

# 長崎地震十年報

自大正二年四月至大正十一年十二月

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SEISMIC BULLETIN  
IN  
NAGASAKI  
FROM  
APRIL 1913 TO DECEMBER 1922  
BY  
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NAGASAKI METEOROLOGICAL OBSERVATORY  
JAPAN

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## 目次 CONTENTS

	頁 Page
地震回數 .....Number of Earthquakes.....	1
發震地別回數                   Number of earthquakes in each positions of origins	
年別回數                         "                         "                         in each year	
有感地震年別回數               Number of sensible shocks in each year	
局部地震月別時別回數           Monthly and hourly number of local shocks	
顯著地震 .....Remarked Earthquakes .....	6
本縣管內顯著地震概況           Summary of remarked earthquakes in Nagasaki Prefecture	
本邦顯著地震概況                 "                         "                         "                         in Japan	
外國顯著地震概況                 "                         "                         "                         in foreign parts	
地震觀測表.....List of Seismometry.....	15
地震記象圖                         Diagram	
第一版 本縣管內地震記象       Plate I       Earthquakes in Nagasaki Prefecture	
第二版 本邦地震記象             Plate II       "               in Japan	
第三版 全上(臺灣)               Plate III       "               "               Formosa	
第四版 外國地震記象(支那)       Plate IIII       "               in Foreign parts : (China)	
第五版 全上(南洋)               Plate V       "               "               (Malaysia Micronesia)	
第六版 全上(歐米及南洋)       Plate VI       "               "               (Europe, America S. Pacific Ocean)	

凡例

1. 本編ハ主トシテ東西微動計及南北地動計ノ觀測ヲ記スルト雖モ強震等ノ爲メ檢測不可能ノ場合ハ普通地震計又ハ強震計ノ觀測ヲ以テ之ヲ補足セリ

1. 位置、地震器械ハ別館地震計室ニ設置シ北緯三十二度四十四分一秒東經百二十九度五十二分三十七秒海拔百三十米六ノ所ニアリテ附近ノ地質ハ火山粉碎岩ナリ

1. 地震觀測ニ用ヒタル器械種類並ニ附屬設備次ノ如シ

大森式微動計 水平振子裝置ニシテ東西動ヲ一個ノ大鼓胴ニ記象セシメ其倍率ハ百二十倍重錘ノ目方ハ六十釐ニシテ自己振動ノ週期ハ大抵二十六秒内外トス

大森式地動計 水平振子裝置ニシテ南北動ヲ一個ノ太鼓胴ニ記象セシメ其倍率ハ二十倍重錘ノ目方ハ十五釐ニシテ自己振動ノ週期ハ大抵二十秒内外トス

普通地震計(グレーミルン型) 水平振子及上下動裝置ニシテ東西南北ノ二動及上下動ヲ一個ノ大鼓胴ニ記象セシメ其倍率ハ水平動五倍上下動十倍ニシテ自己振動ノ週期ハ孰レモ三秒トス

今村式強震計 水平振子裝置ニシテ東西南北ノ二動ヲ一個ノ大鼓胴ニ記象セシメ其倍率ハ孰レモ二倍自己振動ノ週期ハ雙方三秒トス

時辰儀 四個ノ時振儀ヲ設置シ一個ハ「リレー」ヲ挿入シテ全部ノ地震器械ト連結シ一分毎ニ時刻ヲ印セシム而シテ之等ノ時辰儀ハ從來本縣港務部報時觀測所ノ實測時刻ト對照シテ其差ヲ算定セシガ大正十一年五月ヨリ船橋無線電信局發ノ報時(英國綠威

INTRODUCTION.

The present volume contains the observations made at The Nagasaki Seismological Observatory from April 1913 to December 1922 by Omori Horizontal Pendulum, but by Imamura strong motion Seismograph or Milne Seismograph in occasion great earthquake.

Station.

$\varphi = 32^{\circ} 44' 01''$  N.  $\lambda = 129^{\circ} 52' 37''$  E.  $h = 130.6$  m. Lithologic foundation: volcanic agglomerate. Seismologic service established in solidity building of the compound of The Nagasaki Meteorological Observatory.

Equipment.

Omori Horizontal Pendulum.

E. Component: Mass = 60 KG.  
 $V = 120$   
 $T^{\circ} = 20$  seconds

Omori Horizontal Pendulum.

N. Component: Mass = 15 KG.  
 $V = 20$   
 $T^{\circ} = 20$  seconds.

Milne Seismograph.

Two Component N and E. Mass = 2.2 KG.  
 $V = 5$   
 $T^{\circ} = 3$  seconds.  
 Z: Mass = 1.4 KG.  
 $V = 10$   
 $T^{\circ} = 3$  seconds.

Imamura Seismograph.

Two Component N and E: Mass = 2.2 KG.  
 $V = 2$   
 $T^{\circ} = 3$  seconds.

Time Service.

Time marks are made by relay from a con-

ノ正午中央標準時午後九時)ヲ受信シ之ト  
比較シテ日差ヲ定ムルコト、セリ

1. 週期及振幅ノ單位 週期ハ秒ヲ單位トシ振  
幅ハ「ミクロン」(耗ノ千分ノ一)ヲ以テ單位  
トナス

1. 時刻 本書中時刻ハ主トシテ中央標準時ヲ  
用ヒタルモ卷末ノ歐文地震表ハ英國綠威ノ  
時刻ヲ用ヒ發信時ノミ中央標準時ヲ併記シ  
二十四時制(午前一時ヲ(1)午後一時ヲ(13)  
トシ其他之ニ準ズ)ニ依レリ

1. 地震番號 地震回数ヲ年別ニ區別シ各年毎  
ニ順序ヲ附シタルモノナリ

tact chronometer, time comparison are obtained  
by telephone once a day from the office at  
Nagasaki Time-Ball Service, but obtained at  
Noon Greenwich Mean Time (Central Standard  
Time in Japan: 9 p.m.) except every sunday  
by wireless telegraphy from The Funabashi  
Wireless Station since May 1922.

Time in the bulletin are Central Standard  
Time in Japan: 135°E, and take notes G.M.T.  
in each phases of earthquake but both G.M.T.  
and C.S.T.: 135°E at P of Phase only.

Number of Earthquake.

Number of earthquake begain in each year.

## 符號及記號ノ解

### SYMBOLS AND NOTATION.

I	弱震	Noticeable	
II	強震	Striking	
III	激震	Violent	
d	局部地震	Local shocke (Origin nearly)	
v	近距離地震	Near shock (Origin less that 1000km. distant)	
r	遠距離地震	Distant shock (Distance 1000 < 5000 km.)	
u	最遠距離地震	Very distant shocke (Distance more than 5000 km.)	
P	第一初期微動	First preliminary tremors	
S	第二初期微動	Second preliminary tremors	
L	長波(主要動)	Long waves, chief phase, or principal part	
M	主要動中ノ最大發現	Maxmum motion in the chief phase	
C	終期微動中ノ最大發現	Maxmum motion in after shockings	
F	振動ノ最終	End of discernible movement	
i	鮮明ニ現ハレタル相ヲ示ス	Sudden impulse	
e	不鮮明ニ現ハレタル相ヲ示ス	Gradual development	
AN	南北動振幅 (北ヲ+トス)	E-W Component of amplitude	measured from the median live in micron ( $\mu = \frac{1}{1000}$ m.m.)
AE	東西動振幅 (東ヲ+トス)	N-S Component of amplitude	
AZ	上下動振幅(上方ヲ+トス)	Vertical component of amplitude	
△	震源距離	Distance of epicenter	

地震回数

本縣ハ古來大震ニ貶シキト雖モ管内小地震帯ノ存在スルアリ加フルニ島原半島中部ニ温泉火山アリ地質又錯綜ヲ極メ爲メニ局部的地震ノ回数多數ニシテ本所ニ於ケル地震觀測ノ主ナルモノハ大抵是等ノ地震ナレドモ遠地々震ノ記録モ亦尠シトセズ即チ大正二年四月ヨリ大正十一年十二月ニ至ル十箇年間地震總回数ハ實ニ二千九百二十四回ニ及ビ是等ヲ發震地別、年別、有感覺年別、局部地震、月別並ニ時別ニ區分シテ其回数ヲ記スレバ次ノ如シ

1. 發震地回数別

發震地	回数
臺灣島及其近海	36回
南西諸島及其近海	17回
九州南東部及其近海	71回
九州北西部及其近海 (特ニ局部地震ノ名稱ヲ附ス)	2420回
內海四國及其附近	56回
本州太平洋岸及南海岸	12回
本州日本海岸	5回
太平洋上 (北海道方面ヲ含ム)	67回
朝鮮	1回
浦鹽附近	2回
支那	3回
南洋	56回
印度及伊太利	7回
亞米利加	6回
震源不詳	165回
合計	2924回

2. 年別回数

年	回数
大正二年 自四月 (From April 1913) 至十二月 (to December)	72回

大正三年	(1914)	160 回
大正四年	(1915)	359 回
大正五年	(1916)	161 回
大正六年	(1917)	102 回
大正七年	(1918)	62 回
大正八年	(1919)	36 回
大正九年	(1920)	51 回
大正十年	(1921)	74 回
大正十一年	(1922)	1856 回
合計		2924 回

### 3. 有感覺地震年別回数

年	回数
大正二年 自四月 (From April 1913) 至十二月 (to December)	3 回
大正三年 (1914)	8 回
大正四年 (1915)	31 回
大正五年 (1916)	10 回
大正六年 (1917)	5 回
大正七年 (1918)	2 回
大正八年 (1919)	8 回
大正九年 (1920)	—
大正十年 (1921)	7 回
大正十一年 (1922)	113 回
合計	187 回

前二表ニ於テ大正四年及大正十一年ニ地震回数ノ著シク増加セルハ局部地震頻發セシニ起因セルモノニシテ即チ前者ハ喜々津地震群後者ハ千々石灘地震及其餘震ヲ含有セシニヨルナリ次ニ其回数ヲ摘出スベシ

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.

名稱	發震年月	總回數	有感覺回數
喜々津地震群	大正四年皇曆三月	227 回	3 回
千々石灘地震	大正十一年十二月	1777 回	110 回

前兩地震ヲ除キ最モ多カリシハ大正五年ノ百六十一回ニシテ之ニ次グヲ大正三年ノ百六十回トシ最モ尠ナカリシハ大正八年ノ三十六回トス

4. 局部地震月別並ニ時別回數

月	時	回數	
1 月	午前 {	0 時— 6 時	10 回
		6 時—12 時	20 回
	午後 {	0 時— 6 時	7 回
		6 時—12 時	8 回
2 月	午前 {	0 時— 6 時	10 回
		6 時—12 時	7 回
	午後 {	0 時— 6 時	2 回
		6 時—12 時	2 回
3 月	午前 {	0 時— 6 時	4 回
		6 時—12 時	16 回
	午後 {	0 時— 6 時	8 回
		6 時—12 時	7 回
4 月	午前 {	0 時— 6 時	12 回
		6 時—12 時	11 回
	午後 {	0 時— 6 時	8 回
		6 時—12 時	13 回
5 月	午前 {	0 時— 6 時	8 回
		6 時—12 時	10 回
	午後 {	0 時— 6 時	12 回
		6 時—12 時	13 回



Month	Time Period	Number of Earthquakes
6月	午前 { 0時—6時	7回
	午前 { 6時—12時	17回
	午後 { 0時—6時	13回
	午後 { 6時—12時	19回
7月	午前 { 0時—6時	34回
	午前 { 6時—12時	62回
	午後 { 0時—6時	47回
	午後 { 6時—12時	32回
8月	午前 { 0時—6時	23回
	午前 { 6時—12時	18回
	午後 { 0時—6時	33回
	午後 { 6時—12時	26回
9月	午前 { 0時—6時	9回
	午前 { 6時—12時	3回
	午後 { 0時—6時	4回
	午後 { 6時—12時	12回
10月	午前 { 0時—6時	3回
	午前 { 6時—12時	6回
	午後 { 0時—6時	9回
	午後 { 6時—12時	3回
11月	午前 { 0時—6時	10回
	午前 { 6時—12時	9回
	午後 { 0時—6時	6回
	午後 { 6時—12時	3回
12月	午前 { 0時—6時	545回
	午前 { 6時—12時	538回

長 崎 地 震 十 年 報

*Nagasaki Seismic Bulletin During Ten Years.*

全 年	午後	{ 0時— 6時	387 回
		{ 6時—12時	354 回
	午前	{ 0時— 6時	675 回
		{ 6時—12時	717 回
	午後	{ 0時— 6時	536 回
		{ 6時—12時	492 回

前表中ヨリ喜々津及千々石灘地震ヲ摘出シ月別並ニ時別ニ區分シ表記スレバ次ノ如シ

(イ) 喜々津地震月別並ニ時別回数 (大正四年皇兜月)

月	時	回 數	
4 月	午前	{ 0時— 6時	5 回
		{ 6時—12時	2 回
	午後	{ 0時— 6時	2 回
		{ 6時—12時	—
5 月	午前	{ 0時— 6時	—
		{ 6時—12時	3 回
	午後	{ 0時— 6時	3 回
		{ 6時—12時	3 回
6 月	午前	{ 0時— 6時	3 回
		{ 6時—12時	8 回
	午後	{ 0時— 6時	10 回
		{ 6時—12時	11 回
7 月	午前	{ 0時— 6時	30 回
		{ 6時—12時	53 回
	午後	{ 0時— 6時	40 回
		{ 6時—12時	21 回
8 月	午前	{ 0時— 6時	12 回
		{ 6時—12時	4 回

8 月	午後	0時—6時	7 回
		6時—12時	6 回
	午前	0時—6時	2 回
		6時—12時	—
9 月	午後	0時—6時	—
		6時—12時	2 回
	午前	0時—6時	52 回
		6時—12時	70 回
計	午後	0時—6時	62 回
		6時—12時	43 回

(ロ) 千々石灘地震月別並ニ時別回数 (大正十一年十二月)

月	時	回数	
12 月	午前	0時—6時	536 回
		6時—12時	518 回
	午後	0時—6時	379 回
		6時—12時	344 回

第四表中ヨリ喜々津地震及千々石灘地震ヲ控除シ調査スルニ長崎地方ニ於ケル局部地震ハ月別ニテハ八月最モ多ク一月及十二月次テ多シ四季別ニ區分スルトキハ夏期最モ多ク百二十七回ヲ數ヘ冬季之ニ次テ多シ顧フニ大正十一年ノ千々石灘地震ガ冬季ニ起コリ大正四年ノ喜々津地震ガ夏ニ起コリシモ或ハ偶然ニハアラザルベシ

### 顯著地震

本報告地震中顯著ナルモノヲ三種ニ區別シ即チ本縣管内顯著地震、本邦顯著地震、外國顯著地震、トナシ各々次ニ之ヲ列舉スベシ

本縣管内顯著地震 大正四年皇兜骨喜々津地震群、大正十一年十二月八日千々石灘地震

本邦顯著地震 大正三年一月十二日櫻島地震、大正三年三月十五日秋田地震

大正五年二月廿二日淺間山麓ノ地震

大正五年十一月十五日臺灣中部ノ地震

- |                       |                         |
|-----------------------|-------------------------|
| 大正六年一月五日臺灣南投ノ地震       | 大正七年九月八日千島得撫島沖ノ地震       |
| 大正九年六月五日臺灣花蓮港沖ノ地震     | 大正十一年四月廿六日千葉縣木更津ノ地震     |
| 大正十一年九月二日臺灣北部ノ地震      |                         |
| 外國顯著地震                | 大正三年五月廿六日南洋「セレベス」海ノ地震   |
| 大正三年六月廿六日南洋「スマトラ」島ノ地震 | 大正三年十月南洋「ミンダナオ」島ノ地震     |
| 大正四年九月七日中米「バナマ」ノ地震    | 大正四年十月三日北米「ネヴアダ」州ノ地震    |
| 大正七年二月十三日支那汕頭ノ地震      | 大正七年十二月四日南米智利「アタカマ」州ノ地震 |
| 大正九年十二月十六日支那甘肅ノ地震     | 大正九年十二月廿五日南洋「セレベス」海ノ地震  |
| 大正十一年十一月十一日南米智利ノ地震    |                         |
- 之等ハ次ニ其概況ヲ記スベシ

### 本 縣 管 内 顯 著 地 震 概 況

#### 大正四年皇兇月長崎縣喜々津地震群

此等ノ地震ハ孰レモ長崎縣喜々津村附近ニ發現セシモノニシテ其震度ハ最強ナルモノト雖モ振子時計ヲ停止セシムル程度ニ達セズ即チ地震階級ニ於テハ弱震ノ強キ方若クバ強震ノ弱キ方孰レカニ屬スベキモノニシテ之ヲ本縣管内顯著地震トシテ記載スルハ聊カ不當ノ感アルモ之等ハ所謂地震群トモ稱スベキモノニシテ其回数二百二十七回ニ及ビ古來大震僅少ナル本縣ニ於テ地震調査上缺グベカラザルモノトシ殊更茲ニ之ヲ掲載セシ所以ナリ即チ之等ハ喜々津村井樋ノ尾嶽及其附近ニ於テ比較的地下淺層ノ地域ニ頻發シ喜々津、眞津山、小栗ノ諸村ニ著シク大正四年四月頃ヨリ發生シ梅雨期ニ入リテ漸次其數ヲ増シ七月二十日前後其絶頂ニ達シ九月ニ至リ遂ニ終熄セリ就中喜々津村井樋ノ尾地方ハ其回数及震度ニ於テハ他ノ諸村ニ比シ最タルモノニシテ即チ七月二十日午前八時頃及翌二十一日午后四時頃兩回ノ地震ハ震央地附近ニ於テハ樹木ヲ動搖シ石垣ノ崩壞等アリシモ有感覺振動區域ハ極メテ狹少ニシテ直徑僅ニ十里ニ充タザリキ本所微動計ハ前者ハ二十日午前八時七分二十七秒(綠威十九日午后十一時七分二十七秒)感震シ初期微動繼續時間ハ約四秒ニシテ總振動時間ハ一分七秒ヲ示シ後者ハ二十一日午后四時四分十八秒(綠威二十一日午前七時四分十八秒)感震シ總振動時間一分二十五秒ニシテ兩者共人身ニ僅ノ感覺ヲ與ヘタルニ過ギザリキ

## 大正十一年十二月八日長崎縣千々石灘地震

此地震ハ長崎縣千々石灘ノ海底ニ突發セシ大震ニシテ前後二回ニ亘リ即チ前者ハ午前一時五十分頃南高來郡北串山村飛子ノ北西一里餘ノ海底ニ發現セシ破壞的地震ノ顯著ナルモノニシテ後者ハ午前十一時頃全郡小濱村ノ沖合二里弱ノ海底ニ發生シ震度前者ノ半ニ不足ト雖モ小濱方面ノ慘害ハ大抵此地震ニ起因セシナリ而シテ激震區域ハ第一震源ヲ中心トシテ四十四方里ニ亘リ死者二十六名負傷者三十九名家屋ノ全潰六百五十四棟、半潰千四百二十八棟ヲ生シ特ニ南高來郡南部九箇村ニ於テ被害最モ激烈ヲ極メ罹災戶數ハ全戶數ノ四割三分ニシテ罹災人口ハ全人口ノ四割二分ニ相當シ實ニ慘澹タル光景ヲ呈シ人心恟々トシテ流言蜚語頻ニ傳ヘラレ餘震頗來シ十二月三十一日迄ニハ實ニ一千七百七十七回ノ多キニ達シタリ

本所微動計及地動計ハ孰レモ其描針圓筒外ニ逸出シテ用ヲナサズト雖モ今村式強震計ノミ明瞭ニ其記録ヲ描キタリ即チ第一回ハ八日午前一時四十九分五十七秒（綠威七日午后四時四十九分五十七秒）感震シ初期微動繼續時間ハ三秒ヲ示シ震源地ニ至ルノ距離ハ二十三軒トナリ初動ノ方向ハ西（微北）——東（微南）ヲ指シ最大振幅ハ南北動ニ於テ四萬五百「ミクロン」東西動ニ於テ四千「ミクロン」ヲ示シ其振動期ハ $\frac{8}{10}$ 秒トシ總振動時間ハ尾部ニ於テ別個ノ餘震ヲ併發セシガ爲メ其限界ヲ詳ニスルヲ得ズ而シテ第二回ハ八日午前十一時二分九秒（綠威八日午前二時二分九秒）感震シ初期微動繼續時間ハ三秒七ヲ示シ震源地ニ至ルノ距離ハ二十八軒トナリ最大振幅ハ南北動ニ於テ一萬二千「ミクロン」東西動ニ於テ一萬四千「ミクロン」ヲ示シ其振動期ハ一秒六ニシテ總振動時間ハ九分一秒ニ及ビタリ

## 本邦顯著地震概況

## 大正三年一月十二日櫻島地震

此地震ハ櫻島噴火ニ伴フ所謂火山性地震ノ顯著ナルモノニシテ破壞的威力ヲ逞フシ有感覺震動區域ハ長半徑五十七里短半徑四十九里ニ及ビ鹿兒島ニ於テハ激震ヲ感シ死者二十九名負傷者百十一名ヲ出シ家屋ノ倒潰石垣ノ崩壞等多數ニ及ベリ而シテ震域ハ亞細亞大陸ハ勿論遠ク歐羅巴ニ及ブト雖モ激震區域ハ頗ル狹少ニシテ鹿兒島及其附近ニ限ラレ熊本及宮崎ハ弱震ヲ感シタルノミナリキ

本所地動計ハ十二日午后六時二十八分三十七秒（綠威十二日午前九時二十八分三十七秒）初メテ記録シ初期微動繼續時間ハ七秒ニシテ最大振幅ハ南北動ニ於テ四千五百二十「ミクロン」ヲ示シ

其振動期ハ六秒ニシテ總振動時間ハ南北動五十一分七秒ニ亘リ前震ハ既ニ九日ヨリ始マリテ其回数ハ三十有餘回ニ及ビタリ

## 大正三年三月十五日秋田地震

此地震ハ秋田縣仙北郡大曲町附近ニ起コリタル破壊的地震ノ顯著ナルモノニシテ有感覺震動區域ハ長半徑七十六里短半徑五十五里ニ亘リ激震區域ハ七十方里ニ及ビ死者九十四名負傷者三百二十四名家屋ノ全潰六百四十棟半潰五百七十五棟ニシテ其他所々地割アリ山崩アリ或ハ由利郡正手澤附近ノ雄物川々中ニ砂山ヲ生ズル等ノ現象ヲ呈セリ而シテ震域ハ全地球上遍ク波及シタルモノ、如ク南北「アメリカ」及歐州各地ニハ此地震ヲ觀測セシト謂フ本所地動計ハ十五日午前五時二分五十一秒(綠威十四日午後八時二分五十一秒)感震シテ緩慢ナル波動ヲ描キ初期微動繼續時間ハ二分四秒ニシテ最大振幅ハ南北動ニ於テ千八百「ミクロン」ヲ示シ其振動期ハ二十四秒ニ及ビ總振動時間ハ二時五十七分四十五秒ノ長時間ニ亘リタリ

## 大正五年二月二十二日淺間山麓ノ地震

此地震ハ淺間山麓大笹附近ニ發現セシ激震ニシテ有感覺震動區域ハ長半徑五十里短半徑四十里ニシテ強震面積ハ六百九十方里ニ亘リ震動最モ激烈ナリシハ淺間山麓地方ニシテ群馬縣吾妻郡嬭戀村大字大笹ニ震害甚敷家屋ノ破損七十棟土藏ノ破損百二棟ヲ算シ其他ニ於テモ多數ノ被害ヲ惹起シタリ然レドモ幸ニ人畜ニハ死傷ナカリキ

本所微動計ハ二十二日午後六時十三分十六秒(綠威二十一日午前九時十三分十六秒)感震シ初期微動繼續時間ハ一分四十四秒ニシテ最大振幅ハ東西動ニ於テ五十「ミクロン」ヲ示シ其振動期ハ七秒ニシテ總振動時間ハ十五分二十九秒ナリキ

## 大正五年十一月十五日臺灣中部ノ地震

此地震ハ臺灣中部即チ臺中ノ南東方面ニ突發セシ破壊的地震ニシテ有感覺震動區域ハ長半徑四十里短半徑三十里ニ及ビ震央地附近ハ震動頗ル激烈ニシテ死者三名負傷者十七名家屋ノ全潰百棟半潰二百六棟破損七百六十八棟ヲ生ゼリ然レドモ激震區域ハ割合ニ狹少ニシテ臺東ハ感覺ヲ有セザリキ

本所微動計ハ十五日午前七時三十四分二十九秒(綠威十四日午後十時三十四分二十九秒)感震シ初期微動繼續時間ハ二分四十六秒ニシテ最大振幅ハ東西動ニ於テ二十「ミクロン」ヲ示シ其振動期ハ十三秒ニシテ總振動時間ハ三十四分二十一秒ナリキ

