中国地震台网观测报告

BULLETIN OF SEISMOLOGICAL
OBSERVATIONS OF CHINESE STATIONS

1992

国家地震局地球物理研究所编

地震出版社 出版

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Contents

前　　言

1.“中国地震台网观测报告”是我国地震台网对发生在全世界、特别是发生在中国和邻近地区的地震观测数据的汇编．自 1979 年起，本报告采用协调世界时 (UTC)．为方便中国读者在目录部分也给出北京时．采用汉语拼音拼写中国地名和人名，外国地名和人名沿用英文．

2.本报告列出的震源参数是用 VAX／780 计算机进行计算修定的．使用的走时表是 J-B 表[1]．使用的震相数据除报告中列出的 24 个一类台以外，还有许多国内台和部分国外台的数据．到时残差、总体标准误差和震源参数的标准误差都分别列出．震中位置，除给出经纬度外，还按 Flinn、Engdahl 和 Hill[2,3]划定的地震分区给出了大致的地理位置．应该强调指出，所有地震的地理区域名称仅作位置的参考，不包含任何政治意义．

3.面波震级 Ms 的测定，采用了用中周期宽频带记录 (SK 仪) 和 1965 年北京台 (BJI) 的面波震级公式:

$$Ms=\log(A_H/T)+\sigma_{BJI}(\triangle)$$

$$\sigma_{BJI}(\triangle)=1.66\log(\triangle)+3.5 \qquad (1^\circ<\triangle<130^\circ)$$

A_H 是两水平分向(LN, LE)的失量合成位移，单位: 微米．量规函数 $\sigma_{BJI}(\triangle)$ 比 1967 年 IASPEI (国际地震学与地球内部物理学联合会) 推荐的，现已被国际上广泛采用的量规函数

$$\sigma_{IASPEI}(\triangle)=1.66\log(\triangle)+3.3 \qquad (20^\circ<\triangle<160^\circ)$$

在$\triangle=20^\circ$ — 130° 的范围内偏高 0.2 级．世界上两个最有权威的地震机构: 国际地震中心 (ISC，它使用全球台网资料) 和美国地震信息中心 (NEIC，它使用世界标准台网资料) 都采用 $\sigma_{IASPEI}(\triangle)$测定面波震级 Ms，故此我国测定的 Ms 比国际上系统地偏高 0.2 级．此外，量规函数 $\sigma_{BJI}(\triangle)$ 代表的面波衰减$\triangle^{-1.66}$在近距离处 ($\triangle=1^\circ$ — 20°) 过大，使得近距离测得的 Ms 偏小，尽管如此，为使资料连续，仍给出用它测定的震级．

自 1986 年始，我国 763 长周期地震仪台网建成并正式投入使用．763 地震仪的仪器常数 (Ts＝15s，Tg＝100s，Ds＝Dg＝1.0，$\sigma^2<0.1$) 和频率特性与世界标准台网 (WWSSN) 的长周期地震仪完全一致．我们采用垂直向瑞利波最大地动位移 A_Z 和相应的周期 T，以及我国地球物理学家研究得到的量规函数 σ_{763} (△) 测定长周期地震仪记录的面波震级 Ms_7，即:

$$Ms_7=\log(A_Z/T)+\sigma_{763}(\triangle) \qquad (3^\circ<\triangle<177^\circ)$$

$$\sigma_{763}(\triangle)=3.9+0.16(\triangle/T_P)+\log(\triangle^{1/3}(\sin\triangle)^{1/2}T_P)$$

σ_{763} (△) 是 763 长周期地震仪的量规函数[5,6]，T_P 是面波最大振幅的平均周期，它随△的增大而增加．σ_{763} (△) 在震中距△＝ (20° — 160°) 的范围内与 σ_{IASPEI} (△) 几乎完全重合，两者最大差别不超过 0.05 级[6]．由于测定 Ms_7 使用的仪器频率响应、面波分量、及量规函数与美国地震信息中心 (NEIC) 完全一致，所以除了面波路径影响的差别，Ms_7 与美国 NEIC 测定的 Msz 应该一致，两者没有系统差．σ_{IASPEI} (△) 是一个纯统计公式，而 σ_{763} (△) 是基于面波传播理论导出的公式，理论上更为合理．且 σ_{763} (△) 具有更大的震中距可用范围

(3° — 177°)．这点对于国内发生的地震（△往往小于 20°，不能用 σ_{IASPEI}（△））用中国台网测定面波震级特别重要．用上述方法和量规函数测定的震级 Ms_7 的平均误差为 0.13 级，比用 SK 仪测定 Ms 的误差 0.2 级要小．

