	-18	-23	1620	-12	-7	-8	-9	-12	-14	-13	-9	-9	
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1120	7	-1	-15	-23	-26	-24	-17	-9	-2	5	1640	3	4	3	1	1	1	0	-1	-1	
1130	9	13	24	13	13	2	-16	-23	-22	-22	1650	-1	-1	-2	-4	-7	-3	0	-2	-6	
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1170	-5	-5	-5	-5	-5	-4	3	9	16	1690	-17	-18	-18	-17	-15	-18	-15	-17	-11		
1180	23	32	27	24	17	23	26	22	14	1700	-8	-6	-5	-6	-4	-6	6	6	6		
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1200	-25	-21	-17	-13	-8	-5	-11	-3	-4	-12	1720	-1	-1	-3	-12	-14	-16	-16	-15	-17	
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1220	1	14	16	3	3	-3	-1	17	27	33	1740	-10	-13	-13	-11	-5	-4	5	0	0	
1230	33	32	32	32	32	34	37	43	43	43	1750	-3	-6	-6	-4	3	3	-1	-2	-2	
1240	36	34	22	-1	-6	-10	-22	-26	-36	-47	1760	-6	-9	-9	-12	-13	-14	-15	-10	-4	
1250	-57	-41	-24	-4	14	19	16	11	8	20	1770	6	10	8	1	2	0	-3	-4	-7	
1260	29	45	41	32	23	13	21	18	11	1780	-3	-3	-4	-5	-7	-8	-5	-5	-6		
1270	0	-9	-24	-28	-20	-15	-9	-6	-1	-10	1790	-6	-2	-3	-6	-9	-8	-5	-2	-6	
1280	-11	-3	0	0	-9	-11	0	8	-1	-11	1800	-1	-1	-3	-3	-3	-2	-3	-1	-6	
1290	12	8	20	21	17	11	1	-2	-13	1810	-4	-3	-4	-9	-16	-16	-17	-14	-9		
1300	-23	-29	-24	-11	-2	7	17	37	39	37	1820	-3	0	3	3	0	-2	-3	-12		
1310	32	-22	22	11	0	-2	-2	-2	-2	-10	1830	-11	-11	-8	-5	-5	-5	-7	-2		
1320	-11	-14	-13	-10	3	24	30	22	21	16	1840	-2	-2	-2	-2	-2	-2	0	2	5	
1330	13	13	18	19	19	17	16	13	10	10	1850	8	8	11	11	9	5	-3	-4	-7	
1340	8	6	6	4	3	5	8	7	0	-11	1860	-7	-3	-4	-17	-18	-18	-15	-16	-15	
1350	-18	-18	-23	-23	-25	-18	-15	-5	-3	3	1870	-12	-13	-12	-15	-15	-17	-12	-12	-12	
1360	8	14	14	9	2	2	0	-3	-10	1880	-10	-8	-8	-8	-9	-10	-9	-2	-5		
1370	-5	0	4	2	0	-3	-7	-4	-2	1890	-5	-4	-1	-1	-2	-4	-6	-5	-5		
1380	-1	-11	-10	-9	-5	-4	-2	0	4	8	1900	-3	-2	-2	-2	-4	-6	-6	-9		
1390	13	14	14	14	14	13	15	14	24	31	1910	-11	-17	-18	-18	-18	-15	-16	-15	-15	
1400	28	21	11	11	0	-3	-2	0	1	6	1920	-12	-1	-1	-1	-1	-1	-1	-1	-1	
1410	15	25	30	32	24	17	-15	-3	1	14	1930	-1	-2	-1	-2	-5	-5	-1	-1	-1	
1420	13	10	4	2	-6	-14	-22	-24	-24	-24	1940	-8	-7	-11	-11	-12	-12	-13	-13	-13	
1430	-27	-28	-29	-25	-16	-10	-7	-4	-16	-16	1950	-12	-11	-7	-7	-7	-7	-10	-10	-10	
1440	6	11	16	17	16	17	18	18	17	17	1960	-12	-12	-9	-8	-6	-6	-6	-6	-6	
1450	6	-3	-10	-13	-11	-12	-15	-12	-5	3	1970	-6	-2	-2	0	0	3	-1	-8	-13	
1460	9	14	16	16	16	17	17	17	15	14	1980	-13	-9	0	2	2	2	-1	-17	-17	
1470	16	12	11	11	10	7	4	1	-3	1990	-21	-14	-14	-15	-15	-15	-1	-1	-1		
1480	-1	6	22	33	29	17	14	11	11	2000	-5	-5	-5	-5	-5	-5	0	2	3		
1490	6	3	-9	-12	-17	-22	-20	-6	-13	-11	2010	-1	-17	-17	-17	-18	-25	-25	-25	-25	
1500	-10	-8	-9	-12	-17	-22	-20	-6	-1	0	2020	-18	-17	-13	-12	-12	-12	-13	-9		
1510	-12	-10	-8	-7	-3	2	4	5	8	12	2030	-4	-2	-2	-2	-2	-2	-2	-2	0	

TO BE CONTINUED

TO BE CONTINUED

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2050	-1	-2	-2	-3	-3	-3	-5	-5	-5	-10	2570	-2	3	3	3	3	3	3	3	3	-3
2060	-13	-7	-5	-3	0	6	2	2	2	7	2580	8	8	8	8	8	8	6	6	6	-7
2070	8	6	2	2	0	6	3	2	2	7	2590	-1	1	1	1	1	1	1	1	1	-1
2080	0	-1	-3	-8	-3	-8	-4	-2	-3	-3	2600	-2	-2	-3	-1	-3	-2	-2	-2	-2	-2
2090	3	3	2	0	0	0	-2	-3	-3	-3	2610	-3	-3	-3	-1	-1	-1	-2	-2	-2	-2
2100	-3	-5	-6	-4	-3	-2	-4	-5	-5	-5	2620	-3	-3	-3	-2	0	-2	-2	-2	-2	0
2110	-9	-1	-1	-2	-4	-5	-2	-1	-1	-1	2630	-7	-3	0	3	3	3	4	6	6	-7
2120	-1	-1	-3	0	0	0	0	0	0	0	2640	7	6	5	4	4	4	4	4	4	4
2130	-2	-2	-2	-1	-1	-1	-13	-8	-4	-3	2650	4	4	4	3	2	2	0	0	0	-1
2140	-3	-3	-2	-1	-1	-2	3	3	6	10	2660	-2	3	3	-2	-5	-9	-12	-12	-10	-10
2150	4	2	2	3	3	3	1	1	0	0	2670	-10	-8	-8	-8	-6	-6	-6	-6	-6	-6
2160	-5	-7	-7	-10	-11	-11	-11	-11	-11	-11	2680	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
2170	-11	-6	-5	-5	-5	-5	-5	-5	-5	-5	2690	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
2180	-6	-6	-10	-12	-11	-11	-11	-7	-5	-2	2700	-5	-5	-5	-2	-2	-2	-1	-1	-1	0
2190	1	-7	9	8	6	3	0	0	0	0	2710	-1	-1	0	0	0	0	0	-1	-1	-1
2200	-2	-4	-5	-5	-5	-5	-5	-5	-5	-5	2720	-1	0	0	0	0	0	-1	-1	-1	-1
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2230	-7	-10	-10	-11	-11	-9	-9	-8	-8	-8	2750	-12	-12	-12	-12	-12	-12	-10	-10	-10	-10
2240	-8	-8	-8	-8	-8	-9	-2	-2	-2	-2	2760	0	-2	-2	-1	-1	-1	-1	-1	-1	-1
2250	-3	0	-1	-3	-4	-5	-5	-5	-5	-5	2770	3	3	3	4	4	4	6	2	3	3
2260	-1	0	3	4	4	4	4	5	6	4	2780	2	6	6	6	4	1	-1	-3	-3	-3
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2350	-3	-3	-2	-2	-2	-2	-2	-2	-2	-2	2870	-11	-10	-10	-10	-10	-10	-9	-9	-9	-9
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2370	-3	-3	-3	-3	-2	-2	-2	-2	-2	-2	2890	-2	-2	-2	-2	-2	-2	-6	-6	-6	-6
2380	-2	-2	0	-1	-1	-1	-1	-1	-1	-1	2900	-5	-5	-5	-5	-5	-5	-1	-1	-1	-1
2390	-6	-9	-15	-18	-18	-18	-18	-18	-18	-18	2910	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
2400	-19	-17	-17	-16	-14	-13	-12	-9	-6	-1	2920	-9	-8	-8	-8	-8	-8	-16	-16	-16	-16
2410	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	2930	-13	-13	-13	-13	-13	-13	-12	-12	-12	-12
2420	4	4	4	4	4	4	4	4	4	4	2940	-5	-5	-5	-5	-5	-5	-8	-8	-8	-8
2430	-6	-7	-7	-7	-7	-7	-7	-7	-7	-7	2950	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
2440	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	2960	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7
2450	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	2970	-8	-7	-7	-7	-7	-7	-7	-7	-7	-7
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2470	0	1	-1	2	1	0	-1	-1	-1	-1	2990	-8	-7	-7	-7	-7	-7	-8	-8	-8	-8
2480	5	6	5	6	5	3	3	3	3	3	2990	-1	0	0	0	0	0	-9	-9	-9	-10
2490	-3	0	-1	4	4	4	4	4	4	4	2990	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
2500	-1	-9	-3	-2	0	1	0	-1	0	0	2990	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
2510	-6	-5	0	3	2	2	2	2	2	2	2990	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7
2520	-4	-5	-5	-5	-5	-5	-5	-5	-5	-5	2990	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
2530	0	0	0	0	0	0	0	0	0	0	2990	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
2540	-10	-8	-5	-5	-5	-5	-5	-5	-5	-5	2990	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
2550	0	0	0	0	0	0	0	0	0	0	2990	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2

END

TO BE CONTINUED

RECORD = F-325    COMPONENT = N33E    STATION = YANASHITA-F  
 DATE AND TIME = 1989-10-14-6-20    TOTAL NUMBER OF DATA = 3000  
 AMPLIFYING INTERVAL = 0.010 (SEC)    SCAL = 0.10000  
 SIGNAL = GR. ACC.    NO. 100  
 CONNECTION POINT IN DATA NUMBER = 3000,

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10	-2	5	8	12	12	3	-11	-11	-7	-12
20	-2	-5	-9	-11	-2	-1	-1	0	3	5
30	2	0	-1	-5	-11	-4	-4	0	8	18
40	18	20	18	23	17	13	8	0	7	0
50	5	3	-2	-3	-11	-15	-11	-11	-11	-11
60	3	0	-11	-11	-11	-11	-11	-11	-11	-11
70	7	14	13	13	11	8	3	3	7	11
80	9	2	-11	-17	-19	-13	-11	-2	-1	-12
90	-11	-11	-13	-16	-13	-11	3	9	10	10
100	12	13	11	11	8	9	12	15	18	1
110	-11	-11	-11	-11	-3	11	16	18	10	-1
120	-13	-12	-16	-16	-12	-12	-12	-12	-2	-1
130	-5	-13	-19	-24	-24	-14	0	10	15	16
140	9	2	0	-1	-1	-11	-11	-12	-11	-11
150	-12	-11	-11	-11	-4	2	12	19	23	23
160	9	-1	-1	-1	-1	12	9	3	2	9
170	18	23	20	14	8	0	-11	-14	-13	-13
180	-11	-13	-12	-12	-1	8	15	17	12	2
190	0	5	12	12	12	14	14	14	15	0
200	0	1	3	2	1	-1	-17	-29	-39	-39
210	-39	-30	-16	-16	-1	11	11	8	10	15
220	22	22	12	3	-2	-1	-1	2	8	13
230	17	14	10	5	0	-5	-4	2	7	14
240	9	3	-6	-12	-1	-13	-11	-1	4	-1
250	-1	-1	-12	-1	-1	11	11	0	8	13
260	-1	-12	-1	-1	-12	-11	-11	-11	-11	-11
270	-7	16	18	17	11	4	2	2	2	-1
280	-2	-1	-1	0	0	-11	-12	-11	-11	-11
290	-2	-11	-12	-1	-1	0	5	8	0	0
300	0	6	12	20	24	28	27	23	18	820
310	12	3	2	0	0	-2	-11	-11	-12	830
320	-11	-11	-1	-1	-1	-1	-1	-1	-1	770
330	10	16	15	9	-1	-11	-6	-1	-1	780
340	2	-2	-1	-13	-19	-26	-22	-18	-16	790
350	-11	-1	-1	4	3	-2	-1	-1	-1	860
360	11	17	25	32	28	23	12	3	-1	880
370	-11	-1	-2	-4	-6	-6	-1	0	2	820
380	0	0	-2	-1	-1	-1	-1	-1	-1	890
390	18	21	23	24	22	25	27	28	27	840
400	10	12	13	12	8	2	-11	-16	-24	850
410	-32	-39	-35	-29	-28	-22	-21	-16	-11	920
420	-1	11	17	20	22	15	7	0	-1	930
430	-4	-2	-1	-1	-1	-12	-13	-14	-12	940
440	-11	-13	-15	-12	-4	5	11	10	9	950
450	11	8	7	0	-1	-12	-11	-11	-11	960
460	8	6	0	1	1	2	2	8	11	80
470	-4	-1	0	3	6	-2	7	15	24	370

CONTINUED( F-325    N33E    )  
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 490    16    3    -12    -27    -29    -32    -31    2    -2  
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 590    19    22    22    22    15    15    15    15  
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 640    24    18    3    -21    -31    -32    -26  
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 670    42    37    37    38    41    47    56    54  
 680    -21    -14    -16    -17    -17    -17    -21    -21  
 690    -21    -17    -12    -11    -11    -17    -22    -12  
 700    2    8    9    12    18    17    10    6  
 710    8    9    10    10    10    11    11    11  
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 730    5    11    13    17    23    26    26    28  
 740    14    37    43    42    28    19    10    7  
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 760    -29    -14    -14    0    9    24    28    24  
 770    33    22    13    15    14    10    3    -13  
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 790    -5    3    3    4    4    5    5    5  
 800    25    25    25    25    25    25    25    25  
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 880    -38    -34    -28    -24    -24    -21    -22    -21  
 890    -1    14    28    45    44    45    44    44  
 900    18    12    10    9    9    9    9    9  
 910    -11    -11    -11    -11    -11    -11    -11    -11  
 920    -11    -12    -12    -12    -12    -12    -12    -12  
 930    9    3    -4    -4    -4    -4    -4    -4  
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 960    -66    -51    -32    -22    -22    -22    -22    -22  
 970    67    80    80    67    67    57    57    57  
 980    25    3    16    27    27    8    56    56  
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TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( F-325 )										CONTINUED ( F-325 )										N33E									
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )								
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TO BE CONTINUED

TO BE CONTINUED

CONTINUED F-325										CONTINUED F-325											
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TO BE CONTINUED

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2080	50	54	55	66	72	74	77	79	80
2090	77	74	75	77	84	86	84	85	81
2100	69	55	42	29	15	0	-11	-11	-45
2110	-66	-78	-80	-85	-90	-92	-102	-92	-92
2120	-83	-72	-67	-63	-52	-38	-14	-14	-10
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2160	27	15	15	15	-3	-23	-31	-48	-63
2170	-79	-92	-92	-92	-92	-88	-88	-87	-81
2180	-73	-63	-44	-31	-16	-2	7	15	26
2190	44	52	60	67	77	85	91	94	94
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TO BE CONTINUED

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 SIGNAL = GR. ACC. (GR. ACC.)  
 CONNECTION POINT IN DATA NUMBER = 30000  
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 STATION = YANASHITA-F  
 TOTAL NUMBER OF DATA = 3000  
 SCALE = 0.10000

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 CONTINUED( F-325 )  
 NO. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

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530	-17	-12	43	52	26	-15	-50	-57	-57	-36
540	0	26	29	12	-7	-27	-32	-32	-32	-31
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560	-28	-7	21	44	52	38	-7	-37	-37	-42
570	-9	22	34	20	-7	-31	-39	-27	-27	-1
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590	2	-3	-7	-12	-17	-17	-17	-17	-17	8
600	-4	-4	4	23	39	30	-7	-15	-20	-7
610	32	51	25	-7	-27	-27	-12	-12	-12	42
620	47	12	-27	12	12	12	43	12	12	-13
630	-42	55	-47	-47	-47	-47	-47	-47	-47	-52
640	-47	-27	12	36	37	18	-2	-14	-27	-30
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660	18	12	0	12	0	0	5	12	16	9
670	2	-12	-27	-27	-27	-27	-27	6	51	31
680	-7	-27	-27	-27	-27	-27	-27	12	21	24
690	23	12	0	0	0	0	-7	-9	-13	-29
700	-33	-31	-17	-7	-7	-7	-7	-7	0	10
710	19	26	19	26	19	19	-27	-27	-27	-27
720	-1	-9	-7	-7	-7	-7	12	12	21	6
730	-7	-7	5	10	12	12	12	12	12	-25
740	12	-7	-11	-11	-11	-11	12	12	12	-30
750	-34	-32	-31	-31	-31	-31	-34	-34	-46	-27
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770	10	26	24	24	24	24	6	6	22	6
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790	-16	-15	5	41	5	5	25	25	43	4
800	-8	4	17	27	27	27	32	32	46	51
810	2	-15	-16	-16	-16	-16	-27	-27	-35	-34
820	-16	-16	-19	-19	-19	-19	-30	-30	-31	-23
830	28	28	22	22	22	22	12	12	12	32
840	12	9	7	7	7	7	8	8	8	8
850	-7	0	12	12	12	12	-16	-16	-16	-16
860	9	9	5	25	25	25	-27	-27	-27	-27
870	37	37	3	-33	-33	-33	-32	-32	-32	-32
880	10	-1	-8	-12	-12	-12	-7	-7	-7	-7
890	51	52	50	50	50	50	51	51	51	51
900	27	34	34	34	34	34	34	34	34	34
910	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4
920	-27	-27	-27	-27	-27	-27	-27	-27	-27	-27
930	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14
940	23	12	0	0	0	0	0	0	0	0
950	34	34	34	34	34	34	34	34	34	34
960	28	28	21	21	21	21	21	21	21	21
970	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11
980	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12
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TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( F-325 )										CONTINUED ( F-325 )											
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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1010	60	52	37	20	27	40	51	47	32	32	1530	-22	38	34	19	-18	-29	-27	-27	-17	-17
1020	-11	-27	-67	-94	-96	-80	-48	-35	-27	-27	1540	-15	-27	-39	-52	-51	-40	-16	-7	3	-7
1030	-29	-34	-27	-29	-29	-30	-21	8	39	39	1550	-12	-19	-12	1	12	12	1	-17	-32	-37
1040	77	106	130	143	150	144	129	101	68	42	1560	-19	9	41	61	82	87	98	92	87	85
1050	-18	12	10	-2	-10	-35	-44	-39	-14	24	1570	86	91	92	91	71	36	36	37	30	30
1060	62	81	72	52	41	23	12	-12	-42	-42	1580	8	-18	-42	-65	-81	-89	-72	-52	-46	-46
1070	-75	-102	-95	-82	-91	-114	-134	-151	-152	-136	1590	-57	-75	-83	-80	-76	-66	-43	-28	-13	-13
1080	-114	-111	-122	-126	-112	-65	-7	52	99	110	1600	0	-4	0	3	6	3	-7	-17	-27	-16
1090	116	113	101	89	78	74	76	77	63	49	1610	-12	-7	-7	7	10	12	10	16	16	16
1100	22	2	5	12	27	38	38	12	-13	-37	1620	27	47	59	61	52	42	34	33	32	36
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1140	-107	-69	-54	-44	-5	34	72	103	111	113	1660	22	31	37	47	52	52	52	52	40	40
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1170	35	24	8	7	7	12	38	39	12	-6	1690	-29	-35	-44	-45	-40	-28	-27	-20	-27	-27
1180	-32	-37	-47	-48	-51	-46	-3	48	56	18	1700	-8	-7	-7	-7	-2	-3	0	-2	-3	-5
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1210	-42	-55	-57	-50	-29	-1	27	37	5	-55	1730	-2	-14	-12	-12	5	5	12	8	2	-12
1220	-106	-106	-66	-66	-37	-41	-39	-17	-17	-47	1740	-12	-10	-13	-9	2	5	12	12	12	12
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1280	-68	-91	-82	-72	-67	-67	-84	-96	-106	-106	1800	12	12	12	21	11	11	12	12	12	12
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1380	22	31	46	63	66	63	52	59	64	62	1900	-7	11	5	0	-1	-2	-1	-12	-33	-33
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1490	-7	-12	-8	-7	-7	2	7	8	7	11	2010	-13	-27	-27	-17	-17	-17	-17	-17	-12	-12
1500	6	7	2	0	3	9	10	12	12	2020	-13	-27	-27	-17	-17	-17	-17	-17	-27	-27	
1510	11	12	12	27	36	40	22	-7	-31	-40	2030	-17	-17	-17	-17	-17	-17	-17	-17	-27	-27

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( F-325 )										CONTINUED ( F-325 )											
No.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	No.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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2060	28	22	22	12	12	7	5	3	7	2580	-12	-13	-12	-2	5	12	12	12	12	12	
2070	2	-7	-14	-17	-16	-17	-17	-12	0	7	2590	7	8	9	6	3	2	-7	-7	-17	-27
2080	7	10	6	4	5	6	7	10	12	22	2600	-35	-42	-44	-38	-35	-35	-35	-32	-36	-36
2090	21	19	12	12	12	6	12	8	12	7	2610	-31	-27	-16	-5	1	4	7	10	12	12
2100	0	3	3	6	8	7	2	-1	-5	-2	2620	12	18	21	26	27	28	30	31	30	29
2110	0	5	11	12	10	5	0	0	-7	-4	2630	26	24	22	26	29	29	23	12	12	12
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2140	-27	-19	-8	-7	5	12	11	7	9	12	2660	-15	-12	-8	-9	-10	-12	-8	-13	-18	-18
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2480	7	5	3	0	1	5	9	12	12	12	2990	-1	1	1	1	1	1	1	1	1	
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2540	-7	-8	-6	-1	-2	0	-2	0	0	0	2990	-2	0	0	0	0	0	0	0	0	
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END

TO BE CONTINUED

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 AMPLIFYING INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 30000,  
 TOTAL NUMBER OF DATA = 30000  
 SCAL = 0.10000

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20	5	5	5	5	4	4	3	3	2	1.
30	0	0	-1	-2	-4	-5	-6	-6	-6	-6.
40	-6	-5	-5	-4	-2	-2	-1	0	0	0.
50	5	7	8	8	8	7	6	5	4	4.
60	3	2	2	2	2	1	1	0	0	0.
70	1	2	0	0	1	3	5	6	1	1.
80	16	18	19	19	17	15	15	15	11	10.
90	8	7	4	-1	-9	-20	-32	-39	-44	-48.
100	-51	-52	-47	-36	-21	-6	8	25	39	50.
110	58	62	61	58	54	45	35	25	15	15.
120	-1	-12	-20	-25	-26	-25	-23	-19	-14	-10.
130	-7	-5	-4	-4	-3	-3	-1	2	4	5.
140	6	6	5	5	5	2	0	0	0	4.
150	13	15	18	18	18	17	19	22	24	24.
160	-22	20	14	-4	-15	-23	-28	-29	-24	-24.
170	-17	-11	-4	1	6	11	14	17	20	21.
180	20	21	22	20	14	8	4	0	-5	-5.
190	-14	-17	-16	-13	-13	-9	-9	-5	-1	0.
200	0	2	4	7	10	11	11	8	4	0.
210	-6	-10	-13	-15	-14	-10	-6	-2	5	5.
220	6	5	5	2	0	-4	-6	-7	-6	-7.
230	-3	0	3	5	5	5	7	11	13	14.
240	15	16	15	13	12	12	13	11	8	8.
250	3	-1	2	2	0	-2	-2	-2	-3	-6.
260	-6	-7	-10	-11	-12	-13	-16	-21	-26	-25.
270	-23	-19	-17	-17	-17	-10	17	20	23	27.
280	26	25	24	20	13	8	5	2	-6	-6.
290	-4	0	-1	0	-3	-4	-6	-7	-7	-7.
300	-5	-3	-1	0	3	3	4	3	2	2.
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320	17	21	23	24	25	25	22	19	17	16.
330	16	17	16	17	18	15	12	10	7	4.
340	2	3	3	3	2	0	-3	-7	-13	-13.
350	-13	-11	-10	-8	-6	-5	-2	-7	-1	-1.
360	6	5	5	2	0	-3	-4	-5	-4	-3.
370	-1	-2	-3	-7	-10	-11	-13	-15	-14	-10.
380	-15	-18	-20	-20	-17	-13	-9	-6	-3	-1.
390	0	2	5	6	7	5	4	3	-1	-6.
400	-11	-14	-15	-15	-13	-8	-4	0	5	5.
410	18	24	28	25	21	19	18	16	11	11.
420	6	4	1	1	-2	-7	-12	-14	-14	-14.
430	-18	-22	-24	-24	-21	-16	-10	-1	9	8.
440	26	32	37	36	35	32	29	25	25	25.
450	23	25	19	12	4	-3	-8	-12	-12	-12.
460	-14	-12	-8	-3	3	9	15	24	34	34.
470	44	54	64	73	84	94	104	117	131	142.