## 大正六年一月五日臺灣南投地震

此地震ハ臺灣南投捕里社地方ニ發現セシ激震ニシテ有感覺震動區域ハ長半徑五十里短半徑三十五里ニ亘レリ該地震ハ深夜突發セシガ爲メ熟睡中ナリシ人々ハ周章狼狽シテ避難ノ違ナク死者五十二名負傷者八十三名ヲ數ヘ又家屋ノ全潰百二十四棟破損二千六十一棟ヲ算セリ本所地動計ハ五日午前一時五十二分五十八秒(綠威四日午後四時五十二分五十八秒)其記錄ヲ描キ初期微動繼續時間ハ三分四十三秒ニシテ最大振幅ハ三百五十「ミクロン」ヲ示シ其ノ振動期ハ十七秒ニシテ總振動時間ハ三十四分三秒ナリキ

## 大正七年九月八日千島得撫島沖ノ地震

此地震ハ千島國樺捉島ノ東方得撫島ノ南方海中ニ突發セシ激震ニシテ震域ハ頗ル廣大ニシテ有感覺震動區域ハ長半徑三百五十里短半徑百三十里ニ亘ル大震ナリシモ震源遠ク海中ニアリシ爲メ陸上ニ於ケル家屋等ノ被害見ルベキモノハアラザリキ然レドモ全時ニ大津浪ヲ惹起シ當時得撫島ニ於テ沈沒汽船ノ解體工事ニ從事シツ、アリシ函館區東亞海事部作業員二十三名行衛不明トナリ其激浪ノ高サハ實ニ二十尺乃至四十尺ニ及ビタルモノ、如ク猶津浪ハ遠ク小笠原列島ヲモ襲撃セシト謂フ

本所微動計ハ八日午前二時二十分五十五秒(綠威七日午後五時二十分五十五秒)感震シ初期微動繼續時間三分四十七秒ニシテ總振動時間ハ三時二十八分五秒ノ長キニ及ベリ

## 大正九年六月五日臺灣花蓮港沖ノ地震

此地震ハ臺灣花蓮港沖ニ突發セシ激震ニシテ有感覺震動區域ハ長半徑二百里短半徑百五十里ニ及ビ強震面積ハ四千四百方里ニ亘リ死者五名負傷者二十名家屋ノ全潰二百七十四棟半潰二百七十七棟破損九百八十棟ヲ數ヘタリ

本所微動計ハ五日午後一時二十四分二十秒(綠威五日午前四時二十四分二十秒)感震シテ其波動ヲ描キ初期微動繼續時間ハ二分三十三秒ニシテ最大振幅ハ東西動ニ於テ千百七十五「ミクロン」ヲ示シ其振動期ハ十四秒ニシテ總振動時間ハ一時五十分三十四秒ニ及ベリ

## 大正十一年四月二十六日千葉縣木更津ノ地震

此地震ハ千葉縣木更津附近ニ發現セシモノニシテ有感覺震動區域ハ長半徑百二十里短半徑七十里ニシテ即チ北秋田ヨリ南八犬島ニ亘リ西ハ京都奈良ニ及ビ東京附近ニハ數名ノ死傷者並ニ家屋ノ倒潰及破損等アリタリキ

# 長崎地震十年報

*Nagasaki Seismic Bulletin During Ten Years.*

本所微動計ハ二十六日午前十時十三分二十七秒(綠威二十六日午前一時十三分二十七秒)感震シ初期微動繼續時間ハ二分二秒ニシテ最大振幅ハ東西動ニ於テ百十七「ミクロン」ヲ示シ其振動期ハ八秒ニシテ總震動時間ハ二十四分十三秒ナリキ

## 大正十一年九月二日臺灣北部ノ地震

此地震ハ臺灣北部即チ大南澳ノ東方約十一里半ノ海底ニ發現セシモノニシテ有感覺震動區域ハ長半徑八十八里短半徑七十五里ニシテ激震區域ハ臺北新竹ノ兩州及花蓮港ノ北部ニシテ死者五名負傷者七名家屋ノ全潰十四棟半潰二十三棟破損百三十九棟ヲ算シタリ

本所地動計ハ二日午前四時十八分四十四秒(綠威一日午后七時十八分四十四秒)感震シテ緩慢ナル波動キ描ハ初期微動繼續時間ハ二分九秒ニシテ最大振幅ハ南北動ニ於テ七千「ミクロン」ヲ示シ其振動期ハ十九秒ニシテ總振動時間ハ一時三分十七秒ニ亘リタリ(記象紙參照)

## 外國顯著地震概況

### 大正三年五月二十六日南洋「セレベス」海ノ地震

此地震ハ南洋比律賓群島ノ南方「セレベス」海ニ突發セシ激震ニシテ本所微動計ハ描針圓筒外ニ逸出セシモ地動計ハ廿六日午后十一時二十九分四十六秒(綠威二十六日午后二時二十九分四十六秒)感震シ初期微動ハ二ツニ現ハレ即チ第一ハ五分五十五秒間第二ハ二分十七秒間繼續シテ午后十一時三十七分五十八秒ヨリ長波ニ移リ最大振幅ハ南北動ニ於テ四千七百五十「ミクロン」ヲ示シ其振動期ハ二十四秒ニシテ總振動時間ハ二時五分二十七秒ノ長時間ニ及ベリ(記象紙參照)

### 大正三年六月二十六日南洋「スマトラ」島ノ地震

此地震ハ南洋「スマトラ」島ノ南部ニ發生セシ激震ニシテ全島ハ家屋ノ倒潰人畜ノ死傷夥シカリシト謂フ本所微動計ハ二十六日午前四時十五分四十四秒(綠威二十五日午后七時十五分四十四秒)感震シテ緩慢ナル波動ヲ描キ第一初期微動繼續時間ハ六分四十四秒第二ハ五分二十六秒ニシテ午前四時二十七分五十四秒長波ニ移リ最大振幅ハ東西動ニ於テ五百五十「ミクロン」南北動(地動計ニヨル)ニ於テ六百「ミクロン」ヲ示シ其振動期ハ雙方二十九秒ニシテ總振動時間ハ一時三分三十一秒ノ長キニ亘リタリ(記象紙參照)

### 大正三年十月二十三日南洋「ミンダナオ」島ノ地震

此地震ハ南洋「ミンダナオ」島ノ南東方海底ニ發現セシ大震ニシテ本所微動計ハ二十三日午后三時二十四分四十四秒(綠威二十三日午前六時二十四分四十四秒)感震シ波動頗ル緩慢ニシテ初期

微動繼續時間ハ四分三十五秒ニシテ最大振幅ハ東西動ニ於テ二千五百「ミクロン」其振動期ハ二十六秒ヲ示シ南北動(地動計ニヨル)ニ於テ二百九十「ミクロン」其振動期ハ二十二秒ニシテ總振動時間ハ五十八分四十八秒ニ及ベリ(記象紙參照)

#### 大正四年九月七日中米「バナマ」ノ地震

此地震ハ中部亞米利加「バナマ」ノ附近ニ突發セシ激震ニシテ本所微動計ハ七日午前十時三十九分四十四秒(綠威七日午前一時三十九分四十四秒)感震シ初期微動繼續時間ハ三十二分六秒ニシテ午前十一時一分五十秒長波ニ移リ最大振幅ハ東西動ニ於テ八「ミクロン」ヲ示シ其振動期ハ二十四秒ニシテ總振動時間ハ二時二十分餘ノ長キニ亘リレリ

#### 大正四年十月三日北米「ネヴァダ」州ノ地震

此地震ハ北亞米利加「ネヴァダ」州ニ發現シタル激震ニシテ本所微動計ハ三日午后四時五分四十九秒(綠威三日午前七時五分四十九秒)感震シ最大振幅ハ東西動ニ於テ百六十「ミクロン」ヲ示シ其振動期ハ十五秒ニシテ總振動時間ハ一時四十四分十秒ニ亘リタリ

#### 大正七年二月十三日支那汕頭ノ地震

此地震ハ支那汕頭ヨリ西北西約四十哩ノ土地ニ於テ突發セシ大激震ニシテ震源陸上ニアリシガ爲メ被害甚大ニシテ家屋ノ倒潰人畜ノ死傷等多數ニ及ベリト謂フ本所微動計ハ描針圓筒外ニ逸去セシモ地動計ハ十三日午后三時十分四十五秒(綠威十三日午前六時十分四十五秒)ヨリ其記錄ヲ描キ初期微動繼續時間ハ二分三十五秒ニシテ最大振幅ハ南北動ニ於テ四千七百五十「ミクロン」ヲ示シ其振動期ハ十三秒ニシテ總振動時間ハ一時三十九分二十三秒ニ及ベリ(記象紙參照)

#### 大正七年十二月四日南米智利「アタカマ」州ノ地震

此地震ハ南亞米利加「アタカマ」州ニ發現シタル激震ニシテ本所微動計ハ四日午后九時十八分三十秒(綠威四日午后零時十八分三十秒)感震シ緩慢ナル小波動ヲ描キ初期微動繼續時間ハ三十分十五秒ニシテ總振動時間ハ一時四十九分三十秒ニ及ビタリ

#### 大正九年十二月十六日支那甘肅ノ地震

此地震ハ支那甘肅省海城ノ東方ニ發現セシ大激震ニシテ多數ノ被害ヲ醸シタリト謂フ本所微動計ハ十六日午后九時十分十七秒(綠威十六日午后零時十分十七秒)感震シ初期微動繼續時間ハ三分四十四秒ニシテ午後九時十四分一秒長波ニ移リ總振動時間二時五十八分一秒ニ及ビタリ此地震ハ振幅頗ル大ナリシニヨリ微動計地動計ハ孰レモ主要動ニ於テ描針圓筒外ニ逸出セシニヨ

リ最大動ヲ計ルヲ得ザリシモ強震計ハ良ク之ヲ記録シ最大振幅ハ東西動ニ於テ四千「ミクロン」南北動ニ於テ五千「ミクロン」ヲ示シタリ(記象紙參照)

大正九年十二月二十五日南洋「セレベス」海ノ地震

此地震ハ南洋「セレベス」海附近ノ海底ニ突發セシ激震ニシテ本所微動計ハ二十五日午後八時三十八分三秒(綠威二十五日午前十一時三十八分三秒)感震シ第一初期微動繼續時間ハ三分五十七秒第二ハ一分五十一秒ニシテ午後八時四十三分五十一秒長波ニ移リ最大振幅ハ東西動ニ於テ七百「ミクロン」ヲ示シ其振動期ハ十三秒ニシテ總振動時間ハ三十五分五十秒九ニ及ベリ

大正十一年十一月十一日南米智利ノ地震

此地震ハ南亞米利加智利北岸ニ發現セシ破壊的大激震ニシテ加フルニ大津浪ヲ惹起シ數百名ノ死傷者ヲ出シ其他家屋ノ被害等甚大ナリシト謂フ本所微動計ハ十一月午後一時五十二分四十四秒(綠威十一月午前四時五十二分四十四秒)ヨリ緩慢ナル波動ヲ描キ初期微動繼續時間二十五分三十五秒ニシテ最大振幅ハ東西動ニ於テ五百七十「ミクロン」ヲ示シ其振動期ハ二十八秒ニテ總振動時間ハ三時間ニ餘リタリ(記象紙參照)

地 震 記 象 圖

DIAGRAM

地 震 觀 測 表

LIST OF SEISMOMETRY

長 崎 地 震 十 年 報  
Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks			
						G. M. T.	135°E		AE	AN	Az					
1		1913 2 Apr.	Ir	N	i P	h m s	th h m s					195	Feld in Kyushu. Origin in Sea of Hiuga.			
					L	23 53 36	3 8 53 36									
					M	23 53 58								+ 910		
2		3	Ir	SE	e F	23 54 15							An after shock of the former quake.			
					i P	0 23 45										
3		7 Apr.	Ir		i P	1 26 45	3 10 26 45					1760				
					e F	1 36 56										
4		8 Apr.	Ir		i P	13 49 58	7 22 49 58									
					i S	13 51 33										
					i L	13 52 37										
					M <sub>1</sub>	13 53 13								19	+ 100	
					M <sub>2</sub>	13 55 31								14	+ 90	
5	1	13 Apr.	Iv		e F	15 34 38							Faint record Origin probably off the coast Iwaki.			
					i P	2 21 48	8 11 21 48									
6		14 Apr.	Ir		i P	3 10 03							183	Feld in Kyushu and Shikoku. Origin in Sea of Hiuga.		
					i L	6 40 53	13 15 40 53									
					M	6 41 13									19	+ 3500
					e F	6 42 02										
7		18 Apr.	Ir	N	i P	7 12 45						1800?	Origin in South Formosa. No definite Maximum			
					i L	7 51 17	14 16 51 17									
					e F	7 55 35										
8		20 Apr.	Iv	N	i P	8 24 23							2375	Origin questionably in Mindanao Philippine Islands.		
					L	19 07 41	19 4 07 41									
					M	19 11 54									17	+ 210
					e F	19 18 00										
9		20 Apr.	Iv	N	i P	19 41 06						242	Hasty waves, Origin in Sea of Hiuga. N Component only.			
					e L	10 11 41	20 19 11 41									
					e F	10 12 09										
10	2	21 Apr.	d		e F	10 26 08						205	An after shock of Former quake. N component only, Short period.			
					i P	14 52 15	20 23 52 15									
					i L	14 52 38										
10		21 Apr.	d		e F	15 03 59							Origin neighbouring Nagasaki.			
					i P	2 17 55	21 11 17 55									
10		21 Apr.	d		F	2 18 55										
						2 18 55										



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
11		1913 24 Apr.		S	i PS	h m s	th h m s					2368	Origin North Mindanao Philippine Islands.
					L	10 20 22	24 19 20 22						
					M <sub>1</sub>	10 24 34							
					M <sub>2</sub>	10 24 48							
					M <sub>3</sub>	10 26 19							
12		24 Apr.			e F	10 30 41	24 05 01	16	12	+ 170			
					e P	11 56 35		19	12	+ 80			
13		25 Apr.	SW		i PS	12 20 30	24 21 20 30	19	19	50	+ 360	2394	Do.
					L	13 30 49							
14		26 Apr.		N	e P	18 01 40	26 3 01 04	19	19	58	+ 1270		Do. North-South component only. No definite maximum amplitude.
					L	18 05 56							
					M	18 09 54							
15		28 Apr.			e F	18 09 54		19	19	58	+ 1270		Do.
					e P	19 05 37							
16		28 Apr.			e P	4 11 27	26 13 11 27	19	19	58	+ 1270		Do.
					e F	5 46 15							
17		2 May	d		e P	3 34 22	28 12 34 22	19	19	58	+ 1270		Do.
					e F	4 14 38							
18		2 May			i P	18 44 39	29 3 44 39	19	19	58	+ 1270		Do.
					e F	19 38 52							
19		5 May			i P	9 55 56	2 18 55 56	19	19	58	+ 1270		Origin near Nagasaki.
					F	9 56 59							
20		5 May			i P	18 47 38	3 3 47 38	19	19	58	+ 1270		An after shock of former quake.
					F	18 48 26							
21		5 May			i P	6 43 58	5 15 43 58	19	19	58	+ 1270		Origin in southern sea of Riukiu.
					F	6 59 41							
22		5 May			e P	6 43 58	5 15 43 58	19	19	58	+ 1270		Time of phase uncertain. Origin in southern sea of Riukiu.
					e F	23 ±	6 8 ±						
23		6 May			e P	23 ±	6 8 ±	19	19	58	+ 1270		Origin in Volcano Island off the south Japan.
					e F	23 ±							
24		6 May			i P	1 27 55	6 10 27 55	19	19	58	+ 1270		Origin in southern sea of Riukiu.
					F	2 04 25							
25		6 May			i P	6 20 18	6 15 20 18	19	19	58	+ 1270		An after shock of former quake.
					F	6 36 56							
26		6 May			e P	6 20 18	6 20 22 30	19	19	58	+ 1270		An after shock of former quake.
					F	11 22 30	6 20 22 30						
27		6 May			e P	11 43 01		19	19	58	+ 1270		
					F	11 43 01							

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
24		1913 6 May			i P	h m s	th h m s					Do.	
						15 06 50	6 24 06 50						
25		8 May			F	15 33 43						Faint record Time is unknown.	
					e P	18 ±	9 3 ±						
26		9 May			i PS	16 28 50	10 1 28 50				2368	Origin in southern sea of Riukiu.	
					L	16 33 02							
27		9 May			e P	21 00 00	10 6 00 00					After shock of the former quake.	
					e F	21 55 24							
28		17 May		N	i P	16 23 56	18 1 23 56					Faint record no trace on E. comp. Origin in South Kyushu.	
					F	16 28 45							
29		18 May		N	i PS	2 14 21	18 11 14 21				2375	Origin unknown.	
					L	2 18 34							
					M <sub>1</sub>	2 18 48		15 — 150					
					M <sub>2</sub>	2 21 14		28 — 720					
					M <sub>3</sub>	2 25 00		24 — 750					
30		18 May			i P	18 29 57	19 3 29 57					Origin Bungo channel.	
					F	18 30 55							
31		21 May			e P	1 56 49	21 10 56 49					Faint record of a distant quake registered.	
					F	2 22 06							
32		29 May			i P	10 14 37	29 19 14 37					Felt strong motion in Tokyo & it neighbourhood. Origin in off the sea of Kashima.	
					F	10 41 55							
33		29 May			i P	13 32 50	29 22 32 50					Origin in Northern sea of Luzon (Philippine Is.)	
					F	14 32 10							
34		30 May			i PS	11 55 10	30 20 55 10				3118	Origin neighbouring Caroline Is.	
					L	12 01 16							
					M <sub>1</sub>	12 02 00		23 — 270					
					M <sub>2</sub>	12 06 22		27 + 250					
					M <sub>3</sub>	12 09 34		26 + 1800					
	F	13 25 05											

No	No. of Sensible Shock	Date	Char.	Dir of first motion	Phase	Time		Period	Amplitude			△	Remarks	
						G. M. T.	135°E		AE	AN	Az			
35		1913 4 June		N	i P	h m s	th h m s					4559	Origin probably South Ocean.	
						10 04 48	4 19 04 48							
					i S	10 10 44								
					L	10 14 35								
36		6 June			e PS	2 44 19	6 11 44 16					401?	Origin in Hachio Is.	
					L	2 45 09								
					F	3 09 07								
37		11 June			i P	7 00 29	11 16 00 29					2518	Faint record of a dis- tant quake registered.	
					i S	7 02 40								
					L	7 05 04								
					F	7 31 54								
38		14 June			i P	9 47 28	14 18 47 28						Faint record of Violent earthquake in Tirnova (Bulgaria).	
					F	11 33 28								
39		18 June	SE		i P	8 44 58	18 17 44 58						Origin in offing of South Kiushu.	
					F	8 56 32								
40		22 June		SW	i P	13 58 07	22 22 58 07					5475	Faint record of a dist- ant quake registered. Origin in South Alaska (North America.)	
					i S	14 04 33								
					L	14 10 14								
					F	15 08 36								
41		26 June			i P	5 08 36	26 14 08 36					8509	Origin in Tonga Is. South Pacific.	
					i S	5 18 25								
					L	5 28 27								
					M <sub>1</sub>	5 30 26								31 + 400
					M <sub>2</sub>	5 35 33								24 + 1595
					M <sub>3</sub>	5 42 09								20 + 400
					F	8 07 12								
42		29 June		N	i P	8 22 57	29 17 22 57					162	Origin in Kagoshima and its neighbourhood.	
					L	8 23 14								
					F	8 37 09								
43		29 June		N	i P	9 35 46	29 18 35 46					162	Do.	
					L	9 36 03								
					F	9 40 24								

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No	No. of Sensible Shock	Date	Char.	Dir of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1913											
44		29 June		N	i P	12 24 51	29 21 24 51					162	Do.
					L	12 25 08							
	3. 4.				F	12 32 30							at 7 <sup>h</sup> 18 <sup>m</sup> and 7 <sup>h</sup> 50 <sup>m</sup> 29 <sup>th</sup> June felt in Nagasaki. No record.
45		1 July		NW	i P	13 20 33	1 22 20 33					162	After shock of No. 42.
					L	13 20 50							
					F	13 27 04							
46		6 July			i P	16 09 25	7 1 19 25						Faint record of a distant quake registered.
					F	16 41 42							
47		9 July		SW	i P	1 21 19	9 10 24 19						Near shock.
					F	1 23 25							
48		9 July		NE	i P	1 26 36	9 10 26 36						After shock of former.
					F	1 28 17							
49		22 July		N	i PS	6 58 11	22 15 58 11					2035	Faint record of a distant quake registered.
					L	7 01 32							
					F	7 18 20							
50		1 Aug.		N	i PS	17 01 36	2 2 01 36					2460	Origin in neighbouring Caroline Is.
					L	17 06 02							
					M <sub>1</sub>	17 06 21		22+	200				
					M <sub>2</sub>	17 11 04		22-	110				
					F	17 41 04							
51		13 Aug.		NE	e P	4 34 03	13 13 34 03						Faint record of neighbouring Sumatra.
					F	5 20 17							
52		15 Aug.		S	i PS	19 06 11	16 4 06 11					1740	Origin unknown.
					L	19 08 47							
					F	20 56 47							
53		19 Aug.			e P	5 11 20	19 14 11 20						Record very poor distant quake.
					F	5 25 35							
54		19 Aug.			e P	9 22 51	16 18 22 51						Do.
					F	9 29 08							
55		2 Sept.			i P	19 03 20	3 4 03 20						Origin in Sea of Hiuga.
					F	19 29 37							
56		3 Sept.			i P	20 59 29	4 5 59 29						Origin in Western sea of Luzon.
					F	21 34 10							

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
57		1913 6 Sept.		W	i PS	h m s	th h m s	48	+	35			Inland Sea earth quake.
					L	16 38 41	7 1 38 41						
					M	16 39 19							
					F	16 39 45							
58		11 Oct.			e P	1 42 21	11 10 42 21	24	+	140			Origin in neighbouring Caroline Is.
					M	1 56 36							
					F	3 48 15							
59		11 Oct.		SW	e P	4 14 12	11 13 14 12	25	+	590			After quake of the former Caroline Is.
					i S	4 20 50							
					L	4 22 11							
					M <sub>1</sub>	4 28 26							
					M <sub>2</sub>	4 31 21							
					M <sub>3</sub>	4 33 54							
					F	5 27 46							
60		11 Oct.		SW	i P	9 12 54	11 18 12 54	21	+	1615			Origin in off the coast of Rikuzen.
					i S	9 15 29							
					L	9 16 27							
					M <sub>1</sub>	9 17 21							
					M <sub>2</sub>	9 18 13							
					M <sub>3</sub>	9 20 35							
					M <sub>4</sub>	9 22 09							
					M <sub>5</sub>	9 23 15							
61		12 Oct.			i P	17 06 50	13 2 06 50	21	-	190			After shock of former quake.
					e S	17 09 46							
					M	17 11 18							
					F	17 48 06							
62		14 Oct.		NW	i P	8 19 07	14 17 19 07	29	-	240			Origin in Marianne Is.
					M	8 27 40							
					F	9 40 22							
63		14 Oct.			e P	14 24 16	14 23 24 16						Poor record.
					F	14 55 08							

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
<b>1913</b>													
64		14 Oct.			e P	16 10 97	15 1 10 07						Off the coast of Rikuzen.
					F	16 40 44							
65		28 Oct.		W	e P	9 06 26	28 18 06 26						Near shock.
					F	9 14 11							
66		1 Nov.		NW	i P	0 42 32	1 9 42 32				180		Origin in Sea Hiuga.
					L	0 42 58	11 00 0		+	35			
					F	0 49							
67		6 Nov.			e P	10 35 59	6 19 35 59						Origin in Caroline Is.
					L	10 50 03							
68		10 Nov.		NW	i P	21 22 56	11 6 22 56						Do.
					F	22 25 01							
69		19 Nov.			e P	3 27 06	19 12 27 06						Faint record of near sea of Celebes Malaysia.
					F	4 23 06							
70		3 Dec.			e PS	8 05 26	3 17 05 26				2165		Origin in neighbouring Formosa.
					L	8 09 07							
					F	8 44 28							
71		13 Dec.			e PS	1 42 04	13 10 42 04						Irregular jerky waves of short period and small amplitude.
					M	1 43 32					24		
					F	1 54 47							
72		15 Dec.		SW	e P	17 45 57	16 2 45 57						Origin in sea of NE Formosa.
					F	18 21 06							
73		21 Dec.		NE	e PS	15 47 45	21 24 47 45				2355		Origin in East Tibet (China).
					L	15 51 55							
					M	15 52 24			183	+	52		
					F	16 45 57							

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1914											
1		9 Jan.			e P	7 14 17	9 16 14 17						At 17 <sup>h</sup> 7 <sup>th</sup> felt in Neighbouring Nagasaki.
					F	7 16 40							
2		10 Jan.			e P	5 13 48	10 14 13 48						From No. 1 to No. 31 are foreshocks of the most violent eruption of Sakurajima (South Kyushū).
					F	5 14 50							
3		10 Jan.			e P	10 04 23	10 19 04 23						Do. very weak.
4		10 Jan.			e P	15 09 31	11 0 09 31						
					F	15 12 13							
5		10 Jan.			e P	19 02 48	11 4 02 48						Do.
					F	19 03 07							
6		10 Jan.			P	19 27 29	11 4 27 29						Do.
					F	19 31 41							
7		10 Jan.			i P	20 59 12	11 5 59 12						Do.
					F	21 04 14							
8		11 Jan.			e P	0 57 44	11 9 57 44						Do.
9		11 Jan.			e P	3 27 48	11 12 27 48						Do.
10		11 Jan.			e P	3 43 06	11 12 43 06						Do.
11		11 Jan.			e P	5 55 09	11 14 55 09						Do.
12		11 Jan.			e P	8 24 17	11 17 24 17						Do.
13		11 Jan.			e P	9 25 09	11 18 25 09						Do.
14		11 Jan.			e P	10 21 16	11 19 21 16						Do.
15		11 Jan.			e P	10 30 17	11 19 30 17						Do.
16		11 Jan.			e P	10 42 26	11 19 42 26						Do.
17		11 Jan.			e P	10 51 17	11 19 51 17						Do.
18		11 Jan.			e P	10 59 43	11 19 59 43						Do.
19		11 Jan.			e P	11 11 59	11 20 11 59						Do.
20		11 Jan.			e P	11 23 38	11 20 23 38						Do.
21		11 Jan.			e P	12 00 00	11 21 00 00						Do.
22		11 Jan.			e P	12 08 14	11 21 08 14						Do.
23		11 Jan.			e P	13 25 36	11 22 25 36						Do.
24		11 Jan.			e P	13 56 26	11 22 56 26						Do.
25		11 Jan.			e P	14 30 47	11 23 30 47						Do.
26		11 Jan.			e P	15 40 21	12 0 40 21						Do.
27		11 Jan.			e P	16 32 10	12 1 32 10						Do.