4.体波震级 m_B 和 m_b 采用古登堡—李克特公式测定:

$$m_B \text{ 或 } m_b = \log(A_{PMZ} / T) + Q(\triangle, h)$$

A_{PMZ} 是 P 波垂直向位移，单位：微米，m_B 是用宽频带中周期 SK 仪或 763 长周期仪测定，m_b 是用短周期地震仪测定．

5.为便于使用和对比，报告中还给出了 NEIC 测定的面波震级 Msz 和短周期地震仪测定的体波震级 m_b．

6.为避免混乱，各种震级之间一律不换算．

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[2] Flinn, E. A. and Engdahl, E. R.,1965. A proposed basis for geographical and seismic regionalization, *Rev. Geophys.*, **3**, 123–149.

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[4] Willmore, P. L., 1979. *Manual of Seimological Observatory Practice,*World Data Center A for Solid Earth Geophysics, Report SE–20.

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[6] 陈培善，陈海通，白彤霞，1992，震中距△＜20° 面波震级的测定，地震地磁观测与研究，13，1，1—18.

Preface

1. The " Bulletin of Seismological Observations of Chinese Stations" is a summary of the observed data of earthquakes occurring all over the globe, especially those in China and its surrounding regions. Beginning from 1979, observational time and origin time are given in UTC. The names of Chinses places and persons are spelt with Chines phonetic alphabets while foreign names are all given in English.

2. All focal parameters are processed with a VAX / 780 computer. Jeffreys–Bullen's Seismological Tables are used in this Bulletin[1]. In addition to the data listed in this Bulletin, the observational data used to compute earthquake parameters are included many other stations inside and outside China. Arrival time residuals, gross standard deviations and standard errors of focal parameters are all listed. The location of every earthquake is expressed by its latitude and longitude, at the same time, given by seismic and geographical regionlization proposed by Flinn, Engdahl and Hill[2,3]. It should be noted that the names used to classify seismic and geographical regions are only references to their locations and does not imply any political significance.

3. The surface wave magnitude Ms is computed from records of broad–band intermediate period seismographs (SK) by employing the 1965 formula of Beijing Station (BJI):

$$Ms = \log(A_H / T) + \sigma_{BJI}(\triangle)$$

$$\sigma_{BJI}(\triangle) = 1.66\log(\triangle) + 3.5 \qquad (1^\circ < \triangle < 130^\circ)$$

Where A_H is a resultant horizontal displasement in micrometer. The calibration function $\sigma_{BJI}(\triangle)$ in the epicenter range $\triangle = 20^\circ$ — 130° is 0.2 unit larger than $\sigma_{IASPEI}(\triangle)$ recommended by IASPEI in 1967 which has already been adopted by many nations and seismological institutions in the world.

$$\sigma_{IASPEI}(\triangle) = 1.66\log(\triangle) + 3.3 \qquad (20^\circ < \triangle < 160^\circ)$$

Both the most authoritative seismological institution in the world: ISC and NEIC have been adopting the $\sigma_{IASPEI}(\triangle)$ to determine magnitude Ms. Therefore, the magnitude Ms calculated by $\sigma_{BJI}(\triangle)$ is systematically 0.2 units larger than that determined by ISC and NEIC which possess the largest aperture seismic network. The rate of attenuation of surface wave amplitude $\triangle^{-1.66}$ in the range $\triangle = 1^\circ$ — 20° characterized by $\sigma_{BJI}(\triangle)$ is so large that the Ms measured for smaller epicentral distance is too small. In spite of this, in order to keep continuity of data, the values of Ms computed by $\sigma_{BJI}(\triangle)$ are still given.

The long period seismic network consisted of type 763 long period seismographs has been set up and used since 1986. The constants of the seismographs (Ts 15s, Tg 100s, $Ds = Dg = 1.0$, $\sigma^2 < 0.1$) and its response are the same as those of WWSSN for long period seismographs. The vertical component displacement of maximum Rayleigh wave Az and corresponding period T and the calibration function $\sigma_{763}(\triangle)$ which has been studied by Chinese geophysicist are used to determine surface wave magnitude of long period seismic records Ms_7, that is:

$$Ms_7 = \log(A_Z / T) + \sigma_{763}(\triangle) \qquad (3^\circ < \triangle < 177^\circ)$$

$$\sigma_{763}(\triangle) = 3.9 + 0.16(\triangle / T_P) + \log(\triangle^{1/3}(\sin\triangle)^{1/2}T_P)$$

where $\sigma_{763}(\triangle)$ is the calibration function of surface wave magnitude for the long period seismographs[5,6], T_P is the average period with maximum surface wave amplitude for many earthquakes. It increases with the epicenters. The $\sigma_{763}(\triangle)$ in the range (20° — 160°) almost coincides with $\sigma_{IASPEI}(\triangle)$, the differences between them are less than 0.05 magnitude[6].