STATION = SAKAIMINATO-JI-S  
 TOTAL NUMBER OF DATA = 30000  
 SCAL = 0.10000

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
480	150	153	150	150	150	150	150	150	150	150.
490	-225	-285	-104	-104	-104	-104	-104	-104	-104	-104.
500	-189	-169	174	174	174	174	174	174	174	174.
510	169	165	165	165	165	165	165	165	165	165.
520	-226	-196	-142	-142	-142	-142	-142	-142	-142	-142.
530	-83	66	48	48	48	48	48	48	48	48.
540	16	20	18	18	18	18	18	18	18	18.
550	19	50	86	86	86	86	86	86	86	86.
560	90	64	41	41	41	41	41	41	41	41.
570	-65	-31	10	54	85	103	109	105	92	95.
580	27	-16	-63	-103	-145	-162	-166	-152	-110	-62.
590	14	14	14	14	14	14	14	14	14	14.
600	-19	18	13	13	13	13	13	13	13	13.
610	107	102	86	86	86	86	86	86	86	86.
620	-163	-156	-134	-134	-134	-134	-134	-134	-134	-134.
630	71	73	71	73	71	73	71	73	71	71.
640	7	12	25	46	68	66	97	100	89	88.
650	41	13	13	13	13	13	13	13	13	13.
660	-130	-108	-80	-80	-80	-80	-80	-80	-80	-80.
670	-29	-27	-13	-13	-13	-13	-13	-13	-13	-13.
680	18	7	2	2	2	2	2	2	2	2.
690	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6.
700	-22	-18	-9	-9	-9	-9	-9	-9	-9	-9.
710	73	69	58	41	39	37	35	33	31	30.
720	-60	-58	-51	-51	-51	-51	-51	-51	-51	-51.
730	8	5	2	4	4	4	4	4	4	4.
740	46	49	49	49	49	49	49	49	49	49.
750	31	31	31	31	31	31	31	31	31	31.
760	-30	-34	-33	-33	-33	-33	-33	-33	-33	-33.
770	6	3	-1	-1	-1	-1	-1	-1	-1	-1.
780	-86	-93	-97	-97	-97	-97	-97	-97	-97	-97.
790	-7	1	1	1	1	1	1	1	1	1.
800	24	35	47	60	73	84	92	96	95	93.
810	87	78	67	55	41	27	13	-3	-20	-35.
820	-47	-56	-62	-66	-64	-64	-64	-64	-64	-64.
830	36	52	68	81	92	98	103	106	108	107.
840	103	97	88	73	52	27	2	2	2	2.
850	-62	-69	-76	-84	-94	-104	-115	-129	-141	-145.
860	-147	-146	-146	-146	-146	-146	-146	-146	-146	-146.
870	-4	13	25	36	41	41	41	41	39	32.
880	13	5	-3	-3	-3	-3	-3	-3	-3	-3.
890	-53	-47	-47	-47	-47	-47	-47	-47	-47	-47.
900	57	69	80	89	96	103	106	108	99	92.
910	82	66	50	38	28	19	9	0	-8	-16.
920	-11	-11	-11	-11	-11	-11	-11	-11	-11	-11.
930	5	11	11	11	11	11	11	11	11	11.
940	61	59	57	56	55	52	51	50	47	42.
950	35	25	17	8	6	-2	-12	-21	-31	-49.
960	-58	-64	-64	-67	-67	-67	-67	-67	-67	-67.
970	4	2	5	2	5	2	5	2	5	2.
980	-27	-26	-26	-26	-26	-26	-26	-26	-26	-26.
990	32	35	37	38	35	37	38	35	31	31.

CONTINUED

TO BE CONTINUED

CONTINUED ( S-2248 )									
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )
1000	0	-4	-5	-7	-8	-9	-8	-8	-11
1010	-13	-15	-18	-20	-21	-19	-16	-11	-2
1020	22	33	42	48	56	63	71	58	37
1030	80	81	80	79	77	71	58	37	11
1040	-48	-75	-100	-122	-136	-143	-142	-139	-132
1050	-111	-101	-89	-76	-65	-57	-49	-42	-34
1060	-28	-27	-22	-17	-12	-8	-3	-1	6
1070	10	18	31	45	61	76	88	96	103
1080	112	108	101	96	90	84	76	69	63
1090	45	32	19	6	-4	-15	-24	-28	-30
1100	-30	-29	-29	-29	-29	-29	-27	-25	-24
1110	-19	-17	-11	-3	4	13	22	29	34
1120	36	37	36	33	30	26	24	22	17
1130	7	2	-6	-17	-17	-11	-11	-6	-1
1140	-87	-92	-96	-92	-95	-93	-89	-84	-78
1150	-60	-54	-48	-43	-37	-33	-30	-24	-15
1160	-2	6	11	14	19	26	31	40	55
1170	87	103	117	128	132	131	130	127	120
1180	116	115	114	110	104	99	92	84	75
1190	66	51	32	12	-1	-15	-26	-33	-42
1200	-56	-58	-58	-56	-54	-50	-47	-44	-41
1210	-38	-40	-43	-43	-48	-42	-47	-56	-64
1220	-83	-84	-86	-86	-89	-92	-96	-100	-102
1230	-105	-101	-96	-96	-98	-96	-92	-88	-84
1240	-31	-25	-17	-6	3	8	11	14	18
1250	18	13	8	5	2	0	2	6	12
1260	17	22	24	25	26	29	31	32	36
1270	40	43	48	53	57	60	63	66	71
1280	81	85	88	87	86	85	83	82	82
1290	80	77	71	67	63	58	53	50	51
1300	49	49	48	41	36	32	27	22	17
1310	13	10	4	0	-6	-16	-26	-50	-63
1320	-74	-81	-82	-82	-73	-68	-64	-61	-59
1330	-53	-53	-54	-56	-57	-55	-53	-50	-49
1340	-41	-36	-29	-12	-5	-2	-1	2	4
1350	4	0	-5	-9	-12	-20	-18	-15	-12
1360	-8	-3	-1	0	5	11	13	16	20
1370	22	21	26	24	24	21	16	10	11
1380	10	5	0	-8	-10	-11	-10	-10	-9
1390	-12	-18	-26	-31	-39	-48	-60	-71	-84
1400	-107	-117	-125	-129	-130	-127	-119	-107	-96
1410	-73	-58	-43	-25	-7	7	26	48	68
1420	93	102	111	115	116	117	114	109	105
1430	86	75	66	55	41	27	16	8	2
1440	-4	-2	5	14	25	34	40	46	51
1450	65	71	77	83	96	103	105	106	105
1460	104	105	107	105	101	98	94	89	82
1470	63	50	39	34	42	22	14	-48	-60
1480	-77	-85	-92	-97	-100	-98	-94	-91	-86
1490	-76	-77	-75	-75	-77	-82	-87	-91	-94
1500	-94	-92	-92	-95	-95	-95	-87	-89	-87
1510	-73	-63	-63	-65	-59	-59	-51	-40	-32

CONTINUED ( S-2248 )									
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )
1000	0	-4	-5	-7	-8	-9	-8	-8	-11
1010	-13	-15	-18	-20	-21	-19	-16	-11	-2
1020	22	33	42	48	56	63	71	58	37
1030	80	81	80	79	77	71	58	37	11
1040	-48	-75	-100	-122	-136	-143	-142	-139	-132
1050	-111	-101	-89	-76	-65	-57	-49	-42	-34
1060	-28	-27	-22	-17	-12	-8	-3	-1	6
1070	10	18	31	45	61	76	88	96	103
1080	112	108	101	96	90	84	76	69	63
1090	45	32	19	6	-4	-15	-24	-28	-30
1100	-30	-29	-29	-29	-29	-29	-27	-25	-24
1110	-19	-17	-11	-3	4	13	22	29	34
1120	36	37	36	33	30	26	24	22	17
1130	7	2	-6	-17	-17	-11	-6	-1	6
1140	-87	-92	-96	-92	-95	-93	-89	-84	-78
1150	-60	-54	-48	-43	-37	-33	-30	-24	-15
1160	-2	6	11	14	19	26	31	40	55
1170	87	103	117	128	132	131	130	127	120
1180	116	115	114	110	104	99	92	84	75
1190	66	51	32	12	-1	-15	-26	-33	-42
1200	-56	-58	-58	-56	-54	-50	-47	-44	-41
1210	-38	-40	-43	-43	-48	-42	-47	-56	-64
1220	-83	-84	-86	-86	-89	-92	-96	-100	-102
1230	-105	-101	-96	-96	-98	-96	-92	-88	-84
1240	-31	-25	-17	-6	3	8	11	14	18
1250	18	13	8	5	2	0	2	6	12
1260	17	22	24	25	26	29	31	32	36
1270	40	43	48	53	57	60	63	66	71
1280	81	85	88	87	86	85	83	82	82
1290	80	77	71	67	63	58	53	50	51
1300	49	49	48	41	36	32	27	22	17
1310	13	10	4	0	-6	-16	-26	-50	-63
1320	-74	-81	-82	-82	-73	-68	-64	-61	-59
1330	-53	-53	-54	-56	-57	-55	-53	-50	-49
1340	-41	-36	-29	-12	-5	-2	-1	2	4
1350	4	0	-5	-9	-12	-20	-18	-15	-12
1360	-8	-3	-1	0	5	11	13	16	20
1370	22	21	26	24	24	21	16	11	14
1380	10	5	0	-8	-10	-11	-10	-10	-9
1390	-12	-18	-26	-31	-39	-48	-60	-71	-84
1400	-107	-117	-125	-129	-130	-127	-119	-107	-96
1410	-73	-58	-43	-25	-7	7	26	48	68
1420	93	102	111	115	116	117	114	109	105
1430	86	75	66	55	41	27	16	8	2
1440	-4	-2	5	14	25	34	40	46	51
1450	65	71	77	83	96	103	105	106	105
1460	104	105	107	105	101	98	94	89	82
1470	63	50	39	34	42	22	14	-48	-60
1480	-77	-85	-92	-97	-100	-98	-94	-91	-86
1490	-76	-77	-75	-75	-77	-77	-82	-87	-81
1500	-94	-92	-92	-95	-95	-95	-94	-91	-89
1510	-73	-63	-63	-65	-59	-59	-51	-40	-32

TO BE CONTINUED

TO BE CONTINUED

## CONTINUED ( S-2248 )

NORTH )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
2040	43	41	39	37	35	33	32	29	29	29
2050	31	34	36	38	39	40	39	38	37	37
2060	35	34	33	33	32	30	29	28	25	22
2070	19	16	12	8	4	0	-5	-10	-14	-16
2080	-17	-20	-20	-19	-21	-23	-25	-26	-28	-26
2090	-30	-31	-31	-31	-31	-31	-31	-31	-31	-31
2100	-35	-31	-31	-42	-44	-45	-45	-49	-51	-54
2110	-53	-61	-49	-45	-41	-39	-34	-30	-28	-28
2120	-23	-18	-13	-10	-6	-4	-1	2	5	8
2130	9	12	14	15	15	14	13	11	10	10
2140	12	14	18	21	23	25	24	23	23	23
2150	27	25	22	21	18	15	12	8	5	5
2160	0	-3	-4	-6	-8	-7	-7	-8	-9	-9
2170	-8	-4	-2	-1	-1	1	3	4	5	6
2180	8	11	13	14	16	18	17	17	17	17
2190	15	11	10	10	10	9	8	8	8	8
2200	8	6	6	6	8	12	15	18	20	22
2210	23	25	27	28	26	24	20	17	13	12
2220	8	4	0	-4	-9	-12	-16	-19	-20	-21
2230	-22	-23	-24	-26	-26	-27	-28	-29	-29	-29
2240	-26	-24	-23	-21	-17	-13	-9	-8	-5	-5
2250	-5	-7	-8	-9	-11	-11	-11	-12	-13	-13
2260	-13	-14	-13	-13	-13	-12	-11	-10	-7	-7
2270	-8	-9	-9	-11	-11	-12	-12	-14	-12	-14
2280	-12	-11	-8	-5	-2	1	2	1	3	1
2290	2	3	2	4	6	9	10	11	13	13
2300	18	20	22	22	21	22	22	22	22	22
2310	22	20	15	11	9	8	5	5	6	7
2320	5	5	4	4	5	7	9	9	13	14
2330	11	12	13	14	17	18	19	21	23	23
2340	25	26	27	27	27	25	23	22	21	21
2350	17	15	14	12	10	7	3	0	-3	-5
2360	-8	-11	-14	-17	-20	-25	-28	-31	-34	-34
2370	-34	-35	-37	-39	-40	-41	-41	-43	-43	-43
2380	-41	-40	-38	-36	-34	-32	-31	-30	-29	-28
2390	-27	-25	-25	-22	-17	-15	-14	-14	-14	-14
2400	-14	-13	-10	-8	-5	0	5	10	15	20
2410	24	29	33	37	41	42	43	46	41	41
2420	39	35	30	27	24	21	20	18	16	17
2430	18	18	18	16	13	12	12	12	11	11
2440	11	10	8	7	7	9	10	9	10	10
2450	15	16	16	18	18	19	20	21	21	21
2460	21	21	21	21	21	22	22	21	19	18
2470	16	12	9	6	3	0	-4	-8	-12	-16
2480	-21	-26	-30	-33	-37	-41	-44	-47	-49	-51
2490	-53	-55	-55	-56	-56	-56	-55	-53	-47	-44
2500	-40	-35	-31	-27	-25	-25	-25	-24	-24	-25
2510	-24	-22	-20	-17	-13	-8	-4	0	4	4
2520	6	7	8	8	9	9	9	9	8	8
2530	19	21	23	27	28	26	27	29	29	29
2540	29	28	26	25	23	22	22	22	22	22
2550	29	29	29	30	31	29	29	29	28	28

## CONTINUED ( S-2248 )

NORTH )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
2040	43	41	39	37	35	33	32	29	29	29
2050	31	34	36	38	39	40	39	38	37	37
2060	35	34	33	33	32	30	29	28	25	25
2070	19	16	12	8	4	0	-5	-10	-14	-14
2080	-17	-20	-20	-19	-21	-23	-25	-26	-28	-28
2090	-30	-31	-31	-31	-31	-31	-31	-31	-31	-31
2100	-35	-61	-49	-45	-41	-39	-34	-30	-28	-28
2110	-23	-18	-13	-10	-6	-4	-1	2	5	8
2120	9	12	14	15	15	14	13	11	10	10
2130	12	14	18	21	23	25	24	23	23	23
2140	27	25	22	21	18	15	12	8	5	5
2150	0	-3	-4	-6	-8	-7	-7	-8	-9	-9
2160	2170	2180	2190	2200	2210	2220	2230	2240	2250	2260
2170	-8	-4	-2	-1	1	3	4	5	6	7
2180	11	13	14	16	18	17	17	17	17	17
2190	15	11	10	10	9	8	8	8	8	8
2200	8	6	6	6	8	12	15	18	20	22
2210	23	25	27	28	26	24	20	17	13	12
2220	8	4	0	-4	-9	-12	-16	-19	-20	-21
2230	-22	-23	-24	-26	-26	-27	-28	-29	-29	-29
2240	-26	-24	-23	-21	-17	-13	-9	-8	-5	-5
2250	-5	-7	-8	-9	-11	-11	-11	-12	-11	-11
2260	-13	-14	-13	-13	-13	-12	-11	-10	-7	-7
2270	-8	-9	-9	-11	-11	-12	-12	-14	-12	-12
2280	-12	-11	-8	-5	-2	1	2	1	3	1
2290	2	3	2	4	6	9	10	11	13	13
2300	18	20	22	22	21	22	22	22	22	22
2310	22	20	15	11	9	8	5	5	6	7
2320	5	5	4	4	5	7	9	9	13	14
2330	11	12	13	14	17	18	19	21	23	23
2340	25	26	27	27	27	25	23	22	21	21
2350	17	15	14	12	10	7	3	0	-3	-5
2360	-8	-11	-14	-17	-20	-25	-28	-31	-34	-34
2370	-34	-35	-37	-39	-40	-41	-41	-43	-43	-43
2380	-41	-40	-38	-36	-34	-32	-31	-30	-28	-28
2390	-27	-25	-25	-22	-17	-15	-14	-14	-14	-14
2400	-14	-13	-10	-8	-5	0	5	10	15	20
2410	24	29	33	37	41	42	43	46	41	41
2420	39	35	30	27	24	21	20	18	16	17
2430	18	18	18	16	13	12	12	12	11	11
2440	11	10	8	7	7	9	10	9	8	8
2450	15	16	16	18	18	19	20	21	21	21
2460	21	21	21	21	21	22	22	21	19	18
2470	16	12	9	6	3	0	-4	-8	-12	-16
2480	-21	-26	-30	-33	-37	-41	-44	-47	-51	-51
2490	-53	-55	-55	-56	-56	-56	-55	-47	-44	-44
2500	-40	-35	-31	-27	-25	-25	-25	-24	-24	-25
2510	-24	-22	-20	-17	-13	-8	-4	0	4	4
2520	6	7	8	8	9	9	9	9	8	8
2530	19	21	23	27	28	26	27	29	29	29
2540	29	28	26	25	23	22	22	22	22	22
2550	29	29	29	29	30	31	30	29	29	29

END

TO BE CONTINUED

RECORD = S-2248    COMPONENT = EAST  
 DATE AND TIME = 1969-10-27- 7-41  
 AMPLIFYING INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 3000, 3000,  
 NO. ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 ) ( 8 ) ( 9 ) ( 10 )

STATION = SAKAININATO-JI-S  
 TOTAL NUMBER OF DATA = 30000  
 SCALE = 0.10000

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
0	-3	-2	-2	-2	0	0	1	2	2	2
10	0	10	2	2	2	2	3	3	3	3
20	3	2	2	2	2	1	1	1	1	1
30	1	1	1	2	2	3	3	3	3	3
40	4	2	2	2	3	4	4	4	4	4
50	5	4	4	4	4	4	4	4	4	4
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TO BE CONTINUED

TO BE CONTINUED

## CONTINUED( S-2248 EAST )

## CONTINUED( S-2248 EAST )

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TO BE CONTINUED

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420	-88	-62	-27	10	53	113	115	105	76	76
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1140	257	141	-122	-226	-258	-302	-270	-262	-259	-250	1660	-141	-144	-176	-169	-91	-11	109	11	109	109
1150	-180	-141	-88	-42	-229	-3	27	36	47	50	1670	417	491	526	581	599	583	392	171	39	39
1160	56	66	70	77	74	68	68	51	36	36	1680	-219	-292	-521	-576	-577	-577	-394	-183	19	238
1170	-22	-51	-88	-114	-99	-50	-50	-23	61	61	1690	425	476	455	389	312	-236	-550	-635	-673	-673
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1190	-375	-238	51	370	565	633	625	523	433	433	1710	293	331	350	389	423	430	446	446	415	289
1200	324	114	-251	-544	-624	-585	-508	-390	-248	-248	1720	94	-40	-40	-161	-321	-398	-452	-399	-300	-186
1210	-75	163	317	353	318	212	206	98	18	-21	1730	163	265	326	328	248	99	558	558	160	-374
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1230	-115	-199	-238	-240	-213	-185	-158	-134	-120	-130	1750	172	62	-132	-346	-422	-410	-476	-441	-363	-186
1240	-183	-246	-282	-278	-248	-206	-129	-89	-14	150	1760	-13	149	195	239	214	143	4	-81	-110	-83
1250	349	413	439	440	348	325	232	93	-50	-181	1770	12	70	147	214	300	331	312	243	137	50
1260	-313	-385	-370	-326	-146	96	285	400	418	503	1780	-170	-273	-395	-411	-378	-307	-161	-38	121	204
1270	487	407	279	145	-168	-312	-457	-536	-536	-536	1790	293	303	287	228	143	36	-107	-376	-432	-432
1280	-576	-539	-485	-326	-189	-189	-317	321	499	616	1800	-470	-454	-395	-281	-86	78	281	364	455	466
1290	686	732	736	710	641	536	396	146	-108	-348	1810	430	328	174	64	-111	-115	-190	-197	-214	-214
1300	-535	-124	-916	-839	-246	-282	-278	-248	-277	-456	1820	-255	-255	-255	-255	-283	-283	-224	-224	-224	-224
1310	518	413	270	86	-133	-289	-361	-281	-211	-111	1830	169	287	363	436	489	517	489	350	161	-44
1320	-43	-9	-92	-98	-193	-300	-327	-268	-216	-216	1840	-241	-423	-595	-576	-461	-321	-86	187	298	298
1330	-124	56	225	33	361	289	150	37	-137	-283	1850	366	435	351	228	145	-102	-150	-186	-192	-192
1340	-417	-439	-373	-239	-54	227	425	532	544	496	1860	-191	-189	-184	-187	-198	-215	-213	-177	-148	-107
1350	362	100	-118	295	-472	-329	-483	-383	-265	-144	1870	-26	49	94	142	97	203	237	249	251	251
1360	93	307	392	470	517	511	482	449	419	355	1880	228	178	171	61	2	-62	-137	-225	-266	-291
1370	272	150	33	5	-116	-194	-256	-303	-230	-237	1890	-259	-188	-114	-746	19	82	118	107	73	27
1380	-137	-92	-92	-65	-13	6	15	41	41	41	1900	-33	-86	-127	-147	-147	-119	-61	-83	-62	-62
1390	95	168	266	326	425	471	490	480	453	342	1910	145	143	121	100	58	14	-33	-61	-83	-62
1400	140	-125	-288	-367	-346	-442	-96	-20	138	224	1920	-38	6	38	69	78	64	45	1	-34	62
1410	279	257	148	-189	-335	-497	-552	-451	1930	-65	1930	-65	-95	-90	-77	-52	-17	28	55	31	31
1420	-315	-150	56	206	270	273	241	175	101	24	1940	-4	-48	-96	-133	-108	-47	32	70	130	182
1430	-51	-145	-269	-358	-403	-382	-278	-126	11	120	1950	194	160	94	17	-56	-150	-203	-252	-243	-191
1440	264	379	439	481	522	537	522	505	495	495	1950	-89	5	44	82	138	162	197	192	151	121
1450	473	450	406	338	234	361	289	73	-128	-318	698	1910	78	-106	-193	-233	-281	-255	-191	-141	-141
1460	-901	-935	-864	-864	-616	-446	-255	-89	622	491	504	1920	-106	-64	-36	-16	-5	-9	-4	-49	62
1470	12	94	198	278	323	378	435	491	591	473	655	1930	98	101	136	152	162	139	76	-20	-242
1480	657	678	673	655	591	473	277	100	-15	-73	2000	-338	-361	-313	-217	-104	73	222	347	413	434
1490	-98	-80	-60	-32	-17	-17	-17	-17	-17	-216	405	326	201	28	-194	-330	-384	-372	-328	-298	-298
1500	-568	-744	-826	-848	-812	-629	-444	-248	-43	81	284	266	254	243	-166	-117	-35	40	100	163	236
1510	139	215	284	310	294	291	284	266	254	243	2030	206	167	126	80	23	-61	-138	-189	-230	-238

