

AM-76-018

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Table 2. Observed and Calculated Structure Factors for Slawsonite

BY (CALC) BASED ON PARAMETERS BEFORE CYCLE 3  
 IO IS SCALE NUMBER, IL IS POSITIVE FOR ACCEPTANCE OF DATUM, Q IS CALC F\*\*2/SIN 2 THETA  
 H K L Y(OBS) Y(CALC) A B OBS-CALC SIG(O) (O-C)/SIG(O) IQ II Q

| H  | K | L  | Y(OBS)   | Y(CALC)  | A        | B   | OBS-CALC | SIG(O) | (O-C)/SIG(O) | IQ | II | Q         |
|----|---|----|----------|----------|----------|-----|----------|--------|--------------|----|----|-----------|
| 12 | 0 | 1  | 9.1651   | 11.4732  | 11.4732  | 0.0 | -2.3081  | 7.3506 | -0.3140      | 1  | 0  | 100.43    |
| 12 | 0 | 3  | 77.1905  | 77.4017  | -77.4017 | 0.0 | -0.2112  | 2.1152 | -0.0999      | 1  | 1  | 4376.92   |
| 10 | 0 | 1  | 54.0550  | 52.7207  | 52.7207  | 0.0 | 1.3343   | 1.6422 | 0.8125       | 1  | 1  | 2754.06   |
| 10 | 0 | 2  | 78.7431  | 76.9503  | -76.9503 | 0.0 | 1.7929   | 1.9573 | 0.9160       | 1  | 1  | 5735.82   |
| 10 | 0 | 3  | 14.8265  | 16.8611  | -16.8611 | 0.0 | -2.0346  | 3.5119 | -0.5793      | 1  | 1  | 265.38    |
| 10 | 0 | 4  | 46.2580  | 47.3076  | 47.3076  | 0.0 | -1.0496  | 1.6528 | -0.6350      | 1  | 1  | 1988.06   |
| 10 | 0 | 5  | 43.6559  | 43.8013  | 43.8013  | 0.0 | -0.1353  | 2.1410 | -0.0632      | 1  | 1  | 1605.12   |
| 10 | 0 | 6  | 23.1473  | 13.6743  | -13.6743 | 0.0 | 6.4730   | 2.7992 | 2.3124       | 1  | 1  | 146.17    |
| 8  | 0 | 1  | 76.0980  | 75.9311  | -75.9311 | 0.0 | 0.1669   | 1.8755 | 0.0890       | 1  | 1  | 7685.26   |
| 8  | 0 | 2  | 56.3941  | 63.7581  | -63.7581 | 0.0 | -7.3639  | 1.7654 | -4.1713      | 1  | 1  | 5246.75   |
| 8  | 0 | 3  | 12.0994  | 9.9217   | -9.9217  | 0.0 | 2.1777   | 3.2548 | 0.6691       | 1  | 1  | 120.66    |
| 8  | 0 | 5  | 59.2123  | 59.9046  | -59.9046 | 0.0 | -0.6922  | 1.6011 | -0.4324      | 1  | 1  | 3795.45   |
| 8  | 0 | 6  | 41.3983  | 44.5667  | -44.5667 | 0.0 | -3.1683  | 1.5788 | -2.0068      | 1  | 1  | 1922.41   |
| 8  | 0 | 7  | 27.6294  | 27.5494  | 27.5494  | 0.0 | 0.0800   | 1.9923 | 0.0402       | 1  | 1  | 668.44    |
| 8  | 0 | 8  | 27.0454  | 22.2452  | 22.2452  | 0.0 | 4.8002   | 3.2414 | 1.4809       | 1  | 1  | 395.45    |
| 6  | 0 | 1  | 59.7942  | 60.0840  | -60.0840 | 0.0 | -0.2898  | 1.5143 | -0.1914      | 1  | 1  | 6793.33   |
| 6  | 0 | 2  | 27.7615  | 25.2242  | -25.2242 | 0.0 | 2.5373   | 1.2737 | 1.9922       | 1  | 1  | 1137.83   |
| 6  | 0 | 3  | 105.7201 | 103.3495 | 103.3495 | 0.0 | 2.3706   | 2.4873 | 0.9531       | 1  | 1  | 17566.04  |
| 6  | 0 | 4  | 12.7985  | 1.7256   | 1.7256   | 0.0 | 11.0728  | 2.4565 | 4.5075       | 1  | 1  | 4.47      |
| 6  | 0 | 5  | 22.8631  | 23.8090  | -23.8090 | 0.0 | -0.9459  | 1.6707 | -0.5662      | 1  | 1  | 762.60    |
| 6  | 0 | 6  | 100.4736 | 101.7041 | 101.7042 | 0.0 | -1.2305  | 2.3823 | -0.5165      | 1  | 1  | 12389.35  |
| 6  | 0 | 7  | 51.1164  | 49.4708  | 49.4708  | 0.0 | 1.6456   | 1.4660 | 1.1226       | 1  | 1  | 2601.66   |
