

| | | | | | |
|---------|---|------|------|-----|------|
| | Z | 35.2 | 5.96 | ? | 013 |
| due | N | 99.5 | 5.37 | ... | 0065 |
| Jan. 10 | E | 98.0 | 5.43 | ... | 0044 |

| | | | | | |
|---------|---|-------|------|-----|-----|
| | Z | 11.05 | 10.6 | 703 | 002 |
| due | N | | | | |
| Nov. 16 | E | | | | |
| 1932. | | | | | |

January 1933.

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| No. | Date | Comp. | Phase | G. M. T. h m s | TP s | A μ | Δ km | Remark |
|-----|------|-------|---|--|------------------------------|-----------------------------------|---------|--|
| 277 | 1, I | IIIr | iP iPP iPP?? i1 i2 i3 F | 8 59 57 9 00 29 45 03 02 50 04 45 10 49 -- | 6 7 8 | +3 -5 -9 | 3097 | condensation |
| 278 | 3, I | IIIr | iP iPP? S L M1 M2 M3 F | 15 31 45 32 11 35 46 37 58 40 21 41 28 42 34 15 56 -- | 5 5 14 14 12 | +2 -3 -25 +26 -20 | 2468 | condensation |
| 279 | 3, I | IV | iP i(1.1)? F | 22 44 29 47 23 23 00 -- | | | | dilatation |
| 280 | 4, I | IIIr | P iS L F | 1 30 29 35 23 39 04 3 23 -- | | | 3319 | dilatation Light too weak, main phase uncertain. |
| 281 | 4, I | Ia | P S i F | 4 09 30 17 20 58 5 16 -- | | | 5155 | dilatation Light too weak, main phase uncertain. |
| 282 | 5, I | Ir | e i F | 13 58 48 14 02 19 15 -- | | | | |
| 283 | 5, I | Ir | e eS? F | 18 08 00 12 38 25 -- | | | 2959 | |
| 284 | 7, I | IIIr | P iP iP? iS I M1 M2 F | 4 11 17 26 42 15 17 17 25 19 25 20 00 6 58 -- | 5 19 15 | +3 -109 -85 | 2456 | condensation. At Minute eclipse. At minute eclipse. Out of paper on + side. |
| 285 | 7, I | IV | P iS(1.1)? F | 8 16 04 17 02 27 -- | | | 578 | Masked by micro. |

Pei-An-Ho, W. of Peiping,
China
λ: 116° 5' 45"; φ: 46° 3' 55"
h: 115m; Foundation: Granite

THE CHIUFENG SEISMIC STATION
of the
GEOLOGICAL SURVEY OF CHINA

Instruments: 200 kg. horiz.,
80 kg. vert.
Weichert;
Galitzin-Wilip.

| Weichert | V | T ₀ | ε | γ/T ₀ ² |
|-----------|------|----------------|-----|-------------------------------|
| Z | 85.5 | 5.96 | ? | .013 |
| due N | 99.5 | 5.27 | 3.5 | .0065 |
| Jan. 10 E | 98.0 | 5.43 | 3.8 | .0044 |

| Galitzin-Wilip | T ₁ | T | μ ² | π/kA |
|-----------------|----------------|------|----------------|------|
| Z | 11.05 | 10.5 | ±.03 | .002 |
| due N | | | | |
| Nov. 16 1932. E | | | | |

January 1933.