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-2255 EAST )												CONTINUED ( S-2255 EAST )											
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )		
2040	-208	-162	-96	-55	-16	15	27	38	45	62	2560	-65	-43	0	28	48	72	81	70	63	56		
2050	75	85	102	129	158	176	168	125	54	59	2570	44	18	-13	-33	-47	-62	-66	-70	-54	-47		
2060	-188	-300	-361	-348	-303	-223	-143	-74	11	95	2580	-38	-33	-5	-4	9	13	4	4	4	4		
2070	124	117	69	10	-37	-77	-72	-12	40	63	2590	-11	-15	-7	16	26	31	40	45	45	41		
2080	122	158	190	192	173	158	148	143	141	141	2600	4	-12	-38	-60	-16	5	38	76	109	173		
2090	87	118	81	49	105	-65	-167	-236	-296	-233	2610	181	171	153	120	82	26	-44	-114	-121	-50		
2100	-238	-167	-95	-27	27	73	115	111	51	35	2620	32	93	141	180	184	137	90	-15	-112	-158		
2110	-104	-134	-120	-176	-14	40	102	194	239	237	2630	-185	-159	-90	-25	28	65	107	117	95	60		
2120	168	83	-15	-106	-172	-218	-228	-206	-153	-206	2640	23	-18	-58	-48	-24	31	8	31	8	8		
2130	-24	16	56	112	142	139	105	66	25	-19	2650	-20	-72	-120	-148	-135	-85	-15	36	72	112		
2140	-66	-98	-90	-58	-31	0	30	38	20	0	2660	171	201	179	116	24	-239	-233	-211	-148	-148		
2150	-26	-56	-75	-82	-95	-91	-82	-45	-14	-45	2670	-43	59	95	125	134	125	110	78	32	1		
2160	11	30	48	64	82	65	51	44	17	-5	2680	-15	-11	-1	6	4	-7	-21	-30	-36	-39		
2170	-9	-10	-9	-10	-23	-3	-85	-108	-130	-146	2690	-37	-18	15	61	84	122	160	189	191	157		
2180	-178	-236	-236	-236	-236	-190	-150	-101	-37	9	2700	106	56	7	45	-99	-134	-153	-147	-122	-94		
2190	93	118	131	125	114	95	93	53	9	-19	2710	-62	-20	12	35	47	42	32	20	9	14		
2200	-25	12	45	149	149	101	129	150	132	105	2720	27	40	60	60	78	94	100	99	91	74		
2210	16	-72	-114	-149	-175	-184	-167	-156	-131	-117	2730	5	-25	-60	-74	-70	-68	-68	-64	-65	-64		
2220	-105	-104	-96	-81	-48	-79	19	21	56	84	2740	-65	-48	-25	10	38	53	61	63	56	44		
2230	136	118	107	89	75	62	72	103	130	130	2750	32	10	-17	-42	-48	-8	16	26	49	68		
2240	146	155	142	99	45	-24	-136	-206	-230	-206	2760	91	116	127	128	114	83	43	-21	-60	-91		
2250	-157	-122	-77	-1	-1	-96	-63	-27	-1	9	2770	-131	-168	-195	-171	-152	-130	-111	-81	-37	2		
2260	-139	-61	-160	-30	-96	-63	-27	-1	9	10	2780	37	68	98	100	76	56	15	2	-15	-37		
2270	11	10	6	6	4	3	10	29	52	71	2790	-60	-36	-25	-8	21	46	58	64	63	54		
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2310	-17	10	22	17	-1	-2	-29	-83	-124	-116	2830	37	54	57	58	65	69	84	97	116	116		
2320	-14	45	102	165	259	285	319	305	243	156	2840	113	106	103	95	91	88	89	95	99	93		
2330	17	-41	-270	-310	-284	-180	-40	-87	-87	-87	2850	74	28	-9	-45	-87	-138	-185	-180	-150	-119		
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2350	-9	28	68	80	73	59	66	111	160	190	2870	-94	-93	-65	-32	10	1	37	68	73	68		
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2370	-222	-249	-208	-169	-153	-106	-42	-8	-13	37	2890	30	22	18	32	68	94	109	125	120	99		
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2390	-190	-209	-162	-125	-104	-59	1	41	42	29	2910	86	124	132	105	71	35	-53	-159	-201	-193		
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2410	52	-94	-139	-168	-145	-90	-30	38	185	185	2930	56	101	141	184	213	229	149	103	11	11		
2420	199	243	228	182	120	50	-56	-126	-173	-168	2940	-51	-115	-143	-138	-127	-109	-83	-61	-53	-53		
2430	-129	-99	-49	4	49	68	80	94	96	89	2950	-69	-81	-86	-83	-78	-72	-76	-77	-77	-77		
2440	79	70	66	67	66	61	51	32	19	9	2960	-78	-74	-51	0	55	103	146	171	185	158		
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2460	-123	-156	-189	-203	-152	-116	-64	-14	18	2980	21	58	81	78	78	63	-21	-35	-39	-62			
2470	44	65	84	91	90	90	92	97	97	97	2990	-64	-40	-28	-25	-41	-47	-50	-56	-44	-47		
2480	103	112	117	120	118	67	4	-80	-128	-128	3000	-35	-8	-6	15	15	3	-5	-15	-55	-55		
2490	-143	-139	-113	-67	-1	-111	-93	-34	-43	126	3010	-55	-46	-29	-5	6	19	26	26	21	3		
2500	136	92	5	-72	-111	-113	-134	-149	126	195	3020	-6	-18	-32	-47	-54	-53	-42	-36	-34	-22		
2510	207	251	125	18	-102	-242	-216	-175	-175	-175	3030	-18	-9	-10	-12	-14	-14	-14	-12	-12	-12		
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2530	-140	-101	-111	48	89	124	141	123	90	23	3050	-45	-21	-12	-28	-41	-53	-62	-61	-54	-54		
2540	-67	-125	-145	-158	-90	36	110	131	-103	-66	3060	-52	-47	-43	-44	-50	-24	-1	38	-85	-85		
2550	135	120	67	23	-27	-70	-103	-101	-66	-24	3070	128	175	213	208	208	109	35	-43	-104	-134		

TO BE CONTINUED

CONTINUED S-2255 EAST )										)
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3080	-142	-100	-44	11	60	92	111	109	93	67
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3100	-30	-37	-28	-18	-15	-1	15	28	34	27
3110	13	-3	-19	-27	-25	-11	4	18	31	42
3120	47	50	46	36	26	17	9	-6	-19	-24
3130	-22	-17	-11	-4	3	8	11	16	16	13
3140	13	15	18	21	24	25	23	18	6	-3
3150	-18	-31	-42	-27	-9	11	35	55	75	85
3160	89	76	58	27	15	19	56	83	95	93
3170	98	106	90	51	22	-21	-58	-95	-66	-66
3180	-33	20	52	70	73	55	15	-10	-13	-70
3190	-73	-52	-25	38	72	105	137	128	113	93
3200	72	44	13	-3	-23	-12	-13	-12	-10	-5
3210	-11	-11	-16	-24	-27	-25	-8	8	-3	35
3220	58	95	124	127	113	80	46	4	-31	-47
3230	-36	-22	-7	9	-12	-19	33	34	31	17
3240	6	0	-5	-12	-12	-13	-19	-35	-69	-69
3250	-84	-95	-100	-98	-57	-57	2	36	75	103
3260	187	206	202	175	114	22	-71	-152	-221	-249
3270	-251	-223	-162	-86	-35	10	60	71	64	49
3280	39	29	24	23	16	-2	-31	-64	-79	3800
3290	-101	-132	-149	-131	-94	0	-44	0	37	82
3300	118	120	111	89	64	40	22	12	37	82
3310	16	26	40	56	66	71	72	70	66	57
3320	46	31	12	-12	-39	-57	-76	-88	-82	-82
3330	-69	-53	-36	-19	0	20	39	61	69	65
3340	47	9	-18	-36	-55	-69	-67	-57	-25	5
3350	34	66	94	131	141	133	108	82	83	49
3360	1	-43	-84	-93	-83	-63	-38	-1	28	63
3370	82	92	96	95	87	77	61	43	31	16
3380	-7	-22	-30	-45	-47	-47	-46	-46	-32	-24
3390	-10	4	15	18	12	-1	0	-5	3	0
3400	-6	-20	-27	-43	-57	-72	-82	-76	-71	-53
3410	-21	4	22	62	72	63	46	24	-9	-26
3420	83	80	72	-92	-99	-27	20	38	58	80
3430	-71	-92	-99	-65	-65	-31	-51	-84	-96	-74
3440	106	126	115	90	45	3	-16	-16	-16	-16
3450	-10	27	111	190	207	211	184	116	37	29
3460	-91	-121	-129	-117	-93	-84	-65	-42	-40	-49
3470	-52	-55	-39	-6	17	32	45	64	87	96
3480	77	46	13	-14	-37	-53	-58	-51	-37	-19
3490	-8	4	21	34	37	37	33	29	21	8
3500	-5	-40	-51	-49	-38	-16	-16	25	61	76
3510	85	60	37	-21	-85	-129	-158	-158	-131	-111
3520	-61	7	49	86	115	124	121	112	89	57
3530	37	24	2	-26	-45	-49	-41	-30	-14	4
3540	24	39	41	39	29	1	-13	-27	-39	-45
3550	-41	-37	-36	-31	-30	-27	-24	-13	-12	-13
3560	76	109	140	168	202	197	165	143	96	23
3570	-55	-119	-154	-158	-149	-100	-65	-21	-19	40
3580	58	57	28	13	-3	-22	-40	-59	-61	-40
3590	-45	-27	14	39	67	67	114	126	133	132

TO BE CONTINUED

TO BE CONTINUED

CONTINUED( S-2255 EAST )										CONTINUED( S-2255 EAST )											
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
4120	49	54	47	32	17	-1	-19	-36	-50	-57	4640	18	17	11	4	3	-2	-9	-11	-14	-22
4130	-58	-45	-27	-10	6	21	34	52	65	72	4650	-24	-23	-13	-6	5	-27	-28	-26	13	6
4140	77	81	84	80	75	69	58	43	27	11	4660	-71	-13	-15	-6	14	-21	28	36	39	29
4150	-4	-14	-22	-33	-33	-17	-19	-10	-2	1	4670	-10	-4	-6	6	14	-74	-77	-59	-40	-26
4160	-5	-13	-22	-34	-43	-51	-41	-19	0	13	4680	-18	-40	-61	-6	14	-74	-77	-59	-40	-26
4170	28	40	52	42	22	-1	-23	-43	-52	-54	4690	-27	21	12	4	12	-25	-34	-38	-32	-23
4180	-40	-21	0	21	44	53	54	54	53	53	4700	-15	-3	8	16	17	11	6	-1	-6	-6
4190	52	52	52	52	52	43	33	16	4	-6	4710	-1	3	4	5	3	-2	-14	-29	-46	-64
4200	-19	-22	-26	-19	-15	-3	-11	-9	-14	-28	4720	-76	-74	-62	-52	-37	-16	4	16	-16	-14
4210	-43	-53	-62	-3	-54	-42	-25	-9	3	20	4730	9	4	-2	-8	-16	-23	-22	-18	-15	-16
4220	33	33	26	17	9	4	6	21	25	36	4740	-13	-9	-1	7	7	19	31	42	50	43
4230	42	53	51	36	2	-29	-39	-57	-73	-42	4750	-3	-19	-41	-59	-62	-49	-30	-16	-7	3
4240	-81	-77	-69	-59	-45	-36	-25	-16	-16	-9	4760	15	25	27	27	28	27	24	18	7	-5
4250	-7	5	15	29	43	59	70	75	77	68	4770	-19	-37	-49	-60	-69	-45	-29	-8	-25	-13
4260	48	30	10	16	29	47	64	72	72	4780	43	52	55	51	35	17	-3	-25	-25	-13	
4270	67	44	12	-28	-78	-97	-113	-105	-89	-63	4790	-7	1	12	22	24	23	7	-11	-38	-68
4280	-37	-14	15	46	57	54	44	30	19	11	4800	-70	-49	-49	-25	49	54	53	31	42	50
4290	12	16	17	3	-3	-32	-48	-62	-73	-58	4810	-31	-55	-72	-84	-88	-83	-72	-55	-29	-7
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4320	21	8	-8	-26	-47	-14	-77	-77	-73	-67	4840	-22	9	33	56	80	84	75	49	13	-22
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TO BE CONTINUED

TO BE CONTINUED

## CONTINUED S-2255 EAST )

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 890 -10 6 -22 -30 -30 -30 -41 -41  
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 910 24 -40 -52 -50 -50 -50 -27 -27  
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 970 -40 -36 -22 -16 -16 -16 -19 -19  
 980 27 -1 1 1 1 1 12 -12  
 990 -49 -40 -24 -9 36 -43 -54 -54  
 1000 8 -10 9 10 10 10 72 102 129 152 181

TO BE CONTINUED

TO BE CONTINUED

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NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )		
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1010	-120	-116	-212	-234	-222	-187	-135	-76	-11	65	1530	-35	-52	-64	-66	-68	-62	-36	-7	-7	21		
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1030	-106	-153	-187	-219	-236	-217	-185	-138	-72	8	1550	71	40	9	-26	-79	-136	-147	-131	-104	-61		
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1110	12	-2	-24	-43	-43	-15	15	41	44	1630	-83	-134	-194	-233	-237	-208	-139	-46	16	71			
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1170	-104	-60	0	48	95	134	153	150	98	65	1690	-97	-92	-67	-32	69	95	116	122	113			
1180	7	-66	-111	-149	-185	-189	-166	-148	-127	-60	1700	89	61	34	14	3	-3	20	53	77	97		
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1200	27	52	72	85	88	99	97	79	46	-14	1720	-84	-69	-46	6	54	73	79	58	30			
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1240	9	37	66	95	119	161	199	210	187	144	1760	46	37	46	51	69	87	102	87	56			
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1350	-95	-75	-58	-58	-39	-29	-36	-51	-66	-51	1870	-35	-20	-29	-36	-29	-33	-48	-53	-40	-43		
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1370	158	-109	-186	-222	-250	-216	-214	-180	-141	-84	1890	-1	-42	-92	-121	-112	-89	-68	-33	-7	3		
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1390	355	286	191	30	-49	-46	-225	-255	-227	1910	-5	5	3	6	8	-4	-26	-53	-81	-107			
1400	-181	-108	30	73	89	92	87	70	68	1920	-130	-132	-112	-73	-35	25	67	81	80	68			
1410	59	53	49	52	76	103	128	158	174	193	1930	47	30	12	-9	-21	-33	-47	-60	-68	-53		
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1500	113	183	225	252	276	246	198	135	83	2020	28	24	31	36	41	34	21	3	-16	-30			
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TO BE CONTINUED

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2050	143	107	48	-36	-109	-164	-186	-174	-154	-130	2570	0	-17	-38	-41	-29	-18	-14	-7	13	20
2060	-109	-88	-56	-24	5	50	50	59	60	54	2580	26	41	57	67	73	71	67	50	35	20
2070	49	52	53	50	35	-32	-64	-65	-106	-106	2590	7	3	6	17	22	37	46	55	55	55
2080	-116	-104	-63	-59	-36	-19	-18	-28	-45	-59	2600	80	99	106	124	115	87	44	8	-22	-56
2090	-69	-82	-86	-75	-53	-28	0	32	56	67	2610	-82	-87	-68	-45	-14	10	40	56	60	47
2100	61	42	24	10	-2	-28	-42	-36	-22	-8	2620	32	5	-17	-31	-36	-28	-14	-8	2	4
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2140	73	54	25	-10	-38	-72	-8	-71	-62	-43	2660	-11	-23	-24	-12	-1	7	3	-6	-12	-19
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2280	-41	-56	-67	-74	-71	-45	-12	15	38	52	2810	34	18	0	-23	-43	-60	-60	-56	-10	-10
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2360	-21	-16	-6	-2	6	5	20	19	9	9	2880	-41	-6	-15	-21	-27	-40	-50	-53	-52	-48
2370	-8	-28	-41	-54	-40	-16	7	25	34	24	2890	-41	-33	-26	-14	-2	4	11	18	22	27
2380	22	15	10	14	23	31	35	19	13	-6	2900	32	31	22	5	-12	-24	-36	-51	-61	-66
2390	-10	-15	-30	-41	-40	-27	-26	-18	-7	-7	2910	-57	-42	-10	28	57	69	69	56	37	16
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2430	3	4	4	4	3	2	2	2	2	2	2950	21	32	34	23	13	7	3	-2	10	21
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2470	1	13	24	35	45	51	45	32	18	18	2990	5	-1	-28	-32	-27	-12	-7	5	15	27
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2510	-73	-65	-57	-40	-19	-6	9	29	37	29	3030	-17	-3	7	-12	-25	32	28	10	13	2
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2540	44	54	60	63	54	31	7	-12	-28	-21	3060	48	51	47	35	23	14	10	18	23	33
2550	-19	-8	-15	-18	-6	-6	-15	-18	-6	-6	3070	51	47	27	36	-1	-1	-1	-1	-1	-4

TO BE CONTINUED

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3110	39	31	23	16	9	6	7	10	15
3120	25	27	31	36	42	46	45	36	27
3130	5	-4	-15	-23	-26	-25	-20	-14	-1
3140	15	23	33	44	49	45	33	25	14
3150	-6	-15	-26	-27	-20	-16	-9	-23	-1
3160	32	38	47	55	59	63	66	60	51
3170	22	6	-14	-28	-32	-29	-18	-6	12
3180	31	34	21	-1	-5	-7	1	8	20
3190	41	56	57	48	36	24	11	-6	-19
3200	-26	-41	11	23	39	57	57	53	37
3210	18	17	0	-10	-15	-22	-22	-23	-22
3220	-1	6	8	13	15	16	14	12	15
3230	20	25	30	33	33	21	4	-12	-27
3240	-54	-49	-40	-26	-11	0	15	28	38
3250	55	51	45	37	33	25	19	13	2
3260	-16	-34	-47	-54	-53	-38	-18	0	22
3270	58	75	78	62	41	41	18	-18	-39
3280	-49	-53	-46	-38	-25	-12	-2	3	6
3290	1	5	16	30	34	36	27	13	4
3300	1	4	9	9	8	4	8	0	5
3310	8	12	18	22	23	20	18	16	14
3320	8	2	0	0	0	-2	-4	-1	0
3330	-3	-6	-13	-9	-3	0	3	7	13
3340	28	29	25	19	12	5	2	6	1
3350	21	21	15	8	0	-5	-8	-17	-18
3360	-20	-24	-26	-27	-25	-21	-15	-8	-6
3370	13	19	26	33	38	46	50	38	26
3380	0	-8	-15	-18	-23	-19	-14	-8	-6
3390	-2	2	6	7	7	6	-1	-9	-13
3400	-24	-16	-11	-3	0	3	7	1	1
3410	10	6	0	-6	-6	-3	0	0	1
3420	19	24	30	36	34	27	21	10	5
3430	-17	-21	-30	-26	-26	-19	-9	-3	-5
3440	21	25	28	25	23	28	29	33	36
3450	39	42	39	26	11	-9	-23	-30	-41
3460	-32	2	17	21	34	38	33	19	12
3470	-8	-1	-3	4	12	11	-11	-17	-1
3480	-24	-23	-19	-13	-3	5	12	18	24
3490	33	31	22	12	4	-3	-9	-17	-19
3500	-13	0	13	20	21	26	31	32	26
3510	6	-4	-9	-7	6	11	13	19	26
3520	47	57	60	59	58	51	39	29	20
3530	-5	-7	-1	2	7	15	28	35	30
3540	21	18	11	-7	-2	-5	5	8	7
3550	10	0	-5	-15	-19	-24	-23	-16	-7
3560	23	27	13	7	0	-19	-36	-39	57
3570	-61	-60	-32	-18	12	26	43	55	57
3580	63	55	28	10	9	-6	-15	-14	44
3590	-8	-5	6	13	17	19	28	32	36

CONTINUED ( S-2255 )									
NO.	( 1 )	( 2 )	( 3 )	DOWN	DOWN	NO.	( 1 )	( 2 )	DOWN
3080	-5	-8	-12	-15	-17	-15	-9	0	8
3090	28	51	65	72	75	72	61	45	28
3100	9	-3	-14	-18	-10	0	12	25	36
3110	39	31	23	16	9	6	7	10	15
3120	25	27	31	36	42	46	45	36	27
3130	5	-4	-15	-23	-26	-20	-14	-1	8
3140	15	23	33	44	49	45	33	25	14
3150	-6	-15	-26	-27	-20	-16	-9	-23	-1
3160	32	38	47	55	59	63	66	60	51
3170	22	6	-14	-28	-32	-29	-18	-6	-3
3180	31	34	21	-1	-5	-7	1	8	20
3190	41	56	57	48	36	24	11	-6	-19
3200	-26	-41	11	23	39	57	57	53	37
3210	18	17	0	-10	-15	-22	-22	-23	-22
3220	-1	6	8	13	15	16	14	12	15
3230	20	25	30	33	33	21	4	-12	-27
3240	-54	-49	-40	-26	-11	0	15	28	38
3250	55	51	45	37	33	25	19	13	2
3260	-16	-34	-47	-54	-53	-38	-18	0	22
3270	58	75	78	62	41	41	18	-18	-39
3280	-49	-53	-46	-38	-25	-12	-2	3	6
3290	1	5	16	30	34	36	27	13	4
3300	1	4	9	9	8	4	8	0	5
3310	8	12	18	22	23	20	18	16	14
3320	8	2	0	0	0	-2	-4	-1	0
3330	-3	-6	-13	-9	-3	0	3	7	13
3340	28	29	25	19	12	5	2	6	1
3350	21	21	15	8	0	-5	-8	-17	-18
3360	-20	-24	-26	-27	-25	-21	-15	-8	-6
3370	13	19	26	33	38	46	50	38	26
3380	0	-8	-15	-18	-23	-19	-14	-8	-6
3390	-2	2	6	7	7	6	-1	-9	-13
3400	-24	-16	-11	-3	0	3	7	1	1
3410	10	6	0	-6	-6	-3	0	0	1
3420	19	24	30	36	34	27	21	10	5
3430	-17	-21	-30	-26	-26	-19	-9	-3	-5
3440	21	25	28	25	23	28	29	33	36
3450	39	42	39	26	11	-9	-23	-30	-41
3460	-32	2	17	21	34	38	33	19	12
3470	-8	-1	-3	4	12	11	-11	-17	-1
3480	-24	-23	-19	-13	-3	5	12	18	24
3490	33	31	22	12	4	-3	-9	-17	-19
3500	-13	0	13	20	21	26	31	32	26
3510	6	-4	-9	-7	6	11	13	19	26
3520	47	57	60	59	58	51	39	29	20
3530	-5	-7	-1	2	7	15	28	35	30
3540	21	18	11	-7	-2	-5	5	8	7
3550	10	0	-5	-15	-19	-23	-16	-7	-4
3560	23	27	13	7	0	-19	-36	-39	57
3570	-61	-60	-32	-18	12	26	43	55	57
3580	63	55	28	10	9	-6	-15	-14	44
3590	-8	-5	6	13	17	19	28	32	36

TO BE CONTINUED

CONTINUED ( S-2255 )										CONTINUED ( S-2255 )											
NO.		( 1 )		( 2 )		( 3 )		( 4 )		( 5 )		( 6 )		( 7 )		( 8 )		( 9 )		( 10 )	
4120	39	40	40	40	41	41	41	41	41	37	31	25	22	22	26	-26	-18	-13	-7	-6	-5
4130	16	6	1	0	-1	0	2	6	10	15	4640	4640	4640	4640	4640	4640	-26	-6	-4	-6	-6
4140	19	25	32	38	41	42	39	36	33	22	4650	4650	4650	4650	4650	4650	-6	-17	-19	-20	-17
4150	9	2	-4	-5	-4	-4	-1	0	0	0	4670	4670	4670	4670	4670	4670	-7	-9	-6	-1	-1
4160	1	3	6	7	12	21	25	24	18	18	4680	4680	4680	4680	4680	4680	0	0	-5	-1	-5
4170	10	3	0	2	11	18	22	25	28	28	4690	4690	4690	4690	4690	4690	-30	-19	-14	-5	-14
4180	20	18	14	8	0	-8	-16	-15	-16	-16	4700	4700	4700	4700	4700	4700	0	-7	-14	-29	-28
4190	-7	-15	-7	0	-1	-1	-5	-8	-10	-12	4710	4710	4710	4710	4710	4710	9	15	18	14	-14
4200	-5	14	28	39	41	41	26	15	0	0	4720	4720	4720	4720	4720	4720	-18	-15	-14	-14	-24
4210	-8	-18	-18	-15	0	7	12	21	25	20	4730	4730	4730	4730	4730	4730	-16	-18	-12	-8	-6
4220	20	25	17	7	-1	-4	-3	0	1	9	4740	4740	4740	4740	4740	4740	-7	-9	-16	-24	-22
4230	15	20	21	15	8	4	-2	-6	-7	-7	4750	4750	4750	4750	4750	4750	-8	-13	-16	-16	-10
4240	-5	0	0	2	2	2	1	2	4	4	4760	4760	4760	4760	4760	4760	-1	-5	-8	-14	-15
4250	7	6	-6	-13	-27	-28	-24	-24	-9	11	4770	4770	4770	4770	4770	4770	0	-4	-8	-12	-12
4260	-1	-6	-13	-3	-6	-5	-1	0	0	11	4780	4780	4780	4780	4780	4780	15	15	15	15	15
4270	8	-1	-3	-3	-6	-5	-1	0	3	5	4790	4790	4790	4790	4790	4790	-6	-10	-13	-17	-24
4280	7	4	0	-3	-6	-9	-5	-1	7	7	4800	4800	4800	4800	4800	4800	-9	0	11	15	17
4290	10	13	11	4	-2	-7	-11	-10	-10	-3	4810	4810	4810	4810	4810	4810	-15	-18	-20	-22	-27
4300	1	4	8	10	13	12	6	1	-1	-3	4820	4820	4820	4820	4820	4820	-6	-3	-2	4	4
4310	-2	0	5	10	13	16	15	10	5	-2	4830	4830	4830	4830	4830	4830	-7	-8	-16	-27	-27
4320	-12	-17	-17	-16	-14	-9	-5	-1	3	7	4840	4840	4840	4840	4840	4840	-1	7	13	13	11
4330	11	12	13	12	6	0	-5	-7	-6	-1	4850	4850	4850	4850	4850	4850	-21	-17	-13	3	8
4340	2	6	8	8	4	0	-4	-9	-17	-20	4860	4860	4860	4860	4860	4860	23	22	17	14	5
4350	-19	-19	-17	-14	-10	-7	-5	-5	-1	7	4870	4870	4870	4870	4870	4870	-14	-9	-3	3	8
4360	-2	-5	-10	-12	-7	-7	-7	-7	-21	27	4880	4880	4880	4880	4880	4880	-7	-5	-4	-8	-7
4370	22	13	6	-11	-20	-27	-29	-27	-29	-29	4890	4890	4890	4890	4890	4890	-27	-16	-16	-27	-27
4380	-26	-26	-29	-32	-33	-34	-35	-35	-35	-35	4900	4900	4900	4900	4900	4900	-3	-1	-5	-7	-9
4390	-12	-5	3	1	16	15	6	-5	-17	-21	4910	4910	4910	4910	4910	4910	-6	-3	1	4	4
4400	-30	-21	-21	-15	-5	2	8	12	11	2	4920	4920	4920	4920	4920	4920	4	9	11	13	14
4410	-4	-4	-17	-14	-10	-7	-5	-4	-4	-4	4930	4930	4930	4930	4930	4930	-10	-16	-16	-15	-12
4420	-12	-18	-23	-36	-34	-36	-32	-32	-32	-32	4940	4940	4940	4940	4940	4940	-11	-13	-11	-11	-8
4430	-7	-6	-6	-6	-14	-16	-16	-16	-16	-14	4950	4950	4950	4950	4950	4950	-6	-6	-6	-6	-5
4440	-9	-8	-4	-4	0	1	2	2	3	1	4960	4960	4960	4960	4960	4960	-11	-7	3	1	2
4450	-6	-8	-17	-27	-27	-27	-18	-18	-17	-13	4970	4970	4970	4970	4970	4970	14	10	8	8	7
4460	-5	-7	-10	-18	-15	-30	-31	-34	-35	-33	4980	4980	4980	4980	4980	4980	-1	5	8	7	3
4470	-18	-16	-13	-8	-5	-3	1	0	0	-1	4990	4990	4990	4990	4990	4990	12	8	4	2	2
4480	-7	-8	-12	-14	-15	-15	-15	-15	-15	-12	5000	5000	5000	5000	5000	5000	-11	-13	-11	-11	-8
4490	-20	-26	-36	-44	-44	-44	-44	-44	-44	-38	5010	5010	5010	5010	5010	5010	-8	3	5	5	5
4500	6	18	26	27	25	17	8	2	2	3	5020	5020	5020	5020	5020	5020	11	11	12	14	16
4510	-22	-27	-29	-29	-22	-11	-5	0	4	7	5030	5030	5030	5030	5030	5030	-4	-7	-4	1	1
4520	7	4	-2	-10	-19	-21	-21	-16	-7	-16	5040	5040	5040	5040	5040	5040	13	14	10	8	7
4530	7	21	27	17	5	-24	-4	-13	-13	-13	5050	5050	5050	5050	5050	5050	26	23	18	17	12
4540	-21	-11	-22	-16	-16	-16	-8	3	3	9	5060	5060	5060	5060	5060	5060	-7	-15	-20	20	15
4550	-23	-8	-31	-27	-31	-33	-33	-33	-33	-33	5070	5070	5070	5070	5070	5070	18	12	14	16	17
4560	4	-3	-32	-28	-23	-19	-19	-19	-19	-19	5080	5080	5080	5080	5080	5080	-11	12	14	15	15
4570	-32	-31	-28	-23	-19	-18	-18	-18	-18	-18	5090	5090	5090	5090	5090	5090	13	18	22	23	23
4580	-6	-7	-14	-14	-14	-14	-14	-14	-14	-14	5100	5100	5100	5100	5100	5100	-25	-14	-3	4	1
4590	-14	-8	-6	-6	-6	-6	-6	-6	-6	-9	5110	5110	5110	5110	5110	5110	32	23	15	5	1
4600	-24	-19	-8	-5	-5	-5	-5	-5	-5	-12	5120	5120	5120	5120	5120	5120	-7	-6	-6	-7	-7
4610	23	13	2	-6	-6	-26	-26	-26	-26	-26	5130	5130	5130	5130	5130	5130	13	15	15	15	15
4620	0	8	8	0	-1	-6	-6	-6	-6	-6	5140	5140	5140	5140	5140	5140	1	0	0	0	0
4630	-15	1	8	2	-1	-15	-15	-15	-15	-15	5150	5150	5150	5150	5150	5150	14	14	14	14	14