| 6  | 0 | 8  | 50.8442  | 52.0811  | 52.0811  | 0.0 | -1.2369  | 1.5565 | -0.7947      | 1  | 1  | 2557.73   |
| 6  | 0 | 9  | 58.9541  | 59.5634  | -59.5634 | 0.0 | -0.6092  | 1.7642 | -0.3453      | 1  | 1  | 2972.18   |
| 6  | 0 | 10 | 55.4728  | 56.1888  | 56.1888  | 0.0 | -0.7161  | 1.6989 | -0.4215      | 1  | 1  | 2358.59   |
| 4  | 0 | 1  | 106.6573 | 97.1438  | 97.1438  | 0.0 | 9.5135   | 2.4584 | 3.8698       | 1  | 1  | 27407.80  |
| 4  | 0 | 2  | 81.3872  | 80.0795  | 80.0795  | 0.0 | 1.3078   | 2.0064 | 0.6518       | 1  | 1  | 16886.92  |
| 4  | 0 | 3  | 9.3214   | 7.4293   | 7.4294   | 0.0 | 1.8920   | 2.5012 | 0.7565       | 1  | 1  | 126.97    |
| 4  | 0 | 4  | 64.7672  | 65.7792  | -65.7793 | 0.0 | -1.0121  | 1.6176 | -0.6257      | 1  | 1  | 8557.10   |
| 4  | 0 | 5  | 102.1604 | 103.3085 | 103.3085 | 0.0 | -1.1481  | 2.3693 | -0.4846      | 1  | 1  | 18080.23  |
| 4  | 0 | 6  | 43.0351  | 46.8073  | 46.8073  | 0.0 | -3.7721  | 1.4192 | -2.6579      | 1  | 1  | 3135.84   |
| 4  | 0 | 7  | 12.2426  | 15.3377  | -15.3377 | 0.0 | -3.0951  | 3.0975 | -0.9992      | 1  | 1  | 294.87    |
| 4  | 0 | 8  | 48.6598  | 47.9362  | -47.9362 | 0.0 | 0.7236   | 1.4739 | 0.4909       | 1  | 1  | 2495.31   |
| 4  | 0 | 9  | 32.6461  | 30.7309  | 30.7309  | 0.0 | 1.9152   | 1.6608 | 1.1532       | 1  | 1  | 893.33    |
| 4  | 0 | 10 | 41.3005  | 40.3875  | 40.3875  | 0.0 | 0.9130   | 2.2504 | 0.4057       | 1  | 1  | 1352.41   |
| 4  | 0 | 11 | 37.9665  | 36.3747  | -36.3747 | 0.0 | 1.5918   | 1.8419 | 0.8642       | 1  | 1  | 968.81    |
| 2  | 0 | 1  | 165.9332 | 184.1770 | 184.1771 | 0.0 | -18.2438 | 3.8598 | -4.7266      | 1  | 1  | 185291.56 |
| 2  | 0 | 2  | 54.5009  | 57.1060  | -57.1060 | 0.0 | -2.6051  | 1.3992 | -1.8619      | 1  | 1  | 13699.68  |
| 2  | 0 | 3  | 47.8857  | 36.7258  | 36.7258  | 0.0 | 11.1598  | 1.2430 | 8.9778       | 1  | 1  | 4330.04   |
| 2  | 0 | 4  | 6.0142   | 0.8835   | -0.8835  | 0.0 | 5.1307   | 3.6809 | 1.3939       | 1  | 0  | 1.97      |
| 2  | 0 | 5  | 205.5340 | 188.7439 | 188.7440 | 0.0 | 16.7901  | 4.6543 | 3.6074       | 1  | 1  | 72528.75  |
| 2  | 0 | 6  | 19.9026  | 20.6131  | -20.6131 | 0.0 | -0.7104  | 1.6808 | -0.4227      | 1  | 1  | 713.66    |
| 2  | 0 | 6  | 19.9026  | 20.6131  | -20.6131 | 0.0 | -0.1850  | 1.3511 | -0.1369      | 1  | 1  | 2670.02   |

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| I   | H  | K  | L | Y(OBS)  | Y(CALC) | A        | B   | OBS-CALC | SIG(O) | (O-C)/SIG(O) | IQ | IL | Q        | EXTI |
|-----|----|----|---|---------|---------|----------|-----|----------|--------|--------------|----|----|----------|------|
| -12 | 0  | 2  |   | 18.9119 | 17.8179 | 17.8180  | 0.0 | 1.0939   | 3.2951 | 0.3320       | 1  | 1  | 237.59   | 0    |
| -12 | 0  | 3  |   | 63.3581 | 66.7994 | 66.7994  | 0.0 | -3.4413  | 1.8640 | -1.8462      | 1  | 1  | 3246.16  | 0    |
| 12  | -1 | 3  |   | 36.3149 | 36.9111 | 36.9111  | 0.0 | -0.5962  | 1.5653 | -0.3809      | 1  | 1  | 991.09   | 0    |
| 11  | -1 | 1  |   | 50.6051 | 48.4283 | -48.4283 | 0.0 | 2.1768   | 1.4641 | 1.4868       | 1  | 1  | 2019.52  | 0    |