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| No. | Date | Comp. char. | Phase | G. M. T. h m s | Tp s | A μ | Δ km | Remark |
|-----|-------|-------------|--|--|----------------------------|-------------------------------|---------|---|
| 286 | 3, I | Ir | iP PP S L M ₁ M ₂ F | 6 33 33 34 00 37 30 40 02 42 23 43 36 7 48 -- | 3 14 13 | +2 -6 -7 | 2417 | condensation after shock of 284. |
| 287 | 8, I | Ir | eL F | 18 40 15 58 -- | | | | Initials masked by micro. |
| 288 | 9, I | Ir | iP iPP i iS? iSS i ₂ F | 2 08 21 09 34 10 45 13 43 15 57 16 19 3 40 -- | 7 8 8 8 16 | +5 -5 -3 -16 | | condensation May be a twin-earth- quake after i ₂ undistin- guishably superposed. |
| 289 | 10, I | Ir | eP S? I M F | 3 11 57 14 17 47 19 40 -- | 11 | -2 | 1768 | |
| 290 | 14, I | Iv | P i i F | 5 14 41 15 45 17 31 27 -- | | | | dilatation Masked by micro. |
| 291 | 15, I | Iv | e i F | 2 38 19 59 44 -- | | | | Masked by micro. |
| 292 | 15, I | Iu | iP i iS i ₁ i ₂ L ₁ L ₂ F | 18 11 16 52 19 24 20 05 23 25 30 29 21 19 08 -- | 5 7 | +2 +1 | 6476 | condensation |
| 293 | 17, I | Iv | e iS i iL M F | 0 43 30 45 59 46 20 41 47 31 1 00 -- | 4 4 8 | +4 +3 +3 | 1471 | Masked by micro. |
| 294 | 17, I | | eL F | 5 27 21 40 -- | | | | I wave of small amplitude. |

China
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Instruments: 200 kg. horiz.,
 80 kg. vert.
 Weichert;
 Galitzin-Wilip.

| Weichert | V | T ₀ | ε | γ/T ₀ ² |
|-----------|------|----------------|-----|-------------------------------|
| Z | 85.2 | 5.96 | ? | .013 |
| due N | 99.5 | 5.37 | 3.5 | .0035 |
| Jan. 10 E | 98.0 | 5.43 | 3.3 | .0044 |

| Galitzin-Wilip | T ₁ | T | μ ² | πl/kA |
|-----------------|----------------|------|----------------|-------|
| Z | 11.05 | 10.6 | -0.03 | .002 |
| due N | | | | |
| Nov. 16 1932. E | | | | |

January 1933.

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| No. | Date | Comp. Char. | Phase | G. M. T. h m s | Tp s | A μ | Δ km | Remark |
|-----|-------|-------------|--|---|----------|----------|-----------|---|
| 295 | 17, I | Iv | e S L F | 16 03 25 06 11 07 34 27 -- | | | 1628 | |
| 296 | 17, I | Iu | P PP? eL? F | 19 00 46 04 31 33 13 20 11 -- | | | | After PP, the seismogram becomes very flat. L of very small amplitude also. |
| 297 | 17, I | IIr | iP S L M F | 22 20 58 24 44 26 13 27 15 23 08 -- | 4 6 | +2 +0 | 2290 | condensation |
| 298 | 18, I | I? | e F? | 8 57 04 9 30 -- | | | | Masked by micro. |
| 299 | 18, I | | eL F | 10 00 44 11 00 -- | | | | L wave of very small amplitude, may be the same earthquake of 298. |
| 300 | 18, I | Iv | e F | 17 23 22 37 -- | | | | |
| 301 | 21, I | IIr | iP S L M F | 16 28 21 32 10 34 19 36 10 17 20 -- | 10 | +14 | 2321 | dilatation |
| 302 | 21, I | IIu | P' PP PcPcS i PPP ScPcS i ScPcSP? ScPcPcS PS PPP SS eL M W ₂ ? F | 19 34 12 37 38 05 39 47 40 46 41 37 42 44 33 46 29 47 57 48 41 57 06 20 05 57 17 59 50 18 23 10 -- | 10 12 | -2 +9 | ca. 16300 | condensation |
| 303 | 23, I | | e? F | 8 53 57 9 00 -- | | | | Greater than 180° |

Pei-An-Ho, W. of Peiping,
China

THE CHIUFENG SEISMIC STATION

Instruments: 200 kg. horiz.,

China

of the

80 kg. vert.

