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KG
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105

15

Pleiades C 18568
C 18602
C 18673
C 18676
H 2679
H 2697
C 18630

Mira C 18568

Capella C 18583

β Gem C 18788
C 18789

Sirius IR 8293 Yerkes
IR 8299 Yerkes

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Contents.


| | | Page |
|---|---|---|
| C 18568 | Pleiades<br>Mira | 1-23 |
| C 18602 | Pleiades | 28-32 |
| C 18630 | Pleiades | 36-39 |
| | Capella | 52-72 |
| | Capella lines | 73 |
| | Mira lines | 82 |
| | Capella visual scale | 91 |
| C 18673 | Pleiades (1) | 40 (abandoned) |
| 18676 | " (1) | 44 |
| | Capella (1) Means for Capella | 52 |
| | Capella, wave lengths | 74 |
| | Visual scales | 91 |
| H 2679 | Pleiades | 94 |
| C18788 | β Geminorum (altitude) | 100 |
| C18789 | β Geminorum (altitude) | 110 |
| δ CMa and γ Cyg | | 112 |


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# Pleiades.

1 Prism. C- 18568.

Reduction Table pp. 2-3.
Measures and Reduction 4-11.

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2

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4 Pleiades. G - 18568 1 Prism. $\bar{n} = n \times \frac{126}{l+m+n}$

From clear film.

| Line. | # 1 H.R. 1165 m 2.96 | | | | | # 2 H.R 1142 m 3.81 | | | | | # 3 H.R. 1156 m 4.25 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| λ | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ |
| -3 | 51 | 55 | 129 | 50 | 54 | — | — | — | | | 11 | 15 | 125 | 11 | 15 |
| -2 | 57 | 61 | 129 | 56 | 60 | 22 | 26 | 127 | 22 | 26 | 13 | 16 | 125 | 13 | 16 |
| -1 | 63 | 68 | 129 | 62 | 66 | 25 | 31 | 127 | 25 | 31 | 15 | 18 | 125 | 15 | 18 |
| 0 | 68 | 77 | 129 | 66 | 75 | 27 | 36 | 127 | 27 | 36 | 16 | 22 | 125 | 16 | 22 |
| 1 | 72 | 89 | 129 | 70 | 87 | 30 | 48 | 127 | 30 | 48 | 18 | 27 | 125 | 18 | 27 |
| 2 | 75 | 97 | 129 | 73 | 95 | 34 | 59 | 127 | 34 | 59 | 21 | 35 | 125 | 21 | 35 |
| 3 | 79 | 105 | 129 | 77 | 103 | 38 | 68 | 127 | 38 | 67 | 24 | 45 | 125 | 24 | 45 |
| 4 | 84 | 112 | 129 | 82 | 109 | 44 | 80 | 127 | 44 | 79 | 29 | 57 | 125 | 29 | 57 |
| 5 | 115 | 117 | 129 | 112 | 114 | 82 | 89 | 127 | 81 | 88 | 61 | 65 | 125 | 61 | 66 |
| 6 | 96 | 119 | 129 | 94 | 117 | 58 | 94 | 127 | 58 | 93 | 42 | 73 | 125 | 42 | 74 |
| 6a | — | 124 | 129 | — | 121 | — | 101 | 127 | — | 100 | — | 82 | 125 | — | 83 |
| 7 | 110 | 127 | 129 | 107 | 124 | 76 | 107 | 127 | 75 | 106 | 61 | 91 | 125 | 62 | 92 |
| 7a | — | 129 | 129 | — | 126 | — | 114 | 127 | — | 113 | — | 100 | 125 | — | 101 |
| 8 | 119 | 129 | 128 | 116 | 127 | 92 | 117 | 127 | 91 | 116 | 80 | 104 | 125 | 81 | 105 |
| 9 | 128 | 129 | 128 | 126 | 127 | 117 | 120 | 127 | 116 | 119 | 104 | 108 | 125 | 105 | 109 |
| 10 | 123 | 129 | 128 | 121 | 127 | 103 | 121 | 126 | 103 | 121 | 91 | 110 | 125 | 92 | 111 |
| 10a | | | | | | — | 121 | 126 | — | 121 | — | 111 | 125 | — | 112 |
| 11 | | | | | | 109 | 121 | 126 | 109 | 121 | 98 | 112 | 125 | 99 | 113 |
| 12 | | | | | | 120 | 121 | 126 | 120 | 121 | 110 | 112 | 125 | 111 | 113 |
| 13 | | | | | | 120 | 121 | 126 | 120 | 121 | 110 | 113 | 125 | 111 | 114 |
| 13a | | Faint | | | | — | 121 | 126 | — | 121 | — | 112 | 125 | — | 113 |
| 13b | | spectrum | | | | — | 119 | 126 | — | 119 | — | 109 | 125 | — | 110 |
| 13c | | overlapping #1 | | | | — | 114 | 126 | — | 114 | — | 100 | 125 | — | 101 |
| 14 | | on red end. | | | | 80 | 99 | 126 | 80 | 99 | 73 | 82 | 125 | 74 | 83 |

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| # 4 H.R. 1149 m 4.02 | | | | | # 5 H.R. 1145 m 4.37 | | | | | # 6 A. H.R. 1140 m 5.43 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n | m+n | l+m+n | n̄ | m̄+n | n | m+n | l+m+n | n̄ | m̄+n | n | m+n | l+m+n | n̄ | m̄+n |
| 18 | 22 | 127 | 18 | 22 | 11 | 15 | 128 | 11 | 15 | — | — | — | | |
| 19 | 24 | 127 | 19 | 24 | 13 | 17 | 128 | 13 | 17 | — | — | — | | |
| 22 | 27 | 127 | 22 | 27 | 14 | 20 | 128 | 14 | 20 | — | — | — | | |
| 25 | 33 | 127 | 25 | 33 | 16 | 23 | 128 | 16 | 23 | — | — | — | | |
| 27 | 41 | 127 | 27 | 41 | 17 | 28 | 127 | 17 | 28 | — | — | — | | |
| 30 | 51 | 127 | 30 | 51 | 20 | 35 | 127 | 20 | 35 | 04 | 10 | 122 | 04 | 10 |
| 31 | 61 | 127 | 31 | 61 | 20 | 45 | 127 | 20 | 45 | 04 | 12 | 122 | 04 | 12 |
| 36 | 72 | 127 | 36 | 71 | 24 | 57 | 127 | 24 | 57 | 06 | 15½ | 122 | 06 | 16 |
| 75 | 81 | 127 | 74 | 80 | 60 | 66 | 127 | 60 | 65 | 18 | 21 | 122 | 19 | 22 |
| 48 | 86 | 127 | 48 | 85 | 34 | 72 | 127 | 34 | 71 | 07 | 25 | 122 | 07 | 26 |
| — | 95 | 127 | — | 94 | — | 82 | 127 | — | 81 | — | 34 | 123 | — | 35 |
| 65 | 102 | 127 | 64 | 101 | 51 | 90 | 127 | 51 | 89 | 12 | 42 | 123 | 12 | 43 |
| — | 109 | 127 | — | 108 | — | 100 | 127 | — | 99 | — | 53 | 123 | — | 54 |
| 81 | 113 | 126 | 81 | 113 | 70 | 105 | 127 | 69 | 104 | 22 | 59 | 123 | 23 | 60 |
| 113 | 116 | 126 | 113 | 116 | 105 | 110 | 127 | 104 | 109 | 59 | 65 | 123 | 60 | 67 |
| 95 | 117 | 126 | 95 | 117 | 85 | 111 | 127 | 84 | 110 | 30 | 68 | 124 | 31 | ~~70~~ 69 |
| — | 118 | 126 | — | 118 | — | 111 | 127 | — | 110 | — | 69 | 124 | — | 70 |
| 104 | 119 | 126 | 104 | 119 | 91 | 111 | 127 | 90 | 110 | 38 | 71 | 124 | 39 | 72 |
| 118 | 119 | 126 | 118 | 119 | 109 | 111 | 126 | 109 | 111 | 67 | 71 | 124 | 68 | 72 |
| 117 | 119 | 126 | 117 | 119 | 108 | 111 | 126 | 108 | 111 | 68 | 72 | 125 | 69 | 73 |
| — | 118 | 126 | — | 118 | — | 110 | 126 | — | 110 | — | 71 | 125 | — | 72 |
| — | 116 | 126 | — | 116 | — | 107 | 126 | — | 107 | — | 67 | 125 | — | 68 |
| — | 110 | 126 | — | 110 | — | 100 | 126 | — | 100 | — | 57 | 125 | — | 57 |
| 73 | 95 | 126 | 73 | 95 | 55 | 81 | 126 | 55 | 81 | 15 | 34 | 125 | 15 | 34 |

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Pleiades C-18568 1 Prism

| Line | | # 6 B | | H. R. 1140 m 5.43 | | | Bg # 7 | | H. R. 1152 m 6.46 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | λ. | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ |
| -3 | | — | — | — | | | | | | | |
| -2 | | — | — | — | | | | | | | |
| -1 | | — | — | — | | | | | | | |
| 0 | | 02 | 07 | 122 | 02 | 07 | | | | | |
| 1 | | 03 | 08 | 122 | 03 | 08 | | | | | |
| 2 | | 03 | 09 | 122 | 03 | 09 | | | | | |
| 3 | | 04 | 12 | 122 | 04 | 12 | | | | | |
| 4 | | 06 | 16 | 122 | 06 | 17 | | | | | |
| 5 | | 17 | 20 | 122 | 18 | 21 | | | | | |
| 6 | | 06 | 25 | 122 | 06 | 26 | | | | | |
| 6a | | — | 33 | 122 | — | 34 | | | | | |
| 7 | | 12 | 41 | 123 | 12 | 42 | | | | | |
| 7a | | — | 52 | 123 | — | 53 | | | | | |
| 8 | | 22 | 58 | 123 | 23 | 59 | | | | | |
| 9 | | 59 | 64 | 123 | 60 | 66 | | | | | |
| 10 | | 28 | 68 | 123 | 29 | 70 | | | | | |
| 10a | | — | 69 | 124 | — | 70 | | | | | |
| 11 | | 37 | 70 | 124 | 38 | 71 | | | | | |
| 12 | | 66 | 71 | 124 | 67 | 72 | | | | | |
| 13 | | 66 | 71 | 124 | 67 | 72 | | | | | |
| 13a | | — | 70 | 124 | — | 71 | | | | | |
| 13b | | — | 66 | 125 | — | 67 | | | | | |
| 13c | | — | 55 | 125 | — | 55 | | | | | |
| 14 | | 13 | 33 | 125 | 13 | 33 | | | | | |

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Pleiades. C-18568 Single Prism.

| n | Mag | n | Mag | n | Mag | n | Mag. | n | Mag. | n | Mag. | n | Mag. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | – | 21 | 389 | 41 | 329 | 61 | 282 | 81 | 240 | 101 | 187 | 121 | 102 |
| 2 | – | 22 | 386 | 42 | 326 | 62 | 280 | 82 | 238 | 102 | 183 | 122 | 94 |
| 3 | – | 23 | 382 | 43 | 324 | 63 | 278 | 83 | 236 | 103 | 180 | 123 | 85 |
| 4 | – | 24 | 379 | 44 | 322 | 64 | 276 | 84 | 234 | 104 | 177 | 124 | 77 |
| 5 | – | 25 | 375 | 45 | 319 | 65 | 274 | 85 | 232 | 105 | 173 | 125 | 65 |
| 6 | – | 26 | 371 | 46 | 317 | 66 | 272 | 86 | 229 | 106 | 170 | 126 | 48 |
| 7 | 490 | 27 | 368 | 47 | 315 | 67 | 269 | 87 | 227 | 107 | 166 | 127 | ÷ 20 |
| 8 | 468 | 28 | 365 | 48 | 312 | 68 | 267 | 88 | 224 | 108 | 162 | 128 | – |
| 9 | 457 | 29 | 362 | 49 | 310 | 69 | 265 | 89 | 222 | 109 | 158 | 129 | – |
| 10 | 447 | 30 | 358 | 50 | 308 | 70 | 263 | 90 | 219 | 110 | 154 | 130 | – |
| 11 | 438 | 31 | 355 | 51 | 306 | 71 | 261 | 91 | 217 | 111 | 151 | | |
| 12 | 432 | 32 | 352 | 52 | 303 | 72 | 258 | 92 | 214 | 112 | 147 | | |
| 13 | 426 | 33 | 350 | 53 | 301 | 73 | 256 | 93 | 211 | 113 | 143 | | |
| 14 | 420 | 34 | 347 | 54 | 299 | 74 | 254 | 94 | 208 | 114 | 139 | | |
| 15 | 415 | 35 | 344 | 55 | 296 | 75 | 252 | 95 | 205 | 115 | 134 | | |
| 16 | 411 | 36 | 342 | 56 | 294 | 76 | 250 | 96 | 202 | 116 | 129 | | |
| 17 | 406 | 37 | 339 | 57 | 292 | 77 | 248 | 97 | 200 | 117 | 125 | | |
| 18 | 402 | 38 | 337 | 58 | 290 | 78 | 246 | 98 | 197 | 118 | 120 | | |
| 19 | 398 | 39 | 334 | 59 | 287 | 79 | 244 | 99 | 193 | 119 | 114 | | |
| 20 | 394 | 40 | 331 | 60 | 285 | 80 | 242 | 100 | 190 | 120 | 108 | | |

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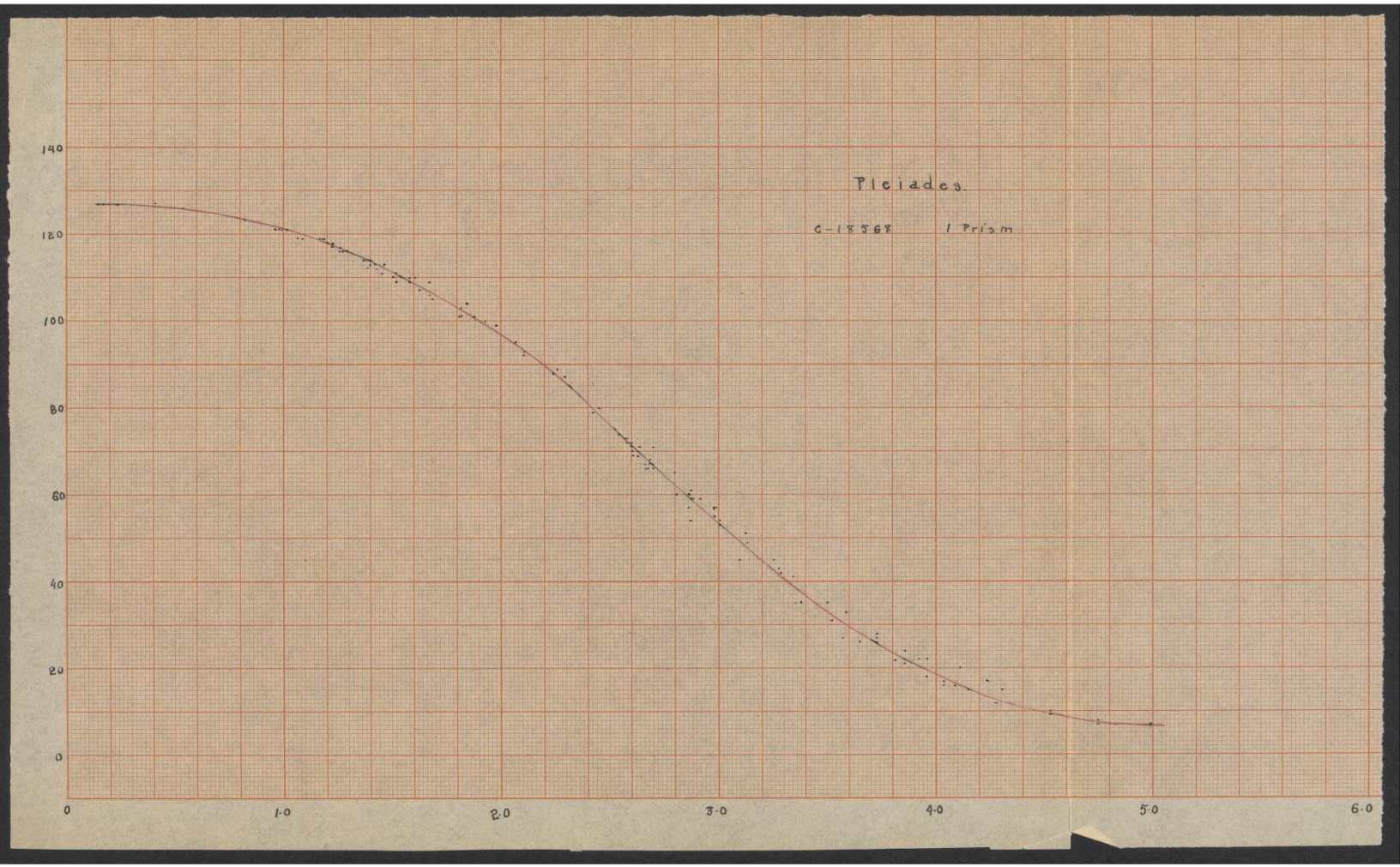


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8 Pleiades C-18568 1 Prism

| Line | λ | #1 | | May 2.96 | | | #2 | | May 3.81 | | | #3 | | May 4.25 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | | n̄ | m+n | [n] | [m+n] | Δm | n̄ | m+n | [n] | [m+n] | Δm | n̄ | m+n | [n] | [m+n] | Δm |
| -3 | | 50 | 54 | 308 | 299 | 09 | | | | | | 11 | 15 | 438 | 415 | 23 |
| -2 | | 56 | 60 | 294 | 285 | 09 | 22 | 26 | 386 | 371 | 15 | 13 | 16 | 426 | 411 | 15 |
| -1 | | 62 | 66 | 280 | 272 | 08 | 25 | 31 | 375 | 355 | 20 | 15 | 18 | 415 | 402 | 13 |
| 0 | | 66 | 75 | 272 | 252 | 20 | 27 | 36 | 368 | 342 | 26 | 16 | 22 | 411 | 386 | 25 |
| 1 | | 70 | 87 | 263 | 227 | 36 | 30 | 48 | 358 | 312 | 46 | 18 | 27 | 402 | 368 | 34 |
| 2 | | 73 | 95 | 256 | 205 | 51 | 34 | 59 | 347 | 287 | 60 | 21 | 35 | 389 | 344 | 45 |
| 3 | | 77 | 103 | 248 | 180 | 68 | 38 | 67 | 337 | 269 | 68 | 24 | 45 | 379 | 319 | 60 |
| 4 | | 82 | 109 | 238 | 158 | 80 | 44 | 79 | 322 | 244 | 78 | 29 | 57 | 362 | 292 | 70 |
| 5 | | 112 | 114 | 147 | 139 | 08 | 81 | 88 | 240 | 224 | 16 | 61 | 66 | 282 | 272 | 10 |
| 6 | | 94 | 117 | 208 | 125 | 83 | 58 | 93 | 290 | 211 | 79 | 42 | 74 | 326 | 254 | 72 |
| 6a | | | | | | | | | | | | | | | | |
| 7 | | 107 | 124 | 166 | 77 | 89 | 75 | 106 | 252 | 170 | 82 | 62 | 92 | 280 | 214 | 66 |
| 7a | | | | | | | | | | | | | | | | |
| 8 | | 116 | 127 | 129 | ÷ 20 | 109 | 91 | 116 | 217 | 129 | 88 | 81 | 105 | 240 | 173 | 67 |
| 9 | | 126 | 127 | 48 | ÷ 20 | 28 | 116 | 119 | 129 | 114 | 15 | 105 | 109 | 173 | 158 | 15 |
| 10 | | 121 | 127 | 102 | ÷ 20 | 82 | 103 | 121 | 180 | 102 | 78 | 92 | 111 | 214 | 151 | 63 |
| 10a | | | | | | | | | | | | | | | | |
| 11 | | | | | | | 109 | 121 | 158 | 102 | 56 | 99 | 113 | 193 | 143 | 50 |
| 12 | | | | | | | 120 | 121 | 108 | 102 | 06 | 111 | 113 | 151 | 143 | 08 |
| 13 | | | | | | | 120 | 121 | 108 | 102 | 06 | 111 | 114 | 151 | 139 | 12 |
| 13a | | | | | | | | | | | | | | | | |
| 13b | | | | | | | | | | | | | | | | |
| 13c | | | | | | | | | | | | | | | | |
| 14 | | | | | | | 80 | 89 | 242 | 222 | 20 | 74 | 83 | 254 | 236 | 18 |

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| Mean Am | #4 | Mag 4.02 | | | | | #5 | Mag. 4.37 | | | | | #6 A/B | Mag. 5.43 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $\overline{n}$ | $\overline{m+n}$ | [n] | [m+n] | Δm | | $\overline{n}$ | $\overline{m+n}$ | [n] | [m+n] | Δm | | $\overline{n}$ | $\overline{m+n}$ | [n] | [m+n] | Δm |
| 18 | 18 | 22 | 402 | 386 | 16 | | 11 | 15 | 438 | 415 | 23 | | | | | | |
| 16 | 19 | 24 | 398 | 379 | 19 | | 13 | 17 | 426 | 406 | 20 | | | | | | |
| 17 | 22 | 27 | 386 | 368 | 18 | | 14 | 20 | 420 | 394 | 26 | | | | | | |
| 25 | 25 | 33 | 375 | 350 | 25 | | 16 | 23 | 411 | 382 | 29 | | 02 | 07 | | | |
| 39 | 27 | 41 | 368 | 329 | 39 | | 17 | 28 | 406 | 365 | 41 | | 03 | 08 | | | |
| | | | | | | | | | | | | | 04 | 10 | | | |
| 52 | 30 | 51 | 358 | 306 | 52 | | 20 | 35 | 394 | 344 | 50 | | 03 | 09 | | | |
| | | | | | | | | | | | | | 04 | 12 | | | |
| 69 | 31 | 61 | 355 | 282 | 73 | | 20 | 45 | 394 | 319 | 75 | | 04 | 12 | | | |
| | | | | | | | | | | | | | 06 | 16 | | | |
| 79 | 36 | 71 | 342 | 261 | 81 | | 24 | 57 | 379 | 292 | 87 | | 06 | 17 | | | |
| | | | | | | | | | | | | | 19 | 22 | 398 | 386 | 12 |
| | | | | | | | | | | | | | | | | 398 | 12 |
| 12 | 74 | 80 | 254 | 242 | 12 | | 60 | 65 | 285 | 274 | 11 | | 18 | 21 | 402 | 389 | 13 |
| | | | | | | | | | | | | | 07 | 26 | 490 | 371 | 119 |
| 86 | 48 | 85 | 312 | 232 | 80 | | 34 | 71 | 347 | 261 | 86 | | 06 | 26 | | | 119 |
| | | | | | | | | | | | | | 12 | 43 | 432 | 324 | 108 |
| 86 | 64 | 101 | 276 | 187 | 89 | | 51 | 89 | 306 | 222 | 84 | | 12 | 42 | 432 | 326 | 107 106 |
| | | | | | | | | | | | | | 23 | 60 | 382 | 285 | 97 |
| 91 | 81 | 113 | 240 | 143 | 99 | | 69 | 104 | 265 | 177 | 88 | | 23 | 59 | 382 | 287 | 96 95 |
| | | | | | | | | | | | | | 60 | 67 | 285 | 269 | 16 |
| 18 15 | 113 | 116 | 143 | 129 | 14 | | 104 | 109 | 177 | 158 | 19 | | 60 | 66 | 285 | 272 | 14 13 |
| | | | | | | | | | | | | | 31 | 69 | 355 | 265 | 090 |
| 80 79 | 95 | 117 | 205 | 125 | 80 | | 84 | 110 | 234 | 154 | 80 | | 29 | 70 | 362 | 263 | 94 99 |
| | | | | | | | | | | | | | 39 | 72 | 334 | 258 | 76 |
| 62 | 104 | 119 | 177 | 114 | 63 | | 90 | 110 | 219 | 154 | 65 | | 38 | 71 | 337 | 261 | 76 76 |
| | | | | | | | | | | | | | 68 | 72 | 267 | 258 | 09 |
| 07 | 118 | 119 | 120 | 114 | 06 | | 109 | 111 | 158 | 151 | 07 | | 67 | 72 | 269 | 258 | 10 11 |
| | | | | | | | | | | | | | 69 | 73 | 265 | 256 | 09 |
| 10 | 117 | 119 | 125 | 114 | 11 | | 108 | 111 | 162 | 151 | 11 | | 67 | 72 | 269 | 258 | 10 11 |
| | | | | | | | | | | | | | 15 | 34 | 415 | 347 | 68 |
| 43 2 | 73 | 95 | 256 | 205 | 50 | | 55 | 81 | 296 | 240 | 56 | | 13 | 33 | 426 | 350 | 72 76 |

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Pleiades C-18568 1 Prism

| Line | | Bα #7 | | H.R. 1152 m 6.46. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | λ | n | m+n | [n] | [m+n] | Δm | | | | | | | | | | | |

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# o Ceti.

1 Prism. C-18568

(Nov. 4-5, 1926)

Reduction by Pleiades Table. pp. 2-3.

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o Ceti. C-18568. 1 Prism. $\bar{n} = n \frac{126}{m+n+l}$

From Clear film.

| Line No. | λ | n | m+n | l+m+n | $\bar{n}$ | m+n | [n] | [m+n] | Δm | C 18579 Δm |
|---|---|---|---|---|---|---|---|---|---|---|
| -20 | | 03 | 07 | 126 | | | | | | |
| -19 | | 05 | 07 | 126 | | | | | | |
| -18 | | 04 | 07½ | 126 | | | | | | |
| -17 | | 05 | 07½ | 126 | | | | | | |
| -16 | | 04 | 08 | 126 | | | | | | |
| -15 | | 20 | 08½ | 126 | | | 394 | 462 | -68 | |
| -14 | | 07 | 09 | 126 | | | 490 | 457 | +33 | |
| -13 | | 06 | 09 | 126 | | | | 457 | | |
| -12 | | 08 | 09 | 126 | | | 468 | 457 | 11 | |
| -11 | | 06 | 09½ | 126 | | | | 452 | | |
| -10 | | 08 | 09½ | 126 | | | 468 | 452 | +16 | |
| -9 | | 20 | 10 | 126 | | | 394 | 447 | -53 | |
| -8 | | 07 | 10 | 126 | | | 490 | 447 | +43 | |
| -7 | | 08½ | 10 | 126 | | | 462 | 447 | 15 | |
| -6 | | 08½ | 10½ | 126 | | | 462 | 442 | 20 | |
| -5 | | 09 | 11 | 126 | | | 457 | 438 | 19 | |
| -4 | | 08 | 11 | 126 | | | 468 | 438 | 30 | |
| -3 | | 07 | 11 | 126 | | | 490 | 438 | 52 | |
| -2 | | 06 | 12 | 126 | | | | 432 | | |
| -1 | | 06 | 12 | 126 | | | | 432 | | |
| -0 | | 10 | 12½ | 126 | | | 447 | 429 | +18 | |
| 1 | | 36 | 13 | 126 | | | 342 | 426 | -84 | |
| 1 a | | 06 | 13 | 126 | | | | 426 | | |
| b | | 11 | 14 | 126 | | | 438 | 420 | +18 | |
| c | | 11 | 15 | 126 | | | 438 | 415 | 23 | |
| d | | 12 | 15 | 126 | | | 432 | 415 | 17 | 42 |
| e | | 08 | 16 | 126 | | | 468 | 411 | 57 | |
| f | | 07 | 16 | 126 | | | 490 | 411 | 79 | |
| g | | 12 | 17 | 126 | | | 432 | 406 | 26 | |
| h | | 17 | 17½ | 126 | | | 406 | 404 | 02 | 39 |

1924phae.proj.110P

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| Line No. | λ. | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | [n] | [m+n] | Δm | c/1874 Δm |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 i | | ~~18~~ 13 | ~~23~~ 18 | 126 | | | 426 | 402 | 24 | 08 |
| j | | 12 | 18 | 126 | | | 432 | 402 | 30 | 36 |
| 2 | | 10 | 19 | 126 | | | 447 | 398 | 49 | 28 |
| 3 | | 14 | 20 | 126 | | | 420 | 394 | 26 | 28 |
| 4 | | 12 | 20 | 126 | | | 432 | 394 | + 38 | + 76 |
| 5 | | 79 | 20 | 126 | | | 244 | 394 | − 150 | − 176 |
| 6 | | 20 | 21 | 126 | | | 394 | 389 | + 05 | 06 |
| 7 | | 14 | 22 | 126 | | | 420 | 386 | 34 | + 31 |
| 8-9 | | 14 | 23 | 126 | | | 420 | 382 | + 38 | + 36 |
| 9 x | | 32 | 24 | 126 | | | 352 | 379 | − 27 | − 36 |
| 9 a | | 18 | 25 | 126 | | | 402 | 375 | + 27 | + 23 |
| b | | 21 | 26 | 126 | | | 389 | 371 | 18 | 30 |
| c | | 21 | 27 | 126 | | | 389 | 368 | 21 | 04 |
| d | | 13 | 29 | 126 | | | 426 | 362 | 60 | 80 |
| e | | 06 | 31 | 126 | | | | 355 | | |
| 10 | | 04 | 32 | 126 | | | | 352 | | |
| 10 a | | 07 | 32 | 126 | | | 490 | 352 | 138 | |
| b | | 15 | 33 | 126 | | | 415 | 350 | 65 | 80 |
| c | | 14 | 34 | 126 | | | 420 | 347 | 73 | 103 |
| d | | 22 | 35 | 126 | | | 386 | 344 | 42 | 48 |
| e | | 31 | 36 | 126 | | | 355 | 342 | 13 | 22 |
| f | | 22 | 39 | 126 | | | 386 | 334 | 52 | 54 |
| g | | 13 | 40 | 126 | | | 426 | 331 | 95 | 118 |
| 11 | | 07 | 43 | 126 | | | 490 | 324 | 166 | |
| 12-14 | | 34 | 47 | 126 | | | 347 | 315 | 32 | 48 |
| 16 | | 40 | 51 | 126 | | | 331 | 306 | 25 | 38 |
| 17-19 | | 47 | 53 | 126 | | | 315 | 301 | 14 | 21 |
| 20-21 | | 44 | 54 | 126 | | | 322 | 299 | 23 | 32 |
| 22-23 | | 54 | 56 | 126 | | | 299 | 294 | 05 | 05 |
| 24 | | 54 | 56 | 126 | | | 299 | 294 | 05 | |

1924phae.proj.1106P

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o Ceti  C-18568  1 Prism  $\bar{n} = n \frac{126}{l+m+n}$

| Line No. | λ | n | m+n | l+m+n | $\bar{n}$ | m+n | [n] | [m+n] | Δm | C-18574 Δm |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 | | 49 | 57 | 126 | | | 310 | 292 | 18 | 29 |
| 30 | | 53 | 60 | 126 | | | 301 | 285 | 16 | 20 |
| 31 | | 55 | 60 | 126 | | | 296 | 285 | 11 | |
| 32 | | 50 | 61 | 126 | | | 308 | 282 | 26 | 25 |
| 33 | | 59 | 62 | 126 | | | 287 | 280 | 07 | 00 |
| 34 | | 45 | 63 | 126 | | | 319 | 278 | 41 | 40 |
| 35 | | 47 | 63 | 126 | | | 315 | 278 | + 37 | 40 |
| 36 | | 67 | 64 | 126 | | | 269 | 276 | − 07 | − 11 |
| 39 | | 51 | 66 | 126 | | | 306 | 272 | + 34 | 39 |
| 41 | | 66 | 67 | 126 | | | 272 | 269 | 03 | 00 |
| 42 | | 60 | 68 | 126 | | | 285 | 267 | 18 | 16 |
| 43 | | 61 | 68 | 126 | | | 282 | 267 | 15 | 17 |
| 44 | | 61 | 69 | 126 | | | 282 | 265 | 17 | 25 |
| 45 | | 66 | 70 | 126 | | | 272 | 263 | 09 | |
| 46 | | 70 | 70 | 126 | | | 263 | 263 | 00 | 00 |
| 47 | | 64 | 71 | 126 | | | 276 | 261 | 15 | 16 |
| 48 | | 50 | 71 | 125 | 50 | 72 | 308 ~~308~~ | 358 ~~261~~ | 50 | 56 |
| 49 | | 66 | 72 | 125 | 67 | 73 | 269 ~~272~~ | 256 ~~258~~ | 13 | 16 |
| 50 | | 71 | 73 | 125 | 72 | 74 | 258 ~~261~~ | 254 ~~256~~ | 04 | +20 |
| 51-52 | | 70 ~~122~~ | 73 | 125 | 71 | 74 | 261 ~~263~~ | 254 ~~256~~ | + 07 | |
| 53 | | 122 | 74 | 125 | 123 | 75 | 85 ~~94~~ | 252 ~~254~~ | − 167 | − 180 |
| 54 | | 70 | 75 | 125 | 71 | 76 | 261 ~~263~~ | 250 ~~252~~ | + 11 | + 06 |
| 55-57 | | 64 | 75 | 125 | 65 | 76 | 274 ~~276~~ | 250 ~~252~~ | 24 | 30 |
| 63 | | 70 | 77 | 125 | 71 | 78 | 261 ~~263~~ | 246 ~~248~~ | 15 | 19 |
| 66 | | 66 | 78 | 125 | 67 | 79 | 269 ~~272~~ | 244 ~~246~~ | 25 | 33 |
| 67 | | 69 | 78 | 125 | 70 | 79 | 263 ~~265~~ | 244 ~~246~~ | 19 | |
| 68 | | 68 | 78 | 125 | 69 | 79 | 265 ~~267~~ | 244 ~~246~~ | 21 | |
| 69a | | 75 | 78 | 125 | 76 | 79 | 250 ~~252~~ | 244 ~~246~~ | 06 | |
| 71 | | 70 | 79 | 125 | 71 | 80 | 261 ~~263~~ | 242 ~~244~~ | 19 | |
| 73 | | 72 | 80 | 125 | 73 | 81 | 256 ~~258~~ | 240 ~~242~~ | 16 | |

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1924phae.proj.11000P



| Line No | λ | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | [n] | [m+n] | Δm |
|---|---|---|---|---|---|---|---|---|---|
| 75 | | 72 | 80 | 125 | 73 | 81 | 256 | 240 | 16 |
| 78 | | 79 | 80 | 125 | 80 | 81 | 242 | 240 | 02 |
| 80 | | 79 | 80 | 125 | 80 | 81 | 242 | 240 | 02 |
| 82-3 | | 69 | 81 | 125 | 70 | 82 | 263 | 238 | 25 |
| 85-7 | | 75 | 82 | 125 | 76 | 83 | 250 | 236 | 14 |
| 88 | | 71 | 82 | 125 | 72 | 83 | 258 | 236 | 22 |
| 90 | | 75 | 82 | 125 | 76 | 83 | 250 | 236 | 14 |
| 91 | | 76½ | 82 | 125 | 77 | 83 | 248 | 236 | 12 |
| 93 | | 71 | 83 | 125 | 72 | 84 | 258 | 234 | 24 |
| 95-6 | | 76 | 83 | 125 | 77 | 84 | 248 | 234 | 14 |
| 97-9 | | 76 | 83 | 125 | 77 | 84 | 248 | 234 | 14 |
| 100 | | 70 | 83 | 125 | 71 | 84 | 261 | 234 | 27 |
| 101 | | 67 | 84 | 125 | 68 | 85 | 267 | 232 | 35 |
| 102 | | 69 | 84 | 125 | 70 | 85 | 263 | 232 | 31 |
| 104 | | 51 | 84 | 125 | 52 | 85 | 303 | 232 | 71 |
| 105 | | 75 | 85 | 125 | 76 | 86 | 250 | 229 | 21 |
| 108-9 | | 84 | 85 | 125 | 85 | 86 | 232 | 229 | 03 |
| 110 | | 78 | 85 | 125 | 79 | 86 | 244 | 229 | 15 |
| 111 | | 75 | 86 | 125 | 76 | 87 | 250 | 227 | 23 |
| 112-14 | | 76 | 86 | 125 | 77 | 87 | 248 | 227 | 21 |
| 115-17 | | 82 | 86 | 125 | 83 | 87 | 236 | 227 | 09 |
| 118-19 | | 72 | 87 | 125 | 73 | 88 | 256 | 224 | 32 |
| 120-22 | | 76 | 87 | 125 | 77 | 88 | 248 | 224 | 24 |
| 123 | | 74 | 87 | 125 | 75 | 88 | 252 | 224 | 28 |
| 124 | | 80 | 88 | 125 | 81 | 89 | 240 | 222 | 18 |
| 125 | | 75 | 88 | 125 | 76 | 89 | 250 | 222 | 28 |
| 128 | | 76 | 88 | 125 | 77 | 89 | 248 | 222 | 26 |
| 130 | | 75 | 89 | 125 | 76 | 90 | 250 | 219 | 31 |
| 131-33 | | 78 | 89 | 125 | 79 | 90 | 244 | 219 | 25 |
| 134 | | 77 | 89 | 125 | 78 | 90 | 246 | 219 | 27 |

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O Ceti. C-1958 Prism $\bar{n} = n \frac{126}{l+m+n}$.

| Line No. | λ. | n | m+n | l+m+n | $\bar{n}$ | m+n | [n] | [m+n] | Δm |
|---|---|---|---|---|---|---|---|---|---|
| 135 | | 77 | 89 | 125 | 78 | 90 | 246 | 219 | 27 |
| 136 | | 82 | 89 | 125 | 83 | 90 | 236 | 219 | + 17 |
| 138 | | 118 | 90 | 125 | 119 | 91 | 114 | 217 | − 103 |
| 139 | | 83 | 90 | 125 | 84 | 91 | 234 | 217 | + 17 |
| 140 | | 77 | 91 | 125 | 78 | 92 | 246 | 214 | 32 |
| 142 | | 81 | 91 | 125 | 82 | 92 | 238 | 214 | 24 |
| 146 | | 86 | 91 | 125 | 87 | 92 | 227 | 214 | 13 |
| 147 | | 91 | 92 | 125 | 92 | 93 | 214 | 211 | 03 |
| 150 | | 86 | 92 | 125 | 87 | 93 | 227 | 211 | 16 |
| 153 | | 85 | 92 | 125 | 86 | 93 | 229 | 211 | 18 |
| 154 | | 82 | 93 | 125 | 83 | 94 | 236 | 208 | 28 |
| 155-56 | | 85 | 93 | 125 | 86 | 94 | 229 | 208 | 21 |
| 157-58 | | 83 | 93 | 125 | 84 | 94 | 234 | 208 | 26 |
| 159-60 | | 90 | 94 | 125 | 91 | 95 | 217 | 205 | 08 |
| 161-64 | | 75 | 94 | 125 | 76 | 95 | 250 | 205 | 45 |
| 165 | | 80 | 95 | 125 | 81 | 96 | 240 | 202 | 38 |
| 170-71 | | 83 | 96 | 125 | 84 | 97 | 234 | 200 | 34 |
| 172-76 | | 71 | 96 | 125 | 72 | 97 | 258 | 200 | 58 |
| 177-78 | | 83 | 97 | 125 | 84 | 98 | 234 | 197 | 37 |
| 180 | | 87 | 96 | 125 | 88 | 97 | 224 | 200 | 24 |
| 181-83 | | 85 | 98 | 125 | 86 | 99 | 229 | 193 | 36 |
| 184 | | 86 | 98 | 125 | 87 | 99 | 227 | 193 | 34 |
| 186 | | 80 | 98 | 125 | 81 | 99 | 240 | 193 | 47 |
| 188 | | 85 | 99 | 125 | 86 | 100 | 229 | 190 | 39 |
| 189 | | 87 | 99 | 125 | 88 | 100 | 224 | 190 | 34 |
| 191 | | 88 | 99 | 125 | 89 | 100 | 222 | 190 | 32 |
| 193 | | 90 | 99 | 125 | 91 | 100 | 217 | 190 | 27 |
| 195 | | 93 | 100 | 125 | 94 | 101 | 208 | ~~190~~ 187 | 21 |
| 198-200 | | 85 | 100 | 125 | 86 | 101 | 229 | 187 | 42 |
| 201 | | 97 | 103 | 125 | 98 | 104 | 195 | 187 | 10 |

1924phae.proj.110IP

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| Line No | λ | n | m+n | l+m+n | n̄ | m+n̄ | [n] | [m+n] | Δm |
|---|---|---|---|---|---|---|---|---|---|
| 202a | | 101 | 101 | 125 | 102 | 102 | 183 | 183 | 00 |
| 203 | | 99 | 101 | 125 | 100 | 102 | 190 | 183 | 07 |
| 206-8 | | 62 | 101 | 125 | 63 | 102 | 278 | 183 | 95 |
| 213 | | 96 | 101 | 125 | 97 | 102 | 200 | 183 | 17 |
| 213a | | 97 | 101 | 125 | 98 | 102 | 197 | 183 | 14 |
| 216 | | 67 | 101 | 125 | 68 | 102 | 267 | 183 | 84 |
| 218-19 | | 69 | 101 | 125 | 70 | 102 | 263 | 183 | 80 |
| 221 | | 72 | 101 | 125 | 72 | 102 | 258 | 183 | 75 |
| 223-4 | | 75 | 101 | 125 | 76 | 102 | 250 | 183 | 67 |
| 226 | | 87 | 101 | 125 | 88 | 102 | 224 | 183 | 41 |
| 227 | | 89 | 101 | 125 | 90 | 102 | 219 | 183 | 36 |
| 229 | | 73 | 101 | 125 | 74 | 102 | 254 | 183 | 71 |
| 231 | | 80 | 101 | 125 | 81 | 102 | 240 | 183 | 57 |
| 237 | | 95 | 101 | 125 | 96 | 102 | 202 | 183 | 19 |
| 238 | | 96 | 101 | 125 | 97 | 102 | 200 | 183 | 17 |
| 239 | | 92 | 101 | 125 | 93 | 102 | 211 | 183 | 28 |
| 240-41 | | 87 | 101 | 125 | 88 | 102 | 224 | 183 | 41 |
| 242-3 | | 93 | 101 | 125 | 94 | 102 | 208 | 183 | 25 |
| 246 | | 93 | 101 | 125 | 94 | 102 | 208 | 183 | 25 |
| 250-51 | | 102 | 102 | 125 | 103 | 103 | 180 | 180 | 00 |
| 252-5 | | 30 | 101 | 125 | 30 | 102 | 358 | 183 | 175 |
| 256 | | 61 | 100 | 125 | 61 | 101 | 282 | 187 | 95 |
| 257-9 | | 61 | 100 | 125 | 61 | 101 | 282 | 187 | 95 |
| 262-4 | | 78 | 99 | 125 | 79 | 100 | 244 | 190 | 54 |
| 265-6 | | 41 | 98 | 125 | 41 | 99 | 329 | 193 | 136 |
| 275 | | 75 | 97 | 125 | 76 | 98 | 250 | 197 | 53 |
| 279-80 | | 58 | 96 | 125 | 58 | 97 | 290 | 200 | +90 |
| 281 | | #79 | #66 | 125 | 80 | 67 | 242 | 269 | −27 |
| 282 | | 65 | 95 | 125 | 66 | 96 | 272 | 202 | +70 |
| 285 | | 73 | 94 | 125 | 74 | 95 | 254 | 205 | 49 |

1924phac.proj.1101P

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1924phae.proj.110IP



o Ceti. C 18568. 1 Prism. $\bar{n} = n \frac{126}{l+m+n}$

| Line No. | λ | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | [n] | [m+n] | Δm |
|---|---|---|---|---|---|---|---|---|---|
| 287-9 | | 76 | 93 | 125 | 77 | 94 | 248 | 208 | 40 |
| 292 | | 84 | 92 | 125 | 85 | 93 | 232 | 211 | 21 |
| 296-8 | | 89 | 91 | 125 | 90 | 92 | 219 | 214 | 05 |
| 299 | | 90 | 90 | 125 | 91 | 91 | 217 | 217 | 00 |
| 301 | | | | | | | | | |
| 303 | | | | | | | | | |
| 309 | | | | | | | | | |
| 310-12 | | | | | | | | | |
| 316 | | | | | | | | | |

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1924phae.proj.11PIP



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1924phae.proj.110MP



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1924phae.proj.11PIP



Pleiades.

C-18602 1 Prism.

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Pleiades. C-18602. Glass Scale #1 Steel Scale

115/113

| $\bar{x}$ | [x] | $\bar{x}$ | [x] | $\bar{x}$ | [x] | $\bar{x}$ | [x] | $\bar{x}$ | [x] | $\bar{x}$ | [x] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 130 | | 110 | 154 | 90 | 207 | 70 | 252 | 50 | 296 | 30 | 341 | 10 | 464 |
| 129 | | 109 | 158 | 89 | 209 | 69 | 254 | 49 | 298 | 29 | 350 | 9 | 473 |
| 128 | | 108 | 161 | 88 | 211 | 68 | 256 | 48 | 300 | 28 | 354 | 8 | |
| 127 | 15 | 107 | 164 | 87 | 213 | 67 | 259 | 47 | 302 | 27 | 359 | 7 | |
| 126 | 61 | 106 | 167 | 86 | 216 | 66 | 261 | 46 | 305 | 26 | 363 | 6 | |
| 125 | 75 | 105 | 169 | 85 | 218 | 65 | 263 | 45 | 308 | 25 | 367 | 5 | |
| 124 | 88 | 104 | 172 | 84 | 220 | 64 | 265 | 44 | 310 | 24 | 371 | 4 | |
| 123 | 96 | 103 | 174 | 83 | 222 | 63 | 267 | 43 | 312 | 23 | 376 | 3 | |
| 122 | 104 | 102 | 177 | 82 | 224 | 62 | 270 | 42 | 314 | 22 | 381 | 2 | |
| 121 | 110 | 101 | 179 | 81 | 227 | 61 | 272 | 41 | 317 | 21 | 387 | 1 | |
| 120 | 115 | 100 | 182 | 80 | 229 | 60 | 274 | 40 | 319 | 20 | 392 | | |
| 119 | 120 | 99 | 184 | 79 | 231 | 59 | 276 | 39 | 322 | 19 | 397 | | |
| 118 | 125 | 98 | 187 | 78 | 234 | 58 | 279 | 38 | 324 | 18 | 404 | | |
| 117 | 129 | 97 | 190 | 77 | 236 | 57 | 281 | 37 | 327 | 17 | 410 | | |
| 116 | 133 | 96 | 192 | 76 | 238 | 56 | 283 | 36 | 330 | 16 | 418 | | |
| 115 | 137 | 95 | 195 | 75 | 241 | 55 | 285 | 35 | 332 | 15 | 425 | | |
| 114 | 140 | 94 | 197 | 74 | 243 | 54 | 287 | 34 | 334 | 14 | 432 | | |
| 113 | 144 | 93 | 200 | 73 | 245 | 53 | 290 | 33 | 337 | 13 | 440 | | |
| 112 | 147 | 92 | 202 | 72 | 247 | 52 | 292 | 32 | 340 | 12 | 448 | | |
| 111 | 150 | 91 | 205 | 71 | 250 | 51 | 294 | 31 | 342 | 11 | 457 | | |

1924phae.proj.1106P

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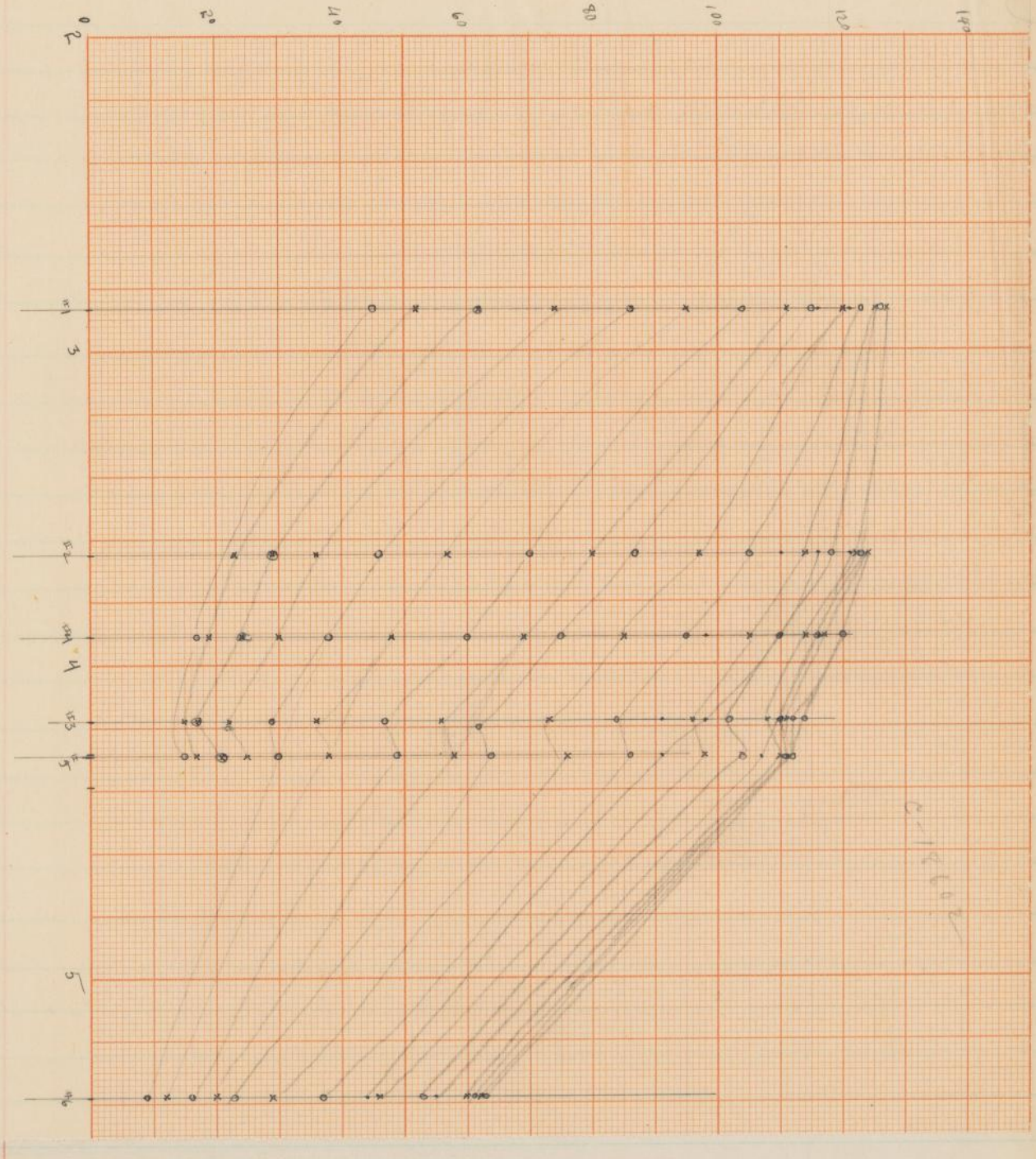


1924phae.proj.1100P

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1924phae.proj.110KP



# Pleiades. C-18602. 1 Prism. $\bar{n} = n \frac{121}{l+m+n}$

| Line | | #1 | | Mag 2.87 | | | #2 | | Mag 3.65 | | | #4 | | Mag 3.91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | λ. | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ |
| -4 | | 1 | | | | | | | | | | 09 | 14 | 127 | 09 | 14 |
| -3 | | | | | | | | | | | | 11 | 15 | 127 | 11 | 15 |
| -2 | | 40 | 45 | 126 | 40 | 45 | | | | | | 13 | 17 | 127 | 13 | 17 |
| -1 | | 46 | 52 | 126 | 46 | 52 | 17 | 23 | 126 | 17 | 23 | 14 | 19 | 127 | 14 | 19 |
| 0 | | 49 | 62 | 126 | 49 | 62 | 20 | 29 | 126 | 20 | 29 | 17 | 24 | 127 | 17 | 24 |
| 1 | | 54 | 73 | 126 | 54 | 74 | 21 | 36 | 126 | 21 | 36 | 19 | ~~25~~ 30 | 127 | 19 | ~~25~~ 30 |
| 2 | | 58 | 85 | 126 | 59 | 86 | 26 | 46 | 127 | 26 | 46 | 21 | 38 | 127 | 21 | 38 |
| 3 | | 62 | 94 | 126 | 62 | 95 | 28 | 57 | 127 | 28 | 57 | 22 | 48 | 127 | 22 | 48 |
| 4 | | 68 | 103 | 126 | 69 | 104 | 34 | 70 | 127 | 34 | 70 | 26 | 60 | 128 | 26 | 60 |
| 5 | | 106 | 110 | 126 | 107 | 111 | 73 | 80 | 127 | 73 | 80 | 63 | 70 | 128 | 63 | 69 |
| 6 | | 86 | 114 | 126 | 87 | 115 | 48 | 87 | 127 | 48 | 87 | 39 | 76 | 128 | 39 | 75 |
| 6a | | – | 119 | 126 | – | 120 | – | 97 | 127 | – | 97 | – | 86 | 128 | – | 85 |
| 7 | | 104 | 122 | 126 | 105 | 123 | 70 | 105 | 127 | 70 | 105 | 56 | 96 | 128 | 56 | 95 |
| 7a | | – | 124 | 126 | – | 125 | – | 114 | 127 | – | 114 | – | 106 | 128 | – | 105 |
| 8 | | 116 | 125 | 126 | 117 | 126 | 90 | 118 | 127 | 90 | 118 | 79 | 111 | 128 | 78 | 110 |
| 9 | | 125 | 126 | 126 | 126 | 127 | 119 | 122 | 127 | 119 | 122 | 112 | 115 | 128 | 111 | 114 |
| 10 | | 122 | 126 | 126 | 123 | 127 | 105 | 123 | 127 | 105 | 123 | 94 | 117 | 128 | 93 | 116 |
| 10a | | – | 126 | 126 | – | 127 | – | 124 | 127 | – | 124 | – | 118 | 128 | – | 117 |
| 11 | | 124 | 126 | 126 | 125 | 127 | 112 | 124 | 127 | 112 | 124 | 103 | 120 | 128 | 102 | 119 |
| 12 | | | | | | | 123 | 124 | 127 | 123 | 124 | 118 | 120 | 128 | 117 | 119 |
| 13 | | | | | | | 123 | 125 | 128 | 122 | 124 | 119 | 121 | 128 | 118 | 120 |
| a | | | | | | | – | 124 | 128 | – | 123 | – | 120 | 128 | – | 119 |
| b | | | | | | | – | 122 | 128 | – | 121 | – | 118 | 129 | – | 116 |
| c | | | | | | | – | 117 | 128 | – | 116 | – | 112 | 129 | – | 110 |
| 14 | | | | | | | 76 | 98 | 128 | 75 | 97 | 63 | 89 | 129 | 62 | 88 |