Because the response of the seismographs and the surface wave component and the calibration function used to determince Ms_7 are all the same as those of NEIC, so magnitude should be the same as

the Msz determined by NEIC excluding the differences of effect of path of surface wave propagation. There is no systematic differences between them. The $\sigma_{IASPEI}(\triangle)$ is a pure statistical formula, but the $\sigma_{763}(\triangle)$ is derived from the theoretical consideration of suface wave propagation, therefore $\sigma_{763}(\triangle)$ is more reasonable. The $\sigma_{763}(\triangle)$ has much more available epicenter range from 3° to 177° . This point is very important for the earthquakes occurred in China with surface wave magnitude determened by Chinese seismic network, because epicenter is usually less than 20° and $\sigma_{IASPEI}(\triangle)$ can not be available. The average error of determination of Ms_7 according to above procedure and calibration function is 0.13 magnitude. It is lees then the error (0.2) of magnitude determined by SK records.

4. Body-wave magnitudes m_B and m_b are computed by the Gutenberg-Richter formula

$$m_B \text{ or } m_b = \log(A_{PMZ} / T) + Q(\triangle, h)$$

where A_{PMZ} is the vertical displacement of P waves in micrometer, m_B is measured by broad-band intermediate period (SK) or 763 long period seismographs and m_b measured by short period ones.

5. For convenience of use and comparison, the surface wave magnitude Msz and body wave magnitude m_b recorded on short period seismograph measured by NEIC , are also listed in this Bulletin.

6. In order to avoid confusion, no conversion is made among the various magnitudes.

References

[1] Jeffreys, H. and Bullen, K. E.,1940. *Seismological Tables,*British Association, London (Reprinted, with additions, 1967).

[2] Flinn, E. A. and Engdahl, E. R.1965. A proposed basis for geographical and seismic regionalization, *Rev. Geophys.*,3, 123–149.

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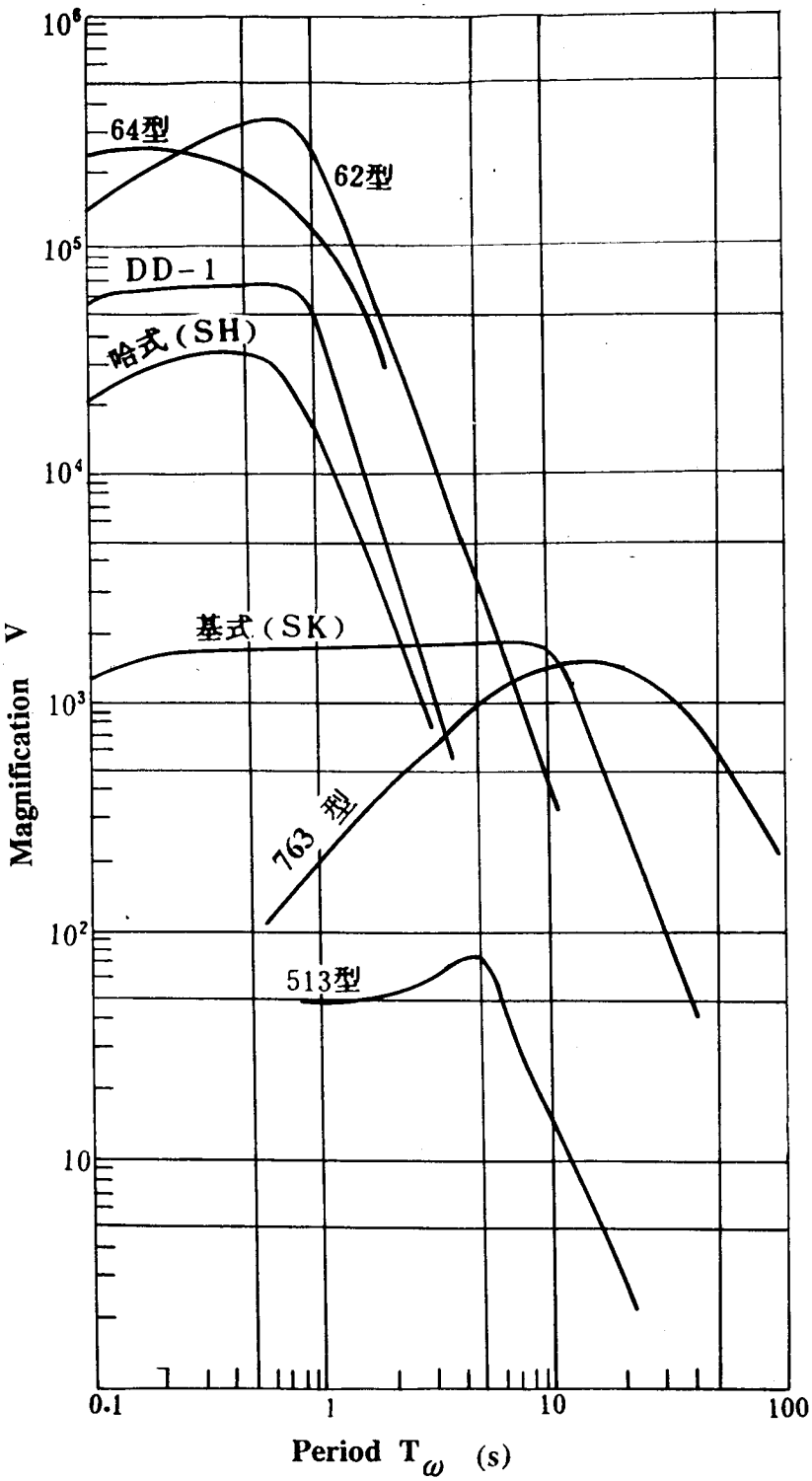
台 站 目 录