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-2255 ) DOWN )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
5160	-7	-6	-5	0	5	9	11	12	5	0
5170	-1	3	6	8	10	8	4	0	-4	5680
5180	-7	0	10	17	24	30	34	36	33	-32
5190	23	14	9	3	6	7	7	8	7	5690
5200	9	10	11	12	10	7	7	10	13	-10
5210	13	13	14	7	0	-4	-7	-8	-8	-10
5220	-6	0	7	11	12	13	15	6	1	-10
5230	-1	-2	1	2	7	11	12	13	11	-10
5240	3	-1	-6	-14	-19	-7	-6	-6	-7	-10
5250	4	13	7	-6	-9	-17	-23	-31	-29	-17
5260	-17	-12	-5	-1	-5	9	16	14	9	-17
5270	6	-1	-5	-3	-7	-6	-5	-8	-10	-12
5280	-8	-7	-6	-4	-3	0	0	0	1	-12
5290	3	7	2	-3	-9	-10	-14	-13	-12	-10
5300	10	17	19	20	21	20	17	11	5	-10
5310	-6	-13	-4	-1	-1	2	0	0	-7	-10
5320	-8	-7	-5	-7	-12	-15	-15	-12	-15	-10
5330	-2	0	0	0	-2	-6	-8	-8	-9	-10
5340	-7	-2	0	1	5	8	8	1	-5	-10
5350	-9	-7	-3	0	2	5	7	6	5	-10
5360	0	-4	-11	-13	-12	-10	-7	-4	0	-10
5370	5	7	4	3	4	5	6	4	3	-10
5380	2	1	0	-3	-4	-7	-13	-14	-16	-10
5390	-18	-16	-16	-11	-7	0	-2	3	9	-10
5400	3	-6	-8	-15	-19	-19	-17	-19	-10	-10
5410	-8	-6	-5	-1	-1	0	1	1	1	-10
5420	1	1	2	1	1	0	-4	-6	-8	-10
5430	-15	-17	-18	-19	-18	-15	-8	-8	-8	-10
5440	-11	-8	-7	-4	-1	-11	0	1	1	-10
5450	-2	-6	-7	-11	-11	-9	-9	-8	-7	-10
5460	-4	-5	-6	-9	-15	-17	-18	-12	-6	-10
5470	1	2	5	1	-6	-1	-1	-20	-25	-10
5480	-18	-14	-5	-2	0	0	1	2	2	-10
5490	-6	-6	-10	-15	-12	-16	-16	-17	-15	-10
5500	-7	-5	-4	-2	-2	-1	-1	-1	-1	-10
5510	-12	-18	-23	-23	-31	-31	-32	-32	-32	-10
5520	-17	-15	-12	-9	-8	-10	-15	-17	-18	-10
5530	-20	-21	-21	-21	-24	-27	-27	-27	-27	-10
5540	-28	-25	-22	-12	-6	-5	-3	-1	-1	-10
5550	-6	-1	-14	-14	-13	-13	-13	-13	-15	-10
5560	-21	-22	-25	-25	-28	-31	-32	-32	-32	-10
5570	-39	-38	-30	-22	-18	-10	-6	-4	-3	-10
5580	-3	-7	-9	-16	-28	-33	-33	-33	-29	-10
5590	-20	-8	-18	-18	-18	-18	-18	-18	-27	-10
5600	-27	-18	-9	0	8	1	0	-4	-16	-10
5610	-42	-39	-33	-27	-17	-8	-7	-6	-8	-10
5620	-24	-31	-36	-34	-33	-33	-24	-15	-9	-10
5630	-6	-7	-9	-18	-25	-26	-33	-19	-18	-10
5640	-11	-8	-9	-18	-18	-21	-21	-21	-21	-10
5650	-23	-14	-7	-7	-7	-4	-1	0	2	-10
5660	-9	-16	-23	-30	-33	-34	-32	-28	-24	-10
5670	-15	-7	-7	-17	-18	-18	-17	-15	-22	-10

CONTINUED ( S-2255 ) DOWN )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
5680	-32	-32	-32	-32	-32	-32	-32	-32	-32	-32
5690	-12	-10	-8	-8	-8	-8	-8	-8	-8	-8
5700	-16	-18	-16	-16	-16	-16	-16	-16	-16	-16
5710	-13	-13	-16	-16	-16	-16	-16	-16	-16	-16
5720	-13	-11	-4	-2	-9	-13	-13	-13	-13	-13
5730	-8	-7	-4	-4	-4	-4	-4	-4	-4	-4
5740	0	-2	-12	-22	-28	-30	-30	-30	-30	-30
5750	-20	-19	-19	-19	-19	-19	-19	-19	-19	-19
5760	-7	-7	-8	-9	-9	-9	-9	-9	-9	-9
5770	-36	-33	-28	-25	-24	-22	-22	-22	-22	-22
5780	-28	-28	-24	-18	-15	-11	-11	-11	-11	-11
5790	-26	-28	-29	-29	-29	-30	-30	-30	-30	-30
5800	-19	-16	-14	-9	-7	-12	-14	-15	-16	-16
5810	-16	-16	-17	-17	-17	-17	-17	-17	-17	-17
5820	-21	-20	-16	-16	-16	-16	-16	-16	-16	-16
5830	-14	-17	-17	-17	-17	-17	-17	-17	-17	-17
5840	-13	-13	-19	-19	-19	-19	-19	-19	-19	-19
5850	-19	-17	-12	-8	-7	-7	-7	-7	-7	-7
5860	-18	-21	-19	-19	-19	-19	-19	-19	-19	-19
5870	-4	-3	-3	-3	-3	-3	-3	-3	-3	-3
5880	-27	-28	-28	-28	-28	-28	-28	-28	-28	-28
5890	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
5900	-19	-19	-19	-19	-19	-19	-19	-19	-19	-19
5910	-6	-5	-5	-5	-5	-5	-5	-5	-5	-5
5920	-11	-7	-7	-7	-7	-7	-7	-7	-7	-7
5930	-3	-1	-1	-1	-1	-1	-1	-1	-1	-1
5940	-12	-8	-8	-8	-8	-8	-8	-8	-8	-8
5950	-5	-6	-6	-6	-6	-6	-6	-6	-6	-6
5960	-10	-7	-7	-7	-7	-7	-7	-7	-7	-7
5970	-7	-6	-6	-6	-6	-6	-6	-6	-6	-6
5980	-20	-17	-14	-14	-14	-14	-14	-14	-14	-14
5990	-19	-21	-21	-21	-21	-21	-21	-21	-21	-21

END

TO BE CONTINUED

RECORD = S-2261 COMPONENT = NORTH  
 DATE AND TIME = 1959-11-2-3-5  
 AMPLING INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 3008, 5550, 5950,  
 NO. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)  
 STATION # HACHINOHE JI-S  
 TOTAL NUMBER OF DATA = 5950  
 SCAL = 0.10000

										CONTINUED (S-2261)										NORTH									
NO.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)									
0	-19	-19	-20	-20	-20	-20	-20	-20	-20	-20	480	-10	-16	-27	-33	-43	-40	-29	-14	4									
10	-19	-19	-19	-18	-16	-15	-14	-11	-8	-5	490	-17	-24	-28	-31	-32	-29	-15	-19	-35									
20	-1	-1	2	7	12	13	14	7	-2	-27	500	-17	-7	-7	-1	-4	-12	-24	-2	-3									
30	-11	-20	-29	-37	-43	-41	-36	-31	-27	-27	510	-1	10	-1	-1	-4	-12	-24	0	-20									
40	-23	-25	-28	-30	-31	-31	-23	-9	-7	24	520	-17	-7	-7	-1	-4	-12	-24	0	-19									
50	38	32	17	2	-12	-23	-23	-23	-23	-28	530	-17	-7	-7	-1	-4	-12	-24	0	-19									
60	-31	-34	-30	-21	-5	11	25	36	46	47	540	-1	4	-1	-1	-2	-16	-21	-10	0									
70	43	32	19	5	-8	-16	-3	-12	-25	-25	550	-1	4	-1	-1	-2	-16	-21	-10	0									
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( 5 ) ( 6 ) ( 7 ) ( 8 ) ( 9 )

( 10 )

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1010	17	14	8	-7	-29	-55	-89	-115	-104	-60	1530	-28	6	-31	-117	-213	-60	-269	-249	-195	-195
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1030	82	80	77	72	70	69	70	67	58	45	1550	177	171	142	-29	-122	-129	-233	-227	-185	-185
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1080	-30	-42	-49	-43	-35	-31	-31	-63	-77	-77	1600	-234	204	139	61	-3	-41	-59	-61	-61	-61
1090	-90	-104	-120	-128	-121	-96	-70	-43	-13	-23	1610	-79	-93	-128	-155	-157	-131	-78	5	94	141
1100	69	127	178	211	234	245	240	216	178	137	1620	145	108	23	-72	-182	-145	-182	-207	-210	-214
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2490	30	4	-25	-56	-82	-101	-119	-130	-132	-129	3010	73	82	91	101	110	118	122	122	117		
2500	-125	-121	-121	-125	-131	-133	-128	-119	-109	-100	3020	110	105	103	106	116	128	156	156	156		
2510	-99	-103	-107	-113	-124	-133	-128	-116	-95	-60	3030	151	134	104	69	35	4	-15	-32	-33		
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2540	-105	-90	-72	-55	-37	-19	0	19	32	40	3060	12	27	45	63	82	83	76	60	41		
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No.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	No.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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3090	-45	-40	-32	-27	-25	-28	-37	-48	-54	-58	3610	-16	-29	-40	-48	-53	-56	-55	-56	-55	-53
3100	-59	-61	-63	-64	-65	-63	-52	-26	8	8	3620	-51	-51	-51	-53	-58	-63	-68	-71	-71	-68
3110	38	59	72	81	87	89	90	88	83	72	3630	-61	-37	-21	13	32	49	62	62	62	70
3120	57	41	24	5	-16	-36	-49	-54	-52	-42	3640	73	67	55	41	26	13	4	-1	-7	-7
3130	-24	-7	0	0	-9	-22	-30	-33	-32	-28	3650	-13	-19	-23	-26	-28	-31	-38	-45	-50	-54
3140	-25	-25	-34	-54	-81	-106	-137	-137	-140	-139	3660	-61	-49	-39	-57	-5	-1	-6	0	4	6
3150	-132	-122	-113	-105	-99	-94	-84	-66	-44	-25	3670	5	-1	-6	-9	-12	-10	-4	2	8	8
3160	-7	10	27	42	53	63	72	79	82	84	3680	11	12	8	1	-8	-10	-7	-1	4	4
3170	82	72	49	21	0	-12	-19	-20	-18	-15	3690	8	11	13	9	1	-9	-16	-32	-36	-36
3180	-11	-5	0	6	14	21	24	20	13	20	3700	-40	-44	-48	-52	-57	-62	-69	-74	-77	-77
3190	6	0	-6	-11	-16	-23	-31	-36	-36	-25	3710	-74	-66	-65	-43	-30	-19	3	19	33	33
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3450	-80	-98	-108	-109	-103	-93	-84	-77	-71	-64	3970	16	16	15	13	11	11	16	26	38	38
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TO BE CONTINUED

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41130	-3	-2	0	1	2	7	9	10	12	15	4650	-3	3	4	1	1	1	15	19	20	
41140	18	23	27	28	27	26	25	22	19	17	4660	19	17	16	14	11	9	6	1	-13	
41150	15	10	3	-2	-7	-10	-11	-9	-8	-10	4670	-19	-24	-26	-28	-31	-35	-38	-41	-46	
41160	-11	-14	-19	-22	-23	-22	-22	-19	-15	-13	4680	-43	-36	-35	-31	-28	-28	-30	-30	-30	
41170	-9	-7	-8	-9	-12	-16	-21	-21	-20	-21	4690	-27	-21	-16	-15	-5	5	16	29	41	
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42220	33	40	48	52	56	62	66	68	68	65	4740	-14	-11	-9	-5	-5	-6	-8	-9	-11	
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5190	0	-1	0	2	4	5	5	5	7	7	5710	4	-4	-2	-2	-2	-1	0	0	2	6
5200	7	9	11	1	2	0	2	0	-1	-4	5720	8	1	1	22	24	28	31	33	34	34
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5480	15	16	14	11	11	9	7	5	8	10	6000	-11	-10	-7	-5	-2	-1	-1	-1	-1	-1
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5660	26	26	27	26	26	26	26	26	26	26	6180	-11	-10	-7	-7	-7	-7	-7	-7	-7	-7
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END

TO BE CONTINUED

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 DATE AND TIME = 1989-11-2-3-25  
 AMPLING INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 3006, 5950, 5950,  
 NO. ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 ) ( 8 ) ( 9 ) ( 10 )

STATION = HACHINOHE-JI-S  
 TOTAL NUMBER OF DATA = 5950  
 SCAL = 0.10000

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30	-30	-26	-21	16	9	-1	-13	-20	-24	-30
40	-29	-30	-31	-30	-27	-21	-15	-4	4	-13
50	-29	-30	-30	-27	-19	8	-4	-18	-33	-43
60	-49	-44	-35	-22	-11	-2	2	5	6	5
70	6	5	3	1	0	0	0	0	0	0
80	2	6	9	12	11	6	-1	-13	-27	-36
90	-39	-36	-23	-6	12	33	52	66	75	78
100	73	54	23	-10	-39	-64	-76	-70	-55	-38
110	-23	-11	-16	-29	-15	3	27	40	40	40
120	33	15	-7	-29	-43	-39	-23	-6	3	5
130	-2	-14	-26	-38	-44	-36	-15	13	34	47
140	41	30	17	9	13	25	41	62	54	65
150	60	44	17	-12	-31	-33	-10	1	3	6
160	-8	-30	-45	-61	-66	-61	-55	-50	-46	-49
170	-55	-44	-23	-7	8	28	38	35	23	23
180	0	-14	-15	-9	1	12	28	43	46	29
190	4	-12	-25	-21	-5	-1	29	37	29	710
200	9	-14	-32	-46	-45	-40	-35	-28	-23	-19
210	-18	-18	-19	-20	-20	-20	-20	-24	-31	-24
220	-39	-32	-20	-16	11	27	41	42	33	16
230	-1	-4	0	1	1	24	38	46	51	51
240	25	0	-18	-17	-7	0	4	6	6	5
250	6	10	11	11	12	11	9	4	-3	-12
260	-22	-33	-47	-54	-41	-18	4	28	55	68
270	73	68	61	51	40	28	9	-11	-57	790
280	-63	-58	-46	-30	-14	-4	0	1	1	1
290	1	1	1	0	-3	-6	-8	-11	-21	-39
300	-65	-89	-99	-92	-78	-61	-43	-13	3	-1
310	11	12	12	11	9	3	-4	-12	-18	-19
320	-14	-8	3	14	25	36	42	43	38	27
330	10	-2	1	1	20	27	37	36	4	4
340	-15	-44	-69	-83	-85	-82	-79	-73	-63	-52
350	-43	-40	-39	-40	-38	-35	-45	-59	-59	-70
360	-69	-52	-26	0	24	41	44	43	40	35
370	32	36	37	35	33	29	25	17	6	-6
380	-23	-37	-36	-19	-9	3	49	56	41	11
390	-14	-33	-43	-39	-31	-24	-18	-13	-8	-5
400	-4	-4	-4	-4	1	10	17	22	24	22
410	19	16	17	26	38	45	47	44	33	10
420	-19	-31	-21	2	40	65	71	64	52	34
430	12	0	-4	2	20	38	43	40	30	24
440	15	3	-4	-8	-12	-15	-23	-33	-49	-73
450	-95	-114	-124	-114	-110	-94	-77	-59	-41	-27
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470	-3	-47	-63	-71	-76	-83	-65	-88	-84	-76

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510	510	18	2	-10	-19	-23	-21	-13	5	27
520	660	64	52	45	45	45	45	4	-9	-29
530	-48	-66	-87	-92	-74	-60	-42	-21	-20	-27
540	35	36	27	25	28	31	32	27	22	22
550	14	5	19	30	-36	-36	-39	-43	-51	-61
560	-71	-84	-90	-89	-78	-63	-51	-43	-40	-39
570	-43	-44	-42	-38	-32	-25	-19	-18	-20	-20
580	-40	-39	-30	-14	-23	-23	-23	-50	51	43
590	26	4	-17	-33	-41	-36	-23	-8	12	43
600	70	79	72	59	37	0	-15	-5	10	27
610	45	53	50	31	-7	-39	-68	-77	-66	-51
620	-36	-23	-14	-7	-7	-11	-14	-16	-16	-22
630	-20	-16	-14	-13	-16	-23	-28	-20	-6	9
640	34	54	77	86	77	63	49	43	42	43
650	52	63	72	62	62	45	26	17	17	29
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670	-3	-8	-13	-19	-13	-16	-13	-16	-27	-42
680	-39	-29	-29	-14	-14	-77	-73	-63	-47	-25
690	-108	-107	-100	-94	-82	-77	-73	-63	-47	-25
700	-2	21	31	22	0	-28	-55	-78	-85	-85
710	-68	-48	-48	-16	-16	-10	-3	-3	-6	6
720	0	16	15	-15	-15	-41	-55	-65	-61	-36
730	-16	-16	-16	-16	-16	-36	-60	-66	-41	-17
740	18	29	29	29	29	37	61	71	76	73
750	67	58	42	28	19	13	8	4	6	8
760	11	14	13	13	14	13	-17	-42	-48	-22
770	39	26	8	-10	-10	-24	-10	-7	27	31
780	44	46	46	46	46	46	46	15	21	31
790	46	53	43	43	43	43	43	21	15	31
800	-77	-70	-60	-54	-55	-55	-55	-36	-66	-86
810	27	30	26	23	14	0	-5	-3	-8	-12
820	9	0	-9	-11	-17	-25	-21	-9	10	27
830	41	66	74	70	60	50	42	38	36	33
840	29	26	22	18	9	-6	-26	-26	-62	-62
850	-75	-85	-92	-98	-97	-92	-82	-82	-66	-59
860	-55	-48	-48	-34	-33	-31	-29	-29	-10	-10
870	9	23	34	45	42	31	28	33	46	59
880	64	68	66	59	51	45	36	28	23	20
890	18	22	27	27	25	4	-30	-30	-13	-13
900	-61	-32	-6	14	14	-3	-25	-41	-38	-23
910	8	6	6	6	6	-26	-42	-42	-85	-91
920	-85	-75	-75	-75	-75	-75	-77	-77	-83	-85
930	-80	-88	-88	-88	-88	-88	-77	-77	-65	-55
940	9	23	23	23	23	23	23	23	-16	-10
950	-8	-8	-8	-8	-8	-8	-7	-7	0	5
960	-63	-63	-63	-63	-63	-63	-47	-47	-42	-57
970	-65	-65	-65	-65	-65	-65	-37	-37	-48	-62
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TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-2261 )										WEST											
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1010	98	109	112	110	109	115	125	133	130	120	1530	360	342	285	217	161	149	233	293	336	
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1080	13	40	69	98	83	51	-4	-85	-134	-12	1600	253	357	434	482	510	518	511	495	466	
1090	-128	-79	-34	2	39	74	103	123	138	152	1610	358	290	223	181	149	130	93	27	-61	
1100	158	147	125	89	58	35	17	2	-14	-42	1620	-140	-171	-156	-117	-73	-40	-23	-17	-16	
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1180	40	79	121	163	183	191	181	145	84	14	1700	192	162	137	109	87	71	58	49	61	
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1210	-167	-167	-140	-94	-33	37	93	125	127	89	1730	143	148	157	169	184	196	201	184	126	
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1490	-85	28	34	150	177	177	177	141	98	75	2010	-12	-27	7	27	45	68	90	108	120	
1500	78	102	135	168	188	149	35	-132	-317	-398	2020	111	101	96	100	114	132	147	158	167	
1510	-401	-354	-281	-269	-145	-98	-78	-95	-144	-201	2030	168	166	163	165	175	185	191	190	176	