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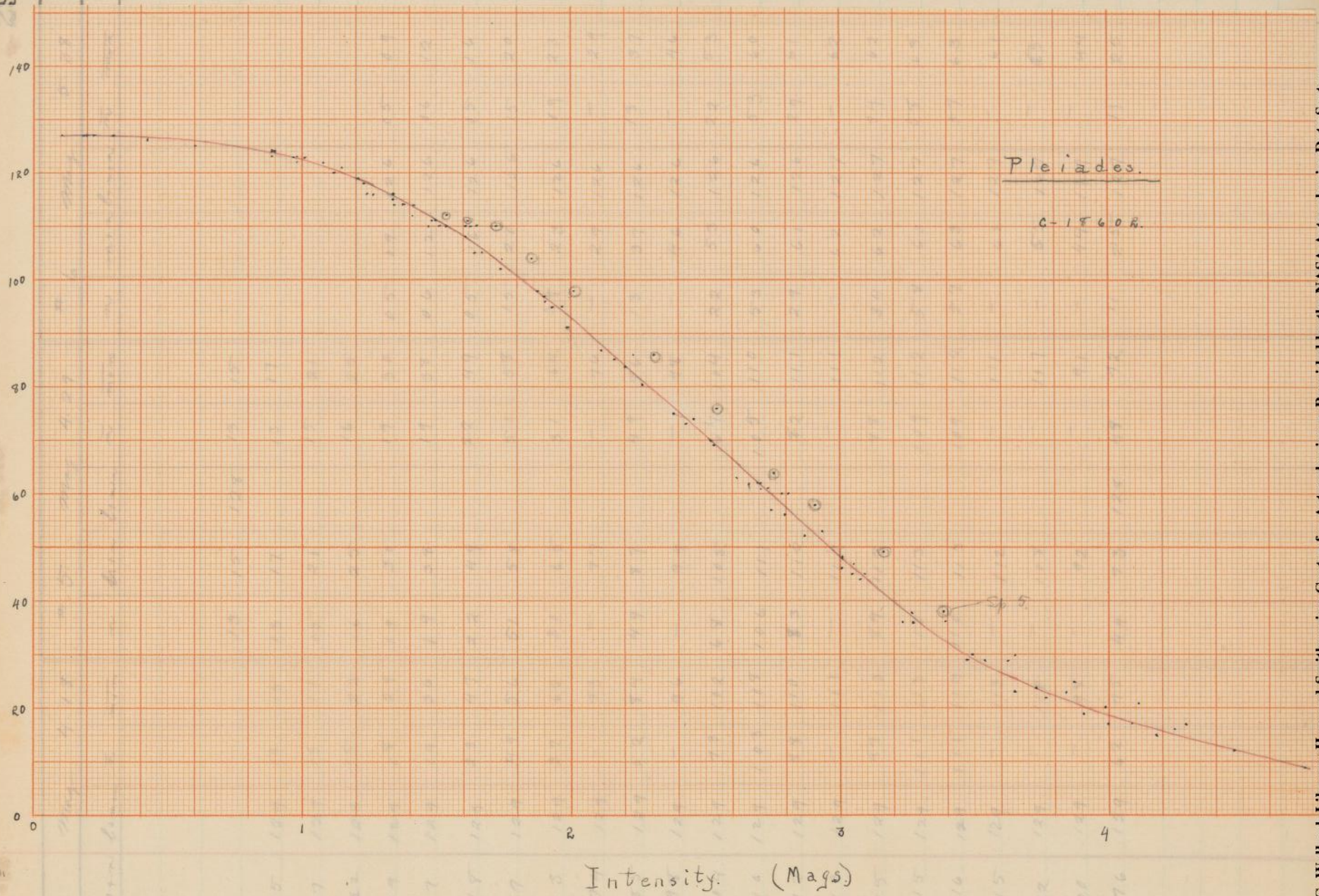


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1924phae.proj.110ap

| # 3 | | May 4.18 | | | # 5 | | May 4.29 | | | # 6 | | May 5.38 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ |
| | | | | | 13 | 15 | 128 | 13 | 15 | | | | | |
| 12 | 15 | 129 | 12 | 15 | 13 | 17 | | 13 | 17 | | | | | |
| 13 | 17 | 129 | 13 | 17 | 15 | 21 | | 15 | 21 | | | | | |
| 15 | 22 | 129 | 15 | 22 | 16 | 25 | | 16 | 25 | | | | | |
| 18 | 29 | 129 | 18 | 29 | 19 | 30 | | 19 | 30 | 05 | 09 | 126 | 05 | 09 |
| 19 | 37 | 129 | 19 | 36 | 19 | 38 | | 19 | 38 | 06 | 12 | 126 | 06 | 12 |
| 23 | 48 | 129 | 23 | 47 | 22 | 49 | | 22 | 49 | 05 | 16 | 126 | 05 | 16 |
| 56 | 57 | 129 | 49 | 56 | 51 | 58 | | 51 | 58 | 15 | 20 | 126 | 15 | 20 |
| 33 | 63 | 129 | 32 | 62 | 31 | 65 | | 31 | 64 | 09 | 23 | 126 | 09 | 23 |
| — | 74 | 129 | — | 73 | — | 77 | | — | 76 | — | 29 | 126 | — | 29 |
| 53 | 85 | 129 | 52 | 84 | 49 | 87 | | 49 | 86 | 13 | 37 | 126 | 13 | 37 |
| — | 98 | 129 | — | 96 | — | 99 | | — | 98 | — | 46 | 126 | — | 46 |
| 74 | 104 | 129 | 73 | 102 | 68 | 105 | | 67 | 104 | 22 | 53 | 126 | 22 | 53 |
| 105 | 110 | 129 | 103 | 108 | 106 | 111 | | 105 | 110 | 53 | 60 | 126 | 53 | 60 |
| 89 | 112 | 129 | 88 | 110 | 83 | 112 | | 82 | 111 | 29 | 61 | 126 | 29 | 61 |
| — | 113 | 129 | — | 111 | — | 112 | | — | 111 | — | 62 | 127 | — | 62 |
| 99 | 115 | 129 | 97 | 113 | 89 | 113 | | 88 | 112 | 34 | 62 | 127 | 34 | 62 |
| 113 | 115 | 129 | 111 | 113 | 110 | 113 | | 109 | 112 | 58 | 63 | 127 | 58 | 63 |
| 113 | 116 | 129 | 111 | 114 | 110 | 113 | | 109 | 112 | 57 | 63 | 127 | 57 | 63 |
| — | 115 | 129 | — | 113 | — | 112 | | — | 111 | — | 61 | 127 | — | 61 |
| — | 112 | 129 | — | 110 | — | 108 | | — | 107 | — | 55 | 127 | — | 55 |
| — | 100 | 129 | — | 98 | — | 92 | | — | 91 | — | 44 | 127 | — | 44 |
| 63 | 76 | 129 | 62 | 75 | 49 | 73 | 128 | 48 | 72 | 11 | 25 | 127 | 11 | 25 |

1924phae.proj.1100P

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1924phae.proj.110MP



Pleiades C-18602

| No | Line | #1 | | 2.87 | | | #2 | | 3.65 | | | #4 | | 3.91 | | | Line |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $\bar{n}$ | $\overline{m+n}$ | $[n]$ | $[m+n]$ | $\Delta m$ | $\bar{n}$ | $\overline{m+n}$ | $[n]$ | $[m+n]$ | $\Delta m$ | $\bar{n}$ | $\overline{m+n}$ | $[n]$ | $[m+n]$ | $\Delta m$ | |
| -4 | H π | | | | | | | | | | | 09 | 14 | 473 | 432 | 41 | -4 |
| -3 | o | | | | | | | | | | | 11 | 15 | 457 | 425 | 32 | -3 |
| -2 | ξ | 40 | 45 | 319 | 308 | 11 | | | | | | 13 | 17 | 440 | 410 | 30 | -2 |
| -1 | ν | 46 | 52 | 305 | 292 | 13 | 17 | 23 | 410 | 376 | 34 | 14 | 19 | 432 | 397 | 35 | -1 |
| 0 | μ | 49 | 62 | 298 | 270 | 18 | 20 | 29 | 392 | 350 | 42 | 17 | 24 | 410 | 371 | 39 | 0 |
| 1 | λ | 54 | 74 | 287 | 243 | 44 | 21 | 36 | 377 | 330 | 57 | 19 | 30 | 397 | 346 | 51 | 1 |
| 2 | κ | 59 | 86 | 276 | 216 | 60 | 26 | 46 | 363 | 305 | 58 | 21 | 38 | 387 | 324 | 63 | 2 |
| 3 | i | 62 | 95 | 270 | 195 | 75 | 28 | 57 | 354 | 281 | 73 | 22 | 48 | 381 | 300 | 81 | 3 |
| 4 | θ | 69 | 104 | 254 | 172 | 82 | 34 | 70 | 334 | 252 | 82 | 26 | 60 | 363 | 274 | 89 | 4 |
| 5 | | 107 | 111 | 164 | 150 | 14 | 73 | 80 | 245 | 229 | 16 | 63 | 69 | 267 | 254 | 13 | 5 |
| 6 | η | 87 | 115 | 213 | 137 | 76 | 48 | 87 | 300 | 213 | 87 | 39 | 75 | 322 | 241 | 81 | 6 |
| 7 | δ | 105 | 123 | 169 | 96 | 73 | 70 | 105 | 252 | 169 | 83 | 56 | 95 | 283 | 195 | 88 | 7 |
| 8 | ε | 117 | 126 | 129 | 61 | 68 | 90 | 118 | 207 | 125 | 82 | 78 | 110 | 234 | 154 | 80 | 8 |
| 9 | | 126 | 127 | 61 | ÷15 | ÷46 | 119 | 122 | 120 | 104 | 16 | 111 | 114 | 150 | 140 | 10 | 9 |
| 10 | δ | 123 | 127 | 96 | ÷15 | ÷81 | 105 | 123 | 169 | 96 | 73 | 93 | 116 | 200 | 133 | 67 | 10 |
| 11 | γ | 125 | 127 | 75 | ÷15 | ÷60 | 112 | 124 | 147 | 87 | 60 | 102 | 119 | 177 | 120 | 57 | 11 |
| 12 | | | | | | | 123 | 124 | 96 | 87 | 09 | 117 | 119 | 129 | 120 | 09 | 12 |
| 13 | | | | | | | 122 | 124 | 104 | 87 | 17 | 118 | 120 | 125 | 115 | 10 | 13 |
| 14 | H β | | | | | | 75 | 97 | 241 | 190 | 51 | 62 | 88 | 270 | 211 | 59 | 14 |

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| Line | No. 3 | | 4.18 | | | # 5 | | 4.29 | | | # 6 | | 5.38 | | | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $\bar{n}$ | $\overline{m+n}$ | $[n]$ | $[m+n]$ | $\Delta m$ | $\bar{n}$ | $\overline{m+n}$ | $[n]$ | $[m+n]$ | $\Delta m$ | $\bar{n}$ | $\overline{m+n}$ | $[n]$ | $[m+n]$ | $\Delta m$ | $\Delta m$ |
| -4 | | | | | | | | | | | | | | | | |
| -3 | | | | | | | | | | | | | | | | |
| -2 | | | | | | 13 | 15 | 440 | 425 | 15 | | | | | | |
| -1 | 12 | 15 | 448 | 425 | 23 | 13 | 17 | 440 | 410 | 30 | | | | | | |
| 0 | 13 | 17 | 440 | 410 | 30 | 15 | 21 | 425 | 387 | 38 | | | | | | |
| 1 | 15 | 22 | 425 | 381 | 44 | 16 | 25 | 418 | 367 | 51 | | | | | | |
| 2 | 18 | 29 | 404 | 350 | 54 | 19 | 30 | 397 | 346 | 51 | 05 | 09 | | | | |
| 3 | 19 | 36 | 397 | 330 | 67 | 19 | 38 | 397 | 324 | 73 | 06 | 12 | | | | |
| 4 | 23 | 47 | 376 | 302 | 74 | 22 | 49 | 381 | 298 | 83 | 05 | 16 | | | | |
| 5 | 49 | 56 | 298 | 283 | 15 | 51 | 58 | 294 | 279 | 15 | 15 | 20 | 425 | 392 | 33 | |
| 6 | 32 | 62 | 340 | 270 | 70 | 31 | 64 | 343 | 265 | 78 | 09 | 23 | 473 | 376 | 94 | |
| 7 | 52 | 84 | 292 | 220 | 72 | 49 | 86 | 298 | 216 | 82 | 13 | 37 | 440 | 327 | 113 | |
| 8 | 73 | 102 | 245 | 177 | 68 | 67 | 104 | 259 | 172 | 87 | 22 | 53 | 381 | 290 | 91 | |
| 9 | 103 | 108 | 174 | 161 | 13 | 105 | 110 | 169 | 154 | 15 | 53 | 60 | 290 | 274 | 16 | |
| 10 | 88 | 110 | 211 | 154 | 57 | 82 | 111 | 224 | 150 | 74 | 29 | 61 | 350 | 272 | 78 | |
| 11 | 97 | 113 | 190 | 144 | 46 | 88 | 112 | 211 | 147 | 64 | 34 | 62 | 334 | 270 | 64 | |
| 12 | 111 | 113 | 150 | 144 | 06 | 109 | 112 | 158 | 147 | 11 | 58 | 63 | 279 | 267 | 12 | |
| 13 | 111 | 114 | 150 | 140 | 10 | 109 | 112 | 158 | 147 | 11 | 57 | 63 | 281 | 267 | 14 | |
| 14 | 62 | 75 | 270 | 241 | 29 | 49 | 72 | 298 | 247 | 51 | 11 | 25 | 457 | 367 | 90 | |

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# Pleiades.

C-18630.

(Plate taken with Tel E; hence Spect. #1 is overlapped in violet region; and is thus useless.)

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1924phae.proj.11GIF



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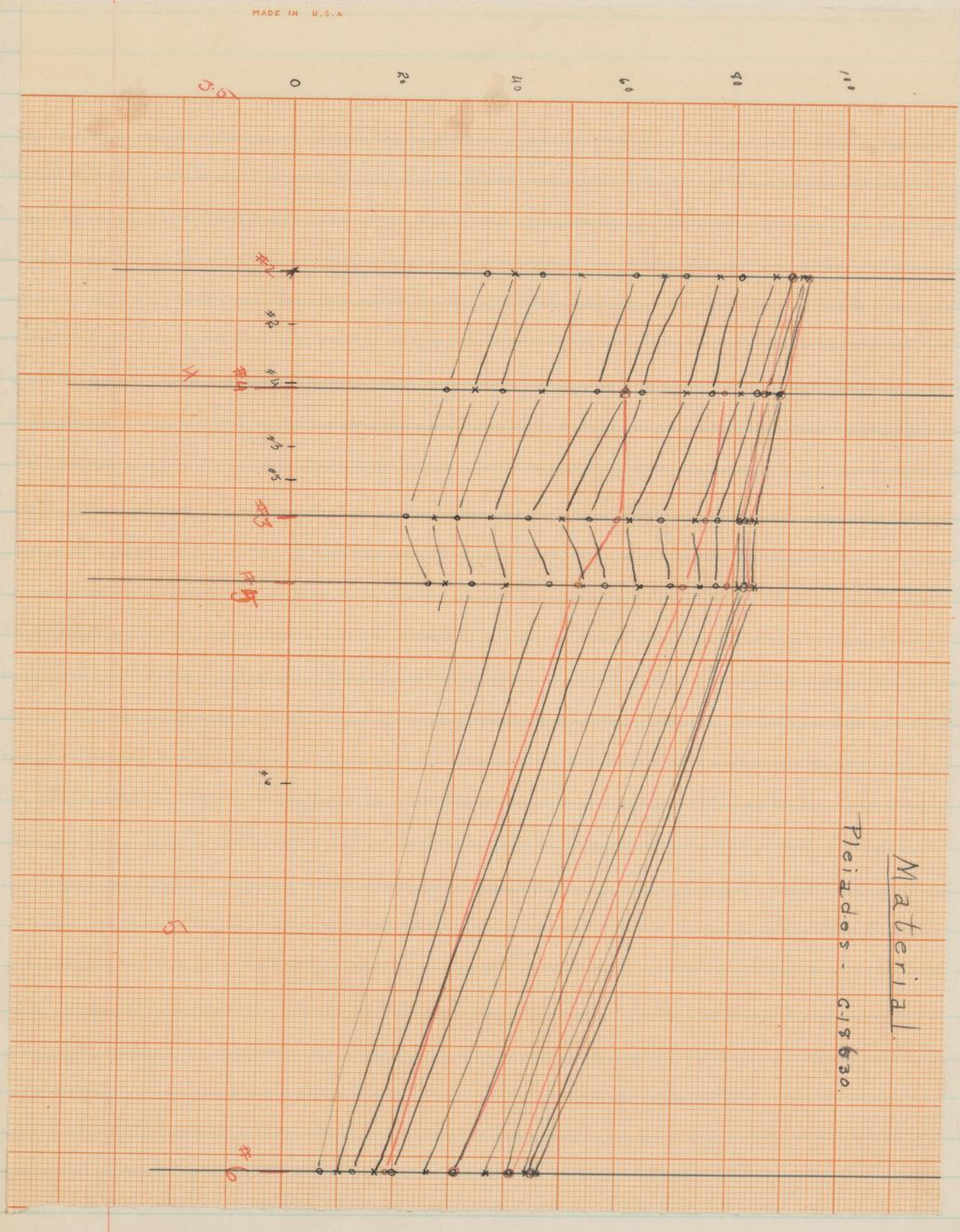


1924phae.proj.11BMP

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1924phae.proj.1106P

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| Sums | | | | | | | | | | | | | | | | |
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# Pleiades G-18630.

| Dec. | Mag. | D. | M. | D. | M. | D. | M. | D. | M. |
|---|---|---|---|---|---|---|---|---|---|
| 100 | | 80 | 67 | 60 | 126 | 40 | 185 | 20 | 256 |
| 99 | | 79 | 71 | 59 | 129 | 39 | 188 | 19 | 260 |
| 98 | | 78 | 74 | 58 | 132 | 38 | 191 | 18 | 265 |
| 97 | | 77 | 77 | 57 | 135 | 37 | 194 | 17 | 270 |
| 96 | | 76 | 80 | 56 | 138 | 36 | 197 | 16 | 275 |
| 95 | | 75 | 83 | 55 | 141 | 35 | 200 | 15 | 280 |
| 94 | | 74 | 86 | 54 | 144 | 34 | 203 | 14 | 286 |
| 93 | 05 | 73 | 89 | 53 | 147 | 33 | 207 | 13 | 291 |
| 92 | 11 | 72 | 92 | 52 | 150 | 32 | 211 | 12 | 296 |
| 91 | 17 | 71 | 95 | 51 | 153 | 31 | 215 | 11 | 301 |
| 90 | 23 | 70 | 98 | 50 | 156 | 30 | 219 | 10 | 307 |
| 89 | 28 | 69 | 101 | 49 | 159 | 29 | 222 | 9 | 312 |
| 88 | 32 | 68 | 104 | 48 | 162 | 28 | 225 | 8 | 317 |
| 87 | 36 | 67 | 107 | 47 | 165 | 27 | 229 | 7 | 323 |
| 86 | 40 | 66 | 109 | 46 | 168 | 26 | 233 | 6 | |
| 85 | 45 | 65 | 112 | 45 | 170 | 25 | 236 | 5 | |
| 84 | 50 | 64 | 115 | 44 | 173 | 24 | 240 | 4 | |
| 83 | 54 | 63 | 118 | 43 | 176 | 23 | 244 | 3 | |
| 82 | 58 | 62 | 120 | 42 | 179 | 22 | 248 | 2 | |
| 81 | 62 | 61 | 123 | 41 | 182 | 21 | 252 | 1 | |

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Pleiades G-18630.

$\bar{n} = n \frac{97}{l+m+n}$

Glass Scale.

| Line. | | # 2 | | Mag. H.R. 3.81 | | | # 4 | | Mag. H.R 4.02 | | | # 3 | | Mag. H.R 4.25 | | | Line |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | λ. | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | No. |
| -2 | | 23 | 26 | 97 | 23 | 26 | | | | | | | | | | | -2 |
| -1 | | 26 | 30 | 97 | 26 | 30 | 19 | 24 | 96 | 19 | 24 | | | | | | -1 |
| 0 | | 28 | 35 | | 28 | 35 | 22 | 28 | 96 | 22 | 28 | 15 | 21 | 95 | 15 | 21 | 0 |
| 1 | | 29 | 40 | | 29 | 40 | 22 | 33 | | 22 | 33 | 17 | 25 | 95 | 17 | 26 | 1 |
| 2 | | 31 | 45 | | 31 | 45 | 24 | 38 | | 24 | 38 | 20 | 29 | | 20 | 30 | 2 |
| 3 | | 33 | 52 | | 33 | 52 | 26 | 45 | | 26 | 45 | 20 | 35 | | 20 | 36 | 3 |
| 4 | | 35 | 62 | | 35 | 62 | 28 | 54 | | 28 | 55 | 23 | 42 | 94 | 24 | 43 | 4 |
| 5 | | 64 | 67 | | 64 | 67 | 54 | 59 | | 55 | 60 | 42 | 47 | 94 | 43 | 49 | 5 |
| 6 | | 43 | 71 | | 43 | 71 | 34 | 63 | | 34 | 63 | 32 | 52 | 94 | 33 | 54 | 6 |
| 6a | | – | 77 | | – | 77 | – | 70 | | – | 71 | – | 59 | | – | 61 | 6a |
| 7 | | 53 | 81 | | 53 | 81 | 45 | 75 | | 45 | 76 | 41 | 65 | | 42 | 67 | 7 |
| 7a | | – | 87 | | – | 87 | – | 80 | | – | 81 | – | 71 | | – | 73 | 7a |
| 8 | | 66 | 90 | | 66 | 90 | 53 | 83 | | 54 | 84 | 54 | 75 | | 56 | 77 | 8 |
| 9 | | 89 | 92 | | 89 | 92 | 83 | 86 | 97 | 83 | 86 | 74 | 78 | 93 | 77 | 81 | 9 |
| 10 | | 74 | 92 | | 74 | 92 | 64 | 88 | 97 | 64 | 88 | 61 | 79 | 93 | 64 | 82 | 10 |
| 10a | | – | 92 | | – | 92 | – | 88 | | – | 88 | – | 79 | | – | 82 | 10a |
| 11 | | 80 | 93 | | 80 | 93 | 71 | 89 | 98 | 70 | 88 | 67 | 80 | 92 | 70 | 84 | 11 |
| 12 | | 90 | 93 | | 90 | 93 | 87 | 89 | 98 | 86 | 88 | 78 | 80 | 92 | 82 | 84 | 12 |
| 13 | | 91 | 93 | | 91 | 93 | 89 | 90 | | 88 | 89 | 77 | 80 | | 81 | 84 | 13 |
| 13a | | – | 93 | 97 | – | 93 | – | 89 | | – | 88 | – | 79 | | – | 83 | a |
| b | | – | 90 | 97 | – | 90 | – | 86 | | – | 85 | – | 76 | 91 | – | 81 | b |
| c | | | | | | | – | 79 | | – | 78 | – | 69 | | – | 74 | c |
| 14 | | | | | | | 42 | 61 | 98 | 42 | 60 | 47 | 55 | 91 | 50 | 59 | 14 |

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| Line No. | #5 | | Mag. H.R. 4.37 | | | #6 | | Mag. H.R. 5.43 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | n | min | l-min | n̄ | min̄ | n | min | l-min | n̄ | min̄ |
| -2 | | | | | | | | | | |
| -1 | | | | | | | | | | |
| 0 | 19 | 25 | 97 | 19 | 25 | | | | | |
| 1 | 20 | 28 | 97 | 20 | 28 | | | | | |
| 2 | 22 | 33 | | 22 | 33 | 03 | 07 | 94 | 03 | 07 |
| 3 | 23 | 39 | | 23 | 39 | 03 | 10 | 94 | 03 | 10 |
| 4 | 23 | 47 | | 23 | 47 | 02 | 13 | | 02 | 13 |
| 5 | 47 | 53 | | 47 | 53 | 14 | 16 | | 14 | 17 |
| 6 | 31 | 58 | 98 | 31 | 57 | 04 | 19 | | 04 | 20 |
| 6 a | – | 64 | 98 | – | 63 | – | 25 | | – | 26 |
| 7 | 43 | 70 | | 43 | 69 | 09 | 30 | 94 | 09 | 31 |
| 7 a | – | 75 | | – | 74 | – | 36 | 95 | – | 37 |
| 8 | 51 | 79 | 99 | 50 | 77 | 14 | 40 | 95 | 14 | 41 |
| 9 | 78 | 83 | 99 | 76 | 81 | 38 | 43 | | 39 | 44 |
| 10 | 60 | 85 | 100 | 58 | 82 | 19 | 45 | 96 | 19 | 45 |
| 10 a | – | 86 | 101 | – | 83 | – | 45 | 96 | – | 45 |
| 11 | 67 | 87 | 101 | 64 | 84 | 20 | 46 | 97 | 20 | 46 |
| 12 | 85 | 87 | 102 | 81 | 83 | 42 | 46 | 97 | 42 | 46 |
| 13 | 85 | 88 | 102 | 81 | 84 | 42 | 46 | 97 | 42 | 46 |
| a | – | 87 | 102 | – | 83 | – | 45 | 98 | – | 45 |
| b | – | 84 | 103 | – | 79 | – | 41 | 98 | – | 41 |
| c | – | 75 | 103 | – | 71 | – | 31 | 98 | – | 31 |
| 14 | 36 | 56 | 104 | 34 | 52 | 08 | 19 | 99 | 08 | 19 |

1924phae.proj.110dP

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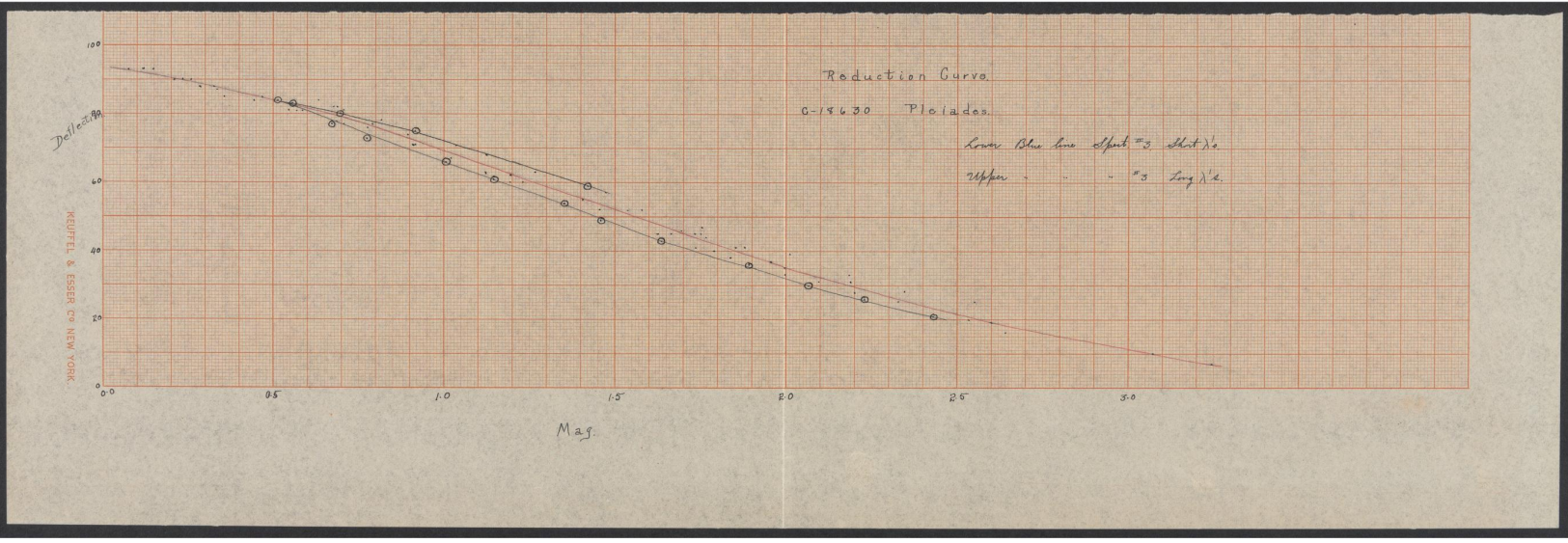


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1924phae.proj.110IP



Pleiades. C-18630.

| Line | # R | | 3.81 | | | # 4 | | 4.02 | | | # 3 | | 4.25 | | | Line |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | $\bar{n}$ | $\overline{m+n}$ | [n] | [m+n] | Δm | $\bar{n}$ | $\overline{m+n}$ | [n] | [m+n] | Δm | $\bar{n}$ | $\overline{m+n}$ | [n] | [m+n] | Δm | No. |
| -2 | 23 | 26 | 244 | 233 | 11 | | | | | | | | | | | -2 |
| -1 | 26 | 30 | 233 | 219 | 14 | 19 | 24 | 260 | 240 | 20 | | | | | | -1 |
| 0 | 28 | 35 | 225 | 200 | 25 | 22 | 28 | 248 | 225 | 23 | 15 | 21 | 280 | 252 | 28 | 0 |
| 1 | 29 | 40 | 222 | 185 | 37 | 22 | 33 | 248 | 207 | 41 | 17 | 26 | 270 | 233 | 37 | 1 |
| 2 | 31 | 45 | 215 | 170 | 45 | 24 | 38 | 240 | 191 | 49 | 20 | 30 | 256 | 219 | 37 | 2 |
| 3 | 33 | 52 | 207 | 150 | 57 | 26 | 45 | 233 | 170 | 63 | 20 | 36 | 256 | 197 | 59 | 3 |
| 4 | 35 | 62 | 200 | 120 | 80 | 28 | 55 | 225 | 141 | 84 | 24 | 43 | 240 | 176 | 64 | 4 |
| 5 | 64 | 67 | 115 | 107 | 08 | 55 | 60 | 141 | 126 | 15 | 43 | 49 | 176 | 159 | 17 | 5 |
| 6 | 43 | 71 | 176 | 95 | 81 | 34 | 63 | 203 | 118 | 85 | 33 | 54 | 207 | 144 | 63 | 6 |
| 6a | – | 77 | – | 77 | | – | 71 | – | 95 | | – | 61 | – | 123 | | 6a |
| 7 | 53 | 81 | 147 | 62 | 85 | 45 | 76 | 170 | 80 | 90 | 42 | 67 | 179 | 107 | 72 | 7 |
| 7a | – | 87 | – | 36 | | – | 81 | – | 62 | | – | 73 | – | 89 | | 7a |
| 8 | 66 | 90 | 109 | 23 | 86 | 54 | 84 | 144 | 50 | 94 | 56 | 77 | 138 | 77 | 61 | 8 |
| 9 | 89 | 92 | 28 | 11 | 17 | 83 | 86 | 54 | 40 | 14 | 77 | 81 | 77 | 62 | 15 | 9 |
| 10 | 74 | 92 | 86 | 11 | 75 | 64 | 88 | 115 | 32 | 83 | 64 | 82 | 115 | 58 | 57 | 10 |
| 10a | – | 92 | – | 11 | | – | 88 | – | 32 | | – | 82 | – | 58 | | 10a |
| 11 | 80 | 93 | 67 | 05 | 62 | 70 | 88 | 98 | 32 | 66 | 70 | 84 | 98 | 50 | 48 | 11 |
| 12 | 90 | 93 | 23 | 05 | 18 | 86 | 88 | 40 | 32 | 08 | 82 | 84 | 58 | 50 | 08 | 12 |
| 13 | 91 | 93 | 17 | 05 | 12 | 88 | 89 | 32 | 28 | 04 | 81 | 84 | 62 | 50 | 12 | 13 |
| 13a | – | 93 | – | 05 | | – | 88 | – | 32 | | – | 83 | – | 54 | | 13a |
| b | – | 90 | – | 23 | | – | 85 | – | 45 | | – | 81 | – | 62 | | b |
| c | | | | | | – | 78 | – | 74 | | – | 74 | – | 86 | | c |
| 14 | | | | | | 42 | 60 | 179 | 126 | 53 | 50 | 69 | 156 | 129 | 27 | 14 |

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| Line | # 5 | | 4.37 | | | # 6 | | 5.43 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. | $\overline{m}$ | $\overline{m+n}$ | [n] | [m+n] | Δm | $\overline{n}$ | $\overline{m+n}$ | [n] | [m+n] | Δm |
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| 0 | 19 | 25 | 260 | 236 | 24 | | | | | |
| 1 | 20 | 28 | 256 | 225 | 31 | | | | | |
| 2 | 22 | 33 | 248 | 207 | 41 | 03 | 07 | | 323 | |
| 3 | 23 | 39 | 244 | 188 | 56 | 03 | 10 | | 307 | |
| 4 | 23 | 47 | 244 | 165 | 79 | 02 | 13 | | 291 | |
| 5 | 47 | 53 | 165 | 147 | 18 | 14 | 17 | 286 | 270 | 16 |
| 6 | 31 | 57 | 215 | 135 | 80 | 04 | 20 | | 256 | |
| 6a | – | 63 | – | 118 | | – | 26 | | 233 | |
| 7 | 43 | 69 | 176 | 101 | 75 | 09 | 31 | 312 | 215 | 97 |
| 7a | – | 74 | – | 86 | | – | 37 | | 194 | |
| 8 | 50 | 77 | 156 | 77 | 79 | 14 | 41 | 286 | 182 | 104 |
| 9 | 76 | 81 | 80 | 62 | 18 | 39 | 44 | 188 | 173 | 15 |
| 10 | 58 | 82 | 132 | 58 | 74 | 19 | 45 | 260 | 170 | 90 |
| 10a | – | 83 | – | 54 | | – | 45 | – | 170 | |
| 11 | 64 | 84 | 115 | 50 | 65 | 20 | 46 | 256 | 168 | 88 |
| 12 | 81 | 83 | 62 | 54 | 08 | 42 | 46 | 179 | 168 | 11 |
| 13 | 81 | 84 | 62 | 50 | 12 | 42 | 46 | 179 | 168 | 11 |
| 13a | – | 83 | – | 54 | | – | 45 | – | 170 | |
| b | – | 79 | – | 71 | | – | 41 | – | 182 | |
| c | – | 71 | – | 95 | | – | 31 | – | 215 | |
| 14 | 34 | 52 | 203 | 150 | 53 | 08 | 19 | 317 | 260 | 57 |

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Pleiades C-18673 1 from Reduced to l+m+n-33

| Line No. | δ | Alg. I n | m+n | l+m+n | n̄ | m̄+n | (-n) | (m+n) | Δm | Alg. 2 n | m+n | l+m+n | n̄ | m̄+n | (-n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 13 | 19 | 35 | 12 | 18 | | | | 7 | 10 | 35 | 7 | 9 | | | |
| 2 | | 14 | 21 | 35 | 13 | 20 | | | | 9 | 13 | 35 | 8 | 12 | | | |
| 3 | | 15 | 24 | 35 | 14 | 23 | | | | 7 | 14 | 35 | 7 | 13 | | | |
| 4 | | 18 | 27 | 35 | 17 | 25 | | | | 9 | 16 | 35 | 8 | 17 | | | |
| 5 | | - | 28 | 35 | - | 26 | | | | 17 | 18 | 35 | 16 | 17 | | | |
| 6 | | 11 | 29 | 35 | 10 | 27 | | | | 10 | 20 | 35 | 9 | 19 | | | |
| 6a | | - | 30 | 35 | - | 28 | | | | - | 22 | 35 | - | 21 | | | |
| 7 | | 23 | 30 | 35 | 22 | 28 | | | | 14 | 24 | 35 | 13 | 23 | | | |
| 7a | | - | 31 | 35 | - | 29 | | | | - | 27 | 35 | - | 25 | | | |
| 8 | | 26 | 31 | 35 | 24 | 29 | | | | 17 | 28 | 34 | 16 | 27 | | | |
| 9 | | - | 31 | 35 | - | 29 | | | | 18 | 19 | 34 | 17 | 18 | | | |
| 10 | | 29 | 33 | 35 | 27 | 31 | | | | 22 | 29 | 34 | 21 | 28 | | | |
| 10a | | 31 | 33 | 35 | 29 | 31 | | | | 28 | 29 | 34 | 27 | 28 | | | |
| 11 | | 31 | 33 | 34 | 30 | 32 | | | | 24 | 29 | 33 | 24 | 29 | | | |
| 12 | × | - | 34 | 34 | - | 33 | | | | 26 | 29 | 32 | 27 | 30 | | | |
| 13 | | 28 | 31 | 33 | 28 | 31 | | | | 22 | 27 | 32 | 23 | 28 | | | |
| 13a | | - | 26 | 33 | - | 26 | | | | - | 25 | 32 | - | 26 | | | |
| 13b | | - | 22 | 33 | - | 22 | | | | - | 25 | 32 | - | 26 | | | |
| 13c | | - | 17 | 33 | - | 17 | | | | - | 24 | 32 | - | 25 | | | |
| 14 | | 9 | 14 | 33 | 9 | 14 | | | | 15 | 21 | 32 | 15 | 22 | | | |
| -2 | | 11 | 14 | 35 | 10 | 13 | | | | — | — | — | — | — | | | |
| -1 | | 12 | 16 | 35 | 11 | 15 | | | | — | — | — | — | — | | | |
| 0 | | 13 | 17 | 35 | 12 | 16 | | | | — | — | — | — | — | | | |

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| | Af. 3 | | | | | | | Af. 4 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | m+n | l+m+n | n̄ | m̄+n | (m) | (m+n) | Δm | m | m+n | l+m+n | n̄ | m̄+n | (m) | m+n | Δm |
| 4 | 8 | 34 | 4 | 8 | | | | — | — | — | — | — | | | |
| 5 | 9 | 34 | 5 | 9 | | | | 7 | 11 | 31 | 7 | 12 | | | |
| 6 | 10 | 34 | 6 | 10 | | | | 7 | 12 | 31 | 7 | 13 | | | |
| 5 | 12 | 34 | 5 | 12 | | | | 8 | 14 | 31 | 8 | 15 | | | |
| 11 | 14 | 34 | 11 | 14 | | | | 14 | 16 | 31 | 15 | 17 | | | |
| 9 | 15 | 34 | 9 | 15 | | | | 9 | 17 | 31 | 10 | 18 | | | |
| — | 17 | 34 | — | 16 | | | | — | 20 | 31 | — | 21 | | | |
| 11 | 19 | 34 | 11 | 18 | | | | 13 | 21 | 31 | 14 | 22 | | | |
| 19 | 22 | 34 | 18 | 21 | | | | — | 25 | 31 | — | 27 | | | |
| 15 | 24 | 34 | 15 | 23 | | | | 16 | 26 | 31 | 17 | 28 | | | |
| 23 | 25 | 34 | 22 | 24 | | | | 25 | 27 | 31 | 27 | 29 | | | |
| 19 | 25 | 34 | 18 | 24 | | | | 19 | 27 | 31 | 21 | 29 | | | |
| 24 | 26 | 35 | 23 | 24 | | | | — | 28 | 32 | — | 29 | | | |
| 22 | 28 | 35 | 21 | 26 | | | | 22 | 28 | 32 | 23 | 29 | | | |
| 26 | 28 | 35 | 24 | 26 | | | | — | 28 | 32 | — | 29 | | | |
| 28 | 29 | 35 | 26 | 27 | | | | — | 29 | 32 | — | 30 | | | |
| — | 28 | 35 | — | 26 | | | | — | 28 | 32 | — | 29 | | | |
| — | 26 | 35 | — | 24 | | | | — | 26 | 32 | — | 27 | | | |
| — | 23 | 35 | — | 22 | | | | — | 24 | 32 | — | 25 | | | |
| 16 | 20 | 35 | 15 | 19 | | | | 15 | 21 | 32 | 15 | 22 | | | |
| — | — | — | — | — | | | | — | — | — | — | — | | | |
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| — | — | — | — | — | | | | — | — | — | — | — | | | |

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Pleiades C-18673

| No | | ap. 5 n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm | ap. 6 n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 5 | 7 | 29 | 6 | 8 | | | | – | – | – | – | – | | | |
| 2 | | 5 | 8 | 29 | 6 | 9 | | | | – | – | – | – | – | | | |
| 3 | | 5 | 9 | 29 | 6 | 10 | | | | 7 | 10 | 34 | 7 | 10 | | | |
| 4 | | 5 | 11 | 29 | 6 | 12 | | | | 7 | 12 | 34 | 7 | 12 | | | |
| 5 | | 10 | 12 | 29 | 11 | 13 | | | | 12 | 14 | 34 | 12 | 14 | | | |
| 6 | | 16 | 13 | 29 | 7 | 15 | | | | 9 | 14 | 33 | 9 | 14 | | | |
| 6a | | – | 15 | 30 | – | 16 | | | | 14 | 15 | 33 | 14 | 15 | | | |
| 7 | | 9 | 17 | 30 | 10 | 18 | | | | 12 | 15 | 33 | 12 | 15 | | | |
| 7a | | – | 20 | 30 | – | 22 | | | | 15 | 16 | 33 | 15 | 16 | | | |
| 8 | | 13 | 21 | 30 | 14 | 23 | | | | 10 | 17 | 33 | 10 | 17 | | | |
| 9 | | 20 | 23 | 30 | 22 | 25 | | | | 14 | 17 | 33 | 14 | 17 | | | |
| 10 | | 14 | 23 | 30 | 15 | 25 | | | | 4 | 17 | 33 | 4 | 17 | | | |
| 10a | | 20 | 23 | 30 | 22 | 25 | | | | – | 17 | 33 | – | 17 | | | |
| 11 | | 17 | 23 | 30 | 18 | 25 | | | | 10 | 17 | 33 | 10 | 17 | | | |
| 12 | | – | 23 | 30 | – | 25 | | | | 14 | 17 | 32 | 14 | 18 | | | |
| 13 | ✓ | – | 23 | 30 | – | 25 | | | | – | 15 | 32 | – | 15 | | | |
| 13a | | – | 22 | 31 | – | 23 | | | | – | 15 | 32 | – | 15 | | | |
| 13b | | – | 21 | 31 | – | 22 | | | | – | 14 | 32 | – | 14 | | | |
| 13c | | – | 19 | 31 | – | 20 | | | | 10 | 12 | 32 | 10 | 12 | | | |
| 14 | | 10 | 15 | 31 | 11 | 16 | | | | 4 | 10 | 32 | 4 | 10 | | | |

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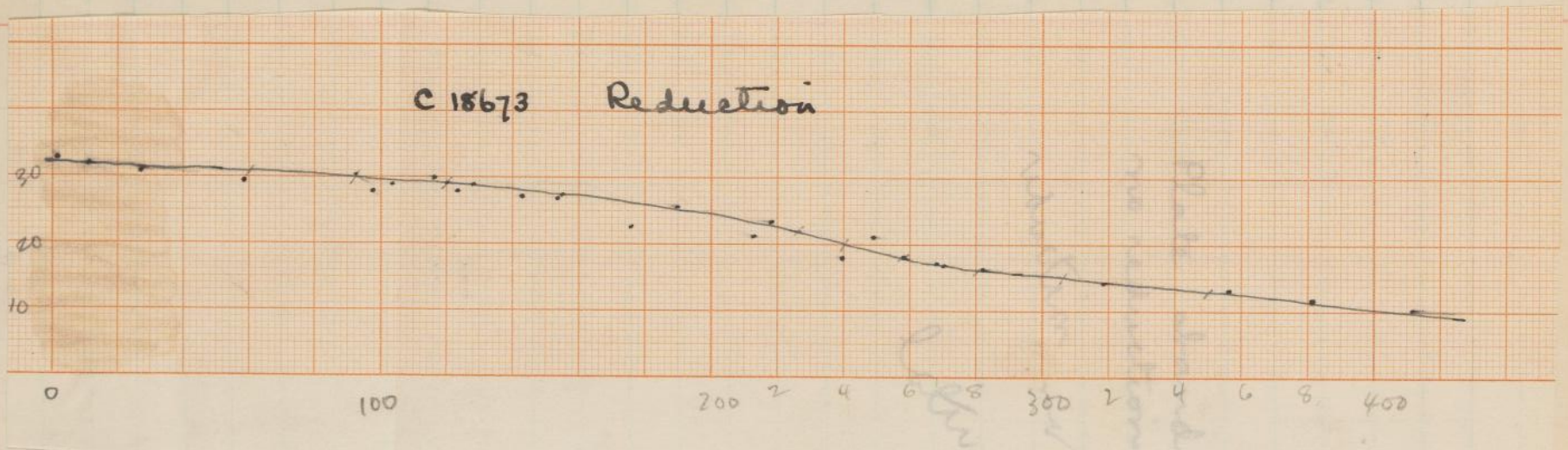


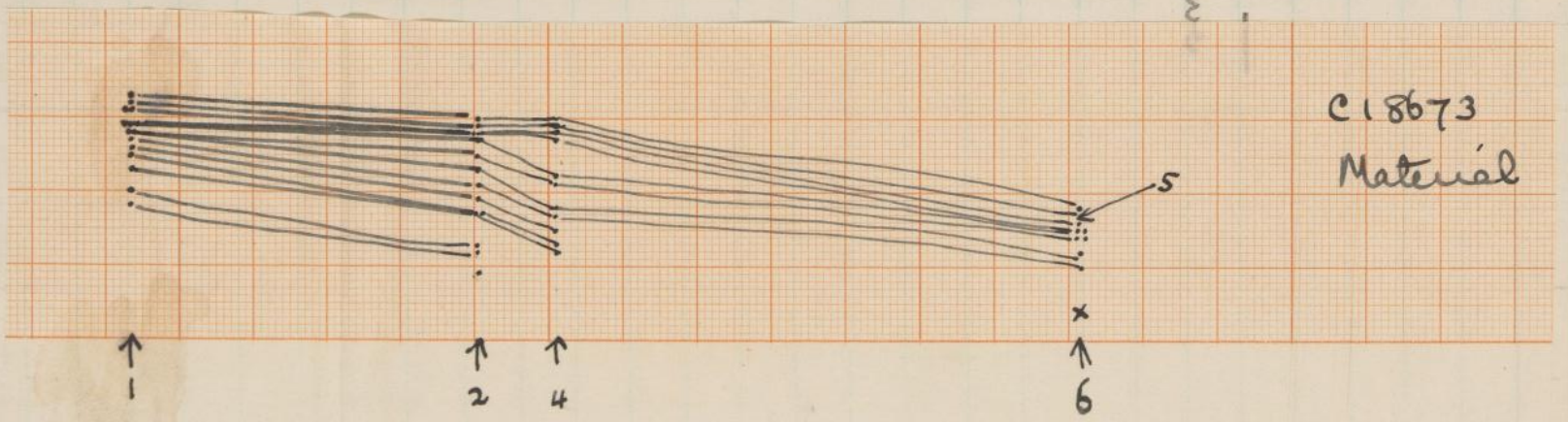




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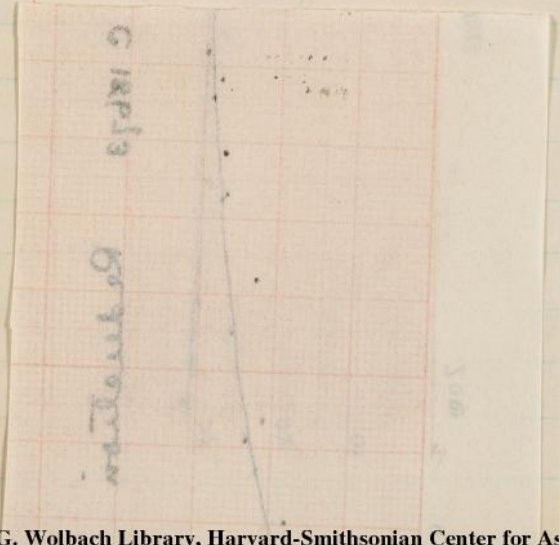
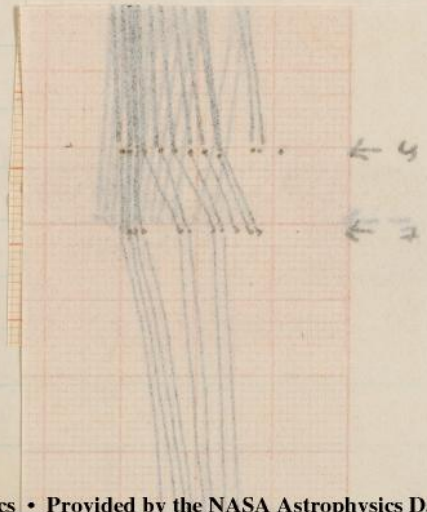
Plate abandoned —
no reduction curve
reduction made
later

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Pleiades C – 18676 1 foram Reduced to l+m+n = 110

| | No. 1 | | | | | | | | No. 2 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm | |
| 1 | 57 | 64 | 109 | 58 | 65 | 316 | 290 | 26 | 35 | 52 | 120 | 32 | 48 | 406 | 352 | 54 | 21 |
| 2 | 60 | 72 | 109 | 61 | 73 | 306 | 260 | 46 | 41 | 60 | 120 | 38 | 55 | 386 | 328 | 58 | 35 |
| 3 | 62 | 80 | 109 | 63 | 81 | 298 | 232 | 66 | 42 | 68 | 120 | 39 | 62 | 382 | 302 | 80 | 46 |
| 4 | 65 | 85 | 109 | 66 | 86 | 286 | 212 | 74 | 48 | 78 | 120 | 44 | 71 | 366 | 268 | 98 | 49 |
| 5 | 83 | 90 | 109 | 84 | 91 | 220 | 194 | 26 | 79 | 84 | 119 | 73 | 78 | 260 | 244 | 16 | 21 |
| 6 | 70 | 92 | 109 | 71 | 93 | 268 | 184 | 84 | 59 | 90 | 119 | 54 | 83 | 332 | 224 | 108 | 54 |
| 6a | 94 | 96 | 109 | 95 | 97 | 176 | 164 | 12 | – | 98 | 119 | – | 91 | – | 194 | | 10 |
| 7 | 79 | 98 | 109 | 80 | 99 | 236 | 156 | 80 | 74 | 101 | 119 | 68 | 93 | 278 | 184 | 94 | 52 |
| 7a | 97 | 103 | 109 | 98 | 104 | 160 | 116 | 44 | – | 107 | 118 | – | 100 | – | 150 | | 33 |
| 8 | 90 | 104 | 109 | 91 | 105 | 194 | 106 | 88 | 88 | 109 | 118 | 82 | 101 | 228 | 144 | 84 | 56 |
| 9 | 99 | 107 | 109 | 100 | 108 | 150 | 42 | 108 | 109 | 111 | 118 | 101 | 103 | 144 | 124 | 20 | 63 |
| 10 | 104 | 108 | 109 | 105 | 109 | 106 | | | 98 | 111 | 117 | 92 | 104 | 190 | 116 | 74 | – |
| 10a | – | 109 | 109 | – | 110 | – | | | – | 111 | 116 | – | 105 | – | 106 | | – |
| 11 | 106 | 109 | 109 | 107 | 110 | 68 | | | 102 | 111 | 114 | 98 | 107 | 160 | 68 | 92 | – |
| 12 | – | 109 | 109 | – | 110 | – | | | 110 | 111 | 114 | 103 | 107 | 124 | 68 | 56 | – |
| 13 | – | 109 | 109 | – | 110 | – | | | 110 | 111 | 113 | 103 | 108 | 124 | 42 | 82 | – |
| 13a | – | 109 | 109 | – | 110 | – | | | – | 110 | 113 | – | 107 | – | 68 | | – |
| 13b | – | 108 | 109 | – | 109 | – | | | – | 109 | 112 | – | 107 | – | 68 | | – |
| 13c | – | 107 | 109 | – | 108 | – | 42 | | – | 106 | 112 | – | 104 | – | 116 | | – |
| 14 | 100 | 104 | 108 | 101 | 105 | 144 | 106 | 38 | 84 | 96 | 111 | 83 | 95 | 212 | 176 | 36 | 30 |
| 0 | – | – | – | – | | | | | 34 | 44 | 120 | 31 | 40 | 410 | 380 | 30 | – |

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Pleiades C-18676 Reduction Table