$\lambda: 116^{\circ} 5' 45''$; $\phi: 46^{\circ} 3' 55''$

GEOLOGICAL SURVEY OF CHINA

Weichert;

h: 115m; Foundation: Granite

Galitzin-Wilip.

| Weichert | V | T ₀ | ξ | γ/Γ_0^2 |
|-----------|------|----------------|-------|---------------------|
| Z | 85.2 | 5.96 | ? | .013 |
| due N | 99.5 | 5.37 | 3.5 | .0055 |
| Jan. 10 E | 98.0 | 5.43 | 3.8 | .0044 |

| Galitzin-Wilip | T ₁ | T | μ^2 | $\pi l/kA$ |
|----------------|----------------|------|---------|------------|
| Z | 11.05 | 10.6 | -0.03 | .002 |
| due N | | | | |
| Nov. 15 E | | | | |

January 1933.

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| No. | Date | Comp. char. | Phase | G. M. T. h m s | T _p s | A μ | Δ km | Remark |
|-----|-------|-------------|--------------------------|--|---------------------|------------|----------------|---|
| 304 | 23, I | Iv | 1P eS? F | 18 25 14 28 29 57 -- | 5 | -2 | 1344 | dilatation |
| 305 | 23, I | Ir | eP eS? M F | 19 45 42 49 35 52 43 20 00 -- | 13 | +3 | 2369 | |
| 306 | 24, I | | e F | 10 51 58 11 00 -- | | | | Very small |
| 307 | 27, I | | e? F | 13 45 07 58 -- | | | | Very small |
| 308 | 27, I | Iu | 1P i is F | 22 49 17 48 23 00 00 0 30?-- | | | 9711 | dilatation Min. marks failed; arrival times probable. |
| 309 | 29, I | Iv | P eS? eL M F | 18 09 05 12 26 14 20 16 46 37 -- | 13 | +5 | 2033 | |
| 310 | 30, I | | e F | 20 40 40 52 -- | | | | Very small |

N.B. The data were taken from Galitzin-records, otherwise mentioned.

S. P. Lee
Seismologist

China
 $\lambda: 116^{\circ} 5' 45''$; $\phi: 46^{\circ} 3' 55''$
 h: 115m; Foundation: Granite

of the
GEOLOGICAL SURVEY OF CHINA

March 1933

Ref 3202

| Weichert | V | T ₀ | ξ | γ/Γ_0^2 |
|----------|--------|----------------|-------|---------------------|
| | Z 86.0 | 5.93 | --- | .0153 |
| due | N 96.5 | 5.36 | 3.4 | .0071 |
| Mar. 1 | E 95.8 | 5.39 | 3.8 | .0100 |

| Galitzin-Wilip | T ₁ | | | |
|----------------|----------------|------|------|------|
| | Z 11.05 | 10.6 | -.03 | .002 |
| due | N | | | |
| Nov. 16 | E | | | |
| 1932. | | | | |

March 1933.3

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| No. | Date | Comp. char. | Phase | G. M. T. h m s | T _p s | A μ | Δ km | Remark |
|-----|--------|-------------|---|---|---------------------|------------|----------------|--|
| 336 | 1, III | Ir | eP S i ₁ i ₂ F | 16 17 05 21 38 22 38 23 09 46 -- | | | 2889 | |
| 337 | 2, III | | F | 4 30 44 45 -- | | | | 19 ^h -0 ^h Gali., no service due to bulb burnt up. Trace of surface wave. |
| 338 | | IIIr | P iP _{E,N} iS _{E,N} eL _N eL _E M _E M _N | 17 35 47 54 39 49 41 29? 33 44 16 21 19 | 5 5 | -18 -71 | 2481 | Dilatation Galitzin out, shortly after P. Disater earthquake of Japan. Az. N80.5°E Epi. 40°N, 145°E. M, Ca. 4 mm. Wiechert, out of limit. |
| 339 | | I | eP? S eL? M F | 22 39 31 43 20 46 10 47 42 0 00 -- | 18 | | 1859 | Masked by moda. |
| 340 | 3, III | | eL? M F | 0 30 08 32 29 1 26 -- | 12 | +2 | | Initials undistinct. |
| 341 | | Ir | eP i S F | 2 24 53 25 24 29 13 3 12 -- | 6 | -3 | 2723 | |
| 342 | | IIr | iP S L M ₁ M ₂ F | 4 42 36 46 30 48 10 51 51 52 47 6 09 -- | 5 14 12 | +13 +12 | 2382 | Condensation At minute eclipse. |
| 343 | | Iv | e S(L)? F | 6 17 23 19 00 30 -- | | | 906 | |
| 344 | | IIIr | iP iS iL M ₁ M ₂ | 9 17 32 21 13 23 15 24 51 25 59 | 15 12 | -56 +30 | 2222 | Condensation Dilatation |