| 11  | -1 | 2  |   | 10.5455 | 7.5545  | 7.5545   | 0.0 | 2.9910   | 3.8660 | 0.7737       | 1  | 0  | 48.21    | 0    |
| 11  | -1 | 3  |   | 8.1265  | 0.3429  | -0.3429  | 0.0 | 7.7835   | 5.0427 | 1.5435       | 1  | 0  | 0.10     | 1    |
| 11  | -1 | 4  |   | 5.7008  | 1.1162  | -1.1162  | 0.0 | 4.5846   | 7.2793 | 0.6298       | 1  | 0  | 0.98     | 1    |
| 11  | -1 | 5  |   | 51.7721 | 51.9063 | -51.9063 | 0.0 | -0.1341  | 1.4835 | -0.0904      | 1  | 1  | 2007.81  | 0    |
| 10  | -1 | 1  |   | 29.9860 | 29.9247 | 29.9247  | 0.0 | 0.0614   | 1.4398 | 0.0426       | 1  | 1  | 881.75   | 0    |
| 10  | -1 | 2  |   | 6.3772  | 1.7476  | -1.7476  | 0.0 | 4.6296   | 5.5515 | 0.8339       | 1  | 0  | 2.94     | 1    |
| 10  | -1 | 3  |   | 7.4974  | 2.9676  | 2.9676   | 0.0 | 4.5298   | 4.7344 | 0.9568       | 1  | 0  | 8.17     | 1    |
| 10  | -1 | 4  |   | 17.4456 | 15.7968 | -15.7968 | 0.0 | 1.6488   | 2.1759 | 0.7577       | 1  | 1  | 220.45   | 0    |
| 10  | -1 | 5  |   | 39.4850 | 38.9540 | 38.9540  | 0.0 | 0.5310   | 1.3682 | 0.3881       | 1  | 1  | 1263.01  | 0    |
| 10  | -1 | 6  |   | 18.6102 | 19.8203 | 19.8203  | 0.0 | -1.2109  | 2.2316 | -0.5422      | 1  | 1  | 305.65   | 0    |
| 9   | -1 | 1  |   | 9.9851  | 8.2784  | 8.2784   | 0.0 | 1.7067   | 3.1137 | 0.5481       | 1  | 1  | 77.81    | 0    |
| 9   | -1 | 2  |   | 36.0130 | 34.7053 | 34.7053  | 0.0 | 1.3077   | 1.2435 | 1.0516       | 1  | 1  | 1331.65  | 0    |
| 9   | -1 | 3  |   | 15.2295 | 14.1399 | 14.1399  | 0.0 | 1.0896   | 2.1050 | 0.5175       | 1  | 1  | 211.73   | 0    |
| 9   | -1 | 4  |   | 53.6840 | 54.9861 | -54.9861 | 0.0 | -1.3021  | 1.4053 | -0.9266      | 1  | 1  | 3023.73  | 0    |
| 9   | -1 | 5  |   | 16.5093 | 9.6814  | 9.6814   | 0.0 | 6.8279   | 2.0203 | 3.3796       | 1  | 1  | 87.52    | 0    |
| 9   | -1 | 6  |   | 22.9685 | 21.0063 | 21.0063  | 0.0 | 1.9621   | 1.6691 | 1.1756       | 1  | 1  | 381.43   | 0    |
| 9   | -1 | 8  |   | 40.5353 | 39.3815 | -39.3815 | 0.0 | 1.1538   | 1.4212 | 0.8118       | 1  | 1  | 1132.33  | 0    |
| 8   | -1 | 1  |   | 24.6676 | 25.1694 | 25.1694  | 0.0 | -0.5018  | 1.3165 | -0.3811      | 1  | 1  | 836.94   | 0    |
| 8   | -1 | 2  |   | 8.8850  | 11.3283 | -11.3283 | 0.0 | -2.4433  | 3.1286 | -0.7810      | 1  | 0  | 164.22   | 0    |
| 8   | -1 | 3  |   | 22.5717 | 21.0825 | 21.0825  | 0.0 | 1.4893   | 1.3610 | 1.0942       | 1  | 1  | 540.44   | 0    |
| 8   | -1 | 4  |   | 12.2022 | 11.6532 | 11.6532  | 0.0 | 0.5490   | 2.4014 | 0.2286       | 1  | 1  | 154.42   | 0    |
| 8   | -1 | 5  |   | 45.3564 | 46.9418 | 46.9418  | 0.0 | -1.5854  | 1.2866 | -1.2323      | 1  | 1  | 2314.86  | 0    |
| 8   | -1 | 6  |   | 44.2140 | 45.7290 | -45.7290 | 0.0 | -1.5150  | 1.3035 | -1.1623      | 1  | 1  | 2011.66  | 0    |
| 8   | -1 | 7  |   | 4.2387  | 1.1999  | -1.1999  | 0.0 | 3.0389   | 8.2703 | 0.3674       | 1  | 0  | 1.26     | 1    |
| 8   | -1 | 8  |   | 10.0663 | 2.0567  | 2.0567   | 0.0 | 8.0096   | 3.7706 | 2.1242       | 1  | 0  | 3.36     | 1    |