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15 | 500 | 34 | 400 | 53 | 336 | 72 | 264 | 91 | 194 |
| 16 | 492 | 35 | 398 | 54 | 332 | 73 | 260 | 92 | 190 |
| 17 | 484 | 36 | 394 | 55 | 328 | 74 | 258 | 93 | 184 |
| 18 | 476 | 37 | 390 | 56 | 324 | 75 | 254 | 94 | 180 |
| 19 | 470 | 38 | 386 | 57 | 320 | 76 | 250 | 95 | 176 |
| 20 | 464 | 39 | 382 | 58 | 316 | 77 | 248 | 96 | 172 |
| 21 | 458 | 40 | 380 | 59 | 312 | 78 | 244 | 97 | 164 |
| 22 | 452 | 41 | 376 | 60 | 308 | 79 | 240 | 98 | 160 |
| 23 | 448 | 42 | 374 | 61 | 306 | 80 | 236 | 99 | 156 |
| 24 | 442 | 43 | 370 | 62 | 302 | 81 | 232 | 100 | 150 |
| 25 | 436 | 44 | 366 | 63 | 298 | 82 | 228 | 101 | 144 |
| 26 | 430 | 45 | 364 | 64 | 294 | 83 | 224 | 102 | 138 |
| 27 | 426 | 46 | 360 | 65 | 290 | 84 | 220 | 103 | 124 |
| 28 | 422 | 47 | 356 | 66 | 286 | 85 | 216 | 104 | 116 |
| 29 | 418 | 48 | 352 | 67 | 282 | 86 | 212 | 105 | 106 |
| 30 | 414 | 49 | 350 | 68 | 278 | 87 | 210 | 106 | 88 |
| 31 | 410 | 50 | 346 | 69 | 274 | 88 | 206 | 107 | 68 |
| 32 | 406 | 51 | 342 | 70 | 272 | 89 | 202 | 108 | 42 |
| 33 | 404 | 52 | 340 | 71 | 268 | 90 | 198 | 109 | |
| | | | | | | | | 110 | |

| | |
|---|---|
| 164 | 36 |
| 40 | 58 |
| 312 | 82 |
| 282 | 104 |
| 258 | 16 |
| 240 | 16 |
| 216 | 08 |
| 194 | 188 |
| 164 | 16 |
| 150 | 110 |
| 124 | 26 |
| 124 | 88 |
| 116 | 22 |
| 116 | 68 |
| 106 | 78 |
| 106 | |
| 116 | |
| 138 | |
| 156 | |
| 198 | 50 |
| 382 | 28 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 3 | 4 | | m | m+n | l+m+n | n | m+n | (n) | (m+n) | Δm | m | m+n | l+m+n | n | m+n | (n) | (m+n) | Δm |
| 21 | 39 | 32 | 28 | 23 | 32 | 111 | 23 | 32 | 448 | 406 | 42 | 34 | 45 | 110 | 34 | 45 | 400 | 364 | 36 |
| 35 | 41 | 31 | 41 | 26 | 37 | 111 | 26 | 37 | 430 | 390 | 40 | 35 | 52 | 110 | 35 | 52 | 398 | 340 | 58 |
| 46 | 52 | 40 | 53 | 28 | 44 | 111 | 28 | 44 | 422 | 366 | 56 | 36 | 59 | 110 | 36 | 59 | 394 | 312 | 82 |
| 49 | 59 | 51 | 62 | 32 | 55 | 111 | 32 | 55 | 406 | 328 | 78 | 38 | 67 | 110 | 38 | 67 | 386 | 282 | 104 |
| 21 | 14 | 14 | 14 | 57 | 61 | 111 | 56 | 60 | 324 | 308 | 16 | 69 | 74 | 110 | 69 | 74 | 274 | 258 | 16 |
| 54 | 63 | 51 | 14 | 45 | 67 | 111 | 45 | 66 | 364 | 286 | 78 | 47 | 79 | 110 | 47 | 79 | 356 | 240 | 16 |
| 10 | – | – | 07 | – | 74 | 111 | – | 73 | – | 260 | | 83 | 85 | 110 | 83 | 85 | 224 | 216 | 08 |
| 52 | 58 | 54 | 63 | 58 | 81 | 111 | 57 | 80 | 320 | 236 | 84 | 62 | 91 | 110 | 62 | 91 | 302 | 194 | 108 |
| 33 | – | 05 | 14 | 86 | 88 | 111 | 85 | 87 | 216 | 210 | 06 | 94 | 97 | 110 | 94 | 97 | 180 | 164 | 16 |
| 56 | 54 | 53 | 64 | 71 | 93 | 111 | 70 | 92 | 272 | 190 | 82 | 73 | 100 | 110 | 73 | 100 | 260 | 150 | 110 |
| 68 | 17 | 15 | 21 | 92 | 96 | 111 | 91 | 95 | 194 | 176 | 18 | 100 | 103 | 110 | 100 | 103 | 150 | 124 | 26 |
| – | 49 | 42 | 56 | 84 | 98 | 110 | 84 | 98 | 220 | 160 | 60 | 86 | 103 | 110 | 86 | 103 | 212 | 124 | 88 |
| – | – | 07 | 18 | 97 | 99 | 110 | 97 | 99 | 164 | 156 | 08 | 102 | 104 | 110 | 102 | 104 | 138 | 116 | 22 |
| – | 57 | 36 | 47 | 90 | 100 | 110 | 90 | 100 | 198 | 150 | 48 | 93 | 104 | 110 | 93 | 104 | 184 | 116 | 68 |
| – | 40 | 10 | 51 | 99 | 101 | 110 | 99 | 101 | 156 | 144 | 12 | 93 | 105 | 110 | 93 | 105 | 184 | 106 | 78 |
| – | 53 | 10 | – | 99 | 101 | 110 | 99 | 101 | 156 | 144 | 12 | – | 105 | 110 | – | 105 | – | 106 | |
| – | – | – | – | – | 101 | 110 | – | 101 | – | 144 | | – | 104 | 110 | – | 104 | – | 116 | |
| – | – | – | – | – | 99 | 110 | ~~99~~ | 99 | – | 156 | | – | 102 | 110 | – | 102 | – | 138 | |
| – | – | – | – | – | 94 | 110 | – | 94 | – | 180 | | – | 99 | 110 | – | 99 | – | 156 | |
| 30 | 28 | 18 | 37 | 76 | 82 | 110 | 76 | 82 | 250 | 228 | 22 | 77 | 90 | 110 | 77 | 90 | 248 | 198 | 50 |
| – | 24 | – | 23 | – | – | – | – | – | – | – | – | 31 | 39 | 109 | 31 | 39 | 410 | 382 | 28 |

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C-18676

| | No. 5 | | | | | | | | No. 6 | | | | | | | |
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| | n | m+n | t+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm | n | m+n | t+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
| 1 | 21 | 31 | 114 | 20 | 30 | 464 | 414 | 50 | – | – | – | – | – | – | – | |
| 2 | 22 | 38 | 114 | 21 | 37 | 458 | 390 | 68 | 8 | 15 | 108 | 8 | 15 | | 500 | |
| 3 | 24 | 48 | 114 | 23 | 46 | 448 | 360 | 88 | 9 | 17 | 108 | 9 | 17 | | 484 | |
| 4 | 30 | 57 | 114 | 29 | 55 | 418 | 328 | 90 | 8 | 22 | 108 | 8 | 22 | | 452 | |
| 5 | 57 | 62 | 114 | 55 | 60 | 328 | 308 | 20 | 21 | 26 | 108 | 21 | 26 | 458 | 430 | 28 |
| 6 | 36 | 69 | 114 | 35 | 67 | 398 | 282 | 16 | 15 | 29 | 108 | 15 | 30 | 500 | 414 | 86 |
| 6a | – | 77 | 114 | – | 74 | – | 258 | | 32 | 36 | 107 | 32 | 36 | 406 | 394 | 12 |
| 7 | 52 | 84 | 114 | 50 | 81 | 346 | 232 | 14 | 21 | 43 | 108 | 21 | 44 | 458 | 366 | 92 |
| 7a | – | 91 | 114 | – | 88 | – | 206 | | 48 | 51 | 108 | 49 | 52 | 350 | 340 | 10 |
| 8 | 69 | 95 | 114 | 67 | 92 | 282 | 190 | 92 | 28 | 57 | 107 | 29 | 58 | 418 | 316 | 02 |
| 9 | 96 | 100 | 114 | 93 | 97 | 184 | 164 | 20 | 58 | 63 | 107 | 59 | 64 | 312 | 294 | 18 |
| 10 | 80 | 100 | 114 | 77 | 97 | 248 | 164 | 84 | 37 | 64 | 108 | 38 | 65 | 386 | 290 | 96 |
| 10a | 100 | 101 | 114 | 97 | 98 | 164 | 160 | 04 | 63 | 65 | 108 | 64 | 66 | 294 | 286 | 08 |
| 11 | 98 | 102 | 114 | 95 | 99 | 176 | 156 | 20 | 42 | 66 | 108 | 43 | 67 | 370 | 282 | 88 |
| 12 | 95 | 102 | 114 | 92 | 99 | 190 | 156 | 34 | 66 | 67 | 107 | 67 | 68 | 282 | 278 | 04 |
| 13 | – | 103 | 114 | – | 100 | – | 150 | | 62 | 66 | 108 | 63 | 67 | 298 | 282 | 16 |
| 13a | – | 102 | 114 | – | 99 | – | 156 | | 61 | 64 | 108 | 62 | 65 | 302 | 290 | 12 |
| 13b | – | 100 | 114 | – | 97 | – | 164 | | – | 60 | 108 | – | 61 | – | 306 | |
| 13c | – | 95 | 114 | – | 92 | – | 190 | | – | 53 | 108 | – | 54 | – | 332 | |
| 14 | 64 | 82 | 114 | 62 | 79 | 302 | 240 | 62 | 20 | 40 | 108 | 20 | 41 | 464 | 376 | 88 |
| 0 | 19 | 26 | 114 | 18 | 25 | 476 | 486 | 40 | – | – | – | – | – | – | – | – |

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| Dl 5 | 6 |
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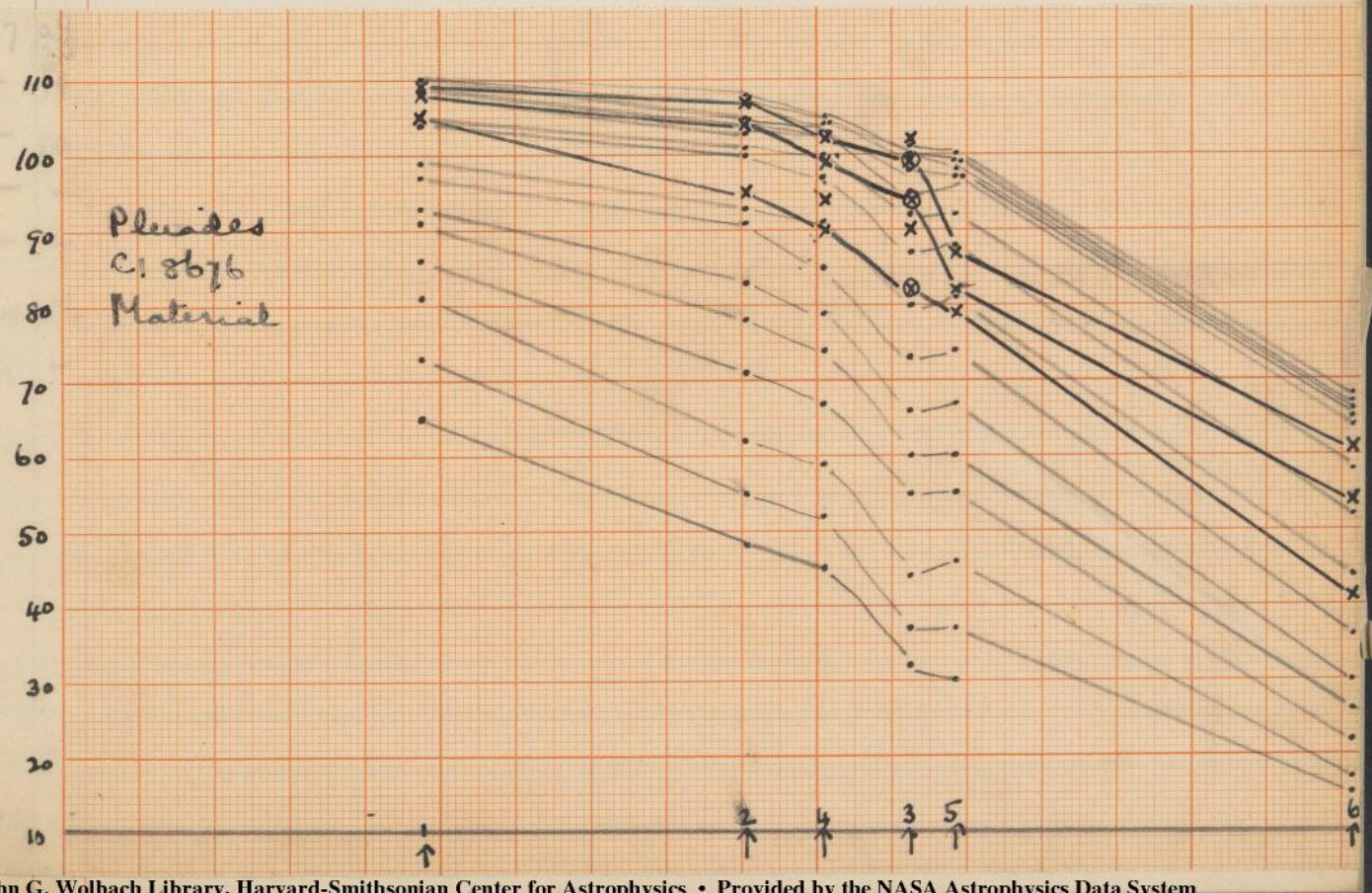


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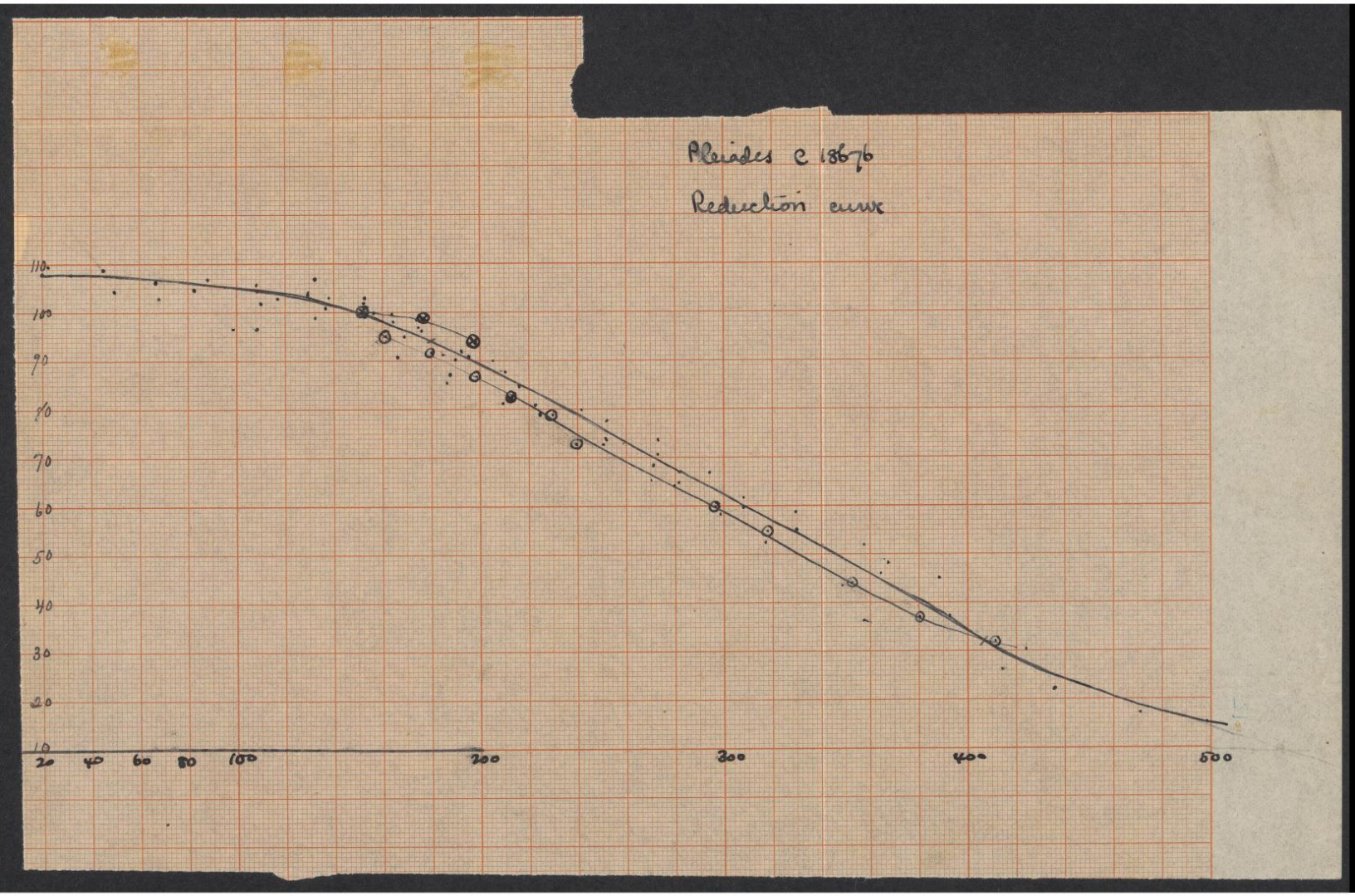


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Capella

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| No. | n | mtn | l+mtn | n̄ | mtn | (n) | (mtn) | Δm | n | mtn | l+mtn | n̄ | mtn | (n) | (mtn) | Δm |
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| 28 | — | — | — | | | | | | — | — | — | | | | | |
| 29 | — | — | — | | | | | | 1 | 4 | 124 | 315 | 255 | | | 60 |
| 30 | — | — | — | | | | | | — | — | — | — | — | | | — |
| 31 | 2 | 10 | 125 | 2 | 10 | 293 | 185 | 108 | — | 5 | 124 | — | 233 | | | — |
| 32 | 2 | 10 | 125 | 2 | 10 | 293 | 185 | 108 | 2 | 5 | 124 | 293 | 233 | | | 60 |
| 33 | 3 | 11 | 125 | 3 | 11 | 272 | 180 | 92 | 1 | 5 | 124 | 315 | 238 | | | 72 |
| 34 | 4 | 11 | 125 | 4 | 11 | 255 | 180 | 75 | 1 | 6 | 124 | 315 | 214 | | | 101 |
| ×35 | 5 | 12 | 125 | 5 | 12 | 233 | 175 | 58 | 2 | 6 | 124 | 293 | 214 | | | 79 |
| 36 | 4 | 12 | 125 | 4 | 12 | 255 | 175 | 80 | 2 | 7 | 124 | 293 | 204 | | | 89 |
| 37 | — | — | 125 | — | — | — | — | — | 4 | 7 | 124 | 255 | 204 | | | 51 |
| 38 | 8 | 13 | 125 | 8 | 13 | 194 | 170 | 24 | 4 | 7 | 124 | 255 | 204 | | | 51 |
| 39 | 10 | 14 | 125 | 10 | 14 | 185 | 166 | 19 | 6 | 8 | 124 | 214 | 194 | | | 20 |
| 40 | 10 | 14 | 125 | 10 | 14 | 185 | 166 | 19 | 4 | 8 | 124 | 255 | 194 | | | 61 |
| 41 | 7 | 15 | 125 | 7 | 15 | 204 | 162 | 42 | 4 | 8 | 124 | 255 | 194 | | | 61 |
| 42 | 12 | 16 | 125 | 12 | 16 | 175 | 158 | 17 | 6 | 9 | 124 | 214 | 190? | | | 24 |
| 43 | 11 | 17 | 125 | 11 | 17 | 180 | 156 | 24 | 7 | 10 | 124 | 204 | 185? | | | 19 |
| 44 | 9 | 18 | 125 | 9 | 18 | 190 | 153 | 37 | 5 | 10 | 124 | 233 | 185? | | | 48 |
| 45 | — | 21 | 125 | — | 21 | — | 144 | — | — | 13 | 124 | — same | 170 same | | | — |
| 46 | 5 | 22 | 125 | 5 | 22 | 233 | 142 | 91 | — | — | — | — same | — same | | | — |
| 47 | 9 | 24 | 125 | 9 | 24 | 190 | 136 | 54 | 5 | 14 | 124 | 233 | 166 | | | 67 |
| 48 | 13 | 24 | 125 | 13 | 24 | 170 | 136 | 34 | 7 | 16 | 124 | 204 | 158 | | | 46 |
| 49 | 17 | 26 | 125 | 17 | 26 | 156 | 130 | 26 | 9 | 17 | 124 | 190 | 156 | | | 34 |
| 50 | 16 | 27 | 125 | 16 | 27 | 158 | 127 | 31 | 10 | 18 | 124 | 185 | 153 | | | 32 |
| 51 | 10 | 29 | 125 | 10 | 29 | 185 | 119 | 66 | 5 | 19 | 124 | 233 | 149 | | | 84 |
| 52 | — | 30 | 125 | — | 30 | — | 117 | — | — | 20 | 124 | — | 147 | | | — |
| 53 | 19 | 32 | 125 | 19 | 32 | 149 | 111 | 38 | 12 | 22 | 124 | 175 | 142 | | | 33 |
| 54 | 23 | 34 | 125 | 23 | 34 | 139 | 105 | 34 | 14 | 23 | 124 | 166 | 139 | | | 27 |

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| 1 | 5 | 125 | 1 | 5 | 315 | 233 | | | | | | | | | |
| 3 | 6 | 125 | 3 | 6 | 272 | 214 | | | | | | | | | |
| — | — | — | — | — | — | — | | | | | | | | | |
| — | — | — | — | — | — | — | | | | | | | | | |
| 3 | 7 | 125 | 3 | 7 | 272 | 204 | | | | | | | | | |
| 3 | 7 | 125 | 3 | 7 | 272 | 204 | | | | | | | | | |
| 1 | 7 | 125 | 1 | 7 | 315 | 204 | | | | | | | | | |
| 6 | 8 | 125 | 6 | 8 | 214 | 194 | | | | | | | | | |
| — | — | — | — | — | — | — | | | | | | | | | |
| 3 | 8 | 125 | 3 | 8 | 272 | 194 | | | | | | | | | |
| 1 | 10 | 125 | 1 | 10 | 315 | 185 | | | | | | | | | |
| 2 | 10 | 125 | 2 | 10 | 293 | 185 | | | | | | | | | |
| 2 | 10 | 125 | 2 | 10 | 293 | 185 | 108 | | | | | | | | |
| 3 | 10 | 125 | 3 | 10 | 272 | 185 | 87 | — | — | — | | | | | 56 |
| 4 | 11 | 125 | 4 | 11 | 255 | 180 | 75 | — | — | — | | | | | 45 |
| 5 | 11 | 125 | 5 | 11 | 233 | 180 | 43 | — | — | — | | | | | 35 |
| 2 | 12 | 125 | 2 | 12 | 293 | 175 | 118 | — | — | — | | | | | 56 |
| — | 12 | 125 | — | 12 | 330 | 175 | 155 | — | 6 | 124 | — | | — | 214 | — |
| 6 | 13 | 125 | 6 | 13 | 214 | 170 | 44 | — | — | — | | | — | — | 38 |
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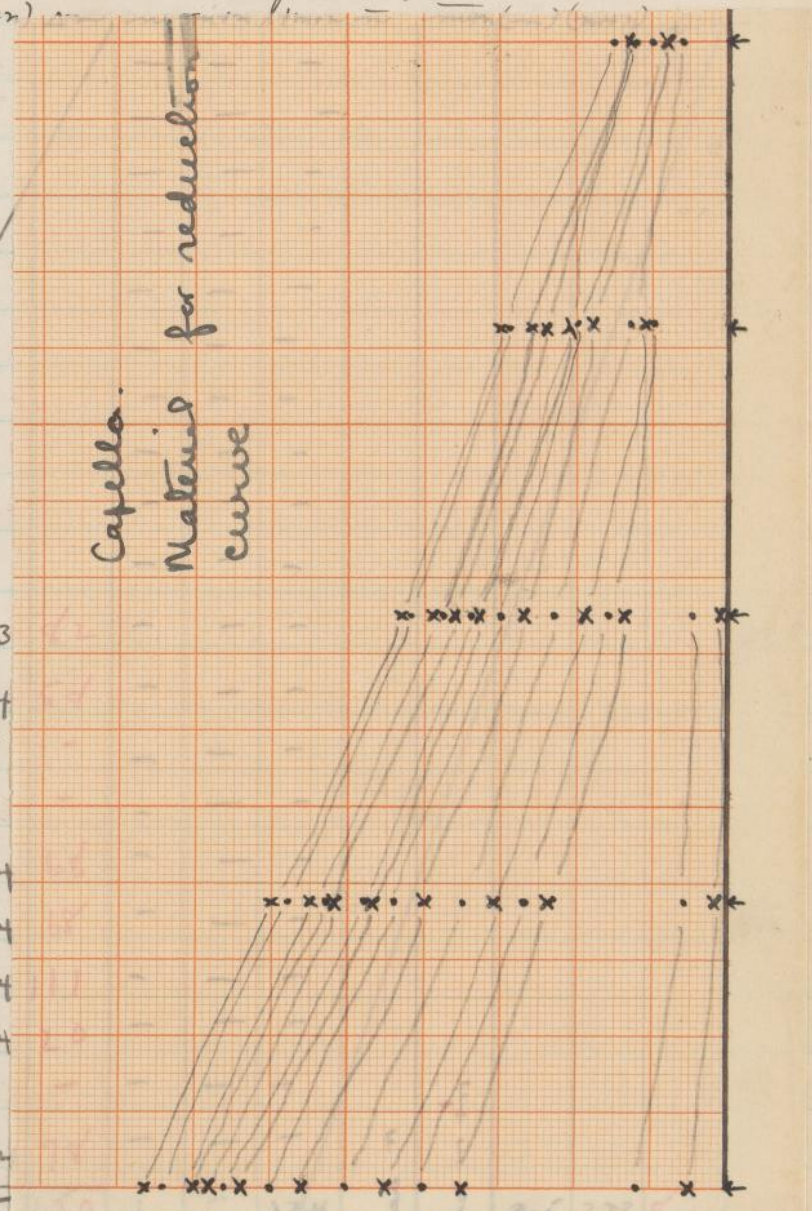


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| | ap 8 | | | | | | | | ap 9 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 270 | n | m+n | l+m+n | n̄ | m̄+n | (n) | (m+n) | Δm | n | m+n | l+m+n | n̄ | m̄+n | (n) | (m+n) | Δm |
| | — | — | — | | | | | | — | — | — | | | | | |
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| | — | — | — | | | | | | — | — | — | | | | | |
| | 1 | 5 | 125 | 1 | 5 | 315 | 233 | 82 | — | — | — | | | | | |
| | 3 | 6 | 125 | 3 | 6 | 272 | 214 | 58 | — | — | — | | | | | |
| | — | — | — | — | — | — | — | — | — | — | — | | | | | |
| | — | — | — | — | — | — | — | — | — | — | — | | | | | |
| | 3 | 7 | 125 | 3 | 7 | 272 | 204 | 68 | — | — | — | | | | | |
| | 3 | 7 | 125 | 3 | 7 | 272 | 204 | 68 | — | — | — | | | | | |
| | 1 | 7 | 125 | 1 | 7 | 315 | 204 | 111 | — | — | — | | | | | |
| | 6 | 8 | 125 | 6 | 8 | 214 | 194 | 20 | — | — | — | | | | | |
| | — | — | — | — | — | — | — | — | — | — | — | | | | | |
| | 3 | 8 | 125 | 3 | 8 | 272 | 194 | 78 | — | — | — | | | | | |
| | 1 | 10 | 125 | 1 | 10 | 315 | 185 | 130 | 1 | 5 | 124 | same as n | same as m+n | 315 | 233 | 82 |
| | 2 | 10 | 125 | 2 | 10 | 293 | 185 | 108 | — | — | — | | | | | |
| | 2 | 10 | 125 | 2 | 10 | 293 | 185 | 108 | — | — | — | | | | | |
| | 3 | 10 | 125 | 3 | 10 | 272 | 185 | 87 | — | — | — | | | | | |
| | 4 | 11 | 125 | 4 | 11 | 255 | 180 | 75 | — | — | — | | | | | |
| | 5 | 11 | 125 | 5 | 11 | 233 | 180 | 43 | — | — | — | | | | | |
| | 2 | 12 | 125 | 2 | 12 | 293 | 176 | 118 | — | — | — | | | | | |
| | — | 12 | 125 | — | 12 | 330 | 175 | 155 | — | 6 | 124 | — | | — | 214 | — |
| | 6 | 13 | 125 | 6 | 13 | 214 | 170 | 44 | — | — | — | | | — | — | |
| | 8 | 14 | 125 | 8 | 14 | 194 | 166 | 28 | 3 | 7 | 124 | | | 272 | 204 | 68 |

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Capella c. 18583 Reduction Table.

| Scale | Mag. | Scale | Mag. | Scale | Mag |
|---|---|---|---|---|---|
| 16 | 373 | 53 | 244 | 90 | 144 |
| 17 | 367 | 54 | 241 | 91 | 141 |
| 18 | 363 | 55 | 239 | 92 | 139 |
| 19 | 359 | 56 | 236 | 93 | 136 |
| 20 | 351 | 57 | 234 | 94 | 133 |
| 21 | 348 | 58 | 231 | 95 | 130 |
| 22 | 342 | 59 | 230 | 96 | 128 |
| 23 | 336 | 60 | 227 | 97 | 125 |
| 24 | 331 | 61 | 224 | 98 | 122 |
| 25 | 327 | 62 | 222 | 99 | 120 |
| 26 | 323 | 63 | 220 | 100 | 115 |
| 27 | 320 | 64 | 218 | 101 | 112 |
| 28 | 315 | 65 | 214 | 102 | 110 |
| 29 | 311 | 66 | 211 | 103 | 108 |
| 30 | 308 | 67 | 208 | 104 | 105 |
| 31 | 305 | 68 | 206 | 105 | 102 |
| 32 | 302 | 69 | 203 | 106 | 99 |
| 33 | 298 | 70 | 200 | 107 | 95 |
| 34 | 296 | 71 | 198 | 108 | 92 |
| 35 | 292 | 72 | 195 | 109 | 89 |
| 36 | 290 | 73 | 193 | 110 | 85 |
| 37 | 286 | 74 | 190 | 111 | 82 |
| 38 | 283 | 75 | 185 | 112 | 79 |
| 39 | 281 | 76 | 183 | 113 | 75 |
| 40 | 278 | 77 | 180 | 114 | 70 |
| 41 | 275 | 78 | 178 | 115 | 65 |
| 42 | 272 | 79 | 175 | 116 | 60 |
| 43 | 270 | 80 | 172 | 117 | 53 |
| 44 | 268 | 81 | 170 | 118 | 46 |
| 45 | 265 | 82 | 167 | 119 | 40 |
| 46 | 262 | 83 | 165 | 120 | 30 |
| 47 | 259 | 84 | 162 | 121 | 22 |
| 48 | 256 | 85 | 159 | 122 | 15 |
| 49 | 253 | 86 | 156 | 123 | 0 |
| 50 | 251 | 87 | 152 | | |
| 51 | 249 | 88 | 150 | | |
| 52 | 246 | 89 | 147 | | |

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| No | m | m+n | l+m+n | n | m+n | (n) | (m+n) | Δm | Mean | Mean | Dl | Dl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | | | | | | | | | | 30 | | 24 |
| 26 | | | | | | | | | | 17 | | 14 |
| 27 | | | | | | | | | | — | | — |
| 28 | | | | | | | | | | — | | — |
| 29 | | | | | | | | | | 51 | | 37 |
| 30 | | | | | | | | | | 18 | | 15 |
| 31 | | | | | | | | | 108 | 28 | 63 | 23 |
| 32 | | | | | | | | | 108 | 54 | 63 | 39 |
| 33 | | | | | | | | | 92 | 42 | 57 | 32 |
| 34 | | | | | | | | | 75 | 44 | 50 | 33 |
| 35 | | | | | | | | | 58 | 48 | 41 | 36 |
| 36 | | | | | | | | | 80 | 47 | 52 | 35 |
| 37 | | | | | | | | | — | 14 | — | 12 |
| 38 | | | | | | | | | 24 | 18 | 20 | 15 |
| 39 | | | | | | | | | 19 | 16 | 16 | 14 |
| 40 | | | | | | | | | 19 | 18 | 16 | 15 |
| 41 | | | | | | | | | 42 | 28 | 32 | 23 |
| 42 | | | | | | | | | 17 | 11 | 15 | 10 |
| 43 | | | | | | | | | 22 | 26 | 18 | 21 |
| 44 | | | | | | | | | 42 | 42 | 32 | 32 |
| 45 | | | | | | | | | 130 | 148 | ~~84~~ 70 | 74 |
| 46 | | | | | | | | | 100 | 58 | 60 | 41 |
| 47 | | | | | | | | | 76 | 58 | 50 | 41 |
| 48 | | | | | | | | | 56 | 39 | 40 | 30 |
| 49 | | | | | | | | | 45 | 38 | 34 | 30 |
| 50 | | | | | | | | | 35 | 37 | 28 | 29 |
| 51 | | | | | | | | | 56 | 48 | 40 | 49 |
| 52 | | | | | | | | | — | | — | |
| 53 | | | | | | | | | 58 | 42 | 41 | 32 |
| 54 | | | | | | | | | 30 | 29 | 24 | 23 |

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| No | ap. 6 n | m+n | t+m+n | ñ | m+ñ | (n) | (m+n) | Δm | ap 7 n | m+n | t+m+n | ñ | m+ñ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 | 27 | 35 | 125 | 27 | 35 | 127 | 102 | 25 | 19 | 24 | 124 | | | 149 | 136 | 13 |
| 56 | 30 | 36 | 125 | 30 | 36 | 117 | 100 | 17 | 18 | 25 | 124 | | | 153 | 133 | 20 |
| 57 | 28 | 38 | 125 | 28 | 38 | 123 | 95 | 28 | 18 | 26 | 124 | | | 153 | 130 | 23 |
| 58 | 35 | 39 | 125 | 35 | 39 | 102 | 92 | 10 | 25 | 27 | 124 | | | 133 | 127 | 06 |
| 59 | 25 | 40 | 125 | 25 | 40 | 133 | 89 | 44 | 17 | 27 | 124 | | | 156 | 127 | 29 |
| 60 | 36 | 42 | 125 | 36 | 42 | 100 | 85 | 15 | 24 | 28 | 124 | | | 136 | 123 | 13 |
| 61 | 39 | 42 | 125 | 39 | 42 | 92 | 85 | 07 | 25 | 28 | 124 | | | 133 | 123 | 10 |
| 62 | 38 | 43 | 125 | 38 | 43 | 95 | 82 | 07 | 24 | 29 | 124 | | | 136 | 119 | 17 |
| 63 | 37 | 44 | 125 | 37 | 44 | 97 | 80 | 17 | 25 | 30 | 124 | | | 133 | 117 | 16 |
| 64 | 36 | 44 | 125 | 36 | 44 | 100 | 80 | 20 | 24 | 30 | 124 | | | 136 | 117 | 19 |
| 65 | 30 | 45 | 125 | 30 | 45 | 117 | 77 | 40 | 20 | 31 | 124 | | | 147 | 114 | 33 |
| 65a | 32 | 46 | 125 | 32 | 46 | 111 | 75 | 36 | 20 | 31 | 124 | | | 147 | 114 | 33 |
| 66 | 40 | 47 | 125 | 40 | 47 | 89 | 73 | 16 | 27 | 31 | 124 | | | 127 | 114 | 13 |
| 67 | 28 | 48 | 125 | 28 | 48 | 123 | 70 | 53 | 18 | 32 | 124 | Same as n | Same as m+n | 153 | 111 | 42 |
| 68 | 42 | 48 | 125 | 42 | 48 | 85 | 70 | 15 | 30 | 32 | 124 | | | 117 | 111 | 06 |
| 69 | 40 | 48 | 125 | 40 | 48 | 89 | 70 | 19 | 25 | 33 | 124 | | | 133 | 108 | 25 |
| 70 | 36 | 48 | 125 | 36 | 48 | 100 | 70 | 30 | 24 | 33 | 124 | | | 136 | 108 | 28 |
| 71 | 37 | 48 | 125 | 37 | 48 | 97 | 70 | 27 | 24 | 33 | 124 | | | 136 | 108 | 28 |
| 72 | 31 | 49 | 125 | 31 | 49 | 114 | 68 | 46 | 19 | 34 | 124 | | | 149 | 105 | 44 |
| 73 | 38 | 49 | 125 | 38 | 49 | 95 | 68 | 27 | 24 | 34 | 124 | | | 136 | 105 | 31 |
| 74 | 35 | 50 | 125 | 35 | 50 | 102 | 65 | 37 | 24 | 35 | 124 | | | 136 | 102 | 34 |
| 75 | 30 | 50 | 125 | 30 | 50 | 117 | 65 | 52 | 18 | 35 | 124 | | | 153 | 102 | 51 |
| 76 | 42 | 51 | 125 | 42 | 51 | 85 | 63 | 22 | 27 | 36 | 124 | | | 127 | 100 | 27 |
| 77 | 47 | 52 | 125 | 47 | 52 | 73 | 61 | 12 | 32 | 36 | 124 | | | 111 | 100 | 11 |
| 78 | 40 | 52 | 125 | 40 | 52 | 89 | 61 | 28 | 17 | 37 | 124 | | | 156 | 97 | 59 |
| 79 | 31 | 52 | 125 | 31 | 52 | 114 | 61 | 53 | 29 | 37 | 124 | | | 119 | 97 | 22 |
| 80 | 43 | 53 | 125 | 43 | 52 | 82 | 61 | 21 | 23 | 37 | 124 | | | 139 | 97 | 42 |
| 81 | 41 | 53 | 125 | 41 | 53 | 87 | 58 | 29 | 29 | 38 | 124 | | | 119 | 95 | 24 |
| 82 | 43 | 54 | 125 | 43 | 54 | 82 | 56 | 26 | 30 | 38 | 124 | | | 117 | 95 | 22 |
| 83 | 40 | 54 | 125 | 40 | 54 | 89 | 56 | 33 | 29 | 39 | 124 | | | 119 | 92 | 27 |

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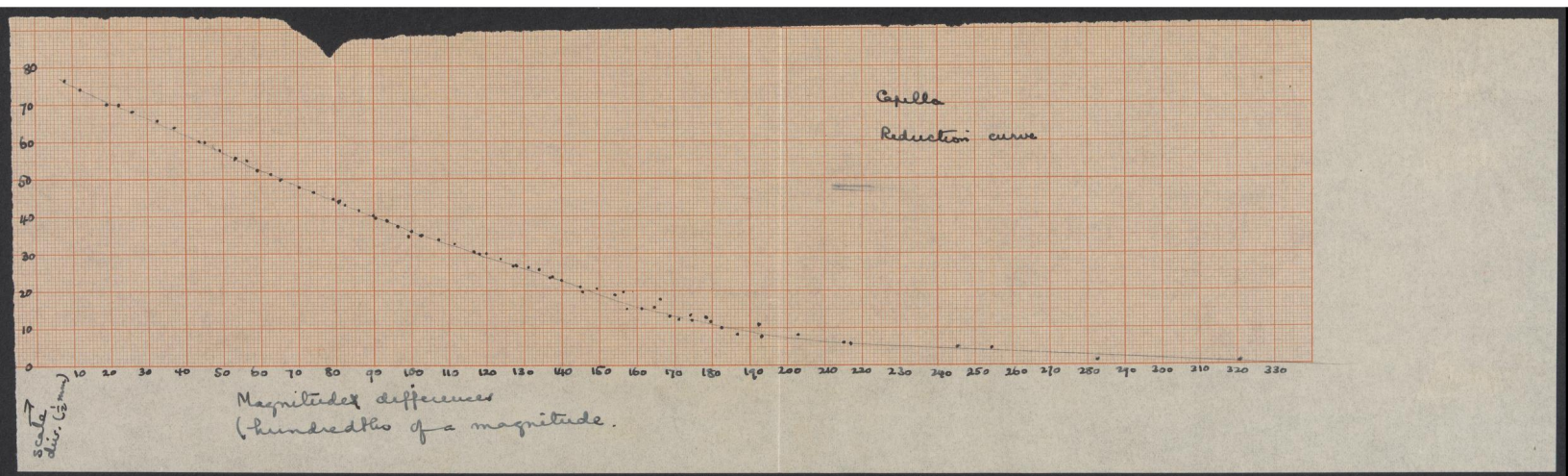


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| No. | ap. 8 n | m+n | l+m+n | n̄ | m̄+n | (n) | (m+n) | Δm | ap. 9 n | m+n | l+m+n | n̄ | m̄+n | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 | 9 | 14 | 125 | | | 190 | 166 | 24 | — | — | — | | | | | |
| 56 | 10 | 14 | 125 | | | 185 | 166 | 19 | — | — | — | | | | | |
| 57 | 9 | 15 | 125 | | | 190 | 162 | 28 | — | — | — | | | | | |
| 58 | 13 | 15 | 125 | | | 170 | 162 | 08 | 6 | 9 | 124 | | | 214 | 190 | 24 |
| 59 | 8 | 16 | 125 | | | 194 | 158 | 36 | 5 | 10 | 124 | | | 233 | 185 | 48 |
| 60 | 14 | 17 | 125 | | | 166 | 156 | 10 | 6 | 10 | 124 | | | 214 | 185 | 29 |
| 61 | 14 | 17 | 125 | | | 166 | 156 | 10 | 8 | 10 | 124 | | | 194 | 185 | 09 |
| 62 | 14 | 17 | 125 | | | 166 | 156 | 10 | 8 | 10 | 124 | | | 194 | 185 | 09 |
| 63 | 15 | 18 | 125 | | | 162 | 153 | 09 | 8 | 10 | 124 | | | 194 | 185 | 09 |
| 64 | 15 | 18 | 125 | | | 162 | 153 | 09 | 7 | 11 | 124 | | | 204 | 180 | 24 |
| 65 | 11 | 19 | 125 | | | 180 | 149 | 31 | 7 | 11 | 124 | | | 204 | 180 | 24 |
| 65a | 11 | 19 | 125 | | | 180 | 149 | 31 | 8 | 12 | 124 | | | 194 | 175 | 19 |
| 66 | 16 | 20 | 125 | | | 158 | 147 | 11 | 9 | 12 | 124 | | | 190 | 175 | 15 |
| 67 | 8 | 20 | 125 | | | 194 | 147 | 47 | 5 | 12 | 124 | | | 233 | 175 | 58 |
| 68 | 17 | 21 | 125 | | | 156 | 144 | 12 | 9 | 12 | 124 | | | 190 | 175 | 15 |
| 69 | 16 | 22 | 125 | | | 158 | 142 | 16 | 9 | 13 | 124 | | | 190 | 170 | 20 |
| 70 | 14 | 22 | 125 | Same as n | Same as m+n | 166 | 142 | 24 | 8 | 13 | 124 | Same as n | Same as m+n | 194 | 170 | 24 |
| 71 | 14 | 22 | 125 | | | 166 | 142 | 24 | 7 | 13 | 124 | | | 204 | 170 | 34 |
| 72 | 11 | 22 | 125 | | | 180 | 142 | 38 | 5 | 13 | 124 | | | 233 | 170 | 63 |
| 73 | 15 | 22 | 125 | | | 162 | 142 | 20 | 9 | 13 | 124 | | | 190 | 170 | 20 |
| 74 | 14 | 23 | 125 | | | 166 | 139 | 27 | 8 | 13 | 124 | | | 194 | 170 | 24 |
| 75 | 10 | 23 | 125 | | | 185 | 139 | 46 | 5 | 14 | 124 | | | 233 | 166 | 67 |
| 76 | 16 | 23 | 125 | | | 158 | 139 | 19 | 9 | 14 | 124 | | | 190 | 166 | 24 |
| 77 | 19 | 23 | 125 | | | 149 | 139 | 10 | 11 | 14 | 124 | | | 180 | 166 | 14 |
| 78 | 15 | 24 | 125 | | | 162 | 136 | 26 | 7 | 14 | 124 | | | 204 | 166 | 38 |
| 79 | 10 | 24 | 125 | | | 185 | 136 | 49 | 5 | 15 | 124 | | | 233 | 166 | 67 |
| 80 | 17 | 24 | 125 | | | 156 | 136 | 20 | 10 | 15 | 124 | | | 185 | 162 | 23 |
| 81 | 16 | 25 | 125 | | | 158 | 133 | 25 | 10 | 15 | 124 | | | 185 | 162 | 23 |
| 82 | 19 | 25 | 125 | | | 149 | 133 | 16 | 8 | 15 | 124 | | | 194 | 162 | 32 |
| 83 | 16 | 25 | 125 | | | 158 | 133 | 25 | 11 | 16 | 124 | | | 180 | 162 | 18 |

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Dl.

| No | n | mtn | l+min | n̄ | mtn | tn | (mtn) | Δm | mean | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | — | — | — | | | | | | 21 | 18 | 18 | 15 |
| | — | — | — | | | | | | 19 | 19 | 16 | 14 |
| | — | — | — | | | | | | 26 | 28 | 21 | 23 |
| | — | — | — | | | | | | 08 | 12 | 07 | 10 |
| | — | — | — | | | | | | 39 | 35 | 30 | 28 |
| | — | — | — | | | | | | 17 | 13 | 14 | 11 |
| | — | — | — | | | | | | 09 | 11 | 08 | 10 |
| | — | — | — | | | | | | 11 | 14 | 10 | 12 |
| | — | — | — | | | | | | 13 | 14 | 11 | 12 |
| | — | — | — | | | | | | 16 | 18 | 14 | 15 |
| | — | — | — | | | | | | 32 | 36 | 26 | 28 |
| | — | — | — | | | | | | 30 | 32 | 24 | 26 |
| | — | — | — | | | | | | 14 | 14 | 12 | 12 |
| | 1 | 6 | 122 | | | 315 | 214 | 01 | 50 | 55 | 37 | 40 |
| | — | — | — | | | | | | 12 | 10 | 10 | 09 |
| | — | — | — | | | | | | 20 | 20 | 17 | 17 |
| | — | — | — | Same as F | Same as mtn | | | | 26 | 28 | 21 | 23 |
| | — | — | — | | | | | | 28 | 30 | 23 | 24 |
| | 1 | 6 | 122 | | | 315 | 214 | 01 | 48 | 45 | 36 | 34 |
| | — | — | — | | | | | | 24 | 25 | 20 | 21 |
| | 2 | 6 | 122 | | | 293 | 214 | 79 | 30 | 31 | 24 | 25 |
| | 1 | 7 | 122 | | | 315 | 204 | 111 | 54 | 53 | 39 | 39 |
| | 2 | 7 | 122 | | | 293 | 204 | 89 | 23 | 21 | 19 | 18 |
| | — | — | — | | | | | | 12 | 12 | 10 | 10 |
| | — | — | — | | | | | | 40 | 25 | 31 | 21 |
| | — | — | — | | | | | | 48 | 67 | 36 | 46 |
| | — | — | — | | | | | | 26 | 22 | 21 | 18 |
| | — | — | — | | | | | | 25 | 24 | 21 | ~~18~~ |
| | — | — | — | | | | | | 27 | 20 | 22 | 17 |
| | — | — | — | | | | | | 23 | 25 | 19 | 21 |

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| | ap. 6 | | | | | | | | ap. 7 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | m+n | l+m+n | n | m+n | (n) | (m+n) | Δm | n | m+n | l+m+n | n | m+n | (n) | (m+n) | Δm |
| 84 | 37 | 55 | 125 | | | 97 | 54 | 43 | 26 | 39 | 125 | | | 130 | 92 | 38 |
| 85 | 47 | 55 | 125 | | | 73 | 54 | 19 | 32 | 39 | 125 | | | 111 | 92 | 19 |
| 86 | 35 | 55 | 125 | | | 102 | 54 | 48 | 27 | 39 | 125 | | | 127 | 92 | 35 |
| 87 | 41 | 56 | 125 | | | 87 | 52 | 35 | 28 | 40 | 125 | | | 123 | 89 | 34 |
| 88 | 40 | 56 | 125 | | | 89 | 52 | 37 | 28 | 40 | 125 | | | 123 | 89 | 34 |
| 89 | 40 | 56 | 125 | | | 89 | 52 | 37 | 27 | 40 | 125 | | | 127 | 89 | 38 |
| 90 | 44 | 56 | 125 | | | 80 | 52 | 28 | 32 | 40 | 125 | | | 111 | 89 | 22 |
| 90a | 48 | 56 | 125 | | | 70 | 52 | 18 | — | — | — | | | — | — | — |
| 91 | 44 | 57 | 125 | | | 80 | 50 | 30 | 28 | 41 | 125 | | | 123 | 87 | 36 |
| 92 | 33 | 57 | 125 | | | 108 | 50 | 58 | 24 | 41 | 125 | | | 136 | 87 | 41 |
| 93 | 37 | 58 | 125 | | | 97 | 48 | 49 | 25 | 41 | 125 | | | 133 | 87 | 46 |
| 94 | 41 | 58 | 125 | | | 87 | 48 | 39 | 27 | 42 | 125 | | | 127 | 85 | 42 |
| 95 | 40 | 58 | 125 | | | 89 | 48 | 41 | 27 | 42 | 125 | | | 127 | 85 | 42 |
| 96 | 43 | 58 | 125 | | | 82 | 48 | 34 | 30 | 42 | 125 | | | 117 | 85 | 32 |
| 97 | 37 | 59 | 125 | Same as n | Same as m+n | 97 | 46 | 51 | 26 | 43 | 125 | Same as n | Same as m+n | 130 | 82 | 48 |
| 98 | 39 | 59 | 125 | | | 92 | 46 | 46 | 27 | 43 | 125 | | | 127 | 82 | 45 |
| 99 | 43 | 59 | 125 | | | 82 | 46 | 36 | 29 | 43 | 125 | | | 119 | 82 | 37 |
| 100 | 47 | 59 | 125 | | | 73 | 46 | 27 | 32 | 43 | 125 | | | 111 | 82 | 29 |
| 101 | 38 | 60 | 125 | | | 95 | 44 | 51 | 27 | 44 | 125 | | | 127 | 80 | 47 |
| 102 | 30 | 60 | 125 | | | 117 | 44 | 73 | 20 | 44 | 125 | | | 147 | 80 | 67 |
| 103 | 47 | 61 | 125 | | | 73 | 42 | 31 | 32 | 45 | 125 | | | 111 | 77 | 34 |
| 104 | 45 | 61 | 125 | | | 77 | 42 | 35 | 31 | 45 | 125 | | | 114 | 77 | 37 |
| 105 | 47 | 61 | 125 | | | 73 | 42 | 31 | — | — | — | | | — | — | — |
| 106 | 52 | 62 | 125 | | | 61 | 40 | 21 | 38 | 45 | 125 | | | 95 | 77 | 18 |
| 107 | 48 | 62 | 125 | | | 80 | 40 | 40 | 35 | 46 | 125 | | | 102 | 75 | 27 |
| 108 | 46 | 62 | 125 | | | 75 | 40 | 35 | 33 | 46 | 125 | | | 108 | 75 | 33 |
| 109 | 49 | 62 | 125 | | | 68 | 40 | 28 | 34 | 46 | 125 | | | 105 | 75 | 30 |
| 110 | 44 | 63 | 125 | | | 80 | 37 | 43 | 31 | 47 | 125 | | | 114 | 73 | 41 |
| 111 | 57 | 63 | 125 | | | 50 | 37 | 13 | 43 | 47 | 125 | | | 82 | 73 | 09 |
| 112 | 40 | 63 | 125 | | | 89 | 37 | 52 | 29 | 47 | 125 | | | 119 | 73 | 46 |

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| No. | n | m+n | l+m+n | n | m+n | (n) | (m+n) | Δm | n | m+n | l+m+n | n | m+n | (n) | m+n | Δm | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ap. 8 | | | | | | | | ap. 9 | | | | | |
| | 15 | 26 | 125 | | | 162 | 130 | 32 | 9 | 16 | 124 | | | 190 | 158 | 32 | 36 |
| | 20 | 26 | 125 | | | 147 | 130 | 17 | 12 | 16 | 124 | | | 175 | 158 | 17 | 18 |
| | 15 | 26 | 125 | | | 162 | 130 | 32 | 9 | 16 | 124 | | | 190 | 158 | 32 | 37 |
| | 16 | 26 | 125 | | | 158 | 130 | 28 | 10 | 17 | 124 | | | 185 | 156 | 29 | 31 |
| | 17 | 27 | 125 | | | 156 | 127 | 29 | 10 | 17 | 124 | | | 185 | 156 | 29 | 32 |
| | 16 | 27 | 125 | | | 158 | 127 | 31 | 10 | 17 | 124 | | | 185 | 156 | 29 | 34 |
| | 19 | 27 | 125 | | | 149 | 127 | 22 | 13 | 18 | 124 | | | 170 | 153 | 17 | 22 |
| | 21 | 27 | 125 | | | 144 | 127 | 17 | 13 | 18 | 124 | | | 170 | 153 | 17 | 17 |
| | 17 | 27 | 125 | | | 156 | 127 | 29 | 11 | 18 | 125 | | | 180 | 153 | 27 | 30 |
| | 13 | 28 | 125 | | | 170 | 123 | 47 | 8 | 18 | 124 | | | 194 | 153 | 41 | 47 |
| | 15 | 28 | 125 | | | 162 | 123 | 39 | 10 | 18 | 124 | | | 185 | 153 | 32 | 41 |
| | 16 | 28 | 125 | | | 158 | 123 | 35 | 11 | 18 | 124 | | | 180 | 153 | 27 | 36 |
| | 17 | 28 | 125 | | | 156 | 123 | 33 | 10 | 18 | 124 | | | 185 | 153 | 32 | 37 |
| | 20 | 29 | 125 | | | 147 | 119 | 28 | 11 | 19 | 124 | | | 180 | 149 | 31 | 31 |
| | 15 | 29 | 125 | | | 162 | 119 | 43 | 9 | 19 | 125 | | | 190 | 149 | 41 | 46 |
| | 18 | 30 | 125 | same as n | same as m+n | 153 | 117 | 36 | 10 | 19 | 125 | | | 185 | 149 | 37 | 41 |
| | 19 | 30 | 125 | | | 149 | 117 | 32 | — | — | — | | | — | — | — | 35 |
| | 19 | 30 | 125 | | | 149 | 117 | 32 | 12 | 20 | 125 | | | 175 | 147 | 28 | 29 |
| | 15 | 30 | 125 | | | 162 | 117 | 45 | 9 | 20 | 125 | | | 190 | 147 | 43 | 46 |
| | 13 | 30 | 125 | | | 170 | 117 | 53 | 7 | 20 | 125 | | | 204 | 147 | 57 | 64 |
| | 19 | 30 | 125 | | | 149 | 117 | 32 | 13 | 20 | 125 | | | 170 | 147 | 23 | 30 |
| | 19 | 31 | 125 | | | 149 | 114 | 35 | 12 | 20 | 125 | | | 175 | 147 | 28 | 34 |
| | 21 | 31 | 125 | | | 144 | 114 | 30 | 13 | 20 | 125 | | | 170 | 147 | 23 | 28 |
| | 23 | 32 | 125 | | | 139 | 111 | 28 | 13 | 21 | 125 | | | 170 | 144 | 26 | 23 |
| | 20 | 32 | 125 | | | 147 | 111 | 36 | 13 | 21 | 125 | | | 170 | 144 | 26 | 32 |
| | 19 | 32 | 125 | | | 149 | 111 | 37 | 13 | 21 | 125 | | | 170 | 144 | 26 | 33 |
| | 21 | 32 | 125 | | | 144 | 111 | 33 | 13 | 21 | 125 | | | 170 | 144 | 26 | 29 |
| | 19 | 32 | 125 | | | 149 | 111 | 38 | 13 | 21 | 125 | | | 170 | 144 | 26 | 35 |
| | 27 | 32 | 125 | | | 127 | 111 | 16 | 17 | 21 | 125 | | | 156 | 144 | 12 | 12 |
| | 17 | 33 | 125 | | | 156 | 108 | 48 | 10 | 21 | 125 | | | 185 | 144 | 41 | 47 |