| Weichert | V | T ₀ | ε | γ/Γ ₀ ² |
|----------|--------|----------------|-----|-------------------------------|
| | Z 96.0 | 5.93 | --- | .0153 |
| due | N 96.5 | 5.36 | 3.4 | .0071 |
| Mar. 1 | E 95.8 | 5.39 | 3.8 | .0100 |

| Galitzin-Wilip | T ₁ | T | μ ² | πl/kA |
|----------------|----------------|------|----------------|-------|
| | Z 11.05 | 10.6 | -.03 | .002 |
| due | N | | | |
| Nov. 16 | E | | | |
| 1932. | | | | |

March 1933.

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| No. | Date | Comp. char. | Phase | G. M. T. h m s | T _p s | A μ | Δ km | Remark |
|-----|--------|-------------|--|--|---------------------|------------|---------|------------------------------------|
| 345 | 3, III | IIr | P S L M ₁ M ₂ | 9 43 23 47 06 49 03 51 49 53 36 | 15 12 | -19 -12 | 2247 | Dilatation Masked by coda. |
| 346 | | Ir | eP S M | 10 36 59 40 37 45 26 | 15 | +7 | 2185 | Masked by coda. |
| 347 | | Ir | eP? S? M | 12 01 17 05 09 09 36 | 16 | +6 | 2358 | Masked by coda. |
| 348 | | Ir | iP S? M F | 12 18 41 22 29 28 04 17 08 -- | 13 | +3 | 2318 | Condensation At minute eclipse. |
| 349 | | Ir | eP eS iL? M F | 15 06 53 10 43 12 22 15 14 | 11 | -5 | 2333 | |
| 350 | | I | e M | 15 55 31 16 04 17 | | | | Masked by micro. |
| 351 | | Ir | eP S M F | 16 16 35 20 29 25 42 17 02 -- | | | 2382 | At minute eclipse. |
| 352 | | Ir | e eS? M | 18 52 02 55 49 19 00 49 | | | 2299 | |
| 353 | | Ir | P S eL M ₁ M ₂ | 19 12 07 16 01 18 35 20 29 21 47 | 16 11 | +9 -4 | 2382 | Condensation |
| 354 | | | e M F | 19 55 14 20 03 30 18 -- | | | | |
| 355 | | Ir | e eS? M F | 20 25 05 29 02 33 40 21 04 -- | 15 | +3 | 2419 | |
| 356 | 4, III | Ir | e? eS? M F | 6 49 02 53 06 57 41 7 32 -- | | | 2506 | Very small amplitude. |

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GEOLOGICAL SURVEY OF CHINA

Instruments: 200 kg. horiz.,
80 kg. vert.
Weichert;
Galitzin-Wilip.

| Weichert | V | T ₀ | ε | γ/Γ ₀ ² |
|----------|------|----------------|-----|-------------------------------|
| Z | 86.0 | 5.93 | --- | .0153 |
| due N | 96.5 | 5.36 | 3.4 | .0071 |
| Mar. 1 E | 95.8 | 5.39 | 3.8 | .0100 |

| Galitzin-Wilip | T ₁ | T | μ ² | πl/kA |
|-----------------|----------------|------|----------------|-------|
| Z | 11.05 | 10.6 | -.03 | .002 |
| due N | | | | |
| Nov. 16 1932. E | | | | |

March 1933.