| 7   | -1 | 1  |   | 54.8121 | 53.3034 | 53.3034  | 0.0 | 1.5086   | 1.3608 | 1.1086       | 1  | 1  | 4416.47  | 0    |
| 7   | -1 | 2  |   | 45.1917 | 42.5792 | -42.5792 | 0.0 | 2.6125   | 1.1999 | 2.1773       | 1  | 1  | 2709.70  | 0    |
| 7   | -1 | 3  |   | 94.3428 | 93.1910 | -93.1910 | 0.0 | 1.1518   | 2.1683 | 0.5312       | 1  | 1  | 12201.79 | 0    |
| 7   | -1 | 5  |   | 42.6479 | 43.5274 | 43.5274  | 0.0 | -0.8795  | 1.2143 | -0.7243      | 1  | 1  | 2242.41  | 0    |
| 7   | -1 | 6  |   | 31.2538 | 31.8138 | 31.8138  | 0.0 | -0.5601  | 1.2322 | -0.4545      | 1  | 1  | 1033.38  | 0    |
| 7   | -1 | 7  |   | 51.2200 | 51.0508 | -51.0508 | 0.0 | 0.1692   | 1.3661 | 0.1238       | 1  | 1  | 2510.47  | 0    |
| 7   | -1 | 8  |   | 33.4169 | 36.0884 | 36.0884  | 0.0 | -2.6715  | 1.3676 | -1.9534      | 1  | 1  | 1126.56  | 0    |
| 7   | -1 | 9  |   | 48.9156 | 49.4192 | 49.4192  | 0.0 | -0.5035  | 1.4136 | -0.3563      | 1  | 1  | 1897.81  | 0    |
| 6   | -1 | 1  |   | 46.4856 | 44.0858 | -44.0858 | 0.0 | 2.3997   | 1.1869 | 2.0218       | 1  | 1  | 3605.91  | 0    |
| 6   | -1 | 2  |   | 19.4317 | 18.6723 | -18.6723 | 0.0 | 0.7595   | 1.2062 | 0.6297       | 1  | 1  | 615.34   | 0    |
| 6   | -1 | 3  |   | 18.0918 | 17.2805 | 17.2805  | 0.0 | 0.8112   | 1.3264 | 0.6116       | 1  | 1  | 488.10   | 0    |
| 6   | -1 | 4  |   | 52.0871 | 53.7204 | 53.7204  | 0.0 | -1.6333  | 1.3085 | -1.2482      | 1  | 1  | 4286.18  | 0    |
| 6   | -1 | 5  |   | 11.2976 | 12.7342 | -12.7342 | 0.0 | -1.4366  | 2.2427 | -0.6406      | 1  | 1  | 216.19   | 0    |
| 6   | -1 | 6  |   | 30.1986 | 28.2354 | -28.2355 | 0.0 | 1.9631   | 1.1478 | 1.7103       | 1  | 1  | 947.46   | 0    |
| 6   | -1 | 7  |   | 32.4249 | 31.7272 | 31.7272  | 0.0 | 0.6977   | 1.2051 | 0.5790       | 1  | 1  | 1062.82  | 0    |
| 6   | -1 | 8  |   | 31.1771 | 32.9428 | 32.9428  | 0.0 | -1.7657  | 1.3378 | -1.3198      | 1  | 1  | 1017.28  | 0    |
| 6   | -1 | 9  |   | 10.4952 | 5.4318  | -5.4318  | 0.0 | 5.0634   | 3.4806 | 1.4548       | 1  | 1  | 24.59    | 0    |
| 6   | -1 | 10 |   | 22.5838 | 21.1201 | -21.1201 | 0.0 | 1.4636   | 1.9179 | 0.7631       | 1  | 1  | 331.75   | 0    |
| 5   | -1 | 1  |   | 65.9330 | 61.3361 | 61.3361  | 0.0 | 4.5969   | 1.5479 | 2.9698       | 1  | 1  | 8495.11  | 0    |
| 5   | -1 | 2  |   | 24.3220 | 24.2617 | -24.2617 | 0.0 | 0.9603   | 0.9664 | 0.0624       | 1  | 1  | 1243.56  | 0    |
| 5   | -1 | 3  |   | 56.1246 | 54.1252 | 54.1252  | 0.0 | 1.9994   | 1.3514 | 1.4795       | 1  | 1  | 5609.81  | 0    |
| 5   | -1 | 4  |   | 73.2268 | 73.3884 | 73.3884  | 0.0 | -0.1616  | 1.7054 | -0.0948      | 1  | 1  | 9167.87  | 0    |
| 5   | -1 | 5  |   | 81.4904 | 79.8262 | 79.8262  | 0.0 | 1.6643   | 1.8856 | 0.8826       | 1  | 1  | 9546.45  | 0    |
| 5   | -1 | 6  |   | 50.1432 | 49.0240 | -49.0240 | 0.0 | 1.1192   | 1.2818 | 0.8731       | 1  | 1  | 3156.25  | 0    |
| 5   | -1 | 7  |   | 5.6636  | 1.8974  | -1.8974  | 0.0 | 3.7662   | 4.9123 | 0.7667       | 1  | 0  | 4.14     | 1    |