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| No | n | m+n | b+m+n | n̄ | m+n̄ | (−n) | (m+n) | Δm | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 84 | 2 | 8 | 122 | | | 293 | 194 | 79 | 36 | 34 | 28 | 27 |
| 85 | — | — | — | | | — | — | — | 18 | 13 | 15 | 11 |
| 86 | 1 | 8 | 122 | | | 315 | 194 | 121 | 37 | 41 | 29 | 31 |
| 87 | — | — | — | | | — | — | — | 31 | 28 | 25 | 23 |
| 88 | — | — | — | | | — | — | — | 32 | 28 | 26 | 23 |
| 89 | 2 | 8 | 122 | | | 293 | 194 | 79 | 34 | 31 | 27 | 25 |
| 90 | — | — | — | | | — | — | — | 22 | 20 | 18 | 17 |
| 90a | — | — | — | | | — | — | — | 17 | — | 14 | — |
| 91 | — | — | — | | | — | — | — | 30 | 30 | 24 | 24 |
| 92 | 3 | 9 | 123 | | | 272 | 190 | 82 | 47 | 48 | 35 | 36 |
| 93 | 3 | 9 | 123 | | | 272 | 190 | 82 | 41 | 43 | 31 | 33 |
| 94 | — | — | — | | | — | — | — | 36 | 37 | 28 | 29 |
| 95 | — | — | — | | | — | — | — | 37 | 35 | 29 | 28 |
| 96 | — | — | — | | | — | — | — | 31 | 30 | 25 | 24 |
| 97 | 2 | 9 | 123 | | | 293 | 190 | 103 | 46 | 44 | 35 | 33 |
| 98 | — | — | — | Same δ | Same δ | | | | 41 | 38 | 31 | 30 |
| 99 | — | — | — | | | | | | 35 | 32 | 28 | 26 |
| 100 | — | — | — | | | | | | 29 | 25 | 23 | 21 |
| ×101 | 5 | 10 | 123 | | | 233 | 185 | 48 | 46 | 43 | 35 | 33 |
| 102 | 4 | 10 | 123 | | | 255 | 185 | 70 | 64 | 64 | 45 | 45 |
| 103 | — | — | — | | | — | — | — | 30 | 26 | 24 | 21 |
| 104 | 4 | 10 | 123 | | | 255 | 185 | ? 70 | 34 | 32 | 27 | 26 |
| 105 | — | — | — | | | | | | 28 | 24 | 23 | 20 |
| 106 | — | — | — | | | | | | 23 | 15 | 19 | 13 |
| 107 | — | — | — | | | | | | 32 | 28 | 26 | 23 |
| 108 | — | — | — | | | | | | 33 | 29 | 26 | 23 |
| 109 | — | — | — | | | | | | 29 | 24 | 23 | 20 |
| 110 | 6 | 10 | 123 | | | 214 | 185 | 29 | 35 | 36 | 28 | 28 |
| 111 | 8 | 10 | 123 | | | 194 | 185 | 09 | 12 | 20 | 10 | 17 |
| 112 | 4 | 11 | 123 | | | 255 | 180 | 75? | 47 | 44 | 35 | 33 |

1924phae.proj.11GMP

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| No. | ap. 6 n | m+n | b+m+n | n̄ | m+n̄ | (n) | (m+n) | Δm | ap. 7 n | m+n | b+m+n | n̄ | m+n̄ | (n) | (m+n) | Δm | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 113 | 51 | 64 | 125 | | | 63 | 35 | 28 | 36 | 47 | 125 | | | 100 | 73 | 27 | 28 |
| 114 | 49 | 65 | 125 | | | 68 | 33 | 35 | 34 | 48 | 125 | | | 105 | 70 | 35 | 35 |
| 115 | 43 | 65 | 125 | | | 82 | 33 | 49 | 29 | 48 | 125 | | | 119 | 70 | 49 | 49 |
| 116 | 49 | 65 | 125 | | | 68 | 33 | 35 | 35 | 48 | 125 | | | 102 | 70 | 32 | 34 |
| 117 | 34 | 65 | 125 | | | 105 | 33 | 72 | 21 | 49 | 125 | | | 144 | 68 | 56 | 64 |
| 118 | 38 | 65 | 125 | | | 95 | 33 | 62 | 28 | 49 | 125 | | | 123 | 68 | 55 | 58 |
| 119 | 35 | 65 | 125 | | | 102 | 33 | 69 | 22 | 49 | 125 | | | 142 | 68 | 74 | 72 |
| 119a | 55 | 66 | 125 | | | 54 | 30 | 24 | — | — | — | | | — | — | — | 24 |
| 120 | 42 | 66 | 125 | | | 86 | 30 | 55 | 29 | 50 | 125 | | | 119 | 65 | 54 | 54 |
| 121 | 59 | 67 | 125 | | | 46 | 28 | 18 | 43 | 50 | 125 | | | 82 | 65 | 17 | 18 |
| 122 | 35 | 67 | 125 | | | 102 | 28 | 74 | 25 | 51 | 125 | | | 133 | 63 | 70 | 72 |
| 122a | 56 | 67 | 125 | | | 52 | 28 | 24 | 39 | 51 | 125 | | | 92 | 63 | 29 | 27 |
| 122b | 60 | 68 | 125 | | | 44 | 25 | 19 | 44 | 51 | 125 | | | 80 | 63 | 17 | 18 |
| 123 | 50 | 68 | 125 | | | 65 | 25 | 40 | 35 | 52 | 125 | | | 102 | 61 | 41 | 40 |
| 124 | 56 | 68 | 125 | | | 52 | 25 | 27 | 43 | 52 | 125 | | | 82 | 61 | 21 | 24 |
| 124a | 63 | 68 | 125 | | | 37 | 25 | 12 | 48 | 52 | 125 | | | 70 | 61 | 09 | 10 |
| 125 | 58 | 69 | 125 | Same as n | Same as m+n | 48 | 23 | 25 | 42 | 52 | 125 | Same as n | Same as m+n | 85 | 61 | 24 | 24 |
| 126 | 53 | 69 | 125 | | | 58 | 23 | 35 | 37 | 53 | 125 | | | 97 | 58 | 39 | 37 |
| 127 | 40 | 69 | 125 | | | 89 | 23 | 66 | 29 | 53 | 125 | | | 119 | 58 | 61 | 58 |
| 128 | 56 | 70 | 125 | | | 52 | 21 | 31 | 41 | 53 | 125 | | | 87 | 58 | 29 | 43 |
| 129 | 57 | 70 | 125 | | | 50 | 21 | 29 | 40 | 53 | 125 | | | 89 | 58 | 31 | 30 |
| 130 | 56 | 70 | 125 | | | 52 | 21 | 31 | 40 | 54 | 125 | | | 89 | 56 | 33 | 45 |
| 131 | 53 | 71 | 125 | | | 58 | 19 | 39 | 39 | 54 | 125 | | | 92 | 56 | 36 | 38 |
| 132 | 58 | 71 | 125 | | | 48 | 19 | 29 | 42 | 54 | 125 | | | 85 | 56 | 29 | 29 |
| 133 | 57 | 72 | 125 | | | 50 | 16 | 34 | 40 | 54 | 125 | | | 89 | 56 | 33 | 34 |
| 134 | 62 | 72 | 125 | | | 40 | 16 | 24 | 45 | 55 | 125 | | | 77 | 56 | 21 | 22 |
| 135 | 61 | 72 | 125 | | | 42 | 16 | 26 | 46 | 55 | 125 | | | 75 | 54 | 21 | 24 |
| 136 | 58 | 72 | 125 | | | 48 | 16 | 32 | 44 | 56 | 125 | | | 80 | 52 | 28 | 30 |
| 137 | 58 | 73 | 125 | | | 48 | 14 | 34 | 45 | 56 | 125 | | | 77 | 52 | 25 | 23 |
| 138 | 68 | 73 | 125 | | | 25 | 14 | 11 | — | — | — | | | — | — | — | 43 |

1924phae.proj.11BIP

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| No | n | m+n | l+m+n | n̄ | m+n̄ | (n) | (m+n) | Δm | n | m+n | l+m+n | n̄ | m+n̄ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ap. 8 | | | | | | | | ap. 9 | | | | | | | |
| 113 | 23 | 33 | 125 | | | 139 | 108 | 31 | 15 | 21 | 125 | | | 162 | 144 | 18 |
| 114 | 21 | 33 | 125 | | | 144 | 108 | 36 | 15 | 22 | 125 | | | 162 | 142 | 20 |
| 115 | 16 | 33 | 125 | | | 158 | 108 | 50 | 12 | 22 | 125 | | | 175 | 142 | 33 |
| 116 | 22 | 33 | 125 | | | 142 | 108 | 34 | 12 | 22 | 125 | | | 175 | 142 | 33 |
| 117 | 12 | 34 | 125 | | | 175 | 105 | 70 | 8 | 22 | 125 | | | 194 | 142 | 52 |
| 118 | 13 | 34 | 125 | | | 170 | 105 | 65 | 9 | 23 | 125 | | | 190 | 139 | 51 |
| 119 | 12 | 34 | 125 | | | 175 | 105 | 70 | 8 | 23 | 125 | | | 194 | 139 | 55 |
| 119a | 25 | 35 | 125 | | | 133 | 102 | 31 | 20 | 23 | 125 | | | 147 | 139 | 08 |
| 120 | 18 | 35 | 125 | | | 153 | 102 | 51 | 10 | 23 | 125 | | | 185 | 139 | 46 |
| 121 | 28 | 35 | 125 | | | 123 | 102 | 21 | 18 | 23 | 125 | | | 153 | 139 | 14 |
| 122 | 15 | 35 | 125 | | | 162 | 102 | 60 | 9 | 24 | 125 | | | 190 | 136 | 54 |
| 122a | 25 | 36 | 125 | | | 133 | 100 | 33 | 18 | 24 | 125 | | | 153 | 136 | 17 |
| 122b | 31 | 36 | 125 | | | 114 | 100 | 14 | 20 | 24 | 125 | | | 147 | 136 | 11 |
| 123 | 24 | 36 | 125 | | | 136 | 100 | 36 | 15 | 24 | 125 | | | 162 | 136 | 26 |
| 124 | 30 | 36 | 125 | same | same | 117 | 100 | 17 | 19 | 25 | 125 | same | same | 149 | 133 | 16 |
| 124a | 34 | 37 | 125 | | | 105 | 97 | 08 | 21 | 25 | 125 | | | 144 | 133 | 11 |
| 125 | 29 | 37 | 125 | | | 119 | 97 | 22 | 19 | 25 | 125 | | | 149 | 133 | 16 |
| 126 | 24 | 37 | 125 | | | 136 | 97 | 39 | 16 | 25 | 125 | | | 158 | 133 | 25 |
| 127 | 18 | 38 | 125 | | | 153 | 95 | 58 | 13 | 26 | 125 | | | 170 | 130 | 40 |
| 128 | 26 | 38 | 125 | | | 130 | 95 | 35 | 17 | 26 | 125 | | | 156 | 130 | 26 |
| 129 | 27 | 38 | 125 | | | 127 | 95 | 32 | 17 | 26 | 125 | | | 156 | 130 | 26 |
| 130 | 28 | 38 | 125 | | | 123 | 95 | 28 | 19 | 26 | 125 | | | 149 | 130 | 19 |
| 131 | 25 | 39 | 125 | | | 133 | 92 | 41 | 17 | 27 | 125 | | | 156 | 127 | 29 |
| 132 | 27 | 39 | 125 | | | 127 | 92 | 35 | 18 | 27 | 125 | | | 153 | 127 | 26 |
| 133 | 27 | 39 | 125 | | | 127 | 92 | 35 | 18 | 27 | 125 | | | 153 | 127 | 26 |
| 134 | 30 | 40 | 125 | | | 117 | 89 | 28 | 22 | 27 | 125 | | | 142 | 127 | 15 |
| 135 | 30 | 40 | 125 | | | 117 | 89 | 28 | 21 | 27 | 125 | | | 144 | 127 | 17 |
| 136 | 30 | 40 | 125 | | | 117 | 89 | 28 | 20 | 28 | 125 | | | 147 | 123 | 24 |
| 137 | 29 | 40 | 125 | | | 119 | 89 | 30 | 21 | 28 | 125 | | | 144 | 123 | 21 |
| 138 | 35 | 40 | 125 | | | 102 | 89 | 13 | 24 | 28 | 125 | | | 136 | 123 | 13 |

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| No. | n | mtn | ltmin | $\bar{n}$ | $\overline{mtn}$ | (n) | (mtn) | Δn | mean | Mean | Mean | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | — | — | — | | | — | — | — | 25 | 26 | 23 | 21 | 19 |
| | — | — | — | | | — | — | — | 28 | 32 | 29 | 26 | 23 |
| | 4 | 11 | 123 | | | 255 | 180 | 75 | 53 | 51 | 46 | 37 | 35 |
| | — | — | — | | | — | — | — | 34 | 34 | 35 | 27 | 28 |
| | 2 | 12 | 123 | | | 293 | 175 | 18 | 43 | 54 | 68 | 39 | 47 |
| | — | — | — | | | — | — | — | 58 | 58 | 58 | 41 | 41 |
| | 3 | 12 | 123 | | | 272 | 175 | 97 | 74 | 73 | 68 | 49 | 47 |
| | — | — | — | | | — | — | — | 20 | 21 | — | 18 | — |
| | 5 | 12 | 123 | | | 233 | 175 | 58 | 51 | 53 | 49 | 39 | 37 |
| | — | — | — | | | — | — | — | 15 | 18 | 11 | 15 | 10 |
| | 3 | 12 | 123 | | | 272 | 175 | 97 | 70 | 71 | 62 | 48 | 44 |
| | — | — | — | | | — | — | — | 25 | 26 | — | 21 | — |
| | — | — | — | | | — | | — | 12 | 15 | — | 13 | — |
| | 7 | 13 | 123 | | | 204 | 170 | 34 | 32 | 35 | 31 | 28 | 25 |
| | 9 | 13 | 123 | | | 190 | 170 | 20 | 18 | 20 | 18 | 17 | 15 |
| | — | — | — | | | — | — | — | 09 | 10 | — | 9 | — |
| | 10 | 13 | 123 | Same as | Same as mtn | 185 | 170 | 15 | 18 | 20 | 17 | 17 | 14 |
| | 7 | 13 | 123 | | | 204 | 170 | 34 | 33 | 34 | 30 | 27 | 24 |
| | 4 | 13 | 123 | | | 255 | 170 | 85 | 61 | 62 | 57 | 44 | 41 |
| | 7 | 13 | 123 | | | 204 | 170 | 34 | 31 | 31 | 29 | 25 | 23 |
| | — | — | — | | | — | — | — | 29 | 30 | 26 | 24 | 21 |
| | — | — | — | | | — | — | — | 24 | 28 | 28 | 23 | 23 |
| | 8 | 14 | 124 | | | 194 | 166 | 28 | 33 | 35 | 34 | 28 | 27 |
| | — | — | — | | | — | — | — | 30 | 30 | 26 | 24 | 21 |
| | 8 | 14 | 124 | | | 194 | 166 | 28 | 30 | 31 | 30 | 25 | 24 |
| | 9 | 14 | 124 | | | 190 | 166 | 24 | 22 | 22 | 22 | 18 | 18 |
| | — | — | — | | | — | — | — | 22 | 23 | 22 | 19 | 18 |
| | 9 | 14 | 124 | | | 190 | 166 | 24 | 25 | 27 | 30 | 22 | 24 |
| | 9 | 15 | 124 | | | 190 | 162 | 28 | 26 | 28 | 29 | 23 | 23 |
| | — | — | — | | | — | — | — | 13 | 12 | 14 | 10 | 12 |

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| No. | ap. 1 n | mtn | ft mtn | in | mtn | (n) | (mtn) | Δm | ap. 7 n | mtn | ft mtn | in | mtn | (n) | (mtn) | Δm | No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 139 | 65 | 74 | 126 | 64 | 73 | 35 | 14 | 21 | 50 | 56 | 126 | 50 | 56 | 65 | 52 | 13 | |
| 140 | 59 | 74 | 126 | 58 | 73 | 48 | 14 | 34 | 43 | 57 | 126 | 43 | 57 | 82 | 50 | 32 | |
| 141 | 57 | 74 | 126 | 56 | 73 | 52 | 14 | 38 | 44 | 57 | 126 | | | 80 | 50 | 30 | |
| 142 | 63 | 74 | 126 | 62 | 73 | 40 | 14 | 26 | 46 | 57 | 126 | | | 75 | 50 | 25 | |
| 143 | 63 | 75 | 126 | 62 | 74 | 40 | 12 | 28 | 48 | 58 | 126 | | | 70 | 48 | 22 | |
| ×144 | 64 | 75 | 126 | 63 | 74 | 37 | 12 | 25 | 48 | 58 | 126 | | | 70 | 48 | 22 | |
| 145 | 65 | 76 | 126 | 64 | 75 | 35 | 10 | 25 | 48 | 59 | 126 | | | 70 | 46 | 24 | |
| 146 | 68 | 76 | 126 | 67 | 75 | 28 | 10 | 18 | 53 | 59 | 126 | | | 58 | 46 | 12 | |
| 147 | 72 | 76 | 126 | ~~61~~ 71 | 75 | ~~42~~ 19 | 10 | ~~32~~ 09 | 54 | 59 | 126 | | | 56 | 46 | 10 | |
| 148 | 69 | 76 | 126 | 68 | 75 | 25 | 10 | 15 | 54 | 59 | 126 | | | 56 | 46 | 10 | |
| 149 | 69 | 76 | 126 | 68 | 75 | 25 | 10 | 15 | 52 | 59 | 126 | | | 61 | 46 | 15 | |
| 150 | 62 | 76 | 126 | 61 | 75 | 42 | 10 | 32 | 47 | 59 | 126 | | | 73 | 46 | 27 | |
| 151 | 65 | 76 | 126 | 64 | 75 | 35 | 10 | 25 | 49 | 59 | 126 | | | 68 | 46 | 22 | |
| 152 | 70 | 76 | 126 | 69 | 75 | 23 | 10 | 13 | 53 | 60 | 126 | same | same | 58 | 44 | 14 | |
| 153 | 70 | 77 | 126 | 69 | 76 | 23 | 8 | 15 | 52 | 60 | 126 | | | 61 | 44 | 17 | |
| ×154 | 67 | 77 | 126 | 66 | 76 | 30 | 8 | 22 | 50 | 60 | 126 | | | 65 | 44 | 21 | |
| 155 | 66 | 77 | 126 | 65 | 76 | 33 | 8 | 25 | 50 | 60 | 126 | | | 65 | 44 | 21 | |
| 156 | 67 | 77 | 126 | 66 | 76 | 30 | 8 | 22 | 52 | 59 | 126 | | | 61 | 46 | 15 | |
| 157 | 70 | 77 | 126 | 69 | 76 | 23 | 8 | 15 | 54 | 59 | 126 | | | 56 | 46 | 10 | |
| 158 | 67 | 77 | 126 | 66 | 76 | 30 | 8 | 22 | 50 | 59 | 126 | | | 65 | 46 | 19 | |
| 159 | 68 | 77 | 126 | 67 | 76 | 28 | 8 | 20 | 51 | 59 | 126 | | | 63 | 46 | 17 | |
| 160 | 69 | 76 | 126 | 68 | 75 | 25 | 10 | 15 | 53 | 59 | 126 | | | 58 | 46 | 12 | |
| 161 | 69 | 76 | 126 | 68 | 75 | 25 | 10 | 15 | 53 | 59 | 126 | | | 58 | 46 | 12 | |
| 162 | 71 | 76 | 126 | 70 | 75 | 21 | 10 | 11 | 54 | 59 | 126 | | | 56 | 46 | 10 | |
| 163 | 72 | 76 | 126 | 71 | 75 | 19 | 10 | 09 | 56 | 58 | 126 | | | 52 | 48 | 04 | |
| 164 | 71 | 76 | 126 | 70 | 75 | 21 | 10 | 11 | 56 | 58 | 126 | | | 52 | 48 | 04 | |
| 165 | 72 | 75 | 126 | 71 | 74 | 19 | 12 | 07 | 57 | 58 | 126 | | | 50 | 48 | 02 | |
| 166 | 67 | 75 | 126 | 66 | 74 | 30 | 12 | 18 | 53 | 58 | 126 | | | 58 | 48 | 10 | |
| 167 | 63 | 75 | 126 | 62 | 74 | 40 | 12 | 28 | 48 | 57 | 126 | | | 70 | 50 | 20 | |
| 168 | 67 | 74 | 126 | 66 | 73 | 30 | 14 | 16 | 52 | 57 | 126 | | | 61 | 50 | 11 | |

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| No. | ap. 8 n | m+n | l+m+n | n | m+n | (n) | (m+n) | Δm | ap. 9 n | m+n | l+m+n | n | m+n | (n) | (m+n) | Δm | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 33 | 40 | 125 | | | 108 | 89 | 19 | 22 | 28 | 125 | | | 142 | 123 | 19 | 20 |
| 2 | 28 | 41 | 125 | | | 123 | 87 | 36 | 19 | 28 | 125 | | | 149 | 123 | 26 | 32 |
| 0 | 29 | 41 | 125 | | | 119 | 87 | 32 | 19 | 28 | 125 | | | 149 | 123 | 26 | 32 |
| 5 | 31 | 41 | 125 | | | 114 | 87 | 27 | 21 | 29 | 125 | | | 144 | 119 | 25 | 26 |
| 2 | 32 | 41 | 125 | | | 111 | 87 | 24 | 21 | 29 | 125 | | | 144 | 119 | 25 | 25 |
| 2 | 34 | 42 | 125 | | | 105 | 85 | 20 | 21 | 29 | 125 | | | 144 | 119 | 25 | 26 |
| 4 | 35 | 42 | 125 | | | 102 | 85 | 17 | 23 | 30 | 125 | | | 139 | 117 | 22 | 22 |
| 1 | 37 | 42 | 125 | | | 97 | 85 | 12 | 26 | 30 | 125 | | | 130 | 117 | 13 | 14 |
| 0 | 38 | 43 | 125 | | | 95 | 82 | 13 | 28 | 30 | 125 | | | 123 | 117 | 06 | 10 |
| 7 | 36 | 43 | 125 | | | 100 | 82 | 18 | 25 | 30 | 125 | | | 133 | 117 | 16 | 15 |
| 5 | 39 | 43 | 125 | | | 92 | 82 | 10 | 26 | 30 | 125 | | | 130 | 117 | 13 | 13 |
| 7 | 33 | 43 | 125 | | | 108 | 82 | 26 | 21 | 30 | 126 | | | 144 | 117 | 27 | 28 |
| 2 | 34 | 43 | 125 | | | 105 | 82 | 23 | 23 | 30 | 126 | | | 139 | 117 | 22 | 23 |
| 4 | 38 | 43 | 125 | Same as n | Same as m+n | 95 | 82 | 13 | 26 | 30 | 126 | Same as n | Same as m+n | 130 | 117 | 13 | 13 |
| 7 | 38 | 43 | 125 | | | 95 | 82 | 13 | 24 | 30 | 126 | | | 136 | 117 | 19 | 16 |
| 1 | 36 | 43 | 125 | | | 100 | 82 | 18 | 23 | 30 | 126 | | | 139 | 117 | 22 | 21 |
| 1 | 34 | 43 | 125 | | | 105 | 82 | 23 | 23 | 30 | 126 | | | 139 | 117 | 22 | 23 |
| 5 | 36 | 43 | 125 | | | 100 | 82 | 18 | 26 | 30 | 126 | | | 130 | 117 | 13 | 17 |
| 0 | 39 | 43 | 125 | | | 92 | 82 | 10 | 28 | 30 | 126 | | | 123 | 117 | 06 | 10 |
| 7 | 37 | 43 | 125 | | | 97 | 82 | 15 | 25 | 30 | 126 | | | 133 | 117 | 16 | 18 |
| 7 | 37 | 43 | 125 | | | 97 | 82 | 15 | 25 | 30 | 126 | | | 133 | 117 | 16 | 17 |
| 2 | 38 | 43 | 125 | | | 95 | 82 | 13 | 21 | 30 | 126 | | | 144 | 117 | 27 | 17 |
| 2 | 38 | 43 | 125 | | | 95 | 82 | 13 | 26 | 30 | 126 | | | 130 | 117 | 13 | 13 |
| 0 | 40 | 42 | 125 | | | 89 | 85 | 04 | 26 | 30 | 126 | | | 130 | 117 | 13 | 10 |
| 4 | 41 | 42 | 125 | | | 87 | 85 | 02 | 26 | 30 | 126 | | | 130 | 117 | 13 | 7 |
| 4 | 41 | 42 | 125 | | | 87 | 85 | 02 | 27 | 30 | 126 | | | 127 | 117 | 10 | 7 |
| 2 | 40 | 42 | 125 | | | 89 | 85 | 04 | 27 | 30 | 126 | | | 127 | 117 | 10 | 6 |
| 0 | 38 | 41 | 125 | | | 95 | 87 | 08 | 25 | 30 | 126 | | | 133 | 117 | 16 | 13 |
| 0 | 34 | 41 | 125 | | | 105 | 87 | 18 | 22 | 29 | 126 | | | 142 | 119 | 23 | 22 |
| 1 | 37 | 41 | 125 | | | 97 | 87 | 10 | 24 | 29 | 126 | | | 136 | 119 | 17 | 14 |

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| No | n | m+n | f+m+n | n̄ | m̄+n | (n) | (m+n) | Δm | Mean | Mean | dl | dl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 139 | — | — | — | | | | | — | 18 | 19 | 15 | 16 |
| 140 | 8 | 15 | 124 | | | 194 | 162 | 32 | 32 | 34 | 26 | 27 |
| 141 | 10 | 15 | 124 | | | 185 | 162 | 23 | 30 | 33 | 24 | 26 |
| 142 | 10 | 15 | 124 | | | 185 | 162 | 23 | 25 | 26 | 21 | 21 |
| 143 | 11 | 15 | 124 | | | 180 | 162 | 18 | 23 | 29 | 19 | 23 |
| 144 | — | — | — | | | | | — | 23 | 22 | 19 | 18 |
| 145 | — | — | — | | | | | — | 22 | 25 | 18 | 20 |
| 146 | — | — | — | | | | | — | 14 | 15 | 12 | 13 |
| 147 | — | — | — | | | | | — | 10 | 10 | 9 | 9 |
| 148 | — | — | — | | | | | — | 15 | 17 | 13 | 14 |
| 149 | — | — | — | | | | | — | 14 | 14 | 12 | 12 |
| 150 | 10 | 15 | 124 | | | 185 | 162 | 23 | 27 | 29 | 22 | 23 |
| 151 | — | — | — | | | | | — | 23 | 24 | 19 | 20 |
| 152 | — | — | — | | | | | — | 13 | 14 | 11 | 12 |
| 153 | — | — | — | Same as | Same as m+n | | | — | 16 | 16 | 14 | 14 |
| 154 | — | — | — | | | | | — | 21 | 22 | 18 | 18 |
| 155 | 11 | 16 | 124 | | | 180 | 158 | 22 | 22 | 22 | 18 | 18 |
| 156 | 11 | 16 | 124 | | | 180 | 158 | 22 | 20 | 21 | 17 | 18 |
| 157 | 13 | 16 | 124 | | | 170 | 158 | 12 | 11 | 14 | 10 | 12 |
| 158 | 11 | 16 | 124 | | | 180 | 158 | 22 | 19 | 20 | 16 | 17 |
| 159 | 11 | 16 | 124 | | | 180 | 158 | 22 | 18 | 17 | 15 | 14 |
| 160 | — | — | — | | | | | — | 17 | 17 | 14 | 14 |
| 161 | — | — | — | | | | | — | 13 | 14 | 11 | 12 |
| 162 | — | — | — | | | | | — | 10 | 10 | 9 | 9 |
| 163 | — | — | — | | | | | — | 7 | 10 | 6 | 9 |
| 164 | — | — | — | | | | | — | 7 | 8 | 6 | 7 |
| 165 | — | — | — | | | | | — | 6 | 10 | 5 | 9 |
| 166 | — | — | — | | | | | — | 13 | 15 | 11 | 13 |
| 167 | — | — | — | | | | | — | 22 | 25 | 18 | 21 |
| 168 | 12 | 16 | 124 | | | 175 | 158 | 17 | 14 | 19 | 12 | 16 |

1924phae.proj.110MP

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| No. | ap. 6 | | | | | | | | ap. 7 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
| 169 | 60 | 74 | 126 | 60 | 73 | 44 | 14 | 30 | 45 | 56 | 126 | | | 77 | 52 | 25 |
| 170 | 67 | 73 | 126 | 66 | 72 | 28 | 16 | 12 | 50 | 56 | 126 | | | 65 | 52 | 10 |
| 171 | 66 | 72 | 126 | 65 | 71 | 30 | 19 | 11 | 50 | 55 | 126 | | | 65 | 54 | 11 |
| x 172 | 63 | 71 | 126 | 63 | 70 | 37 | 21 | 16 | 47 | 55 | 126 | | | 73 | 54 | 19 |
| 173 | 63 | 71 | 126 | 63 | 70 | 37 | 21 | 16 | 47 | 54 | 126 | | | 73 | 56 | 17 |
| 174 | 64 | 70 | 126 | 64 | 69 | 35 | 23 | 12 | 48 | 54 | 126 | | | 70 | 56 | 14 |
| 175 | 68 | 70 | 126 | 67 | 69 | 25 | 23 | 02 | 51 | 53 | 126 | | | 63 | 58 | 05 |
| 176 | 60 | 69 | 126 | 60 | 68 | 44 | 25 | 19 | 44 | 52 | 126 | | | 80 | 61 | 19 |
| 177 | 63 | 69 | 126 | 63 | 68 | 37 | 25 | 12 | 47 | 51 | 126 | | | 73 | 63 | 10 |
| 178 | 61 | 66 | 126 | 61 | 66 | 42 | 30 | 12 | 45 | 50 | 126 | | | 77 | 65 | 12 |
| + 179 | 56 | 66 | 126 | 56 | 66 | 52 | 30 | 22 | 42 | 48 | 126 | | | 85 | 70 | 15 |
| 180 | 63 | 65 | 126 | 63 | 65 | 37 | 33 | 04 | 45 | 48 | 126 | | | 77 | 70 | 07 |
| 181 | 60 | 64 | 126 | 60 | 64 | 44 | 35 | 09 | 45 | 47 | 126 | | | 77 | 73 | 04 |
| 182 | 57 | 63 | 126 | 57 | 63 | 50 | 37 | 13 | 42 | 46 | 126 | | | 85 | 75 | 10 |
| 183 | 58 | 63 | 126 | 58 | 63 | 48 | 37 | 11 | 41 | 46 | 126 | | | 87 | 75 | 12 |
| 184 | 57 | 61 | 126 | 57 | 61 | 50 | 42 | 08 | 41 | 45 | 126 | | | 87 | 77 | 10 |
| 185 | 55 | 60 | 126 | 55 | 60 | 54 | 44 | 10 | 39 | 43 | 126 | Same as ξ | Same as m+n | 92 | 82 | 10 |
| 186 | 52 | 57 | 126 | 52 | 57 | 61 | 50 | 11 | 37 | 41 | 126 | | | 97 | 87 | 10 |
| 187 | 50 | 55 | 126 | 50 | 55 | 65 | 54 | 11 | 36 | 40 | 126 | | | 100 | 89 | 11 |
| 188 | 46 | 54 | 126 | 46 | 54 | 75 | 56 | 19 | 31 | 38 | 126 | | | 114 | 95 | 19 |
| 189 | 46 | 53 | 126 | 46 | 53 | 75 | 58 | 17 | 31 | 36 | 126 | | | 114 | 100 | 14 |
| 190 | 39 | 51 | 126 | 39 | 51 | 92 | 63 | 29 | 25 | 35 | 126 | | | 133 | 102 | 31 |
| 191 | 30 | 50 | 126 | 30 | 50 | 117 | 65 | 52 | 19 | 34 | 126 | | | 149 | 105 | 44 |
| 192 | 36 | 48 | 126 | 36 | 48 | 100 | 70 | 30 | 23 | 32 | 126 | | | 139 | 111 | 28 |
| 193 | 35 | 44 | 126 | 35 | 44 | 102 | 80 | 22 | 23 | 29 | 126 | | | 139 | 119 | 20 |
| 194 | 35 | 43 | 126 | 35 | 43 | 102 | 82 | 20 | 23 | 28 | 126 | | | 139 | 123 | 16 |
| 195 | 31 | 38 | 126 | 31 | 38 | 114 | 95 | 19 | 20 | 24 | 126 | | | 147 | 136 | 11 |
| 196 | 26 | 34 | 126 | 26 | 34 | 130 | 105 | 25 | 16 | 22 | 126 | | | 158 | 142 | 16 |
| 197 | 27 | 33 | 126 | 27 | 33 | 127 | 108 | 19 | 16 | 21 | 126 | | | 158 | 144 | 14 |
| 198 | 24 | 30 | 126 | 24 | 30 | 136 | 117 | 19 | 15 | 19 | 126 | | | 162 | 149 | 13 |

1924phae.proj.116MP

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| No | n | m+n | l+m+n | n̄ | m+n̄ | (n) | (m+n) | Δm | n | m+n | l+m+n | n̄ | m+n̄ | (n) | (m+n) | Δm | No |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ap. 8 | | | | | | | | ap. 9 | | | | | |
| 169 | 31 | 41 | 125 | | | 114 | 87 | 27 | 20 | 28 | 126 | | | 147 | 123 | 24 | |
| 170 | 34 | 40 | 125 | | | 105 | 89 | 16 | 23 | 27 | 126 | | | 139 | 127 | 12 | |
| 171 | 35 | 40 | 125 | | | 102 | 89 | 13 | 23 | 27 | 126 | | | 139 | 127 | 12 | |
| 172 | 32 | 39 | 125 | | | 111 | 92 | 19 | 20 | 26 | 126 | | | 147 | 130 | 17 | |
| 173 | 34 | 39 | 125 | | | 105 | 92 | 13 | 19 | 25 | 126 | | | 149 | 133 | 16 | |
| 174 | 34 | 38 | 125 | | | 105 | 95 | 10 | 22 | 25 | 126 | | | 142 | 133 | 09 | |
| 175 | 37 | 38 | 125 | | | 97 | 95 | 02 | 23 | 25 | 126 | | | 139 | 133 | 06 | |
| 176 | 30 | 37 | 125 | | | 117 | 97 | 20 | 18 | 24 | 126 | | | 153 | 136 | 17 | |
| 177 | 33 | 36 | 125 | | | 108 | 100 | 08 | 20 | 23 | 126 | | | 147 | 139 | 08 | |
| 178 | 30 | 35 | 125 | | | 117 | 102 | 15 | 18 | 22 | 126 | | | 153 | 142 | 11 | |
| 179 | 27 | 34 | 125 | | | 127 | 105 | 22 | 16 | 21 | 126 | | | 158 | 144 | 14 | |
| 180 | 30 | 33 | 125 | | | 117 | 108 | 09 | 18 | 21 | 126 | | | 153 | 144 | 09 | |
| 181 | 31 | 33 | 125 | Same as 8 | Same as 8 | 114 | 108 | 06 | 19 | 20 | 126 | Same as 8 | Same as 8 | 149 | 147 | 02 | |
| 182 | 27 | 31 | 125 | | | 127 | 114 | 13 | 16 | 20 | 126 | | | 158 | 147 | 11 | |
| 183 | 27 | 31 | 125 | | | 127 | 114 | 13 | 16 | 19 | 126 | | | 158 | 149 | 09 | |
| 184 | 27 | 30 | 125 | | | 127 | 117 | 10 | 16 | 18 | 126 | | | 158 | 153 | 05 | |
| 185 | 25 | 29 | 125 | | | 133 | 119 | 14 | 15 | 18 | 126 | | | 162 | 153 | 09 | |
| 186 | 25 | 28 | 125 | | | 133 | 123 | 10 | 13 | 16 | 126 | | | 170 | 158 | 12 | |
| 187 | 21 | 25 | 125 | | | 144 | 133 | 11 | 13 | 15 | 126 | | | 170 | 162 | 08 | |
| 188 | 22 | 25 | 125 | | | 142 | 133 | 09 | 13 | 14 | 126 | | | 170 | 166 | 04 | |
| 189 | 20 | 24 | 125 | | | 147 | 136 | 11 | 10 | 13 | 126 | | | 185 | 170 | 15 | |
| 190 | 17 | 22 | 125 | | | 156 | 142 | 14 | 8 | 13 | 126 | | | 194 | 170 | 24 | |
| 191 | 10 | 21 | 125 | | | 185 | 144 | 41 | 5 | 12 | 126 | | | 233 | 175 | 58 | |
| 192 | 14 | 19 | 125 | | | 166 | 149 | 17 | 6 | 11 | 126 | | | 214 | 180 | 34 | |
| 193 | 13 | 18 | 125 | | | 170 | 153 | 17 | 6 | 10 | 126 | | | 214 | 185 | 29 | |
| 194 | 12 | 17 | 125 | | | 175 | 156 | 19 | 6 | 10 | 126 | | | 214 | 185 | 29 | |
| 195 | 12 | 15 | 125 | | | 175 | 162 | 13 | 6 | 8 | 126 | | | 214 | 194 | 20 | |
| 196 | — | — | — | | | — | — | — | — | — | — | | | — | — | — | |
| 197 | — | — | — | | | — | — | — | — | — | — | | | — | — | — | |
| 198 | — | — | — | | | — | — | — | — | — | — | | | — | — | — | |

1924phae.proj.110MP

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C18583 Mean dl

ap. 18

| No | n | m+n | f+m+n | n | m+n | (n) | (m+n) | Δm | mean | Mean | Mean | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9 | 16 | 124 | | | 190 | 158 | 32 | 24 | 28 | 25 | 23 | 21 |
| | — | — | — | | | | | — | 14 | 12 | 17 | 10 | 15 |
| | — | — | — | | | | | — | 12 | 12 | 11 | 10 | 10 |
| | — | — | — | | | | | — | 18 | 18 | 16 | 15 | 14 |
| | — | — | — | | | | | — | 14 | 16 | 17 | 14 | 15 |
| | 9 | 15 | 124 | Same | Same | 190 | 162 | 28 | 16 | 15 | 14 | 13 | 12 |
| | 11 | 14 | 124 | | | 180 | 166 | 14 | 07 | 06 | 02 | 05 | 02 |
| | 9 | 14 | 124 | | | 190 | 166 | 24 | 20 | 20 | 18 | 17 | 15 |
| | — | — | — | | | | | — | 08 | 10 | 12 | 09 | 10 |
| | — | — | — | | | | | — | 13 | 12 | 14 | 10 | 12 |
| | 8 | 12 | 124 | | | 194 | 175 | 19 | 18 | 18 | 18 | 15 | 15 |
| | | | | | | | | | 09 | 10 | 07 | 09 | 06 |
| | | | | | | | | | 04 | 05 | 04 | 05 | 04 |
| | | | | | | | | | 12 | 12 | 12 | 10 | 10 |
| | | | | | | | | | 11 | 11 | 12 | 10 | 10 |
| | | | | | | | | | 8 | 08 | 11 | 07 | 10 |
| | | | | | | | | | 12 | 11 | 11 | 10 | 10 |
| | | | | | | | | | 11 | 11 | 09 | 10 | 08 |
| | | | | | | | | | 10 | 10 | 09 | 09 | 08 |
| | | | | | | | | | 7 | 13 | 12 | 11 | 10 |
| | | | | | | | | | 13 | 14 | 09 | 12 | 08 |
| | | | | | | | | | 19 | 24 | 22 | 20 | 18 |
| | | | | | | | | | 50 | 49 | 46 | 36 | 35 |
| | | | | | | | | | 26 | 27 | 21 | 22 | 18 |
| | | | | | | | | | 23 | 22 | 22 | 18 | 18 |
| | | | | | | | | | 24 | 21 | 22 | 18 | 18 |
| | | | | | | | | | 13 | 14 | 18 | 12 | 15 |
| | | | | | | | | | | 20 | 26 | 17 | 21 |
| | | | | | | | | | | 16 | 13 | 14 | 11 |
| | | | | | | | | | | 16 | 16 | 14 | 14 |

1924phae.proj.110IP

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| | ap. 6 | | | | | | | | ap. 7 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | n | m+n | ~~f+m+n~~ | n | m+n | (n) | (m+n) | Δm | n | m+n | f+m+n | n | m+n | (n) | (m+n) | Δm | No |
| 199 | 25 | 26 | 126 | f | f | 133 | 130 | 03 | 14 | 17 | 126 | f | f | 166 | 156 | 10 | |
| 200 | 22 | 25 | 126 | f | f | 142 | 133 | 09 | 12 | 15 | 126 | f | f | 175 | 162 | 13 | |
| 201 | — | — | — | same | same | — | — | — | — | — | — | same | same | — | — | — | |
| 202 | — | — | — | same | same | — | — | — | — | — | — | same | same | — | — | — | |
| 203 | 14 | 20 | 126 | | | 166 | 147 | 19 | — | — | — | | | — | — | — | |

1924phae.proj.110IP

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

ap. 8 ap. 9

No. n m+n b+m+n n̄ m+n (n) (m+n) Δm. n m+n b+m+n n̄ m+n (n) (m+n) Δm. Mean

07

07

9

1924phae.proj.116MP

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1924phae.proj.110MP



ap. 10

18583

| 1920 | n | m+n | 4m+n | $\bar{n}$ | $\overline{m+n}$ (n) | (m+n) | Δn | Mean | Mean | Dl | Dl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 199 | | | | | | | | 07 | 05 | 06 | 05 |
| 200 | | | | | | | | 07 | 20 | 06 | 17 |
| 201 | | | | | | | | — | 12 | — | 10 |
| 202 | | | | | | | | — | 08 | — | 07 |
| 203 | | | | | | | | 19 | 21 | 16 | 18 |

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1924phae.proj.110MP



John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

Identification of Lines of Capella. C 18583 ap. 8

| No. | Int. | Reading | Est. λ | Ident. |
|---|---|---|---|---|
| 1 | | 349 | | |
| 2 | 49 | 342 | | |
| 3 | | 338 | | |
| 4 | 49 | 336 | | |
| 5 | 74 | 335 | 3695 | ? |
| 6 | 38 | 331 | 3707 | 3709 Fe 5,5 8 |
| 7 | 62 | 328 | 3715 | 3720 Fe 40 |
| 8 | 52 | 324 | 3726 | ↑ |
| 9 | 29 | 321 | 3734 | 3735 Fe 40 |
| 10 | 35 | 320 | 3737 | 3737 Fe 30 3738 |
| 11 | 23 | 318 | 3742 | 3743 Fe 6 |
| 12 | 12 | 317 | 3745 | 3745 Fe 8 |
| 13 | 07 | 315 | 3750 | ? 3749 Fe 20 ~~3758 Fe~~ |
| 14 | 33 | 310 | 3765 | 3758 Fe 15 |
| 15 | 38 | 309 | 3767 | 3763 Fe 10 |
| 16 | 48 | 306 | 3776 | 3769 Fe 8 |
| 17 | 50 | 305 | 3778 | 3776 Ni 7 |
| 18 | 13 | 303 | 3784 | 3784 Ni 6 |
| 19 | 22 | 301 | 3790 | 3788 Fe 9 |
| 20 | 42 | 298 | 3797 | 3799 Fe 7 |
| 21 | 49 | 296 | 3802 | 3805 Fe 6 |
| 22 | 62 | 294 | 3808 | 3809 Mn 4? |
| 23 | 71 | 290 | 3819 | 3820 Fe 25 |
| 24 | 64 | 288 | 3824 | 3826 Fe 20 |
| 25 | 30 | 285 | 3832 | 3832 Mg 15 |
| 26 | 17 | 284 | 3835 | 3834 Fe 10 |
| 27, 28 | | | | 3838 Mg 25 |
| 29 | 51 | 279 | 3849 | 3850 Fe 10 |
| 30 | 18 | 277 | 3854 | 3855 Fe Co 4c |
| 31 | 28 | 275 | 3860 | 3860 Fe 20 |

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| No. | Int. | Reading | Est. λ | Ident. |
|---|---|---|---|---|
| 32 | 54 | 273 | 3866 | 3866 Fe 7 |
| 33 | 42 | 271 | 3871 | 3879 Fe 6 |
| 34 | 44 | 269 | 3876 | 3878 Fe 8 |
| 35 | 48 | 267 | 3882 | Cy? |
| 36 | 47 | 266 | 3884 | 3886 Fe 15 |
| 37 | 14 | 263 | 3892 | 3893-2, Fe 4 |
| 38 | 18 | 262 | 3896 | 3895 Fe 87 |
| 39 | 16 | 261 | 3898 | 3899 Fe 8 |
| 40 | 18 | 259 | 3903 | 3903 Fe Cr 10 |
| 41 | 28 | 258 | 3906 | 3905 Si 12 |
| 42 | 11 | 255 | 3914 | 3913-14 Ti+5 Fe 4 Fe?3 |
| 43 | 26 | 254 | 3917 | 3917 Fe 5 Fe 5 |
| 44 | 42 | 253 | 3920 | 3920 Fe 10 |
| 45 | 148 | 248 | 3933 | 3933 |
| 46 | 58 | 244 | 3944 | 3944 Al 15 |
| 47 | 58 | 248 | 3946 | 3947. 3,2,4,1,2 3957 Fe 5 |
| 48 | 39 | 241 | 3952 | ~~3953. 4,3,~~ 3,3,1,5 |
| 49 | 38 | 240 | 3954 | 3953. 3,3,1,3 3957 Fe Cr 7 |
| 50 | 37 | 238 | 3960 | ~~3962 Al 20~~ |
| 51 | 73 | 236 | 3965 | 3962 Al 20 |
| 52 | (170) | 235 | 3970 | 3968 Cr 700 |
| 53 | 42 | 230 | 3982 | 3981 1,2,1 |
| 54 | 29 | 228 | 3987 | 3987 0-6 |
| 55 | 18 | 227 | 3990 | 3990 Ti 4 Fe 3 |
| 56 | 19 | 225 | 3995 | 3995 Co 5 |
| 57 | 28 | 222 | 4003 | 4001 3,3 |
| 58 | 12 | 221 | 4005 | 4003 Ce Fe Ti 3 |
| 59 | 35 | 220 | 4008 | 4005 Fe 7 |
| 60 | 13 | 217 | 4016 | 4015 Fe 5 d |

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C-18583

| No | Int. | Reading | | |
|---|---|---|---|---|
| 61 | 11 | 215 | 4022 | 4022 Fe 5 |
| 62 | 14 | 214 | 4024 | 4024 Ti 3 Fe 4 |
| 63 | 14 | 213 | 4027 | 4028 Ti 4 |
| 64 | 18 | 212 | 4030 | 4030 Mn 4,5 |
| 65 | 36 (32) | 210 | 4036 | 4033 Mn 7<br>4034 Mn 6 |
| 66 | 14 | 206 | 4046 | 4042 Mn 5 |
| 67 | 55 | 205 | 4050 | 4046 Fe 30 |
| 68 | 10 | 203 | 4054 | 4050 Fe 2 |
| 69 | 20 | 202 | 4058 | 4055 Mn 6 |
| 70 | 28 | 201 | 4060 | 4057 Mg 7 |
| 71 | 30 | 200 | 4063 | 4058-9 Fe 3, Cr 3 Mn |
| 72 | 45 | 199 | 4066 | 4063 Fe 20 |
| 73 | 25 | 197 | 4071 | 4068 Fe 6 |
| 74 | 31 | 196 | 4074 | 4072 Fe 15 |
| 75 | 53 | 194 | 4079 | 4078 Sr 8 |
| 76 | 21 | 192 | 4084 | 4084 Fe 2 Mn (3) |
| 77 | 12 | 188 | 4095 | 4095 ? Ca 4 |
| 78 | 25 | 187 | 4098 | 4098 Fe 5 Ca ? 4 |
| 79 | 67 | 186 | 4101 | 4102 H 8 40 |
| 80 | 22 | 183 | 4111 | 4111 V 4 |
| 81 | 24 | 180 | 4120 | 4121 Cr Co 6 |
| 82 | 20 | 179 | 4123 | 4123 Fe 5 |
| 83 | 25 | 176 | 4132 | 4132 Fe 10 |
| 84 | 34 | 175 | 4136 | 4135 Fe 5 Fe 4 V Fe 3 |
| 85 | 13 | 174 | 4140 | 4140 Fe 6 |
| 86 | 41 | 172 | 4146 | 4144 Fe 15 |
| 87 | 28 | 170 | 4152 | 4152 2,1,3 |
| 88 | 28 | 169 | 4156 | 4156 Fe 5 |
| 89 | 31 | 168 | 4158 | 4158 Fe 5,-5 |

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| No | Int. | Reading | | |
|---|---|---|---|---|
| 90 | 20 | 167 | 4162 | 4162-4 Sr 1 |
| 91 | 30 | 165 | 4168 | 4167 Mg 8 |
| 92 | 48 | 163 | 4175 | 4175 Fe 5<br>4176 Fe Mn 5 |
| 93 | 43 | 161 | 4181 | 4181 Fe 5 |
| 94 | 37 | 160 | 4184 | 4185 Fe, Cr 4 |
| 95 | 35 | 158 | 4190 | 4191 Fe 6 |
| 96 | 30 | 157 | 4194 | 4195 Fe 5 |
| 97 | 44 | 155 | 4201 | 4202 Fe 8 |
| 98 | 38 | 153 | 4207 | 4207 Fe 3 Fe 3 |
| 99 | 32 | 152 | 4210 | 4210 Fe 3-4 |
| 100 | 25 | 151 | 4213 | 4213 Fe 3 |
| 101 | 43 | 150 | 4216 | 4215 Sr 5 |
| 102 | 64 | 147 | 4227 | 4227 Ca 20 |
| 103 | 26 | 145 | 4233 | 4233 Fe 6 |
| 104 | 32 | 144 | 4237 | ? 4239 Fe 5 |
| 105 | 24 | 143 | 4240 | 4239 Mn 3<br>Fe 3 |
| 106 | 15 | 142 | 4244 | 4245 Fe 4 |
| 107 | 28 | 141 | 4248 | 4249 2N 2N |
| 108 | 29 | 140 | 4251 | 4257 Fe 8 |
| 109 | 24 | 138 | 4258 | 4258 1,2,2,1,2 |
| 110 | 36 | 137 | 4261 | 4261 Fe 10 |
| 111 | 20 | 138 4 | 4272 | 4272 Fe 15 |
| 112 | 44 | 133 | 4276<br>~~4227~~ | 4275 Cr 7 |
| 113 | 23 | 131 | 4283 | 4282 Fe 5 |
| 114 | 29 | 129 30 | 4286 | 1 |
| 115 | 46 | 129 | 4290 | 4290 Cr 5 |
| 116 | 35 | 127 | 4296 | 4294 Fe 5 |
| 117 | 68 | 126 | 4300 | 4300 Ti+3 |
| 118 | 58 | 125 | 4304 | 4304 4 |

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C-1858

| No | Int. | Reading | | |
|---|---|---|---|---|
| 119 | 68 | 124 | 4308 | 4308 Fe6 |
| 120 | 49 | 119 | 4324 | 4326 Fe 8 |
| 121 | 11 | 117 | 4332 | 4334 La 1 |
| 122 | 62 | 115 | 4340 | 4340 H8 |
| 123 | 31 | 111 | 4356 | 4355 Ca?2 |
| 124 | 18 | 109 | 4365 | 4366 Fe 2 |
| 125 | 17 | 107 | 4374 | 4374 Sc Fe 3 |
| 126 | 30 | 105 | 4383 | 4383 Fe 15 |
| 127 | 57 | 103 | 4392 | ? |
| 128 | 29 | 101 | 4401 | 4404 Fe 10 |
| 129 | 26 | 100 | 4406 | 4408 2,32 |
| 130 | 28 | 98 | 4414 | 4415 Fe 8 |
| 131 | 34 | 97 | 4420 | 4422 Fe Y+3 |
| 132 | 26 | 96 | 4424 | 4426 Ca 4 |
| 133 | 30 | 95 | 4429 | 4430 Fe 3 |
| 134 | 22 | 93 | 4438 | 4440 Fe 1 ? |
| 135 | 22 | 91 | 4447 | 4448 Fe 6 |
| 136 | 30 | 90 | 4451 | 4452 Mn 3 |
| 137 | 29 | 87 | 4465 | 4467 Fe 5 |
| 138 | 14 | 86 | 4470 | 4471 Ni 22 2 |
| 139 | 19 | 85 | 4474 | ? |
| 140 | 34 | 85 | 4474 | 4476 Fe 4 Ag 3 |
| 141 | 33 | 84 | 4478 | 4482 Fe 5 Fe 3 |
| 142 | 26 | 81 | 4492 | 4494 Fe 6 |
| 143 | 29 | 78 | 4506 | 4508 Fe 4 |
| 144 | 22 | 76 | 4515 | 4517 Fe 3 |
| 145 | 25 | 75 | 4520 | 4522 Fe 3 Ti 2 |
| 146 | 15 | 74 | 4524 | 4525 Fe 5 |
| 147 | 10 | 72 | 4532 | 4533 Ti 4 |

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| No | Int. | Reading | | |
|---|---|---|---|---|
| 148 | 17 | 70 8 | 4542 | 4543 Fe 1 |
| 149 | 14 | 67 | 4551 | 4552 Ti 2 Fe 1 |
| 150 | 29 | 67 | 4556 | 4554 Ba 8 |
| 151 | 24 | 66 | 4560 | 4558 Cr 3 |
| 152 | 14 | 65 | 4564 | 4563 Ti 4 |
| 153 | 16 | 64 | 4570 | 4569 Fe 1 |
| 154 | 22 | 63 | 4574 | 4572 Ti 6 |
| 155 | 22 | 61 | 4582 | 4581 Ca 4 Co Fe 4 |
| 156 | 21 | 59 | 4592 | 4593 Ni 2 Fe 4 |
| 157 | 14 | 58 | 4596 | 4596 Fe 2 |
| 158 | 20 | 55 | 4610 | 4611 Fe 5 |
| 159 | 17 | 52 | 4624 | 4625 Fe 5 |
| 160 | 17 | 51 | 4628 | 4629 Ti Co 6 |
| 161 | 14 | 50 | 4632 | 4633 Fe 4 |
| 162 | 10 | 48 | 4641 | 4643 Fe 4 |
| 163 | 10 | 47 | 4646 | 4648 Fe 4 Ni 4 |
| 164 | 8 | 46 | 4650 | 4652 Cr 4 Cr 5 |
| 165 | 10 | 45 | 4655 | 4657 Fe 1 Fe 2 |
| 166 | 15 | 43 | 4664 | 4667 Fe 4 Ti 3 Ni 1 |
| 167 | 25 | 41 | 4674 | 4679 Fe 6-2 |
| 168 | 19 | 39 | 4683 | 4686 Ni 3 |
| 169 | 25 | 37 | 4692 | 4696 Fe ?1 ? |
| 170 | 17 | 34 | 4700 | 4703 Mg 10 |
| 171 | 11 | 32 | 4710 | 4715 Ni 4 |
| 172 | 16 | 30 | 4718 | 4722 ~~Fe 2~~ Zn 3 |
| 173 | 17 | 28 | 4726 | 4729 Fe 4 |
| 174 | 14 | 27 | 4732 | 4738 Fe 3 |
| 175 | 02 | 25 | 4742 | 4745 Fe 4 |
| 176 | 18 | 24 | 4746 | 4748 Fe 4 |