List of seismological observatories

Station name	Code	Geographic coordinates Lat. N	Long. E	Altitude (m)	Foundation	Instruments
Baotou	BTO	40° 36′ 20″	110° 01′ 15″	1114	Granite gneiss	SK,DD-1,763
Beijing	BJI	40 02 25	116 10 30	43	Gravel soil	SK,JD-2,DK-1,763
Changchun	CN2	43 48 05	125 26 54	230	Slate	SK,DK-1,DD-1,763
Chengdu	CD2	30 54 36	103 45 28	628	Conglomerate	SK,DK-1,DD=2,763
Dalian	DL2	38 54 22	121 37 42	62	Silicilith	SK,DK-1,DD-2,763
Gaotai	GTA	39 24 38	99 48 52	1341	Granite	SK,DD-2,DK-1,763
Guangzhou	GZH	23 05 13	113 20 38	11	Sandstone	SK,DD-1,DK-1,763
Guiyang	GYA	26 27 31	106 39 50	1162	Dolomite	SK,DD-1,DK-1,763
Hohhot	HHC	40 50 58	111 33 49	1154	Rhyolite	SK,DD-1,DK-1,763
Kashi	KSH	39 31 00	75 55 23	1314	Alluvial clay	SK,DD-1,DK-1,573,763
Kunming	KMI	25 07 24	102 44 24	1945	Sandstone	SK,DK-1,62,763
Lanzhou	LZH	36 05 12	103 50 48	1550	Lehm	SK,64,DK-1,763
Lhasa	LSA	29 42 00	91 09 00	3789	Granite	SK,DK-1,DD-1,763
Mudanjiang	MDJ	44 36 59	129 35 31	250	Granite	SK,DD-1,DK-1,763
Nanjing	NJ2	32 03 06	118 51 16	45	Silicarenite	SK,DD-1,DK-1,763
Quanzhou	QZH	24 56 35	118 35 30	21	Granite	SK,DD-2,DK-1,763
Qiongzhong	QZN	19 01 46	109 50 36	230	Granite	SK,DK-1,DD-1,763
Shenyang	SNY	41 49 40	123 34 41	54	Granite	SK,DD-1,DK-1,763
Sheshan	SSE	31 05 44	121 11 12	10	Andesite	SK,DD-1,DK-1,763
Tai'an	TIA	36 12 41	117 07 28	300	Amphibole granite	SK,473,DK-1,763
Taiyuan	TIY	37 42 47	112 26 03	850	Limestone	SK,DD-1,DK-1,763
Urumqi	WMQ	43 48 49	87 42 17	901	Sandstone	SK,DD-1,DK-1,763
Wuhan	WHN	30 32 37	114 21 01	26	Silicarenite	SK,DD-1,DK-1,763
Xi'an	XAN	34 02 22	108 55 17	630	Granite	SK,DD-1,DK-1,763