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
1914													
28		11 Jan.			e P	h m s	th h m s						Do.
						20 49 44	12 5 49 44						
29		11 Jan.			e P	21 03 00	12 6 03 00						Do.
30		11 Jan.			e P	23 27 31	12 8 27 31						Do.
31		11 Jan.			e P	23 39 35	12 8 39 35						
32	1	12 Jan.			i F	9 28 37	12 18 28 37						The most vio'ent eruption of Mt. Sakurajima South Kiushu. Felt in Nagasaki and its neighbourhood.
					M <sub>1</sub>	9 28 44							
					M <sub>2</sub>	9 29 58							
					M <sub>3</sub>	9 32 13							
					F	10 19 44		60	—4500				
33		13 Jan.			e P	16 02 38	13 1 02 38	70	—2250				Origin in Bingo Nada Island Sea.
					F	16 03 29		70	+ 600				
34		13 Jan.		NW	e P	7 09 38	13 16 09 38						An after shock of the eruption of Sakurajima.
					F	7 14 18							
35		13 Jan.		NW	e P	7 46 20	13 16 46 20						Do.
					F	7 48 13							
36		15 Jan.			e P	3 56 16	15 12 56 16						Do. microseisms.
37		15 Jan.			e P	4 44 42	15 13 44 42						Do. microseisms.
38		15 Jan.			e P	5 04 04	15 14 04 04						Do. microseisms.
39		15 Jan.			e P	9 09 21	15 18 09 21						After shock of eruption of Sakurajima (South Kiushu). Do. very small waves.
40		15 Jan.			e P	20 13 32	16 5 13 32						
					F	20 15 42							
41		15 Jan.			e P	20 56 11	16 5 56 11						Do. "
42		15 Jan.			e P	22 02 05	16 7 02 05						Do. "
43		15 Jan.			e P	23 03 32	16 8 03 32						Do. "
44		18 Jan.			e P	9 57 13	18 18 57 13						Do. "
45		20 Jan.		NW	i P	12 06 14	20 21 06 14						Faint record of neighbouring Kamtchatka earth quake.
					F	12 22 53							
46		21 Jan.		NW	i P	19 41 41	22 4 41 41						Microseisms, neighbouring Nagasaki.
					L	19 41 44							
					F	19 43 27							
47		7 Feb.			e P	6 53 01	7 15 53 01						Small waves. Origin in offing Mutsu.
					F	?							

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
		<b>1914</b>											
48		12 Feb.			e P	h m s	th h m s					227	Small waves. Origin in Iwojima (South Kiushu) F lost in second quake.
					L	18 18 08							
49		12 Feb.		SW	i PS	18 21 34	13 3 21 34					227	Do. F lost in third quake.
					L	18 22 00							
					M	18 22 11				+ 50			
50		12 Feb.		SW	i PS	18 34 20	13 3 34 20					227	Do. Iwojima.
					L	18 34 46							
					M	18 35 10		12.9	+ 200				
					M	18 35 03		7.5	+ 280				
					FN	18 51 49							
					FE	18 53 32							
51		12 Feb.			i PE	19 09 11	13 4 09 11						Do. Iwojima.
52		14 Feb.			i PFN	14 38 06	14 23 38 06					212	Do. Iwojima.
					L	14 38 30							
					F	14 56 35							
53		3 Mar.			e P	1 17 48	3 10 17 48						Faint record of Nemuro Bay Hokkaido.
					F	1 29 31							
54		6 Mar.			e P	19 17 01	7 4 17 01						Origin in Kamtchaka.
55	2	13 Mar.			i PS	6 58 16	13 15 58 16					22	Microseisms Felt in Nagasaki. Hasty waves.
					L	6 58 19							
					F	6 58 35							
56		14 Mar.		NE	i PS	20 02 51	15 5 02 51					1500	Violent earthquake of Akita.
					L	20 04 51							
					M	20 06 14		240	-1800				
					F	23 00 38							
57		16 Mar.		NE	e PS	22 48 13	17 7 48 13					2305	F lost in changing of sheets. Origin in Mindanao Philippine Is. waves very poor.
					L	22 52 00							
					F	?							
58		18 Mar.			i PS	0 10 24	18 9 10 24					240	
						0 10 52							

長 崎 地 震 十 年 報

Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
59		1914 18 Mar.			i P	h m s	th h m s	144	-	125		4336	Weak waves. Origin in neighbouring Kamtchatka.
						4 27 17	18 13 27 17						
					S	4 31 54							
					L	4 36 30							
					M	4 40 52							
60		18 Mar.			e P	h m s	th h m s	1.46	-	40		4258	After shock of the former Kamtchatka earthquake.
						6 23 56	18 15 23 56						
					S	6 29 08							
					L	6 32 57							
					M	6 37 55							
61		23 Mar.			i P	h m s	th h m s						Hasty waves of micro- seisms. Origin in neighbouring Nagasaki.
						0 50 52	23 9 50 52						
62		23 Mar.			F	h m s	th h m s						Do.
						0 51 21	23 11 33 15						
63		26 Mar.	E		i P	h m s	th h m s						Do.
						23 13 45	27 8 13 54						
64		27 Mar.			F	h m s	th h m s						Weak waves of distant quake.
						23 15 25	28 3 54 38						
65		28 Mar.			e P	h m s	th h m s	168	-	51		2617	Faint record of eastern Tibet.
						18 54 38	28 3 54 38						
					F	19 14 38							
					e S	10 56 06	28 19 56 06						
					L	10 59 01							
66		4 Apr.			M	h m s	th h m s					42	Hasty waves of microseisms.
						11 00 56	4 18 21 08						
						11 01 39							
67		4 Apr			L	h m s	th h m s					42	Do.
						9 21 13	5 1 32 04						
						9 21 52							
68		4 Apr.			F	h m s	th h m s					42	Do.
						16 32 31	5 1 35 16						
						16 31 35							
					i PS	h m s	th h m s						
						16 35 16	5 1 35 16						
						16 35 21							
					L	h m s	th h m s						
						16 35 21							
					F	h m s	th h m s						
						16 36 04							



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
69		1914 11 Apr.		SE	i P	h m s	th h m s					6090	Origin Gilbert Is. and its Neighbourhood.
						16 39 44	12 1 39 44						
					i S	16 47 26							
					L	16 53 25							
					M <sub>1</sub>	16 53 51		33 + 200					
					M <sub>2</sub>	16 56 51		24 + 300					
					M <sub>3</sub>	17 00 08		20 + 650					
					C <sub>1</sub>	17 05 39		18 - 180					
	C <sub>2</sub>	17 07 49		17 - 150									
	F	19 53 44											
70		18 Apr.			i P	11 07 51	18 20 07 51					Microseisms of Neighbouring Nagasaki, Hasty waves.	
					F	11 08 51							
71		21 Apr.			i P	1 24 11	21 10 24 11					Do.	
					F	1 24 40							
72		22 Apr.	W	i PS	6 26 26	22 15 26 26					90	Origin in south Kyushu.	
				L	6 26 38								
				F	6 32 38								
73		23 Apr.			P	5 36 40	23 14 36 40					Questionably microseisms, nearly Nagasaki.	
					F	5 36 49							
74		25 Apr.			P	14 42 07	25 23 42 07						
					F	14 42 42							
75		28 Apr.		SE	PS	11 37 10	28 20 37 10				340	Origin in Eastern Oshima (South Kyushu).	
					L	11 37 52							
					MN	11 38 33		19 - 125					
					ME	11 38 28		20		53			
					F	11 53 39							
76	3	9 May		SE	P	19 38 06	10 4 38 06					Felt in North west Kyushu.	
					F	19 38 28							
77		23 May			e P	3 40 00	23 12 40 00				380	Origin in Bingo small amplitude and hasty waves.	
					L	3 40 47							
					F	3 45 02							

長崎地震十年報  
Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
78	4	1914 26 May		SW	i P	h m s	th h m s					3940	At 14 <sup>h</sup> 43 <sup>m</sup> ± 26 <sup>th</sup> felt in Nagasaki the quake not discernible for No. 78 quake waves. Origin in Celebes Malaysia.
						14 29 46	26 23 29 46						
					S	14 35 41							
					L	14 37 58							
					M <sub>1</sub>	14 38 28		20 +	425				
					M <sub>2</sub>	14 41 10		24 +	3700				
					M <sub>3</sub>	14 47 19		24 +	4750				
	F	16 35 13											
79		29 May		SW	PS	4 55 28	29 13 55 28				7000	Origin South-Western Sumatra.	
					L	5 11 28							
					ME	5 14 52		17	-	40			
					MN	5 15 11		17	-	60			
					F	?							
80		20 June			e P	7 45 13	20 16 45 13					Record is very poor.	
					F	?							
81		22 June		NW	i P	22 09 43	23 7 09 43					Local shock Felt in Nomo.	
					FE	22 10 11							
					FN	22 10 56							
82		25 June			P	19 15 44	26 4 15 44				4770	Origin in neighbouring Smatra Java.	
					S	19 22 28							
					L	19 27 54							
					M <sub>1</sub>	19 28 09		29	+	550			
					M <sub>1</sub>	19 28 11		29	-	600			
					M <sub>2</sub>	19 30 10		29	+	500			
					M <sub>2</sub>	19 31 12		29	-	150			
					M <sub>3</sub>	19 33 12		18	-	167			
					M <sub>3</sub>	19 35 05		19	+	500			
					M <sub>4</sub>	19 37 30		19	+	600			
					M <sub>4</sub>	19 37 32		17	+	240			
					FE	20 15 15							
FN	20 19 15												

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1914											
83		4 July		NW	P	h m s	th h m s					387	Faults quake in bottom sea of eastern Oshima Is.
					L	17 49 35	5 2 49 35						
					ME	17 50 23							
						17 50 33		14		+ 330			
					MN	17 50 37		15	+ 600				
					FE	18 21 54							
					FN	18 28 06							
84		5 July			e PS	22 05 22	6 7 05 22						Faint record.
					L	22 08 03							
					F	22 27 17							
85		6 July		NE	P	6 40 04	6 15 40 04						Shows maxmum ampli- tude on the first motion Origin in Kwarenko Taiwan.
					FE	7 10 36							
					FN	7 06 48							
86	5	18 July			PS	1 51 12	18 10 51 12					30	Hasty waves Felt in Nagasaki and Shima- bara Peninsula.
					L	1 51 16							
					F	2 02 52							
87		20 July		SW	PS	8 18 17	20 17 18 17					60	Hasty waves.
					L	8 18 25							
					F	8 21 43							
88		25 July			P	21 11 25	26 6 11 25						
89	6	25 July		E	PS	21 12 03	26 6 12 03					15	Local microseisms.
					L	21 12 05							
					M	21 12 05				— 30			
					F	21 13 19							
90	7	30 July		W	PS	23 15 53	31 8 15 53					70	Hasty waves. Felt in Nagasaki.
					L	23 16 02							
					M	23 16 04				— 30			
					F	23 16 31							
91		3 Aug.		NW	PS	21 47 33	4 6 47 33					280	Origin in Sea of Hiuga.
					L	21 48 06							
					MN	21 48 33				+ 80			
					ME	21 48 10		6		+ 60			
					F	21 59 56							

長 崎 地 震 十 年 報

Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
92		1914 3 Aug.		NW	P	h m s	th h m s					280	Do.
						22 55 23	4 7 55 23						
					S	22 55 41							
					L	22 55 56							
93		4 Aug.		NE	P	22 48 00	5 7 48 00				3900	Sheets off in large amplitude. Origin unknown.	
					S	22 52 11							
					L	22 55 54							
					M	Missing							
					C <sub>1</sub>	23 15 37	14	—	130				
					C <sub>2</sub>	23 18 44	14	—	100				
94	8	7 Aug.			PS	16 34 28	8 1 34 28					Local shock hasty waves. Felt in Nagasaki. Origin nearly.	
					L	16 34 32							
					F	16 38 23							
95		8 Aug.			e P	10 25 02	8 19 25 02					After shoke of former quake.	
					F	10 25 50							
96		8 Aug.			e P	13 38 30	8 22 38 30					Do.	
					F	13 39 47							
97		8 Aug.			P	16 03 00	9 1 03 00					Do.	
98		8 Aug.		NW	P	23 21 54	9 8 21 54					Do.	
					F	23 22 29							
99		9 Aug.			e P	1 55 16	9 10 55 16					Do.	
100		9 Aug.			e P	2 55 17	9 11 55 17					Do.	
101		9 Aug.			e P	21 14 03	10 6 14 03					Do.	
102		10 Aug.		W	e P	14 26 36	10 23 26 36					Do.	
103		10 Aug.		W	e P	17 45 41	11 2 45 41					Do.	
104		11 Aug.		W	e P	11 59 32	11 20 59 32					Do.	
105		11 Aug.		W	e P	14 10 34	11 23 10 34					Do.	
106		12 Aug.		W	P	20 47 47	13 5 47 47					Do.	
107		13 Aug.		W	P	8 22 00	13 17 22 00					Do.	
108		13 Aug.			P	8 31 30	13 17 31 30					Do.	
					F	8 33 34							
109		13 Aug.		W	e P	9 28 00	13 18 28 00					Do.	
110		13 Aug.		W	e P	10 12 00	13 19 12 00					Do.	



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1914				h m s	th h m s						
111		13 Aug.		W	e P	10 18 00	13 19 18 00					Do.	
112		13 Aug.		W	e P	11 35 13	13 20 35 13					Do.	
113		13 Aug.		W	e P	13 01 44	13 22 01 44					Do.	
114		13 Aug.		W	e P	17 42 24	14 2 42 24					Do.	
115		13 Aug.		W	e P	17 44 09	14 00 28 44 09					Do.	
					F	17 47 53							
116		13 Aug.		W	P	19 43 23	14 4 43 23					Do.	
117		13 Aug.		W	P	22 56 21	14 7 56 21					Do.	
118		14 Aug.		W	P	8 29 07	14 17 29 07					Do.	
119		14 Aug.		W	P	8 44 58	14 17 44 58					Do.	
120		15 Aug.		W	e P	1 51 50	15 10 51 50					Weakly wave of Near shock.	
121		16 Aug.			P	10 21 33	16 19 21 33					Local shock.	
					F	10 22 21							
122		16 Aug.			e PS	12 18 41	16 21 18 41					250	Origin in Aichi prefecture (舉母町). Faint record.
					L	12 19 11							
					F	12 24 15							
123		16 Aug.			e P	20 39 00	17 5 39 00						Local microseisms.
124		17 Aug.			e P	20 44 45	18 00 5 44 45					Do.	
125		18 Aug.			e P	7 05 00	18 16 05 00					Do.	
126		18 Aug.			e P	11 30 00	18 20 30 00					Do.	
127		18 Aug.			e P	11 33 00	18 20 33 00					Do.	
128		18 Aug.			e P	11 36 00	18 20 36 00					Do.	
129		19 Aug.			e P	11 24 00	19 20 24 00					Do.	
130		29 Sept.		W	PS	15 17 36	30 0 17 36					210	Hasty waves.
					L	15 18 00							
					F	15 23 20							
131		2 Oct.			PS	5 16 59	2 14 16 59					90	Small hasty waves.
					L	5 17 11							
					F	5 21 13							
132		3 Oct.			e P	17 41 24	4 2 41 24						Faint record of earthquake Distant.
					F	19 39 34							

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
133		1914 3 Oct.			P	h m s	th h m s	19		+	33		Minor earth quake, Turkey of Asia.
					M	22 58 40	4 ? 51 0						
					F	23 49 50							
134		6 Oct.			e P	19 44 26	7 4 44 26					Weak waves of distant quake.	
					F	20 34 05							
135		9 Oct.			e P	2 54 10	9 11 54 10					Weakly distant quake in pulsatory motion.	
136		16 Oct.		NE	P	22 11 16	17 7 11 16					Doubtful as to seismic Origin.	
					F	22 22 25							
137		23 Oct.		SSW	PS	6 24 44	23 15 24 44	10		+	70	2520	Origin in Mindanao Philippine Is.
					L	6 29 19							
					M <sub>1</sub>	6 30 07							
					M <sub>1</sub>	6 32 13							
					M <sub>2</sub>	6 32 55							
					M <sub>2</sub>	6 35 47							
					F	7 23 32							
138		23 Oct.			P	20 12 52	29 5 12 52	5		-	208		Epical is sea of Hiuga.
					M	20 13 41							
					F	—							
139		4 Nov.			P	20 59 26	5 5 59 26					Local microseisms very small waves.	
					F	21 00 30							
140		13 Nov.			e P	19 19 00	14 4 19 00					Do.	
					F	19 19 40							
141		16 Nov.			PS	1 29 54	16 10 29 54				97	Origin in South Kyushu.	
					L	1 30 07							
					M	1 30 15							
					F	1 37 34							
142		19 Nov.			P	20 15 45	20 5 15 45					Local microseisms.	
					F	20 16 18							
143		24 Nov.		NW	PS	11 57 05	24 20 57 05	24		-	3750	1740	Origin in Southern Sea of Bonin Is.
					L	11 59 41							
					M <sub>1</sub>	12 01 39							
					M <sub>2</sub>	12 06 00							
					M <sub>3</sub>	12 10 29							
F	13 18 00												

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1914											
144		25 Nov.			PS	h m s	th h m s					49	Microseisms.
					L	21 12 19							
					F	21 14 50							
145		28 Nov.		NW	PS	10 46 28	28 19 46 28					340	Origin in Osumi South Kyushu.
					L	10 47 09							
					M <sub>1</sub>	10 47 22		15		+ 330			
					M <sub>1</sub>	10 47 23		24		+ 800			
					M <sub>2</sub>	10 48 33		22		- 750			
					M <sub>2</sub>	10 49 21		7		- 1080			
					M <sub>3</sub>	10 50 45		9		- 180			
					M <sub>4</sub>	10 51 40		12		+ 330			
					M <sub>5</sub>	10 53 25		17		+ 270			
					F	12 20 20							
146		28 Nov.		NW	PS	13 20 45	28 22 20 45					340	Afrer quake of Osumi South Kyushu.
					L	13 21 26							
					M <sub>1</sub>	13 22 21		9		+ 80			
					M <sub>1</sub>	13 22 16				- 200			
					M <sub>2</sub>	13 23 04		13		- 210			
					M <sub>2</sub>	13 23 23				+ 200			
					M <sub>3</sub>	13 24 23		9		- 200			
					M <sub>4</sub>	13 27 11		9		+ 110			
					M <sub>5</sub>	13 28 11		9		+ 80			
					F	14 30 00							
147		29 Nov.			P	8 28 09	29 17 28 09						Orign in nearly record is very poor.
148		2 Dec.			P	13 09 13	2 22 09 13					320	Faint record.
					L	13 09 52							
					F	13 04 02							
149		6 Dec.			P	13 27 53	6 22 27 53					60	Local microseisms Hasty waves.
					L	13 28 00							
					F	13 32 48							
150		7 Dec.			P	0 22 36	7 9 22 36						Local microseisms record is poor.
					F	0 24 00							
151		10 Dec.			P	1 48 36	10 10 48 36						Local microseisms.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			$\Delta$	Remarks
						G. M. T.	135°E		AE	AN	AZ		
1		1915 1 Jan.		W	e P	h m s	th h m s					200	Hasty waves. Origin in North Kyushu.
					L	2 44 54	16 11 44 54						
2		1 Jan.		W	e P	h m s	th h m s					200	Do.
					L	2 45 16	16 11 49 10						
3		5 Jan.			P	14 50 55	5 23 50 55						
4		5 Jan.			P	14 43 02	5 23 43 02						
5		5 Jan.			P	23 29 03	6 08 29 03						
					L	23 30 54							
					M <sub>1</sub>	23 31 05		22 + 2100					
					M <sub>2</sub>	23 34 44		12 - 700					
					M <sub>3</sub>	23 36 10		17 + 500					
					F	?							
6	1	6 Jan.		W	P	7 36 08	6 16 36 08						Felt in Nagasaki and its neighbourhood.
					F	7 37 34							
7		10 Jan.			P	1 00 05	10 10 00 05						Weak waves. Origin nearly.
8		10 Jan.		W	P	20 53 31	11 5 53 31						
9		13 Jan.			P	?	13 ?						Probably. Origin in (Italy) Abruzzo.
					L	7 38 18							
					MN	7 40 43		22 - 100					
					ME	7 47 09		14 + 15					
					F	?							
10		13 Jan.		E	P	12 33 09	13 21 33 09						Microseisms.
11		13 Jan.		W	P	12 40 10	13 21 40 10						Do.
12		13 Jan.		W	P	14 41 38	13 23 41 38						Do.
13		27 Jan.			P	6 49 18	27 15 49 18					90	Hasty small waves.
					L	6 49 30							
					F	6 51 38							
14	2	7 Feb.			P	21 43 25	8 6 43 25					70	Hasty waves Felt in Nagasaki.
					L	21 43 34							
					F	21 45 43							

長 崎 地 震 十 年 報

Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
		1915											
15		9 Feb.		W	i P	17 35 36	10 2 35 36						Local microseisms.
16		10 Feb		W	i P	8 10 50	10 17 10 50				110		Hasty small waves.
					L	8 11 05							
					F	8 12 50							
17		13 Feb.		W	i P	2 49 37	13 11 49 37						Microseisms.
					F	2 50 12							
18		20 Feb.			i P	0 08 44	20 9 08 44						Do.
					F	0 09 09							
19		20 Feb.			i P	8 30 49	20 17 30 49						Do.
20		20 Feb.			P	13 44 58	20 22 44 58						
21	3	20 Feb.			P	15 23 23	21 0 23 23						Microseisms. Felt in Nagasaki.
					F	15 33 37							
22		26 Feb.			P	15 30 22	27 0 30 22						Microseisms.
					F	15 30 47							
23		28 Feb.			P	19 01 51	29 4 01 51				1520		Origin in South Sea of Yaeyama Is.
					L	19 03 54							
					MN	19 05 56		20	2100				
					ME	19 05 03		20	1210				
					F	20 01 10							
24	4	4 Mar.		W	P	9 59 26	4 18 59 26						Microseisms. Origin in Unzen. Felt in Nagasaki and Shimabara Peninsula.
					F	10 02 00							
25		4 Mar.			P	14 57 11	4 23 57 11						Microseisms.
					F	14 57 50							
26		8 Mar.			P	15 33 09	9 0 33 00				1500		Origin in neighbouring Morioka city.
					L	15 35 02							
					M	15 37 21		18—	280				
					F	15 51 50							
27		11 Mar.			P	17 15 30	12 2 15 30						Microseisms.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks			
						G. M. T.	135°E		ΔE	ΔN	ΔZ					
28		1915 12 Mar.			P	h m s	th h m s					2250	Origin in neighbouring Philippine Is.			
					L	14 53 25	12 23 53 25									
					M <sub>1</sub>	14 57 19								17	—	75
					M <sub>1</sub>	14 58 02								9	—	50
					M <sub>2</sub>	14 58 26								12	+	27
					M <sub>2</sub>	15 00 49								18	—	100
					M <sub>3</sub>	15 01 27								12	+	42
					M <sub>3</sub>	15 02 21								18	—	100
					M <sub>3</sub>	15 02 36								18	—	125
					F	15 04 47										
29		17 Mar.			P	h m s	th h m s					1770	Origin in offing Eastern coast of Honshu.			
					L	18 48 17	18 3 48 17									
					ME	18 50 58								7	+	15
					MN	18 51 28								6	—	50
					F	18 51 33										
30		18 Mar.			P	?	18 ?						Faint record.			
					M	1 38 31									—	10
31		24 Mar.			P	6 42 02	24 15 42 02									
32		24 Mar.			P	16 25 46	25 1 25 46							Do.		
33		25 Mar.			P	10 32 55	25 19 32 55							Do.		
34	5	3 Apr.		W	P	0 18 13	3 9 18 13							Hasty Local shock. Origin in Unzen.		
					F	0 19 00							Rumbling and shock in Nagasaki.			
35		3 Apr.			P	0 50 41	3 9 50 41							Local slight shock.		
					F	0 51 10										
36		5 Apr.			P	9 03 45	5 18 03 45							Microseisms, felt at Minamiarima Shimabara Peninsula.		
					L	9 03 50										
					F	9 05 21										
37		6 Apr.			P	1 44 43	6 10 44 43							Slight shock.		
					F	1 45 40										
38		6 Apr.			e P	5 38 08	6 14 38 08							500 Faint record.		
					e L	5 39 12										
					F	6 01 00										

# 長 崎 地 震 十 年 報

## Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
		<b>1915</b>											
39		6 Apr.			P	h m s	th h m s					198	
					L	12 30 33	6 21 30 11						
					F	12 31 42							
40	6	18 Apr.			P	15 00 03	19 0 00 03						Rumbling and shock in Nagasaki, Jarky waves.
					F	15 00 41							
41	7	23 Apr.			P	15 15 38	24 0 15 38						After shock of the former quake.
					F	15 16 25							
42		23 Apr.			P	15 47 48	24 0 47 48						Do.
					F	15 48 36							
43		23 Apr.			P	15 50 14	24 0 50 14						Do.
44	8	24 Apr.			P	2 39 51	24 11 39 51						Local shock, Felt in Nagasaki and its neighbourhood.
					F	2 44 31							
45		24 Apr.			P	6 21 13	24 15 21 13						After shock of the former quake.
46		24 Apr.			P	7 47 55	24 16 47 55						Do.
47		24 Apr.			P	17 04 54	25 2 04 54						Do.
48		24 Apr.			P	17 12 31	25 2 12 31					1600	Origin in Kashimanada.
					L	17 14 46							
					M	17 15 58		8		+ 10			
					F	17 28 45							
49		24 Apr.			P	21 13 13	25 6 13 13						Microseisms.
50		30 Apr.		W	e P	1 55 06	30 10 55 06					2300	
					e L	1 59 08							
					M	1 59 27							
					F	2 17 20							

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks	
						G. M. T.	135°E		AE	AN	Az			
51		1915 1 May		SW	PS	h m s	th h m s					1940	Needle off on maximum motion. Origin in South sea of Kamtchaka.	
						5 05 25	1 14 05 25							
					L	5 08 32								
					M	5 10 10								19 + 400
					M	— — —								
					C <sub>1</sub>	5 38 56								17 00 + 333
					C <sub>2</sub>	5 41 24								17 21 + 367
					C <sub>3</sub>	5 44 45								17 16 + 383
					C <sub>4</sub>	5 49 54								17 53 + 600
					C <sub>5</sub>	5 51 59								17 25 + 83
C <sub>6</sub>	5 55 41			+ 125										
F	7 — —													
52		2 May			P	14 33 41	2 23 33 41					Microseisms.		
53		3 May			e P	3 19 47	3 12 19 47				2240	Faint record.		
					e L	3 23 40								
					M	3 29 28		15 — 50						
					F	3 55 00								
54		3 May			P	?	3 ?				2240	Do.		
					M	4 24 08								
					e F	4 52 —								
55		5 May			P	?	5 ?					Weak waves.		
					e L	15 27 09								
					M	15 28 09		15 — 120						
					F	15 43 30								
56		6 May			P	1 50 08	6 10 50 08					Microseisms.		
					F	1 50 45								
57		15 May			P	12 45 21	15 21 45 21					Do.		
					F	12 46 00								
58		15 May			P	14 56 06	15 23 56 06					Do.		
					F	14 58 00								
59		21 May			P	23 27 41	22 8 27 41					Do.		
60		23 May			P	2 50 00	23 11 50 00				160	Small waves.		
					L	2 50 11								
					F	?								