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C-18583

| No. | Int. | Reading | | |
|---|---|---|---|---|
| 177 | 12 | 23 | 4751 | 4754 Mn 7 |
| 178 | 14 | 20 | 4765 | 4768 -3 Fe 2 |
| 179 | 18 | 17 | 4780 | 4783 Mn 6 |
| 180 | 07 | 16 | 4785 | 4788 Fe 3 |
| 181 | 04 | 15 | 4789 | 4792 TiCr 2 |
| 182 | 12 | 14 | 4794 | 4798 Fe 1 |
| 183 | 12 | 12 | 4802 | 4805 Ti 3 |
| 184 | 11 | 11 | 4808 | 4810 Zn 3 |
| 185 | 11 | 8 | 4821 | 4824 Mn 5 |
| 186 | 09 | 6 | 4832 | 4833 Fe 3 |
| 187 | 09 | 5 | 4837 | 4838 2, FeNi 1 |
| 188 | 12 | 4 | 4842 | 4843 Fe 3 |
| 189 | 09 | 2 | 4850 | 4851 CaV |
| 190 | 22 | 1 | 4856 | 4856 Ni 3 |
| 191 | 46 | — | 4861 | 4861 Hβ 30 |
| 192 | 21 | 2 | 4869 | 4870 NiCr 3 Fe 5 |
| 193 | 22 | 4 | 4878 | 4878 } Fe 4 Ca 3 Fe 4 |
| 194 | 22 | 5 | 4884 | { 4884 Yr Sm Fe 2 Ti 2 |
| 195 | 18 | 8 | 4898 | 4900 Fe 8 |
| 196 | 26 | 10 | 4908 | 4905 - 3 |
| 197 | 13 | 11 | 4913 | 4910 3, 2, 2 |
| 198 | 16 | 13 | 4923 | 4919 Fe 6 |
| 199 | 05 | 16 | 4938 | 4934 Ba 3 4 |
| 200 | 20 | 17 | 4943 | 4939 Fe 4 Fe 2 |
| 201 | 12 | 18 | 4948 | 4946 Fe 3 |
| 202 | 08 | 19 | 4953 | 4950 Fe 2 |
| 203 | 21 | 20 | 4958 | 4957 Fe 8 |
| 204 | 14 | 21 | 4963 | 4963 Fe 2 |
| 205 | 09 | 22 | 4968 | 4968 Fe 3 |

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1924phac.proj.dtOIP



| No. | Int. | Reading | | |
|---|---|---|---|---|
| 206 | 15 | 24 | 4978 | 4978 Fe 3 |
| 207 | 13 | 25 | 4983 | 4983 Fe 4 |
| 208 | 12 | 26 | 4988 | 4989 Fe 2 |
| 209 | 09 | 28 | 4998 | 5000 Ti 6a |
| 210 | 08 | 29 | 5002 | 5002 Fe 5 |
| 211 | 16 | 29 | 5002 | 5005 Fe 4 Fe 5 |
| 212 | 11 | 30 | 5006 | 5007 Ti 3 Fe 2 |
| 213 | 09 | 32 | 5016 | 5018 Fe +4 |
| 214 | 13 | 34 | 5026 | 5027 Fe 3 |
| 215 | 11 | 35 | 5031 | 5031 Fe 3 |
| 216 | | 36 | 5036 | |
| 217 | | 38 | 5046 | |
| 218 | | 39 | 5051 | |
| 219 | | 40 | 5056 | |
| 220 | | 41 | 5061 | |

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Identification of Lines of o Ceti C 18579 qp.

| No | Reading |
|---|---|
| -20 | 9 |
| -19 | 6 |
| -18 | 5 |
| -17 | 3 |
| -16 | 2 |
| -15 | – |
| -14 | 2 |
| -11 | 9 |
| -10 | 11 |
| -9 | 12 |
| -8 | 13 |
| -7 | 15 |
| -6 | 16 |
| -5 | 18 |
| -4 | ~~20~~ 19 |
| -3 | 20 |
| -2 | 22 |
| -1 | 24 |
| 0 | 26 |
| 1 | 28 |
| a | 30 |
| b | 32 |
| c | 34 |
| d | 35 |
| e | 37 |
| f | 38 |
| g | 39 |
| h | 41 |
| i | 43 |

1924phae.proj.11DIP

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1924phae.proj.1106P



| No | Reading |
|---|---|
| 1 | 44 |
| 2 | 46 |
| 3 | 48 |
| 4 | 49 |
| 6 | 52 |
| 7 | 53 |
| 8-9 | 55 |
| 9x | 56 |
| a | 58 |
| b | 60 |
| c | 61 |
| d | 64 |
| e | 66 |
| 10 | 67 |
| a | 69 |
| b | 70 |
| c | 72 |
| d | 73 |
| e | 75 |
| f | 77 |
| g | 78 |
| 11 | 81 |
| 12-14 | 85 |
| 16 | 88 |
| 17-19 | 90 |
| 20-21 | 91 |
| 22-23 | 93 |
| 26 | 95 |
| 30 | 99 |

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1924phae.proj.1104P



C-18579

| No. | Reading |
|---|---|
| 32 | 101 |
| 33 | 102 |
| 34 | 103 |
| 35 | 104 |
| 36 | 105 |
| 37-38 | 106 |
| 39 | 108 |
| 41 | 110 |
| 42 | 111 |
| 43 | 113 |
| 44 | 114 |
| 46 | 115 |
| 47 | 117 |
| 48 | 119 |
| 49 | 121 |
| 50-52 | 124 |
| 54 | 128 |
| 55-56 | 130 |
| 57 | 131 |
| 63 | 134 |
| 66 | 136 |
| 67 | 137 |
| 68 | 138 |
| 69a | 139 |
| 71 | 141 |
| 73 | 142 |
| 75 | 143 |
| 78 | 145 |
| 80 | 146 |

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1924phae.proj.1100P



| No. | Reading |
|---|---|
| 82-83 | 150 |
| 85-87 | 153 |
| 88 | 154 |
| 93 | 158 |
| 95-6 | 160 |
| 97-99 | 162 |
| 101 | 163 |
| 102 | 164 |
| 104 | 167 |
| 105 | 169 |
| 106-7 | 171 |
| 108-9 | 172 |
| 110 | 174 |
| 111 | 175 |
| 112-14 | 176 |
| 115-17 | 178 |
| 118-19 | 180 |
| 120-22 | 183 |
| 123 | 185 |
| 124 | 186 |
| 125 | 188 |
| 128 | 189 |
| 130 | 190 |
| 131-33 | 191 |
| 134 | 192 |
| 135 | 194 |
| 136 | 195 |
| 138 | 198 |
| 139 | 200 |

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C-18579

| No. | Reading |
|---|---|
| 140 | 203 |
| 142 | 204 |
| 144 | 206 |
| 145 | 207 |
| 148 | 208 |
| 150 | 210 |
| 152-3 | 212 |
| 154 | 214 |
| 157-158 | 216 |
| 159-160 | 218 |
| 161-164 | 221 |
| 165 | 223 |
| 170-171 | 227 |
| 172-176 | 231 |
| 177-178 | 234 |
| 179-180 | 235 |
| 181-183 | 238 |
| 184 | 239 |
| 186 | 240 |
| 188 | 241 |
| 189 | 243 |
| 191 | 245 |
| 193 | 246 |
| 195 | 248 |
| 198-200 | 250 |
| 201 | 253 |
| 202a | 254 |
| 203 | 255 |
| 206-208 | 259 |

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| No. | Reading |
|---|---|
| 213 | 263 |
| 213a | 264 |
| 216 | 267 |
| 218-219 | 269 |
| 221 | 270 |
| 223-224 | 271 |
| 226 | 273 |
| 227 | 274 |
| 229 | 276 |
| 231 | 278 |
| 237 | 281 |
| 238 | 282 |
| 239 | 283 |
| 240-241 | 285 |
| 242-243 | 287 |
| 246 | 289 |
| 250-251 | 291 |
| 252-255 | 295 |
| 256 | 297 |
| 257-259 | 298 |
| 262-264 | 301 |
| 265-266 | 303 |
| 275 | 308 |
| 279-280 | 311 |
| 281 | 312 |
| 282 | 314 |
| 285 | 316 |
| 287-289 | 319 |
| 292 | 322 |

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G-18579

| No. | Reading |
|---|---|
| 296-8 | 325 |
| 299 | 327 |
| 301 | 330 |

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No
45
52
59
67
7
7
75
7
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10.
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19

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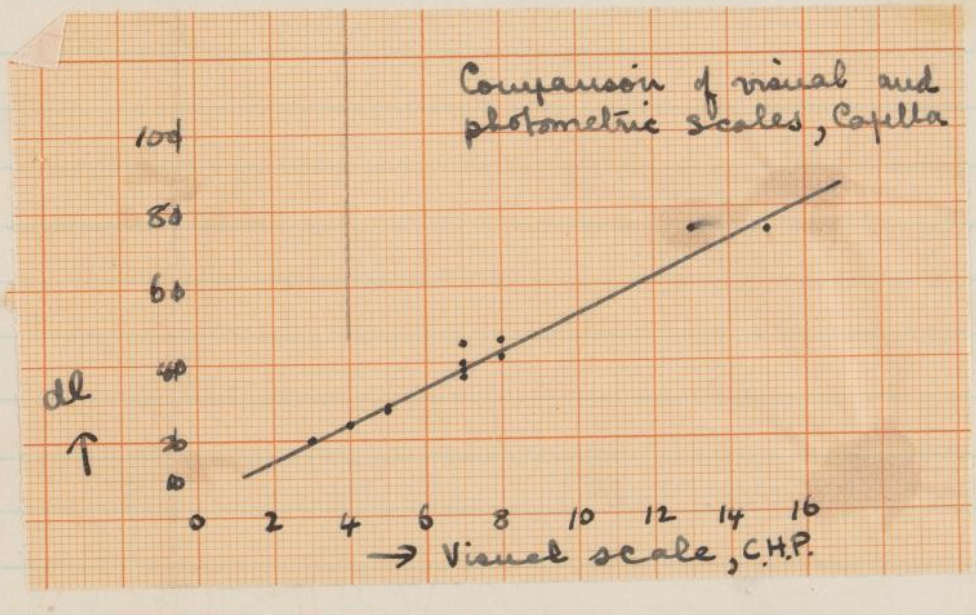
Capella. Arbitrary visual scale of line intensity

| No. | λ. | Int. | Measured dl. | Mean dl for scale steps. step | dl |
|---|---|---|---|---|---|
| 45 | 3933 | 15 | 74 | 15 | 74 |
| 52 | 3970 | 13 | .. | 8 | 44 |
| 59 | 4005 | 5 | 29 | 7 | 39 |
| 67 | 4046 | 7 | 38 | 6 | .. |
| 73 | 4067 | 3 | 20 | 5 | 32 |
| 74 | 4072 | 4 | 24 | 4 | 24 |
| 75 | 4077 | 7 | 39 | 3 | 20 |
| 79 | 4101 | 8 | 41 | | |
| 101 | 4215 | 5 | 34 | | |
| 102 | 4227 | 7 | 45 | | |
| 122 | 4340 | 8 | 46 | | |
| 191 | 4861 | 7 | 36 | | |

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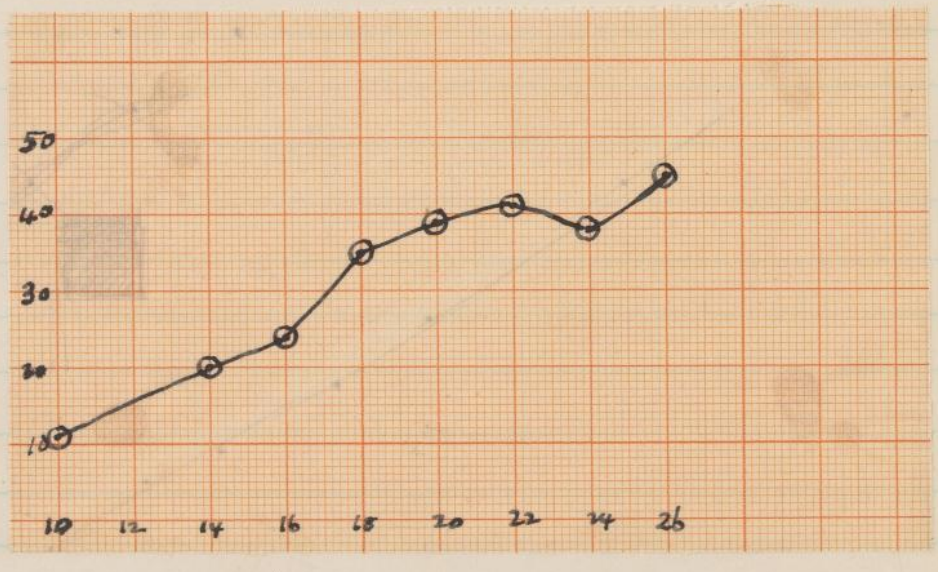
T. D. scale of visual intensity

| | Int. | dl |
|---|---|---|
| 4028 | 2 | 12 |
| 4049 | 4 | .. |
| 4092 | 6 | .. |
| 4167 | 8 | 24 |
| 4025 | 10 | 11 |
| 4018 | 12 | .. |
| 4067 | 14 | 20 |
| 4072 | 16 | 24 |
| 4064 | 18 | 35 |
| 4078 | 20 | 39 |
| 4102 | 22 | 41 |
| 4046 | 24 | 38 |
| 4227 | 26 | 45 |

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Pleiades
H 2679

Reduced to lt+m+n = 72
Reductions from Curve 1

| | No. 1 2.96 | | | | | | | | No. 2 3.81 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | m+n | lt+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm | n | m+n | lt+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
| 0 | 33 | 38 | 81 | 29 | 34 | 241 | 266 | 25 | – | – | – | – | – | – | – | – |
| 1 | 29 | 36 | 81 | 26 | 32 | 226 | 256 | 30 | 28 | 34 | 69 | 29 | 35 | 241 | 272 | 31 |
| 2 | 25 | 36 | 81 | 22 | 32 | 205 | 256 | 51 | 25 | 32 | 69 | 26 | 33 | 226 | 262 | 36 |
| 3 | 22 | 34 | 81 | 20 | 30 | 194 | 246 | 52 | 23 | 32 | 69 | 24 | 33 | 215 | 262 | 47 |
| 4 | 20 | 33 | 81 | 18 | 30 | 184 | 246 | 62 | 21 | 31 | 69 | 22 | 32 | 205 | 256 | 51 |
| 5 | 17 | 31 | 81 | 15 | 28 | 164 | 236 | 72 | 18 | 30 | 69 | 19 | 31 | 189 | 251 | 62 |
| 6 | 14 | 27 | 81 | 12 | 24 | 143 | 215 | 72 | 15 | 27 | 68 | 16 | 29 | 171 | 241 | 70 |
| 6a | 12 | – | 81 | 11 | – | 136 | – | – | 14 | – | 68 | 15 | – | 164 | – | – |
| 7 | 11 | 23 | 81 | 10 | 20 | 128 | 194 | 66 | 12 | 24 | 68 | 13 | 25 | ~~210~~ 150 | 220 | 70 |
| 7a | 9 | – | 81 | 8 | – | 111 | – | – | 11 | – | 68 | 12 | – | 143 | – | – |
| 8 | 7 | 18 | 80 | 6 | 16 | ~~100~~ 86 | ~~188~~ 171 | 85 | 10 | 20 | 67 | 11 | 22 | ~~200~~ 136 | 205 | 69 |
| 9 | 5 | 7 | 80 | 5 | 6 | 76 | 86 | 10 | 8 | 10 | 67 | 9 | 11 | 120 | 136 | 16 |
| 10 | 4 | 10 | 80 | 4 | 9 | 62 | 120 | 58 | 7 | 15 | 66 | 8 | 16 | 111 | 171 | 60 |
| 10a | 3 | – | 79 | 3 | – | 44 | – | – | 6 | – | 65 | 7 | – | 100 | – | – |
| 11 | 2 | 4 | 78 | 2 | 4 | 20 | 62 | 42 | 5 | 11 | 64 | 6 | 12 | 86 | 143 | 57 |
| a | – | – | 78 | – | – | – | – | – | 4 | – | 64 | 5 | – | 74 | – | – |
| b | – | – | 78 | – | – | – | – | – | 4 | – | 63 | 5 | – | 74 | – | – |
| c | – | – | 77 | – | – | – | – | – | 5 | – | 63 | 6 | – | 86 | – | – |
| 14 | 2 | 5 | 77 | 2 | 5 | 20 | 74 | 54 | 9 | 15 | 62 | 10 | 17 | 127 | 177 | 50 |
| -0 | 36 | 40 | 81 | 32 | 36 | 256 | 277 | 21 | | | | | | | | |

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| No. 3 | | | 4.25 | | | | | No. 4 | | | 4.02 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n | m+n | l+m+n | m | m+n | (n) | (m+n) | Δm | n | m+n | l+m+n | m | m+n | (n) | (m+n) | Δm |
| – | – | – | – | – | – | – | – | 41 | 46 | 70 | 42 | 47 | 306 | 330 | 24 |
| – | – | – | – | – | – | – | – | 39 | 45 | 70 | 40 | 46 | 297 | 326 | 29 |
| 46 | 53 | 80 | 41 | 48 | 302 | 338 | 36 | 35 | 42 | 70 | 36 | 43 | 282 | 310 | 28 |
| 43 | 5 ~~51~~ | 80 | 39 | 4 ~~45~~ | 292 | 321 | 29 | 32 | 42 | 70 | 33 | 43 | 262 | 310 | 48 |
| 40 | 50 | 80 | 36 | 45 | 277 | 321 | 44 | 29 | 39 | 70 | 30 | 40 | 246 | 297 | 51 |
| 37 | 49 | 80 | 33 | 44 | 262 | 316 | 54 | 26 | 38 | 69 | 27 | 40 | 231 | 297 | 66 |
| 34 | 45 | 80 | 31 | 41 | 251 | 311 | 60 | 22 | 35 | 68 | 23 | 37 | 210 | 282 | 72 |
| 31 | – | 81 | 28 | – | 236 | – | – | 20 | – | 68 | 21 | – | 200 | – | – |
| 29 | 42 | 81 | 26 | 37 | 226 | 282 | 56 | 19 | 30 | 67 | 20 | 32 | 194 | 257 | 63 |
| 27 | – | 81 | 24 | – | 215 | – | – | 18 | – | 67 | 19 | – | 189 | – | – |
| 26 | 38 | 81 | 23 | 34 | 210 | 266 | 56 | 16 | 26 | 66 | 17 | 28 | 177 | 238 | 61 |
| 24 | 26 | 81 | 21 | 23 | 200 | 210 | 10 | 14 | – | 65 | 16 | – | 171 | – | – |
| 22 | 33 | 82 | 19 | 29 | 189 | 241 | 52 | 13 | 20 | 65 | 14 | 22 | 158 | 205 | 47 |
| 19 | – | 82 | 17 | – | 197 | – | – | 10 | – | 63 | 11 | – | 136 | – | – |
| 16 | 25 | 83 | 14 | 22 | 158 | 205 | 47 | 8 | 14 | 62 | 9 | 16 | 120 | 171 | 51 |
| 14 | – | 84 | 12 | – | 143 | – | – | 6 | – | 61 | 7 | – | 100 | – | – |
| 12 | – | 84 | 10 | – | 128 | – | – | 4 | – | 59 | 5 | – | 74 | – | – |
| 13 | – | 85 | 11 | – | 136 | – | – | 4 | – | 58 | 5 | – | 74 | – | – |
| 22 | 26 | 85 | 19 | 22 | 188 | 205 | 17 | 8 | 14 | 58 | 10 | 17 | 127 | 177 | 50 |

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John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

| | No. 5 4.37 | | | | | | | | No. 6 5-43 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
| 0 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 2 | – | – | – | – | – | – | – | – | 59 | 63 | 70 | 61 | 65 | 400 | .. | – |
| 3 | – | – | – | – | – | – | – | – | 57 | 62 | 70 | 60 | 64 | 390 | .. | – |
| 4 | 68 | 72 | 73 | 67 | 71 | .. | .. | – | 55 | 61 | 70 | 57 | 63 | 374 | .. | – |
| 5 | 64 | 70 | 72 | 64 | 70 | .. | .. | – | 52 | 58 | 70 | 54 | 60 | 362 | 390 | 28 |
| 6 | 59 | 69 | 71 | 60 | 70 | 390 | .. | – | 48 | 55 | 69 | 50 | 57 | 345 | 374 | 29 |
| 6a | 55 | – | 70 | 57 | – | 374 | – | – | 45 | – | 69 | 47 | – | 330 | – | – |
| 7 | 51 | 62 | 70 | 52 | 64 | 354 | .. | – | 42 | 52 | 68 | 45 | 55 | 320 | 366 | 46 |
| 7a | 46 | – | 69 | 48 | – | 336 | – | – | 39 | – | 67 | 42 | – | 306 | – | – |
| 8 | 40 | 53 | 68 | 42 | 56 | 306 | 370 | 64 | 36 | 46 | 67 | 39 | 49 | 292 | 340 | 48 |
| 9 | 33 | 37 | 67 | 35 | 40 | 272 | 297 | 25 | 34 | 38 | 66 | 37 | 41 | 282 | 302 | 20 |
| 10 | 27 | 39 | 66 | 29 | 43 | 241 | 310 | 69 | 31 | 40 | 65 | 34 | 44 | 266 | 316 | 50 |
| 10a | 19 | – | 64 | 21 | – | 199 | – | – | 28 | – | 63 | 32 | – | 256 | – | – |
| 11 | 19 | 24 | 63 | 22 | 27 | 204 | 231 | 27 | 25 | 34 | 62 | 29 | 40 | 241 | 297 | 56 |
| a | 11 | – | 61 | 13 | – | 150 | – | – | 23 | – | 60 | 28 | – | 236 | – | – |
| b | 9 | – | 59 | 11 | – | 136 | – | – | 21 | – | 59 | 25 | – | 221 | – | – |
| c | 9 | – | 58 | 11 | – | 136 | – | – | 22 | – | 58 | 27 | – | 231 | – | – |
| 14 | 14 | 20 | 56 | 18 | 26 | 183 | 226 | 43 | 30 | 36 | 57 | 38 | 45 | 287 | 321 | 34 |

1924phae.proj.110IP

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| No. A. | | | | | | | | No. B. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n | m+n | l+m+n | n̄ | m+n | (n) | (m+n) | Δm | n | m+n | l+m+n | n̄ | m+n | (n) | (m+n) | Δm |
| 60 | 64 | 78 | 55 | 59 | 366 | 384 | 18 | — | — | — | — | — | — | — | — |
| 58 | 64 | 78 | 54 | 59 | 362 | 384 | 22 | — | — | — | — | — | — | — | — |
| 53 | 63 | 78 | 4 ~~54~~ | 58 | 340 ~~384~~ | 379 | 39 ~~05~~ | — | — | — | — | — | — | — | — |
| 49 | 61 | 78 | 45 | 56 | 321 | 370 | 49 | 69 | 74 | 87 | 57 | 61 | 374 | 400 ~~366~~ | 26 |
| 43 | 60 | 78 | 40 | 55 | 297 | 366 | 69 | 66 | 73 | 86 | 55 | 61 | 366 | 400 | 34 |
| 38 | 56 | 78 | 35 | 52 | 272 | 354 | 82 | 62 | 70 | 86 | 52 | 69 | 354 | 384 | 30 |
| 31 | 51 | 78 | 29 | 47 | 241 | 330 | 89 | 58 | 67 | 86 | 49 | 56 | 340 | 370 | 30 |
| 28 | — | 78 | 26 | — | 226 | — | — | 55 | — | 85 | 47 | — | 330 | — | — |
| 25 | 45 | 78 | 23 | 41 | 210 | 302 | 92 | 52 | 65 | 85 | 44 | 55 | 315 | 366 | 51 |
| 21 | — | 77 | 20 | — | 194 | — | — | 51 | — | 84 | 44 | — | 316 | — | — |
| 19 | 35 | 77 | 19 | 33 | 188 | 262 | 74 | 49 | 67 | 84 | 42 | 57 | 306 | 388 | 82 |
| 16 | 17 | 77 | 15 | 16 | 164 | 171 | 07 | 46 | 56 | 84 | 39 | 43 | 292 | 310 | 18 |
| 13 | 25 | 77 | 12 | 23 | 144 | 210 | 66 | 42 | 64 | 83 | 36 | 56 | 277 | 370 | 93 |
| 10 | — | 77 | 9 | — | 120 | — | — | 37 | — | 82 | 33 | — | 261 | — | — |
| 7 | 15 | 76 | 7 | 14 | 100 | 157 | 57 | 32 | 47 | 81 | 29 | 42 | 241 | 306 | 65 |
| 6 | — | 76 | 6 | — | 187 | — | — | 28 | — | 80 | 26 | — | 226 | — | — |
| 5 | — | 76 | 5 | — | 174 | — | — | 25 | — | 79 | 23 | — | 210 | — | — |
| 7 | — | 75 | 7 | — | 100 | — | — | 27 | — | 78 | 25 | — | 221 | — | — |
| 13 | 21 | 75 | 13 | 20 | 150 | 193 | 43 | 38 | 52 | 78 | 35 | 48 | 272 | 336 | 64 |

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1924phae.proj.110GP



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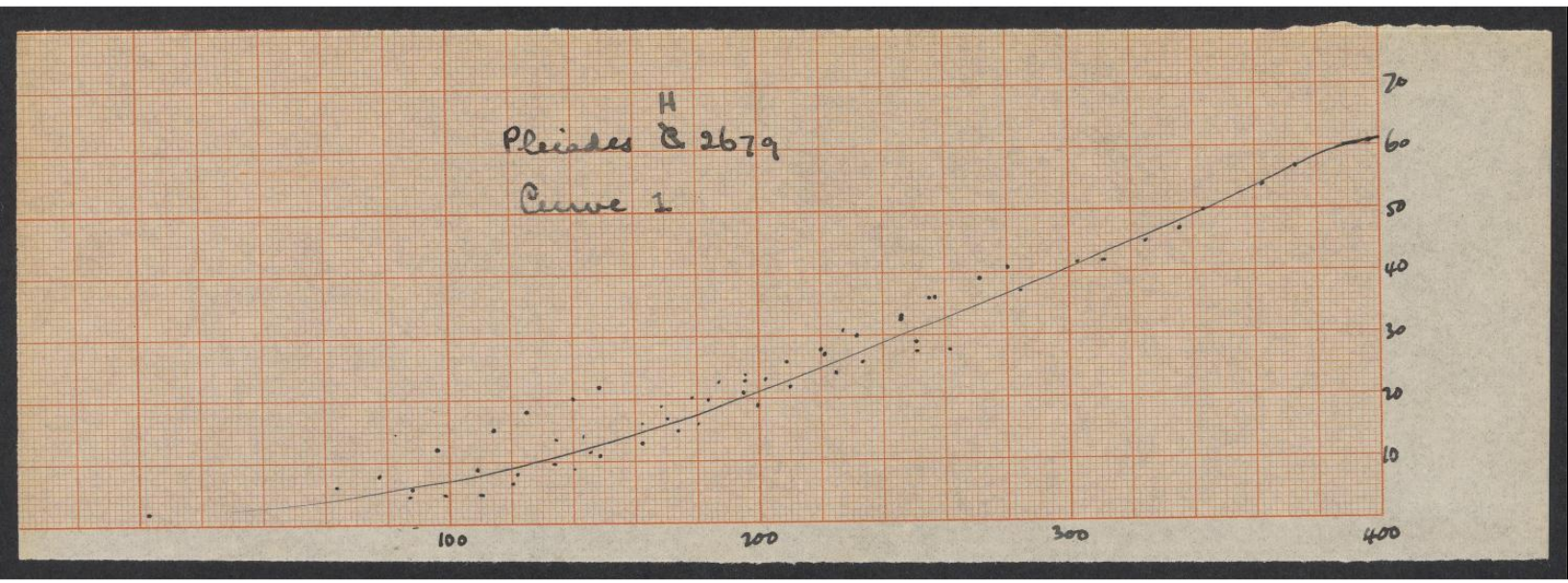


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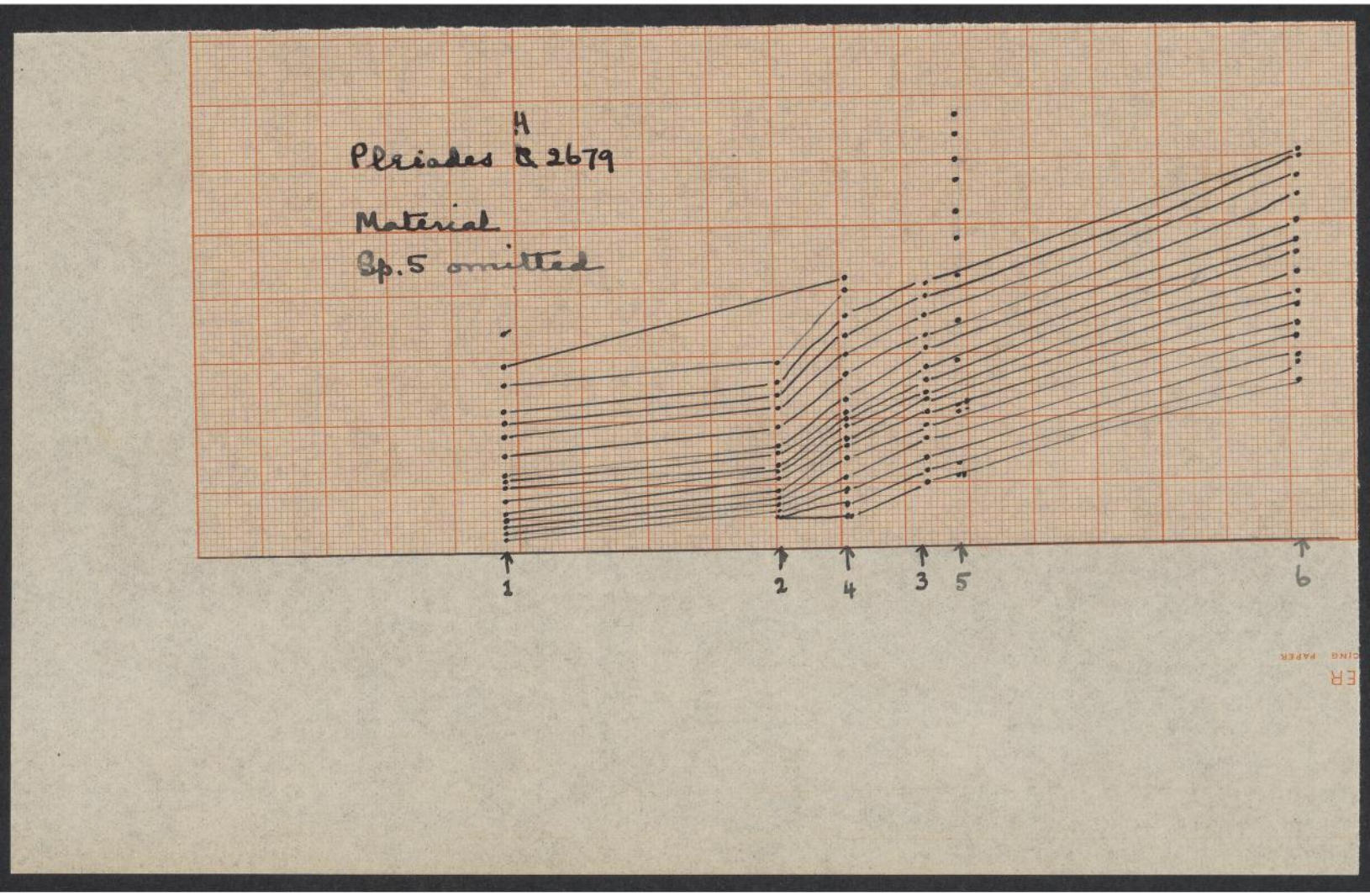
1924phae.proj.1106P

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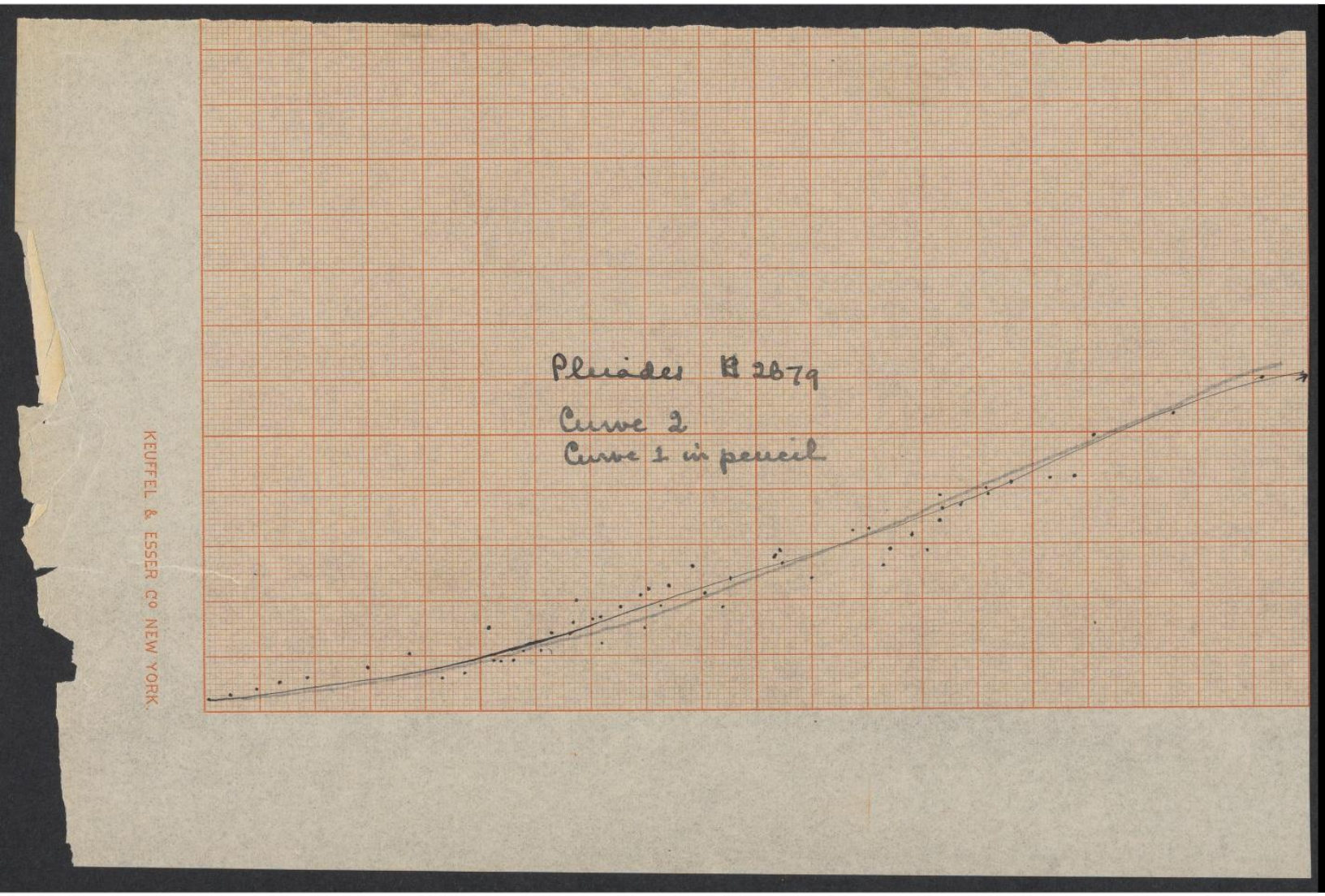
19

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β Geminorum C - 18788 Reduced to ltmtn = .106

For means from 18788, 18789, see Bortz 20, page 106

324

| | Exp 1 | | | | | | | | Exp 2 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | mtn | ltmtn | n̄ | m̄tn | (n) | (mtn) | Δm | n | mtn | ltmtn | n̄ | m̄tn | (n) | (mtn) | Δm |
| 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 21 | 1 | 5 | 104 | 1 | 5 | — | — | — | — | — | — | — | — | — | — | — |
| 22 | 1 | 6 | 104 | 1 | 6 | — | 283 | — | — | — | — | — | — | — | — | — |
| 23 | 1 | 8 | 104 | 1 | 8 | — | 268 | — | — | — | — | — | — | — | — | — |
| 24 | 2 | 8 | 104 | 2 | 8 | — | 268 | — | — | — | — | — | — | — | — | — |
| 25 | 3 | 9 | 104 | 3 | 9 | — | 258 | — | — | — | — | — | — | — | — | — |
| 26 | 2 | 10 | 104 | 2 | 10 | — | 251 | — | — | — | — | — | — | — | — | — |
| 27 | 4 | 11 | 104 | 4 | 11 | — | 248 | — | — | — | — | — | — | — | — | — |
| 28 | 9 | 13 | 104 | 9 | 13 | 258 | 238 | 20 | — | — | — | — | — | — | — | — |
| 29 | 9 | 15 | 104 | 9 | 15 | 258 | 228 | 30 | — | — | — | — | — | — | — | — |
| 30 | 10 | 16 | 104 | 10 | 16 | 251 | 223 | 28 | 3 | 6 | 106 | 3 | 6 ✓ | — | 283 | — |
| 31 | 7 | 16 | 104 | 7 | 16 | 275 | 223 | 58 52 | 3 | 7 | 106 | 3 | 7 | — | 275 | — |
| 32 | 14 | 17 | 104 | 14 | 17 | 232 | 219 | 13 13 | 5 | 7 | 106 | 5 | 7 | — | 275 | — |
| 33 | 12 | 18 | 104 | 12 | 18 | 242 | 215 | 31 27 | 4 | 8 | 106 | 4 | 8 ✓ | — | 268 | — |
| 34 | 6 | 19 | 104 | 6 | 19 | 283 | 210 | 79 73 | 2 | 8 | 106 | 2 | 8 | — | 268 | — |
| 35 | 2 | 22 | 104 | 2 | 22 | — | 196 | — | 1 | 10 | 106 | 1 | 10 ✓ | — | 251 | — |
| 36 | 7 | 24 | 104 | 17 | 24 | 219 | 187 | 32 32 | 4 | 11 | 106 | 4 | 11 | — | 248 | — |
| 37 | 14 | 25 | 104 | 14 | 26 | 232 | 179 | 53 53 | 6 | 12 | 106 | 6 | 12 ✓ | 380 283 | 335 242 | 45 41 |
| 38 | 17 | 26 | 104 | 17 | 27 | 219 | 176 | 43 43 | 7 | 12 | 106 | 7 | 12 | 365 275 | 335 242 | 30 33 |
| 39 | 17 | 27 | 104 | 17 | 28 | 219 | 173 | 46 46 | 9 | 13 | 106 | 9 | 13 | 356 258 | 330 238 | 26 20 |
| 40 | 7 | 28 | 104 | 7 | 29 | 275 | 170 | 111 105 | 1 | 14 | 106 | 1 | 14 ✓ | — | 232 | — |
| 41 | 1 | 29 | 104 | 1 | 30 | — | 166 | — | 0 | 15 | 106 | 0 | 15 | — | 228 | — |
| 42 | 24 | 32 | 104 | 24 | 33 | 187 | 155 | 32 32 | 12 | 18 | 106 | 12 | 18 ✓ | 335 242 | 310 215 | 34 27 |
| 43 | 30 | 34 | 104 | 31 | 35 | 163 | 148 | 14 15 | 15 | 19 | 106 | 15 | 19 | 319 228 | 300 210 | 19 18 |
| 44 | 28 | 36 | 104 | 29 | 37 | 170 | 141 | 27 29 | 14 | 21 | 106 | 14 | 21 ✓ | ~~250~~ 232 | 292 201 | 32 31 |
| 45 | 27 | 37 | 104 | 28 | 38 | 173 | 138 | 33 35 | 14 | 22 | 106 | 14 | 22 | 324 232 | 196 | 36 36 |
| 46 | 35 | 38 | 104 | 36 | 39 | 145 | 135 | 08 11 | 20 | 23 | 106 | 20 | 23 ✓ | 205 | 192 | 13 13 |
| 68 85 81 47 | 36 | 39 | 104 | 37 | 40 | 141 | 132 | 08 09 | 22 | 24 | 106 | 22 | 24 | 196 | 187 | 09 09 |
| 48 | 37 | 39 | 104 | 38 | 40 | 138 | 132 | 05 06 | 22 | 24 | 106 | 22 | 24 | 196 | 187 | 09 09 |
| 49 | 35 | 40 | 104 | 36 | 41 | 145 | 129 | 14 17 | 20 | 24 | 106 | 20 | 24 | 205 | 187 | 18 18 |

39 33 35 26 12 22 26 7 7 4 12

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| Values of dl | | | | Exp 3 | | | | | | | | Exp 5 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 5 | n | m+n | l+m+n | n | m+n | (n) | (m+n) | Δn | n | m+n | l+m+n | n | m+n | (n) | (m+n) | Δn |
| | | | | — | — | — | — | — | — | — | — | | | | | | | | |
| | | | | — | — | — | — | — | — | — | — | | | | | | | | |
| | | | | — | — | — | — | — | — | — | — | | | | | | | | |
| | | | | — | — | — | — | — | — | — | — | | | | | | | | |
| | | | | — | — | — | — | — | — | — | — | | | | | | | | |
| | | | | 4 | 13 | 107 | 4 | 13 | — | 238 | — | | | | | | | | |
| | | | | 4 | 14 | 107 | 4 | 14 | — | 232 | — | | | | | | | | |
| | | | | 5 | 15 | 107 | 5 | 15 | — | 228 | — | | | | | | | | |
| | | | | 12 | 17 | 107 | 12 | 17 | 242 | 219 | 23 | | | | | | | | |
| | | | | 13 | 18 | 107 | 13 | 18 | 238 | 215 | 23 | | | | | | | | |
| | | | | 12 | 19 | 107 | 12 | 19 | 242 | 210 | 32 | | | | | | | | |
| | | | | 11 | 20 | 107 | 11 | 20 | 248 | 205 | 43 | | | | | | | | |
| | | | | 17 | 20 | 107 | 17 | 20 | 219 | 205 | 14 | | | | | | | | |
| | | | | 17 | 22 | 107 | 17 | 22 | 219 | 196 | 23 | | | | | | | | |
| | | | | 10 | 24 | 107 | 10 | 24 | 251 | 187 | 64 | | | | | | | | |
| | | | | 1 | 27 | 107 | 1 | 27 | — | 176 | — | | | | | | | | |
| | | | | 10 | 28 | 107 | 10 | 28 | 251 | 173 | 78 | | | | | | | | |
| 39 | 34 | 33 | | 20 | 31 | 107 | 20 | 31 | 297<br>205 | 254<br>163 | 43<br>42 | | | | | | | | |
| 33 | 24 | 27 | | 23 | 32 | 107 | 23 | 32 | 284<br>192 | 250<br>139 | 34<br>33 | — | — | — | — | — | — | — | — |
| 35 | 21 | 32 | | 22 | 33 | 107 | 22 | 33 | 288<br>196 | 246<br>155 | 42<br>41 | — | — | — | — | — | — | — | — |
| - | - | - | | 11 | 35 | 107 | 11 | 35 | 248 | 148 | 100 | — | — | — | — | — | — | — | — |
| - | - | - | | 2 | 36 | 107 | 2 | 36 | — | 145 | ( )<br>— | — | — | — | — | — | — | — | — |
| 26 | 27 | 25 | | 30 | 40 | 107 | 30 | 40 | 257<br>166 | 226<br>132 | 31<br>34 | — | — | — | — | — | — | — | — |
| 12 | 16 | 14 | | 35 | 41 | 107 | 35 | 41 | 240<br>148 | 223<br>128 | 17<br>20 | — | — | — | — | — | — | — | — |
| 22 | 26 | 16 | | 36 | 43 | 107 | 36 | 43 | 237<br>145 | 218<br>122 | 19<br>23 | — | — | — | — | — | — | — | — |
| 26 | 28 | 24 | | 34 | 45 | 107 | 34 | 45 | 151 | 116 | 30<br>35 | 8 | 10 | 103 | 8 | 10 | 275<br>268 | 259<br>251 | 16<br>17 |
| 7 | 11 | 8 | | 44 | 47 | 107 | 44 | 47 | 120 | 110 | 09<br>10 | 9 | 11 | 103 | 9 | 11 | 266<br>258 | 254<br>248 | 12<br>10 |
| 7 | 8 | 8?<br>~~35~~ | ? | 4<br>34 | 47 | 106 | 34 | 47 | 151 | 110 | ~~26~~<br>09<br>41 | 9 | 11 | 103 | 9 | 11 | 266<br>258 | 254<br>248 | 12<br>10 |
| 4 | 8 | 7 | | 45 | 48 | 106 | 45 | 48 | 116 | 108 | 08<br>08 | 8 | 11 | 103 | 8 | 11 | 275<br>268 | 254<br>248 | 21<br>20 |
| 12 | 15 | 7 | | 45 | 48 | 106 | 45 | 48 | 116 | 108 | 08<br>08 | 8 | 11 | 103 | 8 | 11 | 275<br>268 | 254<br>248 | 21<br>20 |

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| 50 | 28 | 41 | 104 | 29 | 42 | 170 | 125 | 41 45 | 15 | 26 | 106 | 15 | 26 | 228 | 179 | 49 49 | 31 |
| 51 | 38 | 42 | 104 | 39 | 43 | 135 | 122 | 12 13 | 24 | 26 | 106 | 24 | 26 | 187 | 179 | 08 08 | 10 |
| 52 | 25 | 43 | 104 | 26 | 44 | 179 | 120 | 55 59 | 11 | 27 | 106 | 11 | 27 | 248 | 176 | 66 72 | 40 |
| 53 | 34 | 44 | 104 | 35 | 45 | 240 148 | 213 116 | 27 32 | 19 | 28 | 106 | 19 | 28 | 210 | 173 | 37 37 | 22 |
| 54 | 33 | 44 | 104 | 34 | 45 | 243 151 | 213 116 | 30 35 | 18 | 28 | 106 | 18 | 28 | 215 | 173 | 42 42 | 24 |
| 55 | 28 | 45 | 104 | 29 | 46 | 260 170 | 210 113 | 52 57 | 15 | 28 | 106 | 15 | 28 | 228 | 173 | 55 55 | 38 |
| 56 | 34 | 46 | 104 | 35 | 47 | 248 148 | 208 110 | 34 38 | 19 | 29 | 106 | 19 | 29 | 210 | 170 | 40 40 | 27 |
| 57 | 31 | 46 | 104 | 32 | 47 | 250 159 | 208 110 | 36 44 49 | 16 | 29 | 106 | 16 | 29 | 223 | 170 | 56 53 | 33 |
| 58 | 40 | 47 | 104 | 41 | 48 | 224 128 | 205 108 | 19 20 | 23 | 30 | 106 | 23 | 30 | 192 | 166 | 26 26 | 16 |
| 59 | 43 | 47 | 104 | 44 | 48 | 216 120 | 205 108 | 11 ~~14~~ 12 | 27 | 30 | 106 | 27 | 30 | 176 | 166 | 10 10 | 10 |
| 60 | 38 | 48 | 104 | 39 | 49 | 229 135 | 201 105 | 28 30 | 22 | 31 | 106 | 22 | 31 | 196 | 163 | 33 33 | 23 |
| 61 | 35 | 48 | 104 | 35 | 49 | 240 148 | 201 105 | 40 43 | 20 | 31 | 106 | 20 | 31 | 205 | 163 | 42 42 | 31 |
| 62 | 39 | 49 | 104 | 40 | 50 | 226 132 | 199 102 | 29 30 | 24 | 32 | 106 | 24 | 32 | 187 | 159 | 28 28 | 23 |
| 63 | 41 | 49 | 104 | 42 | 50 | 221 125 | 199 102 | 22 23 | 22 | 32 | 106 | 22 | 32 | 196 | 159 | 37 37 | 18 |
| 64 | 39 | 49 | 104 | 40 | 50 | 226 132 | 199 102 | 29 30 | 23 | 33 | 106 | 23 | 33 | 192 | 155 | 37 37 | 23 |
| 65 | 38 | 50 | 104 | 39 | 51 | 135 | 99 | 35 36 | 21 | 33 | 106 | 21 | 33 | 201 | 155 | 46 46 | 28 |
| 66 | 34 | 50 | 104 | 35 | 51 | 148 | 99 | 47 49 | 17 | 33 | 106 | 17 | 33 | 219 | 155 | 54 54 | 35 |
| 67 | 32 | 51 | 104 | 33 | 52 | 155 | 96 | 56 59 | 15 | 34 | 106 | 15 | 34 | 228 | 151 | 77 77 | 40 |
| 68 | 34 | 52 | 104 | 35 | 53 | 148 | 94 | 52 54 | 19 | 34 | 106 | 19 | 34 | 210 | 151 | 49 49 | 38 |
| 69 | 35 | 52 | 104 | 35 | 53 | 148 | 94 | 52 54 | 19 | 35 | 106 | 19 | 35 | 210 | 148 | 61 62 | 38 |
| 70 | 40 | 53 | 104 | 41 | 54 | 128 | 91 | (39) 37 | — | — | — | — | — | — | — | — | - |
| 71 | 36 | 53 | 104 | 37 | 54 | 141 | 91 | 50 50 | 20 | 36 | 106 | 20 | 36 | 205 | 145 | 59 60 | 37 |
| 72 | 32 | 54 | 104 | 33 | 55 | 155 | 89 | 64 66 | 18 | 36 | 106 | 18 | 36 | 215 | 145 | 69 70 | 44 |
| 73 | 33 | 54 | 104 | 34 | 55 | 151 | 89 | 60 62 | 18 | 36 | 106 | 18 | 36 | 215 | 145 | 69 70 | 42 |
| 74 | 39 | 55 | 104 | 40 | 56 | 132 | 86 | 48 46 | 21 | 37 | 106 | 21 | 37 | 201 | 141 | 59 60 | 36 |
| 75 | 39 | 55 | 104 | 40 | 56 | 226 132 | 180 86 | (48) 46 | — | — | — | — | — | — | — | — | - |
| 76 | 34 | 55 | 104 | 35 | 56 | 240 148 | 180 86 | 62 62 | 18 | 38 | 106 | 18 | 38 | 215 | 138 | 75 77 | 44 |
| 77 | 36 | 56 | 104 | 37 | 57 | 141 | 84 | 58 57 | 19 | 38 | 106 | 19 | 38 | 210 | 138 | 70 72 | 41 |
| 78 | 40 | 57 | 104 | 41 | 58 | 128 | 81 | 50 47 | 24 | 38 | 106 | 24 | 38 | 187 | 138 | 47 49 | 37 |
| 79 | 38 | 57 | 104 | 39 | 58 | 135 | 81 | 56 54 | 20 | 38 | 106 | 20 | 38 | 205 | 135 | 67 70 | 40 |

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| 31 | 36 | 27 | | 37 | 49 | 106 | 37 | 49 | 141 | 105 | 34 36 | 5 | 12 | 103 | 5 | 12 | – | 242 | – |
| 10 | 7 | 8 | | 47 | 50 | 106 | 47 | 50 | 110 | 102 | 09 08 | 7 | 12 | 103 | 7 | 12 | 275 | 242 | 33 |
| 40 | 46 | 43 | | 31 | 51 | 106 | 31 | 51 | 163 | 99 | 61 64 | 2 | 12 | 103 | 2 | 12 | – | 242 | – |
| 22 | 29 | 22 | | 43 | 52 | 106 | 43 | 52 | 122 | 96 | 27 26 | 7 | 13 | 103 | 7 | 13 | 275 | 238 | 37 |
| 24 | 33 | 28 | | 40 | 52 | 106 | 40 | 52 | 132 | 96 | 36 36 | 6 | 13 | 103 | 6 | 13 | 283 | 238 | 45 |
| 38 | 40 | 40 | | 35 | 53 | 106 | 35 | 53 | 148 | 94 | 56 54 | 5 | 13 | 103 | 5 | 13 | – | 238 | – |
| 27 | 31 | 28 | | 41 | 54 | 106 | 41 | 54 | 128 | 91 | 38 37 | 6 | 13 | 103 | 6 | 13 | 283 | 238 | 45 |
| 33 | 40 | 35 | | 38 | 54 | 106 | 38 | 54 | 138 | 91 | 47 47 | 6 | 13 | 103 | 6 | 13 | 283 | 238 | 45 |
| 16 | 13 | 21 | | 50 | 55 | 106 | 50 | 55 | 102 | 89 | 15 13 | 10 | 14 | 103 | 10 | 14 | 251 | 232 | 19 |
| 10 | 9 | 5 | | 53 | 55 | 106 | 53 | 55 | 94 | 89 | 06 05 | 9 | 14 | 103 | 9 | 14 | 258 | 232 | 26 |
| 23 | 26 | 25 | | 46 | 56 | 106 | 46 | 56 | 113 | 86 | 31 27 | 7 | 14 | 103 | 7 | 14 | 275 | 232 | 43 |
| 31 | 32 | 31 | | 43 | 57 | 106 | 43 | 57 | 122 | 84 | 41 38 | 6 | 14 | 103 | 6 | 14 | 283 | 232 | 51 |
| 23 | 23 | 23 | | 48 | 57 | 106 | 48 | 57 | 108 | 84 | 28 24 | 7 | 15 | 103 | 7 | 15 | 275 | 228 | 47 |
| 18 | 29 | 26 | | 47 | 58 | 106 | 47 | 58 | 110 | 81 | 33 29 | 7 | 15 | 103 | 7 | 15 | 275 | 228 | 47 |
| 23 | 29 | 30 | | 45 | 58 | 106 | 45 | 58 | 116 | 81 | 38 35 | 8 | 15 | 103 | 8 | 15 | 268 | 228 | 40 |
| 28 | 35 | 22 | | 49 | 58 | 106 | 49 | 58 | 105 | 81 | 27 24 | 7 | 16 | 103 | 7 | 17 | 275 | 219 | 56 |
| 35 | 39 | 37 | | 41 | 58 | 106 | 41 | 58 | 128 | 81 | 50 47 | 5 | 16 | 103 | 5 | 17 | – | 219 | – |
| 40 | 51 | 43 | | 38 | 59 | 106 | 38 | 59 | 138 | 78 | 61 60 | 4 | 16 | 103 | 4 | 17 | – | 219 | – |
| 38 | 36 | 41 | | 40 | 60 | 106 | 40 | 60 | 132 | 76 | 58 56 | 6 | 17 | 103 | 6 | 18 | 283 | 215 | 68 |
| 38 | 43 | 41 | | 40 | 60 | 106 | 40 | 60 | 132 | 76 | 58 56 | 5 | 17 | 103 | 5 | 18 | – | 215 | – |
| – | – | – | | 48 | 61 | 106 | 48 | 61 | 108 | 74 | (38) 34 | 8 | 17 | 103 | 8 | 18 | 268 | 215 | 53 |
| 37 | 42 | 36 | | 44 | 61 | 106 | 44 | 61 | 120 | 74 | 49 46 | 5 | 17 | 103 | 5 | 18 | – | 215 | – |
| 44 | 47 | 44 | | 39 | 61 | 106 | 39 | 61 | 135 | 74 | 63 61 | 5 | 18 | 103 | 5 | 19 | – | 210 | – |
| 42 | 47 | 43 | | 41 | 62 | 106 | 41 | 62 | 128 | 71 | 61 57 | 5 | 18 | 103 | 5 | 19 | – | 210 | – |
| 36 | 42 | 39 | | 44 | 62 | 106 | 44 | 62 | 120 | 71 | 53 49 | 6 | 18 | 103 | 6 | 19 | 283 | 210 | 73 |
| – | – | – | | 46 | 63 | 106 | 46 | 63 | 113 | 69 | (49) 44 | 6 | 18 | 103 | 6 | 19 | 283 | 210 | 73 |
| 44 | 50 | 48 | | 39 | 63 | 106 | 39 | 63 | 135 | 69 | 70 66 | 5 | 18 | 103 | 5 | 19 | – | 210 | – |
| 41 | 48 | 41 | | 43 | 63 | 106 | 43 | 63 | 122 | 69 | 58 53 | 7 | 19 | 103 | 7 | 20 | 275 | 205 | 70 |
| 37 | 35 | 34 | | 48 | 63 | 106 | 48 | 63 | 108 | 69 | 45 39 | 7 | 19 | 103 | 7 | 20 | 275 | 205 | 70 |
| 40 | 46 | 43 | | 43 | 64 | 106 | 43 | 64 | 122 | 66 | 61 56 | 7 | 19 | 103 | 7 | 20 | 275 | 205 | 70 |