TO BE CONTINUED

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2070	193	178	158	142	126	112	109	113	117
2080	103	90	68	39	0	-48	-79	-101	-125
2090	-155	-152	-110	-126	-110	-92	-74	-54	-22
2100	65	101	127	139	132	117	98	79	64
2110	49	36	29	29	32	33	33	32	22
2120	14	2	-19	-54	-93	-118	-35	-152	-63
2130	-165	-150	-128	-104	-65	-61	128	171	175
2140	143	86	5	-78	-144	-178	-188	-178	-156
2150	-96	-59	-21	17	66	123	179	222	247
2160	278	291	304	316	322	316	284	214	117
2170	-7	-10	-10	-60	-91	-125	-158	-139	-210
2180	-190	-172	-155	-139	-126	-112	-97	-84	-76
2190	-64	-59	-51	-43	-39	-44	-64	-93	-119
2200	-149	-142	-126	-103	-76	-45	-12	-16	33
2210	14	-56	-35	-69	-87	-84	-73	-61	-57
2220	-89	-126	-110	-212	-216	-256	-218	-161	-102
2230	-48	4	50	86	118	151	178	202	226
2240	273	282	281	271	257	241	223	205	188
2250	154	143	134	126	111	98	64	46	34
2260	-1	-3	16	46	69	77	65	29	-29
2270	-159	-192	-207	-204	-193	-185	-178	-169	-155
2280	-132	-115	-97	-80	-60	-37	-14	7	27
2290	36	18	-2	-22	-36	-44	-47	-45	-42
2300	-31	-24	-17	-9	0	10	24	39	46
2310	-5	-61	-135	-186	-199	-185	-157	-126	-92
2320	-59	-35	-11	12	24	37	55	74	88
2330	84	74	66	68	83	106	117	113	101
2340	66	54	45	41	40	34	15	-14	-45
2350	-76	-75	-68	-54	-51	-30	-13	5	28
2360	104	128	141	154	169	180	186	189	181
2370	122	80	45	18	-4	-23	-38	-51	-63
2380	-81	-88	-97	-103	-102	-102	-93	-69	-56
2390	-50	-50	-51	-51	-45	-37	-33	-31	-36
2400	-79	-102	-122	-135	-145	-139	-132	-127	-122
2410	-116	-112	-98	-71	-36	28	-46	53	49
2420	34	11	-18	-45	-55	-47	-28	-9	3
2430	-14	-42	-73	-108	-137	-142	-118	-62	13
2440	140	171	181	176	166	154	140	119	99
2450	71	57	44	33	24	15	5	0	-6
2460	-3	8	24	39	45	35	26	18	15
2470	17	25	37	51	61	64	55	33	1
2480	-58	-68	-63	-42	-12	19	40	46	33
2490	-30	-61	-83	-92	-83	-80	-80	-81	48
2500	-80	-79	-79	-77	-75	-80	-87	-95	-97
2510	-99	-100	-102	-106	-109	-103	-103	-89	-50
2520	-26	1	38	84	119	127	112	89	65
2530	43	43	43	41	38	41	48	61	79
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2070	193	178	158	142	126	112	109	113	117
2080	103	90	68	39	0	-48	-79	-101	-125
2090	-155	-152	-110	-126	-110	-92	-74	-54	-22
2100	65	101	127	139	132	117	98	79	64
2110	49	36	29	29	32	33	33	32	22
2120	14	2	-19	-54	-93	-118	-35	-152	-63
2130	-165	-150	-128	-104	-65	-61	128	171	175
2140	143	86	5	-78	-144	-178	-188	-178	-156
2150	-96	-59	-21	17	66	123	179	222	247
2160	278	291	304	316	322	316	284	214	117
2170	-7	-10	-10	-60	-91	-125	-158	-139	-210
2180	-190	-172	-155	-139	-126	-112	-97	-84	-76
2190	-64	-59	-51	-43	-39	-44	-64	-93	-119
2200	-149	-142	-126	-103	-76	-45	-12	-16	33
2210	14	-56	-35	-69	-87	-84	-73	-61	-57
2220	-89	-126	-110	-212	-216	-256	-218	-161	-102
2230	-48	4	50	86	118	151	178	202	226
2240	273	282	281	271	257	241	223	205	188
2250	154	143	134	126	111	98	64	46	34
2260	-1	-3	16	46	69	77	65	29	-29
2270	-159	-192	-207	-204	-193	-185	-178	-169	-155
2280	-132	-115	-97	-80	-60	-37	-14	7	27
2290	36	18	-2	-22	-36	-44	-47	-45	-42
2300	-31	-24	-17	-9	0	10	24	39	46
2310	-5	-61	-135	-186	-199	-185	-157	-126	-92
2320	-35	-11	12	24	37	55	74	88	90
2330	84	74	66	68	83	106	117	113	101
2340	66	54	45	41	40	34	15	-14	-45
2350	-76	-75	-68	-54	-51	-30	-13	5	28
2360	104	128	141	154	169	180	186	189	181
2370	122	80	45	18	-4	-23	-38	-51	-63
2380	-81	-88	-97	-103	-102	-93	-69	-56	-51
2390	-50	-50	-51	-51	-45	-37	-33	-31	-36
2400	-79	-102	-122	-135	-145	-139	-132	-127	-122
2410	-116	-112	-98	-71	-36	28	-46	53	49
2420	34	11	-18	-45	-55	-47	-28	-9	3
2430	-14	-42	-73	-108	-137	-142	-118	-62	13
2440	140	171	181	176	166	154	140	119	99
2450	71	57	44	33	24	15	5	0	-6
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2470	17	25	37	51	61	64	55	33	1
2480	-58	-68	-63	-42	-12	19	40	46	33
2490	-30	-61	-83	-92	-83	-80	-80	-81	48
2500	-80	-79	-79	-77	-75	-80	-87	-95	-97
2510	-99	-100	-102	-106	-109	-103	-103	-89	-50
2520	-26	1	38	84	119	127	112	89	65
2530	43	43	43	41	38	41	48	61	79
2540	104	116	126	130	125	113	101	90	78
2550	56	45	33	22	20	28	33	-2	-30

TO BE CONTINUED

TO BE CONTINUED

## CONTINUED ( S-226 )

WEST

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3100	98	77	59	49	43	39	37	32	22	25	3620	24	23	25	29	32	36	39	40	37	31
3110	7	-15	-24	-33	-41	-53	-105	-136	-136	-136	3630	25	21	19	19	22	26	29	32	32	31
3120	-164	-181	-183	-164	-137	-113	-95	-81	-71	-64	3640	26	21	11	0	-12	-24	-30	-31	-31	-30
3130	-65	-64	-65	-65	-66	-59	-50	-39	-31	-31	3650	-24	-16	-11	-9	-10	-16	-24	-33	-37	-40
3140	-26	-22	-19	-20	-23	-24	-18	-6	9	25	3660	-37	-30	-23	-18	-12	-12	-14	-10	-9	-10
3150	38	46	51	54	55	54	49	42	36	30	3670	-6	-4	-6	-8	-12	-16	-20	-23	-24	-22
3160	26	24	24	24	23	19	18	14	7	7	3680	-14	-3	8	18	26	32	37	42	46	46
3170	1	-2	-3	-1	7	24	44	66	82	89	3690	46	47	50	54	61	66	70	72	75	76
3180	91	90	81	65	43	20	-3	-26	-44	-56	3700	76	76	78	78	77	75	70	62	49	30
3190	-64	-68	-68	-63	-54	-45	-36	-28	-19	-10	3710	11	-4	-29	-39	-38	-33	-29	-26	-26	-26
3200	-2	10	29	51	73	90	101	106	105	103	3720	-22	-20	-23	-18	-30	-39	-48	-59	-66	-66
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3480	-28	-12	3	16	27	39	52	62	70	76	4000	44	31	18	6	-1	-10	-24	-37	-55	-55
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TO BE CONTINUED

CONTINUED( S-2261 WEST )										CONTINUED( S-2261 WEST )											
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4140	3	-3	-12	-23	-34	-41	-46	-49	-50	-50	4660	6	7	6	5	3	-34	-33	-33	-33	-16
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4510	11	16	19	24	27	27	27	26	25	25	5030	-12	-16	-22	-26	-30	-33	-35	-38	-38	-38
4520	24	27	26	21	15	15	7	0	-4	-4	5040	-38	-38	-38	-40	-39	-40	-43	-45	-46	-48
4530	-6	-8	-6	-9	-9	-6	-3	0	3	0	5050	-48	-47	-47	-45	-45	-42	-38	-37	-36	-37
4540	6	10	14	16	18	19	18	18	18	18	5060	-37	-37	-37	-37	-37	-37	-36	-36	-36	-37
4550	18	21	23	31	37	42	48	52	55	55	5070	-9	-7	-2	4	10	18	25	33	41	47
4560	58	61	66	66	61	60	59	58	56	55	5080	51	52	51	48	43	36	28	22	18	14
4570	5	-3	-13	-13	-25	-28	-29	-29	-31	-32	5090	10	7	4	0	-3	-7	-7	-9	-10	-8
4580	-33	-35	-36	-37	-39	-42	-45	-44	-44	-44	5100	-7	-9	-10	-11	-14	-12	-8	-1	9	9
4590	-45	-47	-48	-47	-46	-46	-46	-47	-47	-47	5110	30	37	40	42	44	43	42	38	37	37
4600	-45	-47	-51	-52	-50	-43	-43	-43	-43	-43	5120	35	32	29	29	28	28	28	29	29	29
4610	-17	-6	4	17	18	19	21	26	26	26	5130	30	32	33	33	32	25	22	21	22	22
4620	31	37	43	46	48	47	44	41	41	41	5140	25	28	26	21	18	14	11	11	11	12
4630	37	35	37	39	43	48	51	53	54	54	5150	14	15	17	17	15	15	15	17	17	17

TO BE CONTINUED

TO BE CONTINUED

CONTINUED( S-2261 WEST )									
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )
5160	18	20	22	24	26	28	30	31	31
5170	26	24	22	21	16	10	8	17	18
5180	23	21	21	16	10	4	0	19	19
5190	-14	-19	-21	-14	-14	-25	-28	-30	-33
5200	-47	-51	-54	-55	-55	-56	-55	-54	-51
5210	-40	-30	-22	-16	-16	-9	-4	-5	-5
5220	-1	-2	-6	-13	-13	-22	-23	-22	-22
5230	-24	-20	-21	-22	-22	-22	-20	-17	-17
5240	-10	-9	-8	-9	-10	-10	-10	-12	-12
5250	-13	-13	-14	-18	-20	-23	-23	-20	-18
5260	-16	-13	-11	-8	-6	-5	-5	-8	-8
5270	-15	-19	-20	-22	-18	-13	-6	-7	-7
5280	14	21	26	31	33	35	36	35	34
5290	29	28	25	24	25	26	27	29	30
5300	34	34	34	35	35	35	33	28	27
5310	9	7	6	6	5	8	12	13	12
5320	15	15	12	10	9	7	5	2	2
5330	0	-6	-10	-14	-17	-17	-19	-22	-22
5340	-24	-28	-32	-34	-37	-39	-42	-44	-45
5350	-43	-45	-41	-41	-35	-29	-22	-12	-12
5360	10	14	18	20	20	21	23	26	29
5370	31	31	33	30	28	28	26	26	28
5380	25	20	15	15	9	3	0	0	0
5390	6	12	16	16	16	15	15	16	17
5400	21	25	23	20	19	17	20	21	22
5410	22	22	25	28	30	32	35	35	34
5420	34	31	29	29	30	30	26	20	16
5430	5	0	-8	-10	-11	-12	-12	-12	-12
5440	-6	-4	-4	-4	-7	-9	-12	-17	-20
5450	-27	-27	-27	-26	-24	-23	-21	-19	-18
5460	-18	-19	-23	-23	-26	-29	-32	-34	-34
5470	-38	-37	-31	-31	-26	-19	-11	-4	-2
5480	6	8	5	1	0	-3	-6	-8	-12
5490	-25	-32	-37	-41	-42	-40	-38	-38	-37
5500	-35	-35	-37	-38	-38	-38	-37	-34	-27
5510	-21	-22	-22	-22	-22	-22	-22	-21	-22
5520	-25	-27	-30	-33	-37	-41	-43	-45	-46
5530	-51	-54	-54	-52	-50	-46	-43	-38	-30
5540	-24	-17	-10	-8	-5	-1	0	2	-3
5550	10	14	15	16	18	19	18	16	14
5560	13	10	9	10	12	12	14	14	11
5570	10	10	9	7	7	7	6	7	8
5580	12	15	16	16	15	15	13	13	17
5590	22	27	31	34	38	41	41	41	42
5600	43	43	42	39	39	36	33	29	24
5610	19	19	22	23	24	27	28	30	34
5620	35	35	38	39	40	38	35	32	23
5630	18	14	10	7	3	-1	-5	-10	-16
5640	-22	-26	-26	-26	-28	-28	-23	-19	-18
5650	-15	-11	-8	-6	-6	-6	-8	-5	-7
5660	-3	-1	-1	0	-1	-3	-6	-9	-11
5670	-13	-10	-7	-3	-1	5	7	9	14

CONTINUED( S-2261 WEST )									
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )
5680	15	16	17	17	17	17	17	16	17
5690	10	10	7	9	9	9	7	4	7
5700	-28	-33	-38	-43	-43	-47	-49	-52	-54
5710	-59	-59	-58	-55	-53	-49	-47	-44	-57
5720	-29	-23	-16	-9	-3	-3	-3	-3	-34
5730	22	25	26	28	26	23	21	17	18
5740	7	3	1	-1	-1	-2	-7	-11	-14
5750	-17	-21	-24	-28	-28	-27	-27	-32	-31
5760	-29	-29	-28	-28	-28	-27	-27	-26	-24
5770	-22	-21	-19	-17	-17	-9	-8	-6	-3
5780	0	1	-1	-1	-1	-2	-3	-4	-6
5790	-6	-4	0	3	6	7	7	9	12
5800	17	21	26	29	30	31	31	30	26
5810	21	19	16	14	12	10	6	4	0
5820	-5	-7	-9	-10	-10	-12	-14	-14	-20
5830	-22	-25	-28	-32	-32	-34	-34	-35	-31
5840	-25	-15	-6	0	4	9	14	18	19
5850	19	19	20	20	20	24	30	34	40
5860	40	42	45	47	51	54	59	60	62
5870	62	60	59	58	58	52	48	42	37
5880	23	18	18	18	18	18	3	0	1
5890	-11	-11	-15	-15	-15	-17	-19	-21	-25
5900	-31	-31	-31	-31	-31	-28	-26	-21	-28
5910	-2	-1	-1	-1	-1	-2	-3	-2	-1
5920	3	2	1	0	-1	-2	-2	-3	-2
5930	0	-1	-2	-3	-2	-7	-10	-12	-14
5940	-17	-17	-18	-18	-17	-20	-21	-26	-31
END									

TO BE CONTINUED

RECORD = S-2261 COMPONENT = DOWN  
 DATE AND TIME = 1989-11-2-3-5  
 AMPLIFYING INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 3006, 5950, 5950,  
 NO. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)  
 0 0 0 0 0 0 0 0 0 0 0  
 10 -2 -3 -4 -5 -6 -7 -8 -9 -10 -11  
 20 -17 -16 -13 -9 -6 -3 -1 0 2 3  
 30 4 5 6 7 6 6 7 10 13 21  
 40 28 26 23 14 3 8 -19 -32 -36  
 50 -38 -36 -39 -28 -16 -3 -8 18 28 36  
 60 -42 45 44 40 29 16 3 -6 -14  
 70 -14 -9 -4 0 6 7 6 3 -3 -10  
 80 -18 -25 -29 -31 -28 -22 -14 -5 3 -11  
 90 17 20 17 1 3 -3 -11 -21 -29 -35  
 100 -35 -28 -17 -5 4 13 18 14 -2 -2  
 110 -4 -2 3 9 1 1 9 6 3 3  
 120 2 1 0 2 7 14 16 11 6 1  
 130 -2 -7 -1 1 -4 -2 1 15 30 37  
 140 34 31 29 26 21 17 1 1 5 2  
 150 0 -1 -4 -8 -12 -15 -11 -5 1 -1  
 160 4 17 25 23 19 12 -8 -18 -20  
 170 -16 -15 -9 0 13 24 31 24 13 24  
 180 1 -8 -17 -22 -17 0 5 7 7 700  
 190 2 -4 -10 -12 -10 -5 1 5 9 12  
 200 14 13 9 5 1 -4 -9 -16 -21  
 210 -20 -17 -14 -13 -13 -12 -8 -2 -5  
 220 10 14 -10 -26 -26 -18 -4 12 24  
 230 32 29 26 23 18 8 3 2 0  
 240 3 7 15 22 26 25 22 16 13 14  
 250 17 19 15 6 -9 -23 -20 -8 0  
 260 0 3 0 7 12 15 18 1 17 14  
 270 15 20 24 18 8 1 -2 -8 -17  
 280 -37 -39 -34 -27 -16 -6 5 16 24  
 290 27 21 12 4 2 10 19 22 22  
 300 22 21 18 14 11 7 1 -2 -7 -9  
 310 7 15 22 26 21 -21 -15 -7 4  
 320 0 -5 -8 -5 -8 -2 -5 -10 -17  
 330 3 1 -2 -26 -32 -12 -6 12 6  
 340 -48 -40 -32 -36 -45 -47 44 36 21  
 350 21 29 36 45 47 44 36 21 4  
 360 10 -12 -12 -15 -15 -16 -15 -12  
 370 9 6 3 4 1 1 16 22 31  
 380 43 37 30 26 23 16 4 -11 -19  
 390 -35 -39 -41 -43 -43 -38 -30 25 20  
 400 12 26 32 30 28 25 20 12 2  
 410 1 7 15 19 16 12 6 -3 -16  
 420 -26 -37 -39 -34 -34 -27 -20 -16  
 430 -25 -23 -16 -12 -12 -11 1 1  
 440 1 -3 -7 -9 -14 -23 -34 -41  
 450 -19 -12 -3 8 22 30 27 24  
 460 26 31 33 34 32 30 24 20  
 470 19 19 15 15 13 9 -1 -9

STATION = HACHINOHE-JI-S  
 TOTAL NUMBER OF DATA = 5950  
 SCALE = 0.10000  
 CONTINUED( S-2261 )  
 NO. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)  
 480 -15 -15 -15 -15 -15 -15 -15 -15 -15 -15  
 490 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6  
 500 -18 -18 -18 -18 -18 -18 -18 -18 -18 -18  
 510 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2  
 520 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1  
 530 -8 -8 -8 -8 -8 -8 -8 -8 -8 -8  
 540 -8 -8 -8 -8 -8 -8 -8 -8 -8 -8  
 550 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4  
 560 -39 -39 -39 -39 -39 -39 -39 -39 -39 -39  
 570 0 0 0 0 0 0 0 0 0 0  
 580 -8 -8 -8 -8 -8 -8 -8 -8 -8 -8  
 590 -24 -24 -24 -24 -24 -24 -24 -24 -24 -24  
 600 -34 -34 -34 -34 -34 -34 -34 -34 -34 -34  
 610 0 0 0 0 0 0 0 0 0 0  
 620 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1  
 630 19 19 19 19 19 19 19 19 19 19  
 640 -17 -17 -17 -17 -17 -17 -17 -17 -17 -17  
 650 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2  
 660 -9 -9 -9 -9 -9 -9 -9 -9 -9 -9  
 670 0 0 0 0 0 0 0 0 0 0  
 680 12 12 12 12 12 12 12 12 12 12  
 690 -19 -19 -19 -19 -19 -19 -19 -19 -19 -19  
 700 -14 -14 -14 -14 -14 -14 -14 -14 -14 -14  
 710 24 24 24 24 24 24 24 24 24 24  
 720 -13 -13 -13 -13 -13 -13 -13 -13 -13 -13  
 730 -14 -14 -14 -14 -14 -14 -14 -14 -14 -14  
 740 -25 -25 -25 -25 -25 -25 -25 -25 -25 -25  
 750 27 27 27 27 27 27 27 27 27 27  
 760 -9 -9 -9 -9 -9 -9 -9 -9 -9 -9  
 770 31 31 31 31 31 31 31 31 31 31  
 780 -23 -23 -23 -23 -23 -23 -23 -23 -23 -23  
 790 -32 -32 -32 -32 -32 -32 -32 -32 -32 -32  
 800 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4  
 810 -10 -10 -10 -10 -10 -10 -10 -10 -10 -10  
 820 24 24 24 24 24 24 24 24 24 24  
 830 1 1 1 1 1 1 1 1 1 1  
 840 19 19 19 19 19 19 19 19 19 19  
 850 17 17 17 17 17 17 17 17 17 17  
 860 14 14 14 14 14 14 14 14 14 14  
 870 54 54 54 54 54 54 54 54 54 54  
 880 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4  
 890 28 28 28 28 28 28 28 28 28 28  
 900 15 15 15 15 15 15 15 15 15 15  
 910 19 19 19 19 19 19 19 19 19 19  
 920 -18 -18 -18 -18 -18 -18 -18 -18 -18 -18  
 930 -16 -16 -16 -16 -16 -16 -16 -16 -16 -16  
 940 -44 -44 -44 -44 -44 -44 -44 -44 -44 -44  
 950 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6  
 960 26 26 26 26 26 26 26 26 26 26  
 970 0 0 0 0 0 0 0 0 0 0  
 980 -19 -19 -19 -19 -19 -19 -19 -19 -19 -19  
 990 -42 -42 -42 -42 -42 -42 -42 -42 -42 -42

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-226 )									
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )
1000	3	-1	-11	-28	-42	-43	-41	-37	( 10 )
1010	-20	-10	1	9	13	11	15	-2	-25
1020	-9	-8	-5	-2	1	6	15	22	20
1030	12	3	-5	-11	-12	-7	0	10	21
1040	38	39	36	30	23	14	7	1	51
1050	-12	-18	-24	-29	-32	-36	-41	-46	-46
1060	-40	-33	-24	-7	-12	33	49	-46	-46
1070	78	68	56	45	37	30	19	17	16
1080	17	22	23	24	24	16	8	4	1
1090	-8	-11	-10	-12	-19	-25	-31	-37	-37
1100	-27	-12	-1	12	24	35	43	46	42
1110	28	25	21	19	19	21	22	20	15
1120	11	14	20	27	31	11	-10	-38	-64
1130	-81	-89	-82	-69	-53	-29	-10	5	23
1140	29	21	15	10	3	-5	-14	-22	-30
1150	-33	-38	-40	-33	-23	-14	-11	-12	-16
1160	-18	-12	-5	-2	9	14	17	19	20
1170	9	-7	-32	-7	-49	-56	-58	-56	-40
1180	-13	-18	-30	-46	-58	-62	-56	-56	-40
1190	0	15	25	32	40	46	50	60	68
1200	84	88	84	78	74	69	61	52	51
1210	48	44	37	27	15	10	9	4	4
1220	-20	-37	-54	-62	-62	-57	-46	-29	-29
1230	65	61	37	0	-40	-83	-116	-122	-109
1240	-77	-59	-44	-35	-30	-34	-43	-52	-56
1250	-28	-3	-12	24	9	24	21	-53	-77
1260	-86	-82	-68	-53	-49	-52	-50	-54	-47
1270	-9	3	17	35	58	80	95	101	100
1280	65	45	31	30	42	69	96	106	98
1290	59	32	3	-28	-49	-59	-62	-58	-51
1300	-19	-8	-13	-24	-37	-46	-47	-40	-29
1310	0	11	28	48	68	91	86	79	79
1320	7	61	47	34	21	7	-7	-12	-12
1330	2	-13	-34	-55	-64	-61	-51	-35	-12
1340	35	47	49	46	50	55	63	74	90
1350	101	100	80	81	80	41	10	-12	-12
1360	-48	-23	-13	-14	-22	-9	-15	-52	-52
1370	64	71	63	40	12	15	-15	-52	-93
1380	-141	-134	-116	-98	-79	-58	-33	-19	-12
1390	-9	-7	-13	-24	-39	-55	-83	-84	-75
1400	-73	-53	-31	-13	-4	14	24	35	43
1410	39	32	27	28	29	27	23	16	7
1420	-19	-32	-44	-50	-43	-20	-7	37	67
1430	114	128	135	128	111	97	83	69	59
1440	64	74	86	96	99	96	85	75	66
1450	52	53	61	66	65	51	28	7	-11
1460	-45	-56	-63	-59	-41	-21	-2	15	34
1470	39	20	-1	-18	-36	-46	-39	-31	-27
1480	-22	-20	-17	-13	-14	-18	-22	-35	-41
1490	-48	-56	-63	-80	-77	-80	-93	-105	-105
1500	-129	-122	-101	-72	-39	-8	13	25	21
1510	-13	-27	-44	-35	-53	-60	-61	-55	-47

CONTINUED ( S-226 )									
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )
1000	3	-1	-11	-28	-42	-43	-41	-37	( 10 )
1010	-20	-10	1	9	13	11	15	-2	-25
1020	-9	-8	-5	-2	1	6	15	22	20
1030	12	3	-5	-11	-12	-7	0	10	21
1040	38	39	36	30	23	14	7	1	51
1050	-12	-18	-24	-29	-32	-36	-41	-46	-46
1060	-40	-33	-24	-7	-12	33	49	-46	-46
1070	78	68	56	45	37	30	19	17	16
1080	17	22	23	24	24	16	8	4	1
1090	-8	-11	-10	-12	-19	-25	-31	-37	-37
1100	-27	-12	-1	12	24	35	43	46	42
1110	28	25	21	19	19	14	7	13	10
1120	11	14	20	27	31	11	-10	-38	-64
1130	-81	-89	-82	-69	-53	-29	-10	5	23
1140	29	21	15	10	3	-5	-14	-17	-17
1150	-33	-38	-40	-33	-23	-14	-11	-12	-12
1160	-18	-12	-5	-2	9	14	17	19	20
1170	9	-7	-32	-7	-49	-56	-58	-56	-40
1180	-13	-18	-30	-46	-58	-62	-56	-56	-40
1190	0	15	25	32	40	46	50	60	68
1200	84	88	84	78	74	69	61	52	51
1210	48	44	37	27	15	10	9	4	4
1220	-20	-37	-54	-62	-62	-57	-46	-29	-29
1230	65	61	37	0	-40	-83	-116	-122	-109
1240	-77	-59	-44	-35	-30	-34	-43	-52	-56
1250	-28	-3	-12	24	9	24	21	-53	-77
1260	-86	-82	-68	-53	-49	-52	-50	-54	-47
1270	-9	3	17	35	58	80	95	101	100
1280	65	45	31	30	42	69	96	106	98
1290	59	32	3	-28	-49	-59	-62	-58	-51
1300	-19	-8	-13	-24	-37	-46	-47	-40	-29
1310	0	11	28	48	68	91	86	79	79
1320	7	61	47	34	21	7	-7	-12	-12
1330	2	-13	-34	-55	-64	-61	-51	-35	-12
1340	35	47	49	46	50	55	63	74	90
1350	101	100	80	81	80	41	10	-12	-12
1360	-48	-23	-13	-14	-22	-9	-15	-52	-52
1370	64	71	63	40	12	15	-15	-52	-93
1380	-141	-134	-116	-98	-79	-58	-33	-19	-12
1390	-9	-7	-13	-24	-39	-55	-83	-84	-75
1400	-73	-53	-31	-13	-4	14	24	35	43
1410	39	32	27	28	29	27	23	16	7
1420	-19	-32	-44	-50	-43	-20	-7	37	67
1430	114	128	135	128	111	97	83	69	59
1440	64	74	86	96	99	96	85	75	66
1450	52	53	61	66	65	51	28	7	-11
1460	-45	-56	-63	-59	-41	-21	-2	15	34
1470	39	20	-1	-18	-36	-46	-39	-31	-27
1480	-22	-20	-17	-13	-14	-18	-22	-35	-41
1490	-48	-56	-63	-80	-77	-80	-93	-105	-105
1500	-129	-122	-101	-72	-39	-8	13	25	21
1510	-13	-27	-44	-35	-53	-60	-61	-55	-47