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1915											
61		24 May			P	4 51 22	24 13 51 22						Microseism? Poor waves.
62		24 May			PS	5 02 15	24 14 02 15					77	Hasty waves.
					L	5 02 25							
					F	5 49 40							
63		26 May			PS	10 18 37	26 19 18 37					77	Small waves.
					L	10 18 47							
					F	10 20 42							
64		27 May			P	2 27 13	27 11 27 13						Microseisms.
65		27 May			e P	17 30 42	28 4 30 42					470	Poor waves. Kashimanada.
					e L	17 31 42							
					F	17 36 40							
66		28 May			P	5 48 36	28 14 48 36						Microseisms.
67		28 May			P	6 02 03	28 15 02 03						Do.
68		4 June			P	?	5 ?						Faint record, Time is unknown on the first motion. Origin in off Rikuchu coast.
					M	22 06 00							
					F	?							
69		6 June			P	21 49 20	7 6 49 20						Faint record. Origin in Chile S.A.
					F	23 — —							
70		9 June			P	4 12 10	9 13 12 10						Microseisms.
71		9 June			P	12 50 02	9 21 50 02						Do.
					F	12 50 57							
72	9	11 June			P	14 05 44	11 23 05 44						Felt in neighbouring Nagasaki. Origin in Kikitsu Nishisonokigun Nagasaki Prefecture.
					L	14 05 49							
					M	14 05 51						+ 75	
					F	14 13 05							
73		16 June			P	17 55 —	17 2 55 —						Origin in Kikitsu.
74		17 June			P	9 21 54	17 18 21 54						Do.
75		17 June			P	18 30 56	18 3 30 56						Do.
					F	18 32 16							
76		18 June			P	1 17 18	18 10 17 18						Do.
					F	1 18 10							
77		18 June			P	22 50 03	19 7 50 03						Do.
					F	22 51 21							



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
		<b>1915</b>				h m s	th h m s						
78		10 19 June			P	5 37 05	19 14 37 05						Do. Felt in neighbouring Nagasaki.
					F	5 38 +							
79		19 June			F	16 04 14	20 1 04 14				420		Small waves, Origin in Sagami Bay.
					L	16 05 07							
					F	16 07 22							
80		20 June			P	0 15 04	20 9 15 04						Origin in Kikitsu.
					F	0 15 20							
81		20 June			P	7 32 48	20 16 32 48				1290		Faint record, Origin in Kashimanada.
					L	7 34 15							
					F	7 41 25							
82		20 June			P	11 59 34	20 20 59 34						Origin in Kikitsu.
					F	12 00 07							
83		21 June			P	1 29 50	21 10 29 50						Do.
					F	1 29 58							
84		21 June			P	8 10 13	21 17 10 13						Do.
					F	8 10 40							
85		25 June			P	5 49 44	25 14 49 44						Do.
					F	5 50 35							
86		25 June			P	8 06 45	25 17 06 45						Do.
87		25 June			P	10 51 27	25 19 51 27						Do.
					F	10 51 42							
88		11 25 June			P	18 59 00	26 3 59 00						Do. Felt in neighbouring Nagasaki.
					F	19 01 00							
89		25 June			P	23 40 02	26 8 40 02						Do. unfelt.
90		25 June			P	2 49 11	26 11 49 11						Do.
					F	2 49 34							
91		12 26 June			P	13 15 21	26 22 15 21						Origin in Kikitsu Nishi-sonokigun Nagasaki Pref. Felt in Nagasaki and neighbourhood.
					F	13 16 11							
92		13 27 June			P	8 54 56	27 17 54 56						After shock.
					F	8 56 11							
93		14 27 June			P	10 47 45	27 19 42 45						Do. Felt in neighbouring Nagasaki. (rumbling ground.)
					F	10 49 00							

長 崎 地 震 十 年 報

Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
		1915											
94		27 June			P	h m s	th h m s						Do. unfelt.
					F	11 07 36	27 20 07 36						
					F	11 08 00							
95		27 June			P	13 33 45	27 22 33 45						Do.
96		27 June			P	15 30 08	28 0 30 08				2260		Origin in East Hokkaido.
					L	15 34 04							
					F	?							
97		27 June			P	22 55 19	28 7 55 19						Origin in Kikitsu.
					F	22 55 33							
98		28 June			P	7 05 46	28 16 05 46						Do.
					F	7 06 06							
99		28 June			P	8 03 00	28 17 03 00						Do.
					F	8 03 20							
100		28 June			P	9 47 20	28 18 47 20						Do.
					F	9 47 40							
101		28 June			P	23 51 18	29 8 51 18						Do.
					F	23 52 25							
102		29 June			P	7 14 33	29 16 14 33						Do.
					F	7 15 15							
103		29 June			P	12 39 24	29 21 39 24						Do.
					F	12 39 55							
104	15	29 June			P	13 37 16	29 22 37 16						Do. Felt in Nagasaki and its neighbourhood.
					F	13 38 00							
105		30 June			P	5 32 57	30 14 32 57						After shock.
					F	5 34 10							
106		30 June			P	15 04 13	1 0 04 13						Origin in Kikitsu.
					F	15 05 —							
107		30 June			P	19 57 24	1 4 57 24						Do.
					F	19 57 38							
108		30 June			P	22 59 19	1 7 59 19						Do.
					F	22 59 46							
109		30 June			P	23 45 55	1 8 45 55						Do.
					F	23 46 36							



No	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1915											
110		1 July			P	h m s	th h m s						Do.
					F	0 12 20							
111	16	1 July			P	0 13 15	1 9 13 15						Do. Felt in Kikitsu and Nagasaki.
					F	0 14 42							
112		1 July			P	0 24 41	1 9 24 41						Do. unfelt.
					F	0 24 57							
113		1 July			P	0 44 39	1 9 44 39						Do.
					F	0 44 54							
114		1 July			P	0 48 01	1 9 48 01						Do.
					F	0 48 17							
115		1 July			P	0 52 45	1 9 52 45						Do.
					F	0 53 04							
116		1 July			P	0 57 24	1 9 57 24						Do.
					F	0 57 43							
117		1 July			P	0 58 53	1 9 58 53						Do.
					F	0 59 15							
118		1 July			P	1 47 39	1 10 47 39						Do.
					F	1 48 00							
119		1 July			P	2 38 27	1 11 38 27						Do.
					F	2 38 27							
120		1 July			P	4 02 48	1 13 02 48						Do.
					F	4 03 03							
121		1 July			P	4 35 36	1 13 35 36						Do.
					F	4 35 45							
122		1 July			P	5 57 42	1 14 57 42						Do.
					F	5 58 10							
123		1 July			P	6 07 22	1 15 07 22						Do.
					F	6 07 40							
124		1 July			P	14 48 19	1 23 48 19						Do.
					F	14 48 40							
125		1 July			P	16 44 48	2 1 44 48						Do.
					F	16 45 00							

長 崎 地 震 十 年 報

Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
		1915											
126	17	1 July			P	h m s	th h m s						Do. Felt in Nagasaki.
					F	17 34 36	2 2 34 36						
127		1 July			P	17 35 35							Do.
					F	17 47 24	2 2 47 24						
128		1 July			P	17 47 50							Do.
					F	18 51 39	2 3 51 39						
129		1 July			P	18 52 00							Do.
					F	19 11 43	2 4 11 43						
130		1 July			P	19 12 24							Do.
					F	23 55 46	2 8 55 46						
131		2 July			P	23 56 03							Do.
					F	3 53 31	2 12 53 31						
132		2 July			P	3 53 41							Do.
					F	4 49 54	2 13 49 54						
133		2 July			P	4 50 06							Do.
					F	5 20 09	2 14 20 09						
134		2 July			P	5 20 23							Do.
					F	8 09 22	2 17 09 22						
135		2 July			P	8 09 32							Do.
					F	9 18 01	2 18 18 01						
136		2 July			P	9 18 10							Do.
					F	12 46 46	2 21 46 46						
137		2 July			P	12 46 55							Slight waves, Origin in neighbouring Tokyo
					F	13 40 50	2 22 40 50						
138		3 July			P	13 46 20							Microseisms. Origin in Kikitsu.
					F	9 36 07	3 18 36 07						
139		4 July			P	9 36 20							Do.
					F	2 48 26	4 11 48 26						
140		4 July			P	2 48 55							Do.
					F	7 40 05	4 16 40 05						
141		4 July			P	7 40 29							Do.
					F	9 22 07	4 18 22 07						
					F	9 22 31							



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
		<b>1915</b>											
142	18	4 July			P	h m s	th h m s						Do. Felt in Nagasaki.
					F	15 00 57	5 00 57						
					F	15 01 35							
143		4 July			P	17 45 29	5 2 45 29						Do. unfelt
					F	17 45 43							
144		4 July			P	18 34 48	5 3 34 48						Do.
					F	18 34 55							
145		5 July			P	2 17 32	5 11 17 32						Do.
					F	2 17 56							
146		5 July			P	5 08 26	5 14 08 26						Do.
					F	5 08 52							
147		5 July			P	7 55 48	5 16 55 48						Do.
					F	7 56 26							
148		7 July			P	1 34 47	7 10 34 47						Do.
					F	1 35 20							
149		7 July			P	3 14 14	7 12 14 14						Do.
					F	3 14 34							
150		7 July			P	22 42 04	8 7 42 04						Do.
151		8 July			P	2 23 47	8 11 23 47						Origin in Kikitsu.
152		8 July			P	21 10 17	9 6 10 17						Do.
153		8 July			P	22 22 18	9 7 22 18						Weak waves. Origin in Iwaki offing.
					F	22 25 53							
154		10 July			P	2 00 12	10 11 00 12						Do.
155		10 July			P	8 26 05	10 17 26 05						Do.
156		10 July			P	21 34 17	11 6 34 17						Do.
157		11 July			P	15 22 16	12 0 22 16						Do.
158	19	11 July			P	16 10 52	12 1 10 52						Do. Felt in Nagasaki.
					F	16 11 59							
159		12 July			P	11 59 57	12 20 59 57						Do. unfelt.
160		14 July			P	11 59 57	14 20 59 57						Do.
161		14 July			P	12 12 54	14 21 12 54						140 Probably Mt. Kirishima South Kyushu.
					L	12 13 08							
					F	?							

# 長崎地震十年報

*Nagasaki Seismic Bulletin During Ten Years.*



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
162		1915 14 July			P	h m s	th h m s					140	Do.
						12 25 51	14 21 25 51						
					L	12 26 05							
163		14 July			F	?						140	Do.
					P	12 55 43	14 21 55 43						
					L	12 55 57							
164		14 July			F	?						Do.	
					P	14 25 54	14 23 25 54						
					L	14 26 08							
165		14 July			F	?						140	Do.
					P	17 09 28	15 2 09 28						
					L	17 09 42							
167		14 July			F	?						140	Do.
					P	18 59 45	15 3 59 45						
					L	18 59 59							
168		14 July			F	?						140	Do.
					P	19 14 28	15 4 14 28						
					L	19 14 42							
169		14 July			P	23 20 22	15 8 20 22						Origin in Kikitsu neighbouring Nagasaki.
170		15 July			P	6 21 56	15 15 21 56					140	Slight waves, Origin in Mt. Kirishima.
					L	6 22 08							
					F	6 22 51							
171		16 July			P	12 26 04	16 21 26 04					140	Do.
					L	12 26 17							
					F	?							
172		16 July			P	17 47 27	17 2 47 27					140	Do.
					L	17 47 41							
					F	?							
173		16 July			P	23 01 45	17 8 01 45					140	Do.
					L	23 01 59							
					F	23 02 53							
174		17 July			P	9 02 22	17 18 02 22						Origin in Kikitsu neighbouring Nagasaki.
175		17 July			P	9 08 39	17 18 08 39						Do.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
		<b>1915</b>											
176		17 July			P	9 11 17	17 18 11 17						Do.
177		17 July			P	9 15 20	17 18 15 20						Do.
178		17 July			P	9 18 26	17 18 18 26						Do.
179		18 July			P	8 40 58	18 17 40 58						
					L	8 41 08							
					F	8 41 41							
180		19 July			P	5 35 42	19 14 35 42						Origin in Kikitsu neighbouring Nagasaki.
181		19 July			P	13 39 45	19 22 39 45						Do.
					F	13 39 58							
182		19 July			P	17 28 55	20 2 28 55						Do.
					F	17 29 10							
183	20	19 July			P	20 45 57	20 5 45 57						Do. Felt in Nagasaki and its neighbourhood.
					M	20 46 00				65			
					F	20 49 19							
184	21	19 July			P	20 49 18	2 5 49 18						Do.
					F	20 50 12							
185		19 July			P	20 51 26	20 5 51 26						Do. unfelt.
					F	20 51 43							
186	22	19 July			P	20 58 50	20 5 58 50						Do. Felt in Nagasaki and its neighbourhood.
					F	20 59 36							
187		19 July			P	21 02 27	20 6 02 27						Do. unfelt.
					F	21 02 43							
188		19 July			P	22 14 35	20 7 14 35						Do.
					F	22 14 50							
189	23	19 July			P	22 48 32	20 7 48 32						Do. Felt in Nagasaki and its neighbourhood.
					F	22 49 45							
190	24	19 July			P	23 07 27	20 8 07 27						Do.
					M	23 07 32							
					F	23 08 34							
191		20 July			P	4 59 30	20 13 59 30						Do. unfelt.
					F	4 59 45							
192		20 July			P	20 38 08	21 5 38 08						Do. Felt in Omura and Isahaya
					F	20 38 03							

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time						Period	Amplitude			△	Remarks
						G. M. T.			135°E				AE	AN	AZ		
						h	m	s	th	h	m	s					
		1915															
193		20 July			P	20	46	45	21	5	46	45					Do.
					F	20	47	09									
194		20 July			P	23	00	58	21	7	00	58					Do.
					F	23	01	36									
195	25	21 July			P	7	04	18	21	16	04	18					Do. Felt in Nagasaki, Omura and Togitsu.
					F	7	05	43									
196		21 July			P	7	07	46	21	16	07	46					Origin in Kikitsu.
197		21 July			P	7	10	03	21	16	10	03					Do.
198		21 July			P	7	36	39	21	16	36	39					Do.
199		21 July			P	7	51	31	21	16	51	31					Do.
200	26	21 July			P	7	57	56	21	16	57	56					Do. Felt in Nagasaki, Omura, Isahaya and Togitsu.
					F	7	58	56									
201		21 July			P	9	17	28	21	8	17	28					Do.
202		21 July			P	18	10	16	22	3	10	16					Do.
203		21 July			P	19	01	26	22	4	01	26					Do.
204		21 July			P	19	15	39	22	4	15	39					Do.
205		21 July			P	22	05	28	22	7	05	28					Do.
206		22 July			P	0	40	36	22	9	40	36					Do.
207		22 July			P	0	52	51	22	9	52	51					Do.
208		22 July			P	1	38	42	22	10	38	42					Do.
209		22 July			P	10	58	03	22	19	58	03					Do.
210		22 July			P	11	58	47	22	20	58	47					Do.
211		22 July			P	16	24	10	23	1	24	10					Do.
212		22 July			P	19	04	55	23	4	04	55					Do.
213		23 July			P	2	55	30	23	11	55	30					Do.
214		23 July			P	18	06	54	24	3	06	54					Do.
215		23 July			P	18	22	57	24	3	22	57					Origin in Mt. Kirishima.
216		23 July			P	18	53	05	24	3	53	05					Do.
217		23 July			P	18	54	23	24	3	54	23					Do.
218		24 July			P	2	12	10	24	11	12	10					Origin in Kikitsu neighbouring Nagasaki.
219		24 July			P	6	25	20	24	15	25	20					Do.
220		24 July			P	8	03	18	24	17	03	18					Origin in Mt. Kirishima.
221		24 July			P	8	05	25	24	17	05	25					Do.

No.	No. of Seisible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1915											
222		24 July			P	h m s	th h m s						Do.
						8 09 30	24 17 09 30						
223		24 July			P	17 11 37	25 2 11 37						Do.
224		25 July			P	2 41 35	25 11 41 35						Microseisms Origin in Kikitsu.
225		25 July			P	17 53 22	26 2 53 22						Do.
226		25 July			P	17 56 44	25 2 56 44						Do.
227		25 July			P	23 40 28	26 8 40 28						Do.
228		26 July			P	15 49 37	27 0 49 37						Do.
229	27	27 July			P	5 47 21	27 14 47 21						Do. Felt in Nagasaki and Omura.
					F	5 48 20							
230		27 July			P	6 05 10	27 15 05 10						Do.
231		28 July			P	2 47 40	28 11 47 40						Do.
232		28 July			P	23 50 02	29 8 50 02						Do.
233		29 July			P	0 41 57	29 9 41 57						Do.
234		29 July			P	4 35 13	29 13 35 13						Do.
235		29 July			P	6 33 52	29 15 33 52						Do.
236		29 July			P	23 45 37	30 8 45 37						Do.
237		30 July			P	6 32 14	30 15 32 14						Do.
238		30 July			P	6 33 27	30 15 33 27						Do.
239		30 July			P	6 35 29	30 15 35 29						Do.
240		30 July			P	6 35 40	30 15 35 40						Origin in Kikitsu neighbouring Nagasaki.
241		30 July			P	6 37 08	30 15 37 08						Do.
242		30 July			P	6 53 25	30 15 53 25						Do.
243		30 July			P	6 53 34	30 15 53 34						Do.
244		30 July			P	6 53 57	30 15 53 57						Do.
245		30 July			P	7 07 25	30 16 07 25						Do.
246		30 July			P	7 13 07	30 16 13 07						Do.
247		30 July			P	7 14 30	30 16 14 30						Do.
248		30 July			P	7 25 08	30 16 25 08						Do.
249		30 July			P	9 23 31	30 18 23 31						Do.
250		30 July			P	9 26 31	30 18 26 31						Do.
251		30 July			P	9 49 39	30 18 49 39						Do.
					L	9 49 54						140	
					F	?							

長崎地震十年報  
Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
		<b>1915</b>											
252		30 July			P	9 53 52	30 18 53 52						Origin in Kikitsu neighbouring Nagasaki.
253		30 July			P	9 57 07	30 18 57 07						Do.
254		30 July			P	14 20 58	30 23 20 58						Do.
255		30 July			P	19 51 22	31 4 51 22						Do.
256		30 July			P	21 16 50	31 6 16 50						Do.
257		30 July			P	22 08 34	31 7 08 34						Do.
258		30 July			P	22 43 58	31 7 43 58						Do.
259		30 July			P	22 48 31	31 7 48 31						Do.
260		30 July			P	23 08 05	31 8 08 05						Do.
261		30 July			P	23 14 46	31 8 14 46						Do.
262		30 July			P	23 17 18	31 8 17 18						Do.
263		30 July			P	23 38 33	31 8 38 33						Do.
264		30 July			P	23 51 18	31 8 51 18						Do.
265		30 July			P	23 51 44	31 8 51 44						Do.
266		31 July			P	0 14 03	31 9 14 03						Do.
267		31 July			P	0 16 21	31 9 16 21						Do.
268		31 July			P	0 20 43	31 9 20 43						Do.
269		31 July			P	0 21 30	31 9 21 30						Do.
270		31 July			P	0 42 27	31 9 42 27						Do.
271		31 July		SW	P	1 37 45	31 10 37 45				3730	Oliutor Is.	
					S	1 42 52							
					L	1 45 25							
					F	?							
272		31 July			P	6 43 28	31 15 43 28						Do.
273		31 July			P	13 54 55	31 22 54 55						Do.
274		1 Aug.			P	5 14 44	1 14 14 44						Do.
275		1 Aug.			P	5 43 18	1 15 43 18						Do.
276		1 Aug.			P	6 45 09	1 15 45 09						Do.
277		1 Aug.			P	20 21 10	2 5 21 10						Do.
278		3 Aug.			P	5 01 34	3 14 01 34				260	Record is poor.	
					L	5 02 05							
					F	5 04 35							

No.	No. of Seisable Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks	
						G. M. T.	135°E		AE	AN	Az			
279		1915 3 Aug.			P	h m s	th h m s					260	Do.	
						5 24 54	3 14 24 54							
					L	5 25 25								
280		3 Aug.			P		3 22 12 03					4000	Faint record of a distant shock registered.	
					L	13 20 39								
					F	13 46 00								
281		5 Aug.			P	11 50 36	5 20 50 36						Origin in Kikitsu neighbouring Nagasaki.	
					F	11 51 00								
282		6 Aug.	NE		P	13 16 35	6 22 16 35					2970	Origin in offing Sanriku.	
					S	13 20 04								
					L	13 22 19								
					M	13 22 59	16 + 50							
					F	13 38 45								
283		7 Aug.			P	2 18 59	7 11 18 59						Origin in Kikitsu.	
284		7 Aug.			P	4 31 58	7 13 31 58						Origin in Sea of Hiuga.	
					L	4 32 46								
					M	4 33 06	4							— 33
					F	4 40 56								
285		10 Aug.			P	8 36 43	10 17 36 43						Origin in Kikitsu.	
286		11 Aug.			P	4 23 21	11 13 23 21							
					L	4 24 00								
					F	4 28 40								
287		11 Aug.			P	20 03 16	12 5 03 16						Origin in Kikitsu.	
					F	20 03 25								
288		15 Aug.			P	10 55 54	15 19 55 54						Do.	
					F	10 56 19								
289		18 Aug.			P	8 31 10	18 17 31 10						Do.	
290		18 Aug.			P	12 12 37	18 21 12 37						Do.	
291		19 Aug.			P	12 42 08	19 21 42 08						Do.	
					F	12 42 15								
292		22 Aug.			P	2 24 —	22 11 24 —						Do.	
293		22 Aug.			P	16 00 —	23 1 00 —						Do.	