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| | n | m+n | lt m+n | n̄ | m+n̄ | (n) | (m+n) | Δm | n | m+n | lt m+n | n̄ | m+n̄ | (n) | (m+n) | Δm | Vo |
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| 80 | 30 | 58 | 104 | 31 | 59 | 163 | 78 | 84 85 | 15 | 39 | 106 | 15 | 39 | 228 | 135 | 91 93 | 54 |
| 81 | 43 | 59 | 104 | 44 | 60 | 120 | 76 | 47 44 | 27 | 40 | 106 | 27 | 40 | 176 | 132 | 41 44 | 35 |
| 82 | 44 | 59 | 104 | 45 | 60 | 116 | 76 | 44 40 | 25 | 41 | 106 | 25 | 41 | 183 | 128 | 51 55 | 33 |
| 83 | 46 | 60 | 104 | 47 | 61 | 110 | 74 | 40 36 | 27 | 41 | 106 | 27 | 41 | 176 | 128 | 44 48 | 31 |
| 84 | 44 | 60 | 104 | 45 | 61 | 116 | 74 | 46 42 | 25 | 41 | 106 | 25 | 41 | 183 | 128 | 51 55 | 35 |
| 85 | 38 | 61 | 104 | 39 | 62 | 135 | 71 | 87 84 | 22 | 42 | 106 | 22 | 42 | 196 | 125 | 67 71 | 55 |
| 86 | 50 | 62 | 104 | 51 | 63 | 99 | 69 | 34 30 | 31 | 43 | 106 | 31 | 43 | 163 | 122 | 37 41 | 27 |
| 87 | 43 | 62 | 104 | 44 | 63 | 120 | 69 | 56 51 | 25 | 43 | 106 | 25 | 43 | 183 | 122 | 57 61 | 40 |
| 88 | 34 | 63 | 104 | 35 | 64 | 148 | 66 | 84 82 | 28 | 44 | 106 | 28 | 44 | 173 | 120 | 49 53 | 54 |
| 89 | 31 | 64 | 104 | 32 | 65 | 159 | 64 | 97 95 | 15 | 44 | 106 | 15 | 44 | 228 | 120 | 104 106 | 59 |
| 90 | 45 | 65 | 104 | 46 | 66 | 113 | 61 | 59 52 | 25 | 45 | 106 | 25 | 45 | 183 | 116 | 62 67 | 42 |
| 91 | 60 | 65 | 104 | 61 | 66 | 74 | 61 | 14 13 | 39 | 45 | 106 | 39 | 45 | 135 | 116 | 17 14 | 12 |
| 92 | 50 | 66 | 104 | 51 | 67 | 99 | 58 | 46 41 | 29 | 46 | 106 | 29 | 46 | 170 | 113 | 52 57 | 35 |
| 93 | 55 | 67 | 104 | 56 | 68 | 86 | 57 | 31 29 | 34 | 46 | 106 | 34 | 46 | 151 | 113 | 33 38 | 25 |
| 94 | 59 | 67 | 104 | 60 | 68 | 76 | 57 | 21 19 | 38 | 47 | 106 | 38 | 47 | 138 | 110 | 25 28 | 18 |
| 95 | 58 | 68 | 104 | 59 | 69 | 78 | 55 | 25 23 | 39 | 48 | 106 | 39 | 48 | 135 | 108 | 25 27 | 21 |
| 96 | 56 | 68 | 104 | 57 | 69 | 84 | 55 | 33 29 | 35 | 48 | 106 | 35 | 48 | 148 | 108 | 36 40 | 26 |
| 97 | 44 | 69 | 104 | 45 | 70 | 116 | 52 | 72 64 | 24 | 48 | 106 | 24 | 48 | 187 | 108 | 74 79 | 48 |
| 98 | 56 | 69 | 104 | 57 | 70 | 84 | 52 | 36 32 | 35 | 49 | 106 | 35 | 49 | 148 | 105 | 40 43 | 28 |
| 99 | 60 | 70 | 104 | 61 | 71 | 74 | 50 | 28 24 | 38 | 49 | 106 | 38 | 49 | 138 | 105 | 31 33 | 23 |
| 100 | 53 | 70 | 104 | 54 | 71 | 91 | 50 | 46 41 | 31 | 49 | 106 | 31 | 49 | 163 | 105 | 54 58 | 35 |
| 101 | 60 | 71 | 104 | 61 | 72 | 74 | 48 | 31 26 | 39 | 50 | 106 | 39 | 50 | 135 | 102 | 32 33 | 25 |
| 102 | 62 | 71 | 104 | 63 | 72 | 69 | 48 | 26 21 | 40 | 51 | 106 | 40 | 51 | 132 | 99 | 33 33 | 21 |
| 103 | 61 | 72 | 104 | 62 | 73 | 71 | 46 | 29 25 | 40 | 51 | 106 | 40 | 51 | 132 | 99 | 33 33 | 23 |
| 104 | 63 | 73 | 104 | 64 | 74 | 66 | 43 | 26 23 | 42 | 51 | 106 | 42 | 51 | 125 | 99 | 27 26 | 21 ~~40~~ |
| 105 | 61 | 73 | 104 | 62 | 74 | 71 | 43 | 32 28 | 40 | 52 | 106 | 40 | 52 | 132 | 96 | 36 36 | 26 |
| 106 | 60 | 74 | 104 | 61 | 75 | 74 | 41 | 38 33 | 39 | 52 | 106 | 39 | 52 | 135 | 96 | 36 39 | 30 |
| 107 | 65 | 74 | 104 | 66 | 75 | 61 | 41 | 22 20 | 44 | 52 | 106 | 44 | 52 | 120 | 96 | 25 24 | 18 |
| 108 | 68 | 75 | 104 | 69 | 77 | 55 | 37 | 20 18 | 45 | 53 | 106 | 45 | 53 | 116 | 94 | 24 22 | 17 |
| 109 | 69 | 76 | 104 | 70 | 79 | 52 | 35 | 19 17 | 46 | [illegible] | [illegible] | 46 | [illegible] | [illegible] | 91 | 24 22 | 16 |

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Values of dl

| 1 | 2 | 3 | 5 | n | m+n | l+m+n | ñ | m̃+n | (n) | (m+n) | Δm | n | m+n | l+m+n | ñ | m̃+n | (n) | (m+n) | Δm |
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| 54 | 57 | 52 | | 37 | 65 | 106 | 37 | 65 | 141 | 64 | 81 77 | 3 | 19 | 103 | 3 | 20 | — | 205 | — |
| 35 | 31 | 31 | | 51 | 65 | 106 | 51 | 65 | 99 | 64 | 40 35 | 8 | 20 | 103 | 8 | 21 | 268 | 201 | 67 |
| 33 | 37 | 35 | | 50 | 66 | 106 | 50 | 66 | 102 | 61 | 47 41 | 10 | 20 | 103 | 10 | 21 | 251 | 201 | 50 |
| 31 | 33 | 30 | | 53 | 66 | 106 | 53 | 66 | 94 | 61 | 38 33 | 9 | 20 | 103 | 9 | 21 | 258 | 201 | 47 |
| 35 | 37 | 33 | | 51 | 67 | 106 | 51 | 67 | 99 | 58 | 43 41 | 8 | 20 | 103 | 8 | 21 | 268 | 201 | 57 |
| 55 | 46 | 45 | | 45 | 67 | 106 | 45 | 67 | 116 | 58 | 64 58 | 6 | 21 | 103 | 6 | 22 | 283 | 196 | 87 |
| 27 | 29 | 28 | | 55 | 68 | 106 | 55 | 68 | 89 | 57 | 36 32 | 10 | 21 | 103 | 10 | 22 | 251 | 196 | 55 |
| 40 | 41 | 35 | | 51 | 68 | 106 | 51 | 68 | 99 | 57 | 47 42 | 9 | 21 | 103 | 9 | 22 | 258 | 196 | 62 |
| 54 | 36 | 51 | | 42 | 69 | 106 | 42 | 69 | 125 | 55 | 77 70 | 6 | 22 | 103 | 6 | 23 | 283 | 192 | 91 |
| 59 | 62 | 58 | | 37 | 70 | 106 | 37 | 70 | 141 | 52 | 94 89 | 4 | 22 | 103 | 4 | 23 | — | 192 | — |
| 42 | 44 | 42 | | 50 | 71 | 106 | 50 | 71 | 102 | 50 | 59 52 | 9 | 23 | 103 | 9 | 24 | 258 | 187 | 71 |
| 12 | 14 | 8 | | 67 | 71 | 106 | 67 | 71 | 58 | 50 | 09 08 | 11 | 23 | 103 | 11 | 24 | 248 | 187 | 61 |
| 35 | 38 | 31 | | 57 | 72 | 106 | 57 | 72 | 84 | 48 | 41 36 | 18 | 23 | 103 | 19 | 24 | 210 | 187 | 23 |
| 25 | 26 | 25 | | 61 | 72 | 106 | 61 | 72 | 74 | 48 | 31 26 | 15 | 23 | 103 | 15 | 24 | 228 | 187 | 41 |
| 18 | 21 | 14 | | 66 | 73 | 106 | 66 | 73 | 61 | 46 | 17 15 | 17 | 24 | 103 | 18 | 25 | 215 | 183 | 32 |
| 21 | 21 | 14 | | 66 | 73 | 106 | 66 | 73 | 61 | 46 | 17 15 | 16 | 24 | 103 | 17 | 25 | 219 | 183 | 36 |
| 26 | 28 | 26 | | 62 | 74 | 106 | 62 | 74 | 71 | 43 | 32 28 | 14 | 24 | 103 | 14 | 25 | 232 | 183 | 49 |
| 48 | 49 | 44 | | 51 | 74 | 106 | 51 | 74 | 99 | 43 | 63 56 | 9 | 24 | 103 | 9 | 25 | 258 | 183 | 75 |
| 28 | 31 | 27 | | 62 | 75 | 106 | 62 | 75 | 71 | 41 | 34 30 | 15 | 25 | 103 | 15 | 26 | 228 | 179 | 49 |
| 23 | 25 | 25 | | 63 | 75 | 106 | 63 | 75 | 69 | 41 | 31 28 | 17 | 25 | 103 | 18 | 26 | 215 | 179 | 36 |
| 35 | 39 | 25 | | 64 | 76 | 106 | 64 | 76 | 66 | 39 | 31 27 | 13 | 25 | 103 | 13 | 26 | 238 | 179 | 59 |
| 25 | 26 | 18 | | 67 | 76 | 106 | 67 | 76 | 58 | 39 | 22 19 | 16 | 25 | 103 | 17 | 26 | 219 | 179 | 40 |
| 21 | 26 | 19 | | 68 | 77 | 106 | 68 | 77 | 57 | 37 | 23 20 | 18 | 25 | 103 | 19 | 26 | 210 | 179 | 31 |
| 23 | 26 | 19 | | 68 | 77 | 106 | 68 | 77 | 57 | 37 | 23 20 | 16 | 26 | 103 | 17 | 27 | 219 | 176 | 43 |
| 21 ~~40~~ | 22 | 16 | | 70 | 78 | 106 | 70 | 78 | 52 | 35 | 19 17 | 19 | 26 | 103 | 20 | 27 | 205 | 176 | 29 |
| 26 | 28 | 21 | | 69 | 79 | 106 | 69 | 79 | 55 | 32 | 25 23 | 17 | 26 | 103 | 18 | 27 | 215 | 176 | 39 |
| 30 | 28 | 23 | | 67 | 79 | 106 | 67 | 79 | 58 | 32 | 29 26 | 17 | 26 | 103 | 18 | 27 | 215 | 176 | 39 |
| 18 | 21 | 13 | | 73 | 79 | 106 | 73 | 79 | 46 | 32 | 15 14 | 20 | 27 | 103 | 21 | 28 | 201 | 173 | 28 |
| 17 | 20 | 14 | | 73 | 80 | 105 | 73 | 80 | 46 | 30 | 17 16 | 21 | 27 | 103 | 22 | 28 | 196 | 173 | 23 |
| 16 | 20 | 10 | | 75 | 80 | 105 | 75 | 80 | 41 | 30 | 12 11 | 22 | 27 | 103 | 23 | 28 | 192 | 173 | 19 |

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| | n | mtn | ltmtn | n̄ | mtn̄ | (n) | (mtn) | Δm | n | mtn | ltmtn | n̄ | mtn̄ | (n) | (mtn) | Δm | |
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| 110 | 68 | 76 | 104 | 68 | 78 | 57 | 35 | 25 22 | 46 | 54 | 106 | 46 | 54 | 113 | 91 | 25 22 | 21 |
| 111 | 72 | 77 | 104 | 73 | 79 | 46 | 32 | 15 14 | 50 | 55 | 106 | 50 | 55 | 102 | 89 | 15 13 | 13 |
| 112 | 66 | 77 | 104 | 67 | 79 | 58 | 32 | 29 26 | 44 | 55 | 106 | 44 | 55 | 120 | 89 | 33 31 | 23 |
| 113 | 70 | 77 | 104 | 71 | 79 | 50 | 32 | 20 18 | 49 | 55 | 106 | 49 | 55 | 105 | 89 | 18 16 | 17 |
| 114 | 70 | 77 | 104 | 71 | 79 | 50 | 32 | 20 18 | 49 | 55 | 106 | 49 | 55 | 105 | 89 | 18 16 | 17 |
| 115 | 71 | 77 | 104 | 72 | 79 | 48 | 32 | 17 16 | 51 | 56 | 106 | 51 | 56 | 99 | 86 | 15 13 | 14 |
| 116 | 70 | 77 | 104 | 71 | 79 | 50 | 32 | 20 18 | 48 | 56 | 106 | 48 | 56 | 108 | 86 | 26 22 | 17 |
| 117 | 71 | 77 | 104 | 72 | 79 | 48 | 32 | 17 16 | 50 | 56 | 106 | 50 | 56 | 102 | 86 | 19 16 | 14 |
| 118 | 73 | 76 | 104 | 74 | 78 | 43 | 35 | 09 08 | 50 | 56 | 106 | 50 | 56 | 102 | 86 | 19 16 | 8 |
| 119 | 69 | 76 | 104 | 70 | 78 | 52 | 35 | 19 17 | 47 | 56 | 106 | 47 | 56 | 110 | 86 | 28 24 | 116 |
| 120 | 73 | 76 | 104 | 74 | 78 | 43 | 35 | 09 08 | 51 | 56 | 106 | 51 | 56 | 99 | 86 | 15 13 | 8 |
| 121 | 68 | 75 | 104 | 69 | 77 | 55 | 37 | 20 18 | 45 | 55 | 106 | 45 | 55 | 116 | 89 | 30 27 | 17 |
| 122 | 71 | 75 | 104 | 72 | 77 | 48 | 37 | 12 11 | 48 | 55 | 106 | 48 | 55 | 108 | 89 | 22 19 | 10 |
| 123 | 70 | 75 | 104 | 71 | 77 | 50 | 37 | 15 13 | 49 | 55 | 106 | 49 | 55 | 105 | 89 | 18 16 | 13 |
| 124 | 69 | 74 | 104 | 70 | 75 | 52 | 41 | 12 11 | 45 | 54 | 106 | 45 | 54 | 116 | 91 | 28 25 | 10 |
| 125 | 70 | 74 | 104 | 71 | 75 | 50 | 41 | 10 09 | 46 | 54 | 106 | 46 | 54 | 113 | 91 | 25 22 | 9 |
| 126 | 67 | 73 | 104 | 68 | 74 | 57 | 43 | 16 14 | 45 | 53 | 106 | 45 | 53 | 116 | 94 | 25 22 | 14 |
| 127 | 68 | 72 | 104 | 69 | 73 | 55 | 46 | 10 09 | 47 | 51 | 106 | 47 | 51 | 110 | 99 | 13 11 | 9 |
| 128 | 66 | 71 | 104 | 67 | 72 | 58 | 48 | 12 10 | 42 | 50 | 106 | 42 | 50 | 125 | 102 | 23 23 | 10 |
| 129 | 65 | 69 | 104 | 66 | 70 | 61 | 52 | 10 09 | 44 | 48 | 106 | 44 | 48 | 120 | 108 | 13 12 | 9 |
| 130 | 63 | 67 | 104 | 64 | 68 | 66 | 57 | 10 09 | 42 | 45 | 106 | 42 | 45 | 125 | 116 | 10 09 | 9 |
| 131 | 60 | 64 | 104 | 61 | 65 | 74 | 64 | 13 10 | 39 | 42 | 106 | 39 | 42 | 135 | 125 | 09 10 | 11 |
| 132 | 57 | 62 | 104 | 58 | 63 | 81 | 69 | 14 12 | 36 | 40 | 106 | 36 | 40 | 145 | 132 | 11 13 | 12 |
| 133 | 47 | 59 | 104 | 48 | 60 | 108 | 76 | 36 32 | 27 | 37 | 106 | 27 | 37 | 176 | 141 | 33 35 | 28 |
| 134 | 48 | 56 | 104 | 49 | 57 | 105 | 84 | 24 21 | 27 | 35 | 106 | 27 | 35 | 176 | 148 | 27 28 | 20 |
| 135 | 45 | 53 | 104 | 46 | 54 | 113 | 91 | 24 22 | 25 | 32 | 106 | 25 | 32 | 183 | 159 | 24 24 | 20 |
| 136 | 45 | 49 | 104 | 46 | 50 | 113 | 102 | 11 | — | — | — | — | — | — | — | — | |
| 137 | 37 | 46 | 104 | 38 | 47 | 138 | 110 | 28 | — | — | — | — | — | — | — | — | |
| 138 | 37 | 42 | 104 | 38 | 43 | 138 | 122 | 16 | — | — | — | — | — | — | — | — | |
| 139 | 34 | 36 | 104 | 35 | 37 | 148 | 141 | 07 | — | — | — | — | — | — | — | — | |
| 140 | 31 | 33 | 104 | 32 | 34 | 159 | 151 | 08 | — | — | — | — | — | — | — | — | |
| 141 | 25 | 28 | 104 | 26 | 29 | [illegible] | 178 | 09 | — | — | — | — | — | — | — | — | |

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Values of dl

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| 116 | 23 | 15 | |
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| 11 | 8 | 10 | |
| 12 | 10 | 11 | |
| 28 | 20 | 23 | |
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| 25.2 | 27.5 | 23.5 | Mean |
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| 74 | 81 | 105 | 75 | 82 | 41 | 26 | 16 15 | 21 | 28 | 103 | 22 | 29 | 196 | 170 | 26 |
| 77 | 82 | 105 | 78 | 83 | 35 | 24 | 11 11 | 24 | 28 | 103 | 25 | 29 | 183 | 170 | 13 |
| 72 | 82 | 105 | 73 | 83 | 46 | 24 | 23 22 | 20 | 28 | 103 | 21 | 29 | 201 | 170 | 31 |
| 77 | 82 | 105 | 78 | 83 | 35 | 24 | 11 11 | 23 | 28 | 103 | 24 | 29 | 187 | 170 | 17 |
| 75 | 82 | 105 | 76 | 83 | 39 | 24 | 15 15 | 23 | 29 | 103 | 24 | 30 | 187 | 166 | 21 |
| 78 | 82 | 105 | 79 | 83 | 32 | 24 | 08 08 | 24 | 28 | 103 | 25 | 29 | 183 | 170 | 13 |
| 75 | 83 | 105 | 76 | 84 | 39 | 22 | 17 17 | 21 | 28 | 103 | 22 | 29 | 196 | 170 | 26 |
| 76 | 82 | 105 | 77 | 83 | 37 | 24 | 13 13 | 23 | 28 | 103 | 24 | 29 | 187 | 170 | 17 |
| 77 | 81 | 105 | 78 | 82 | 35 | 26 | 19 19 | 23 | 28 | 103 | 24 | 29 | 187 | 170 | 17 |
| 73 | 81 | 105 | 74 | 82 | 43 | 26 | 18 17 | 22 | 28 | 103 | 23 | 29 | 192 | 170 | 22 |
| 76 | 80 | 105 | 77 | 81 | 37 | 28 | 09 09 | 24 | 28 | 103 | 25 | 29 | 183 | 170 | 13 |
| 72 | 79 | 105 | 73 | 80 | 46 | 30 | 17 16 | 20 | 28 | 103 | 21 | 29 | 201 | 170 | 31 |
| 75 | 79 | 105 | 76 | 80 | 39 | 30 | 19 19 | 23 | 27 | 103 | 24 | 28 | 187 | 173 | 14 |
| 75 | 78 | 105 | 76 | 79 | 39 | 32 | 07 07 | 23 | 27 | 103 | 24 | 28 | 187 | 173 | 14 |
| 72 | 78 | 105 | 73 | 79 | 46 | 32 | 15 14 | 21 | 26 | 103 | 22 | 27 | 196 | 176 | 20 |
| 72 | 77 | 105 | 73 | 78 | 46 | 35 | 12 11 | 21 | 26 | 103 | 22 | 27 | 196 | 176 | 20 |
| 72 | 76 | 105 | 73 | 77 | 46 | 37 | 10 09 | 20 | 25 | 103 | 21 | 26 | 201 | 179 | 22 |
| 71 | 75 | 105 | 72 | 76 | 48 | 39 | 10 09 | 19 | 24 | 103 | 20 | 25 | 205 | 183 | 22 |
| 68 | 74 | 105 | 69 | 75 | 55 | 41 | 15 14 | 18 | 23 | 103 | 19 | 24 | 210 | 187 | 23 |
| 68 | 72 | 105 | 69 | 73 | 55 | 46 | 10 09 | 18 | 21 | 103 | 19 | 22 | 210 | 196 | 14 |
| 65 | 68 | 105 | 66 | 69 | 61 | 55 | 07 06 | 16 | 19 | 103 | 17 | 20 | 219 | 205 | 14 |
| 62 | 66 | 105 | 63 | 67 | 69 | 58 | 12 11 | 14 | 17 | 103 | 14 | 18 | 232 | 215 | 17 |
| 60 | 64 | 105 | 61 | 65 | 74 | 64 | 13 10 | 12 | 16 | 103 | 12 | 17 | 242 | 219 | 23 |
| 49 | 59 | 105 | 50 | 60 | 102 | 76 | 29 26 | 9 | 13 | 103 | 9 | 13 | 258 | 238 | 20 |
| 51 | 56 | 105 | 52 | 57 | 96 | 84 | 14 12 | 9 | 12 | 103 | 9 | 12 | 258 | 242 | 16 |
| 48 | 53 | 105 | 49 | 54 | 105 | 91 | 16 14 | 7 | 10 | 103 | 7 | 10 | 275 | 251 | 24 |
| 44 | 48 | 105 | 45 | 49 | 116 | 105 | 11 | 7 | 9 | 103 | 7 | 9 | 275 | 258 | 17 |
| 37 | 46 | 105 | 38 | 47 | 138 | 110 | 28 | 5 | 8 | 103 | 5 | 8 | — | 268 | — |
| 38 | 41 | 105 | 39 | 42 | 135 | 125 | 10 | 5 | 7 | 103 | 5 | 7 | — | 275 | — |
| 34 | 37 | 105 | 35 | 38 | 148 | 138 | 10 | — | — | — | — | — | — | — | — |
| 31 | 34 | 105 | 32 | 35 | 159 | 148 | 11 | — | — | — | — | — | — | — | — |
| 25 | 30 | 105 | 26 | 30 | 179 | 166 | 13 | — | — | — | — | — | — | — | — |

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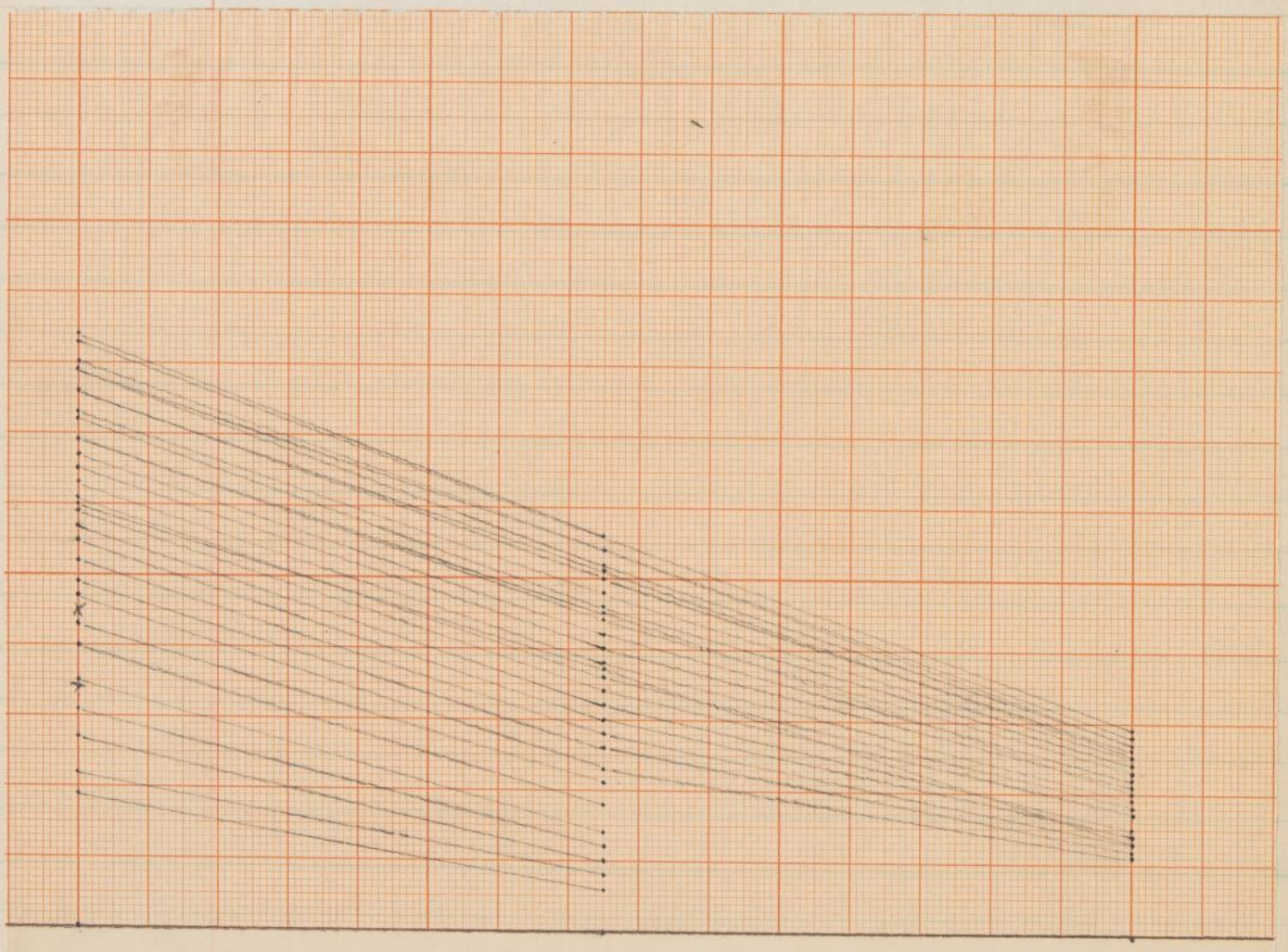

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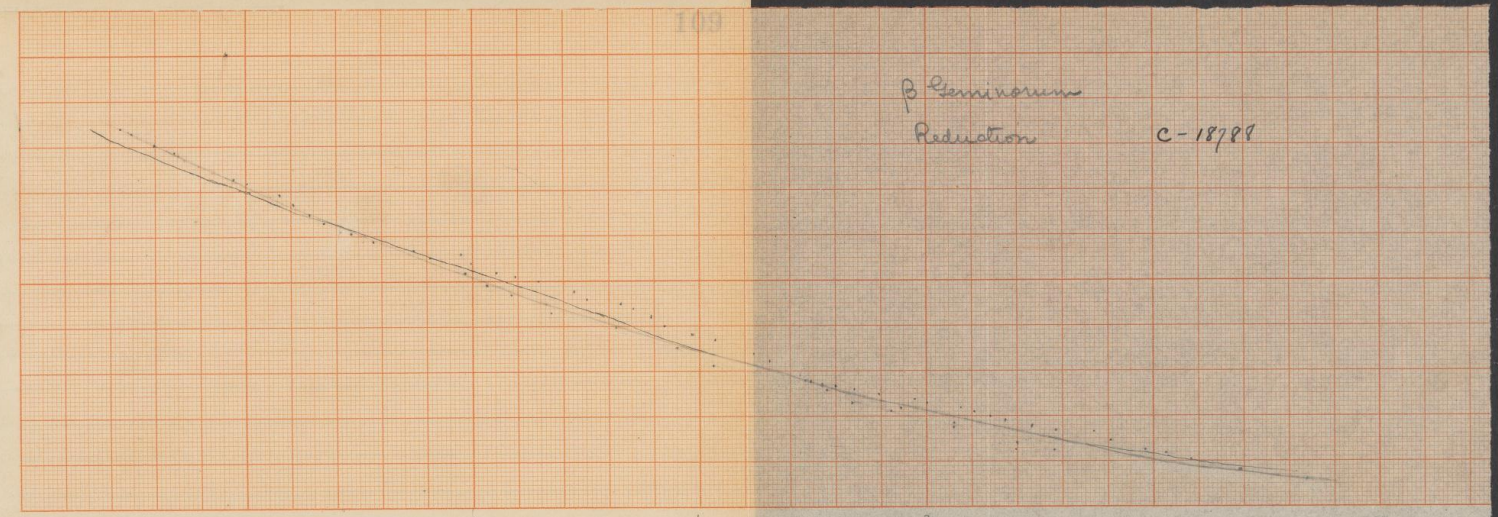


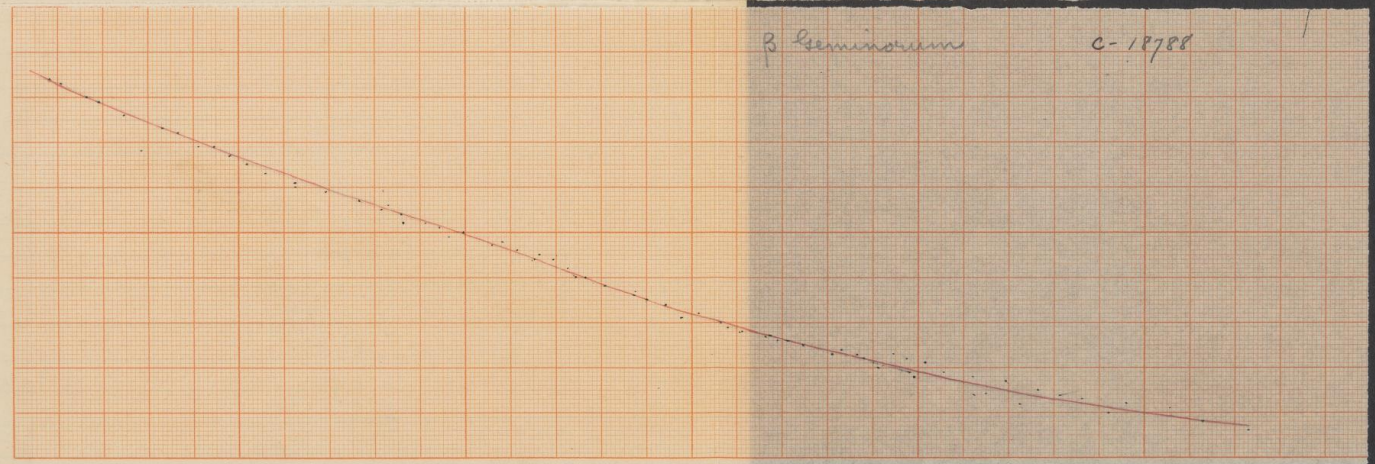


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# Reduction Table. β Geminorum C 18788

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 64 | −1 | 66 | 41 | | 128 | 18 | | 215 |
| | | | 63 | −1 | 69 | 40 | +3 | 132 | 17 | | 219 |
| 85 | −5 | | 62 | 0 | 71 | 39 | | 135 | 16 | | 223 |
| 84 | | 22 | 61 | +1 | 74 | 38 | +2 | 138 | 15 | 0 | 228 |
| 83 | | 24 | 60 | | 76 | 37 | | 141 | 14 | | 232 |
| 82 | | 26 | 59 | +1 | 78 | 36 | +1 | 145 | 13 | | 238 |
| 81 | | 28 | 58 | | 81 | 35 | | 148 | 12 | | 242 |
| 80 | | 30 | 57 | | 84 | 34 | 0 | 151 | 11 | | 248 |
| 79 | | 32 | 56 | +1 | 86 | 33 | | 155 | 10 | | 251 |
| 78 | | 35 | 55 | +2 | 89 | 32 | | 159 | 9 | | 258 |
| 77 | | 37 | 54 | | 91 | 31 | | 163 | 8 | | 268 |
| 76 | −5 | 39 | 53 | +3 | 94 | 30 | | 166 | 7 | | 275 |
| 75 | −4 | 41 | 52 | | 96 | 29 | | 170 | 6 | | 283 |
| 74 | | 43 | 51 | +3 | 99 | 28 | | 173 | 5 | | |
| 73 | | 46 | 50 | +4 | 102 | 27 | | 176 | 4 | | |
| 72 | −4 | 48 | 49 | +4 | 105 | 26 | | 179 | 3 | | |
| 71 | −3 | 50 | 48 | +5 | 108 | 25 | | 183 | 2 | | |
| 70 | | 52 | 47 | | 110 | 24 | | 187 | 1 | | |
| 69 | −3 | 55 | 46 | | 113 | 23 | | 192 | | | |
| 68 | −2 | 57 | 45 | | 116 | 22 | | 196 | | | |
| 67 | | 58 | 44 | +4 | 120 | 21 | | 201 | | | |
| 66 | | 61 | 43 | | 122 | 20 | | 205 | | | |
| 65 | −2 | 64 | 42 | | 125 | 19 | | 210 | | | |

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β Geminorum c18789 Reduction from α Persei

Very faint spectrum

l+m+n = 100

| | n | m+n | l+m+n | n̄ | m̄+n | (n) | (m+n) | Δm | | n | m+n | l+m+n | n̄ | m̄+n | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | 4 | 8 | 93 | 4 | 9 | | 246 | | 74 | | | | | | | | |
| 45 | 4 | 8 | 93 | 4 | 9 | | 246 | | 75 | | | | | | | | |
| 46 | 6 | 9 | 93 | 6 | 10 | | 238 | | 76 | 5 | 17 | 92 | 5 | 18 | | 202 | |
| 47 | 7 | 9 | 93 | 8 | 10 | | 238 | | 77 | 5 | 17 | 92 | 5 | 18 | | 202 | |
| 48 | 7 | 9 | 93 | 8 | 10 | | 238 | | 78 | 8 | 18 | 92 | 9 | 20 | 246 | 195 | 51 |
| 49 | 8 | 10 | 93 | 9 | 11 | 246 | 230 | 16 | 79 | 6 | 18 | 92 | 7 | 20 | | 195 | |
| 50 | 4 | 10 | 93 | 4 | 11 | | 230 | | 80 | 4 | 18 | 92 | 4 | 20 | | 195 | |
| 51 | 8 | 10 | 93 | 9 | 11 | 246 | 230 | 16 | 81 | 8 | 19 | 92 | 9 | 21 | 246 | 191 | 55 |
| 52 | 2 | 10 | 93 | 2 | 11 | | 230 | | 82 | 9 | 19 | 92 | 10 | 21 | 238 | 191 | 47 |
| 53 | 7 | 11 | 93 | 8 | 12 | | 225 | | 83 | 10 | 19 | 92 | 11 | 21 | 230 | 191 | 39 |
| 54 | 5 | 11 | 93 | 5 | 12 | | 225 | | 84 | 9 | 19 | 92 | 10 | 21 | 238 | 191 | 47 |
| 55 | 5 | 11 | 93 | 5 | 12 | | 225 | | 85 | 6 | 20 | 92 | 7 | 22 | | 189 | |
| 56 | 5 | 12 | 93 | 5 | 13 | | 220 | | 86 | 12 | 20 | 92 | 13 | 22 | | 189 | |
| 57 | 6 | 12 | 93 | 7 | 13 | | 220 | | 87 | 8 | 20 | 92 | 9 | 22 | 246 | 189 | 57 |
| 58 | 9 | 12 | 93 | 10 | 13 | 238 | 220 | 18 | 88 | 6 | 21 | 92 | 7 | 23 | | 186 | |
| 59 | 10 | 12 | 93 | 11 | 13 | 230 | 220 | 10 | 89 | 4 | 21 | 92 | 5 | 23 | | 186 | |
| 60 | 8 | 13 | 93 | 9 | 14 | 246 | 216 | 30 | 90 | 9 | 22 | 92 | 10 | 24 | 238 | 183 | 55 |
| 61 | 6 | 13 | 93 | 7 | 14 | | 216 | | 91 | 17 | 22 | 92 | 18 | 24 | 202 | 183 | 19 |
| 62 | 8 | 13 | 93 | 9 | 14 | 246 | 216 | 30 | 92 | 12 | 22 | 92 | 13 | 24 | 220 | 183 | 37 |
| 63 | 9 | 14 | 93 | 10 | 15 | 238 | 213 | 25 | 93 | 15 | 22 | 92 | 16 | 24 | 210 | 183 | 27 |
| 64 | 8 | 14 | 93 | 9 | 15 | 246 | 213 | 33 | 94 | 17 | 23 | 92 | 18 | 25 | 202 | 180 | 22 |
| 65 | 8 | 14 | 93 | 9 | 15 | 246 | 213 | 33 | 95 | 18 | 23 | 92 | 20 | 25 | 195 | 180 | 15 |
| 66 | 5 | 14 | 93 | 5 | 15 | | 213 | | 96 | 14 | 23 | 92 | 15 | 25 | 213 | 180 | 33 |
| 67 | 4 | 15 | 93 | 4 | 16 | | 210 | | 97 | 9 | 24 | 92 | 10 | 26 | 238 | 178 | 60 |
| 68 | 5 | 15 | 93 | 5 | 16 | | 210 | | 98 | 14 | 24 | 92 | 15 | 26 | 213 | 178 | 55 |
| 69 | 6 | 16 | 93 | 7 | 17 | | 206 | | 99 | 15 | 24 | 92 | 16 | 26 | 210 | 178 | 32 |
| 70 | 8 | 16 | 93 | 9 | 17 | 246 | 206 | 40 | 100 | 13 | 24 | 92 | 14 | 26 | 246 | 178 | 38 |
| 71 | 8 | 16 | 93 | 9 | 17 | 246 | 206 | 40 | 101 | 18 | 24 | 92 | 20 | 26 | 195 | 178 | 17 |
| 72 | 5 | 16 | 93 | 5 | 17 | | 206 | | 102 | 18 | 25 | 92 | 20 | 27 | 195 | 175 | 20 |
| 73 | | | | | | | | | | | | | | | | | |

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Mean excess over Exp. 2 = 4.2 in dl.

∴ Mean dl ≐ 27.5 + 4.2 = 31.7

| | n | m+n | l+m+n | ñ | m+n | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|
| 103 | 18 | 25 | 92 | 20 | 27 | 195 | 175 | 20 |
| 104 | 19 | 25 | 92 | 21 | 27 | 191 | 175 | 16 |
| 105 | 17 | 26 | 92 | 18 | 28 | 202 | 172 | 30 |
| 106 | 17 | 26 | 92 | 18 | 28 | 202 | 172 | 30 |
| 107 | 20 | 26 | 92 | 22 | 28 | 189 | 172 | 17 |
| 108 | 21 | 27 | 92 | 23 | 29 | 186 | 169 | 17 |
| 109 | 21 | 27 | 92 | 23 | 29 | 186 | 169 | 17 |
| 110 | 12 | 27 | 92 | 13 | 29 | 220 | 169 | 51 |
| 111 | 24 | 28 | 92 | 26 | 30 | 178 | 165 | 13 |
| 112 | 19 | 28 | 92 | 21 | 30 | 191 | 165 | 26 |
| 113 | 23 | 28 | 92 | 25 | 30 | 180 | 165 | 15 |
| 114 | 23 | 28 | 92 | 25 | 30 | 180 | 165 | 15 |
| 115 | 24 | 28 | 92 | 26 | 30 | 178 | 165 | 13 |
| 116 | 23 | 28 | 92 | 25 | 30 | 180 | 165 | 15 |
| 117 | 22 | 28 | 92 | 24 | 30 | 183 | 165 | 18 |
| 118 | 24 | 27 | 91 | 27 | 29 | 175 | 169 | 06 |
| 119 | 21 | 27 | 91 | 24 | 29 | 183 | 169 | 14 |
| 120 | 24 | 27 | 91 | 27 | 29 | 175 | 169 | 06 |
| 121 | 20 | 27 | 91 | 23 | 29 | 186 | 169 | 17 |
| 122 | 22 | 26 | 91 | 25 | 28 | 180 | 172 | 08 |
| 123 | 22 | 26 | 91 | 25 | 28 | 180 | 172 | 08 |
| 124 | 21 | 26 | 91 | 24 | 28 | 183 | 172 | 11 |
| 125 | 21 | 25 | 91 | 24 | 27 | 183 | 175 | 08 |
| 126 | 19 | 24 | 91 | 22 | 26 | 189 | 178 | 11 |
| 127 | 20 | 23 | 91 | 23 | 25 | 186 | 180 | 6 |
| 128 | 18 | 23 | 91 | 21 | 25 | 191 | 180 | 11 |
| 129 | 16 | 21 | 91 | 18 | 23 | 202 | 186 | 16 |
| 130 | 17 | 20 | 91 | 19 | 21 | 199 | 191 | 08 |
| 131 | 14 | 17 | 91 | 16 | 19 | 213 | 199 | 14 |

| | n | m+n | l+m+n | ñ | m+n | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|
| 132 | 12 | 15 | 91 | 13 | 16 | 220 | 210 | 10 |
| 133 | 9 | 13 | 91 | 10 | 14 | 238 | 216 | 22 |
| 134 | 9 | 13 | 91 | 10 | 14 | 238 | 216 | 22 |
| 135 | 8 | 11 | 91 | 9 | 12 | 246 | 225 | 21 |
| 136 | 7 | 9 | 91 | 8 | 10 | | 238 | |
| 137 | 4 | 8 | 91 | 4 | 9 | | 246 | |
| 138 | 4 | 6 | 91 | 4 | 7 | | | |

Comparison with C18788 Exp. 2.

| Line | 18789 | 18788 | Diff | Line. | · | | | |
|---|---|---|---|---|---|---|---|---|
| 49 | 16,18 | +1 | 92 | 37,52 | 9 | 112 | 26,33 | 5 |
| 51 | 16,8 | −7 | 93 | 27,33 | 4 | 113 | 15,18 | 2 |
| 58 | 18,26 | +6 | 94 | 22,25 | 3 | 114 | 15,18 | 2 |
| 59 | 10,10 | 0 | 95 | 15,25 | 8 | 115 | 13,15 | 2 |
| 60 | 30,33 | 2 | 96 | 33,36 | 2 | 116 | 15,26 | 8 |
| 62 | 30,28 | 1 | 97 | 60,74 | 7 | 117 | 18,19 | 1 |
| 63 | 25,37 | 9 | 98 | 55,40 | 9 | 118 | 06,19 | 10 |
| 64 | 33,37 | 3 | 99 | 32,31 | 1 | 119 | 14,28 | 11 |
| 65 | 33,46 | 9 | 100 | 38,54 | 8 | 120 | 6,15 | 8 |
| 70 | 40.. | — | 101 | 17,32 | 12 | 121 | 17,30 | 10 |
| 71 | 40,59 | 11 | 102 | 20,33 | 9 | 122 | 08,22 | 11 |
| 78 | 51,47 | 2 | 103 | 20,33 | 9 | 123 | 08,18 | 8 |
| 81 | 55,41 | 9 | 104 | 16,27 | 8 | 124 | 11,28 | 13 |
| 82 | 47,51 | 2 | 105 | 30,36 | 4 | 125 | 08,25 | 13 |
| 83 | 39,44 | 3 | 106 | 30,36 | 4 | 126 | 11,25 | 11 |
| 84 | 47,51 | 2 | 107 | 17,25 | 7 | 127 | 6,13 | 6 |
| 87 | 57,57 | 0 | 108 | 17,24 | 7 | 128 | 11,20 | 9 |
| 90 | 55,62 | 4 | 109 | 17,24 | 7 | 129 | 16,13 | 2 |
| 91 | 19,17 | 2 | 110 | 51,25 | 16 | 130 | 8,10 | 4 |
| | | | 111 | 13,15 | 7 | 131 | 14,09 | 1 |
| | | | | | | 132 | 10,11 | 8 |
| | | | | | | 133 | 22,33 | 4 |
| | | | | | | 134 | 22,27 | 2 |
| | | | | | | 135 | 21,24 | 51258 4.2 |

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MC plate (Pub. H.R. 28)

δ Canis Majoris approx. λ in pencil, Mφ 139 onwards

γ Cyg

2 prism MC gives same dl values as 2 prism C.

| No | Meas.† | λ | dl | dl₁* | dl₂ | dl₂ |
|---|---|---|---|---|---|---|
| (1) | 1579 | 3933 | | | 73 | 87 |
| 2 | 1553 | 3944 | 47 | 40 | 36 | 38 |
| | 1545 | 3949 | | | | |
| 4 | 1524 | 3958 | 37 | 31 | 39 | 38 |
| 6 | 1500 | 3970 | 86 | 73 | 71 | 88 |
| 7 | 1472 | 3984 | 36 | 30 | 38 | |
| 8 | 1462 | 3989 | 30 | 25 | 22 | |
| 9 | 1443 | 3999 | 36 | 30 | 20 | |
| 10 | 1433 | 4004 | 30 | 25 | 30 | 30 |
| 11 | 1428 | 4007 | 28 | 24 | | |
| 12 | 1412 | 4014 | 10 | 8 | ~~20~~ ~~15~~ ... | 15 |
| 13 | 1410 | 4016 | 14 | 12 | 20 | 12 |
| 14 | 1404 | 4018 | 3 | 3 | 20 | |
| 15 | 1391 | 4024 | 23 | 20 | 32 ~~20~~ | 25 |
| 16 | 1378 | 4032 | 37 | 31 | 38 | 33 |
| 17 | 1360 | 4041 | 15 | 13 | 32 ~~26~~ | 18 |
| 18 | 1350 | 4046 | 23 | 20 | 34 | 29 |
| 19 | 1332 | 4056 | 28 | 24 | 32 | 26 ~~24~~ |
| 20 | 1316 | 4064 | 30 | 25 | 30 | 28 |
| 21 | 1307 | 4069 | 19 | 16 | 28 | 20 |
| 22 | 1300 | 4073 | 30 | 25 | 28 ~~46~~ | 24 |
| 23 | 1290 | 4077 | 48 | 56 | 46 | 44 |
| 24 | 1278 | 4083 | 28 | 24 | 20 | |
| 25 | 1245 | 4101 | 48 | 56 | 51 | 46 |
| 26 | 1230 | 4108 | 30 | 25 | 33 | 27 |
| 27 | 1215 | 4117 | 30 | 25 | 28 | 24 |
| 28 | 1208 | 4122 | 35 | 30 | 33 | 25 |
| 29 | 1198 | 4128 | 45 | 53 | 39 | 36 |

† in cm from 125

* dl₁ is reduced to 1 prism by the factor 1.186

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γ Cyg

| No. | Meas. | λ | dl | $dl_1$ | $dl_2$ | $dl_1$ |
|---|---|---|---|---|---|---|
| 30 | 1190 | 4132 | 40 | 34 | 36 | 30 |
| 31 | 1181 | 4137 | 14 | 12 | 19 | 14 |
| 32 | 1171 | 4143 | 36 | 31 | 38 | 30 |
| 33 | 1160 | 4150 | 30 | 25 | 28 | 20 |
| 34 | 1151 | 4154 | 33 | 28 | 28 | 24 |
| 35 | 1141 | 4160 | 31 | 26 | 32 | 22 |
| 36 | 1122 | 4171 | 56 | 47 | 44 | 41 |
| 37 | 1113 | 4177 | 49 | 41 | 46 | 38 |
| 38 | 1105 | 4182 | 39 | 33 | ~~29~~ 34 | 26 |
| 39 | 1099 | 4186 | 38 | 32 | 38 | 27 |
| 40 | 1091 | 4190 | 30 | 25 | 31 | 22 |
| 41 | 1080 | 4197 | 39 | 33 | 41 | 24 |
| 42 | 1070 | 4204 | 45 | 38 | 41 | 33 |
| 43 | 1061 | 4209 | 32 | 27 | 28 | 22 |
| 44 | 1052 | 4215 | 37 | 31 | 38 | 27 |
| 45 | 1038 | 4227 | 49 | 42 | 46 | 38 |
| 46 | 1022 | 4236 | 42 | 35 | 36 | 29 |
| 47 | 1020 | 4238 | 36 | 31 | ~~28~~ 30 | 25 |
| 48 | 1017 | 4240 | 31 | 26 | 28 | 25 |
| 49 | 1003 | 4249 | 45 | 38 | 35 | 30 |
| 50 | 998 | 4253 | 34 | 29 | 26 | 24 |
| 51 | 982 | 4263 | 30 | 25 | | |
| 52 | 965 | 4274 | 41 | 35 | 34 | 28 |
| 53 | 948 | 4286 | 25 | 21 | 30 | |
| 54 | 937 | 4292 | 43 | 36 | 43 | 36 |
| 55 | 930 | 4296 | 38 | 32 | 30 | 26 |
| 56 | 920 | 4302 | 56 | 48 | 45 | 38 |
| 57 | 909 | 4310 | 38 | 32 | 32 | 26 |
| 58 | 900 | 4315 | 48 | 41 | 42 | 34 |

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1929phae.proj.110MP



| No. | Meas. | λ | δ Canis Majoris dl | dl₁ | γ Cygni dl₂ | dl₁ |
|---|---|---|---|---|---|---|
| 59 | 891 | 4321 | 22 | 19 | 24 | |
| 60 | 883 | 4327 | 35 | 30 | 36 | 26 |
| 61 | 875 | 4332 | 25 | 21 | 24 | 18 |
| 62 | 861 | 4340 | 64 | 54 | 60 | 51 |
| 63 | 844 | 4352 | 39 | 33 | 40 | ~~34~~ 28 |
| 64 | 836 | 4356 | 28 | 24 | 28 | ~~21~~ 18 |
| 65 | ~~813~~ 820 | 4367 | 30 | 26 | 26 | 22 |
| 66 | 813 | 4371 | 36 | 31 | 41 | 27 |
| 67 | 799 | 4381 | 53 | 46 | 48 | 39 |
| 68 | 784 | 4386 | 45 | 39 | .. | ~~39~~ |
| 69 | 779 | 4394 | 46 | 40 | ~~24~~ 35 | 28 |
| 70 | 764 | 4404 | 34 | 29 | 31 | 32 |
| 71 | 756 | 4413 | 54 | 46 | {36 {35 | 32 |
| 72 | 749 | 4420 | 28 | 24 | 26 | 19 |
| 73 | 739 | 4427 | 26 | 22 | 21 | 16 |
| 74 | 734 | 4432 | 26 | 22 | 25 | 24 |
| 75 | 720 | 4444 | 50 | 43 | 45 | 35 |
| 76 | 710 | 4452 | 28 | 24 | 28 | 21 |
| 77 | 704 | 4457 | 30 | 26 | 32 | 24 |
| 78 | 696 | 4466 | 32 | 28 | 34 | 26 |
| 79 | 688 | 4471 | 43 | 37 | | 29 |
| 80 | 670 | 4487 | 27 | 23 | 26 | 24 |
| 81 | 661 | 4496 | 36 | 31 | 22 | 20 |
| 82 | 652 | 4504 | 26 | 22 | 24 | 12 |
| 83 | 647 | 4510 | 19 | 16 | 20 | 14 |
| 84 | 639 | 4516 | 14 | 12 | 18 | 21 |
| 85 | 629 | 4526 | 20 | 17 | 24 | 23 |
| 86 | 620 | 4532 | 27 | 23 | 30 | ~~09~~ 20 |
| 87 | 612 | 4539 | 29 | 38 | 21 | 20 |

No.
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116

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| No. | Meas. | a | dl | $dl_1$ | $dl_2$ | γ Cygni $dl_1$ |
|---|---|---|---|---|---|---|
| 88 | 605 | 4545 | 26 | 22 | 21? | 9 |
| 89 | 596 | 4553 | 18 | 20 | 32 | 28 |
| 90 | 585 | 4563 | 29 | 25 | 23 | 23 |
| 91 | 581 | 4566 | 40 | 34 | | |
| 92 | 569 | 4577 | 25 | 22 | 11 | 17 |
| 93 | 560 | 4586 | 18 | 15 | 34 | 28 |
| 94 | 548 | 4597 | 33 | 28 | | |
| 95 | 540 | 4604 | 25 | 21 | | |
| 96 | 527 | 4615 | 18 | 15 | 23 | 21 |
| 97 | 505 | 4634 | 21 | 18 | 17 | |
| 98 | 494 | 4644 | 17 | 15 | 19 | |
| 99 | 489 | 4649 | 16 | 14 | | |
| 100 | 474 | 4661 | 14 | 12 | | |
| 101 | 464 | 4670 | 17 | 15 | 18 | |
| 102 | 451 | 4681 | 27 | 23 | | |
| 103 | 438 | 4692 | 07 | 6 | | |
| 104 | ~~383~~ 409 | 4718 | 17 | 15 | | |
| 105 | 383 | 4739 | 16 | 14 | | |
| 106 | 371 | 4749 | 10 | 9 | | |
| 107 | 349 | 4772 | 27 | 23 | 24 | 20 |
| 108 | 328 | 4788 | 09 | 8 | | |
| 109 | 311 | 4803 | 09 | 8 | 10 | |
| 110 | 304 | 4810 | 12 | 10 | 14 | |
| 111 | 300 | 4813 | 04 | 3 | | |
| 112 | 287 | 4827 | 14 | 12 | 19 | 30 |
| 113 | 276 | 4835 | 07 | 6 | | 12 |
| 114 | 260 | 4850 | 10 | 9 | 20 | 12 |
| 115 | 249 | 4861 | 44 | 37 | 44 | 14 24 |
| 116 | 239 | 4868 | 20 | 17 | 20 | 15 |