| 5   | -1 | 8  |   | 32.6363 | 32.6471 | 32.6472  | 0.0 | -0.0108  | 1.2645 | -0.0086      | 1  | 1  | 1076.17  | 0    |
| 1   | H  | K  | L | Y(OBS)  | Y(CALC) | A        | B   | OBS-CALC | SIG(O) | (O-C)/SIG(O) | IQ | IL | Q        | EXTI |
| 5   | -1 | 9  |   | 5.8389  | 2.8446  | -2.8446  | 0.0 | 2.9942   | 5.9097 | 0.5067       | 1  | 0  | 7.10     | 0    |



|    |    |    |          |          |           |          |          |          |         |              |    |          |      |      |
|----|----|----|----------|----------|-----------|----------|----------|----------|---------|--------------|----|----------|------|------|
| 5  | -1 | 9  | 5.8389   | 2.8446   | -2.8446   | 0.0      | 2.9942   | 5.9397   | 0.5067  | 1            | 0  | 7.19     | 1    |      |
| 5  | -1 | 10 | 30.9452  | 30.3726  | -30.3726  | 0.0      | 0.5726   | 1.4804   | 0.3868  | 1            | 1  | 725.10   | 0    |      |
| 4  | -1 | 1  | 57.1586  | 54.0355  | -54.0355  | 0.0      | 3.1231   | 1.3490   | 2.3152  | 1            | 1  | 8246.50  | 0    |      |
| 4  | -1 | 2  | 46.4318  | 46.7993  | 46.7993   | 0.0      | -0.3675  | 1.1374   | -0.3231 | 1            | 1  | 5632.00  | 0    |      |
| 4  | -1 | 3  | 83.9372  | 82.6434  | 82.6434   | 0.0      | 1.2938   | 1.9267   | 0.6715  | 1            | 1  | 15412.85 | 0    |      |
| 4  | -1 | 4  | 21.0298  | 21.6231  | -21.6231  | 0.0      | -0.5933  | 1.0424   | -0.5691 | 1            | 1  | 910.69   | 0    |      |
| 4  | -1 | 5  | 13.9404  | 11.8388  | -11.8388  | 0.0      | 2.1016   | 1.5143   | 1.3878  | 1            | 1  | 234.56   | 0    |      |
| 4  | -1 | 6  | 24.5198  | 24.0008  | -24.0008  | 0.0      | 0.5190   | 1.1497   | 0.4514  | 1            | 1  | 829.33   | 0    |      |
| 4  | -1 | 7  | 46.0346  | 45.5334  | 45.5334   | 0.0      | 0.5012   | 1.2174   | 0.4117  | 1            | 1  | 2577.37  | 0    |      |
| 4  | -1 | 8  | 51.5117  | 52.0300  | -52.0300  | 0.0      | -0.5183  | 1.3403   | -0.3867 | 1            | 1  | 2919.27  | 0    |      |
| 4  | -1 | 9  | 35.9848  | 35.3405  | -35.3405  | 0.0      | 0.6443   | 1.2702   | 0.5073  | 1            | 1  | 1174.43  | 0    |      |
| 4  | -1 | 10 | 19.4242  | 19.8403  | -19.8403  | 0.0      | -0.4161  | 2.0122   | -0.2068 | 1            | 1  | 324.71   | 0    |      |
| 3  | -1 | 1  | 103.6631 | 107.4278 | -107.4279 | 0.0      | -3.7647  | 2.3701   | -1.5884 | 1            | 1  | 42372.93 | 0    |      |
| 3  | -1 | 2  | 99.6702  | 93.7912  | -93.7911  | 0.0      | 5.8790   | 2.2699   | 2.5900  | 1            | 1  | 28022.86 | 0    |      |
| 3  | -1 | 3  | 39.7605  | 41.5018  | 41.5019   | 0.0      | -1.7414  | 1.0084   | -1.7269 | 1            | 1  | 4586.26  | 0    |      |
| 3  | -1 | 4  | 36.0576  | 36.7114  | 36.7114   | 0.0      | -0.6538  | 0.9698   | -0.6741 | 1            | 1  | 2980.98  | 0    |      |
| 3  | -1 | 5  | 88.3807  | 89.2713  | -89.2713  | 0.0      | -0.8906  | 2.0254   | -0.4397 | 1            | 1  | 14731.41 | 0    |      |
| 3  | -1 | 6  | 46.6598  | 48.8205  | -48.8206  | 0.0      | -2.1608  | 1.1954   | -1.8075 | 1            | 1  | 3716.16  | 0    |      |