長崎地震十年報  
Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
		<b>1915</b>											
294		22 Aug.			P	16 03 —	23 1 03 —						Origin in neighbouring Nagasaki.
295		22 Aug.			P	16 24 —	23 1 24 —						Do.
296		24 Aug.			P	1 51 32	24 10 51 32						Do.
					F	1 51 55							
297		24 Aug.			P	16 21 34	25 1 21 34				120		
					L	16 21 46							
					F	16 22 16							
298	28	25 Aug.		SW	P	14 23 53	25 23 23 53						Origin in Kikitsu Felt in Nagasaki and Omura.
					M	14 23 56				25			
					F	14 25 14							
299		25 Aug.			P	19 06 55	26 4 06 55						Do.
					F	19 07 25							
300	29	25 Aug.			P	20 37 34	26 5 37 34						Do.
					F	20 38 20							
301		26 Aug.			P	8 28 11	26 17 28 11				200		
					L	8 28 33							
					F	8 32 40							
302		26 Aug.			P	21 38 53	27 6 38 53						Origin in Kikitsu.
					F	21 39 07							
303	30	27 Aug.			P	17 14 33	28 2 14 33						Do. Felt in Nagasaki.
					F	17 14 52							
304	31	27 Aug.			P	17 19 23	28 2 19 23						Do.
					F	17 19 47							
305		27 Aug.			P	20 46 —	28 5 46 —						Do.
306		29 Aug.			P	4 22 53	29 13 22 53						Do.
307		29 Aug.			P	5 25 01	29 14 25 01						Do.
308		29 Aug.			P	10 17 35	29 19 17 35						Do.
309		29 Aug.			P	19 08 51	30 4 08 51						Do.
310		31 Aug.			P	9 38 36	31 18 38 36						Microseisms Origin in Kikitsu.
311		2 Sept.			P	10 42 42	2 19 42 42						Do.
312		2 Sept.			P	15 24 29	3 0 24 29						Do.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
313		1915 3 Sept.			P	h m s	th h m s					250	Small wave, Origin in Suwase Is.
						11 06 19	3 20 06 19						
					L	11 06 48							
314		3 Sept.			P	11 13 31	3 20 13 31					250	Do.
					L	11 14 00							
					F	— — —							
315		3 Sept.			P	11 24 01	3 20 24 01					250	Do.
					L	11 24 30							
					F	— — —							
316		5 Sept.			P	19 34 24	6 4 34 24						Do.
317		7 Sept.			P	1 39 44	7 10 39 44	24				13300	Origin in Panama United State America.
					L	2 11 50							
					M	2 22 54							
					F	— — —							
318		7 Sept.			P	11 59 30	7 20 59 30						
319		9 Sept.			P	8 38 25	9 17 38 25					250	Small waves, Origin in Suwase Is.
					L	8 38 36							
					F	8 41 15							
320		10 Sept			P	11 44 21	10 20 44 21						Microseisms Origin in Mt. Unzen neighbouring Nagasaki.
					L	11 44 28							
					F	11 45 04							
321		10 Sept.			P	18 58 03	11 3 58 03						Do.
					L	18 58 10							
					F	18 58 36							
322		11 Sept.			P	19 56 23	12 4 56 23						Do.
323		11 Sept.			P	19 58 11	12 4 58 11						Do.
324		12 Sept.			P	0 08 33	12 9 08 33						Do.
325		17 Sept.			P	12 17 57	17 21 17 57					200	Small waves, Origin in Bungo Channel.
					L	12 18 19							
					F	12 20 18							
326		19 Sept.			P	9 17 03	19 18 17 03						Microseisms.
327		19 Sept.			P	9 28 29	19 18 28 29						Do.
328		27 Sept.			P	8 46 51	27 17 46 51						Do.

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks		
						G. M. T.	135°E		AE	AN	Az				
329		1915 3 Oct.		E	P	h m s	th h m s						Faint record, Origin in Nevada U.S.A.		
						7 05 49	3 16 05 49								
					M	7 46 10								15	- 160
330		8 Oct.		SW	P	15 37 49	9 0 37 49					1280	Origin in East submarine Hachijo Is.		
					L	15 39 15									
					M	15 39 51								7	+ 83
					F	15 59 10									
331		12 Oct.			P	21 31 15	13 6 31 15					2370	Origin in submarine of Sanriku offing.		
					L	21 35 31									
					M	21 36 45								14	+ 67
					F	22 11 00									
332		23 Oct.			P	2 16 34	23 11 16 34					330	Origin in Sea of Hiuga.		
					L	2 17 14									
					ME	2 17 24								4	- 108
					MN	2 17 38								10	+ 125
					F	2 32 30									
333		1 Nov.			P	7 26 46	1 16 26 46					1720	Origin in submarine of Sanriku.		
					L	7 29 19									
					M <sub>1</sub>	7 30 56								9	- 1450
					M <sub>2</sub>	7 33 28								14	+ 750
					M <sub>3</sub>	7 37 12								9	+ 1450
334		16 Nov.			P	9 09 09	1 18 09 09					2120	Origin in off the Kinkazan (Eastern coast of Japan.)		
					L	9 05 48									
					M	9 07 14								15	+ 350
					F	9 40 00									
335		16 Nov.			e P	1 41 43	16 10 44 13						Faint record of Bōsō offing (SE coast of Japan).		
					L	1 42 18									
					F	1 49 00									
336		16 Nov.			e P	2 39 40	16 11 39 40						Faint record of Uraga Channel.		
					L	2 40 15									
					F	2 46 40									



No.	No. of Seismic Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	AZ		
337		1915 18 Nov.		NE	P	h m s	th h m s					Iwaki offing.	
						4 05 08	18 13 05 08						
					L	4 08 19							
					M	4 10 27		18 + 330					
338		18 Nov.			e P	20 23 28	19 5 23 28				Faint record of a distant quake registered.		
					F	20 52 07							
339		22 Nov.			P	19 08 55	23 4 08 55				Microseisms Origin in Unzen.		
					F	19 09 40							
340		24 Nov.			P	1 15 47	24 10 15 47				Faint record Origin nearly.		
					F	1 17 00							
341		24 Nov.			e P	7 15 52	24 16 15 52				Microseisms Origin in Unzen?		
					F	7 16 18							
342		25 Nov.			P	2 49 42	25 11 49 42				Do.		
					F	2 50 48							
343		3 Dec.			P	2 51 20	3 11 51 20				Faint distant shock.		
					M	3 00 29		16	+ 210				
					F	3 12 30							
344		15 Dec.			P	2 51 24	15 11 51 24				Microseisms.		
					F	2 51 33							
345		20 Dec.			P	6 48 27	20 15 48 27				Do.		
					F	6 48 50							
346		23 Dec.			P	10 23 59	23 19 23 59				Do.		
					F	10 24 17							
347		29 Dec.			e P	8 52 42	29 17 52 42				340 Poor waves.		
					L	8 53 21							
					F	8 56 18							
348		30 Dec.			P	8 57 23	30 17 57 23				Microseisms.		

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
1		1916 1 Jan.			P	h m s	th h m s					4680	
						13 28 47	1 22 28 47						
					L	13 38 53							
					M <sub>1</sub>	13 39 07		7 + 140					
					M <sub>2</sub>	13 43 02		22 - 450					
					M <sub>3</sub>	13 47 44		18 + 650					
2		4 Jan.			P	13 21 42	4 22 21 42					Microseisms,	
					F	13 21 55							
3		4 Jan.			P	17 47 02	5 2 47 02					Do.	
					F	17 47 28							
4		5 Jan.			P	6 32 34	5 15 32 34					Do.	
					F	6 33 15							
5		13 Jan.			P	6 25 31	13 15 25 31				3880		
					S	6 31 03							
					L	6 33 34							
					M	6 35 58		20 + 275					
					F	7 39 00							
6		13 Jan.			P	8 27 50	13 17 27 50				3730		
					S	8 33 32							
					L	8 35 30							
					M <sub>1</sub>	8 37 18		10 + 140					
					M <sub>2</sub>	8 40 07		20 + 200					
					M <sub>3</sub>	8 44 40		20 + 667					
					M <sub>3</sub>	8 44 50		20 + 250					
					M <sub>4</sub>	8 48 31		17 + 200					
					M <sub>4</sub>	8 48 41		20 + 667					
					F	9 59 40							
7		19 Jan.			P	?	20 ?						
					M	19 23 00							
					F	?							
8		21 Jan.		E	P	8 06 30	21 17 06 30				547		
					L	8 07 40							
					F	8 12 00							



No.	No. of Seisable Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
9		1916 24 Jan.			P	h m s	th h m s						Faint Distant quake no distinct P
					M	7 34 43	24 ?						
					F	8 07 40							
10		24 Jan.			P	10 24 14	24 19 24 14					147	Origin in North Kyushu Felt in Ikigun North Kyushu
					L	10 24 29							
					F	10 25 35							
11		25 Jan.			P	11 38 43	25 20 38 43					1860	
					L	11 41 38							
					M	11 42 08		5		+	25		
					F	11 51 40							
12	1	28 Jan.			P	1 13 47	28 10 13 47					27	Origin in Unzen Felt in Nagasaki, Minami Kushiya and Minami Arima.
					M	1 13 50							
					F	1 14 50							
13		28 Jan.			P	3 24 24	28 12 24 24						Microseisms.
					F	3 24 42							
14		29 Jan.			P	15 04 25	30 0 04 25						Do.
					F	15 46 40							
15		30 Jan.			P	16 55 12	31 1 55 12						Do.
					F	16 55 21							
16		1 Feb.		NW	P	7 37 —	1 16 37 —					10 + 315	Felt in Shimabara Peninsula Origin in Tanegashima.
					M	7 39 —							
					F	9 17 —							
17		1 Feb.			P	11 06 —	1 20 06 —						Faint record. Do.
					L	11 07 —							
					F	11 — —							
18		2 Feb.			P	14 49 55	2 23 49 55					358	Small waves.
					L	14 50 39							
					F	15 05 50							
19		4 Feb			P	15 37 07	5 0 37 07						Microseisms.
					F	15 37 16							
20		4 Feb.			P	16 45 57	5 1 45 57						Do.
					F	16 46 07							

長 崎 地 震 十 年 報

Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
		1916				h m s	th h m s						
21		5 Feb.			P	14 32 12	5 23 32 12					320	Small waves
					L	14 32 51							
					F	14 44 25							
22		6 Feb.			P	17 46 19	7 2 46 19						Microseisms, Felt in Shijiki, Yanagi (Kitamatsuura- gun).
					F	17 48 45							
23		6 Feb.			P	21 58 56	7 6 58 56					3067	Faint record of a distant shock registered.
					L	22 04 55							
					F	23 06 10							
24		10 Feb.			P	15 36 31	11 0 36 31						Microseisms.
					F	15 37 30							
25		10 Feb.			P	23 32 10	11 8 32 10						Do.
					F	23 32 25							
26		20 Feb.			P	17 56 53	21 2 56 53					6230	Faint record of a dis- tant quake registered.
					S	18 03 50							
					L	18 10 55							
					F	18 53 25							
27		21 Feb.			P	15 05 09	22 0 05 09						Microseisms.
					F	15 05 47							
28		22 Feb.			P	9 13 16	22 18 13 16						Eruption of Volcano Asama.
					L	9 15 00							
					M	9 16 29							
					F	9 28 45							
29		22 Feb.			P	12 23 02	22 21 23 02						Microseisms Felt in Nagaura (Nishisonokigun).
					F	12 23 42							
30		23 Feb.			P	21 03 10	24 6 03 10						Felt in Kikitsu (Nishisonokigun).
					F	21 03 35							
31	2	6 Mar.			P	8 34 18	6 17 34 18						Felt in Nagasaki and its neighbourhood.
					F	8 35 27							
32	3	6 Mar.			P	8 40 22	6 17 40 22						Do. Felt in Nagasaki etc.
					F	8 40 43							



No.	No. of Seisable Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	AZ		
33		1916 6 Mar.		SW	P	9 11 09	6 18 11 09					176	Origin in Bungo channel.
					L	9 11 28							
					M	9 11 50				157			
					F	9 19 39							
34		6 Mar.			P	20 43 19	7 5 43 19						Local shock.
					F	20 44 02							
35		7 Mar.			P	21 24 33	8 6 24 33						Do.
					F	21 25 01							
36		7 Mar.			P	21 29 58	8 6 29 58						Do.
					F	21 30 32							
37		14 Mar.			P	21 46 53	15 6 46 53						Microseisms. Felt two shock in Shimabara Peninsula.
38		25 Mar.			e P	23 54 51	26 8 54 51					1528	
					e L	23 58 16							
					M	23 59 10		9		71			
					F	0 23 50							
39		2 Apr.			P	22 36 25	3 7 36 25						Microseisms.
					F	22 36 44							
40		7 Apr.			e P	9 52 32	7 18 52 32					9070	Faint record of a distant quake registered.
					L	10 13 49							
					F	?							
41		7 Apr.			P	15 25 52	8 0 25 52						Microseisms.
					F	15 26 10							
42		13 Apr.			P	17 30 37	14 2 30 37					190	
					L	17 30 58							
					F	17 31 48							
43		4 14 Apr.			P	22 29 52	15 7 29 52						Local shock Felt in Nagasaki.
					F	22 30 45							
44		15 Apr.			e P	12 42 15	15 21 42 15					7162	Faint record of a distant quake registered.
					L	12 58 40							
					F	13 29 00							
45		15 Apr.			P	15 04 28	16 0 04 28					2878	Faint record.
					L	15 09 58							
					F	15 31 00							

長 崎 地 震 十 年 報  
Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
46		1916 18 Apr.			P	h m s	th h m s					2920	Faint record.
						4 10 07	18 13 10 07						
					S	4 12 43							
					L	4 15 43							
47		21 Apr.			P	h m s	th h m s					800	Hachijo Is.
						11 33 57	21 20 33 57						
					L	11 35 42							
					M <sub>1</sub>	11 36 15							
					M <sub>2</sub>	11 37 52							
					M <sub>3</sub>	11 39 07							
					M <sub>4</sub>	11 41 34							
					C <sub>1</sub>	11 44 37							
48		27 Apr.			P	h m s	th h m s						Felt in Harisakio (Higashi-sonoki-gun).
						12 14 55	27 21 14 55						
49		1 May			P	h m s	th h m s						Microseisms.
						23 35 35	2 8 35 35						
50		9 May			P	h m s	th h m s						Do.
						17 05 21	10 2 05 21						
51	5	11 May			P	h m s	th h m s						Microseisms. Felt in Nagasaki.
						17 05 48							
52		15 May			P	h m s	th h m s						Microseisms.
						14 58 55	15 23 58 55						
53		16 May			P	h m s	th h m s						Do.
						20 10 25	17 5 10 25						
54		17 May			P	h m s	th h m s						Do.
						20 11 15							
55		17 May			P	h m s	th h m s						Do.
						6 06 55	17 15 06 55						
56		18 May			P	h m s	th h m s						Do.
						6 07 00							
		17 May			P	h m s	th h m s						Do.
						13 49 32	17 22 49 32						
		18 May			P	h m s	th h m s						Do.
						13 49 41							
		18 May			P	h m s	th h m s						Do.
						15 32 12	19 0 32 12						
		18 May			F	h m s	th h m s						Do.
						15 32 22							

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
						h m s	th h m s						
57		1916 21 May			PS	19 43 54	22 4 43 54					300	Faint shock.
					L	19 44 30							
					F	19 46 05							
58		21 May			PS	21 19 50	22 6 19 50					300	Do.
					L	21 20 26							
					F	21 21 33							
59		22 May			P	18 57 43	23 3 57 43						Microseisms.
					F	18 58 04							
60		24 May			P	20 46 11	24 5 46 11						Do.
					F	20 46 21							
61		30 May			P	0 12 27	30 9 12 27						Do.
					F	0 12 37							
62		1 June			P	14 34 33	1 23 34 33						Do.
					F	14 34 42							
63		1 June			P	17 52 37	2 2 52 37						Do.
					F	17 52 49							
64		6 June			P	6 44 27	6 15 44 27					170	Near small waves.
					L	6 44 45							
					F	6 45 26							
65		6 June			P	6 51 41	6 15 51 41						Microseisms.
					F	6 51 49							
66		9 June			P	9 37 42	9 18 37 42						Do.
					F	9 38 04							
67		11 June			e P	16 28 12	12 1 28 12					400	Faint near shock.
					L	16 29 04							
					F	16 30 27							
68		15 June			P	1 02 37	15 10 02 37						Microseisms. Felt seven shocks at Unzen 14th June.
					F	1 03 02							
69		19 June			P	13 15 19	19 22 15 19						Microseisms. Origin in Unzen, Felt three shocks in Unzen.
					F	13 15 39							
70		21 June			P	10 30 59	21 19 30 59						Microseisms.
					F	10 31 24							

長 崎 地 震 十 年 報

Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
		1916											
71		21 June			P	h m s	th h m s						Do.
					F	23 08 25	22 18 08 25						
72		22 June			P	23 09 01							Do.
					F	20 02 08	23 5 02 08						
73		27 June			P	20 02 27							Do.
					F	3 16 57	27 12 16 57						
74	6	1 July			P	3 17 16							Do.
					L	2 16 52	1 11 16 52					140	Felt in Nagasaki South Shimabara Microseisms.
					M	2 17 06							
					F	2 17 09							
					F	2 21 50							
75		2 July			P	2 21 50							Do.
					F	13 49 01	2 22 49 01						
					F	13 49 20							
76		3 July			P	19 03 01	4 4 03 01						420 Eastern sea of Okinawa.
					L	19 03 54							
					F	19 12 03							
77		4 July			P	23 49 55	4 8 49 55						Microseisms
					F	23 50 48							
78		5 July			P	1 44 25	5 10 44 25						Do.
					F	1 45 18							
79		6 July			P	12 51 55	6 21 51 55						Do.
					F	12 52 31							
80		6 July			P	14 53 33	6 23 53 33						Do.
					F	14 54 19							
81		8 July			P	9 44 39	8 18 44 39						4050
					L	9 53 09							
					F	10 07 50							
82		8 July			P	12 41 36	8 21 41 36						Microseisms.
					F	12 42 52							
83		11 July			P	4 20 22	11 13 20 22						Do.
					F	4 20 51							
84		11 July			P	8 20 17	11 17 20 17						Do.
					F	8 21 00							



No.	No. of Seisible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
85		12 July	Do.		P	16 42 17	13 22 18 42 17	22	88	53	1	Do.	
					F	16 42 41		14	99	53	1		
86		18 July	Do.		P	12 30 49	18 22 12 30 49	22	88	50	1	Do.	
					F	12 31 06		11	50	05	1		
87		23 July	Do.		P	20 45 51	24 22 20 45 51	22	78	01	1	Do.	
					F	20 45 51		10	51	1	1		
88		24 July	Do.		P	14 02 08	24 22 14 02 08	1	22	01	2	Do.	
					F	14 02 34		10	51	2	1		
89		25 July	Do.		P	11 07 36	25 20 11 07 36	10	17	5	1	Do.	
					F	11 08 14		10	51	5	1		
90		3 Aug.	Do.		P	1 37 51	3 10 1 37 51	10	19	51	1	4400	
					S	1 43 59		05	01	51	1		
					L	1 47 16		10	50	01	1		
					M	1 48 15		24	50	+ 50	1		
91		3 Aug.	Do.		P	7 18 56	3 22 7 18 56	22	19	53	1	Microseisms.	
					F	7 19 06		10	07	53	1		
92		3 Aug.	Do.		P	21 45 05	4 22 21 45 05	22	11	1	1	Do.	
					F	21 46 24		18	21	1	1		
93		5 Aug.	Do.		P	22 52 23	5 22 22 52 23	22	18	51	1	Inland sea Japan.	
					L	22 53 06		10	52	51	1		
					M	22 53 23		7	52	+ 60	1		
94		8 Aug.	Do.		P	4 26 59	8 22 4 26 59	22	13	0	1	1630 Kashimanada.	
					L	4 29 18		10	52	0	1		
					M	4 31 20		16	50	+ 140	1		
					F	4 43 00		10	11	51	1		
95		10 Aug.	Do.		P	3 31 52	10 12 3 31 52	52	53	51	1	Microseisms.	
					F	3 32 12		52	05	1	1		
96		10 Aug.	Do.		P	15 48 49	11 15 15 48 49	15	10	0	1	Do.	
					F	15 50 40		10	50	0	1		





No	No. of Sensible Shocks	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
109		1916 10 Sept.			P	h m s	th h m s					Do.	
						11 58 21	10 20 58 21						
110		11 Sept.			F	11 58 43						Distant earthquake.	
					e P	6 38 44	11 15 38 44						
111		12 Sept.			F	7 14 25							
					P	17 48 02	13 2 48 02						
112		13 Sept.			F	17 49 09						380 SW Sea of Yakushima South Kagoshima.	
					P	4 42 09	13 13 42 09						
					L	4 42 55							
					M	4 43 07		7		100			
113		13 Sept.			F	4 56 40							
					P	5 17 18	13 14 17 18						
114		15 Sept.			F	5 17 36						760 SE Sea of Bōsō Peninsula.	
					P	7 03 25	15 16 03 25						
					L	7 05 04							
					M	7 07 09		14		1200			
115		16 Sept.			M	7 08 06						667	
					F	7 39 15							
116		17 Sept.			P	10 40 58	16 19 40 58					Microseisms.	
					F	10 41 20							
117		2 Oct.			P	19 21 35	18 4 21 35					Do.	
					F	19 21 58							
118		4 Oct.			P	3 36 31	2 12 36 31					70	
					L	3 36 40							
					F	3 17 36							
119		6 Oct.			P	17 10 24	5 2 10 24					176	
					L	17 10 31							
					F	17 10 58							
119		6 Oct.			P	4 54 45	6 13 54 45						
					L	4 55 04							
					M	4 55 07							
					F	5 59 42							

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No	No. of Sensible Shock	Date	Char.	Dir of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
120		1916 17 Oct.			P	h m s	th h m s					80	
					L	19 35 08	18 04 35 08						
					F	19 35 20							
121		23 Oct.			P	19 36 15							
					F	4 29 40	23 13 29 40						
122		24 Oct.			P	4 29 57							
					F	14 05 28	25 23 05 28						
123		26 Oct.			e P	14 06 15						1740	
					e L	5 48 14	26 14 48 14						
					F	5 52 40							
124		30 Oct.			P	?						3244	
					S	15 35 58	31 0 35 58						
					L	15 40 37							
					M	15 42 24							
					F	15 45 32							
125		3 Nov.			P	16 54 50							Microseisms of Kikitsu.
					F	0 24 59	31 9 24 59						
126		10 Nov.			P	0 25 24						140	
					L	20 30 05	11 05 30 05						
					F	20 30 19							
127		10 Nov.			P	20 31 30						140	
					L	21 10 08	11 6 10 08						
					F	21 10 22							
128		14 Nov.			P	21 11 25							Middle Formosa.
					L	22 34 29	15 07 34 29						
					M	22 37 15							
					F	22 41 12							
129		16 Nov.			P	23 08 50		13	55	5	20		
					F	19 32 —	17 04 32 —						
130		24 Nov.			P	19 33 —							Off the East coast of Hai-yang-tan.
					F	1 27 09	24 10 27 09						
					F	1 28 19							

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
131		1916 26 Nov.			e P	h m s	th h m s	5		58		423	Osaka Bay.
						6 09 09	26 15 09 09						
					L	6 10 02							
					M	6 10 47							
132		26 Nov.			e P						423	Do.	
					L	19 34 01	27 4 34 01						
					F	19 34 54							
133		28 Nov.			P							Microseisms of Kikitsu.	
					F	17 26 24	29 2 26 24						
134		2 Dec.			P							Microseisms	
					F	12 21 17	2 21 21 17						
135		3 Dec.			P							Do.	
					F	12 23 35	3 12 03 04						
136		7 Dec.			P							Do.	
					F	3 03 04	3 12 03 04						
137		7 Dec.			e P								
					e F	12 19 16	7 21 19 16						
138		9 Dec.			P			5		11		200	
					L	23 39 11	8 8 39 11						
					M	23 41 25							
					F	5 12 40	9 14 12 40						
139		14 Dec.			P							Microseisms.	
					F	5 13 02							
140		16 Dec.			e P			5	8			680	
					L	12 00 07	14 21 00 07						
					M	12 00 19							
					e F	21 21 06	17 6 21 06						
141		19 Dec.			L							76	North Kyushu.
					F	21 22 35							
					e P	15 22 33	20 0 22 33						
142		22 Dec.			L							100	
					F	15 22 43							
					P	13 44 19	22 22 44 19						

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.