仪器放大倍率曲线

Response Curves of Instruments



仪 器 常 数

Constants of seismograph

表 1. SK 地震仪 (SK seismograph)

台站代号 Station code	分向 Comp.	T_1	T_2	D_1	D_2	σ^2	$V_0 * 10^3$	测定日期 Date determined
BTO	N–S	12.5	1.2	0.45	4.85	0.10	2.58	1992.12.26
	E–W	12.6	1.2	0.45	4.81	0.06	2.29	
	U–D	12.5	1.2	0.58	4.97	0.32	1.34	
BJI	N–S	12.5	1.19	0.45	4.61	0.09	2.00	1992.10.16
	E–W	12.5	1.2	0.45	5.45	0.08	1.33	
	U–D	12.5	1.2	0.45	5.10	0.29	1.05	
CN2	N–S	12.5	1.19	0.45	5.03	0.08	2.48	1992.12.07
	E–W	12.4	1.19	0.45	5.09	0.08	2.44	
	U–D	12.5	1.20	0.66	5.00	0.03	1.69	
CD2	N–S	12.5	1.2	0.45	5.0	0.04	1.40	1992.12.27
	E–W	12.5	1.2	0.45	5.0	0.04	1.40	
	U–D	12.5	1.2	0.53	5.0	0.18	1.00	
DL2	N–S	12.5	1.20	0.45	5.09	0.10	2.18	1992.10.15
	E–W	12.5	1.20	0.45	5.10	0.10	2.43	
	U–D	12.5	1.20	0.59	4.95	0.25	1.38	
GTA	N–S	12.5	1.20	0.45	4.94	0.09	1.41	1992.07.25
	E–W	12.5	1.20	0.45	4.96	0.07	1.46	
	U–D	12.5	1.20	0.56	4.95	0.30	0.97	
GZH	N–S	12.5	1.2	0.45	4.97	0.06	1.76	1992.12.07
	E–W	12.5	1.2	0.45	5.07	0.06	1.96	
	U–D	12.5	1.2	0.56	4.95	0.25	1.14	
GYA	N–S	12.5	1.20	0.45	4.94	0.09	1.41	1992.07.07
	E–W	12.5	1.20	0.45	4.96	0.07	1.46	
	U–D	12.5	1.20	0.56	4.93	0.30	0.97	
HHC	N–S	12.5	1.2	0.45	4.94	0.11	3.10	1992.10.05
	E–W	12.5	1.2	0.45	5.03	0.11	2.64	
	U–D	12.5	1.2	0.61	5.03	0.31	1.55	
KSH	N–S	12.5	1.2	0.45	4.97	0.04	1.82	1992.10.17
	E–W	12.5	1.2	0.45	4.95	0.04	1.95	
	U–D	12.5	1.2	0.56	4.98	0.32	1.27	
KMI	N–S	12.6	1.2	0.45	4.77	0.09	2.16	1992.12.22
	E–W	12.5	1.2	0.45	4.70	0.09	2.19	
	U–D	12.6	1.2	0.55	4.58	0.04	1.25	
LZH	N–S	12.5	1.2	0.45	5.02	0.08	2.12	1992.10.12
	E–W	12.5	1.2	0.45	5.09	0.08	2.13	
	U–D	12.5	1.2	0.59	4.95	0.34	1.41	