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| No. | M. | λ | δ Canis Majoris dl | dl₁ | γ Cygni dl₂ | dl₁ |
|---|---|---|---|---|---|---|
| 117 | 227 | 4880 | 18 | 15 | 13 | |
| 118 | 220 | 4886 | 14 | 12 | 17 | |
| 119 | 210 | 4892 | 5 | 4 | .. | |
| 120 | 190 | 4901 | 25 | 22 | 12 | 10 |
| 121 | 178 | 4912 | 14 | 12 | 17 | |
| 122 | 158 | 4945 | 6 | 5 | 22 | |
| 123 | 142 | | 4 | 3 | | |
| 124 | 133 | 4968 | 18 | 15 | 20 | 24 |
| 125 | 102 | 5018 | 23 | 20 | 23 | 19 |
| 126 | | | .. | .. | | |

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β Cassiopeiae reduction to 1 prism dispersion

No. M λ

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Capella. Comparison of 2 prism MC and 1 prism C plates

| No. | M | λ | $dl_{MC}$ | $dl_C$ |
|---|---|---|---|---|
| 1 | | | 25 | |
| 2 | | | 27 | |
| 3 | | | 17 | |
| 4 | | | 24 | |
| 5 | | | 21 | |
| 6 | | | 36 | |
| 7 | | | 26 | |
| 8 | | | 35 | |
| 9 | | | 28 | |
| 10 | | | 22 | |
| 11 | | | 23 | |
| 12 | | | 12 | |
| 13 | | | 26 | |
| 14 | | | 44 | |
| 15 | | | 45 | |
| 16 | | | 14 | |
| 17 | | | 28 | |
| 18 | | | 46 | |
| 19 | | | 49 | |
| 20 | | | 40 | |
| 21 | | | 13 | |
| 22 | | | 19 | |
| 23 | | | ~~28~~ | |
| 24 | | | 30 ~~28~~ | |
| 25 | | | 28 ~~30~~ | |
| 26 | | | 25 ~~28~~ | |
| 27 | | | ~~26~~ | |
| 28 | | | 10 ~~26~~ | |
| 29 | | | 10 | |

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| No. | λ | $dl_{mc}$ | $dl_c$ |
|---|---|---|---|
| 30 | | 17 | |
| 31 | | 9 | |
| 32 | | 23 | |
| 33 | | 78 | 72 |
| 34 | | 41 | |
| 35 | | 31 | |
| 36 | | 28 | |
| 37 | | 28 | |
| 38 | | 30 | |
| 39 | | 58 | |
| 40 | | 79 | 75 |
| 41 | | 47 | |
| 42 | | 18 | |
| 43 | | 9 | |
| 44 | | 9 | |
| 45 | | 15 | |
| 46 | | 7 | |
| 47 | | 21 | |
| 48 | | 5 | |
| 49 | | 5 | |
| 50 | | 5 | |
| 51 | | 6 | |
| 52 | | 10 | |
| 53 | | 10 | |
| 54 | | 26 | |
| 55 | | 20 | |
| 56 | | | |
| 57 | | | |
| 58 | | | |
| 59 | | | |

Values of dl from H.R. 28

| Line | HR 28 I | HR 28 II | BR. 15, &c. |
|---|---|---|---|
| 4861 | 33 | | 36 |
| 4340 | 50 | | 46 |
| 4101 | 41 | | 41 |
| 3970 | 78 | 79 | 75 |
| 3933 | 79 | 78 | 72 |
| 4227 | 41 | | 45 |
| 4215 | 28 | | 34 |
| Sum | 350 | | 349 |
| omitting H + K, | 193 | | 202 |

$\frac{202}{193} = 1.09$

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Pleiades H-2697 Reduced to ltm+n = 37.0

| | No. 1 | | | | | | | | No. 2 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | m+n | ltm+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm | n | m+n | ltm+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
| -2 | 8. | 9.6 | 36.5 | 8 | 10 | | | | — | — | — | — | — | — | — | — |
| -1 | 8.5 | 10.8 | 36.5 | 8 | 11 | | | | 7.5 | 9.5 | 37.3 | 8 | 10 | | | |
| 0 | 9.0 | 12.8 | 36.5 | 9 | 13 | | | | 7.7 | 10.7 | 37.3 | 8 | 11 | | | |
| 1 | 9.8 | 14.6 | 36.5 | 10 | 15 | | | | 8.3 | 12.0 | 37.2 | 8 | 12 | | | |
| 2 | 9.8 | 16.8 | 36.5 | 10 | 17 | | | | 8.5 | 13.7 | 37.1 | 8 | 14 | | | |
| 3 | 10.0 | 18.8 | 36.6 | 10 | 19 | | | | 8.5 | 15.5 | 37.0 | 8 | 16 | | | |
| 4 | 11.0 | 20.5 | 36.7 | 11 | 20 | | | | 9.0 | 17.2 | 37.0 | 9 | 17 | | | |
| 5 | 11.8 | 21.9 | 36.7 | 12 | 22 | | | | 9.9 | 19.2 | 37.0 | 10 | 19 | | | |
| 6 | 13.6 | 23.4 | 36.7 | 14 | 23 | | | | 11.0 | 21.2 | 37.0 | 11 | 21 | | | |
| 6a | — | 24.5 | 36.7 | — | 24 | | | | — | 22.8 | 37.0 | — | 23 | | | |
| 7 | 16.1 | 25.4 | 36.8 | 16 | 25 | | | | 14.1 | 23.9 | 36.9 | 14 | 24 | | | |
| 7a | — | 26.8 | 36.8 | — | 27 | | | | — | 25.2 | 36.9 | — | 25 | | | |
| 8 | 19.1 | 27.9 | 36.8 | 19 | 28 | | | | 16.2 | 26.9 | 36.9 | 16 | 27 | | | |
| 9 | 28.0 | 28.9 | 36.9 | 28 | 29 | | | | 25.6 | 26.9 | 36.8 | 26 | 27 | | | |
| 10 | 23.0 | 30.0 | 36.9 | 23 | 30 | | | | 19.4 | 27.2 | 36.6 | 19 | 27 | | | |
| 11 | 29.0 | 33.2 | 37.0 | 29 | 33 | | | | 20.4 | 28.2 | 36.2 | 20 | 28 | | | |
| a | — | 33.6 | 37.0 | — | 34 | | | | — | 28.7 | 36.1 | — | 29 | | | |
| b | — | 33.8 | 37.0 | — | 34 | | | | — | 29.0 | 36.0 | — | 29 | | | |
| c | — | 33.0 | 37.0 | — | 33 | | | | — | 28.0 | 36.0 | — | 28 | | | |
| 14 | 25.8 | 29.0 | 37.0 | 26 | 29 | | | | 16.8 | 21.5 | 35.8 | 17 | 22 | | | |

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| No. 3 | | | | | | | | No. 4 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n | m+n | l+m+n | n̄ | m+n̄ | (n) | (m+n) | Δm | n | m+n | l+m+n | n̄ | m+n̄ | (n) | (m+n) | Δm |
| 3.0 | 4.8 | 38.0 | 3.0 | 5 | | | | 2.6 | 3.0 | 36.2 | ~~5~~ 3 | 3 | | | |
| 3.0 | 5.1 | 38.0 | 3 | 5 | | | | 2.2 | 3.6 | 36.2 | ~~4~~ 2 | 4 | | | |
| 3.4 | 6.8 | 38.0 | 3 | 7 | | | | 3.0 | 5.3 | 36.2 | ~~6~~ 3 | 5 | | | |
| 4.0 | 6.8 | 38.0 | 4 | 7 | | | | 3.0 | 6.2 | 36.2 | ~~6~~ 3 | 6 | | | |
| 4.0 | 7.5 | 38.0 | 4 | 8 | | | | 3.0 | 7.2 | 36.2 | ~~6~~ 3 | 7 | | | |
| 4.0 | 7.5 | 38.0 | 4 | 8 | | | | 3.1 | 7.9 | 36.2 | ~~6~~ 3 | 8 | | | |
| 3.5 | 7.9 | 38.0 | 4 | 8 | | | | 3.0 | 10.8 | 36.1 | ~~6~~ 3 | 11 | | | |
| 5.0 | 11.5 | 38.0 | 5 | 12 | | | | 4.8 | 13.2 | 36.1 | ~~10~~ 5 | 13 | | | |
| — | 12.7 | 38.0 | — | 13 | | | | — | 14.9 | 36.1 | — | 15 | | | |
| 6.0 | 13.5 | 38.0 | 6 | 14 | | | | 6.6 | 16.0 | 36.0 | 7 | 16 | | | |
| — | 14.6 | 38.0 | — | 15 | | | | — | 17.6 | 36.0 | — | 18 | | | |
| 7.3 | 15.5 | 38.0 | 7 | 16 | | | | 9.0 | 18.9 | 36.0 | 9 | 19 | | | |
| 15.0 | 16.5 | 38.0 | 15 | 16 | | | | 19.0 | 20.6 | 36.0 | 19 | 21 | | | |
| 10.0 | 17.9 | 38.0 | 10 | 18 | | | | 13.0 | 22.0 | 36.0 | 13 | 22 | | | |
| 15.1 | 21.6 | 37.9 | 15 | 22 | | | | 18.2 | 25.4 | 35.7 | 18 | 25 | | | |
| — | 23.0 | 37.9 | — | 23 | | | | — | 26.4 | 35.6 | — | 26 | | | |
| — | 24.6 | 37.9 | — | 25 | | | | — | 27.5 | 36.5 | — | 28 | | | |
| — | 23.0 | 37.9 | — | 23 | | | | — | 26.7 | 36.4 | — | 27 | | | |
| 11.8 | 25.6 | 37.8 | 12 | 26 | | | | 14.0 | 20.0 | 35.4 | 14 | 20 | | | |

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| | No. 5 | | | | | | | | No. 6 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | m+n | l+m+n | n̄ | m+n̄ | (n) | (m+n) | Δm | n | m+n | l+m+n | n̄ | m+n̄ | (n) | (m+n) | Δm |
| −2 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| −1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 3 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 4 | — | — | — | — | — | — | — | — | 0 | 2.9 | 36.9 | 0 | 3 | | | |
| 5 | .6 | 2.4 | 36.3 | 1 | 2 | | | | 1.6 | 3.6 | 36.8 | 2 | 4 | | | |
| 6 | .7 | 3.4 | 36.2 | 1 | 3 | | | | 1.8 | 4.2 | 36.7 | 2 | 4 | | | |
| 6a | — | 4.3 | 36.1 | — | 4 | | | | — | 4.7 | 36.5 | — | 5 | | | |
| 7 | 1.8 | 5.8 | 36.1 | 2 | 6 | | | | 3.0 | 5.2 | 36.4 | 3 | 5 | | | |
| 7a | — | 7.0 | 36.0 | — | 7 | | | | — | 6.0 | 36.3 | — | 6 | | | |
| 8 | 2.6 | 8.7 | 36.0 | 3 | 9 | | | | 2.8 | 6.4 | 35.7 | 3 | 6 | | | |
| 9 | 10.0 | 11.4 | 35.9 | 10 | 11 | | | | 6.0 | 7.2 | 35.6 | 6 | 7 | | | |
| 10 | 6.0 | 14.6 | 35.7 | 6 | 15 | | | | 7.0 | 7.9 | 35.5 | 7 | 8 | | | |
| 11 | 12.3 | 20.9 | 35.1 | 13 | 22 | | | | 5.0 | 9.7 | 35.0 | 5 | 10 | | | |
| a | — | 22.7 | 35.0 | — | 24 | | | | — | 10.4 | 34.8 | — | 10 | | | |
| b | — | 23.3 | 35.0 | — | 24 | | | | — | 10.4 | 34.7 | — | 10 | | | |
| c | — | 22.0 | 34.9 | — | 23 | | | | — | 8.9 | 34.5 | — | 9 | | | |
| 14 | 9 | 14.8 | 34.6 | 10 | 16 | | | | 2 | 8.5 | 34.4 | 2 | 8 | | | |

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| No. A | | | | | | | | No. B | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n | m+n | l+m+n | n̄ | m+n̄ | (n) | (m+n) | Δm | n | m+n | l+m+n | n̄ | m+n̄ | (n) | (m+n) | Δm |
| 2.5 | 3.7 | 37.2 | | | | | | — | — | — | — | — | — | — | — |
| 3.0 | 4.0 | 37.2 | | | | | | — | — | — | — | — | — | — | — |
| 3.0 | 4.6 | 37.2 | | | | | | — | — | — | — | — | — | — | — |
| 3.3 | 5.5 | 37.2 | | | | | | — | — | — | — | — | — | — | — |
| 3.5 | 6.0 | 37.2 | | | | | | — | — | — | — | — | — | — | — |
| 4.0 | 7.5 | 37.2 | | | | | | — | — | — | — | — | — | — | — |
| 4.2 | 8.8 | 37.2 | | | | | | — | — | — | — | — | — | — | — |
| 4.5 | 11.0 | 37.2 | | | | | | 4.0 | 5.0 | 38.0 | — | — | — | — | — |
| 5.0 | 12.7 | 37.2 | | | | | | 3.0 | 5.7 | 38.0 | | | | | |
| — | 14.5 | 37.2 | — | | | | | — | 6.2 | 38.0 | — | | | | |
| 7.0 | 16.0 | 37.2 | | | | | | 2.8 | 6.7 | 37.8 | | | | | |
| — | 18.6 | 37.2 | — | | | | | — | 7.0 | 37.8 | — | | | | |
| 10.0 | 20.5 | 37.2 | | | | | | 2.6 | 7.5 | 37.6 | | | | | |
| 21.7 | 22.5 | 37.2 | | | | | | 6.5 | 8.1 | 37.6 | | | | | |
| 15.5 | 25.2 | 37.2 | | | | | | 3.0 | 9.3 | 37.6 | | | | | |
| 21.7 | 29.6 | 37.1 | | | | | | 6.5 | 12.8 | 37.5 | | | | | |
| — | 30.2 | 37.0 | — | | | | | — | 14.1 | 37.4 | — | | | | |
| — | 30.0 | 37.0 | — | | | | | — | 15.1 | 37.3 | — | | | | |
| — | 29.0 | 37.0 | — | | | | | — | 13.0 | 37.1 | — | | | | |
| 15.6 | 22.5 | 37.0 | | | | | | 4.0 | 8.0 | 37.0 | | | | | |

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Class F5 . Neutral lines

| | λ | α Per | α CMi (subordinate) | β Cas |
|---|---|---|---|---|
| | 3820 | | | .. |
| | 3826 | | | .. |
| | 3834 | | | .. |
| | 3840 | 31 | .. | 25 |
| | 3850 | 28 | 18 | 24 |
| | 3865 | (13) | | |
| | 3872 | 30 | 18 | 18 |
| | 3878 | | | |
| | 3969 | | | .. |
| | 4005 | 26 | 21 | 17 |
| Mn | 4041 | (12) | (5) | (9) |
| | 4046 | 20 | 21 | 17 |
| | 4064 | 20 | 19 | 16 |
| | 4072 | 18 | 18 | 15 |
| | 4144 | 21 | 19 | 15 |
| | 4202 | 23 | 17 | 15 |
| | 4235 | (13) | ~~13~~ .. | —(13) |
| | 4250 | (15) | ~~13~~ .. | —(13) |
| | 4260 | 17 | 11 | 9 |
| | 4271 | 21 | 10 | 15 |
| | 4325 | (18) | | |
| | | 257 | (202) 177 | 195 |
| Hydrogen | 4861 | 42 | 47 | 45 |
| | 4340 | 57 | 47 | 52 |
| | 4101 | 49 | 51 | 49 |
| | 3889 | 62 | 48 | 45 |
| | 3835 | 65 | 51 | 46 |
| | | 275 | 244 | 237 |

| λ | α Per | α CMi (ultimate) | β Cas |
|---|---|---|---|
| 4227 | 28 | 17 | 24 |
| 3944 | 33 | 23 | 14 |
| 3961 | 59 | 36 | 22 |
| 4031 | 28 | 20 | 19 |
| | 148 | 96 | 79 |

Neutral lines all point to different ionization and about the same depth of photosphere

| | ~~α Per - α CMi~~ α Per - α CMi | α Per - β Cas | - α CMi + β Cas | |
|---|---|---|---|---|
| NS | 6.6 | 5.2 | + 1.4 | |
| NU | 13.0 | 17.2 | - 4.2 | |
| H | 6.2 | 7.6 | - 1.4 | |
| IS | 7.7 | 5.9 | + 1.8 | |
| IU | 13.0 | 19.2 | - 6.2 | |
| ΣS | 20.5 | 18.7 | + 1.8 | |
| ΣU | 26.0 | 36.4 | - 10.4 | |
| $\frac{\Sigma S}{n}$ | 6.8 | 6.2 | + 0.6 | Mean |
| $\frac{\Sigma U}{n}$ | 13.0 | 18.2 | - 5.2 | Mean |
| Sum | 19.8 | 24.4 | - ~~5.8~~ 4.6 | |
| Diff | 6.2 | 12.0 | - 5.8 | |

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| | α Per | Ionized lines α C Mi | β Cas |
|---|---|---|---|
| 4247 | (18) | .. | (15) |
| 4450 | (14) | .. | .. |
| 4444 | 23 | 12 | 10 |
| 4395 | (12) | .. | .. |
| 4337 | .. | .. | .. |
| 4501 | (19) | (10) | .. |
| 4468 | 21 | 7 | 15 |
| 4417 | 19 | 12 | 9 |
| 4314 | 23 | 18 | 20 |
| 4307 | (19) | (15) | (15) |
| 4300 | (32) | (20) | (21) |
| Fe+ 4296 | (16) | .. | (14) |
| 4179 | 26 | 23 | 18 |
| 4416 | (19) | (12) | (9) |
| 4352 | 23 | 20 | 25 |
| 4303 | ( ) | (15) | (21) |
| 4233 | 20 | 15 | 15 |
| 4173 | 34 | 13 | 23 |
| 4629 | (11) | (0.9) | .. |
| 4556 | (12) | .. | (10) |
| 4520 | .. | .. | .. |
| 4515 | 18 | 12 | 9 |
| lean 4491 | .. | .. | .. |
| lean 4489 | (14) | (10) | .. |
| 4583 | 17 | 8 | 10 |
| 4576 | 16 | 12 | 13 |
| 4549 | (10) | .. | (13) |
| 4523 | 14 | 10 | 8 |
| 4508 | (8) | .. | .. |
| | 2~~0~~4 5 | 162 | 188 |

| | | | |
|---|---|---|---|
| 3933 | 92 | 75 | 59 |
| 3970 | 92 | 73 | 63 |
| 4077 | 32 | 28 | 23 |
| 4215 | 24 | 12 | 18 |
| 4554 | (12) | .. | (17) |
| | 240 | 188 | 163 |
| Means. | −3.5 α Per | +2.5 β Cas | +3.8 α CMi |
| Neutral sub | 21.4 | 16.2* | 1.48 |
| Neutral ult. | 37.0 | 19.8 | ~~+8~~ 24.0* |
| Hydrogen | 55.0 | 47.4 | 48.8* |
| Ionized (i) | 20.3 | 14.4* | 12.6 |
| (ii) | 60.0 ~~48.0~~ | 40.8 | 47.0* |
| -NS+NU | 15.6 | 3.6 | 9.2 |
| H−NS | 33.6 | 31.2 | 34.0 |
| H−NU | 18.0 | 27.6 | 24.8 |
| NS−IS | 1.1 | 1.8 | 2.2 |
| -NU+IU | 23.0 | 21.0 | 23.0 |
| H−IS | 34.7 | 33.0 | 36.2 |
| -H+IU | 5.0 | −6.6 | −1.8 |
| Summfall | 193.7 | 138.6 | 147.2 |
| Fe (a) | 196 ~~245~~ | 137 ~~184~~ | ~~154~~ ~~134~~ 154 |
| Fe+ (a) | 168 ~~178~~ | 121 ~~137~~ | 113 |
| Sum | 364 ~~374~~ | 258 ~~278~~ | 267 ~~247~~ |
| Difference | 28 ~~28~~ | 16 ~~04~~ | 41 ~~21~~ |
| Ca | 28 | 24 | 17 |
| Ca+ (mean) | 92 | 61 | 74 |
| Sum | 120 | 85 | 91 |
| ~~Diff~~ | ~~64~~ | 37 | 57 |

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γ Cygni and Capella

| | γ Cyg | Capella |
|---|---|---|
| 3969 | .. | .. |
| 4005 | 30 | 29 |
| (4041) | (18) | (12) |
| 4046 | 29 | 38 |
| 4064 | 28 | 25 |
| 4072 | 24 | 24 |
| 4144 | 30 | 30 |
| 4202 | 30 | 34 |
| 4235 | .. | .. |
| 4250 | 24 | 24 |
| 4260 | 20 | 22 |
| 4271 | 28 | 34 |
| (4325) | | |
| | 243 | 262 |

| | | |
|---|---|---|
| 4227 | 38 | 45 |
| 3944 | 38 | 41 |
| 3961 | 50 | 44 |
| 4031 | 33 | 27 |
| | 159 | 157 |

| | | |
|---|---|---|
| 4861 | 24 | 36 |
| 4340 | 51 | 46 |
| 4101 | 46 | 41 |
| 3889 | | |
| 3835 | | |
| | 121 | 123 |

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| | | γ Cyg | α Aur | |
|---|---|---|---|---|
| | 4247 | 30 | 24 | |
| | 4450 | 21 | 23 | |
| | 4444 | 35 | 18 | |
| | 4395 | (28) | .. | |
| | 4337 | .. | .. | |
| | 4501 | (12) | .. | |
| | 4468 | 29 | 23 | |
| | 4417 | 32 | 23 | |
| | 4314 | (34) | .. | |
| | 4307 | (26) | (48) | |
| | 4300 | (36) | (41) | ~~181~~ 147, 111 |
| | 4296 | .. | .. | |
| Fe+ | 4179 | (38) | .. | |
| | 4416 | 32 | 23 | |
| | 4352 | 28 | 26 | |
| | 4303 | 29 | 22 | |
| | 4233 | ↓ | ↓ | |
| | 4173 | 41 | 36 | |
| | 4629 | .. | .. | |
| | 4556 | 28 | 22 | |
| | 4520 | 23 | 20 | |
| | 4575 | 21 | 18 | |
| | 4491 | (24) | .. | |
| | 4489 | .. | .. | |
| | 4583 | (28) | .. | |
| | 4576 | | | |
| | 4549 | 26 | 12 | |
| | 4523 | 23 | 20 | |
| | 4508 | (14) | (21) | |
| | | ~~265~~ | 220 | |

| | γ Cyg | α Aur |
|---|---|---|
| 3933 | 87 | 72 |
| 3970 | 88 | 75 |
| 4077 | 44 | 39 |
| 4215 | 27 | 34 |
| 4554 | 28 | 22 |
| | 275 | 242 |

| | γ Cyg | α Aur |
|---|---|---|
| Fe (9 lines) | ~~243~~ 251 | 262 |
| Fe+ (9 lines) | ~~251~~ | 199 |
| Sum | 494 | 461 |

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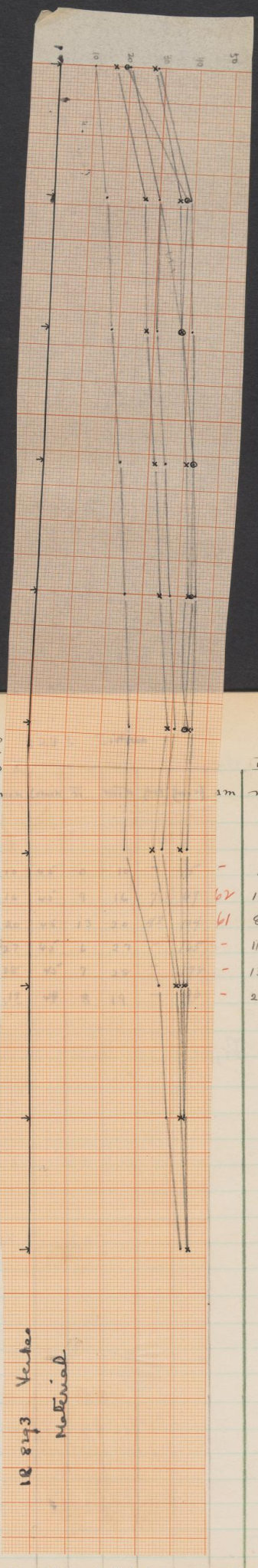
1924phae.proj.1306P





Reduced to 45°

IR
No

| | n | m | Δm | n | m+n | (m+n) | n | m+n | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| ζ | 0 | | – | 1 | 15 | 45 | 1 | 15 | – | 61 | – |
| κ | 9 | | 62 | 16 | 26 | 45 | 16 | 26 | 69 | 158 | 89 |
| ε | 13 | | 61 | 8 | 30 | 45 | 8 | 30 | – | 193 | – |
| δ | 6 | | – | 11 | 36 | 45 | 11 | 36 | 25 | 250 | 225 |
| γ | 7 | | – | 13 | 39 | 45 | 13 | 39 | 43 | 294 | 251 |
| β | 8 | | – | 21 | 38 | 45 | 21 | 38 | 115 | 270 | 155 |

12 8273 Vertex
Material

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IR 8293 Sirius

| | No I | | | | | | | | No II | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | m+n | (+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm | n | m+n | (+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
| ζ | 0 | 10 | 45 | 0 | 10 | – | 15 | – | 1 | 15 | 45 | 1 | 15 | – | 61 | – |
| κ | 9 | 16 | 45 | 9 | 16 | 7 | 69 | 62 | 16 | 26 | 45 | 16 | 26 | 69 | 158 | 89 |
| ε | 13 | 20 | 45 | 13 | 20 | 43 | 104 | 61 | 8 | 30 | 45 | 8 | 30 | – | 193 | – |
| δ | 6 | 27 | 45 | 6 | 27 | – | 165 | – | 11 | 36 | 45 | 11 | 36 | 25 | 250 | 225 |
| γ | 7 | 28 | 45 | 7 | 28 | – | 172 | – | 13 | 39 | 45 | 13 | 39 | 43 | 294 | 251 |
| β | 8 | 19 | 44 | 8 | 19 | – | 96 | – | 21 | 38 | 45 | 21 | 38 | 115 | 270 | 155 |

1924phae.proj.11908

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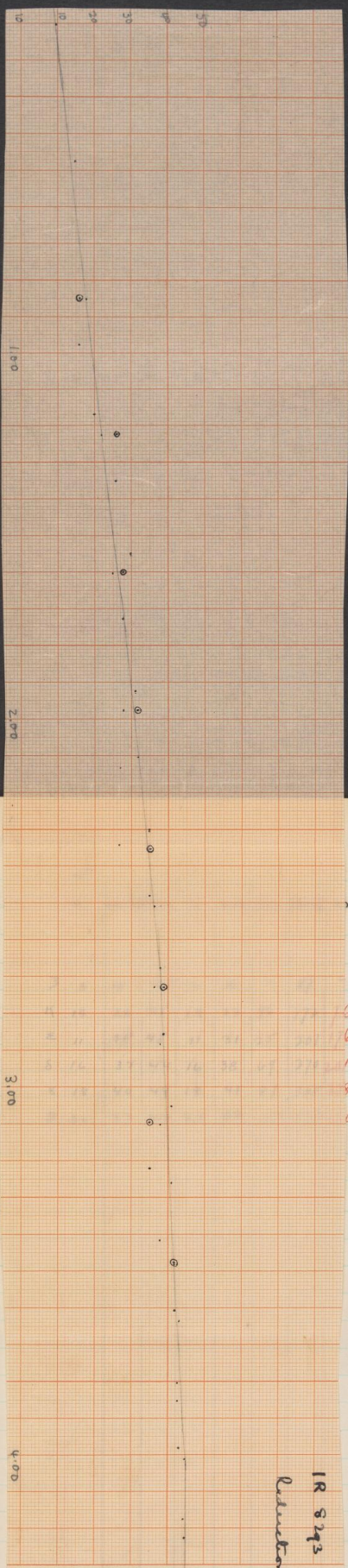
1924phae.proj.1196P






| m | n | min | (min) | n | min | (n) | (min) | Am |
|---|---|---|---|---|---|---|---|---|
| | 5 | 22 | 45 | 5 | 22 | – | 123 | – |
| 6 | 24 | 32 | 45 | 24 | 32 | 141 | 211 | 70 |
| 6 | 16 | 35 | 45 | 16 | 35 | 69 | 240 | 171 |
| 1 | 22 | 40 | 44 | 23 | 41 | 133 | 335 | 202 |
| 8 | 25 | 42 | 44 | 26 | 43 | 158 | 370 | 212 |
| 0 | 32 | 41 | 43 | 34 | 43 | 231 | 370 | 139 |

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| | III | | | | | | | | IV | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | [n] | [m+n] | Δm | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
| ζ | 3 | 18 | 45 | 3 | 18 | – | 87 | – | 5 | 22 | 45 | 5 | 22 | – | 123 | – |
| κ | 19 | 28 | 45 | 19 | 28 | 96 | 172 | 76 | 24 | 32 | 45 | 24 | 32 | 141 | 211 | 70 |
| ε | 11 | 31 | 45 | 11 | 31 | 25 | 201 | 176 | 16 | 35 | 45 | 16 | 35 | 69 | 240 | 171 |
| δ | 16 | 37 | 44 | 16 | 38 | 69 | 270 | 201 | 22 | 40 | 44 | 23 | 41 | 133 | 335 | 202 |
| γ | 18 | 40 | 44 | 18 | 41 | 87 | 335 | 248 | 25 | 42 | 44 | 26 | 43 | 158 | 370 | 212 |
| β | 24 | 37 | 44 | 25 | 38 | 150 | 270 | 120 | 32 | 41 | 43 | 34 | 43 | 231 | 370 | 139 |

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I R 8293 Sirius

| No V | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | $(\bar{n})$ | $(\overline{m+n})$ | Δm | No VI | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | $(\bar{n})$ | $(\overline{m+n})$ | Δu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ζ | 6 | 25 | 45 | 6 | 25 | – | 150 | – | | 8 | 28 | 45 | 8 | 28 | – | 172 | – |
| κ | 29 | 35 | 45 | 29 | 35 | 182 | 240 | 58 | | 32 | 38 | 44 | 33 | 39 | 220 | 294 | 74 |
| ε | 19 | 38 | 45 | 19 | 38 | 96 | 270 | 174 | | 22 | 40 | 44 | 23 | 41 | 133 | 335 | 202 |
| δ | 27 | 43 | 45 | 27 | 43 | 165 | 370 | 205 | | 32 | 43 | 43 | 34 | 45 | 231 | 403 | 172 |
| γ | 32 | 44 | 44 | 33 | 45 | 220 | 403 | 183 | | 36 | 43 | 42 | 39 | 46 | 294 | – | – |
| β | 36 | 43 | 44 | 37 | 44 | 262 | 390 | 128 | | 35 | 40 | 41 | 38 | 44 | 270 | 390 | 120 |

| No. 9 | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | $(\bar{n})$ | $(\overline{m+n})$ | Δm | No. 10 | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | $(\bar{n})$ | $(\overline{m+n})$ | Δu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ζ | 24 | 40 | 46 | 28 | 39 | 133 | 294 | 161 | | 31 | 43 | 45 | 31 | 43 | 201 | 370 | 169 |
| κ | 42 | 44 | 46 | 41 | 43 | 335 | 370 | 35 | | 44 | 45 | 45 | 44 | 45 | 390 | 403 | 13 |
| ε | 39 | 45 | 46 | 38 | 44 | 270 | 390 | 120 | | 42 | 45 | 45 | 42 | 45 | 355 | 403 | 48 |
| δ | 42 | 45 | 46 | 41 | 44 | 335 | 390 | 55 | | 43 | 45 | 45 | 43 | 45 | 370 | 403 | 33 |
| γ | 43 | 45 | 46 | 42 | 44 | 355 | 390 | 35 | | – | 45 | 45 | – | 45 | – | 403 | – |
| β | – | – | 45 | – | – | – | – | | | – | 45 | 45 | – | 45 | – | 403 | – |

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| No VII | n | m+n | (m+n) | n̄ | m+n̄ | (n) | (m+n) | Δm | n | m+n | (m+n) | n̄ | m+n̄ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | No VIII | | | | | | | |
| ζ | 11 | 28 | 47 | 11 | 27 | 25 | 165 | 140 | 19 | 38 | 46 | 19 | 37 | 96 | 262 | 166 |
| κ | 31 | 36 | 46 | 30 | 35 | 193 | 240 | 47 | 40 | 43 | 46 | 39 | 42 | 294 | 355 | 61 |
| ε | 25 | 39 | 46 | 24 | 38 | 141 | 270 | 129 | 33 | 44 | 46 | 32 | 43 | 211 | 370 | 159 |
| δ | 37 | 44 | 46 | 36 | 43 | 250 | 370 | 120 | 40 | 45 | 46 | 39 | 44 | 294 | 390 | 96 |
| γ | 39 | 46 | 46 | 38 | 45 | 270 | 403 | 133 | 43 | 46 | 46 | 42 | 45 | 355 | 403 | 48 |
| β | 31 | 37 | 45 | 30 | 37 | 201 | 262 | 61 | 45 | 47 | 47 | 43 | 45 | 370 | 403 | 33 |

| No. 11 | n | m+n | (m+n) | n̄ | m+n̄ | (n) | (m+n) | Δm | No. 12 |
|---|---|---|---|---|---|---|---|---|---|
| ζ | 25 | 34 | 45 | 25 | 34 | 150 | 231 | 81 | |
| κ | 34 | 36 | 45 | 34 | 36 | 231 | 250 | 19 | |
| ε | 31 | 36 | 45 | 31 | 36 | 201 | 250 | 49 | |
| δ | 33 | 37 | 45 | 33 | 37 | 220 | 262 | 42 | |
| γ | 35 | 39 | 45 | 35 | 39 | 240 | 294 | 54 | |
| β | 40 | 43 | 45 | 40 | 43 | 315 | 370 | 55 | |

| Means. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | Σ | mean | Red dh | dl | HR 28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ζ | – | | | | | | 140 | 166 | 161 | 169 | 81 | 636 | 159 | 127.2 | | 1.55 |
| κ | 62 | 89 | 76 | 70 | 58 | 74 | 147 | 61 | 35 | 13 | 19 | 537 | 69 | 55.2 | | 0.17 |
| ε | 61 | – | 176 | 171 | 174 | 202 | 129 | 159 | 120 | 48 | 49 | 1072 | 153 | 122.4 | | 1.47 |
| δ | | 225 | 201 | 202 | 205 | 177 | 120 | 96 | 55 | 33 | 42 | 1165 | 194 | 155.2 | | 1.46 |
| γ | | 257 | 248 | 212 | 183 | – | 133 | 48 | 35 | | 54 | 1027 | 205 | 164.0 | | 1.39 |
| β | | 155 | 120 | 139 | 128 | 120 | 61 | 33 | – | | 55 | 662 | 132 | 105.6 | | .96 |
| | | | | | | | | | | | | | | Σ 674 | | 7.00 |
| | | | | | | | | | | | | | (H) only | 134.9 | | 400 |

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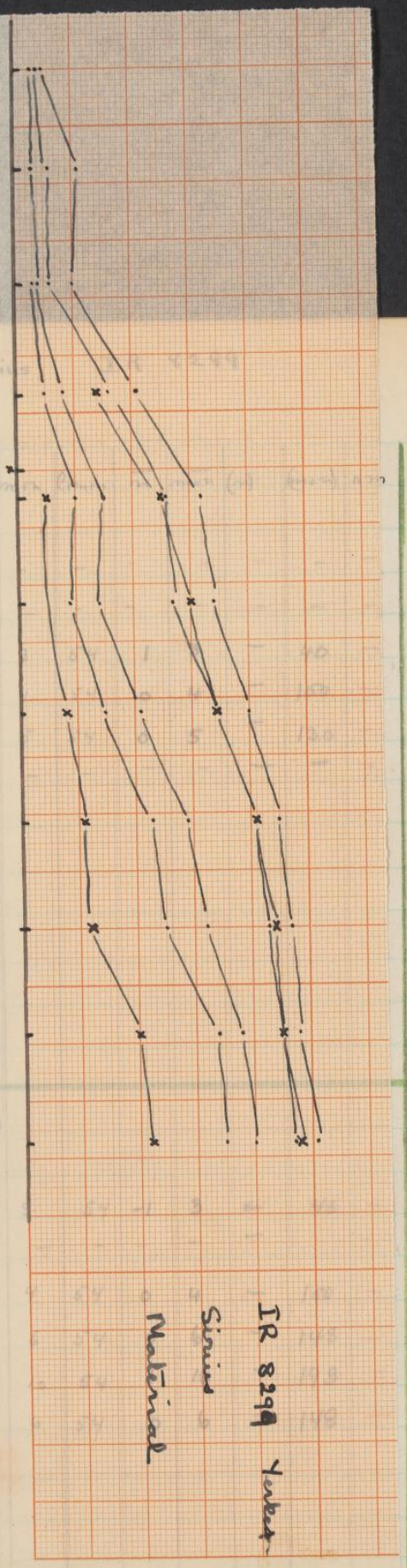
1924phae.proj.110@P

1924phae.proj.1986P



Reduced to 55




No 2

| n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|
| — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
| -1 | 3 | 53 | -1 | 3 | — | 40 | — |
| -1 | 6 | 53 | -1 | 6 | — | 128 | — |
| 0 | 11 | 53 | 0 | 11 | — | 200 | — |
| 0 | 6 | 53 | — | — | — | — | — |

No 4

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| — | — | — | — | — | — | — | — |
| 3 | 5 | 53 | 3 | 5 | 40 | 130 | — |
| -1 | 8 | 53 | -1 | 8 | — | 174 | — |
| 0 | 16 | 53 | 0 | 16 | — | 234 | — |
| 2 | 21 | 53 | 2 | 21 | — | 263 | — |
| 3 | 14 | 53 | 3 | 14 | 40 | 221 | 181 |

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Sirius IR 8299 Reduced to 55

No 1.

| | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|
| ζ | – | – | – | – | – | – | – | – |
| κ | – | – | – | – | – | – | – | – |
| ε | 1 | 3 | 54 | 1 | 3 | – | 40 | – |
| δ | 0 | 4 | 54 | 0 | 4 | – | 160 | – |
| γ | 0 | 5 | 54 | 0 | 5 | – | 130 | – |
| β | – | – | – | – | – | – | – | – |

No 2

| | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|
| ζ | – | – | – | – | – | – | – | – |
| κ | – | – | – | – | – | – | – | – |
| ε | -1 | 3 | 53 | -1 | 3 | – | 40 | – |
| δ | -1 | 6 | 53 | -1 | 6 | – | 128 | – |
| γ | 0 | 11 | 53 | 0 | 11 | – | 200 | – |
| β | 0 | 6 | 53 | – | – | – | – | – |

No. 3

| | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|
| ζ | -1 | 3 | 54 | -1 | 3 | – | 40 | – |
| κ | – | – | – | – | – | – | | – |
| ε | 0 | 4 | 54 | 0 | 4 | – | 160 | – |
| δ | 0 | 6 | 54 | 0 | 6 | – | 148 | – |
| γ | 1 | 10 | 54 | 1 | 10 | – | 193 | – |
| β | 0 | 6 | 54 | 0 | 6 | – | 148 | – |

No 4

| | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|
| ζ | – | – | – | – | – | – | – | – |
| κ | 3 | 5 | 53 | 3 | 5 | 40 | 130 | – |
| ε | -1 | 8 | 53 | -1 | 8 | – | 174 | – |
| δ | 0 | 16 | 53 | 0 | 16 | – | 234 | – |
| γ | 2 | 21 | 53 | 2 | 21 | – | 263 | – |
| β | 3 | 14 | 53 | 3 | 14 | 40 | 221 | 181 |

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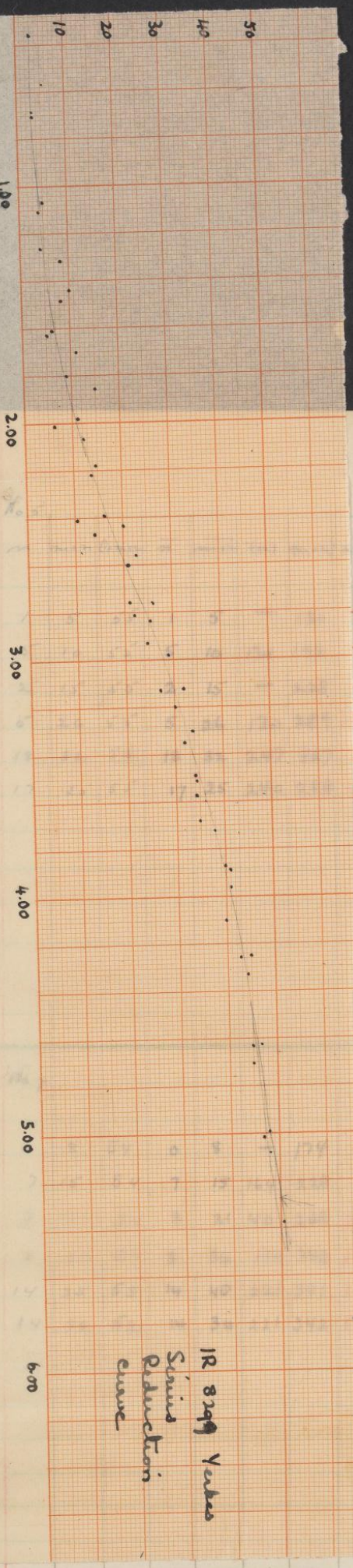
1924phae.proj.3186P






IR 8299 Yerkes Sonnid Reduction curve

No. 6

| m | n | m+n | (m+n) | n | m+n | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|
| — | — | — | — | — | — | — | — | — |
| — | 4 | 9 | 55 | 4 | 9 | 100 | 184 | — |
| — | 1 | 14 | 55 | 1 | 14 | — | 221 | — |
| 59 | 3 | 26 | 54 | 3 | 27 | 40 | 295 | 255 |
| 30 | 7 | 32 | 53 | 7 | 34 | 164 | 342 | 178 |
| 13 | 10 | 27 | 51 | 10 | 30 | 193 | 314 | 121 |

No. 8

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| — | 0 | 11 | 53 | 0 | 11 | — | 200 | — |
| 64 | 11 | 22 | 53 | 11 | 23 | 200 | 273 | 73 |
| 28 | 4 | 25 | 53 | 4 | 29 | 100 | 306 | 206 |
| 8 | 13 | 39 | 53 | 13 | 41 | 214 | 400 | 186 |
| 10 | 20 | 43 | 53 | 21 | 45 | 263 | 450 | 187 |
| 1 | 22 | 39 | 54 | 23 | 41 | 273 | 400 | 127 |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

No 5

| | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|
| ζ | 1 | 5 | 55 | 1 | 5 | — | 130 | — |
| κ | 5 | 10 | 55 | 5 | 10 | 130 | 193 | — |
| ε | 2 | 15 | 55 | 2 | 15 | — | 228 | — |
| δ | 5 | 26 | 55 | 5 | 26 | 130 | 289 | 159 |
| γ | 18 | 32 | 55 | 18 | 32 | 247 | 327 | 80 |
| β | 17 | 25 | 55 | 17 | 25 | 240 | 288 | 48 |

No. 6

| | n | m+n | l+m+n | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|
| ζ | — | — | — | — | — | — | — | — |
| κ | 4 | 9 | 55 | 4 | 9 | 100 | 184 | — |
| ε | 1 | 14 | 55 | 1 | 14 | — | 221 | — |
| δ | 3 | 26 | 54 | 3 | 27 | 40 | 295 | 255 |
| γ | 7 | 32 | 53 | 7 | 34 | 164 | 342 | 178 |
| β | 10 | 27 | 51 | 10 | 30 | 193 | 314 | 121 |

No 7

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ζ | 0 | 8 | 54 | 0 | 8 | — | 174 | — |
| κ | 7 | 15 | 54 | 7 | 15 | 164 | 228 | 64 |
| ε | 3 | 21 | 54 | 3 | 21 | 40 | 268 | 228 |
| δ | 8 | 33 | 54 | 8 | 34 | 174 | 342 | 168 |
| γ | 14 | 38 | 53 | 14 | 40 | 221 | 391 | 170 |
| β | 14 | 32 | 52 | 14 | 34 | 221 | 342 | 121 |

No 8

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ζ | 0 | 11 | 53 | 0 | 11 | — | 200 | — |
| κ | 11 | 22 | 53 | 11 | 23 | 200 | 273 | 73 |
| ε | 4 | 25 | 53 | 4 | 29 | 100 | 306 | 206 |
| δ | 13 | 39 | 53 | 13 | 41 | 214 | 400 | 186 |
| γ | 20 | 43 | 53 | 21 | 45 | 263 | 450 | 187 |
| β | 22 | 39 | 54 | 23 | 41 | 273 | 400 | 127 |

1924phae.proj.11069P

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1924phae.proj.110GP

No. 9

| | n | m+n | (t+m+n) | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|
| ζ | 1 | 12 | 55 | 1 | 12 | — | 208 | — |
| κ | 14 | 25 | 55 | 14 | 25 | 221 | 283 | 62 |
| ε | 7 | 32 | 55 | 7 | 32 | 164 | 327 | 163 |
| δ | 19 | 43 | 55 | 19 | 43 | 252 | 420 | 168 |
| γ | 27 | 47 | 55 | 27 | 47 | 295 | 482 | 187 |
| β | 28 | 44 | 55 | 28 | 44 | 300 | 434 | 134 |

No. 10

| | n | m+n | (t+m+n) | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|
| ζ | 0 | 20 | 57 | 0 | 20 | — | 258 | — |
| κ | 24 | 35 | 57 | 24 | 34 | 273 | 342 | 69 |
| ε | 13 | 40 | 57 | 13 | 38 | 214 | 372 | 158 |
| δ | 26 | 47 | 57 | 25 | 45 | 283 | 450 | 167 |
| γ | 34 | 50 | 57 | 33 | 48 | 335 | 500 | 165 |
| β | 34 | 47 | 57 | 33 | 45 | 335 | 450 | 115 |

No 11.

| | n | m+n | (t+m+n) | $\bar{n}$ | $\overline{m+n}$ | (n) | (m+n) | Δm |
|---|---|---|---|---|---|---|---|---|
| ζ | 2 | 22 | 55 | 2 | 22 | — | 268 | — |
| κ | 25 | 35 | 55 | 25 | 35 | 283 | 349 | 66 |
| ε | 17 | 40 | 55 | 17 | 40 | 240 | 391 | 151 |
| δ | 30 | 47 | 55 | 30 | 47 | 314 | 482 | 168 |
| γ | 38 | 51 | 55 | 38 | 51 | 372 | 540 | 168 |
| β | 39 | 48 | 55 | 39 | 48 | 383 | 500 | 117 |

No 12.