| 3  | -1 | 7  | 46.0599  | 46.2713  | 46.2713   | 0.0      | -0.2113  | 1.2107   | -0.1746 | 1            | 1  | 2841.47  | 0    |      |
| 3  | -1 | 8  | 27.9828  | 27.3667  | 27.3667   | 0.0      | 0.6161   | 1.2141   | 0.5075  | 1            | 1  | 853.05   | 0    |      |
| 3  | -1 | 9  | 30.8015  | 29.9151  | -29.9151  | 0.0      | 0.8864   | 1.2532   | 0.7073  | 1            | 1  | 881.47   | 0    |      |
| 3  | -1 | 10 | 29.1236  | 29.1060  | -29.1060  | 0.0      | 0.0176   | 1.4211   | 0.0124  | 1            | 1  | 726.99   | 0    |      |
| 3  | -1 | 11 | 48.2794  | 46.5700  | 46.5700   | 0.0      | 1.7094   | 1.4078   | 1.2143  | 1            | 1  | 1634.95  | 0    |      |
| 2  | -1 | 1  | 36.5103  | 41.1769  | -41.1769  | 0.0      | -4.6667  | 0.9646   | -4.8379 | 1            | 1  | 8518.95  | 0    |      |
| 2  | -1 | 2  | 95.8255  | 98.5749  | 98.5749   | 0.0      | -2.7495  | 2.1867   | -1.2573 | 1            | 1  | 38725.73 | 0    |      |
| 2  | -1 | 3  | 39.0575  | 41.6631  | -41.6631  | 0.0      | -2.6056  | 0.9773   | -2.6660 | 1            | 1  | 5391.25  | 0    |      |
| 2  | -1 | 4  | 14.7774  | 15.6754  | -15.6754  | 0.0      | -0.8980  | 1.0418   | -0.8620 | 1            | 1  | 606.06   | 0    |      |
| 2  | -1 | 5  | 52.2699  | 51.5602  | -51.5602  | 0.0      | 0.7097   | 1.2582   | 0.5640  | 1            | 1  | 5327.08  | 0    |      |
| 2  | -1 | 6  | 20.4873  | 18.9262  | 18.9262   | 0.0      | 1.5611   | 1.1131   | 1.4025  | 1            | 1  | 594.43   | 0    |      |
| 2  | -1 | 7  | 16.2484  | 14.5067  | -14.5067  | 0.0      | 1.7417   | 1.4775   | 1.1788  | 1            | 1  | 293.60   | 0    |      |
| 2  | -1 | 8  | 50.5466  | 50.3228  | -50.3228  | 0.0      | 0.2238   | 1.2962   | 0.1727  | 1            | 1  | 3005.52  | 0    |      |
| 2  | -1 | 9  | 8.6833   | 5.3240   | 5.3240    | 0.0      | 3.3593   | 3.4140   | 0.9840  | 1            | 0  | 28.90    | 0    |      |
| 2  | -1 | 11 | 11.0675  | 11.3469  | 11.3469   | 0.0      | -0.2794  | 3.5585   | -0.0785 | 1            | 1  | 99.49    | 0    |      |
| 1  | -1 | 1  | 11.4738  | 12.2946  | -12.2946  | 0.0      | -0.8209  | 0.7089   | -1.1580 | 1            | 1  | 1077.79  | 0    |      |
| 1  | -1 | 2  | 82.7906  | 101.0888 | 101.0888  | 0.0      | -18.2983 | 1.9204   | -9.5284 | 1            | 1  | 49596.23 | 0    |      |
| 1  | -1 | 3  | 90.5773  | 89.4194  | 89.4194   | 0.0      | 1.1578   | 2.0596   | 0.5622  | 1            | 1  | 27893.83 | 0    |      |
| 1  | -1 | 4  | 52.5528  | 54.4079  | -54.4079  | 0.0      | -1.8551  | 1.2420   | -1.4937 | 1            | 1  | 7873.84  | 0    |      |
| 1  | -1 | 5  | 15.6188  | 11.0094  | 11.0094   | 0.0      | 4.6094   | 1.0974   | 4.2004  | 1            | 1  | 256.12   | 0    |      |
| 1  | -1 | 6  | 31.6805  | 31.6582  | 31.6582   | 0.0      | 0.0223   | 0.9674   | 0.0230  | 1            | 1  | 1730.64  | 0    |      |
| 1  | -1 | 7  | 29.0707  | 27.6693  | 27.6693   | 0.0      | 1.4014   | 1.0387   | 1.3492  | 1            | 1  | 1101.94  | 0    |      |