续表

台站代号 Station code	分向 Comp.	T_1	T_2	D_1	D_2	σ^2	$V_0 * 10^3$	测定日期 Date determined
LSA	N–S	12.5	1.2	0.45	4.95	0.05	1.94	1992.05.21
	E–W	12.5	1.2	0.45	4.98	0.10	2.23	
	U–D	12.5	1.2	0.53	4.92	0.30	0.98	
MDJ	N–S	12.5	1.2	0.45	4.95	0.10	2.87	1992.08.27
	E–W	12.5	1.2	0.45	4.96	0.10	2.56	
	U–D	12.5	1.2	0.61	4.96	0.31	1.33	
NJ2	N–S	12.5	1.2	0.45	5.07	0.08	1.96	1992.01.09
	E–W	12.5	1.2	0.45	4.94	0.11	2.27	
	U–D	12.5	1.2	0.45	5.08	0.29	1.67	
QZH	N–S	12.5	1.2	0.45	5.01	0.08	2.27	1992.12.20
	E–W	12.5	1.2	0.45	5.02	0.08	2.07	
	U–D	12.5	1.2	0.61	5.05	0.07	1.06	
QZN	N–S	12.5	1.2	0.45	4.92	0.04	1.72	1992.12.02
	E–W	12.5	1.2	0.45	5.00	0.04	1.69	
	U–D	12.5	1.2	0.59	5.01	0.30	1.24	
SNY	N–S	12.5	1.2	0.45	4.92	0.09	2.55	1992.03.03
	E–W	12.5	1.2	0.45	4.98	0.10	2.70	
	U–D	12.5	1.2	0.61	4.97	0.32	1.39	
SSE	N–S	12.5	1.2	0.45	5.00	0.08	2.14	1992.12.25
	E–W	12.5	1.2	0.45	4.91	0.08	2.08	
	U–D	12.5	1.2	0.54	4.95	0.25	1.13	
TIA	N–S	12.5	1.2	0.45	5.00	0.08	2.22	1992.04.20
	E–W	12.5	1.2	0.45	4.90	0.09	2.11	
	U–D	12.5	1.2	0.53	5.00	0.26	0.78	
TIY	N–S	12.5	1.2	0.45	5.07	0.07	1.59	1992.03.17
	E–W	12.5	1.2	0.45	5.07	0.07	1.64	
	U–D	12.5	1.2	0.58	5.05	0.30	1.56	
WHN	N–S	12.5	1.20	0.45	4.92	0.09	2.20	1992.05.14
	E–W	12.5	1.21	0.45	5.02	0.10	2.39	
	U–D	12.5	1.21	0.59	4.91	0.30	1.39	
WMQ	N–S	12.5	1.2	0.45	5.03	0.09	2.35	1992.10.20
	E–W	12.5	1.2	0.45	5.02	0.10	1.62	
	U–D	12.5	1.2	0.61	4.99	0.35	1.01	
XAN	N–S	12.5	1.2	0.45	4.98	0.09	2.23	1992.05.18
	E–W	12.5	1.2	0.45	4.99	0.09	2.24	
	U–D	12.5	1.2	0.62	4.96	0.31	1.32	

记录纸速：30mm / min　　Speed of record: 30mm / min
记录方式：照像纸　　Recorder type: Photo paper

表 2. 763 地震仪 (763 seismograph)

台站代号 Station code	分向 Comp.	T_s	T_g	D_s	D_g	σ^2	$V_0 * 10^3$	测定日期 Date determined
BJI	N–S	15.0	101.0	1.0	1.0	0.159	1.50	1991.06.25
	E–W	15.0	098.4	1.0	1.0	0.237	1.50	
	U–D	15.0	101.4	1.0	1.0	0.191	1.50	
CN2	N–S	15.0	100.3	1.0	1.0	0.050	0.75	1992.12.24
	E–W	15.0	100.1	1.0	1.0	0.049	0.75	
	U–D	15.0	102.7	1.0	1.0	0.132	1.50	
CD2	N–S	15.0	098.7	1.0	1.0	0.0233	0.75	1992.06.13
	E–W	15.0	103.0	1.0	1.0	0.0267	0.75	
	U–D	15.0	098.7	1.0	1.0	0.0653	1.00	
DL2	N–S	15.0	100.0	1.0	1.0	0.057	1.5	1992.10.18
	E–W	15.0	102.0	1.0	1.0	0.082	1.5	
	U–D	15.0	105.0	1.0	1.0	0.099	1.5	
GTA	N–S	15.0	099.1	1.0	1.0	0.136	1.5	1992.05.07
	E–W	15.0	095.5	1.0	1.0	0.223	1.5	
	U–D	14.9	098.5	1.0	1.0	0.354	1.5	
GZH	N–S	15.0	100.0	1.0	1.0	0.0414	0.75	1991.04.
	E–W	15.0	100.0	1.0	1.0	0.0346	0.75	
	U–D	15.0	100.0	1.0	1.0	0.0292	0.75	
GYA	N–S	15.0	100.9	1.0	1.0	0.1939	1.50	1991.07.17
	E–W	15.0	100.6	1.0	1.0	0.1935	1.50	
	U–D	15.0	101.4	1.0	1.0	0.1728	1.50	
HHC	N–S	15.0	099.0	1.0	1.0	0.038	0.75	1991.08.
	E–W	15.0	100.0	1.0	1.0	0.042	0.75	
	U–D	15.0	099.0	1.0	1.0	0.035	0.75	
KSH	N–S	15.0	099.7	1.0	1.0	0.0461	0.75	1992.10.07
	E–W	15.0	100.2	1.0	1.0	0.0314	0.75	
	U–D	15.0	099.2	1.0	1.0	0.0324	0.75	
KMI	N–S	15.0	099.3	1.0	1.0	0.0523	0.75	1992.12.04
	E–W	15.0	102.0	1.0	1.0	0.0396	0.75	
	U–D	15.0	102.7	1.0	1.0	0.0513	0.75	
LZH	N–S	15.0	101.2	1.0	1.0	0.206	1.50	1992.04.21
	E–W	15.0	098.4	1.0	1.0	0.236	1.50	
	U–D	15.0	100.1	1.0	1.0	0.231	1.80	
LSA	N–S	14.9	098.9	1.0	1.0	0.0239	0.75	1992.05.24
	E–W	15.0	096.0	1.0	1.0	0.0239	0.75	
	U–D	15.0	103.0	1.0	1.0	0.0239	0.75	