TO BE CONTINUED

TO BE CONTINUED

CONTINUED( S-2261 DOWN )										
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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2050	19	11	7	14	23	30	34	38	37	27
2060	21	9	-3	-17	-28	-30	-25	-17	-11	-11
2070	-16	-16	-12	-7	-2	-2	-6	-10	-15	-18
2080	-16	-8	0	-9	-28	-30	-22	-31	-41	-47
2090	28	8	-133	-126	-106	-74	-46	-64	-80	-95
2100	-125	-130	-13	-12	-12	-74	-38	-12	-12	-106
2110	31	47	58	65	73	77	80	83	80	75
2120	68	59	52	46	36	21	5	-3	-8	-10
2130	-13	-19	-25	-30	-36	-44	-52	-58	-59	-59
2140	-58	-53	-51	-59	-68	-72	-73	-69	-62	-56
2150	-57	-58	-52	-42	-36	-32	-31	-28	-24	-24
2160	-18	-12	-11	-9	-5	-1	2	6	13	12
2170	22	34	48	54	80	93	106	116	123	128
2180	131	131	125	114	102	92	82	73	63	51
2190	36	21	11	2	-10	-21	-10	-39	-45	-41
2200	-32	-25	-13	-1	6	14	25	34	45	55
2210	59	58	51	45	38	28	13	-3	-18	-27
2220	-34	-32	-27	-23	-20	-21	-21	-24	-28	-33
2230	-40	-45	-49	-56	-68	-79	-87	-94	-98	-100
2240	-104	-107	-103	-93	-84	-78	-71	-61	-51	-45
2250	-26	-37	-26	-9	15	40	66	88	106	120
2260	117	97	76	55	30	9	-1	-9	-18	-23
2270	-23	-16	-8	2	12	21	28	30	32	36
2280	45	50	57	67	77	85	89	87	83	83
2290	76	66	56	48	39	29	19	9	1	-8
2300	-18	-23	-26	-26	-23	-19	-15	-13	-13	-13
2310	-13	-12	-11	-12	-14	-17	-21	-27	-38	-53
2320	-71	-83	-87	-88	-87	-81	-77	-67	-51	-51
2330	-34	-19	-6	5	15	15	9	1	-7	-15
2340	-22	-27	-33	-39	-43	-46	-50	-51	-45	-35
2350	-26	-12	0	9	17	30	46	65	86	104
2360	117	127	136	141	140	136	128	117	101	82
2370	63	48	37	25	25	12	0	-14	-27	-38
2380	-46	-55	-55	-77	-90	-102	-101	-90	-77	-90
2390	-67	-63	-59	-56	-57	-67	-67	-76	-73	-2910
2400	-64	-56	-56	-64	-67	-67	-76	-78	-73	-33
2410	37	49	61	63	61	57	53	48	42	37
2420	33	30	27	24	24	28	30	34	35	34
2430	30	28	26	23	20	14	9	9	9	17
2440	29	44	55	59	61	55	43	32	21	2960
2450	7	-7	-22	-34	-45	-62	-67	-73	-76	-2970
2460	-76	-72	-72	-66	-64	-66	-56	-52	-46	-37
2470	-36	-33	-30	-32	-35	-37	-34	-26	-20	-27
2480	-17	-16	-13	-9	-4	0	4	7	12	12
2490	18	19	21	18	12	2	-9	-20	-29	-30
2500	-38	-39	-39	-38	-36	-32	-30	-25	-19	-19
2510	-10	0	1	1	6	16	19	24	32	32
2520	40	48	55	60	61	61	62	66	69	3040
2530	70	72	67	57	45	30	13	4	0	11
2540	-7	-17	-25	-34	-40	-44	-43	-49	-40	-85
2550	-58	-69	-80	-88	-91	-85	-79	-74	-67	-89

CONTINUED( S-2261 DOWN )										
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
2040	110	111	101	90	80	69	57	47	37	27
2050	19	11	7	14	23	30	34	38	37	27
2060	21	9	-3	-17	-28	-30	-25	-17	-11	-11
2070	-16	-16	-12	-7	-2	-2	-6	-10	-15	-18
2080	-16	-8	0	-9	-28	-30	-22	-31	-41	-47
2090	28	8	-133	-126	-106	-74	-46	-64	-80	-95
2100	-125	-130	-13	-12	-12	-74	-38	-12	-12	-106
2110	31	47	58	65	73	77	80	83	80	75
2120	68	59	52	46	36	21	5	-3	-8	-10
2130	-13	-19	-25	-30	-36	-44	-52	-58	-59	-59
2140	-58	-53	-51	-59	-68	-72	-73	-69	-62	-56
2150	-57	-58	-52	-42	-36	-32	-31	-28	-24	-24
2160	-18	-12	-11	-9	-5	-1	2	6	13	12
2170	22	34	48	54	80	93	106	116	123	128
2180	131	131	125	114	102	92	82	73	63	51
2190	36	21	11	2	-10	-21	-10	-39	-45	-41
2200	-32	-25	-13	-1	6	14	25	34	45	55
2210	59	58	51	45	38	28	13	-3	-18	-27
2220	-34	-32	-27	-23	-20	-21	-21	-24	-28	-33
2230	-40	-45	-49	-56	-68	-79	-87	-94	-98	-100
2240	-107	-103	-93	-84	-78	-71	-61	-51	-45	-45
2250	-26	-37	-26	-9	15	40	66	88	106	120
2260	117	97	76	55	30	9	-1	-9	-18	-23
2270	-23	-16	-8	2	12	21	28	30	32	36
2280	45	50	57	67	77	85	89	87	83	83
2290	76	66	56	48	39	29	19	9	1	-8
2300	-18	-23	-26	-26	-23	-19	-15	-13	-13	-13
2310	-13	-12	-11	-12	-14	-17	-21	-27	-38	-53
2320	-71	-83	-87	-88	-87	-81	-77	-67	-51	-51
2330	-34	-19	-6	5	15	15	9	1	-7	-15
2340	-22	-27	-33	-39	-43	-46	-50	-51	-45	-35
2350	-26	-12	0	9	17	30	46	65	86	104
2360	117	127	136	141	140	136	128	117	101	82
2370	63	48	37	25	25	12	0	-14	-27	-38
2380	-46	-55	-55	-77	-90	-102	-101	-90	-77	-90
2390	-67	-63	-59	-56	-57	-67	-67	-76	-73	-2910
2400	-64	-56	-56	-64	-67	-67	-76	-78	-73	-33
2410	37	49	61	63	61	57	53	48	42	37
2420	33	30	27	24	24	28	30	34	35	34
2430	30	28	26	23	23	14	9	9	9	17
2440	29	44	55	59	61	55	43	32	21	2960
2450	7	-7	-22	-34	-45	-62	-67	-73	-76	-2970
2460	-76	-72	-72	-66	-64	-66	-56	-52	-46	-37
2470	-36	-33	-30	-32	-35	-37	-34	-26	-20	-27
2480	-17	-16	-13	-9	-4	0	4	7	12	12
2490	18	19	21	18	12	2	-9	-20	-29	-30
2500	-38	-39	-39	-38	-36	-32	-30	-25	-19	-19
2510	-10	0	1	1	6	16	19	24	32	32
2520	40	48	55	60	61	61	62	66	69	3040
2530	70	72	67	57	45	30	13	4	0	11
2540	-7	-17	-25	-34	-40	-44	-43	-49	-40	-85
2550	-58	-69	-80	-88	-91	-85	-79	-74	-67	-89

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-2226 )										
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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3090	-43	-42	-41	-40	-39	-38	-37	-36	-35	-34
3100	-40	-37	-35	-33	-33	-33	-33	-33	-32	-32
3110	-27	-23	-19	-13	-5	1	9	19	29	40
3120	-49	56	61	63	63	62	60	58	52	47
3130	41	36	31	25	20	18	15	15	17	19
3140	22	25	27	28	25	21	17	13	11	11
3150	9	10	12	16	19	21	20	19	19	16
3160	14	12	10	6	4	-1	-4	-8	-13	-16
3170	-19	-24	-31	-38	-45	-49	-52	-55	-58	-62
3180	-65	-68	-70	-71	-70	-68	-64	-60	-57	-50
3190	-37	-32	-28	-24	-22	-21	-19	-16	-13	-12
3200	-11	-9	-6	-5	-5	-1	-1	-1	-1	-1
3210	20	21	22	24	25	26	28	28	28	28
3220	26	22	18	15	11	8	6	4	2	0
3230	2	3	3	5	5	5	3	3	3	3
3240	3	4	4	3	4	4	2	1	0	-2
3250	-6	-11	-16	-22	-26	-30	-30	-32	-32	-30
3260	-27	-22	-16	-8	0	6	14	20	23	24
3270	22	21	19	17	16	15	14	15	17	19
3280	22	24	25	26	26	25	25	26	26	26
3290	27	26	21	16	11	9	7	6	6	6
3300	5	3	0	-9	-14	-15	-16	-15	-12	-12
3310	-7	-1	3	8	12	14	13	10	7	0
3320	-7	-14	-21	-27	-30	-31	-30	-28	-23	-23
3330	-12	-6	-17	-23	-28	-31	-32	-31	-28	-24
3340	-10	-17	-23	-28	-31	-32	-31	-28	-24	-24
3350	-8	3	16	26	36	40	41	41	38	34
3360	29	25	21	18	14	9	4	0	-5	-10
3370	-15	-20	-22	-23	-23	-22	-21	-21	-18	-14
3380	-8	-2	3	6	9	10	9	10	12	13
3390	11	10	8	5	2	0	0	0	0	0
3400	-1	-2	-4	-7	-11	-16	-20	-23	-27	-31
3410	-34	-38	-41	-42	-39	-34	-34	-34	-34	-34
3420	0	11	24	35	43	49	52	53	52	52
3430	51	51	50	49	47	44	41	37	34	30
3440	28	25	22	19	15	11	7	7	4	0
3450	-4	-7	-11	-14	-17	-21	-21	-26	-33	-40
3460	-46	-48	-47	-46	-45	-45	-45	-45	-44	-44
3470	-41	-48	-40	-39	-39	-37	-36	-34	-33	-33
3480	-30	-23	-15	-5	1	7	12	13	11	11
3490	10	9	7	6	5	5	4	5	8	8
3500	10	11	11	11	10	10	10	11	12	12
3510	13	14	16	15	14	13	12	11	9	8
3520	7	8	9	11	12	13	14	11	11	11
3530	8	5	1	-4	-10	-16	-21	-25	-29	-30
3540	-31	-32	-31	-19	-18	-18	-17	-15	-14	-14
3550	-22	-19	-19	-18	-18	-17	-15	-14	-12	-12
3560	-12	-10	-6	-2	0	3	7	9	10	10
3570	15	18	21	24	27	31	36	41	45	46
3580	47	46	43	41	38	35	32	29	26	26
3590	21	15	9	4	0	-3	-6	-7	-8	-9

CONTINUED ( S-2226 )										
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
3080	-32	-34	-36	-38	-40	-42	-44	-46	-48	-50
3090	-43	-42	-41	-40	-39	-38	-37	-36	-35	-34
3100	-40	-37	-35	-33	-33	-33	-33	-33	-32	-32
3110	-27	-23	-19	-13	-5	1	9	19	29	40
3120	-49	56	61	63	63	62	60	58	52	47
3130	41	36	31	25	20	18	15	15	17	19
3140	22	25	27	28	25	21	17	13	11	11
3150	9	10	12	16	19	21	20	19	19	16
3160	14	12	10	6	4	-1	-4	-8	-13	-16
3170	-19	-24	-31	-38	-45	-49	-52	-55	-58	-62
3180	-65	-68	-70	-71	-70	-68	-64	-60	-57	-50
3190	-37	-32	-28	-24	-22	-21	-19	-16	-13	-12
3200	-11	-9	-6	-5	-5	-1	-1	-1	-1	-1
3210	20	21	22	24	25	26	28	28	28	28
3220	26	22	18	15	11	8	6	4	2	0
3230	2	3	3	5	5	5	3	3	3	3
3240	3	4	4	3	4	4	2	1	0	-2
3250	-6	-11	-16	-22	-26	-30	-30	-32	-32	-30
3260	-27	-22	-16	-8	0	6	14	20	23	24
3270	22	21	19	17	16	15	14	15	17	19
3280	22	24	25	26	26	25	25	26	26	26
3290	27	26	21	16	11	9	7	6	6	6
3300	5	3	0	-9	-14	-15	-16	-15	-12	-12
3310	-7	-1	3	8	12	14	13	10	7	0
3320	-7	-14	-21	-27	-30	-31	-30	-28	-23	-23
3330	-12	-6	-17	-23	-28	-31	-32	-31	-28	-24
3340	-10	-17	-23	-28	-31	-32	-31	-28	-24	-24
3350	-8	3	16	26	36	40	41	41	38	34
3360	29	25	21	18	14	9	4	0	-5	-10
3370	-15	-20	-22	-23	-23	-22	-21	-21	-18	-14
3380	-8	-2	3	6	9	10	9	10	12	13
3390	11	10	8	5	2	0	0	0	0	0
3400	-1	-2	-4	-7	-11	-16	-20	-23	-27	-31
3410	-34	-38	-41	-42	-39	-34	-34	-34	-34	-34
3420	0	11	24	35	43	49	52	53	52	52
3430	51	51	50	49	47	44	41	37	34	30
3440	28	25	22	19	15	11	7	7	4	0
3450	-4	-7	-11	-14	-17	-21	-21	-26	-33	-40
3460	-46	-48	-47	-46	-45	-45	-45	-45	-44	-44
3470	-41	-48	-40	-39	-39	-37	-36	-34	-33	-33
3480	-30	-23	-15	-5	1	7	12	13	11	11
3490	10	9	7	6	5	5	4	3	3	3
3500	10	11	11	11	10	10	10	11	12	12
3510	13	14	16	15	14	13	12	11	9	8
3520	7	8	9	11	12	13	14	11	11	11
3530	8	5	1	-4	-10	-16	-21	-25	-29	-30
3540	-31	-32	-31	-19	-18	-18	-17	-15	-14	-14
3550	-22	-19	-19	-18	-18	-17	-15	-14	-12	-12
3560	-12	-10	-6	-2	0	3	7	9	10	10
3570	15	18	21	24	27	31	36	41	45	46
3580	47	46	43	41	38	35	32	29	26	26
3590	21	15	9	4	0	-3	-6	-7	-8	-9

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-2261 )										CONTINUED ( S-2261 )												
NO.	( 1 )	( 2 )	( 3 )	DOWN	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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4130	-6	-5	-3	-2	0	2	5	6	6	5	5	4650	-36	-39	-40	-38	-36	-33	-31	-26	-21	
4140	1	-1	-3	-5	-6	-8	-12	-14	-14	-15	-16	4660	-17	-14	-10	-8	-4	1	4	5	18	
4150	-17	-19	-20	-20	-18	-18	-17	-16	-16	-15	-16	4670	21	22	24	26	25	24	23	20	18	
4160	-17	-19	-22	-23	-24	-22	-20	-16	-16	-12	-12	4680	14	13	12	11	10	7	4	5	5	
4170	0	4	6	7	8	9	12	12	11	10	10	4690	5	6	5	5	6	5	4	3	3	
4180	12	13	14	19	24	27	29	32	34	38	4700	-1	-6	-10	-14	-18	-20	-19	-19	-18		
4190	41	42	44	45	44	42	39	34	31	28	4710	-15	-10	-14	-18	-22	0	-3	6	7		
4200	25	22	20	15	12	9	5	2	0	-1	4720	12	13	15	16	17	15	12	10	9		
4210	0	1	3	6	9	12	15	19	22	24	4730	5	5	5	5	5	7	6	4	4		
4220	27	26	24	23	20	15	10	6	2	2	4740	0	0	0	0	0	0	1	1	0		
4230	-3	-9	-15	-19	-24	-29	-34	-41	-43	-43	4750	-1	-1	0	-1	-4	-6	-9	-11	-12		
4240	-47	-50	-53	-55	-55	-57	-59	-60	-59	-59	4760	-13	-14	-13	-11	-11	-11	-10	-11	-11		
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4260	-40	-36	-31	-26	-20	-15	-12	-8	-5	-2	4780	7	9	9	11	10	10	11	12	13		
4270	0	3	4	6	7	10	12	11	10	10	4790	14	16	18	19	19	18	15	15	15		
4280	8	6	4	2	1	-1	2	4	5	5	4800	12	9	7	5	3	2	1	0	0		
4290	13	17	20	23	26	30	33	33	33	33	4810	-1	-1	0	0	-1	-1	-1	-1	-1		
4300	33	32	29	25	24	24	23	23	23	23	4820	-6	-10	-12	-11	-12	-13	-12	-11	-11		
4310	23	25	29	30	31	30	28	28	29	29	4830	-8	-7	-6	-6	-3	-3	-3	-2	-2		
4320	28	28	30	32	34	36	37	35	32	29	4840	0	2	5	6	8	11	12	14	15		
4330	25	26	21	18	20	18	16	14	14	11	4850	18	16	15	15	13	12	9	7	7		
4340	10	8	6	5	4	3	3	3	3	3	4860	9	7	4	2	0	0	0	2	4		
4350	4	4	1	-1	-1	-4	-6	-8	-11	-17	4870	3	1	0	-1	0	-4	-6	-8	-8		
4360	-22	-26	-31	-31	-32	-32	-32	-32	-31	-31	4880	-8	-10	-13	-17	-19	-20	-21	-22	-24		
4370	-31	-29	-27	-22	-15	-9	-5	-2	0	1	4890	-22	-19	-16	-14	-13	-11	-12	-15	-14		
4380	2	-1	0	1	1	2	3	5	7	7	4900	-13	-13	-9	-8	-8	-10	-9	-8	-7		
4390	6	4	2	1	-1	-2	-3	-6	-9	-11	4910	-4	-4	-3	-3	-1	0	2	4	4		
4400	-12	-14	-16	-17	-17	-18	-19	-21	-21	-22	4920	4	4	1	-2	0	3	5	6	7		
4410	-18	-17	-16	-16	-17	-15	-12	-21	-21	-21	4930	11	12	13	14	15	17	20	23	24		
4420	-22	-23	-23	-23	-24	-24	-22	-19	-18	-16	4940	23	24	24	26	26	24	22	19	17		
4430	-13	-12	-10	-7	-4	-3	0	1	3	1	4950	19	14	11	9	9	9	8	8	8		
4440	5	6	8	10	13	16	19	21	22	26	4960	5	6	2	1	3	0	-2	-4	-4		
4450	29	33	37	40	41	43	45	42	40	37	4970	-7	-7	-6	-7	-10	-11	-13	-13	-13		
4460	35	33	34	32	30	30	28	24	21	20	4980	-13	-14	-13	-12	-12	-12	-11	-10	-13		
4470	19	16	11	9	6	2	-1	-5	-7	-10	4990	-4	-2	-2	-2	-4	-5	-6	-10	-10		
4480	-11	-14	-17	-20	-23	-23	-28	-33	-36	-35	5000	-12	-11	-10	-10	-13	-13	-12	-15	-15		
4490	-36	-35	-34	-32	-30	-28	-28	-28	-28	-28	5010	-10	-11	-13	-14	-15	-15	-15	-15	-15		
4500	-27	-27	-27	-20	-17	-16	-13	-13	-13	-13	5020	-11	-9	-10	-10	-9	-7	-7	-8	-8		
4510	-5	-1	1	3	6	8	10	8	7	7	5030	-7	-7	-4	0	3	5	7	7	7		
4520	6	7	8	9	8	6	6	5	5	7	5040	13	14	15	16	17	16	16	17	17		
4530	6	7	8	10	13	14	18	20	22	22	5050	16	15	13	10	9	8	5	4			
4540	21	20	18	16	15	14	13	11	11	11	5060	0	-4	-6	-9	-10	-10	-10	-7	-7		
4550	5	4	0	-4	-6	-10	-13	-15	-17	-18	5070	-5	-6	-4	-3	-4	-5	-6	-5	-5		
4560	-18	-20	-23	-24	-27	-27	-29	-32	-31	-29	5080	-2	-2	-1	-3	-2	-1	-4	-5	-3		
4570	-27	-26	-25	-23	-20	-17	-14	-11	-4	0	5090	-1	-1	-3	-6	-8	-8	-9	-10	-10		
4580	3	7	10	10	11	11	11	14	14	14	5100	-8	-5	-4	-3	0	2	6	10	14		
4590	16	19	20	22	27	30	30	31	31	31	5110	19	19	20	22	24	25	25	24	24		
4600	29	25	24	24	23	23	23	23	23	23	5120	23	21	19	18	16	15	11	8	6		
4610	13	9	8	6	4	4	4	4	4	4	5130	3	3	4	4	5	5	3	0	-2		
4620	4	3	3	4	3	2	1	-2	-3	-2	5140	-3	-4	-7	-9	-10	-11	-12	-11	-6		
4630	0	0	-3	-6	-9	-15	-21	-28	-30	-31	5150	-6	-5	-3	0	1	2	3	4	5		

TO BE CONTINUED

TO BE CONTINUED

CONTINUED ( S-226 ) DOWN )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
5160	3	2	1	0	-2	-3	-4	-8	-8	-8
5170	-6	-7	-8	-7	-8	-9	-10	-10	-12	-25
5180	-15	-14	-15	-14	-15	-20	-23	-24	-25	-25
5190	-24	-18	-14	-11	-7	-5	-3	0	0	-12
5200	0	0	-1	-1	-4	-7	-8	-8	-9	-9
5210	-8	-4	-1	-1	5	6	11	15	19	20
5220	20	20	22	21	19	18	18	17	16	5730
5230	13	11	8	6	5	4	4	6	7	5680
5240	7	8	8	1	1	12	12	13	15	5690
5250	18	17	16	14	12	11	11	8	4	5700
5260	-2	-3	-6	-8	-8	-10	-9	-6	-4	5710
5270	-4	-4	-3	-3	-3	-4	-4	-6	-6	5720
5280	-6	-6	-9	-10	-9	-8	-5	-3	-3	5730
5290	-1	-3	-5	-4	-3	-2	-1	0	0	5740
5300	10	14	20	24	25	26	29	30	27	5750
5310	24	22	19	19	16	15	13	10	8	5760
5320	4	4	0	-4	-8	-11	-15	-19	-20	5770
5330	-25	-27	-28	-28	-28	-27	-24	-22	-18	5780
5340	-16	-16	-14	-13	-13	-13	-11	-7	-6	5790
5350	0	4	7	11	9	11	9	11	11	5800
5360	13	14	12	9	7	7	7	4	7	5810
5370	-1	-2	-4	-4	-6	-7	-7	-10	-11	5820
5380	-8	-7	-5	-3	0	4	6	6	9	5830
5390	11	11	13	14	14	15	19	21	23	5840
5400	23	23	24	23	23	21	19	16	14	5850
5410	6	6	5	1	-1	-3	-4	-6	-6	5860
5420	-11	-14	-15	-19	-23	-23	-26	-29	-31	5870
5430	-34	-33	-32	-29	-27	-27	-33	-34	-34	5880
5440	-5	-4	-2	1	3	5	5	6	6	5890
5450	6	8	9	11	13	15	17	16	16	5900
5460	16	16	18	19	16	14	12	11	6	5910
5470	6	6	8	10	10	11	11	10	10	5920
5480	12	11	11	11	11	13	17	17	17	5930
5490	13	11	7	5	3	0	1	-3	-8	5940
5500	-14	-17	-17	-19	-19	-18	-18	-19	-18	-11
5510	-16	-17	-15	-13	-14	-15	-16	-12	-11	-10
5520	-6	-5	-3	0	1	3	4	6	7	-8
5530	7	8	10	11	9	8	6	8	12	13
5540	13	12	12	9	6	4	3	2	0	-4
5550	-7	-11	-14	-16	-21	-26	-27	-29	-30	-26
5560	-29	-28	-26	-28	-29	-28	-28	-28	-29	-28
5570	-25	-22	-15	-13	-14	-15	-15	-13	-10	-7
5580	-3	-3	-3	0	0	1	1	1	6	8
5590	13	18	21	25	28	30	35	38	38	38
5600	37	37	38	35	30	25	22	22	20	18
5610	16	12	14	17	16	11	9	6	4	9
5620	2	0	-1	-2	-5	-6	-6	-6	-6	-6
5630	-5	-5	-4	-4	-5	-6	-6	-7	-10	-11
5640	-14	-15	-15	-15	-15	-14	-14	-12	-11	-11
5650	-9	-6	-5	-1	0	2	2	4	6	6
5660	11	14	15	16	19	20	21	25	28	28
5670	28	28	24	19	15	16	14	10	10	10