| 1  | -1 | 8  | 54.9084  | 54.5278  | -54.5278  | 0.0      | 0.3806   | 1.3610   | 0.2797  | 1            | 1  | 3619.30  | 0    |      |
| 1  | -1 | 9  | 45.5219  | 46.0832  | -46.0832  | 0.0      | -0.5613  | 1.2636   | -0.4442 | 1            | 1  | 2211.21  | 0    |      |
| 1  | -1 | 10 | 24.5683  | 24.3236  | 24.3236   | 0.0      | 0.2447   | 1.5410   | 0.1588  | 1            | 1  | 532.10   | 0    |      |
| 1  | -1 | 11 | 15.4197  | 19.7906  | -19.7906  | 0.0      | -4.3709  | 2.5802   | -1.6940 | 1            | 1  | 307.19   | 0    |      |
| 0  | -1 | 1  | 53.7089  | 49.2471  | 49.2470   | 0.0      | 4.4618   | 1.2304   | 3.6264  | 1            | 1  | 21109.42 | 0    |      |
| 0  | -1 | 2  | 2.8138   | 0.5148   | -0.5148   | 0.0      | 2.2990   | 2.6779   | 0.8585  | 1            | 0  | 1.40     | 1    |      |
| 0  | -1 | 3  | 66.1999  | 69.0635  | -69.0635  | 0.0      | -2.8635  | 1.5191   | -1.8850 | 1            | 1  | 17385.34 | 0    |      |
| 0  | -1 | 4  | 6.7060   | 5.8899   | 5.8899    | 0.0      | 0.8161   | 1.6835   | 0.4848  | 1            | 1  | 94.75    | 0    |      |
| 0  | -1 | 5  | 21.9190  | 21.9730  | 21.9730   | 0.0      | -0.0540  | 0.8298   | -0.0651 | 1            | 1  | 1038.66  | 0    |      |
| 0  | -1 | 6  | 25.1287  | 26.8663  | -26.8663  | 0.0      | -1.7375  | 0.9693   | -1.7926 | 1            | 1  | 1262.75  | 0    |      |
| 0  | -1 | 7  | 44.9463  | 44.9630  | -44.9630  | 0.0      | -0.0167  | 1.1436   | -0.0146 | 1            | 1  | 2939.21  | 0    |      |
| 0  | -1 | 8  | 19.1680  | 15.6885  | -15.6886  | 0.0      | 3.4795   | 1.3759   | 2.5289  | 1            | 1  | 302.02   | 0    |      |
| 0  | -1 | 9  | 31.9490  | 30.0022  | 30.0022   | 0.0      | 1.9468   | 1.1530   | 1.6885  | 1            | 1  | 943.43   | 0    |      |
| 0  | -1 | 10 | 20.3192  | 19.4117  | -19.4117  | 0.0      | 0.9075   | 1.6657   | 0.5448  | 1            | 1  | 340.75   | 0    |      |
| 0  | -1 | 11 | 14.3472  | 12.7156  | -12.7156  | 0.0      | 1.6316   | 2.5431   | 0.6416  | 1            | 1  | 127.39   | 0    |      |
| 1  | H  | K  | L        | Y(OBS)   | Y(CALC)   | A        | B        | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL       | Q    | EXTI |
| -1 | -1 | 0  |          | 34.3739  | 35.6942   | -35.6942 | 0.0      | -1.3204  | 0.8105  | -1.3204      | 1  | 1        | 1.40 | 0    |

|    |    |    |          |          |          |     |         |          |         |              |    |          |   |     |
|----|----|----|----------|----------|----------|-----|---------|----------|---------|--------------|----|----------|---|-----|
| -1 | -1 | 0  | 34.3739  | 35.6942  | -35.6942 | 0.0 | -1.3204 | 0.8105   | -1.6290 | 1            | 1  | 11492.40 | 0 |     |
| -1 | -1 | 1  | 16.4235  | 18.8821  | 18.8821  | 0.0 | -2.4586 | 0.6546   | -3.7558 | 1            | 1  | 2531.70  | 0 |     |
| -1 | -1 | 2  | 97.7780  | 104.6263 | 104.6264 | 0.0 | -6.8484 | 2.2361   | -3.0627 | 1            | 1  | 52018.68 | 0 |     |