续表

台站代号 Station code	分向 Comp.	T_s	T_g	D_s	D_g	σ^2	$V_0 * 10^3$	测定日期 Date determined
MDJ	N-S	15.0	102.7	1.0	1.0	0.089	0.75	1992.06.09
	E-W	15.0	101.7	1.0	1.0	0.114	0.75	
	U-D	15.0	099.5	1.0	1.0	0.103	0.75	
NJ2	N-S	15.0	098.7	1.0	1.0	0.0544	0.75	1992.12.28
	E-W	14.9	097.0	1.0	1.0	0.0576	0.75	
	U-D	14.9	099.3	1.0	1.0	0.2020	1.50	
QZH	N-S	15.0	098.6	1.0	1.0	0.0455	0.75	1992.06.06
	E-W	15.0	099.5	1.0	1.0	0.0355	0.75	
	U-D	15.0	099.5	1.0	1.0	0.0375	0.75	
SNY	N-S	15.0	104.0	1.0	1.0	0.185	1.50	1992.02.28
	E-W	15.0	098.6	1.0	1.0	0.150	1.50	
	U-D	15.0	103.0	1.0	1.0	0.155	1.50	
SSE	N-S	15.0	97.3	1.0	1.0	0.0587	1.0	1992.11.18
	E-W	15.0	96.5	1.0	1.0	0.0929	1.0	
	U-D	15.0	95.6	1.0	1.0	0.1070	1.0	
TIA	N-S	15.0	100.0	1.0	1.0	0.191	1.50	1992.10.
	E-W	15.0	098.0	1.0	1.0	0.301	1.50	
	U-D	15.0	103.0	1.0	1.0	0.213	1.50	
TIY	N-S	15.0	99.72	1.0	1.0	0.035	0.75	1992.10.08
	E-W	15.0	100.0	1.0	1.0	0.044	0.75	
	U-D	15.0	99.96	1.0	1.0	0.034	0.75	
WHN	N-S	15.0	103.0	1.0	1.0	0.0441	0.75	1992.04.12
	E-W	15.0	095.0	1.0	1.0	0.0444	0.75	
	U-D	15.0	098.0	1.0	1.0	0.0404	0.75	
WMQ	N-S	15.0	102.4	1.0	1.0	0.16	1.51	1992.03.16
	E-W	15.0	100.7	1.0	1.0	0.20	1.60	
	U-D	15.0	100.6	1.0	1.0	0.18	1.69	
XAN	N-S	15.0	101.1	1.0	1.0	0.17	1.50	1991.11.06
	E-W	15.0	099.4	1.0	1.0	0.20	1.50	
	U-D	15.0	100.6	1.0	1.0	0.15	1.50	

记录纸速: 15mm / min　　Speed of record: 15mm / min
记录方式: 照像纸　　Recorder type: Photo paper

表 3. 短周期地震仪 (short period seismograph)