CONTINUED ( S-226 ) DOWN )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
5160	3	2	1	0	-2	-3	-4	-8	-8	-8
5170	-6	-7	-8	-7	-8	-9	-10	-10	-12	-25
5180	-15	-14	-15	-14	-15	-20	-23	-24	-25	-25
5190	-24	-18	-14	-11	-7	-5	-3	0	0	-12
5200	0	0	-1	-1	-4	-7	-8	-8	-10	-9
5210	-8	-4	-1	-1	5	6	11	15	19	20
5220	20	20	22	21	19	18	18	17	16	5730
5230	13	11	8	6	5	4	4	6	7	5680
5240	7	8	8	1	1	12	12	13	14	5690
5250	18	17	16	14	12	11	11	8	4	5700
5260	-2	-3	-6	-8	-8	-10	-9	-6	-4	5710
5270	-4	-4	-3	-3	-4	-7	-8	-6	-4	5720
5280	-6	-6	-9	-10	-9	-8	-5	-3	-5	5730
5290	-1	-3	-5	-4	-3	-1	0	0	0	5740
5300	10	14	20	24	25	26	29	30	27	5750
5310	24	22	19	19	16	15	13	10	8	5760
5320	4	4	0	-4	-8	-11	-15	-19	-20	5770
5330	-25	-27	-28	-28	-28	-27	-24	-22	-18	5780
5340	-16	-16	-14	-13	-13	-13	-11	-7	-6	5790
5350	0	4	7	11	9	11	9	11	11	5800
5360	13	14	12	9	7	7	4	3	3	5810
5370	-1	-2	-4	-4	-6	-7	-7	-10	-11	5820
5380	-8	-7	-5	-3	0	4	6	6	8	5830
5390	11	11	13	14	14	15	19	21	23	5840
5400	23	23	24	23	23	21	19	16	14	5850
5410	6	6	5	1	-1	-3	-4	-6	-6	5860
5420	-11	-14	-15	-19	-23	-23	-26	-29	-31	5870
5430	-34	-33	-32	-29	-27	-27	-33	-34	-34	5880
5440	-5	-4	-2	1	3	5	5	6	6	5890
5450	6	8	9	11	13	15	17	16	16	5900
5460	16	16	18	19	16	14	12	11	6	5910
5470	6	6	8	10	10	11	11	10	10	5920
5480	12	11	11	11	11	13	17	17	17	5930
5490	13	11	7	5	3	0	1	-3	-8	5940
5500	-14	-17	-17	-19	-19	-18	-18	-19	-18	-11
5510	-16	-17	-15	-13	-14	-15	-16	-12	-11	-10
5520	-6	-5	-3	0	1	3	4	6	7	-8
5530	7	8	10	11	9	8	6	8	12	13
5540	13	12	12	9	6	4	3	2	0	-4
5550	-7	-11	-14	-16	-21	-26	-27	-29	-30	-26
5560	-29	-28	-26	-28	-29	-28	-28	-28	-29	-28
5570	-25	-22	-15	-13	-14	-15	-15	-13	-10	-7
5580	-3	-3	-3	0	0	1	1	1	6	8
5590	13	18	21	25	28	30	35	38	38	38
5600	37	37	38	35	30	25	22	22	20	18
5610	16	12	14	17	16	11	9	6	4	9
5620	2	0	-1	-2	-5	-6	-6	-6	-6	-6
5630	-5	-5	-4	-4	-5	-6	-6	-7	-10	-11
5640	-14	-15	-15	-15	-15	-14	-14	-12	-11	-11
5650	-9	-6	-5	-5	-1	0	2	2	4	6
5660	11	14	15	16	19	20	21	25	28	28
5670	28	28	24	19	15	16	14	10	10	10

)  
END

TO BE CONTINUED

RECORD = S-2251    COMPONENT = NORTH  
 DATE AND TIME = 1989-11-2~4:57  
 ANPLING INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 3000, 3000,  
 NO. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)  
 STATION = SAKAIMINATO-JI-S  
 TOTAL NUMBER OF DATA = 3000  
 SCALE = 0.10000

										CONTINUED (S-2251)										NORTH													
		</th																															

## CONTINUED( S-2251 )

NORTH

)

NO. ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 ) ( 8 ) ( 9 ) ( 10 )

1000	85	90	89	84	73	59	45	32	23	17	1520	10	11	11	9	7	7	6	3	0	-1		
1010	13	12	12	13	12	11	8	-2	-13	-148	-153	-155	1530	3	6	8	12	20	25	31	35		
1020	-26	-43	-65	-89	-111	-119	-129	-141	-148	-144	-23	-6	1540	40	43	46	47	46	39	33	24	18	
1030	-152	-143	-129	-112	-89	-55	-44	-44	-23	-15	15	17	1550	15	10	6	1	-10	-16	-12	-22	-32	
1040	13	15	16	15	15	15	15	17	21	28	35	35	1560	-39	-43	-46	-47	-45	-35	-16	-22	-32	
1050	41	49	57	64	70	75	82	89	92	93	1570	30	38	45	48	50	55	55	54	51	50		
1060	93	90	84	74	61	48	33	13	-4	-21	1580	46	44	40	34	33	29	25	23	19	11		
1070	-36	-61	-64	-73	-82	-86	-91	-89	-85	-76	-37	-30	1590	6	0	-12	-13	-16	-17	-16	-16	-16	
1080	-69	-60	-54	-48	-45	-43	-45	-43	-43	-37	-17	-13	1600	-13	-10	-6	0	3	5	8	6	9	10
1090	-1	14	28	41	54	64	73	81	88	96	1610	10	9	8	5	4	0	-2	-5	-8	-10		
1100	102	105	104	101	96	89	78	64	51	38	1620	-12	-16	-19	-22	-26	-29	-33	-37	-42	-43		
1110	22	5	-12	-28	-45	-62	-80	-80	-80	-113	-128	-126	-1630	-45	-50	-53	-52	-57	-58	-59	-59	-59	
1120	-138	-143	-144	-141	-134	-124	-111	-91	-69	-126	-111	-91	1640	-57	-53	-50	-46	-39	-31	-24	-18	-12	-6
1130	-22	-2	13	23	29	31	29	24	19	14	1650	3	13	21	29	33	34	33	30	26	26		
1140	12	13	16	24	36	47	57	63	68	71	1660	19	13	5	-3	-3	-9	-16	-24	-30	-47		
1150	70	69	64	60	58	55	54	51	49	47	1670	-51	-55	-56	-56	-54	-53	-50	-48	-46	-41		
1160	50	51	50	49	48	47	43	38	33	27	1680	-36	-30	-25	-17	-13	9	20	31	43	53		
1170	19	11	-15	-23	-30	-30	-37	-43	-47	-44	1690	59	62	65	67	69	67	65	63	60	60		
1180	-53	-57	-52	-54	-47	-38	-27	-16	-7	0	1700	55	52	50	46	41	34	27	21	16	10		
1190	6	3	-1	-8	-16	-27	-39	-39	-50	-57	1710	2	-3	-7	-9	-9	-5	0	2	3	3		
1200	-60	-62	-63	-62	-59	-57	-56	-54	-53	-50	1720	7	12	15	17	22	25	29	32	36	41		
1210	-52	-50	-49	-48	-46	-43	-39	-34	-28	-23	1730	45	47	48	49	48	45	39	32	25	15		
1220	-20	-19	-19	-19	-19	-19	-20	-24	-24	-27	1740	11	8	6	1	-3	-6	-9	-11	-11	-11		
1230	-29	-30	-30	-30	-28	-25	-19	-12	-8	-4	1750	-10	-10	-11	-12	-9	-5	-3	0	4	4		
1240	-1	-2	-4	-7	-7	-10	-14	-19	-19	-16	1760	6	9	11	14	16	20	24	22	20	19		
1250	-1	-2	9	21	35	46	53	62	68	71	1770	16	16	18	15	11	5	0	-3	-8	-3		
1260	74	74	74	74	73	72	73	74	72	74	1780	-9	-9	-10	-13	-13	-10	-8	-7	-7	-8		
1270	72	72	70	72	70	72	73	74	72	74	1790	-8	-9	-11	-13	-13	-16	-19	-24	-29	-36		
1280	59	54	51	46	45	41	35	26	11	11	1800	-37	-38	-41	-42	-39	-39	-43	-48	-50	-50		
1290	2	-3	-8	-10	-9	-14	-15	-16	-15	-15	1810	-52	-51	-50	-48	-44	-42	-39	-35	-31	-31		
1300	-18	-20	-24	-28	-30	-34	-35	-36	-36	-37	1820	-26	-21	-19	-20	-18	-17	-15	-10	-3	-3		
1310	-33	-29	-24	-21	-20	-22	-24	-28	-28	-28	1830	1	1	1	3	2	2	4	6	7	7		
1320	-32	-35	-37	-38	-38	-32	-29	-27	-25	-25	1840	9	12	15	19	23	26	27	27	29	29		
1330	-22	-20	-17	-14	-11	-6	0	-5	-2	-1	1850	29	28	26	25	24	22	21	19	14	14		
1340	17	19	18	14	10	4	-2	-9	-15	-15	1860	9	7	4	0	-4	-7	-8	-7	-5	-5		
1350	-28	-34	-40	-45	-48	-46	-42	-37	-29	-22	1870	-3	-2	0	2	4	9	16	23	30	38		
1360	-14	-7	-1	2	4	5	6	5	1	-5	1880	44	48	52	55	57	59	62	63	64	66		
1370	-11	-18	-27	-35	-43	-50	-59	-68	-78	-65	1890	65	63	61	56	51	41	35	31	27	27		
1380	-91	-98	-106	-113	-117	-118	-113	-100	-82	-77	1900	25	24	21	18	15	13	11	12	14	14		
1390	-62	-38	-10	21	54	83	110	135	154	166	1910	11	10	8	4	1	0	-3	-5	-13	-13		
1400	173	174	172	164	153	139	119	100	79	77	1920	-14	-16	-17	-15	-15	-16	-17	-16	-16	-16		
1410	35	15	-2	-16	-28	-40	-50	-60	-68	-72	1930	-22	-26	-31	-36	-42	-46	-48	-46	-40	-40		
1420	-72	-69	-62	-53	-39	-21	-3	13	36	60	1940	-36	-35	-32	-27	-22	-22	-21	-18	-17	-17		
1430	82	109	128	142	155	165	172	178	180	178	1950	-18	-17	-16	-12	-14	-15	-18	-20	-23	-26		
1440	173	165	154	132	109	91	67	38	7	-6	1960	-6	-8	-12	-14	-15	-18	-20	-23	-24	-26		
1450	-38	-60	-76	-89	-95	-102	-105	-99	-94	-94	1970	-26	-30	-31	-32	-34	-34	-35	-34	-34	-35		
1460	-86	-78	-70	-59	-50	-42	-35	-27	-20	-16	1980	-34	-31	-26	-22	-18	-14	-9	-6	-4	0		
1470	-12	-10	-9	-10	-13	-18	-22	-25	-29	-34	1990	2	6	9	15	20	24	25	26	25	25		
1480	-40	-46	-53	-60	-68	-74	-79	-85	-88	-91	2000	25	26	25	26	24	22	21	23	25	25		
1490	-91	-90	-86	-82	-77	-77	-62	-52	-41	-24	2010	24	22	20	17	17	16	11	10	10	10		
1500	-8	3	15	26	32	34	33	31	27	22	2020	11	10	10	9	6	3	2	2	0	-1		
1510	18	13	7	7	0	0	1	4	8	0	0	0	0	0	0	0	8	8	8	8			

TO BE CONTINUED

TO BE CONTINUED

CONTINUED( S-2251 )										NORTH												
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	
2040	44	48	51	52	51	50	48	44	41	40	2560	18	16	15	15	14	13	10	8	-5	-5	
2050	38	35	31	26	21	16	-21	-24	-27	-31	2570	4	3	2	0	-2	-6	-6	-6	-5	-7	
2060	-56	-7	-11	-16	-21	-24	-21	-14	-9	-4	2580	-4	-5	-5	-5	-2	0	-8	-10	-8	-7	
2070	-34	-32	-30	-25	-26	-21	-17	-27	-31	-33	2590	-7	-7	-6	-5	-2	0	1	2	6	10	
2080	-1	3	5	2	1	1	1	2	0	-4	-11	2600	12	14	16	19	15	13	11	10	10	10
2090	-18	-24	-30	-32	-33	-37	-31	-39	-35	-31	2610	9	5	1	0	0	0	0	0	0	0	
2100	-26	-22	-18	-13	-8	-3	-1	4	9	13	2620	-2	-1	0	4	6	9	14	19	20	19	
2110	17	18	15	18	20	19	19	22	22	22	2630	17	16	19	19	20	23	25	27	27	27	
2120	20	16	16	14	11	8	5	1	-3	-3	2640	29	30	31	32	33	31	30	30	29	29	
2130	-7	-13	-16	-14	-16	-17	-19	-19	-20	-22	2650	27	24	23	21	20	19	16	14	13	12	
2140	-24	-25	-26	-23	-26	-25	-22	-26	-22	-17	2660	11	9	8	7	6	5	3	3	3	3	
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2160	28	30	29	29	28	25	23	22	22	22	2680	14	14	13	13	12	9	7	5	4	2	
2170	21	20	18	14	11	9	6	4	2	0	2690	0	-1	-4	-6	-6	-5	-4	-4	-3	-2	
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2190	12	13	15	17	19	19	18	18	18	19	2710	19	24	27	30	34	32	32	31	31		
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2210	1	0	-2	-7	-9	-8	-7	-8	-9	-10	2730	15	13	12	11	10	8	7	7	7	7	
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2230	10	10	9	8	6	7	8	7	8	6	2750	9	9	8	9	9	9	10	10	10	7	
2240	-1	-2	-4	-7	-9	-14	-19	-14	-19	-25	2760	6	7	8	10	11	15	16	16	16	16	
2250	-37	-36	-35	-35	-35	-31	-25	-25	-22	-20	2770	17	16	16	16	16	16	17	18	20	20	
2260	-15	-12	-9	-4	0	3	4	3	1	2	2780	18	19	20	18	18	18	17	16	16	16	
2270	7	11	13	12	11	11	7	6	6	6	2790	15	13	11	11	11	11	10	10	10	10	
2280	5	5	3	4	4	4	3	1	1	1	2800	10	10	9	10	13	14	14	16	18	19	
2290	-4	-1	0	2	6	9	9	11	11	13	2810	21	21	22	22	22	24	24	24	23	22	
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2320	39	39	39	38	37	37	37	37	35	31	2840	29	30	32	34	35	39	41	42	43	42	
2330	26	24	21	17	14	11	8	4	2	-1	2850	41	39	36	36	32	27	25	23	19	17	
2340	0	-9	-12	-13	-15	-19	-25	-25	-25	-22	2860	17	15	13	11	10	6	2	0	-1	-2	
2350	-22	-21	-19	-17	-16	-14	-11	-7	-6	-5	2870	-2	-2	-2	-1	-1	0	1	1	1	1	
2360	-5	-6	-9	-11	-13	-13	-13	-14	-16	-16	2880	2	4	4	5	7	9	10	11	12	14	
2370	-21	-24	-26	-27	-30	-29	-28	-28	-28	-28	2890	15	17	17	17	17	17	16	15	15	15	
2380	-25	-21	-17	-14	-12	-8	-1	2	7	7	2900	15	14	12	11	10	9	8	8	8	8	
2390	13	18	21	17	14	11	8	4	2	-1	2910	7	6	4	2	2	1	0	-1	-1	-1	
2400	30	29	27	25	24	21	18	16	15	15	2920	-3	-3	-4	-3	-3	-4	-4	-3	-3	-3	
2410	13	10	7	3	-1	-1	-1	-1	-1	-1	2930	-4	-4	-5	-5	-6	-8	-8	-10	-12	-10	
2420	3	4	6	8	9	12	12	13	14	14	2940	-10	-11	-10	-9	-8	-7	-6	-5	-5	-9	
2430	16	19	19	16	15	15	15	15	15	15	2950	12	13	13	13	13	12	11	10	11	11	
2440	9	10	8	6	6	7	8	9	9	9	2960	39	42	45	47	49	49	50	50	50	50	
2450	15	17	20	22	23	21	20	16	14	11	2970	50	50	50	50	50	49	49	48	47	47	
2460	9	5	-2	-24	-24	-24	-24	-24	-24	-12	2980	47	47	46	46	46	45	45	45	45	43	
2470	-20	-18	-16	-14	-14	-11	-8	-5	-5	-25	2990	42	42	42	42	42	42	42	42	42	43	
2480	-22	-18	-16	-14	-14	-11	-8	-5	-5	-25	44	44	44	44	44	44	44	44	44	43		
2490	6	8	10	11	12	12	12	12	12	12	45	45	45	45	45	45	45	45	45	45		
2500	15	15	15	16	14	13	12	12	12	12	46	46	46	46	46	46	46	46	46	46		
2510	5	5	4	4	6	7	8	8	8	9	47	47	47	47	47	47	47	47	47	47		
2520	9	10	11	11	11	12	12	12	12	12	48	48	48	48	48	48	48	48	48	48		
2530	12	13	14	14	15	16	16	16	16	16	49	49	49	49	49	49	49	49	49	49		
2540	21	21	20	20	20	20	20	20	20	20	50	50	50	50	50	50	50	50	50	50		
2550	21	24	25	26	26	26	26	26	26	26	51	51	51	51	51	51	51	51	51	51		

END

TO BE CONTINUED

RECORD = S-2251 COMPONENT = EAST  
 DATE AND TIME = 1983-11-2-4-57  
 AMPLIFYING INTERVAL = 0.010 SEC  
 SIGNAL = GR. ACC.  
 POSITION POINT IN DATA NUMBER = 30000, 30000,

STATION = SAKAIMINATO-JI-S  
 TOTAL NUMBER OF DATA = 3000  
 SCAL = 0.10000

NO.	CONTINUED (S-2251 EAST)									
	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
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10	-1	-2	-2	-2	-2	-2	-2	-2	-2	-2
20	-3	-3	-3	-3	-2	-2	-1	-1	-1	-1
30	0	0	0	0	-4	-4	-4	-4	-4	-4
40	-5	-4	-4	-4	-4	-4	-5	-6	-7	-7
50	-8	-7	-7	-7	-6	-6	-6	-6	-6	-6
60	-4	-4	-4	-4	-4	-4	-1	-1	-1	-1
70	-4	-5	-5	-5	-5	-5	-9	-10	-11	-10
80	-8	-4	-2	-1	0	0	-2	-4	-8	-11
90	-13	-14	-11	-8	-5	-2	0	1	2	2
100	2	3	3	1	0	-3	-6	-9	-12	-14
110	-15	-17	-19	-16	-15	-14	-13	-11	-9	-7
120	-1	6	12	14	16	15	11	7	3	-1
130	-4	-6	-8	-10	-10	-12	-13	-13	-12	-11
140	-8	-6	-5	-5	-5	-6	-7	-9	-8	-6
150	-5	-5	-7	-5	-9	-9	-10	-13	-14	-14
160	3	3	2	-1	-1	-1	-5	-8	-10	-12
170	-13	-8	-4	-1	1	3	0	-5	-13	-16
180	-21	-25	-26	-23	-18	-10	1	13	21	23
190	1	4	7	0	6	7	6	0	-16	-17
200	-10	-3	2	0	-3	0	-3	-6	70	110
210	-9	-11	-13	-14	-14	-14	-16	-18	-17	-15
220	-13	-8	-2	9	16	19	19	17	17	17
230	8	0	-5	-9	-13	-15	-12	-10	-8	-6
240	-6	-7	-8	-9	-9	-8	-6	-5	-4	-3
250	-2	-1	0	1	3	4	3	2	3	2
260	5	8	8	6	5	2	-2	-7	-12	-15
270	-17	-16	-15	-11	-13	-14	-14	-16	-18	-17
280	0	-1	0	0	-1	-1	-1	0	0	0
290	0	-2	-1	-2	-3	-2	-2	-1	0	0
300	-2	-4	-7	-9	-10	-10	-10	-5	-3	-1
310	0	3	6	6	5	5	1	0	-2	-2
320	0	0	0	0	0	0	0	0	0	0
330	-2	-3	-6	-9	-10	-11	-11	-9	-7	-4
340	-2	-1	0	0	-1	-1	-2	0	2	-1
350	8	12	11	8	3	-2	-6	-10	-10	-10
360	-9	-6	-1	4	10	16	18	12	8	2
370	2	-2	-8	-13	-15	-17	-19	-20	-20	-19
380	-7	-12	-6	0	8	15	21	22	22	20
390	16	10	5	0	-2	-4	-3	0	5	5
400	7	6	2	0	-4	-8	-10	-11	-11	-11
410	-3	0	3	4	2	-1	-6	-12	-17	-19
420	-21	-18	-12	-5	4	13	20	24	21	21
430	17	11	-1	4	10	16	18	12	8	-2
440	-10	-7	-5	-2	-3	-17	-23	-21	-17	-17
450	13	33	62	100	166	249	325	457	513	513
460	556	580	585	568	510	400	260	106	-92	-33
470	-533	-732	-892	-1001	-1047	-1026	-613	-662	-476	-950

TO BE CONTINUED

TO BE CONTINUED

## CONTINUED ( S-2251 EAST )

## CONTINUED ( S-2251 EAST )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
1000	117	109	94	76	55	36	22	15	9	9	1520	55	54	50	45	42	36	28	23	20	16
1010	8	15	18	18	16	11	-11	-26	-49	-49	1530	12	8	4	0	-3	-7	-16	-22	-25	-25
1020	-42	-55	-62	-64	-59	-55	-52	-49	-49	-44	1540	-34	-34	-40	-42	-42	-42	-43	-42	-40	-37
1030	-51	-53	-56	-54	-46	-33	-14	-11	-11	-11	1550	-32	-26	-20	-14	-14	-14	-13	-13	-13	-1
1040	73	92	100	96	88	76	60	42	24	24	1560	-5	-10	-12	-13	-17	-21	-24	-24	-25	-26
1050	9	-3	-12	-17	-19	-20	-19	-18	-16	-16	1570	-26	-25	-23	-18	-13	-18	0	4	6	11
1060	-14	-12	-8	-5	0	-20	-13	-17	17	17	1580	15	17	16	15	12	6	-1	-9	-17	-26
1070	13	-7	0	-3	-7	-7	-4	-1	4	10	1590	-35	-43	-49	-53	-56	-57	-58	-59	-60	-61
1080	18	22	23	20	16	12	7	2	-1	-2	1600	-64	-64	-63	-63	-60	-55	-49	-39	-30	-20
1090	-2	1	6	12	14	13	12	9	4	0	1610	-10	1	13	21	28	34	40	44	48	54
1100	-3	-1	6	19	49	94	125	153	180	196	1620	64	73	80	86	90	91	89	85	74	63
1110	201	200	189	169	144	112	74	45	18	-4	1630	49	35	19	9	-1	-10	-15	-19	-24	-26
1120	-16	-24	-30	-34	-33	-28	-25	-20	-17	-16	1640	-26	-28	-31	-31	-27	-25	-21	-18	-13	-9
1130	-16	-16	-17	-20	-23	-28	-35	-47	-59	-73	1650	-6	-3	0	0	2	4	5	7	11	15
1140	-82	-89	-92	-93	-88	-79	-69	-62	-55	-48	1660	19	26	32	36	39	40	41	39	34	28
1150	-42	-35	-27	-20	-16	-14	-13	-15	-20	-24	1670	20	11	4	0	-4	-3	1	6	10	10
1160	-29	-35	-37	-34	-29	-20	-8	3	14	14	1680	13	17	22	27	30	33	36	39	40	38
1170	22	28	32	30	25	18	6	-5	-16	-30	1690	34	28	21	11	0	-7	-11	-14	-17	-19
1180	-44	-59	-70	-77	-80	-61	-79	-72	-63	-54	1700	-18	-17	-15	-14	-13	-15	-18	-23	-28	-35
1190	-45	-37	-31	-27	-23	-19	-14	-10	-6	-4	1710	-39	-45	-53	-59	-62	-62	-65	-66	-64	-60
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1230	40	54	67	85	90	92	89	82	72	72	1750	-3	-7	-12	-13	-15	-20	-24	-25	-29	-31
1240	59	46	34	21	9	-14	-23	-28	-32	-32	1760	-29	-29	-27	-24	-22	-19	-17	-12	-8	-2
1250	-32	-29	-25	-19	-10	9	9	16	26	26	1770	4	9	16	25	36	41	45	46	49	49
1260	48	62	74	86	94	99	100	101	100	99	1780	51	51	52	52	53	53	52	51	48	44
1270	98	91	85	83	79	73	64	50	26	1	1790	42	38	34	26	16	11	4	-4	-12	-16
1280	-13	-27	-47	-66	-82	-96	-104	-106	-99	-80	1800	-20	-25	-27	-24	-18	-14	-13	-11	-1	-1
1290	-84	-60	-40	-25	-10	-95	-23	39	50	56	1810	-4	-3	0	2	5	8	10	12	14	16
1300	59	61	60	56	48	42	35	26	20	16	1820	16	16	16	16	15	14	15	17	20	23
1310	12	6	0	-4	-9	-13	-16	-18	-21	-23	1830	26	28	31	35	39	43	46	49	51	52
1320	-24	-27	-29	-29	-29	-29	-24	-24	-20	-20	1840	50	47	43	39	35	33	32	31	28	27
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1360	-18	-16	-16	-18	-13	-9	-3	6	-10	-11	1880	-32	-35	-40	-42	-45	-47	-49	-48	-47	-43
1370	-16	-16	-16	-18	-16	-13	-9	6	18	1890	-39	-37	-34	-34	-29	-25	-23	-19	-17	-18	
1380	28	37	46	55	62	66	68	67	64	59	1900	-16	-18	-22	-26	-29	-31	-31	-29	-26	-22
1390	51	42	33	24	13	0	-12	-27	-40	-48	1910	-18	-15	-12	-9	-7	-8	-8	-10	-7	-5
1400	-54	-57	-58	-57	-52	-45	-37	-32	-28	-24	1920	-11	-11	-10	-10	-9	-9	-10	-7	-5	-5
1410	-20	-14	-8	0	11	28	48	62	69	76	1930	-4	-3	-3	-3	-7	-7	-7	-7	-7	-9
1420	-93	85	86	84	77	68	54	36	22	7	1940	-11	-14	-16	-15	-16	-16	-12	-7	-7	-9
1430	-6	-14	-23	-27	-30	-28	-21	-16	-12	-10	1950	2	7	10	13	14	17	20	23	26	30
1440	-8	-3	0	1	2	6	9	13	14	14	1960	35	42	48	51	52	53	52	51	47	47
1450	17	19	18	16	15	12	10	5	1	1	1970	43	36	32	30	27	23	20	17	13	10
1460	-3	-6	-9	-15	-21	-22	-25	-30	-34	-37	1980	3	-2	-7	-13	-16	-19	-21	-20	-16	-16
1470	-37	-38	-34	-34	-32	-24	-24	-43	-60	-74	1990	-11	-3	3	7	11	9	7	7	7	7
1480	85	92	88	82	76	68	61	55	2000	7	6	5	5	6	7	8	10	10	10	10	
1490	50	45	-16	-30	-41	-51	-63	-73	-79	-81	2020	-16	-18	-16	-13	-9	-9	-13	-15	-15	-15
1500	4	-5	16	-30	-41	-30	-44	-30	-44	-53	2030	12	16	19	21	21	20	18	16	14	11