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1924phae.proj.1100P

IR 8293 Yerkes

| Reading | Mag. | | | | |
|---|---|---|---|---|---|
| 0 | | 20 | 258 | 40 | 391 |
| 1 | | 21 | 263 | 41 | 400 |
| 2 | | 22 | 268 | 42 | 410 |
| 3 | 40 | 23 | 273 | 43 | 420 |
| 4 | 100 | 24 | 278 | 44 | 434 |
| 5 | 130 | 25 | 283 | 45 | 450 |
| 6 | 148 | 26 | 289 | 46 | 464 |
| 7 | 164 | 27 | 295 | 47 | 482 |
| 8 | 174 | 28 | 300 | 48 | 500 |
| 9 | 184 | 29 | 306 | 49 | 512 |
| 10 | 193 | 30 | 314 | 50 | 522 |
| 11 | 200 | 31 | 320 | 51 | 540 |
| 12 | 208 | 32 | 327 | | |
| 13 | 214 | 33 | 335 | | |
| 14 | 221 | 34 | 342 | | |
| 15 | 228 | 35 | 349 | | |
| 16 | 234 | 36 | 357 | | |
| 17 | 240 | 37 | 365 | | |
| 18 | 247 | 38 | 372 | | |
| 19 | 252 | 39 | 383 | | |

Omit from mean all values derived from m+n less than 12

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## Means

| No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | Sum | Mean | dm | dl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ζ | – | – | – | – | – | – | – | – | – | – | – | — | | | |
| κ | – | – | – | – | – | – | 64 | 73 | 62 | 69 | 65 | 333 | 67 | 53.6 | |
| ε | – | – | – | – | – | – | 228 | 206 | 163 | 158 | 151 | 906 | 181 | 144.8 | |
| δ | – | – | – | – | 159 | 255 | 168 | 186 | 168 | 167 | 168 | 1271 | 182 | 145.6 | |
| γ | – | – | – | – | 80 | 178 | 170 | 187 | 187 | 165 | 168 | 1135 | 162 | 129.6 | |
| β | – | – | – | 181 | 43 | 121 | 121 | 127 | 124 | 110 | 117 | 959 | 120 | 96.0 | |

Means from two plates

| | 8293 | 8299 | dl | | Mean | Diff Y-H | HR28 dm | dl |
|---|---|---|---|---|---|---|---|---|
| ζ | 1.57 | .. | ~~76~~ 69 | .. | ~~76~~ 69 | -7 | 1.55 | 76 |
| κ | 55.2 | 53.6 | 70 | 39 | 40 | (26) | 17 | 14 |
| ε | 122.4 | 144.8 | 67 | 73 | 70 | -4 | 147 | 74 |
| δ | 155.2 | 145.6 | 76 | 74 | 75 | +1 | 146 | 74 |
| γ | 164.0 | 129.6 | 78 | 70 | 74 | +2 | 139 | 72 |
| β | 105.6 | 96.0 | 62 | 59 | 60 | +1 | 96 | 59 |
| | | | | | Σ (H only) | -7 | | |
| | | | | | | Mean -1.4 | | |

Results for Series

| | Yerkes | (2) HR 28 | (2) C18604 | (1) C18598 ratio | C18598 reduced | (2) C18844 |
|---|---|---|---|---|---|---|
| ζ | 69 | 76 | 71 | (74) | 78 | 79 |
| κ | 40 | 14 | 25 | (23) | 27 | 40 |
| ε | 70 | 74 | 74 | (69) | 74 | 79 |
| δ | 75 | 74 | 72 | (67) | 72 | 88 |
| γ | 74 | 72 | 66 | (61) | 67 | 80 |
| β | 60 | 59 | 55 | (53) | 58 | 66 |
| | | | | 31.4 | 34.9 | |

1924phae.proj.11mP

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Line depths:— magnitudes

| approx. λ. | Capella | Arcturus | β Gem | α Tau | α Ori |
|---|---|---|---|---|---|
| 3883 | | | | | |
| 3885 | | | | | |
| 3889 | | | | | |
| 3896 | | | | | |
| 3902 | | | | | |
| 3905 | | | | | |
| 3910 | | | | | |
| 3915 | | | | | |
| 3922 | | | | | |
| 3933 | | | | | |
| 3944 | | | | | |
| 3946 | | | | | |
| 3952 | | | | | |
| 3957 | | | | | |
| 3960 | | | | | |
| 3967 | | | | | |
| 3970 | | | .. | 126 | 177 |
| 3977 | | | 32 | 58 | .. |
| 3986 | | | | 50 | 49 |
| 3999 | | | | | |
| 4005 | | | | | |
| 4008 | | | | | |
| 4013 | | | | | |
| 4017 | | | | | |
| 4024 | | | | | |
| 4028 | | | | | |
| 4031 | | | 43 | 88 | 72 |
| 4041 | | | | | |
| 4046 | | | 60 | 82 | 65 |

1924phae.proj.116GP

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Line depths:— %

| λ | α Aur | α Boo | β Gem | α Tau | α Ori |
|---|---|---|---|---|---|
| 3933 | 72 | | .. | | 81 |
| 44 | 41 | | 40 | | 50 |
| 46 | .. | | 35 | | 50 |
| 52 | 30 | | 28 | | 37 |
| 57 | 32 | | 30 | | 19 / 38 |
| 60 | 44 | | 64 | | 46 / 46 |
| 67 | | | .. | | |
| 70 | 75 | | .. | 69 | 80 |
| 77 | 36 | 29 | 26 | 41 | .. |
| 3986 | 24 | | 15 | 37 | 36 |
| 3998 | 15 | 24 | 21 | | 32 |
| 4005 | 29 | 36 | 23 | | 29 |
| 4008 | | | | | 26 |
| 4013 | 12 | | 9 | | 26 |
| 4018 | .. | | 10 | | 14 |
| 4024 | .. | 20 | 13 | | 33 |
| 4028 | 12 | | | | |
| 4031 | 27 | 32 | 33 | 56 | 48 |
| 4041 | 12 | 12 | 10 | | 24 |
| 4046 | 38 | 53 | 43 | 53 | 45 |

1924phae.proj.11bop

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| | α Aur | α Boo | β Gem | α Tau | α Ori |
|---|---|---|---|---|---|
| 4059 | | | | | |
| 4072 | | | | | |
| 4078 | | | | | |
| 4090 | | | | | |
| 4101 | | | 42 | 101 | 80 |
| 4105 | | | | | |
| 4111 | | | | | |
| 4118 | | | | | |
| 4124 | | | | | |
| 4128 | | | | | |
| 4135 | | | | | |
| 4144 | | | 57 | 97 | 62 |
| 4149 | | | | | |
| 4162 | | | | | |
| 4167 | | | | | |
| 4172 | | | | | |
| 4177 | | | | | |
| 4187 | | | | | |
| 4191 | | | | | |
| 4196 | | | | | |
| 4202 | | | | | |
| 4210 | | | | | |
| 4215 | | | | | |
| 4227 | | | | | |
| 4233 | | | | | |
| 4246 | | | | | |
| 4254 | | | | | |
| 4261 | | | | | |
| 4272 | | | | | |
| 4275 | | | | | |
| 4280 | | | | | |
| 4289 | | | | | |

1924phae.proj.110KP

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| | α Aur | α Boo | β Gem | α Tau | α Ori |
|---|---|---|---|---|---|
| 4059 | 24 | 33 | 30 | | 31 |
| 72 | 24 | 35 | 30 | | 32 |
| 78 | 39 | 46 | 33 | | 50 |
| 90 | 10 | 16 | 26 | | 21 |
| 4101 | 41 | 40 | 33 | | 52 |
| 4105 | ~~20~~ | | 26 | | |
| 4111 | ~~16~~ 20 | | 26 | | 38 |
| 4118 | 16 | | 28 | | 33 |
| 4124 | | | 30 | | 41 |
| 4128 | 20 | | 37 | | 43 |
| 4135 | 28 | | 45 | | 48 |
| 4144 | 30 | 52 | 41 | | 44 |
| 4149 | ~~18~~ 24 | | 41 | | |
| 4162 | ~~24~~ 18 | | 32 | | |
| 4167 | ~~34~~ | | 36 | | |
| 4172 | 36 | | 45 | .. | 47 |
| 4177 | .. | | 44 | .. | 40 |
| 4187 | 28 | | 41 | .. | 26 |
| 4191 | 28 | | 40 | .. | 35 37 |
| 4196 | 22 | | 47 | .. | 49 |
| 4202 | 34 | | 45 | .. | 43 |
| 4210 | 27 | | 39 | .. | 30 |
| 4215 | 34 | | 45 | .. | 50 |
| 4227 | 45 | | 54 | 69 | 67 |
| 4233 | 22 | | 37 | 41 | 48 |
| 4246 | 24 | | 36 | 41 | 42 31 |
| 4254 | 24 | | 32 | 40 | 43 46 |
| 4261 | 22 | | 36 | 53 | 39 |
| 4272 | 34 | | 50 | 58 | 48 |
| 4275 | 20 | | 31 | 37 | 45 |
| 4280 | 34 | | 40 | 51 | 32 |
| 4289 | 36 | | 50 | 59 | 56 |

1924phae.proj.110GP

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α Persei c 18601 Revised reductions and Means

| | Ap. 1 | | | | | Ap. 2 | | | | | Ap. 3 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -10 | 9 | 19 | .. | 318 | | | | | | | | | | | |
| -9 | 10 | 24 | 400 | 295 | 105 | | | | | | | | | | |
| -8 | 9 | 30 | (410) | 272 | 138 | | | | | | | | | | |
| -7 | 20 | 35 | 314 | 256 | 58 | | | | | | | | | | |
| -5 | 23 | 37 | 300 | 252 | 48 | | | | | | | | | | |
| -4 | 27 | 38 | 284 | 249 | 35 | | | | | | | | | | |
| -3 | 21 | 40 | 310 | 244 | 66 | | | | | | | | | | |
| -2 | 17 | 41 | 329 | 242 | 87 | | | | | | | | | | |
| -1 | 27 | 43 | 284 | 236 | 48 | | | | | | | | | | |
| 0 | 28 | 44 | 280 | 234 | 46 | | | | | | | | | | |
| 1 | 40 | 45 | 244 | 232 | 12 | 8 | 19 | .. | 318 | .. | 3 | 11 | .. | .. | |
| 2 | 42 | 47 | 239 | 228 | 11 | 13 | 23 | 362 | 300 | 62 | 9 | 12 | .. | .. | |
| 3 | 33 | 50 | 262 | 222 | 40 | 15 | 25 | 342 | 291 | 51 | 10 | 12 | 400 | 374 | 26 |
| 4 | 36 | 51 | 254 | 220 | 34 | – | – | – | – | – | 8 | 13 | .. | – | – |
| 5 | 19 | 55 | 318 | 212 | 106 | 18 | 27 | 324 | 284 | 40 | 9 | 13 | .. | – | – |
| 6 | 38 | 57 | 249 | 208 | 41 | 16 | 27 | 335 | 284 | 51 | 8 | 13 | .. | – | – |
| 7 | 46 | 60 | 230 | 202 | 28 | 21 | 28 | 310 | 280 | 30 | 11 | 14 | 388 | 350 | 38 |
| 8 | 46 | 61 | 230 | 200 | 30 | 20 | 29 | 314 | 276 | 38 | 11 | 14 | 388 | 350 | 38 |
| 9 | 56 | 62 | 210 | 198 | 12 | 21 | 29 | 310 | 276 | 34 | 12 | 14 | 374 | 350 | 24 |
| 10 | 53 | 63 | 216 | 196 | 20 | 18 | 31 | 324 | 269 | 55 | 10 | 15 | 400 | 342 | 58 |
| 11 | 47 | 72 | 228 | 176 | 52 | 19 | 32 | 318 | 265 | 53 | 10 | 15 | 400 | 342 | 58 |
| 12 | 47 | 74 | 228 | 172 | 56 | 15 | 33 | 342 | 262 | 80 | 9 | 15 | .. | – | – |
| 13 | 30 | 76 | 272 | 168 | 104 | 15 | 34 | 342 | 259 | 83 | 6 | 16 | .. | – | – |
| 14 | 26 | 78 | 288 | 164 | 124 | 14 | 35 | 350 | 256 | 94 | 9 | 16 | .. | – | – |
| 15 | 27 | 80 | 284 | 161 | 123 | 10 | 35 | 400 | 256 | 144 | 8 | 17 | .. | 329 | – |
| 16 | 48 | 80 | 226 | 161 | 65 | 17 | 36 | 329 | 254 | 75 | 8 | 17 | .. | 329 | – |
| 17 | 64 | 81 | 193 | 159 | 34 | 26 | 38 | 288 | 249 | 39 | 11 | 18 | 388 | 324 | 64 |
| 18 | 67 | 83 | 187 | 155 | 32 | 30 | 39 | 272 | 246 | 26 | 15 | 18 | 342 | 324 | 18 |
| 19 | 68 | 85 | 185 | 151 | 34 | 29 | 41 | 276 | 242 | 34 | 13 | 19 | 362 | 318 | 44 |
| 20 | 77 | 88 | 166 | 145 | 21 | 34 | 44 | 259 | 234 | 25 | 16 | 20 | 335 | 314 | 21 |

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C18707, C18656 are in Book 17
C18801 (first reduction) in Book 20.

| Ap. 4 | Mean | dl | Previous reduction λ | Mean dm C 18707 | C 18656 | dl 18801 | 18707 | 18656 | Mean |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | ~~62~~ |
| | 105 | | 3735 | | | | | | 62 |
| | – | | 3748 | | | | | | 72 |
| | 58 | | | | | | | | |
| | 48 | | 3758 | | | | | | 36 |
| | 35 | | 3764 | | | | | | 28 |
| | 66 | | 3767 | | | | | | 46 |
| | 87 | | 3770 | | | | | | 55 |
| | 48 | | | | | | | | |
| | 46 | | | | | | | | |
| | 12 | | | (70) | 24 | 10 | .. | 20 | 15 |
| | 37 | | | (62) | 40 | 29 | .. | 31 | 30 |
| 26 | 39 | | | 31 | 28 | 30 | 25 | 23 | 26 |
| | 34 | | | 32 | 32 | 27 | 26 | 26 | 26 |
| | 73 | | 3798 | 36 | – | (31) | 28 | .. | 30 |
| | 46 | | | 51 | – | 34 | 37 | .. | 36 |
| 38 | 32 | | | 28 | – | 26 | 23 | .. | 24 |
| 38 | 35 | | | 26 | – | 28 | 21 | .. | 24 |
| 24 | 23 | | 3815 | 30 | – | 19 | 24 | .. | 22 |
| 58 | 44 | | 3820 ~~3815~~ | 40 | 44 | 33 | 31 | 33 | 32 |
| 58 | 54 | | 3824 | 57 ~~38~~ | 41 | 39 | 41 | 31 | 37 |
| – | 68 | | 3826 | 52 | 49 | 46 | 38 | 36 | 40 |
| – | 94 | | | 84 | – | 58 | 54 | .. | 56 |
| – | 109 | | | 102 | 110 | 63 | 61 | 64 | 63 |
| – | 134 | | 3835 | 78 | – | 71 | 57 | .. | 61 |
| – | 70 | | | 65 | 57 | 48 | 45 | 46 | 46 |
| 64 | 46 | | | 33 | 31 | 34 | 26 | 24 | 28 |
| 18 | 26 | | | 22 | 24 | 21 | 18 | 20 | 20 |
| 44 | 37 | | 3856 | 29 | 34 | 29 | 23 | 27 | 26 |
| 21 | 22 | | 3856 | 14 | 24 | 18 | 12 | 20 | 17 |

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C1860'

| | Aperture 1 | | | | | Ap. 2 | | | | | Ap. 3 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 75 | 90 | 170 | 140 | 30 | 33 | 45 | 262 | 232 | 30 | 15 | 22 | 342 | 305 | 37 |
| 22 | 86 | 92 | 149 | 136 | 13 | 41 | 47 | 242 | 228 | 14 | 19 | 23 | 318 | 300 | 18 |
| 23 | 85 | 94 | 151 | 132 | 19 | 41 | 48 | 242 | 226 | 16 | 21 | 24 | 310 | 295 | 15 |
| 24 | 89 | 95 | 143 | 130 | 13 | 51 (4?) | 49 | ~~220~~ 242 | 224 | 18 | 22 | 25 | 305 | 291 | 24 |
| 25 | 74 | 97 | 172 | 126 | 46 | 34 | 50 | 259 | 222 | 37 | 17 | 26 | 329 | 288 | 41 |
| 26 | 79 | 99 | 162 | 121 | 41 | 36 | 52 | 254 | 218 | 36 | 16 | 28 | 335 | 280 | 55 |
| 27 | 81 | 101 | 159 | 116 | 43 | 38 | 53 | 249 | 216 | 33 | 20 | 29 | 314 | 276 | 38 |
| 28 | 61 | 102 | 200 | 114 | 86 | 27 | 54 | 284 | 214 | 70 | 13 | 30 | 362 | 272 | 90 |
| 29 | 49 | 103 | 224 | 112 | 112 | 19 | 55 | 318 | 212 | 106 | 10 | 31 | 400 | 269 | 131 |
| 30 | 50 | 103 | 222 | 112 | 110 | 24 | 58 | 295 | 206 | 89 | 11 | 31 | 388 | 269 | 119 |
| 31 | 67 | 104 | 187 | 110 | 77 | 39 | 59 | 246 | 204 | 42 | 17 | 32 | 329 | 265 | 64 |
| 32 | 82 | 105 | 157 | 108 | 49 | 41 | 59 | 242 | 204 | 38 | 18 | 33 | 324 | 262 | 62 |
| 33 | 85 | 105 | 151 | 108 | 43 | 41 | 60 | 242 | 202 | 40 | 21 | 34 | 310 | 259 | 51 |
| 34 | 86 | 106 | 149 | 106 | 43 | 48 | 62 | 226 | 198 | 28 | 25 | 35 | 291 | 256 | 35 |
| 35 | 85 | 107 | 151 | 104 | 47 | 45 | 63 | 232 | 196 | 36 | 22 | 35 | 305 | 256 | 49 |
| 36 | 105 | 108 | 108 | 102 | 06 | 58 | 64 | 206 | 193 | 13 | 32 | 36 | 265 | 254 | 11 |
| 37 | 93 | 109 | 134 | 100 | 34 | 49 | 65 | 224 | 191 | 33 | 24 | 37 | 295 | 252 | 43 |
| 38 | 92 | 110 | 136 | 98 | 38 | 47 | 67 | 228 | 187 | 41 | 25 | 38 | 291 | 249 | 42 |
| 39 | 95 | 110 | 130 | 98 | 32 | 48 | 68 | 226 | 185 | 41 | 24 | 39 | 295 | 246 | 49 |
| 40 | 99 | 111 | 121 | 95 | 26 | 52 | 69 | 218 | 183 | 35 | 27 | 39 | 284 | 246 | 38 |
| 44 | 10 | 114 | 400 | 89 | 311 | 5 | 72 | .. | 176 | — | 5 | 43 | .. | 236 | — 4 |
| 47 | 90 | 115 | 140 | 86 | 54 | 47 | 75 | 228 | 170 | 58 | 22 | 45 | 305 | 232 | 73 — |
| 48 | 94 | 116 | 132 | 84 | 48 | 50 | 76 | 222 | 168 | 54 | 26 | 45 | 288 | 232 | 56 — |
| 49 | 100 | 117 | 118 | 81 | 37 | 53 | 77 | 216 | 166 | 50 | 29 | 46 | 276 | 230 | 46 11 |
| 50 | 101 | 118 | 116 | 78 | 38 | 58 | 78 | 206 | 164 | 42 | 31 | 47 | 269 | 228 | 41 13 |
| 51 | 100 | 118 | 118 | 78 | 40 | 56 | 80 | 210 | 161 | 49 | 30 | 48 | 272 | 226 | 46 13 |
| 52 | 15 | 120 | 342 | 73 | 269 | 6 | 84 | .. | 153 | — | 4 | 50 | .. | 222 | — 5 |
| 55 | 103 | 122 | 112 | 67 | 45 | 60 | 85 | 202 | 151 | 51 | 34 | 52 | 259 | 218 | 41 16 |
| 56 | 107 | 122 | 104 | 67 | 37 | 66 | 86 | 189 | 149 | 40 | 37 | 53 | 252 | 216 | 36 17 |
| 57 | 116 | 123 | 84 | 63 | 21 | 75 | 87 | 170 | 147 | 23 | 42 | 54 | 239 | 214 | 25 20 |

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| | Ap. 4 | | | | | Mean dm 18601 Mean | 18707 | 18656 | | | dl 18601 | 18707 | 18656 | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | | | | | | 32 | 23 | 30 | | 3860 | 26 | 19 | 24 | 23 |
| 18 | | | | | | 15 | 08 | 16 | | | 13 | 7 | 14 | 11 |
| 15 | | | | | | 17 | 12 | 19 | | 3866 | 14 | 10 | 16 | 13 |
| 24 | | | | | | 17 | 03 | 16 | | | 14 | 3 | 14 | 10 |
| 41 | | | | | | 41 | 44 | 44 | | 3872 | 31 | 33 | 33 | 32 |
| 55 | | | | | | 44 | 43 | 42 | | 3879 | 33 | 33 | 32 | 33 |
| 38 | | | | | | 38 | 33 | 38 | | | 30 | 26 | 30 | 29 |
| 90 | | | | | | 82 | 66 | 70 | | 3886 | 53 | 46 | 48 | 49 |
| 131 | | | | | | 116 | 93 | 103 | | 3889 | 66 | 58 | 61 | 62 |
| 119 | | | | | | 106 | 76 | .. | | | 62 | 50 | .. | 56 |
| 64 | | | | | | 61 | 43 | 38 | 183 | | 43 | 33 | 30 | 35 |
| 62 | | | | | | 50 | 41 | 41 | 149 | | 37 | 31 | 31 | 33 |
| 51 | | | | | | 45 | 38 | 44 | 134 | 3896 | 34 | 30 | 33 | 32 |
| 35 | | | | | | 35 | 26 | 33 | 106 | 3901 | 28 | 21 | 26 | 25 |
| 49 | | | | | | 44 | 38 | 47 | 132 | 3905 | 33 | 28 | 35 | 32 |
| 11 | | | | | | 10 | 08 | 14 | 30 | | 9 | 7 | 12 | 9 |
| 43 | | | | | | 37 | 26 | 30 | 110 | | 29 | 21 | 24 | 25 |
| 42 | | | | | | 40 | 32 | 32 | 121 | 3916 | 31 | 26 | 26 | 28 |
| 49 | | | | | | 41 | 32 | 37 | 122 | 3920 | 31 | 26 | 29 | 29 |
| 38 | | | | | | 33 | 22 | 32 | 99 | 3923 | 26 | 18 | 26 | 23 |
| — | 4 | 19 | .. | .. | — | 311 | 245 | .. | | 3933 | 94 | 90 | .. | 92 |
| 72 | — | — | — | — | — | 62 | ~~51~~ 48 | 54 | 185 | | 44 | 36 | 39 | 40 |
| 56 | — | — | — | — | — | 53 | 42 | 45 | 158 | | 39 | 32 | 34 | 35 |
| 46 | 11 | 22 | 388 | 305 | (83) | 44 | ~~48~~ 34 | 42 | 133 | | 33 | 27 | 32 | 30 |
| 41 | 13 | 22 | 362 | 305 | 57 | 44 | ~~42~~ 30 | 38 | 178 | | 33 | 24 | 30 | 29 |
| 46 | 13 | 22 | 362 | 305 | 57 | 48 | 36 | 48 | 192 | | 36 | 28 | 36 | 33 |
| — | 5 | 24 | .. | .. | — | 269 | 234 | | | 3970 | 92 | 88 | .. | 90 |
| 41 | 16 | 25 | 335 | 291 | 44 | 45 | 33 | 55 | 181 | 3982 | 34 | 26 | 40 | 33 |
| 36 | 17 | 26 | 329 | 288 | 41 | 39 | 34 | 47 | 154 | ~~3987~~ | 30 | 27 | 35 | 31 |
| 25 | 20 | 26 | 314 | 288 | 26 | 24 | 22 | 26 | | | 20 | 18 | 21 | 20 |

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| | Ap. 1 | | | | | Ap. 2 | | | | | Ap. 3 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 | 117 | 123 | 81 | 63 | 18 | 78 | 87 | 164 | 147 | 17 | 45 | 54 | 232 | 214 | 18 | 21 |
| 59 | 112 | 124 | 93 | 60 | 33 | 71 | 88 | 178 | 145 | 33 | 37 | 56 | 252 | 210 | 42 | 17 |
| 60 | 120 | 125 | 73 | 56 | 17 | 83 | 90 | 155 | 140 | 15 | 48 | 57 | 226 | 208 | 18 | 22 |
| 61 | 116 | 125 | 84 | 56 | 28 | 74 | 91 | 172 | 138 | 34 | 39 | 57 | 246 | 208 | 38 | 19 |
| 62 | 123 | 125 | 63 | 56 | 07 | 88 | 92 | 145 | 136 | 09 | 53 | 58 | 216 | 206 | 10 | 26 |
| 63 | 121 | 126 | 70 | 52 | 18 | 86 | 92 | 149 | 136 | 13 | 52 | 58 | 218 | 206 | 12 | 25 |
| 64 | 123 | 126 | 63 | 52 | 11 | 86 | 93 | 149 | 134 | 15 | 52 | 59 | 218 | 204 | 14 | 24 |
| 65 | 124 | 126 | 60 | 52 | 08 | 89 | 94 | 143 | 132 | 11 | 55 | 59 | 212 | 204 | 08 | 26 |
| 66 | 120 | 126 | 73 | 52 | 21 | 82 | 95 | 157 | 130 | 27 | 47 | 60 | 228 | 202 | 26 | 23 |
| 67 | 117 | 127 | 81 | 49 | 32 | 77 | 96 | 166 | 128 | 38 | 43 | 60 | 236 | 202 | 34 | 19 |
| 68 | 118 | 127 | 78 | 49 | 29 | 81 | 96 | 159 | 128 | 31 | 44 | 60 | 234 | 202 | 32 | 22 |
| 69 | 125 | 128 | 56 | 45 | 11 | 91 | 97 | 138 | 126 | 12 | 55 | 61 | 212 | 200 | 12 | 26 |
| 70 | 121 | 128 | 70 | 45 | 25 | 84 | 97 | 153 | 126 | 27 | 51 | 62 | 220 | 198 | 22 | 23 |
| 71 | 121 | 128 | 70 | 45 | 25 | 85 | 98 | 151 | 123 | 28 | 49 | 63 | 224 | 196 | 28 | 26 |
| 72 | 125 | 128 | 56 | 45 | 11 | 92 | 98 | 136 | 123 | 13 | 52 | 63 | 218 | 196 | 22 | 23 |
| 73 | 122 | 129 | 67 | 41 | 26 | 86 | 99 | 149 | 121 | 28 | 51 | 63 | 220 | 196 | 24 | 25 |
| 74 | 124 | 129 | 60 | 41 | 19 | 90 | 99 | 140 | 121 | 19 | 54 | 64 | 214 | 193 | 21 | 24 |
| 75 | 124 | 129 | 60 | 41 | 19 | 89 | 100 | 143 | 118 | 25 | 54 | 64 | 214 | 193 | 21 | 25 |
| 76 | 118 | 129 | 78 | 41 | 37 | 75 | 100 | 170 | 118 | 52 | 44 | 65 | 234 | 191 | 43 | 21 |
| 77 | 128 | 129 | 45 | 41 | 04 | 91 | 101 | 138 | 116 | 22 | 59 | 65 | 204 | 191 | 13 | 26 |
| 78 | 125 | 130 | 56 | 37 | 19 | 90 | 101 | 140 | 116 | 24 | 57 | 65 | 208 | 191 | 17 | 24 |
| 79 | 128 | 130 | 45 | 37 | 08 | 97 | 102 | 126 | 114 | 12 | 61 | 65 | 200 | 191 | 09 | 28 |
| 80 | 125 | 130 | 56 | 37 | 19 | 92 | 102 | 136 | 114 | 22 | 61 | 66 | 200 | 189 | 11 | 25 |
| 81 | 117 | 130 | 81 | 37 | 34 | 80 | 102 | 161 | 114 | 47 | 49 | 66 | 224 | 189 | 35 | 20 |
| 82 | 111 | 130 | 95 | 37 | 58 | 55 | 102 | 212 | 114 | 98 | 26 | 67 | 288 | 187 | 101 | 18 |
| 83 | 124 | 130 | 60 | 37 | 23 | 87 | 103 | 147 | 112 | 35 | 50 | 67 | 222 | 187 | 35 | 24 |
| 84 | 129 | 130 | 41 | 37 | 04 | 96 | 104 | 128 | 110 | 18 | 63 | 67 | 196 | 187 | 09 | 29 |
| 85 | 126 | 130 | 52 | 37 | 15 | 92 | 104 | 136 | 110 | 26 | 54 | 67 | 214 | 187 | 27 | 27 |
| 86 | 126 | 130 | 52 | 37 | 15 | 91 | 104 | 138 | 110 | 28 | 55 | 68 | 212 | 185 | 27 | 24 |
| 87 | 124 | 130 | 60 | 37 | 23 | 87 | 105 | 147 | 108 | 39 | 51 | 68 | 220 | 185 | 35 | 23 |

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| Ap. 4 | | | | | | Mean dm | | | | | Mean dl | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Σ | 18601 | 18707 | 18656 | Line | λ | 18601 | 18707 | 18656 | Mean |
| 21 | 27 | 310 | 284 | 26 | 79 | 20 | 28 | 21 | 58 | 3990 4005 | 17 | 23 | 18 | 19 |
| 17 | 27 | 329 | 284 | 45 | 154 | 38 | 37 | 39 | 59 | 3998 4008 | 30 | 29 | 30 | 30 |
| 22 | 28 | 305 | 280 | 25 | 75 | 19 | 20 | 21 | 60 | 4004 4012 | 16 | 17 | 18 | 17 |
| 19 | 28 | 318 | 280 | 38 | 138 | 34 | 31 | 41 | 61 | 4007 4016 | 27 | 25 | 31 | 28 |
| 26 | 28 | 288 | 280 | 08 | 34 | 08 | 16 | 13 | 62 | 4010 4022 | 7 | 14 | 11 | 11 |
| 25 | 29 | 291 | 276 | 15 | 58 | 14 | 21 | 21 | 63 | 4012 4029 | 12 | 18 | 18 | 16 |
| 24 | 29 | 295 | 276 | 19 | 59 | 15 | 14 | 23 | 64 | 4031 | 13 | 12 | 19 | 15 |
| 26 | 29 | 288 | 276 | 12 | 39 | 10 | 12 | 20 | 65 | 4018 4034 | 9 | 10 | 17 | 12 |
| 23 | 29 | 300 | 276 | 24 | 98 | 24 | 24 | 30 | 66 | 4026 4041 | 20 | 20 | 24 | 21 |
| 19 | 30 | 318 | 272 | 46 | 150 | 38 | 37 | 41 | 67 | 4032 4048 | 30 | 29 | 31 | 30 |
| 22 | 30 | 305 | 272 | 33 | 125 | 31 | 36 | 31 | 68 | – 4056 | 25 | 28 | 25 | 26 |
| 26 | 30 | 288 | 272 | 16 | 51 | 13 | 14 | 19 | 69 | 4041 4062 | 11 | 12 | 16 | 13 |
| 23 | 31 | 300 | 269 | 31 | 105 | 26 | 28 | 35 | 70 | 4047 4065 | 21 | 23 | 28 | 24 |
| 26 | 31 | 288 | 269 | 19 | 100 | 25 | 26 | 33 | 71 | 4055 4069 | 21 | 21 | 26 | 23 |
| 23 | 31 | 300 | 269 | 31 | 77 | 19 | 14 | 19 | 72 | 4058 4074 | 16 | 12 | 16 | 15 |
| 25 | 31 | 291 | 269 | 22 | 100 | 25 | 26 | 32 | 73 | 4064 4077 | 21 | 21 | 26 | 23 |
| 24 | 32 | 295 | 265 | 30 | 89 | 22 | 19 | 28 | 74 | 4067 4084 | 18 | 16 | 23 | 19 |
| 25 | 32 | 291 | 265 | 26 | 91 | 23 | 19 | 29 | 75 | 4072 4096 | 19 | 16 | 23 | 19 |
| 21 | 32 | 310 | 265 | 45 | 177 | 44 | 45 | 55 | 76 | 4078 4098 | 33 | 34 | 40 | 36 |
| 26 | 32 | 288 | 265 | 23 | 62 | 16 | 21 | 26 | 77 | 4084 4102 | 14 | 18 | 21 | 16 |
| 24 | 33 | 295 | 262 | 33 | 93 | 23 | 20 | 29 | 78 | 4084 4107 | 19 | 17 | 23 | 20 |
| 28 | 33 | 280 | 262 | 18 | 47 | 12 | 15 | L? | 79 | 4086 4111 | 10 | 13 | .. | 12 |
| 25 | 33 | 291 | 262 | 29 | 81 | 20 | 20 | 27 | 80 | 4092 4120 | 17 | 17 | 22 | 19 |
| 20 | 33 | 314 | 262 | 52 | 168 | 42 | 41 | 40 | 81 | 4098 4125 | 32 | 31 | 31 | 31 |
| 18 | 33 | 324 | 262 | 62 | 319 | 90 | 93 | 101 | 82 | 4101 4129 | 52 | 58 | 61 | 57 |
| 24 | 34 | 295 | 259 | 36 | 129 | 32 | 27 | 40 | 83 | 4110 4136 | 26 | 22 | 31 | 26 |
| 29 | 34 | 276 | 259 | 17 | 48 | 12 | 13 | 25 | 84 | 4114 4142 | 10 | 11 | 21 | 14 |
| 27 | 34 | 284 | 259 | 25 | 93 | 23 | 20 | 31 | 85 | 4120 4150 | 19 | 17 | 25 | 20 |
| 24 | 34 | 295 | 259 | 36 | 106 | 26 | 22 | 34 | 86 | 4124 4153 | 21 | 18 | 27 | 22 |
| 23 | 34 | 300 | 259 | 41 | 138 | 34 | 32 | 43 | 87 | 4130 4165 | 27 | 26 | 33 | 29 |

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C18601

| | Ap. 1 | | | | | Ap. 2 | | | | | Ap. 3 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 88 | 125 | 130 | 56 | 37 | 19 | 89 | 105 | 143 | 108 | 35 | 52 | 68 | 218 | 185 | 33 | 23 |
| 89 | 128 | 131 | 45 | 33 | 12 | 100 | 106 | 118 | 106 | 12 | 62 | 68 | 198 | 185 | 13 | 32 |
| 90 | 126 | 131 | 52 | 33 | 19 | 92 | 106 | 136 | 106 | 20 | 56 | 68 | 210 | 185 | 25 | 25 |
| 91 | 128 | 131 | 45 | 33 | 12 | 96 | 106 | 128 | 106 | 22 | 59 | 69 | 204 | 183 | 21 | 29 |
| 92 | 127 | 131 | 49 | 33 | 16 | 92 | 106 | 136 | 106 | 20 | 56 | 69 | 210 | 183 | 27 | 25 |
| 93 | 128 | 131 | 45 | 33 | 12 | 96 | 106 | 128 | 106 | 22 | 57 | 69 | 208 | 183 | 25 | 27 |
| 94 | 130 | 131 | 37 | 33 | 4 | 100 | 106 | 118 | 106 | 12 | 64 | 69 | 193 | 183 | 10 | 29 |
| 95 | 122 | 131 | 67 | 33 | 34 | 84 | 106 | 153 | 106 | 47 | 45 | 70 | 232 | 181 | 51 | 21 |
| 96 | 125 | 131 | 56 | 33 | 23 | 88 | 107 | 145 | 104 | 41 | 48 | 70 | 226 | 181 | 45 | 26 |
| 97 | 128 | 131 | 45 | 33 | 12 | 93 | 107 | 134 | 104 | 30 | 55 | 70 | 212 | 181 | 31 | 26 |
| 98 | 127 | 131 | 49 | 33 | 16 | 93 | 107 | 134 | 104 | 30 | 56 | 70 | 210 | 181 | 29 | 29 |
| 99 | 129 | 131 | 41 | 33 | 8 | 99 | 107 | 121 | 104 | 17 | 60 | 70 | 202 | 181 | 21 | 23 |
| 100 | 127 | 132 | 49 | 29 | 20 | 91 | 108 | 138 | 102 | 36 | 54 | 71 | 214 | 178 | 36 | 25 |
| 101 | 127 | 132 | 49 | 29 | 20 | 92 | 108 | 136 | 102 | 34 | 55 | 71 | 212 | 178 | 34 | 26 |
| 102 | 126 | 132 | 52 | 29 | 23 | 92 | 108 | 136 | 102 | 34 | 53 | 71 | 216 | 178 | 38 | 30 |
| 103 | 129 | 132 | 41 | 29 | 12 | 98 | 108 | 123 | 102 | 21 | 59 | 71 | 204 | 178 | 26 | 26 |
| 104 | 128 | 132 | 45 | 29 | 16 | 96 | 109 | 128 | 100 | 28 | 57 | 72 | 208 | 176 | 32 | 23 |
| 105 | 125 | 132 | 56 | 29 | 27 | 90 | 109 | 140 | 100 | 40 | 49 | 72 | 224 | 176 | 48 | 27 |
| 106 | 128 | 132 | 45 | 29 | 16 | 95 | 109 | 130 | 100 | 30 | 57 | 72 | 208 | 176 | 32 | 31 |
| 107 | 129 | 132 | 41 | 29 | 12 | 99 | 109 | 121 | 100 | 21 | 60 | 72 | 202 | 176 | 26 | 35 |
| 108 | 131 | 132 | 33 | 29 | 4 | 101 | 110 | 116 | 98 | 18 | 65 | 73 | 191 | 174 | 17 | 27 |
| 109 | 128 | 132 | 45 | 29 | | 97 | 110 | 126 | 98 | 28 | 59 | 73 | 204 | 174 | 30 | 32 |
| 110 | 129 | 133 | 41 | 25 | | 101 | 110 | 116 | 98 | 18 | 61 | 73 | 200 | 174 | 26 | 32 |
| 111 | 130 | 133 | 37 | 25 | | 106 | 110 | 106 | 98 | 8 | 66 | 73 | 189 | 174 | 15 | 32 |
| 112 | 130 | 133 | 37 | 25 | | 101 | 110 | 116 | 98 | 18 | 62 | 73 | 198 | 174 | 24 | 29 |
| 113 | 133 | 133 | 25 | 25 | | 110 | 110 | 98 | 98 | 0 | 72 | 73 | 176 | 174 | 2 | 34 |
| 114 | 129 | 133 | 41 | 25 | | 99 | 111 | 121 | 95 | 26 | 59 | 74 | 204 | 172 | 32 | 28 |
| 115 | 130 | 133 | 37 | 25 | | 101 | 111 | 116 | 95 | 21 | 62 | 74 | 198 | 172 | 26 | 31 |
| 116 | 131 | 133 | 33 | 25 | | 104 | 111 | 110 | 95 | 15 | 65 | 74 | 191 | 172 | 19 | 34 |
| 117 | 129 | 133 | 41 | 26 | | 96 | 111 | 128 | 95 | 33 | 55 | 74 | 212 | 172 | 40 | 27 |

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| | Ap. 4 | | | | | Σ | dm Mean 18601 | 18707 | | No. | λ | Mean dl | | | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 23 | 34 | 300 | 259 | 41 | ~~128~~ 109 | 36 | 28 | 39 | 88 | 4133 | 28 | 23 | 30 | 27 |
| 3 | 32 | 35 | 265 | 256 | 09 | ~~46~~ 34 | 11 | 7 | 15 | 89 | 4136 | 9 | 6 | 13 | 09 |
| 5 | 25 | 35 | 291 | 256 | 35 | ~~99~~ 80 | 27 | 26 | 34 | 90 | 4146 | 22 | 21 | 27 | 23 |
| 1 | 29 | 35 | 276 | 256 | 20 | ~~75~~ 63 | 21 | 14 | 25 | 91 | 4155 | 18 | 12 | 21 | 17 |
| 7 | 25 | 35 | 291 | 256 | 35 | ~~98~~ 82 | 27 | 21 | 33 | 92 | 4158 | 22 | 18 | 26 | 22 |
| 5 | 27 | 35 | 284 | 256 | 28 | ~~87~~ 75 | 25 | 17 | 31 | 93 | 4162 | 21 | 14 | 25 | 20 |
| 0 | 29 | 35 | 276 | 256 | 20 | ~~46~~ 42 | 14 | 9 | 10 | 94 | 4168 | 12 | 8 | 17 | 12 |
| 51 | 21 | 35 | 310 | 256 | 54 | ~~166~~ 152 | 51 | 45 | 51 | 95 | 4174 | 37 | 34 | 37 | 36 |
| 5 | 26 | 35 | 288 | 256 | 32 | ~~151~~ 118 | 39 | 40 | 46 | 96 | 4178 | 30 | 31 | 34 | 32 |
| 1 | 26 | 35 | 288 | 256 | 32 | ~~105~~ 93 | 31 | 27 | 36 | 97 | 4184 | 25 | 22 | 28 | 25 |
| 9 | 29 | 35 | 276 | 256 | 20 | ~~95~~ 79 | 26 | 28 | 37 | 98 | 4188 | 21 | 23 | 29 | 24 |
| 1 | ~~23~~ | 36 | 300 | 254 | (46) | ~~46~~ 38 | ~~15~~ 19 | 20 | 28 | 99 | 4190 | 16 | 17 | 23 | 19 |
| 6 | 25 | 36 | 291 | 254 | 37 | 109 | 36 | 30 | 39 | 100 | 4196 | 28 | 24 | 30 | 27 |
| 4 | 26 | 36 | 288 | 254 | 34 | 102 | 34 | 25 | 43 | 101 | 4196 | 27 | ~~18~~ 21 | 33 | 27 |
| 8 | 30 | 36 | 272 | 254 | 18 | 90 | 30 | 27 | 41 | 102 | 4203 | 24 | 22 | 31 | 26 |
| 0 | 26 | 36 | 288 | 254 | 24 | 71 | 24 | 20 | 32 | 103 | 4211 | 20 | 17 | 26 | 21 |
| 2 | 23 | 36 | 300 | 254 | 46 | 106 | 35 | 30 | 36 | 104 | 4216 | 28 | 24 | 28 | 27 |
| 8 | 27 | 37 | 284 | 252 | 32 | 120 | 40 | 56 | 50 | 105 | 4227 | 31 | 40 | 37 | 36 |
| 2 | 31 | 37 | 269 | 252 | 17 | 79 | 26 | 28 | 34 | 106 | 4234 | 21 | 23 | 27 | 24 |
| 6 | 35 | 37 | 256 | 252 | 04 | 51 | 17 | 24 | 36 | 107 | 4238 | 14 | 20 | 28 | 21 |
| 7 | 27 | 37 | 284 | 252 | 22 | 57 | 19 | 16 | 22 | 108 | 4244 | 16 | 14 | 18 | 16 |
| 0 | 32 | 37 | 265 | 252 | 13 | 71 | 24 | 28 | 29 | 109 | 4248 | 20 | 23 | 23 | 22 |
| 6 | 32 | 37 | 265 | 252 | 13 | 57 | 19 | 22 | 21 | 110 | 4252 | 16 | 18 | 18 | 17 |
| | 32 | 37 | 265 | 252 | 13 | 36 | 12 | 16 | 12 | 111 | 4256 | 10 | 14 | 10 | 11 |
| 4 | 29 | 38 | 276 | 249 | 27 | 69 | 23 | 21 | 26 | 112 | 4260 | 19 | 18 | 21 | 19 |
| 2 | 34 | 38 | 259 | 249 | 10 | 12 | 04 | 07 | 14 | 113 | 4262 | 4 | 6 | 12 | 07 |
| 2 | 28 | 38 | 280 | 249 | 31 | 89 | 30 | 26 | 31 | 114 | 4273 | 24 | 21 | 25 | 23 |
| 6 | 31 | 38 | 269 | 249 | 20 | 67 | 22 | 18 | 28 | 115 | 4276 | 18 | 15 | 23 | 19 |
| 9 | 34 | 38 | 259 | 249 | 10 | 34 | 15 | 16 | 24 | 116 | 4284 | 13 | 14 | 20 | 16 |
| 0 | 27 | 38 | 284 | 249 | 35 | 108 | 36 | 36 | 42 | 117 | 4291 | 28 | 28 | 32 | 29 |

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| | Ap. 1 | | | | Ap. 2 | | | | | Ap. 3 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 118 | 129 | 133 | 41 | | 102 | 111 | 114 | 95 | 19 | 63 | 95 | 196 | 170 | 26 | 32 |
| 119 | 127 | 133 | | | 91 | 112 | 138 | 93 | 45 | 52 | 75 | 218 | 170 | 48 | 23 |
| 120 | 130 | 133 | | | 101 | 112 | 116 | 93 | 23 | 61 | 75 | 200 | 170 | 30 | 29 |
| 121 | 129 | 133 | 41 | | 99 | 112 | 121 | 93 | 28 | 58 | 75 | 206 | 170 | 36 | 27 |
| 122 | 132 | 133 | | | 105 | 112 | 108 | 93 | 15 | 67 | 76 | 187 | 168 | 19 | 32 |
| 123 | 131 | 133 | | | 100 | 112 | 118 | 93 | 25 | 60 | 76 | 202 | 168 | 34 | 29 |
| 124 | 130 | 134 | | | 102 | 113 | 114 | 91 | 23 | 63 | 76 | 196 | 168 | 28 | 30 |
| 125 | 115 | 134 | | | 68 | 113 | 185 | 91 | 94 | 33 | 77 | 262 | 166 | 96 | 12 |
| 126 | 131 | 134 | | | 100 | 113 | 118 | 91 | 27 | 60 | 77 | 202 | 166 | 36 | 27 |
| 127 | 133 | 134 | | | 108 | 114 | 102 | 89 | 13 | 70 | 77 | 181 | 166 | 15 | 32 |
| 128 | 134 | 134 | | | 111 | 114 | 95 | 89 | 6 | 75 | 77 | 170 | 166 | 4 | 37 |
| 129 | 132 | 134 | | | 107 | 114 | 104 | 89 | 15 | 69 | 78 | 183 | 164 | 19 | 33 |
| 130 | 132 | 135 | | | 104 | 115 | 110 | 86 | 24 | 66 | 78 | 189 | 164 | 25 | 30 |
| 131 | 131 | 135 | | | 113 | 115 | 91 | 86 | 05 | 71 | 78 | 178 | 164 | 14 | 35 |
| 132 | 130 | 135 | | | 98 | 115 | 123 | 86 | 37 | 58 | 78 | 206 | 164 | 42 | 27 |
| 133 | 134 | 135 | | | 110 | 115 | 98 | 86 | 12 | 71 | 78 | 178 | 164 | 14 | 36 |
| 134 | 132 | 135 | | | 104 | 115 | 110 | 86 | 24 | 65 | 79 | 191 | 162 | 29 | 30 |
| 135 | 133 | 135 | | | 103 | 115 | 112 | 86 | 26 | 62 | 79 | 198 | 162 | 36 | 31 |
| 136 | 134 | 135 | | | 110 | 115 | 98 | 86 | 12 | 73 | 79 | 174 | 162 | 12 | 33 |
| 137 | 132 | 135 | | | 107 | 115 | 104 | 86 | 18 | 70 | 79 | 181 | 162 | 19 | 33 |
| 138 | 131 | 135 | | | 100 | 116 | 118 | 84 | 34 | 64 | 79 | 193 | 162 | 31 | 29 |
| 139 | | | | | 110 | 116 | 98 | 84 | 14 | 71 | 80 | 178 | 161 | 17 | 34 |
| 140 | | | | | 109 | 116 | 100 | 84 | 16 | 72 | 80 | 176 | 161 | 15 | 35 |
| 141 | | | | | 109 | 116 | 100 | 84 | 16 | 71 | 80 | 178 | 161 | 17 | 34 |
| 142 | 132 | 135 | | | 104 | 117 | 110 | 81 | 29 | 63 | 80 | 196 | 161 | 35 | 31 |
| 143 | | | | | 107 | 117 | 104 | 81 | 23 | 70 | 80 | 181 | 161 | 20 | 32 |
| 144 | | | | | 108 | 117 | 102 | 81 | 21 | 69 | 81 | 183 | 159 | 24 | 32 |
| 145 | | | | | 107 | 118 | 104 | 78 | 26 | 68 | 81 | 185 | 159 | 26 | 32 |
| 146 | | | | | 115 | 118 | 86 | 78 | 8 | 77 | 81 | 166 | 159 | 7 | 38 |
| 147 | | | | | 109 | 118 | 100 | 78 | 22 | 71 | 81 | 178 | 159 | 19 | 33 |

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| | Ap. 4 | | | | Σ Mean | Mean dm 18601 | 18707 | 18656 | No. | λ. | Mean dl 18601 | 18707 | 18656 | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | 32 | 38 | 265 | 249 | 16 | 61 | 20 | 22 | 30 | 118 | 4294 | 17 | 18 | 24 | 20 |
| 8 | 23 | 39 | 300 | 246 | 54 | 147 | 49 | 40 | 55 | 119 | 4302 | 36 | 31 | 40 | 36 |
| 30 | 29 | 39 | 276 | 246 | 30 | 83 | 28 | 26 | 39 | 120 | 4305 | 23 | 21 | 30 | 25 |
| 36 | 27 | 39 | 284 | 246 | 38 | 102 | 34 | 34 | 45 | 121 | 4316 | 27 | 27 | 34 | 29 |
| 9 | 32 | 39 | 265 | 246 | 19 | 53 | 18 | 16 | 29 | 122 | 4320 | 15 | 14 | 23 | 17 |
| 34 | 29 | 39 | 276 | 246 | 30 | 89 | 30 | 27 | 39 | 123 | 4326 | 24 | 22 | 30 | 25 |
| 8 | 30 | 39 | 272 | 246 | 26 | 77 | 26 | 24 | 34 | 124 | 4330 | 21 | 20 | 27 | 23 |
| 6 | 12 | 40 | 374 | 244 | (130) | 95 | 95 | 88 | 98 | 125 | 4340 | 58 | 56 | 59 | 58 |
| 36 | 27 | 40 | 284 | 244 | 40 | 93 | 31 | 30 | 46 | 126 | 4354 | 25 | 24 | 34 | 28 |
| 5 | 32 | 40 | 265 | 244 | 21 | 50 | 17 | 17 | ~~16~~ 22 | 127 | 4358 | 14 | 14 | 18 | 15 |
| 4 | 37 | 40 | 252 | 244 | 8 | 18 | 6 | 8 | 18 | 128 | 4367 | 5 | 7 | 15 | 9 |
| 9 | 33 | 40 | 262 | 244 | 18 | 52 | 17 | 17 | 26 | 129 | 4372 | 14 | 14 | 21 | 16 |
| 5 | 30 | 40 | 272 | 244 | 28 | 77 | 26 | 24 | 32 | 130 | 4381 | 21 | 20 | 26 | 22 |
| 4 | 35 | 40 | 256 | 244 | 12 | 31 | 10 | .. | .. | 131 | 4386 | 9 | .. | .. | 9 |
| 2 | 27 | 40 | 284 | 244 | 40 | 119 | 40 | 30 | 46 | 132 | 4394 | 31 | 24 | 34 | 30 |
| 4 | 36 | 40 | 254 | 244 | 10 | 36 | 12 | 10 | 20 | 133 | 4400 | 10 | 9 | 17 | 12 |
| 9 | 30 | 41 | 272 | 242 | 30 | 83 | 28 | 20 | 34 | 134 | 4403 | 23 | 17 | 27 | ~~19~~ 22 |
| 6 | 31 | 41 | 269 | 242 | 27 | 89 | 30 | 24 | 36 | 135 | 4413 | 24 | 20 | 28 | 24 |
| 2 | 33 | 41 | 262 | 242 | 20 | 44 | 15 | .. | 20 | 136 | 4413 | 13 | .. | 17 | 15 |
| 9 | 33 | 41 | 262 | 242 | 20 | 57 | 19 | 17 | 32 | 137 | 4421 | 16 | 14 | 26 | 19 |
| 1 | 29 | 41 | 276 | 242 | 34 | 99 | 33 | 24 | 44 | 138 | 4431 | 26 | 20 | 33 | 26 |
| 7 | 34 | 41 | 259 | 242 | 17 | 48 | 16 | 14 | 23 | 139 | .. | 14 | 12 | 19 | 15 |
| 5 | 35 | 41 | 256 | 242 | 14 | 45 | 15 | 17 | 22 | 140 | .. | 13 | 14 | 18 | 15 |
| 7 | 34 | 41 | 259 | 242 | 17 | 50 | 17 | 17 | 22 | 141 | 4452 | 14 | 14 | 18 | 15 |
| 5 | 31 | 42 | 269 | ~~239~~ | 30 | 94 | 31 | 33 | 37 | 142 | ~~4452~~ 4460 | 25 | 26 | 29 | 26 |
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| 4 | 32 | 42 | 265 | 239 | 26 | 71 | 24 | 23 | 26 | 144 | 4484 | 20 | 19 | 21 | 20 |
| 6 | 32 | 42 | 265 | 239 | 26 | 78 | 26 | 26 | 28 | 145 | 4490 | 21 | 21 | 23 | 22 |
| 7 | 38 | 43 | 249 | 236 | 13 | 28 | 9 | 10 | 22 | 146 | 4497 | 8 | 9 | 18 | 12 |
| 9 | 33 | 43 | 262 | 236 | 26 | 67 | 22 | 23 | 28 | 147 | 4504 | 18 | 19 | 23 | 20 |

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| | ap.1 | | | | | ap.2 | | | | | ap.3 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 148 | | | | | | 111 | 118 | 95 | 78 | 17 | 71 | 82 | 178 | 157 | 21 | 33 |
| 149 | | | | | | 113 | 118 | 91 | 78 | 13 | 74 | 82 | 172 | 157 | 15 | 37 |
| 150 | | | | | | 114 | 119 | 89 | 75 | 14 | 76 | 82 | 168 | 157 | 11 | 37 |
| 151 | | | | | | 116 | 119 | 84 | 75 | 9 | 79 | 83 | 162 | 155 | 7 | 40 |
| 152 | | | | | | 114 | 119 | 89 | 75 | 14 | 76 | 83 | 168 | 155 | 13 | 38 |
| 153 | | | | | | 111 | 119 | 95 | 75 | 20 | 75 | 83 | 170 | 155 | 15 | 38 |
| 154 | | | | | | 111 | 119 | 95 | 75 | 20 | 72 | 83 | 176 | 155 | 21 | 35 |
| 155 | | | | | | 111 | 119 | 95 | 75 | 20 | 70 | 82 | 181 | 157 | 24 | 33 |
| 156 | | | | | | 112 | 119 | 93 | 75 | 18 | 71 | 82 | 178 | 157 | 21 | 34 |
| 157 | | | | | | 115 | 119 | 86 | 75 | 11 | 75 | 82 | 170 | 157 | 13 | 37 |
| 158 | | | | | | 110 | 119 | 98 | 75 | 23 | 70 | 82 | 181 | 157 | 24 | 35 |
| 159 | | | | | | 109 | 119 | 100 | 75 | 25 | 69 | 81 | 183 | 159 | 24 | 32 |
| 160 | | | | | | 113 | 119 | 91 | 75 | 16 | 74 | 81 | 172 | 159 | 13 | 35 |
| 161 | | | | | | 114 | 118 | 89 | 78 | 11 | 74 | 81 | 172 | 159 | 13 | 36 |
| 162 | | | | | | 116 | 118 | 84 | 78 | 06 | 77 | 81 | 166 | 159 | 07 | 38 |
| 163 | | | | | | 109 | 118 | 100 | 78 | 22 | 67 | 81 | 187 | 159 | 28 | 31 |
| 164 | | | | | | 113 | 118 | 91 | 78 | 13 | 74 | 81 | 172 | 159 | 13 | 37 |
| 165 | | | | | | 112 | 118 | 93 | 78 | 15 | 72 | 80 | 176 | 161 | 15 | 37 |
| 166 | | | | | | 114 | 118 | 89 | 78 | 11 | 75 | 80 | 170 | 161 | 9 | 39 |
| 167 | | | | | | 113 | 117 | 91 | 81 | 10 | 73 | 80 | 174 | 161 | 13 | 34 |
| 168 | | | | | | 114 | 117 | 89 | 81 | 8 | 72 | 79 | 176 | 162 | 14 | 35 |
| 169 | | | | | | 112 | 117 | 93 | 81 | 12 | 74 | 78 | 172 | 164 | 8 | 35 |
| 170 | | | | | | 114 | 117 | 89 | 81 | 8 | 75 | 78 | 170 | 164 | 6 | 37 |
| 171 | | | | | | 112 | 116 | 93 | 84 | 9 | 73 | 78 | 174 | 164 | 10 | 35 |
| 172 | | | | | | 112 | 115 | 93 | 86 | 7 | 70 | 77 | 181 | 166 | 15 | 35 |
| 200 | 92 | 121 | 136 | 70 | 66 | 47 | 79 | 228 | 162 | 66 | 16 | 37 | 335 | 252 | (83) | 6 |

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| | Ap. 4 | | | | | | Mean dn | | | | | Mean dl | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 18601 | 18707 | 18656 | No. | λ | 18601 | 18707 | 18656 | Mean |
| 1 | 33 | 43 | 262 | 236 | 26 | 64 | 21 | 20 | ~~28~~ 23 | 148 | 4512 | 18 | 17 | 19 | 18 |
| 5 | 37 | 43 | 252 | 236 | 16 | 44 | 16 | 17 | ~~23~~ 14 | 149 | 4520 | 13 | 14 | 12 | 13 |
| 1 | 37 | 43 | 252 | 236 | 16 | 41 | 14 | 14 | ~~14~~ 19 | 150 | 4524 | 12 | 12 | 16 | 13 |
| 7 | 40 | 43 | 244 | 236 | 8 | 24 | 8 | 11 | ~~19~~ 12 | 151 | 4533 | 7 | 10 | 10 | 9 |
| 3 | 38 | 43 | 249 | 236 | 13 | 40 | 13 | 14 | ~~12~~ 14 | 152 | 4542 | 11 | 12 | 12 | 12 |
| 5 | 38 | 43 | 249 | 236 | 13 | 48 | 16 | 17 | ~~14~~ 19 | 153 | 4547 | 14 | 14 | 16 | 15 |
| 4 | 35 | 43 | 256 | 236 | 20 | 61 | 20 | 24 | ~~19~~ 23 | 154 | 4556 | 17 | 20 | 19 | 18 |
| 4 | 33 | 43 | 262 | 236 | 26 | 70 | 23 | 20 | ~~23~~ 25 | 155 | 4561 | 19 | 17 | 21 | 19 |
| 21 | 34 | 43 | 259 | 236 | 23 | 62 | 21 | .. | ~~25~~ 14 | 156 | 4570 | 18 | .. | 12 | 15 |
| 3 | 37 | 43 | 252 | 236 | 16 | 40 | 13 | .. | ~~14~~ 10 | 157 | 4575 | 11 | .. | 9 | 10 |
| 4 | 35 | 43 | 256 | 236 | 20 | 67 | 22 | 17 | 23 | 158 | 4580 | 18 | 14 | 19 | 17 |
| 4 | 32 | 43 | 265 | 236 | 29 | 78 | 26 | 23 | 32 | 159 | 4585 | 21 | 19 | 26 | 22 |
| 3 | 35 | 43 | 256 | 236 | 20 | 49 | 16 | 13 | 20 | 160 | 4594 | 14 | 11 | 17 | 14 |
| 3 | 36 | 42 | 254 | 239 | 15 | 39 | 13 | 7 | 16 | 161 | 4603 | 11 | 6 | 14 | 10 |
| 7 | 38 | 42 | 249 | 239 | 10 | 23 | 8 | 7 | 17 | 162 | 4608 | 7 | 6 | 14 | 9 |
| -8 | 31 | 42 | 269 | 239 | 30 | 100 | 33 | 23 | 33 | 163 | 4612 | 26 | 19 | 26 | 24 |
| 3 | 37 | 42 | 252 | 239 | 13 | 39 | 13 | 13 | 22 | 164 | 4617 | 11 | 11 | 18 | 13 |
| 5 | 37 | 42 | 252 | 239 | 13 | 43 | 14 | 20 | 18 | 165 | 4622 | 12 | 17 | 15 | 15 |
| 9 | 39 | 42 | 246 | 239 | 7 | 27 | 9 | .. | 16 | 166 | 4630 | 8 | .. | 14 | 11 |
| 3 | 34 | 41 | 259 | 242 | 17 | 40 | 13 | .. | 17 | 167 | 4636 | 11 | .. | 14 | 12 |
| 4 | 35 | 41 | 256 | 242 | 14 | 36 | 12 | .. | 22 | 168 | 4654 | 10 | .. | 18 | 14 |
| 8 | 35 | 40 | 256 | 244 | 12 | 32 | 11 | .. | 16 | 169 | 4658 | 10 | .. | 14 | 12 |
| 6 | 37 | 40 | 252 | 244 | 8 | 22 | 7 | .. | .. | 170 | 4663 | 6 | .. | .. | 6 |
| 0 | 35 | 40 | 256 | 244 | 12 | 31 | 10 | .. | 21 | 171 | 4672 | 9 | .. | 18 | 13 |
| 5 | 35 | 39 | 256 | 246 | 10 | 32 | 11 | .. | 16 | 172 | 4682 | 10 | .. | 14 | 12 |
| (3) | 6 | 16 | .. | .. | | | 66 | 53 | 74 | 200 | 4861 | 46 | 39 | 49 | 45 |

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