台站代号 Station code	仪器型号 Type of instrument	分向 Comp.	T_1	D_1	$V_0 * 10^4$	测定日期 Date determined	记录纸速 R_V (mm / min)	记录方式 Recorder type
BTO	DD-1	N-S	1.0	0.45	7.90	1992.05.14	120	墨水笔 Pen and ink
		E-W	1.0	0.45	7.20			
		U-D	1.0	0.45	8.75			
BJI	JD-2	N-S	1.0	0.45	9.16	1992.04.17	120	墨水笔 Pen and ink
		E-W	1.0	0.45	11.35			
		U-D	1.0	0.45	7.91			
CN2	473	N-S	1.0	0.45	9.80	1992.12.10	120	熏烟纸 Smoked paper
		E-W	1.0	0.45	8.49			
		U-D	1.0	0.45	10.70			
CD2	DD-1	N-S	1.0	0.45	5.44	1992.03.01	120	墨水笔 Pen and ink
		E-W	1.0	0.45	5.35			
		U-D	1.0	0.45	6.36			
DL2	DD-2	N-S	1.0	0.45	4.96	1992.10.29	120	墨水笔 Pen and ink
		E-W	1.0	0.45	3.59			
		U-D	1.0	0.45	5.64			
GTA	DD-2	N-S	1.0	0.45	7.81	1992.07.28	120	墨水笔 Pen and ink
		E-W	1.0	0.45	8.32			
		U-D	1.0	0.45	8.58			
GZH	DD-1	N-S	1.0	0.45	2.90	1992.03.23	120	墨水笔 Pen and ink
		E-W	1.0	0.45	2.51			
		U-D	1.0	0.45	3.98			
GYA	DD-1	N-S	1.0	0.45	6.16	1992.07.28	120	墨水笔 Pen and ink
		E-W	1.0	0.45	6.31			
		U-D	1.0	0.45	5.20			
HHC	DD-1	N-S	1.0	0.45	9.13	1992.10.22	120	墨水笔 Pen and ink
		E-W	1.0	0.45	6.57			
		U-D	1.0	0.45	8.91			
KSH	573	N-S	1.0	0.45	2.87	1992.11.26	120	熏烟纸 Smoked paper
		E-W	1.0	0.45	2.15			
		U-D	1.0	0.45	4.31			
KMI	62	N-S	2.5	0.50	3.01	1992.12.22	60	照像纸 Photo paper
		E-W	2.5	0.50	3.09			
		U-D	2.5	0.50	3.60			
LZH	64	N-S	2.5	0.50	2.55	1992.06.14	60	照像纸 Photo paper
		E-W	2.5	0.50	2.32			
		U-D	2.5	0.50	4.21			
LSA	DD-1	N-S	1.0	0.45	18.20	1992.06.10	120	墨水笔 Pen and ink
		E-W	1.0	0.45	22.96			
		U-D	1.0	0.45	15.71			

续表

台站代号 Station code	仪器型号 Type of instrument	分向 Comp.	T_1	D_1	$V_0 * 10^4$	测定日期 Date determined	记录纸速 R_V (mm / min)	记录方式 Recorder type
MDJ	DD-1	N-S E-W U-D	1.0 1.0 1.0	0.45 0.45 0.45	6.86 5.41 6.78	1992.06.11	120	墨水笔 Pen and ink
NJ2	DD-1	N-S E-W U-D	1.0 1.0 1.0	0.45 0.45 0.45	5.35 4.64 5.26	1992.03.25	120	墨水笔 Pen and ink
NJ2	DD-1	N-S E-W U-D	1.0 1.0 1.0	0.45 0.45 0.45	7.45 7.09 9.78	1992.12.15	120	墨水笔 Pen and ink
QZH	DD-2	N-S E-W U-D	1.0 1.0 1.0	0.50 0.50 0.50	3.21 3.16 2.98	1992.12.30	120	墨水笔 Pen and ink
QZN	DD-1	N-S E-W U-D	0.7 0.7 0.7	0.40 0.40 0.40	17.06 19.78 16.43	1992.12.05	120	墨水笔 Pen and ink
SNY	DD-1	N-S E-W U-D	1.0 1.0 1.0	0.45 0.45 0.45	6.26 6.24 5.42	1992.12.04	120	墨水笔 Pen and ink
SSE	DD1	N-S E-W U-D	1.0 1.0 1.0	0.45 0.45 0.45	4.54 5.42 5.91	1992.11.10	120	墨水笔 Pen and ink
TIA	473	N-S E-W U-D	1.5 1.5 1.5	0.45 0.45 0.45	19.70 18.50 6.08	1992.04.13	120	熏烟纸 Smoked paper
TIY	DD1	N-S E-W U-D	1.0 1.0 1.0	0.45 0.45 0.45	1.62 1.74 4.40	1992.04.21	120	墨水笔 Pen and ink
WHN	DD1	N-S E-W U-D	1.0 1.0 1.0	0.45 0.45 0.45	2.32 2.32 4.45	1992.05.01	120	墨水笔 Pen and ink
WMQ	DD1	N-S E-W U-D	1.0 1.0 1.0	0.45 0.45 0.45	15.35 13.63 20.01	1992.09.26	120	墨水笔 Pen and ink
XAN	DD1	N-S E-W U-D	1.0 1.0 1.0	0.45 0.45 0.45	20.90 19.40 23.50	1992.04.02	120	墨水笔 Pen and ink