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| No. | Date | Comp. char. | Phase | G. M. T. h m s | T _p s | A μ | Δ km | Remark |
|-----|---------|-------------|--|--|---------------------------------|---|---------|--|
| 357 | 4, III | | F | 8 35 18 42 -- | | | | Trace of surface wave. |
| 358 | | IV | e? eS? F | 18 14 49 17 18 19 02 -- | | | 1472 | |
| 359 | | IV | e? F | 20 36 27 50 -- | | | | At minute eclipses |
| 360 | | | eL F | 22 27 04 39 -- | | | | Very small amplitude. |
| 361 | 5, III | | eL F | 1 37 45 46 -- | | | | Very small amplitude. |
| 362 | | IV | P i F | 8 27 51 29 34 9 38 -- | 8 | | | Dilatation |
| 363 | | I | e M F | 20 55 51 21 01 09 13 -- | 15 | | | |
| 364 | 6, III | IIr | P i iS i iL? M F | 13 11 03 15 15 40 16 07 18 40 21 46 58 -- | 5 6 7 8 10 | +3 +4 +2 +2 +7 | 2945 | 3 ^h -8 ^h Gali., no service due to clockwork stopping. |
| 365 | | | e F | 22 55 55 23 04 -- | | | | Very small waves. |
| 366 | 10, III | Ir | e? eL M F | 7 39 40 47 04 48 42 8 06 -- | 15 | | | 5 ^h (7th)-3 ^h (8th) Gali., no service due to bulb burnt out. |
| 367 | 11, III | IIu | P SoPcS PS eL ₁ ? L ₂ M ₁ M ₂ M ₃ M ₄ M ₅ F | 2 07 16 17 52 20 28 39 30 43 07 49 32 54 13 56 57 42 3 03 13 4 09 -- | 6 15 17 15 16 15 | ca. 10000 +6 +6 -6 +7 +7 | | Condensation Disater earthquake of Los angeles, U. S. A. |
| 368 | | | F | 7 41 23 8 09 -- | | | | Surface wave of very small amplitude. |

Pei-An-Ho, W. of Peiping,
China

λ : $116^{\circ} 5' 45''$; ϕ : $46^{\circ} 3' 55''$
h: 115m; Foundation: Granite

THE CHIUFENG SEISMIC STATION

of the

GEOLOGICAL SURVEY OF CHINA

Instruments: 200 kg. horiz.,
80 kg. vert.
Weichert;
Galitzin-Wilip.

| Weichert | V | T ₀ | ξ | γ/Γ_0^2 |
|-----------|------|----------------|-------|---------------------|
| Z | 86.5 | 5.93 | --- | .0048 |
| due N | 101 | 5.33 | 3.4 | .0060 |
| Mar. 12 E | 95.0 | 5.41 | 3.5 | .0096 |

| Galitzin-Wilip | T ₁ | T | μ^2 | π/kA |
|-----------------|----------------|------|---------|----------|
| Z | 11.05 | 10.6 | -.03 | .002 |
| due N | | | | |
| Nov. 16 1932. E | | | | |

March 1933.