No	No. of Sensible Shock	Date	Char.	Dir of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
		1916											
143		24 Dec.			P	16 09 13	25 1 09 13						Microseisms.
					F	16 09 25							
144		25 Dec.			P	0 49 14	25 9 49 14						Do.
					F	0 49 22							
145		25 Dec.			P	0 52 21	25 9 52 21						Do.
					F	0 52 49							
146		26 Dec.			P	10 32 05	26 19 32 05					210	
					L	10 32 29							
					F	10 35 00							
147	7	28 Dec.			P	21 40 23	29 6 40 23						70 Felt in Nagasaki Prefecture, Origin in Higo (Kyushu)
					e L	21 40 32							
					M	21 40 42					375		
148		28 Dec.			P	21 52 01	29 6 52 01					56	Do.
					L	21 52 08							
149		28 Dec.			P	21 34 51	29 6 34 51					56	Do.
					L	21 34 50							
					F	21 56 07							
150		28 Dec.			P	22 19 45	29 7 19 45					56	Do. Felt in Shimabara Peninsula.
					L	22 19 52							
					F	22 21 23							
151	8	28 Dec.			P	22 46 06	29 7 46 06					63	Do. Felt in over Nagasaki Prefecture.
					L	22 46 14							
					M	22 46 21					100		
					F	22 51 49							
152	9	29 Dec.			P	0 53 50	29 9 56 50					56	Do.
					L	0 53 57							
					F	0 57 48							
153		29 Dec.			P	1 38 15	29 10 38 15					56	Origin in Higo.
					L	1 38 22							
					F	1 38 49							
154	10	29 Dec.			P	19 50 05	30 4 50 05					63	Felt in Nagasaki Pref. Origin in Hiuga.
					L	19 50 13							
					F	19 51 48							

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
		<b>1916</b>											
155		30 Dec.			P	0 24 46	30 9 24 46						Do.
					F	0 22 21							
156		30 Dec.			P	2 57 04	30 11 57 04				56		Do.
					L	2 57 11							
					F	2 59 19							
157		30 Dec.			P	3 31 23	30 12 31 23						Do.
					F	3 31 43							
158		30 Dec.			P	3 49 39	30 12 49 39						Do.
					F	3 50 03							
159		30 Dec.			P	13 33 47	30 22 33 47						Do.
					F	13 34 07							
160		30 Dec.			P	15 03 54	31 0 03 54				63		Do.
					L	15 04 02							
					F	15 04 25							
161		31 Dec.			P	9 33 14	30 18 33 14					70	Do. Felt in South Shimabara Peninsula.
					L	9 33 23							
					F	9 34 48							

長 崎 地 震 十 年 報

Nagasaki Seismic Bulletin During Ten Years.

No	No. of Sensible Shock	Date	Char.	Dir of first motion	Phase	Time				Period	Amplitude			△	Remarks
						G. M. T.			135°E		AE	AN	AZ		
		1917				h	m	s	th.	h	m	s			
1		1 Jan.			P	23	32	10	2	8	32	10			Local shock.
					F	23	32	32							
2		4 Jan.			P	16	52	58	5	1	57	58		1660	Middle Formosa.
					L	16	56	41							
					M	16	59	47					17 + 350		
					F	17	27	01							
3		9 Jan.			P	18	27	30	10	3	27	30			Microseisms.
					F	18	27	44							
4		11 Jan.			P	0	13	47	11	9	13	47			Do.
					F	0	14	03							
5		11 Jan.			P	0	18	00	11	9	18	00			Do.
					F	0	18	08							
6		12 Jan.			P	8	46	30	12	17	46	30			Do. Felt in Unzen.
					F	8	46	53							
7		13 Jan.			P	13	46	38	13	22	46	38			Do.
					F	13	46	54							
8		13 Jan.			P	13	52	08	13	22	52	08			Do.
					F	13	52	20							
9		14 Jan.			P	0	46	19	14	9	46	19			Do.
					F	0	46	38							
10	1	14 Jan.			P	15	53	37	15	0	53	37			Do. Felt in Nagasaki.
					F	15	54	31							
11		14 Jan.			P	16	14	33	15	2	14	33			Do.
					F	16	15	04							
12		20 Jan.			e P	23	19	46	21	8	19	46			Distant earthquake.
					M	23	26	26					17		
					F	23	47	25							
13		22 Jan.			P	0	59	01	22	9	59	01			Microseisms.
					F	0	59	40							
14		24 Jan.			e P	0	50	25	14	9	50	25		2450	Hankau.
					L	0	54	50							
					M	0	56	26					15	+1050	
					F	1	20	05							

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks	
						G. M. T.	135°E		AE	AN	Az			
15		1917 27 Jan.			e P	h m s	th h m s						Formosa.	
						14 55 14	27 23 55 14							
16		29 Jan.			F	15 08 45						260	Western part of Tosa.	
					P	11 26 56	29 20 26 56							
17		30 Jan.			L	11 27 27						2820		
					F	11 29 14								
					P	2 52 09	30 11 52 09							
					L	2 57 30								
					M <sub>1</sub>	3 02 12								17 -1150
					M <sub>2</sub>	3 05 07								15 +2475
					M <sub>3</sub>	3 08 25								+4650
					M <sub>4</sub>	3 13 47								-3150
					M <sub>5</sub>	3 18 04								+2075
					C <sub>1</sub>	3 23 40								-950
					C <sub>2</sub>	3 26 07								-1106
					C <sub>3</sub>	3 30 07								+625
C <sub>4</sub>	3 33 31		-1100											
C <sub>5</sub>	3 37 15		-1600											
C <sub>6</sub>	3 40 40		+650											
18		31 Jan.			F	6 40 49							After shock of No. 17.	
					e P	4 06 06	31 13 06 06							
					L	4 10 56								
19		7 Feb.			M	4 13 15		10		+ 42				
					F	4 42 44								
20		9 Feb.			P	23 59 33	8 8 59 33					248	Time is incorrect.	
					F	23 59 39								
21		18 Feb.			P	9 40 41	6 18 40 41							
					L	9 41 10								
					F	9 43 24								
22		19 Feb.			e P	1 27 18	18 10 27 18					1670		
					L	1 31 11								
					F	?								
22		19 Feb.			P	18 50 35	20 3 50 35						Microseisms.	
					F	18 50 46								

長崎地震十年報  
Nagasaki Seismic Bulletin During Ten Years.



No	No. of Sensible Shock	Date	Char.	Dir of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1917											
23		19 Feb.			P	18 51 53	20 3 51 53						Do.
					F	18 51 58							
24		20 Feb.			e P	20 02 25	21 5 02 25				9480		
					e L	20 24 45							
					e F	21 13 05							
25		22 Feb.			P	18 28 08	23 3 28 08				670		
					L	18 29 35							
					F	18 35 05							
26		22 Feb.			P	21 44 56	23 6 44 56						Microseisms.
					F	21 45 25							
27		25 Feb.			P	5 25 04	25 14 25 04				1670		
					L	5 28 57							
					F	5 50 07							
28		25 Feb.			P	5 50 45	25 14 50 45				1670		
					L	5 54 35							
					F	6 26 13							
29		6 Mar.			P	7 02 55	6 16 02 55				125		
					L	7 03 07							
					F	7 03 38							
30		15 Mar.			P	0 17 26	15 9 17 26				1720		Far off the east coast of Honshu.
					L	0 20 06							
					M <sub>1</sub>	0 22 09		16	+1525				
					M <sub>2</sub>	0 24 35		14	- 550				
					M <sub>3</sub>	0 26 16		13	- 310				
					F	1 06 25							
31	2	26 Mar.			P	22 30 44	27 7 30 44						Local shock
					MN	22 30 48			+ 100				Felt in Nagasaki and it neighbourhood.
					ME	22 30 49				55			
					F	22 32 17							
32	3	27 Mar.			P	11 42 10	27 20 42 10						Do. Felt in Nagasaki.
					F	11 42 47							
33		27 Mar.			P	11 44 03	27 20 44 03						Microseisms.
					F	11 44 17							



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
34		1917 3 Apr.			P	h m s	th h m s						Microseisms.
						7 20 17	3 16 20 17						
35		13 Apr.			F	7 20 42							Do.
					P	4 16 49	13 13 16 49						
36		18 Apr.			F	4 17 35							Do.
					P	23 31 43	18 8 31 43						
37		21 Apr.			F	23 32 10							Do.
					P	2 29 31	21 11 29 31						
38		21 Apr.			P	unknown	21 unknown						Off the Sanriku.
					M	4 02 10							
					F	unknown							
39		26 Apr.			P	20 43 47	27 5 43 47						Microseisms.
					M	20 43 51							
					F	20 44 40							
40		28 Apr.			P	8 58 54	28 17 58 54					Do.	
					F	8 59 20							
41		29 Apr.			P	9 11 09	29 18 11 09					Do.	
					F	9 11 38							
42		29 Apr.			e P	12 08 28	29 21 08 28					420	
					L	12 09 25							
					M	12 10 08		8	05	+ 28			
					F	12 25 10							
43		1 May			e P	18 39 07	2 3 39 07					9230	Tonga Is. Time is incorrect.
					S	18 39 55							
					L	19 00 48							
					F	?							
44		8 May			P	3 08 07	8 12 08 07					Microseisms.	
					F	3 08 17							

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.

No	No. of Sensible Shock	Date	Char.	Dir of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
45		1917 9 May			P	h m s	th h m s					2412	
						16 00 15	10 1 00 15						
					L	16 04 49							
					M <sub>1</sub>	16 05 14		15	1000				
					M <sub>2</sub>	16 08 08		15	800				
					M <sub>3</sub>	16 10 28		15	1050				
			F	18 02 16									
46		17 May			P		18 4 08 27				790	Neighbouring Shizuoka.	
					L	19 10 10							
					M	19 11 06		7	42				
					F	19 19 25							
47		18 May			P		18 22 03 46					Microseisms.	
					F	13 04 05							
48		19 May			P		19 9 22 12					Do.	
					F	0 22 28							
49		19 May			P		19 22 20 18					Do.	
					F	13 20 47							
50		27 May			P		27 20 34 54					Do.	
					F	11 35 22							
51		28 May			P		28 18 40 37				176	Oryokko.	
					L	9 40 56							
					F	9 43 45							
52		28 May			P		28 22 40 46					Microseisms.	
					L	13 41 12							
53	4	30 May			P		30 20 37 42					Do. Felt in Nagasaki and Yagami.	
					F	11 38 35							
54		31 May			P		31 — — —						
					M	6 13 13							
					F	— — —							



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
55		1917 31 May			P	h m s	th h m s					6240	
						8 56 51	31 17 56 51						
					S	9 04 28							
					L	9 10 55							
					M <sub>1</sub>	9 15 36		18	— 225				
					M <sub>1</sub>	9 19 07		26	— 583				
			M <sub>2</sub>	9 21 23		19	— 200						
			F	10 23 00									
56		5 June			P	2 50 21	5 11 50 21					Microseisms.	
					F	2 50 54							
57		9 June			P	5 23 51	9 14 23 51					Do.	
					F	5 24 15							
58		13 June			P	— — —	13 — — —						
					M	7 22 18							
					F	— — —							
59		23 June			P	10 59 14	23 19 59 14				180	Northern sea of Kyushu.	
					L	10 59 34							
					F	11 00 45							
60		24 June			e P	20 00 28	25 5 00 28					Distant earthquake.	
					F	?							
61		26 June			P	6 01 07	26 17 01 07				9500		
					S	6 10 48							
					L	6 23 32							
					F	— — —							
62	5	3 July			P	11 32 04	3 20 32 04					Microseisms. Felt in Nagasaki.	
					F	11 32 36							
63		4 July			P	0 40 39	4 9 40 39				870	Southern sea of Naha.	
					L	0 42 25							
					M <sub>1</sub>	0 43 05		12	— 542				
					M <sub>1</sub>	0 44 15		13	— 925				
					M <sub>2</sub>	0 44 55		13	— 1575				
					M <sub>3</sub>	0 45 54		13	— 1825				
					M <sub>4</sub>	0 47 39		11	— 800				
F	1 27 55												

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks	
						G. M. T.	135°E		AE	AN	Az			
64		1917 4 July			P	h m s	th h m s					2100	Eastern sea of Luzon.	
						5 38 37	4 14 38 37							
					L	5 42 07								
					M <sub>1</sub>	5 42 59								12 — 1220
					M <sub>2</sub>	5 43 51								12 — 1700
			F	6 37 12										
65		7 July			P	9 23 12	7 18 23 12						Local shock.	
					F	9 23 40								
66		8 July			P	23 19 19	9 8 19 19						Do.	
					F	23 19 32								
67		18 July			e P	7 50 12	19 16 50 12						Distant.	
					F	8 15 15								
68		28 July			P	10 44 49	28 19 44 49						Microseisms.	
					F	10 45 08								
69		28 July			P	11 44 49	28 20 44 49						Do.	
					F	11 45 05								
70		29 July			P	14 35 34	29 23 35 34					2040	NE sea of Mutsu	
					L	14 38 56								
					M	14 41 22								16 — 500
					F	15 00 25								
71		30 July			P	22 — —	30 22 — —						Distant earthquake.	
72		31 July			P	3 25 10	31 12 25 10					1250	Eastern sea of Sanriku.	
					L	3 27 05								
					M	3 27 24								14 — 1250
					F	4 26 50								
73		2 Aug.			P	12 20 47	2 21 20 47					250		
					L	12 21 22								
					M	12 21 30								5 — 25
					F	12 23 48								
74		2 Aug.			P	12 24 23	2 21 24 23					250		
					L	12 24 58								
					M	12 25 18								5 — 17
					F	12 28 05								

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
75		1917 4 Aug.			P	h m s	th h m s						
						21 54 03	5 6 54 03						
76		13 Aug.			F	21 54 19							
					P	6 28 52	13 15 28 52					90	
77		16 Aug.			L	6 29 04							
					M	6 29 24		4		75			
78		18 Aug.			F	6 32 05							
					P	1 06 59	16 10 06 59					Microseisms. Felt in Unzen.	
79		27 Aug.			F	1 07 24							
					P	22 13 24	19 7 13 24					Do.	
80		27 Aug.			F	22 14 10							
					P	1 36 03	27 10 36 03					Do.	
81		30 Aug.			F	1 36 32							
					P	12 42 11	27 21 42 11					Do.	
82		31 Aug.			F	12 42 42							
					P	4 14 51	30 13 14 51					4270	
83		1 Sept.			S	4 20 37							
					L	4 23 54							
84		16 Sept.			M <sub>1</sub>	4 25 17			15 +	450			
					M <sub>2</sub>	4 26 25			15 +	500			
85		9 Oct.			M <sub>3</sub>	4 28 48			18 -	270			
					F	5 22 20							
86		12 Oct.			P	19 31 47	1 4 31 47						Microseisms.
					F	19 32 37							
87		17 Oct.			P	17 31 49	2 2 31 49						Do.
					F	17 32 13							
88		17 Oct.			P	18 56 44	17 3 56 44						Do.
					F	18 57 06							
89		17 Oct.			P	19 12 00	10 4 12 00						Do.
					F	19 12 18							
90		17 Oct.			P	0 20 50	12 9 20 50						Do.
					F	0 21 34							
91		17 Oct.			P	4 18 25	17 13 18 25						Do.
					F	4 18 40							





長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1918											
18		9 Feb.			e P	5 25 45	9 14 25 45						Distant earthquake.
					e L	5 30 21							
					M	5 31 33							
					F	6 12 40							
19		13 Feb.			P	6 10 45	13 15 10 45					1730	Swataw (south China) Great damage has been done.
					L	6 13 20							
					M <sub>1</sub>	6 16 24		13	-4750				
					M <sub>2</sub>	6 17 20		14	+4100				
					M <sub>3</sub>	6 19 49		13	-3250				
					M <sub>4</sub>	6 21 05		12	-2000				
					M <sub>5</sub>	6 22 13		12	-2050				
					C <sub>1</sub>	6 23 30		10	-650				
					C <sub>2</sub>	6 25 18		10	-750				
					C <sub>3</sub>	6 28 05		10	+425				
					C <sub>4</sub>	6 29 31		10	+502				
					F	7 50 08							
20		13 Feb.			e P	20 29 27	14 15 29 27						
					e L	20 34 14							
					F	20 56 55							
21		4 Mar.			P	4 51 28	4 13 51 28						Microseisms.
					F	4 51 30							
22		4 Mar.			P	23 26 00	5 8 26 00						Do.
23		5 Mar.			P	0 53 39	5 9 53 39						Do.
24		5 Mar.			P	2 52 47	5 11 52 47						Do.
25		5 Mar.			P	2 55 24	5 11 55 24						Do.
26		5 Mar.			P	6 37 59	5 15 37 59						Do.
27		6 Mar.			P	2 46 40	6 11 46 40						Do.
28		8 Mar.			P	1 05 00	8 10 05 00						Do.
					F	1 05 12							
29		27 Mar.			P	3 55 03	27 12 55 03					2224	Shinchiku Formosa.
					L	3 58 53							
					F	4 18 05							

No	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
30		1918 2 Apr.			P	h m s	th h m s						Felt in Shimabara Peninsula. Origin in Hiuga nada.
						3 33 57	22 12 33 57						
					L	3 34 26							
					M	3 34 29							
					M	3 34 32							
31		2 Apr.			P	22 36 25	8 7 36 25					Microseisms.	
					F	22 36 44							
32		10 Apr.			P	2 06 24	10 11 06 24	14	+ 250	- 175		853	Japan sea.
					L	2 08 19							
					M	2 08 35							
					F	2 09 30							
33		13 Apr.			e P	1 05 00	13 10 05 00					Distant earthquake	
					e F	1 04 48							
34	1	5 May			P	13 11 22	5 22 11 22			- 108			Local shock Felt in Nagasaki.
					M	13 11 27							
					F	13 12 12							
35		8 May			P	8 09 31	8 17 09 31					Microseisms.	
					F	3 09 50							
36		9 May			P	3 02 32	9 12 02 32					Do.	
					F	3 02 50							
37		9 May			P	3 03 07	9 12 03 07					Do.	
					F	3 03 35							
38		31 May			P	2 58 01	31 11 58 01					Do.	
					F	2 58 40							
39		5 June			P	3 21 15	5 12 21 15					Do.	
					F	3 23 27							
40		26 June			e P	3 49 26	26 12 49 26					653	Tani mura Kai.
					L	3 50 54							
					M	3 51 27							
					F	3 57 55							
41		1 July			e P	6 14 00	1 15 14 00					2380	
					e L	6 18 14							
					e F	6 42 30							

長崎地震十年報  
Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
		1918											
42		24 July			P	h m s	th h m s						Microseisms.
					F	22 39 48							
43		25 July			P	20 54 27	26 05 54 27					82	Kashima nada.
					L	20 56 17							
					F	21 05 30							
44		4 Aug.			P	11 53 00	4 20 53 00						Microseisms.
					F	11 53 35							
45		14 Aug.			P	0 08 54	14 9 08 54						Do.
					F	0 09 05							
46		15 Aug.			e P	12 44 28	15 21 44 28					2300	Guam Is.
					e L	12 28 37							
					F	?							
47		17 Aug.			P	23 57 33	18 08 57 33						Microseisms.
					L	23 57 39							
					F	23 58 06							
48		7 Sept.			P	17 20 55	8 02 20 55					2200	Off the Yetoro Is.
					L	17 24 42							
					F	20 49 00							
49		16 Sept.			P	7 — —	16 16 — —						Microseisms Unzen 7th 18h neighbouring Kagoshima.
50	2	27 Sept.			P	5 47 35	27 14 47 35						Local shock. Felt in Nagasaki and Nagaura (Nishisonoki).
					L	5 47 37							
					M	5 47 37						50	
					F	5 48 10							
51		6 Oct.			P	21 25 38	7 6 25 38						Microseisms.
					L	21 25 45							
					F	21 26 03							
52		20 Oct.			P	7 41 02	20 16 41 02						Do.
					F	7 41 20							
53		21 Oct.			P	4 50 06	21 13 50 06						Do.
					F	4 50 25							
54		10 Nov.			P	9 54 11	10 18 54 11					110	Neighbouring Kagoshima.
					L	9 54 26							
					F	9 55 46							



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1918											
55		10 Nov.			P	h m s	th h m s						Do.
					F	18 02 16	10 3 02 16						
					F	18 05 45							
56		10 Nov.			P	19 40 08	10 4 40 08						Do.
					L	19 40 20							
					F	19 43 00							
57		11 Nov.			P	13 24 16	11 22 24 16					260	Hiuga nada.
					L	13 24 51							
					M	13 24 34		10		+ 140			
					F	13 27 50							
58		24 Nov.			P	10 36 10	24 19 36 10					208	Time is incorrect.
					L	10 36 38							
					F	10 39 30							
59		4 Dec.			e P	12 18 30	4 21 18 30					12590	South America.
					e L	12 48 45							
					e F	14 08 00							
60		9 Dec.			P	18 47 06	10 3 47 06					130	
					L	18 48 04							
					M	18 48 08		5		— 42			
					F	18 50 59							
61		25 Dec.			P	23 24 56	25 8 24 56						Microseisms.
					F	23 25 25							
62		31 Dec.			P	5 32 42	31 14 32 42					445	
					L	5 33 42							
					F	5 35 27							

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
1		1919 1 Jan.			P	h m s	th h m s					2450	
					L	1 39 25	1 10 39 25						
					M	1 43 50							
					F	1 46 03							
2		1 Jan.			P	h m s	th h m s	20	+	75		4140	
					L	3 11 04	1 12 11 04						
					M <sub>1</sub>	3 20 18							
					M <sub>2</sub>	3 20 59							
					F	3 23 40							
3	1	3 Jan.			P	h m s	th h m s						Felt in Nagasaki, Local shock.
					F	0 32 01	3 9 32 01						
4		5 Jan.			P	h m s	th h m s				37	Do.	
					L	6 47 39	5 15 47 39						
					F	6 47 44							
5		10 Jan.			P	h m s	th h m s					Do.	
					F	6 48 34							
6		18 Jan.			P	h m s	th h m s				30	Do.	
					L	23 49 07	11 8 49 07						
					F	23 49 25							
7		27 Jan.			P	h m s	th h m s						Felt in Shimabara Peninsula. Do. no trace on seismograph Nagasaki.
					F	1 23 28	18 10 23 28						
8		9 Feb.			P	h m s	th h m s				550		
					L	15 29 21	10 0 29 21						
					F	15 30 36							
9		12 Feb.			e P	h m s	th h m s						Distant earthquake.
					e F	12 46 42	12 21 46 42						
10		10 Mar.			e P	h m s	th h m s				4850		
					e L	13 41 08							
					F	19 41 18	11 4 41 18						
11		14 Mar.			P	h m s	th h m s				110	Felt in Shimabara Peninsula.	
					L	19 51 50							
					F	20 22 10							
					P	h m s	th h m s						
					L	23 12 33	14 8 12 33						
					F	23 12 48							
					F	h m s	th h m s						
					F	23 16 30							



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
12		1919 17 Apr.			P	h m s	th h m s					Distant earthquake.	
						11 49 32	17 20 49 32						
13		17 Apr.			F	12 35 50					Do.		
					e P	22 16 32	18 7 16 32						
14		24 Apr.			e F	22 33 05					190 Ariake sea.		
					P	20 45 37	25 10 5 45 37						
15		25 Apr.			L	20 46 03					37? Felt in Shimabara Peninsula and Isahaya Omura. At 25th 13h+ Microseisms in Shimabara.		
					F	20 49 55							
					P	12 21 59	25 21 21 59						
					M	12 22 11		— 120					
16		27 Apr.			F	12 24 20					Distant earthquake.		
					e P	0 23 57	27 9 23 57						
17		30 Apr.			e F	0 51 58					8500 Aleutian Is.		
					P	7 29 03	30 16 29 03						
18		3 May			S	7 38 43					1400 Off the coast Sanriku.		
					L	7 49 01							
					M <sub>1</sub>	7 57 54		19 +1475					
					M <sub>2</sub>	8 08 36		17 +2150					
					F	10 08 40							
					P	0 55 32	3 9 55 32						
					L	0 58 42							
19		6 May			M <sub>1</sub>	1 02 51		15 -3480			4900		
					M <sub>2</sub>	1 05 52		15 +1600					
					M <sub>3</sub>	1 08 36		14 +1040					
					M <sub>4</sub>	1 11 28		14 + 720					
					M <sub>5</sub>	1 13 22		14 +1000					
					F	2 44 30							
					P	19 49 16	7 4 49 16						
19		6 May			L	19 59 55					4900		
					M	20 04 28		17 +3800					
					F	20 55 30							

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1919											
20	2	10 May			P	h m s	th h m s					60	Felt in Nagasaki Pref. except Goto. At 10h +, 18th microseisms. Shimabara Peninsula.
					L	5 15 08							
					F	5 16 15							
21		1 June			P								Unknown.
22		17 July			P	9 50 46	17 18 50 46						Distant earthquake.
					F	10 12 02							
23		25 July			P	Time is unknoun							Do.
24		17 Aug.			P	17 15 16	18 2 15 16						
					F	17 30 20							
25		25 Aug.			P	20 05 29	26 5 05 29					2140	
					L	20 09 09							
					M	20 09 45		14	—	100			
					F	20 91 24							
26	3	11 Sept.			P	14 01 20	11 23 01 20						Felt in Nagasaki and Miye (Nishisonoki-gun). Origin in Kikitsu.
					L	14 01 23							
					F	14 01 26							
27	4	7 Oct.			P	23 50 15	8 8 50 15						Felt in Nagasaki and its neighbourhood Origin in Kikitsu.
					L	23 50 17							
					M	23 50 17				+ 350			
					F	23 51 03							
28	5	15 Oct.			P	12 07 39	15 21 07 39						Local shock Felt in Nagasaki.
29		28 Oct.			P	13 08 19	28 22 08 19						Do. Felt in Miye (Nishisonoki-gun).
					F	13 08 44							
30		31 Oct.			P	0 39 58	31 9 39 58						
					L	0 40 14							
					F	0 46 02							
31		20 Nov.				—							At 3h 33m Microseisms Unzen.
32	6	10 Dec.			P	14 02 07	10 23 02 07						Felt in Nagasaki.
					F	14 02 14							