TO BE CONTINUED

TO BE CONTINUED

CONTINUED( S-2251 EAST )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
2040	8	5	3	0	-2	-5	-7	-9	-12	-15
2050	-13	-14	-15	-17	-21	-25	-27	-28	-28	-26
2060	-23	-22	-21	-19	-15	-18	-18	-18	-15	-15
2070	-11	-8	-4	-1	0	0	-3	-5	-5	-5
2080	-8	-10	-13	-14	-17	-18	-21	-23	-27	-29
2090	-31	-33	-35	-36	-37	-38	-42	-45	-41	-40
2100	-37	-35	-34	-34	-31	-27	-26	-25	-21	-19
2110	-15	-9	-4	-1	8	15	20	24	26	26
2120	26	23	21	18	17	16	15	14	15	15
2130	13	13	12	13	14	15	16	23	25	25
2140	27	29	30	34	37	40	43	44	47	52
2150	54	53	56	60	60	60	56	50	48	2870
2160	46	43	40	34	29	25	20	18	17	13
2170	9	6	1	-3	-6	-10	-14	-15	-14	-13
2180	-13	-13	-13	-13	-13	-13	-13	-13	-16	-16
2190	-13	-9	-8	-4	-2	0	-2	0	-5	-5
2200	-5	-7	-11	-15	-19	-22	-25	-30	-31	-31
2210	-30	-32	-33	-34	-34	-34	-34	-34	-34	-34
2220	-35	-34	-33	-33	-32	-31	-28	-28	-25	-25
2230	-24	-24	-21	-17	-12	-6	0	4	9	13
2240	16	16	16	17	18	18	19	20	19	18
2250	17	14	13	12	9	6	2	0	-2	-5
2260	-6	-7	-10	-12	-12	-14	-16	-17	-17	-17
2270	-17	-15	-11	-6	-3	-1	6	10	14	15
2280	17	18	19	18	14	12	11	11	10	2800
2290	11	11	11	10	11	13	14	15	15	2810
2300	8	16	15	14	12	11	11	10	9	2820
2310	10	10	10	13	14	13	13	12	12	2830
2320	11	8	3	1	-1	-4	-7	-10	-11	0
2330	-16	-17	-15	-15	-14	-15	-17	-18	-19	2840
2340	-21	-21	-21	-23	-25	-23	-21	-19	-16	2850
2350	-7	-5	-5	-5	-4	-2	0	2	2	2
2360	-1	0	-1	-2	-3	-4	-5	-8	-10	2870
2370	-11	-11	-9	-9	-8	-7	-6	-5	-3	2880
2380	0	0	1	3	4	6	9	13	17	2890
2390	21	24	23	22	22	21	20	19	14	2900
2400	9	6	3	0	0	-2	-3	-4	-3	2920
2410	-3	-4	-4	-5	-6	-4	-3	-2	0	2930
2420	5	6	9	12	15	19	23	25	28	2940
2430	32	33	33	33	32	31	28	26	24	2950
2440	14	9	6	3	1	-1	-4	-7	-9	2960
2450	-12	-13	-15	-16	-18	-20	-23	-24	-27	-12
2460	-29	-30	-31	-31	-31	-28	-28	-27	-27	2970
2470	-24	-23	-22	-20	-18	-18	-17	-17	-17	2980
2480	-16	-15	-13	-10	-8	-8	-6	-4	-3	2990
2490	-1	-1	-1	-2	-5	-8	-11	-14	-16	-15
2500	-15	-16	-16	-16	-16	-14	-13	-12	-11	-10
2510	-10	-9	-6	-4	-1	0	3	5	8	10
2520	12	13	14	15	16	15	14	13	13	13
2530	11	10	9	8	7	7	7	7	7	7
2540	8	8	8	10	11	11	12	12	12	12
2550	12	12	12	14	14	16	17	17	17	17

CONTINUED( S-2251 EAST )

NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
2040	8	5	3	0	-2	-5	-7	-9	-12	-15
2050	-13	-14	-15	-17	-21	-25	-27	-28	-28	-26
2060	-23	-22	-21	-19	-15	-18	-18	-15	-15	-15
2070	-11	-8	-4	-1	0	0	-3	-5	-5	-5
2080	-8	-10	-13	-14	-17	-20	-23	-26	-29	-30
2090	-31	-33	-35	-36	-37	-38	-42	-45	-41	-40
2100	-37	-35	-34	-34	-33	-33	-32	-31	-28	-25
2110	-15	-9	-4	-1	8	15	20	24	26	26
2120	23	21	18	17	16	15	14	15	15	15
2130	13	12	13	14	15	16	23	25	25	25
2140	27	29	30	34	37	40	43	44	47	52
2150	54	53	56	60	60	60	56	50	48	2870
2160	46	43	40	34	29	25	20	18	17	13
2170	9	6	1	-3	-6	-10	-14	-15	-14	-13
2180	-13	-13	-13	-13	-13	-13	-13	-13	-16	-16
2190	-9	-8	-4	-2	0	-2	0	-5	-5	-5
2200	-5	-7	-11	-15	-19	-22	-25	-30	-31	-31
2210	-30	-32	-33	-34	-34	-34	-34	-34	-34	-34
2220	-35	-34	-33	-33	-32	-31	-28	-28	-25	-25
2230	-24	-24	-21	-17	-12	-6	0	4	9	13
2240	16	16	16	17	18	18	19	20	19	18
2250	17	14	13	12	9	6	2	0	-2	-5
2260	-6	-7	-10	-12	-12	-14	-16	-17	-17	-17
2270	-17	-15	-11	-6	-3	-1	6	10	14	15
2280	17	18	19	18	14	12	11	11	10	2800
2290	11	11	11	10	11	13	14	15	15	2810
2300	8	16	15	14	12	11	11	10	9	2820
2310	10	10	10	13	14	13	13	12	12	12
2320	11	8	3	1	-1	-4	-7	-10	-11	0
2330	-16	-17	-15	-15	-14	-15	-17	-18	-19	2840
2340	-21	-21	-21	-23	-25	-23	-21	-19	-16	2850
2350	-7	-5	-5	-4	-2	0	2	2	2	2870
2360	-1	0	-1	-2	-3	-4	-5	-8	-10	2880
2370	-11	-11	-9	-9	-8	-7	-6	-5	-3	2890
2380	0	0	1	3	4	6	9	13	17	2900
2390	21	24	23	22	22	21	20	19	14	2910
2400	9	6	3	0	0	-2	-3	-2	0	2920
2410	-3	-4	-4	-5	-6	-4	-3	-2	0	2930
2420	5	6	9	12	15	19	23	25	28	2940
2430	32	33	33	33	32	31	28	26	24	2950
2440	14	9	6	3	1	-1	-4	-7	-9	2960
2450	-12	-13	-15	-16	-18	-20	-23	-24	-27	-12
2460	-29	-30	-31	-31	-31	-28	-28	-27	-27	2970
2470	-24	-23	-22	-20	-18	-18	-17	-17	-17	2980
2480	-16	-15	-13	-10	-8	-8	-6	-4	-3	2990
2490	-1	-1	-1	-2	-5	-8	-11	-14	-16	-15
2500	-15	-16	-16	-16	-16	-14	-13	-12	-11	-10
2510	-10	-9	-6	-4	-1	0	3	5	8	10
2520	12	13	14	15	16	15	14	13	13	13
2530	11	10	9	8	7	7	7	7	7	7
2540	8	8	8	10	11	11	12	12	12	12
2550	12	12	12	14	14	16	17	17	17	17

END

TO BE CONTINUED

ECORD = S-2251 COMPONENT = DOWN  
 DATE AND TIME = 1989-11-2-4-57  
 AMPLIFYING INTERVAL = 0.010 (SEC)  
 SIGNAL = GR. ACC.  
 CONNECTION POINT IN DATA NUMBER = 3000, 3000,  
 NO. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

	STATION = SAKAIMINATO-JI-S									
	TOTAL NUMBER OF DATA = 3000									
	SCAL = 0.10000									
0	3	3	3	3	3	3	3	3	3	(10)
10	0	-1	-2	-3	-4	-5	-6	-7	-8	(10)
20	-10	-11	-12	-13	-14	-15	-16	-17	-18	(10)
30	-19	-18	-17	-16	-15	-14	-13	-12	-11	(10)
40	-1	-2	-3	-4	-5	-6	-7	-8	-9	(10)
50	-6	-6	-6	-6	-5	-5	-5	-5	-5	(10)
60	1	0	-1	-2	-3	-4	-5	-6	-7	(10)
70	-10	-11	-12	-13	-14	-15	-16	-17	-18	(10)
80	5	6	5	4	3	2	1	0	-1	(10)
90	-22	-24	-19	-13	-6	-1	0	3	6	(10)
100	8	7	4	0	-3	-8	-13	-16	-19	(10)
110	-8	-7	-3	-1	-4	-8	-9	-9	-7	(10)
120	-5	-12	-16	-20	-21	-21	-18	-16	-15	(10)
130	-8	-3	0	2	2	1	0	-1	-3	(10)
140	-5	-4	-2	-3	-4	-5	-6	-7	-8	(10)
150	-6	-3	-3	-4	-5	-6	-7	-8	-9	(10)
160	-13	-12	-10	-8	-4	-2	-1	0	0	(10)
170	0	-1	-4	-8	-12	-16	-18	-20	-20	(10)
180	-18	-15	-13	-10	-7	-7	-6	-6	-6	(10)
190	-13	-14	-13	-10	-7	-5	-4	-3	-2	(10)
200	-3	-4	-4	-4	-4	-4	-4	-4	-4	(10)
210	-12	-11	-9	-3	0	2	1	0	-4	(10)
220	-9	-9	-9	-7	-3	-1	-1	5	7	(10)
230	6	4	1	-3	-7	-9	-8	-5	-3	(10)
240	-1	2	0	-1	-5	-9	-11	-13	-14	(10)
250	-10	-7	-5	0	4	6	5	5	5	(10)
260	-5	-9	-13	-16	-20	-23	-22	-18	-15	(10)
270	-10	-6	-2	0	2	3	6	6	6	(10)
280	-7	7	7	5	3	1	-10	-16	-16	(10)
290	-21	-24	-26	-25	-24	-23	-22	-23	-26	(10)
300	-24	-21	-18	-15	-14	-11	-9	-5	-2	(10)
310	6	12	19	24	28	30	29	25	17	(10)
320	-10	-23	-31	-34	-32	-32	-23	-19	-15	(10)
330	18	1	-1	-19	-41	-44	-45	-48	-50	(10)
340	-22	-5	7	18	14	18	20	19	18	(10)
350	15	14	11	6	5	3	0	-10	-19	(10)
360	-34	-30	-22	-13	-4	-2	-5	-7	-24	(10)
370	-40	-49	-51	-44	-26	-10	4	16	26	(10)
380	36	38	40	42	40	35	38	29	19	(10)
390	-29	-37	-42	-44	-45	-44	-45	-48	-50	(10)
400	-49	-38	-20	2	23	37	43	42	33	(10)
410	10	-1	-4	-9	-9	-9	-9	-9	-10	(10)
420	17	17	15	7	1	-8	-20	-29	-37	(10)
430	-37	-29	-19	-8	-7	-5	-2	-1	-1	(10)
440	15	-4	-15	-23	-27	-28	-29	-25	-16	(10)
450	4	8	20	31	39	41	33	20	5	(10)
460	-10	-30	-44	-54	-61	-63	-60	-53	-42	(10)
470	-28	-13	0	12	42	51	55	55	48	(10)

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 490 10 14 -26 -51 -69 -76 -71 43 20 -3  
 500 27 6 -26 -51 -69 -76 -71 43 20 -3  
 510 37 6 -26 -51 -69 -76 -71 43 20 -3  
 520 6 5 -26 -51 -69 -76 -71 43 20 -3  
 530 19 6 -26 -51 -69 -76 -71 43 20 -3  
 550 49 6 -26 -51 -69 -76 -71 43 20 -3  
 560 110 128 135 133 117 90 54 15 -21 -47  
 570 62 68 66 68 66 66 66 66 66 5  
 580 8 10 9 10 9 10 9 10 9 5  
 590 15 1 25 51 26 51 67 76 55 23  
 600 41 64 64 64 64 64 64 64 64 5  
 610 94 68 68 68 68 68 68 68 68 5  
 620 68 78 84 90 50 50 42 28 82 58  
 630 63 60 55 55 55 55 55 55 55 5  
 640 62 62 62 62 62 62 62 62 62 5  
 650 106 88 88 88 88 88 88 88 88 5  
 660 143 120 120 120 120 120 120 120 120 5  
 670 89 89 89 89 89 89 89 89 89 5  
 680 16 26 30 30 30 30 30 30 30 5  
 690 44 45 45 45 45 45 45 45 45 5  
 700 44 45 45 45 45 45 45 45 45 5  
 710 3 3 3 3 3 3 3 3 3 5  
 720 23 25 27 26 26 26 26 26 26 5  
 730 42 42 42 42 42 42 42 42 42 5  
 740 46 32 32 32 32 32 32 32 32 5  
 750 6 25 43 57 66 73 76 74 66 53  
 760 39 21 6 3 10 17 21 26 31 33  
 770 35 32 32 32 32 32 32 32 32 5  
 780 51 55 55 55 55 55 55 55 55 5  
 790 21 16 9 1 1 1 1 1 1 1  
 800 3 3 3 3 3 3 3 3 3 4  
 810 2 0 1 1 1 1 1 1 1 1  
 820 9 10 8 4 3 2 1 1 1 1  
 830 45 47 47 47 47 47 47 47 47 5  
 840 22 22 22 22 22 22 22 22 22 5  
 850 37 37 37 37 37 37 37 37 37 5  
 860 34 34 34 34 34 34 34 34 34 5  
 870 15 16 16 16 16 16 16 16 16 5  
 880 42 44 44 44 44 44 44 44 44 5  
 890 8 16 16 16 16 16 16 16 16 5  
 900 14 12 12 12 12 12 12 12 12 5  
 910 23 20 18 18 18 18 18 18 18 5  
 920 19 19 19 19 19 19 19 19 19 5  
 930 1 1 1 1 1 1 1 1 1 1  
 940 26 26 26 26 26 26 26 26 26 5  
 950 1 1 1 1 1 1 1 1 1 1  
 960 15 20 20 20 20 20 20 20 20 5  
 970 41 38 38 38 38 38 38 38 38 5  
 980 22 22 22 22 22 22 22 22 22 5  
 990 16 8 8 8 8 8 8 8 8 5

TO BE CONTINUED

TO BE CONTINUED

CONTINUED( S-2251 )									
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )
1080	12	11	13	14	17	18	17	15	( 10 )
1010	16	18	19	20	19	16	11	5	
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1030	-48	-46	-42	-37	-30	-29	-13	-5	
1040	9	16	22	25	28	29	30	28	
1050	17	14	9	6	3	1	-3	-9	
1060	-29	-32	-36	-39	-40	-41	-39	-44	
1070	-13	-2	5	11	16	22	28	30	
1080	31	30	28	28	26	22	17	10	
1090	-15	-22	-21	-20	-14	-4	2	9	
1100	16	17	18	19	22	24	25	27	
1110	20	15	13	9	3	-1	-12	-18	
1120	-25	-28	-32	-34	-35	-36	-40	-42	
1130	-48	-47	-44	-38	-32	-23	-17	-10	
1140	37	43	48	50	51	50	46	42	
1150	27	19	12	6	-1	-9	-18	-24	
1160	-31	-29	-24	-17	-9	-1	3	11	
1170	25	34	35	36	38	38	37	37	
1180	35	33	30	24	16	8	0	-4	
1190	-13	-15	-17	-20	-25	-33	-43	-53	
1200	-71	-71	-72	-70	-66	-62	-60	-55	
1210	-45	-33	-24	-13	-3	-3	2	8	
1220	23	24	26	25	22	25	28	32	
1230	37	42	46	51	51	50	49	47	
1240	37	32	28	23	17	11	8	6	
1250	-1	-6	-10	-13	-15	-18	-20	-23	
1260	-28	-30	-31	-30	-26	-23	-20	-16	
1270	-13	-12	-8	-6	-2	3	9	12	
1280	16	17	18	17	13	9	7	1	
1290	0	-1	0	-2	-5	-9	-14	-16	
1300	-17	-17	-16	-15	-12	-7	-4	-2	
1310	4	7	13	20	25	30	35	40	
1320	47	47	45	40	33	26	17	9	
1330	-7	-12	-5	-10	-16	-22	-27	-26	
1340	-16	-10	-5	-1	3	-25	-27	-26	
1350	-2	-5	-8	-10	-11	-11	-11	-11	
1360	-13	-15	-17	-19	-21	-22	-23	-24	
1370	-20	-16	-10	-4	0	7	4	2	
1380	40	46	50	52	53	52	50	46	
1390	29	21	14	10	5	0	-4	-5	
1400	-17	-12	-5	-1	-22	-23	-20	-18	
1410	-8	-4	-1	4	7	8	9	11	
1420	13	13	14	13	10	7	4	2	
1430	-4	-6	-9	-13	-14	-12	-8	-7	
1440	-2	0	2	5	5	8	11	11	
1450	11	8	6	3	0	-1	-4	-5	
1460	-9	-10	-10	-11	-13	-17	-17	-19	
1470	-22	-21	-18	-13	-7	-7	-19	-20	
1480	32	35	37	37	35	34	30	28	
1490	18	14	11	8	6	4	3	5	
1500	7	10	12	14	15	15	11	10	
1510	5	5	1	-1	-6	-7	-8	-7	

CONTINUED( S-2251 )									
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )
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1010	16	18	19	20	19	16	11	5	
1020	-3	-9	-15	-21	-25	-34	-44	-47	
1030	-48	-46	-42	-37	-30	-29	-13	-5	
1040	9	16	22	28	26	22	17	10	
1050	17	14	9	6	3	1	-3	-9	
1060	-29	-32	-36	-39	-40	-41	-39	-44	
1070	-13	-2	5	11	16	22	28	30	
1080	31	30	28	28	26	22	17	10	
1090	-15	-22	-21	-20	-14	-4	2	9	
1100	16	17	18	19	22	24	25	27	
1110	20	15	13	9	3	-1	-12	-18	
1120	-25	-28	-32	-34	-35	-36	-40	-42	
1130	-48	-47	-44	-38	-32	-23	-17	-10	
1140	37	43	48	50	51	50	46	42	
1150	27	19	12	6	-1	-9	-18	-24	
1160	-31	-29	-24	-17	-9	-1	3	11	
1170	25	34	35	36	38	38	37	37	
1180	35	33	30	24	16	8	0	-4	
1190	-13	-15	-17	-20	-25	-33	-43	-53	
1200	-71	-71	-72	-70	-66	-62	-60	-55	
1210	-45	-33	-24	-13	-3	-3	2	8	
1220	23	24	26	25	22	25	28	32	
1230	37	42	46	51	51	50	49	47	
1240	37	32	28	23	17	11	8	6	
1250	-1	-6	-10	-13	-15	-18	-20	-23	
1260	-28	-30	-31	-30	-26	-23	-20	-16	
1270	-13	-12	-8	-6	-2	3	9	12	
1280	16	17	18	17	13	9	7	1	
1290	0	-1	0	-2	-5	-9	-14	-16	
1300	-17	-17	-16	-15	-12	-7	-4	-2	
1310	4	7	13	20	25	30	35	40	
1320	47	47	45	40	33	26	17	9	
1330	-7	-12	-5	-10	-16	-22	-27	-26	
1340	-16	-10	-5	-1	3	-25	-27	-26	
1350	-2	-5	-8	-10	-11	-11	-11	-11	
1360	-13	-15	-17	-19	-21	-22	-23	-24	
1370	-20	-16	-10	-4	0	7	4	2	
1380	40	46	50	52	53	52	50	46	
1390	29	21	14	10	5	0	-4	-5	
1400	-17	-12	-5	-1	-22	-23	-20	-18	
1410	-8	-4	-1	4	7	8	9	11	
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1430	-4	-6	-9	-13	-14	-12	-8	-7	
1440	-2	0	2	5	5	8	11	11	
1450	11	8	6	3	0	-1	-4	-5	
1460	-9	-10	-10	-11	-13	-17	-17	-19	
1470	-22	-21	-18	-12	-9	-20	-22	-23	
1480	32	35	37	37	35	34	30	28	
1490	18	14	11	8	6	4	3	5	
1500	7	10	12	14	15	15	11	10	

TO BE CONTINUED

CONTINUED( S-2225 )										DOWN											
NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )	NO.	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	( 10 )
2040	4	2	1	2	3	2	2	3	4	5	2560	0	-1	2	5	7	8	9	9	9	8
2050	6	6	6	6	5	4	4	4	3	2	2570	9	9	9	8	8	8	9	9	9	9
2060	1	0	-3	-6	-1	-1	-3	9	11	11	2580	10	12	13	14	16	16	17	18	18	17
2070	-4	-3	-3	-6	-7	-1	-1	20	20	20	2590	15	16	16	16	16	16	16	17	18	17
2080	12	16	17	17	19	20	20	20	21	23	2600	13	14	14	12	11	11	10	10	11	11
2090	20	20	19	19	20	20	20	20	21	23	2610	10	9	8	8	6	6	4	3	3	3
2100	21	20	17	15	12	9	6	2	-1	-1	2620	3	2	1	1	-1	0	0	-1	-2	-4
2110	-3	-6	-8	-11	-13	-15	-16	-17	-19	-21	2630	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
2120	-21	-21	-21	-21	-20	-17	-13	-11	-11	-8	2640	-5	-5	-5	-8	-10	-10	-10	-10	-10	-10
2130	-6	-6	-6	-6	-5	-5	-7	-7	-5	-5	2650	-13	-12	-11	-10	-10	-10	-8	-7	-7	-7
2140	-5	-6	-7	-8	-10	-12	-12	-12	-12	-12	2660	-6	-5	-4	-3	-1	0	0	0	0	1
2150	-12	-12	-12	-11	-11	-10	-8	-6	-6	-8	2670	-3	-5	-5	-7	9	11	12	14	14	15
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END

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