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| No. | Date | Comp. char. | Phase | G. M. T. h m s | Tp s | A μ | Δ km | Remark |
|-----|---------|-------------|--|--|---|--|----------------|--|
| 369 | 11, III | IIr | iP i ₁ i ₂ S L? M ₁ M ₂ M ₃ M ₄ M ₅ M ₆ F | 14 27 17 41 29 35 31 29 33 25 37 44 39 54 40 53 43 21 44 36 45 51 17 ? -- | 7 8 7 14 14 14 13 12 12 | -4 +5 +2 -21 +23 -24 -17 -12 -10 | 2623 | Condensation |
| 370 | | Iv | P _E eS _E L _E F | 19 37 30 39 56 41 34 20 ? -- | | | 1444 | Galitzin record missed. 19 ^h -21 ^h Gali., no service due to bulb burnt out. |
| 371 | 12, III | Iv | eP F | 0 21 54 40 -- | | | | |
| 372 | | Ir | eP? eS M F | 5 10 29 14 31 19 08 6 15 -- | 15 | +4 | 2481 | Masked by micro. |
| 373 | 13, III | Ir | eP eS M ₁ M ₂ F | 7 19 44 23 33 29 03 30 44 8 06 -- | 14 12 | +3 +3 | 2321 | |
| 374 | | | e? F | 16 05 37 27 -- | | | | Very small amplitude. |
| 375 | 14, III | | e? F | 1 43 50 3 ? -- | | | | Very small amplitude. |
| 376 | | | e? F | 13 08 37 36 -- | | | | 4 ^h -8 ^h Gali., no service due to clockwork stopping. |
| 377 | | Ir | eP S(L)? F | 16 13 35 17 13 39 -- | | | | |
| 378 | 15, III | Iu | iP ScPcS? F | 5 11 15 22 12 6 50 -- | | | ca. 10000 | Condensation 9 ^h -13 ^h Gali., no service due to clockwork stopping. |
| 379 | | Iu | e? eL F | 16 13 29 25 56 17 06 -- | | | | Very small amplitude. |

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China
λ: 116° 5' 45"; φ: 46° 3' 55"
h: 115m; Foundation: Granite

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GEOLOGICAL SURVEY OF CHINA

Instruments: 200 kg. horiz.,
80 kg. vert.
Weichert;
Galitzin-Wilip.

| Weichert | V | T ₀ | ε | γ/Γ ₀ ² |
|-----------|------|----------------|-----|-------------------------------|
| Z | 86.5 | 5.93 | --- | .0048 |
| due N | 101 | 5.33 | 3.4 | .0060 |
| Mar. 12 E | 95.0 | 5.41 | 3.5 | .0096 |

| Galitzin-Wilip | T ₁ | T | μ ² | π ₁ /kA |
|----------------|----------------|------|----------------|--------------------|
| Z | 11.05 | 10.6 | -.03 | .002 |
| Novduel6 N | | | | |
| 1932. E | | | | |

March 1933.

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| No. | Date | Comp. Char. | Phase | G. M. T. h m s | Tp s | A μ | Δ km | Remark |
|-----|---------|-------------|---|---|---|--|---------|--|
| 380 | 16, III | Ir | eP M? F | 9 09 32 17 26 47 -- | | | | Masked by micro. |
| 381 | 17, III | IIIr | iP i iPP iS i eL? M ₁ M ₂ M ₃ M ₄ M ₅ F | 16 02 01 03 27 43 08 45 10 10 12 40 16 11 17 11 47 18 28 20 04 19 30 -- | 10 10 8 12 18 18 16 12 15 | -3 -5 +3 +13 -71 -89 +86 +45 -53 | 4945 | Condensation |
| 382 | | IIr | P i1 i2 S i1 i2 eL M ₁ M ₂ M ₃ M ₄ M ₅ F | 19 39 15 40 51 41 49 44 36 46 13 51 49 21 54 25 55 33 57 44 58 59 20 01 47 22 56 -- | 10 11 17 16 17 15 17 | -5 +5 -21 +28 +33 -24 +28 | 3575 | Condensation At minute eclipse. |
| 383 | 18, III | Iu | eP ScPcS? M ₁ M ₂ F | 3 25 01 36 10 4 18 06 23 42 5 35 -- | 28 20 | ca. | 10000 | Masked by micro. |
| 384 | | Ir | iP i S i eL? M ₁ ? M ₂ F | 15 55 55 56 28 59 35 16 00 25 02 21 03 45 05 19 46 -- | 6 6 11 11 12 | +3 +3 -4 +4 -4 | 2210 | Dilatation At minute eclipse. |
| 385 | | Iv | eP iS(L) F | 17 37 42 39 09 54 -- | | | | Masked by micro. |
| 386 | | | F | 21 38 31 53 -- | | | | Surface wave of small amplitude. |