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
		1919											
33		20 Dec.			P	19 04 23	21 00 4 04 23						Formosa.
					L	19 06 40							
					F	19 31 22							
34		20 Dec.			P	20 07 46	21 5 07 46				1790		Do.
					L	20 10 30							
					F	20 35 11							
35	7	21 Dec.			P	19 53 16	22 4 53 16						Local shock Felt in Nagasaki.
					F	19 54 16							
36	8	21 Dec.			P	19 59 39	22 4 59 39						Do. Felt in Nagasaki.
					F	20 01 15							

# 長 崎 地 震 十 年 報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
1		1920 14 Jan.			P	h m s	th h m s					1860	
						13 43 51	14 22 43 51						
					L	13 46 46							
2		15 Jan.			P	15 12 48	16 0 12 48					74	
					L	15 12 58							
					F	15 13 58							
3		22 Jan.			P	2 51 40	22 11 51 40						
					L	2 51 50							
					F	2 52 35							
4		25 Jan.			P	3 46 57	25 12 46 57						
					F	3 57 38							
5		25 Jan.			P	4 14 17	25 13 14 17						At 13h+ 31th Microseisms at Unzen.
					F	4 24 56							
6		2 Feb.			P	11 30 20	2 20 30 20					3408	
					L	11 37 11							
					F	12 41 10							
7		21 Feb.			P	17 39 48	22 2 39 48					2000	Eastern sea of Hokkaido.
					L	17 43 04							
					F	18 02 05							
8		23 Mar.			P	6 24 —	23 15 24 —						At 6h+ 27th microseisms at Shimabara Time is incorrect.
9		11 Apr.			e P	23 08 48	12 8 08 48						Yetoro Is. Chishima.
					e L	23 12 38							
					F	23 23 40							
10		13 Apr.			P	10 38 58	13 19 38 58						Local shock.
					F	10 39 10							
11		18 Apr.			P	4 37 23	18 13 37 23					100	
					L	4 37 47							
					F	4 39 32							
12		22 Apr.			P	22 22 59	23 7 22 59						Local shock
					F	22 23 25							
13		23 Apr.			P	5 48 01	23 04 48 01						Microseisms.
					F	5 48 13							

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks		
						G. M. T.	135°E		AE	AN	Az				
14		1920 2 May			e P	h m s	th h m s						Distant earthquake.		
						8 40 59	2 17 40 59								
15		3 May			e F	8 57 03							Local shock.		
					P	23 36 34	4 8 36 34								
					L	23 36 38									
					F	23 37 02									
16		3 May			P	23 43 35	4 8 43 35						Do.		
					L	23 43 50									
17		7 May			e P	21 28 54	8 6 28 54						Distant earthquake.		
					e L	21 37 12									
					F	22 12 35									
18		12 May			P	21 55 06	13 6 55 06						Neighbouring Oshima Izu.		
					L	21 56 34									
					M	21 57 12	7							+ 42	670
					F	22 05 54									
19		21 May			P	19 19 39	22 4 19 39						120 Bungo channel.		
					L	19 19 55									
					M	19 20 02	55							- 75	
					F	19 24 38									
20		2 June			e P	23 58 07	3 8 58 07						75		
					L	0 02 19									
					F	0 16 35									
21		5 June			P	4 24 20	5 13 24 20						Eastern sea of North Formosa. Great damage has been done in Formosa.		
					L	4 26 53									
					M <sub>1</sub>	4 27 54	14							+1175	
					M <sub>2</sub>	4 33 17	7							-1139	
					M <sub>3</sub>	4 37 02	7							-1175	
					M <sub>4</sub>	4 38 46	10							+1125	
					M <sub>5</sub>	4 41 02	10							+ 987	
					M <sub>6</sub>	4 44 54	7							+ 537	
22		5 June			e P	20 41 50	6 5 41 50								
					e L	20 45 02									
					F	21 00 10									

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
23		1920 6 June			P	h m s	th h m s						Local shock.
						7 05 30	6 16 05 30						
24		8 June			F	7 50 54							75
					P	12 55 36	8 21 55 36						
					L	12 55 46							
25		9 June			e P	11 37 57	9 20 37 57						
					e L	11 43 46							
					F	12 01 55							
26		17 June			P	12 31 10	17 21 31 10						22 Local shock.
					L	12 31 13							
					F	12 32 03							
27		18 June			P	13 13 52	18 22 13 52						22 Do.
					L	13 13 55							
					F	13 14 40							
28		15 July			P	4 20 14	15 13 20 14						350
					L	4 21 02							
					F	4 24 45							
29		16 July			P	10 16 16	16 19 16 16						At 4h 50m 3rd July, 13h 20m 2nd Aug. Microseisms at Unzen.
					L	10 16 43							
					F	10 21 38							
30		15 Aug.			e P	8 25 43	15 17 25 43						Caroline Is.
					L	8 26 09							
					F	8 28 45							
31		8 Sept.			P	1 57 22	8 10 57 22						Italy.
					F	2 31 54							
32		20 Sept.			P	14 48 —	20 23 48 —						
					F	—							
33		23 Sept.			P	20 49 09	24 5 49 09						At 8h 30m, 8h 33m 21st Sept. and at 12h 1m, 14h 50m, 19h, 20h 30m 3rd Microseisms at Unzen.
					L	20 50 14							
					M	20 51 04		18		— 142			
					F	21 02 10							
34		7 Oct.			P	18 48 54	8 3 48 54						
					F	18 49 04							



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
35		1920 18 Oct.			e P	h m s	th h m s						Off the south coast of Shana Chishima
						8 16 17	18 17 16 17						
					e L	8 19 55							
					M	8 20 03							
36		20 Oct.			e P	10 06 00	20 19 06 00	4 + 46				Off the eastern sea of North Formosa.	
					L	10 08 07							
					M	10 09 43							
					F	10 24 05							
37		22 Oct.			e P	2 46 00	22 11 46 00						
					e F	3 01 30							
38		28 Oct.			e P	11 24 00	28 20 24 00					Time is incorrect.	
					e F	11 32 00							
39		8 Nov.			P	17 32 23	9 2 32 23					Kashima nada.	
					F	17 36 39							
40		10 Nov.			P	21 22 15	11 6 22 15					Local shock.	
					L	21 22 18							
					F	21 22 50							
41		15 Nov.			P	9 01 15	15 18 01 15						
					L	9 03 51							
					F	9 15 20							
42		16 Nov.			P	5 54 46	16 14 54 46						
					F	6 10 03							
43		10 Dec.			P	1 28 46	10 10 28 46					Local shock.	
					L	1 28 49							
					F	1 29 20							
44		16 Dec.			P	12 10 17	16 21 10 17					1666 Kansu, NW China. Great damage has been done.	
					L	12 14 01							
					ME	13 05 22							
					F	15 08 18							
45		18 Dec.			P	22 51 32	19 7 51 32					80 Upper part of the Chikugo River.	
					L	22 51 43							
					M	22 51 45							
					F	22 57 42							

# 長崎地震十年報

## Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
46		1920 19 Dec.			P	h m s	th h m s					80	Do.
						15 11 24	20 0 11 24						
					L	15 11 35							
					M	15 11 36				— 24			
47		19 Dec.			P	20 13 25	20 5 13 25					Iwashiro.	
					e L	20 15 53							
					F	20 24 10							
48		20 Dec.			P	4 52 07	20 13 52 07						
					F	4 53 16							
49		21 Dec.			P	21 29 35	22 6 29 35					200	
					L	21 30 02							
					F	21 31 49							
50		24 Dec.			P	21 50 15	24 6 50 15					240	Hiuga nada.
					L	21 50 45							
					M	21 50 52		5	+	8			
					F	21 55 38							
51		25 Dec.			P	11 38 03	25 20 38 03					700	
					S	11 42 00							
					L	11 43 51							
					M	11 47 12		13	—	700			
					F	12 14 02							



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	AZ		
1		1921 30 Jan.			P	h m s	th h m s					Local shock.	
						18 07 22	31 07 22						
2		14 Feb.			F	18 07 40						Tanimura and its neighbourhood (Yamanashi Prof.)	
					P	3 04 40	14 12 04 40						
3		26 Feb.			e P	18 35 17	27 03 35 17					Samoa Is. Polynesia.	
					F	18 43 47							
4		4 Mar.			e P	14 50 50	4 23 50 50					Hachijo Is.	
					L	14 52 26							
					F	14 57 19							
5		17 Mar.			P	10 59 22	17 19 59 22					At 23h+15th micro-seisms Unzen & Obama Local shock.	
					F	11 00 00							
6		24 Mar.			e P	14 47 45	24 23 47 45				2500	North Chishima.	
					L	14 52 20							
					P	15 18 56							
7		24 Mar.			P	17 47 44	25 2 47 44				70		
					L	17 47 54							
					F	17 48 55							
8		26 Mar.			P	0 48 44	26 9 48 44				22	Local shock.	
					L	0 48 47							
					F	0 49 30							
9		1 Apr.			e P	4 24 40	1 13 24 40				2430	Caroline Is.	
					L	4 29 02							
					F	4 50 51							
10		2 Apr.			P	9 39 44	2 18 39 44				1490	Eeastern sea of Formosa.	
					L	9 42 55							
					M	9 45 25		10	+ 790				
					F	10 06 26							
11	1	7 Apr.			P	14 03 24	7 23 03 24				26	Local shock. Felt in Nagasaki.	
					L	14 03 27							
					M	14 03 28				- 200			
					F	---							

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
12	2	1921 7 Apr.			P	h m s	th h m s					26	Do.
						14 03 51	7 23 03 51						
					L	14 03 54							
					M	14 03 55							
13		7 Apr.			F	14 05 28							110
					P	14 08 39	7 23 08 39						
14		18 Apr.			F	14 09 13							Do. no sense.
					P	17 59 09	19 2 59 09						
15		25 Apr.			L	17 59 24							110
					M	17 59 40							
					F	18 02 58							
					P	7 11 17	25 16 11 17						
16	3	27 Apr.			L	7 11 36							140
					F	7 13 42							
					P	18 01 44	28 3 01 44						
17		10 May			L	18 01 49							37
					F	18 02 45							
					e P	1 00 52	10 10 00 52						
18		17 May			F	1 08 14							Nase Ryukyu.
					e P	23 16 05	18 8 16 05						
19		21 May			e F	23 41 02							Eastern sea of Philippine Is.
					P	8 46 51	21 17 46 51						
					L	8 50 40							
20		21 May			F	9 18 09							Eastern sea of Chishima.
					P	22 31 24	22 7 31 24						
21		23 May			F	22 58 51							Neighbourhood of Mariana Is.
					P	4 18 22	23 13 18 22						
22		10 June			F	4 30 13							Sagami.
					e P	11 31 02	10 20 31 02						
23		11 June			e F	11 32 04							Local shock.
					e P	11 13 11	11 20 13 11						
					F	11 13 37							



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
						h m s	th h m s						
24	4	12 June	Do.		P	0 54 08	12 12 9 54 08					420	Local shock. Felt in Nagasaki.
					L	0 54 10							
					M	0 54 11			54				
					F	0 55 17							
25		21 June	Do.		P	23 43 21	22 08 8 43 21				480	Do.	
					F	23 43 50							
26		23 June	Do.		P	10 35 32	23 09 19 35 32	2			420	Nase Ryukyu.	
					L	10 36 28		3					
					F	10 42 53							
27		23 June	Do.		P	18 22 44	24 03 3 22 44	2			480	Do.	
					L	18 23 50		10					
					M	18 24 32		12	200				
					M	18 24 41		10	400				
					M	18 25 42		10	90				
28	5	1 July	Do.		P	17 10 56	2 02 2 10 56				20	Local shock. Felt in Nagasaki.	
					L	17 10 58							
					M	17 10 59							
					F	17 11 48							
29		3 July	Do.		P	14 54 30	3 03 3 23 54 30				540	Neighbouring Nase Ryukyu.	
					L	14 55 39							
					F	14 02 28							
30		4 July	Do.		P	14 21 13	4 04 4 23 21 13				1020	Vladivostock.	
					L	14 23 28							
					M	14 23 33		6	84				
					F	14 33 32							
31		10 July	Do.		P	13 52 41	10 05 10 22 52 41				18	Local shock.	
					L	13 52 43							
					F	13 52 15							
32		10 July	Do.		P	15 30 59	11 06 11 03 30 69				15	Do.	
					L	15 31 01							
					F	15 31 25							

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
33		1921 14 July			P	h m s	th h m s					18	Local shock.
						7 19 35	14 16 19 35						
					L	7 19 37							
34		17 July			F	7 20 03						2300	Middle Formosa.
					P	17 35 59	18 2 35 59						
					L	17 40 01							
35		19 July			F	17 51 12						15	Local shock.
					P	3 31 19	19 12 31 19						
					L	3 31 21							
36		19 July			F	3 31 36						30	Do.
					P	5 38 20	19 14 38 20						
					L	5 38 24							
37		9 Aug.			F	5 38 48						160	Suō nada.
					P	4 57 03	9 13 57 03						
					L	4 57 25							
					M	4 57 32	4 00 — 12						
38		9 Aug.			F	4 58 49							Local shock.
					P	6 51 02	9 15 51 02						
					L	6 51 05							
39		9 Aug.			F	6 51 34						25	Do.
					P	7 33 07	9 16 33 07						
					L	7 33 11							
40		14 Aug.			F	7 33 26						30	Do.
					P	5 35 14	14 14 35 14						
					L	5 35 18							
41		22 Aug.			F	5 35 39							Distant earthquake.
					e PN	4 06 21	22 13 06 21						
					e PE	4 06 27							
					e FN	4 35 23							
					e FE	4 37 55							



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks		
						G. M. T.	135°E.		AE	AN	Az				
42	6	24 Aug.			P	h m s	th h m s	2				140	Satsuma Peninsula.		
						23 20 59	25 8 20 59								
						L	23 21 18								
						MN	23 21 19								+100
						ME	23 21 20								+ 37
43		27 Aug.			P	h m s	th h m s						Local shock.		
						4 51 32	27 13 51 32								
44		30 Aug.			P	h m s	th h m s						Taiwan, Phase lost in changing sheets.		
						22 46 01	31 7 46 01								
45		31 Aug.			P	h m s	th h m s						Kashima nada.		
						21 09 25	31 06 09 25								
46		1 Sept.			P	h m s	th h m s				220	Hiuga nada.			
						17 22 50	2 2 22 50								
						L	17 23 19								
47		3 Sept.			P	h m s	th h m s						Neighbouring Hachijo Is.		
						9 00 47	3 18 00 47								
48		5 Sept.			e P	h m s	th h m s				2320	Shinshiri (Chishima Is.) neighbouring.			
						20 01 58	6 05 01 58								
						L	20 06 03								
						M	20 12 15							16 + 1375	
49		8 Sept.			P	h m s	th h m s						Local shock.		
						19 55 27	9 4 55 27								
50		10 Sept.			P	h m s	th h m s						Do.		
						11 19 51	10 20 19 51								
51		10 Sept.			P	h m s	th h m s						Do.		
						15 19 54	11 0 19 54								

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
52		1921 11 Sept.			P	h m s	th h m s					4900	Neighbouring New Guinea.
						4 10 10	11 13 10 10						
					S	4 17 01							
					L	4 20 49							
					M <sub>1</sub> E	4 21 08		17	- 183				
					M <sub>1</sub> N	4 21 19		20	+1800				
					M <sub>2</sub> N	4 29 36		23	- 500				
					M <sub>2</sub> E	4 32 02		22	- 360				
					M <sub>3</sub> N	4 34 06		18	+2000				
					M <sub>3</sub> E	4 34 44		19	- 530				
					CE			14	-				
CN			14	-									
FE			17	-									
FN													
53		12 Sept.			P	h m s	th h m s				15	Local shock.	
						14 05 24	12 23 05 24						
					L	14 05 26							
F	14 05 38												
54		26 Sept.			P	h m s	th h m s				750	Neighbouring Hachijo Is.	
						21 16 48	27 05 16 48						
					L	21 18 30							
					M	21 18 39		9	+ 58				
F	21 29 41												
55		27 Sept.			e P	h m s	th h m s				1100	Off the coast Akita.	
						16 24 40	28 11 24 40						
					L	16 26 59							
					M	16 31 02							
F	16 45 32												
56		11 Oct.			P	h m s	th h m s				2900	South Formosa.	
						1 43 14	11 10 43 14						
					L	1 48 55							
F	2 32 42												
57		14 Oct.			P	h m s	th h m s					Unknown.	
						15 53 09	15 00 53 09						
F	16 23 10												
58		15 Oct.			P	h m s	th h m s				6500	New Caledonia.	
						5 08 05	15 14 08 05						
					S	5 16 14							
					L	5 22 55							
F	6 08 21												

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks	
						G. M. T.	135°E		AE	AN	AZ			
59		1921 11 Nov.			P	h m s	lh h m s					2600	Mindanao.	
						18 41 40	12 03 41 40							
					L	18 46 28								
					ME	18 47 53	24							+ 330
60		12 Nov.			P	12 30 47	12 21 30 47					96	Bingo nada (Inland sea.)	
					L	12 31 00								
					F	12 31 48								
61		13 Nov.			P	13 55 22	13 22 55 22					2030	Mariana Is.	
					L	13 58 43								
					ME	13 58 45	7							- 90
					F	14 17 44								
62		15 Nov.			P	4 50 42	15 13 50 42					350	North Tsushima channel.	
					L	4 51 28								
					F	4 57 32								
63		15 Nov.			P	8 48 21	15 17 48 21						Local shock.	
					F	8 48 23								
64		15 Nov.			P	13 07 26	15 22 07 26						Do.	
					F	13 07 40								
65		15 Nov.			P	20 44 59	16 5 44 59						Distant.	
					F	21 48 25								
66		16 Nov.			P	13 53 44	16 22 53 44						South Kyushu	
					F	14 00 17								
67	7	21 Nov.			P	0 30 45	21 9 30 45					17	Felt in Nagasaki Local shock.	
					L	0 30 47								
					ME	0 30 48	+ 100							
					MN	0 30 48	- 110							
					F	0 31 31								
68		24 Nov.			P	10 34 55	24 19 34 55						Local shock.	
					F	10 35 11								

# 長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks		
						G. M. T.	135°E		AE	AN	Az				
69		1921 1 Dec.			P	h m s	th h m s					740			
						10 51 45	1 19 51 45								
					L	10 53 25									
					ME	10 54 03								14	- 170
					MN	10 54 10								12	- 450
70		5 Dec.			F	11 20 05									
					P	1 27 03	5 10 27 03						3	+ 34	
					L	1 27 29									
					M	1 27 31									
71		8 Dec.			P	12 33 44	8 21 33 44					780	Bōsō Peninsula.		
					L	12 35 31									
					M <sub>1</sub>	12 36 43								11	- 250
					F	13 04 35									
72		20 Dec.			P	8 08 23	20 17 08 23					360	Nasu (East coast of Honshu.)		
					L	8 09 11									
					F	8 14 15									
73		26 Dec.			P	2 17 07	26 11 17 07					30	Local shock.		
					L	2 17 11									
					F	2 17 21									
74		26 Dec.			P	3 27 02	26 12 27 02					30	Do.		
					L	3 27 06									
					F	3 27 15									

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
1		1922 10 Jan.			P	h m s	th h m s					30	Ariake Bay.
						5 54 38	10 14 54 38						
					L	5 54 42							
2		10 Jan.			F	5 55 14						1780 ?	Formosa.
					e F	13 44 08	10 22 44 08						
					e L	13 46 50							
3		22 Jan.			F	14 08 05						1200	Off the coast Iwaki.
					P	22 07 48	23 7 07 48						
					L	22 10 30							
4		31 Jan.			F	22 21 15						4200 ?	
					e P	13 39 33	31 22 39 33						
					e L	13 48 25							
5		22 Feb.			F	15 29 45						460	At 10h 38m 5th Feb. Microseisms Unzen.
					P	17 20 13	23 2 20 13						
					L	17 21 16							
6		2 Mar.			P	9 36 00	2 18 26 00						Local shock.
					F	9 26 12							
7		4 Mar.			P	9 26 12						2500	Kamtchatka.
					SN	13 14 02			6 + 25 + 8				
					SE	13 14 06			5 + 30				
					LN	13 17 36			5 75 + 13				
					LE	13 17 49			10 - 50				
					MN	13 19 32			9 75 + 13				
					ME	13 23 38			12 - 120				
					FE	13 23 38			8 - 50				
8		9 Mar.			FN	13 49 01							Local shock.
					P	22 19 09	10 7 19 09						
9		24 Mar.			F	22 13 23						Do.	
					P	5 07 05	24 14 07 05						
10		26 Mar.			F	5 07 26						Do.	
					P	2 53 34	26 11 53 34						
					F	2 53 39							

# 長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
11		1922 26 Mar.			P	h m s	th h m s					Do.	
					F	15 14 52	27 0 14 52						
12	1	31 Mar.			P	15 06 02	31 0 06 02					37 Felt in Nagasaki and its neighbourhood.	
					L	15 06 07							
					M	15 06 08				+ 27			
					F	15 08 44							
13		5 Apr.			e F	10 05 39	5 19 05 39					4170 ?	
					e S	10 11 10							
					e L	10 14 27							
					e F	11 19 58							
14		7 Apr.			e P	16 01 43	8 1 01 43					2200 ? Formosa.	
					e L	16 05 26							
					F	16 22 10							
15		26 Apr.			P	1 13 27	16 10 13 27					900 Neighbouring Kisarazu.	
					L	1 15 29							
					M	1 16 17		8		+ 117			
					F	1 37 40							
16		26 Apr.			P	4 04 20	26 13 04 20					2300 Kamtchatka. F lost by next earthquake.	
					L	4 08 24							
					F	— — —							
17		26 Apr.			P	4 10 14	26 13 10 14					2370 Kamtchatka.	
					L	4 14 26							
					F	4 44 25							
18		27 Apr.			P	9 18 45	27 18 18 45					800 Wakayama.	
					L	9 20 33							
					F	9 28 25							
19		28 Apr.			P	14 28 28	28 23 28 28					Near shock.	
					F	14 29 06							
20		30 Apr.			P	9 51 01	30 18 51 01					140 Upper Kumagawa Kyushu.	
					L	9 51 15							
					F	9 53 20							



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	Az		
21		1922 1 May			P	h m s	hr h m s					1100	Faint record.
					L	10 55 57	1 19 55 57						
					F	10 58 25							
22		2 May			P	11 05 48	2 20 22 09	14	325			2700	Eastern sea of Philippine Is.
					L	11 22 09							
					M	11 26 59							
23		3 May			P	11 28 24	3 21 07 52					75	Kumamoto, felt to Shimabara Peninsula.
					L	12 02 25							
					F	12 07 52							
24		4 May			P	12 08 02	4 18 17 55					3551	Formosa.
					S	12 10 27							
					L	9 17 55							
					F	9 21 57							
25		12 May			P	9 25 08	13 3 59 08						Faint record.
					F	10 46 50							
26		15 May			P	19 04 05	15 5 24 49					1237	Off the coast of Rikuchu faint record.
					L	20 24 49							
					F	20 27 34							
27		16 May			P	20 39 35	16 17 10 23					2860	Faint record.
					L	8 10 23							
					F	8 15 50							
28		29 May			P	8 31 20	29 17 23 45						Local shock.
					F	8 23 45							
29		2 June			P	8 24 21	3 5 17 12					2564	Mindanao.
					L	20 17 12							
					F	20 21 54							
30		12 June			P	20 54 05	13 7 17 03					60	Near shock.
					L	22 17 03							
					F	22 47 11							
31		13 June			P	22 47 27	14 2 54 24					60	Do.
					L	16 54 24							
					F	16 54 32							

長崎地震十年報  
Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
32		1922 20 June			P	h m s	th h m s					260	Northern sea of Oshima.
					L	8 47 28	20 17 47 28						
					M	8 48 04							
					F	8 48 25							
33		29 June			P	8 55 13		5	—	20			
					F	8 55 13							
34		1 July			P	4 56 21	29 13 56 21					Faint record.	
					F	4 56 21							
35		2 July			P	5 01 58						Faint record New Guinea Is.	
					F	5 01 58							
36		11 July			P	17 21 25	2 2 21 25					Faint record, Southern sea of Ogasawara.	
					F	17 21 25							
					M	17 22 06							
37		12 July			P	13 45 10	2 22 45 10	6	+	20			
					F	13 45 10							
					M	14 17 50							
38		14 July			P	14 16 50	11 23 16 50					120	Beppu Bay.
					F	14 16 50							
					M	14 19 38							
39		19 July			P	14 25 55							Very small amplitude.
					F	14 25 55							
					M	14 25 55							
40		19 July			P	4 31 29	12 13 31 29						Eastern sea of Formosa. Faint record.
					F	4 31 29							
					L	4 31 46							
41		19 July			P	4 33 44							Local shock.
					F	4 33 44							
					L	4 33 44							
42		29 July			P	15 59 56	15 1 59 56					30	Do. felt in Obama.
					F	15 59 56							
					L	16 01 23							
43		29 July			P	12 57 48	19 21 57 48					30	Do. felt in Obama.
					F	12 57 48							
					L	13 09 50							
44		30 July			P	17 16 45	20 2 16 45					30	Do. felt in Obama.
					F	17 16 45							
					L	17 16 57							
45		30 July			P	19 00 15	30 4 00 15					30	Do. felt in Obama.
					F	19 00 15							
					L	19 00 19							
46		30 July			P	19 01 03						30	Do. felt in Obama.
					F	19 01 03							
					L	19 01 03							
47		30 July			P	19 25 21	30 4 25 21					30	Do. felt in Obama.
					F	19 25 21							
					L	19 25 25							
48		30 July			P	19 26 09						30	Do. felt in Obama.
					F	19 26 09							
					L	19 26 09							
49		30 July			P	16 43 05	31 2 43 05					30	Do. felt in Obama.
					F	16 43 05							
					L	16 43 09							
50		30 July			P	16 43 39						30	Do. felt in Obama.
					F	16 43 39							
					L	16 43 39							



長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks	
						G. M. T.	135°E		AE	AN	AZ			
52		1922 1 Sept.			P	h m s	th h m s					1290	Eastern sea of North Taiwan.	
						19 18 44	2 4 18 44							
					L	13 20 53								19—350
					M <sub>1</sub>	19 21 23								19—1400
					M <sub>2</sub>	19 23 01								19—7000
					M <sub>3</sub>	19 25 41								16—2300
					M <sub>4</sub>	19 29 01								19+900
					ME	19 32 51								16 + 210
			FN	20 20 27										
			FE	20 22 01										
53		3 Sept.			P	h m s	th h m s					30	Microseisms.	
						6 31 36	3 15 31 36							
					L	6 31 40								
			F	6 32 13										
54		4 Sept.			P	h m s	th h m s					1240	Taiwan.	
						17 56 22	5 2 56 22							
					L	17 58 26								14—100
					M	18 02 50								
			F	18 24 33										
55		12 Sept.			P	h m s	th h m s					20	Hasty waves of local shock.	
						23 28 47	13 8 28 47							
					L	23 28 50								— 30
					M	23 28 53								
			F	23 29 49										
56		14 Sept.			P	h m s	th h m s					1670	Taiwan. Sheets-off M.	
						19 34 11	15 4 34 11							
					L	19 36 36								14→4100
					M	19 40 42								
			F	20 48 35										
57		16 Sept.			P	h m s	th h m s					1550	Taiwan, faint record.	
						22 47 20	17 7 47 20							
					L	22 50 58								
			F	23 14 32										
58		17 Sept.			P	h m s	th h m s					1530	Do. faint record.	
						7 25 40	17 16 25 40							
					L	7 29 06								
			F	7 51 56										

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	AZ		
59		1922 17 Sept.			P	h m s	th h m s	10		—	150	1620	Do Neighbouring Taiwan.
					L	10 02 03	17 19 02 03						
					M	10 05 41							
					F	10 09 40							
60		18 Sept.			P	6 22 41	18 15 22 41					Do.	
					F	6 45 13							
61		3 Oct.			P	5 17 28	3 14 17 28					Microseisms.	
					F	5 18 02							
62		7 Oct.			P	13 41 59	7 22 41 59					Faint record Origin <1000 km. F lost by next shock.	
					F	— — —							
63		7 Oct.			P	13 47 18	7 22 47 18					Origin <1000 km.	
					F	13 53 01							
64		14 Oct.			P	3 59 05	14 12 59 05					Do.	
					F	4 15 51							
65		14 Oct.			P	23 49 25	15 8 49 25	17		—	580	1200	Taiwan earthquake, needle off at 8h 56m just appeared maximum motion.
					L	23 51 35							
					ME	23 54 06							
					MN	23 56 —							
					MN	23 58 36							
					MN	23 59 51							
					ME	24 00 03							
					CE	24 01 32							
66		17 Oct.			P	6 58 59	17 15 58 59					1000	Do.
					L	7 01 10							
					F	7 13 13							
67	3	22 Oct.			P	17 47 25	23 2 47 25	15				<20	Chijiwa Bay, Felt in Nagasaki.
					L	17 47 27.5							
					ME	17 47 28							
					MN	17 47 28.6							
					FN	17 47 43							
F	17 50 20												



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	AZ		
77		1922 11 Nov.			P	h m s	th h m s					>10000	Violent earthquake in Chile South America needle off from sheets on M2 and M4.
					L	4 52 44	11 13 52 44						
					M <sub>1</sub>	5 18 19							
					M <sub>2</sub>	5 19 48							
					M <sub>3</sub>	5 52 05							
					M <sub>4</sub>	6 00 36							
					MN	6 01 24							
					FE	6 23 —							
78		29 Nov.			P	7 34 35	29 16 34 35					330	NW sea of Oshima.
					L	7 35 20							
					F	7 38 45							
79		2 Dec.			P	3 49 27	2 12 49 27					1400	Eastern sea of Taiwan.
					L	3 52 35							
					ME	3 56 19							
					F	4 02 03							
80	4	7 Dec.			P	6 59 53	7 15 56 53					18	Preliminary shock of a violent Earthquake in bottom of Chijiwa Bay class of Earthquake: (1)
					L	6 59 55.4							
					F	7 03 02							
81		7 Dec.			P	7 06 22	7 16 06 22						Do. no sense.
					F	7 06 41							
82		7 Dec.			P	7 09 12	7 16 09 12					18	Do.
					L	7 09 14.4							
					F	7 09 40							
83		7 Dec.			P	7 11 13	7 16 11 13						Do.
					F	7 11 25							
84	5	7 Dec.			P	7 16 32	7 16 16 32					32	Do. class; (2)
					L=M	7 16 36.3							
					F	7 20 22							
85		7 Dec.			P	7 35 48	7 16 35 48					19	Do. no sense.
					L	7 35 50.5							
					F	7 36 58							

# 長 崎 地 震 十 年 報

*Nagasaki Seismic Bulletin During Ten Years.*



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	Az		
		<b>1922</b>											
86		7 Dec.			P	h m s	th h m s						Do.
					F	7 43 30	7 16 43 30						
					F	7 44 01							
87		7 Dec.			P	8 06 55	7 17 06 55						Do.
					F	8 07 14							
88		7 Dec.			P	9 13 01	7 18 13 01						Do.
					F	9 13 11							
89		7 Dec.			P	12 36 22	7 21 36 22						Do.
					F	12 36 36							
90		7 Dec.			P	13 17 39	7 22 17 39						Do.
					F	13 17 56							
91		7 Dec.			P	13 51 15	7 22 51 15						Do.
					F	13 51 25							
92		7 Dec.			P	14 29 20	7 23 29 20						Do.
					F	14 29 30							
93		7 Dec.			P	16 43 07	8 2 43 07						Do.
					F	16 43 25							
94		7 Dec.			P	16 43 56	8 2 43 56						Do.
					F	16 44 38							
95	6	7 Dec.			* P	16 49 57	8 2 49 57		+ 500	± 00		23	A violent Earthquake in the bottom of Chijiwa Bay all of seismographs were broken by the Earthquake but recorded clear an Imamura's strong motion seismograph class; (5) No. 96--104 are no sense after shock of Chijiwa Bay Earthquake.
					L	16 50 00.1							
					M	16 50 03.8		0.8	+ 400	+40500			
					C*	16 50 25		0.8	+1500	+1000			
					F	Lost by next shock (No. 105)							
105	7	7 Dec.			* P	16 57 06	8 2 57 06					16	After shock, of former quake class; (3)
					L=M	16 57 26		0.8	+ 500	+2000			
					F	17 00 42							
106	8	7 Dec.			* P	17 09 46	8 2 09 46					24	Do. class; (2)
					L	17 09 49.2			+ 250	+ 900			
107	9	7 Dec.			P	17 36 20	8 2 36 20					12	Do. class; (1)
					L	17 36 21.5							
					F	Lost by next shock							

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No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
		1922											
108	10	7 Dec.			P	h m s	th h m s					14	Do. class; (1) No. 109—132 no sense.
					L	17 36 34.8	8 2 36 33			± 40			
					F	17 36 59							
133	11	7 Dec.			P	17 48 51	8 2 48 51					15	Do. class; (1) No. 134—135 no sense.
					L	17 48 53				± 40			
136	12	7 Dec.			P	17 53 14	8 2 53 14					15	Do. class; (1) No. 137—180 no sense.
					L	17 35 16				± 40			
181	13	7 Dec.			P	18 29 15	8 3 29 15					8	Do. class; (1) No. 182—188 no sense.
					L	18 29 16				± 80			
189	14	7 Dec.			P	18 36 45	8 3 36 45					28	Do. class; (1) No. 190—211 no sense.
					L	18 36 48.5				± 40			
212	15	7 Dec.			P	18 57 45	8 3 57 45					12	Do. class; (1) No. 213—225 no sense.
					L	18 57 46.5							
226	16	7 Dec.			P	19 20 10	8 4 20 10					19	Do. class; (1) No. 227 no sense.
					L	19 20 12.5				± 40			
228	17	7 Dec.			P	19 21 35	8 4 21 35					23	Do. class; (1) No. 229—251 no sense.
					L	19 21 38.1				± 30			
252		7 Dec.			P	19 49 18	8 4 49 18					14	Do. no sense. No. 253—258 no sense.
					L	19 49 19.8				± 50			
259	18	7 Dec.			P	19 57 31	8 4 57 31					19	Do. class; (1)
					L	19 57 33.5				± 40			
260	19	7 Dec.			P	19 58 51	8 4 58 51					10	Do. class; (1)
					L	19 58 52.3				± 28			
261	20	7 Dec.			P	19 59 50	8 4 59 50					24	Do. class; (1) No. 262—266 no sense.
					L	19 59 53.1				± 28			
267	21	7 Dec.			P	20 05 25	8 5 05 25					26	Do. class; (1)
					L	20 05 28.5				± 40			
268	22	7 Dec.			* P	20 07 04.7	8 5 07 04.7					25	Do. class; (2) No. 269—278 no sense.
					L	20 07 08				— 500 — 400			
279	23	7 Dec.			P	20 18 18	8 5 18 18					22	Do. class; (1) No. 280—283 no sense.
					L	20 18 15				± 30			
284		7 Dec.			P	20 23 28	8 5 23 28					12	Do. no sense No. 285—288 no sense.
					L	20 23 29.5				± 40			

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# 長 崎 地 震 十 年 報

## Nagasaki Seismic Bulletin During Ten Years.

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
<b>1922</b>													
289	24	7 Dec.			P	h m s	th h m s					19	Do. class; (1) No. 290—312 no sense.
					L	20 26 27.5			± 44				
313		7 Dec.			P	20 59 08	8 5 59 08					22	Do. no sense No. 314—320 no sense.
					L	20 59 11			± 28				
321	25	7 Dec.			P	21 08 28	8 6 08 28					12	Do. class; (1) No. 322—344 no sense.
					L	21 08 29.5				± 30			
345	26	7 Dec.			P	21 12 56	8 6 12 56					19	Do. class; (2) No. 346—347 no sense.
					L	21 12 58.5				± 15			
348	27	7 Dec.			P	21 25 49	8 6 25 49					19	Do. class; (2) Twin Earthquake No. 347—362 no sense.
					L	21 25 51.5			— 50				
					M	21 25 57			— 120	— 120			
363	28	7 Dec.			P	21 50 17	8 6 50 17						Do. class; (1)
364	29	7 Dec.			P	21 51 52	8 6 51 52						Do. class; (1) No. 365—382 no sense.
383	30	7 Dec.			P	22 21 24	8 7 21 24						Do. class; (2)
384	31	7 Dec.			* P	22 21 58.3	8 7 21 58.3		+ 260	± 0.0		22	Do. class; (3)
					L	22 22 01.3		0.8	—1500	+1500			
385	32	7 Dec.			* P	22 24 14.3	8 7 24 14.3					25	Do. class; (3)
					L	22 24 17.5			+ 150				
386	33	7 Dec.			P	22 48 46	8 7 48 46						After Earthquake Class; (4)
387	34	7 Dec.			P	22 56 48	8 7 56 48					35	Do. class; (1) Twin shock.
388	35	7 Dec.			P	22 57 43	8 7 57 43						Do. class; (1) No. 389—436 no sense.
437	36	7 Dec.			P	23 42 29	8 8 42 29						Do. class; (1) No. 438—390 no sense.
491	37	8 Dec.			* P	2 02 09	8 11 02 09		—1100	± 0.0		28	Strong Earthquake in bottom of Chijiwa Bay (about two miles for off Obama) Class; (4) No. 492—498 no sense.
					L	2 02 12.7							
					M	2 02 21.2		1.6	+14000	+12000			
					C	2 03 25		5.7	+1600	+1200			
					F	2 11 10							
499	38	8 Dec.			P	2 13 03	8 11 13 03						After shock, class; (1) No. 500—511 no sense.
512	39	8 Dec.			P	2 46 25	8 11 46 25					22	Do. class; (1) No. 513—520 no sense.
					L	2 46 28				— 60			
521	40	8 Dec.			P	3 18 26	8 12 18 26						Do. class; (1) No. 522—557 no sense.

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						G. M. T.	135°E		AE	AN	Az		
		1922											
558	41	8 Dec.			P	h m s	th h m s					15	Do. class; (1) No. 559—570 no sense.
					L	3 48 26				-- 110			
571	42	8 Dec.			P	4 43 39	8 13 43 39						Do. class; (1)
581	43	8 Dec.			* P	5 17 01	8 14 17 01			+ 400 ± 0.0		25	Do. class; (2)
					L=M	5 17 04.3		0.6		-2200 +2500			
582	44	8 Dec.			* P	5 44 50	8 14 44 50					25	Do. class; (2)
					L	5 44 53.3		0.6		- 850 - 300			
583	45	8 Dec.			P	5 47 27	8 14 47 27						Do. class; (1) No. 584—609 no sense.
610	46	8 Dec.			P	7 14 01	8 16 14 01						Do. class; (1)
611	47	8 Dec.			* P	7 15 14	8 16 15 14					30	Do. class; (2) No. 621—667 no sense.
					L	7 15 18				+ 250 - 350			
668	48	8 Dec.			P	12 00 50	8 21 00 50						Do. class; (1) No. 669—672 no sense.
673	49	8 Dec.			P	12 24 33	8 21 24 33					23	Do. class; (1) No. 674—683 no sense.
					L	12 24 36				+ 18			
684	50	8 Dec.			P	13 33 16	8 22 33 16					23	Do. class; (1) No. 685—687 no sense.
					L	13 33 19				+ 80			
688	51	8 Dec.			P	13 38 49	8 22 38 49					23	Do. class; (1)
					L	13 38 52				+ 410			
689	52	8 Dec.			P	13 39 51	8 22 39 51						Do. class; (1) No. 690—700 no sense.
701	53	8 Dec.			P	14 28 19	8 23 28 19						Do. class; (1) No. 702—714 no sense.
715	54	8 Dec.			P	15 34 00	9 0 34 00						Do. class; (1) No. 716—730 no sense.
731	55	8 Dec.			P	16 49 35	9 1 49 35					18	After shock, class; (1) No. 732 no sense.
					L	16 49 37.4				+ 55			
733	56	8 Dec.			P	17 04 15	9 2 04 15						Do. class; (1) No. 734—754 no sense.
755	57	8 Dec.			P	18 20 10	9 3 20 10						Do. class; (1) No. 756—771 no sense.
772	58	8 Dec.			P	19 58 50	9 4 58 50					26	Do. class; (1)
					L	19 58 51.2				+ 96			
773	59	8 Dec.			P	20 18 30	9 5 18 30					17	Do. class; (1)
					L	20 18 32.3				- 70			

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長崎地震十年報  
Nagasaki Seismic Bulletin During Ten Years.



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						G. M. T.	135°E		AE	AN	Az		
		1922											
774	60	8 Dec.			* P	h m s	th h m s	0.4	+ 10	± 00		27	Do. class; (2) No. 775—778 no sense.
					L	20 19 04.9			± 180	± 180			
779	61	8 Dec.			P	20 28 20	9 5 28 20						Do. class; (2) No. 780—781 no sense.
782	62	8 Dec.			P	20 45 —	9 5 45 —						Do. class; (1) No. 783—784 no sense.
785	63	8 Dec.			P	20 56 30	9 5 56 30						Do. class; (1) No. 786—791 no sense
					L	20 56 —				— 22			
792	64	8 Dec.			P	21 17 30	9 6 17 30						Do. class; (1) No. 793—794 no sense.
795	65	8 Dec.			P	21 56 15	9 6 56 15					18	Do. class; (1)
					L	21 56 17.4				± 25			
826	66	9 Dec.			P	1 56 24	9 10 56 24						Do. class; (1) No. 827—835 no sense.
836	67	9 Dec.			P	3 12 10	9 12 12 10						Do. class; (1) No. 837—848 no sense.
849	68	9 Dec.			P	4 54 10	9 13 54 10						Do. class; (1) No. 850—870 no sense.
871	69	9 Dec.			P	7 16 45	9 16 16 45						Do. class; (1) No. 872—881 no sense.
882	70	9 Dec.			P	8 53 10	9 17 53 10						Do. class; (1) No. 883—889 no sense.
890	71	9 Dec.			P	10 34 55	9 19 34 55						Do. class; (1) No. 891—896 no sense.
897	72	9 Dec.			P	11 01 05	9 20 01 05					18	Do. class; (1) No. 898—901 no sense.
					L	11 01 07.4				± 10			
902	73	9 Dec.			P	12 27 10	9 21 27 10						Do. class; (1) No. 903—911 no sense.
912	74	9 Dec.			P	13 36 50	9 22 36 50						Do. class; (1) No. 913—914 no sense.
915	75	9 Dec.			P	14 11 10	9 23 11 10						Do. class; (1) No. 916—943 no sense.
944	76	9 Dec.			P	19 13 25	10 4 13 25						Do. class; (1)
945	77	9 Dec.			P	19 15 36	10 4 15 36						Do. class; (1) No. 946—955 no sense.
956	78	9 Dec.			P	20 42 13	10 5 42 13						Do. class; (1) No. 957—962 no sense.
963	79	9 Dec.			P	21 17 45	10 6 17 45						Do. class; (1) No. 964—967 no sense.

The earthquake of \* mark on P of phase are made an observation by Imamura Strong motion Seismograph,

No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
		1922											
968	80	9 Dec.			P	h m s	th h m s						Do. class; (1) No. 969-972 no sense.
						22 25 05	10 7 25 05						
973	81	10 Dec.			P	0 40 08	10 9 40 08	-	2			26	Do. class; (1) No. 974-1001 no sense.
					L	0 40 11.5		+	28				
1002	82	10 Dec.			P	5 33 20	10 14 33 20						12 After shock of Chijiwa Bay Earthquake class; (1) No. 1003-1062 no sense.
					L	5 33 21.5		-	10				
1063	83	10 Dec.			P	16 10 45	11 1 10 45						14 Do. class; (1) No. 164 no sense.
					L	16 10 46.8		-	40 ± 45				
1065	84	10 Dec.			P	16 49 34	11 1 49 34	+	20 ± 20			26	Do. class; (1) No. 1066-1068 no sense.
					L	16 49 37.6							
					M	16 49 37.6		+	160 ± 80				
1069	85	10 Dec.			P	17 29 38	11 2 29 38						34 Do. class; (1) No. 1070 no sense.
					L	17 29 42.5		-	90 ± 90				
1071	86	10 Dec.			P	17 37 08.7	11 2 37 08.7	+	13				21 Do. class; (2) No. 1072-1128 no sense.
					L	17 37 11.5		+	150 + 170				
1029	87	11 Dec.			P	4 24 55	11 13 24 55						12 Do. class; (1) No. 1130-1139 no sense.
					L	4 24 56.5		+	50 ± 50				
1140	88	11 Dec.			P	6 29 53	11 15 29 53						27 Do. class; (1) No. 1041-1191 no sense.
					L	6 29 56.5		±	60 ± 35				
1192	89	11 Dec.			P	18 50 15	12 3 50 15						Do. class; (1) No. 1193-1239 no sense.
1240	90	12 Dec.			P	14 34 07	12 23 34 07	+	6				23 Do. class; (1) No. 1241-1249 no sense.
					L	14 34 10		+	48				
1250	91	12 Dec.			P	16 28 57	13 1 28 57						10 Do. class; (1) No. 1251-1258 no sense.
					L	16 28 58.2				+	24		
1259	92	12 Dec.			P	20 25 57	13 5 25 57						19 Do. class; (1)
					L	20 25 59.5		±	3				
1260	93	12 Dec.			P	20 32 15	13 5 32 15						17 Do. class; (1) No. 1261-1352 no sense.
					L	20 32 17.2		+	6				
1353	94	14 Dec.			P	9 15 10	14 18 15 10						Do. class; (1) No. 1354-1378 no sense.

長崎地震十年報

Nagasaki Seismic Bulletin During Ten Years.



No.	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			△	Remarks
						G. M. T.	135°E		AE	AN	AZ		
		1922											
1379	95	14 Dec.			P	h m s	th h m s					18	Do. class: (1)
					L	17 02 58	15 2 02 58						
					M	17 03 00.3							
						17 03 01.6			+ 64	+ 50			
1380	96	14 Dec.			P	17 06 33	15 2 06 33					16	Do. class: (1)
					L	17 06 35.2			+ 16				
1381	97	14 Dec.			P	17 08 07	15 2 08 07					19	Do. class: (1)
					L	17 08 09.5			<± 3				No. 1382-1409 no sense.
1410	98	15 Dec.			P	5 24 01	15 14 24 01		+ 2			16	Do. class: (1)
					L	5 24 03.1			+ 8				No. 1441-1458 no sense.
													Do. class: (1)
1459	99	16 Dec.			P	11 39 26	16 20 39 26						
1466	100	16 Dec.			P	13 32 46	16 22 32 46		- 2>			28	Do. class: (1)
					L	13 32 49.8			+ 16				No. 1467-1472 no sense.
1473	101	16 Dec.			P	18 34 11	17 3 34 11					15	Do. class: (1)
					L	18 34 12.9			- 4				No. 1474-1481 no sense.
1482	102	17 Dec.			P	0 20 54	17 9 20 54		- 2>			18	Do. class: (1)
					L	0 20 56.4			+ 12				No. 1483-1560
1561	103	19 Dec.			P	21 24 50	20 6 24 50		- 2>			28	Do. class: (1)
					L	21 24 53.7			- 15	- 40			No. 1562-1576 no sense.
1577	104	20 Dec.			P	13 10 20	20 22 10 20					15	Do. class: (1)
					L	13 10 21.8			+ 2>				No. 1578-1588 no sense.
1589	105	21 Dec.			P	1 11 35	21 10 11 35		+ 3>			22	Do. class: (1)
					L	1 11 37.9							No. 1570-1604 no sense.
1605	106	21 Dec.			P	17 54 35	22 2 54 35		- 12			13	Do. class: (1)
					L	17 54 36.5			- 10				No. 1606 no sense.
1607	107	21 Dec.			P	18 48 18.7	22 3 48 18.7		- 5			26	Do. class: (1)
					L	18 48 22.2			+ 23	+ 100			
					M	18 48 23.8			+ 120	+ 80			
1608	108	21 Dec.			P	18 49 02	22 3 49 02		- 5			18	Do. class: (1)
					L	18 49 04.4			+ 16	+ 60			No. 1609-1641 no sense.
					M	18 49 05			+ 44	+ 65			



No	No. of Sensible Shock	Date	Char.	Dir. of first motion	Phase	Time		Period	Amplitude			Δ	Remarks
						G. M. T.	135°E		AE	AN	AZ		
		1922											
1615	109	22 Dec.			P	9 09 58	22 18 09 58		+ 4			22	Do. class: (1) No. 1616-1699 no sense.
					L	9 10 09.9			+ 45	+ 45			
					M	9 10 52.2			- 60	+ 100			
1700	110	24 Dec.			P	8 20 54	21 17 20 54					6	Do. class: (1) No. 1701-1765 no sense.
					L	8 20 54.8			- 2	>			
1766	111	26 Dec.			P	16 41 13	27 1 41 13		- 14			28	Do. class: (1) No. 1767-1777 no sense.
					L	16 41 16.8			+ 90	+ 46			
1778	112	27 Dec.			P	13 56 10	27 22 56 10					23	Do. class: (1) No. 1779-1815 no sense.
					L	13 56 13			+ 30	- 20			
1816	113	28 Dec.			P	23 08 49	29 8 08 49		+ 8			36	Do. class: (1) No. 1817-1837 no sense.
					L	23 08 53.8			+ 120	+ 15			
1838	114	30 Dec.			P	10 11 50	30 19 11 50		- 1			18	Do. class: (1) 18 shocks until midnight 31st Dec. After shock followed to the year 1923.
					L	10 11 52.5							

大正十二年三月卅一日印刷

大正十二年四月二十日發行

長崎市

發行所 長崎測候所

長崎市千馬町二丁目一番地

印刷者 松本清藏

長崎市千馬町二丁目一番地

印刷所 長崎印刷株式會社