| -1 | -1 | 3  | 94.4337  | 99.5863  | -99.5863 | 0.0 | -5.1526 | 2.1568   | -2.3891 | 1            | 1  | 34491.95 | 0 |     |
| -1 | -1 | 4  | 53.5947  | 54.9428  | -54.9428 | 0.0 | -1.3481 | 1.2654   | -1.0653 | 1            | 1  | 8007.86  | 0 |     |
| -1 | -1 | 5  | 4.1171   | 1.9291   | 1.9291   | 0.0 | 2.1881  | 3.8881   | 0.5628  | 1            | 0  | 7.85     | 1 |     |
| -1 | -1 | 6  | 51.7878  | 52.0911  | 52.0911  | 0.0 | -0.3033 | 1.2602   | -0.2407 | 1            | 1  | 4675.85  | 0 |     |
| -1 | -1 | 7  | 41.6521  | 41.0157  | -41.0157 | 0.0 | 0.6365  | 1.1190   | 0.5688  | 1            | 1  | 2416.78  | 0 |     |
| -1 | -1 | 8  | 42.9885  | 42.3066  | -42.3066 | 0.0 | 0.6820  | 1.1816   | 0.5771  | 1            | 1  | 2174.92  | 0 |     |
| -1 | -1 | 9  | 52.3764  | 51.8772  | 51.8772  | 0.0 | 0.4991  | 1.3542   | 0.3686  | 1            | 1  | 2797.59  | 0 |     |
| -1 | -1 | 10 | 37.1583  | 37.5374  | 37.5374  | 0.0 | -0.3792 | 1.2864   | -0.2948 | 1            | 1  | 1265.31  | 0 |     |
| -1 | -1 | 11 | 7.6402   | 4.4264   | 4.4264   | 0.0 | 3.2139  | 5.0196   | 0.6403  | 1            | 0  | 15.34    | 0 |     |
| -2 | -1 | 0  | 16.1231  | 8.7192   | -8.7192  | 0.0 | 7.4039  | 0.5778   | 12.8150 | 1            | 0  | 424.29   | 0 |     |
| -2 | -1 | 1  | 57.2568  | 58.2774  | -58.2774 | 0.0 | -1.0206 | 1.3549   | -0.7533 | 1            | 1  | 16992.11 | 0 |     |
| -2 | -1 | 2  | 81.6090  | 89.7764  | -89.7764 | 0.0 | -8.1674 | 1.8819   | -4.3401 | 1            | 1  | 31945.96 | 0 |     |
| -2 | -1 | 3  | 61.0115  | 67.3357  | -67.3358 | 0.0 | -6.3242 | 1.4345   | -4.4087 | 1            | 1  | 14008.63 | 0 |     |
| -2 | -1 | 4  | 32.2110  | 32.9684  | 32.9684  | 0.0 | -0.7574 | 0.8918   | -0.8493 | 1            | 1  | 2668.17  | 0 |     |
| -2 | -1 | 5  | 75.5171  | 75.5526  | -75.5526 | 0.0 | -0.0355 | 1.7442   | -0.0203 | 1            | 1  | 11389.30 | 0 |     |
| -2 | -1 | 6  | 36.4654  | 37.1064  | -37.1064 | 0.0 | 0.6410  | 1.0337   | -0.6201 | 1            | 1  | 2275.98  | 0 |     |
| -2 | -1 | 7  | 22.9109  | 22.1036  | -22.1036 | 0.0 | -0.8073 | 1.1624   | 0.6945  | 1            | 1  | 679.15   | 0 |     |
| -2 | -1 | 8  | 37.0973  | 37.6950  | 37.6950  | 0.0 | -0.5977 | 1.1513   | -0.5192 | 1            | 1  | 1680.66  | 0 |     |
| -2 | -1 | 9  | 20.0534  | 20.9012  | 20.9012  | 0.0 | -0.8478 | 1.6448   | -0.5154 | 1            | 1  | 443.97   | 0 |     |
| -2 | -1 | 10 | 24.2143  | 23.0503  | -23.0503 | 0.0 | 1.1640  | 1.5523   | 0.7499  | 1            | 1  | 468.05   | 0 |     |
| -2 | -1 | 11 | 35.9118  | 37.9417  | 37.9417  | 0.0 | -2.0299 | 1.4324   | -1.4171 | 1            | 1  | 1109.24  | 0 |     |
| -3 | -1 | 0  | 52.1075  | 54.6118  | 54.6118  | 0.0 | -2.5043 | 1.2164   | -2.0587 | 1            | 1  | 11574.01 | 0 |     |
| -3 | -1 | 1  | 100.7384 | 104.3121 | 104.3122 | 0.0 | -3.5737 | 2.3076   | -1.5487 | 1            | 1  | 39809.53 | 0 |     |
| -3 | -1 | 2  | 96.7426  | 96.2021  | -96.2021 | 0.0 | 0.5405  | 2.2137   | 0.2442  | 1            | 1  | 29320.66 | 0 |     |
| -3 | -1 | 3  | 34.8501  | 35.7994  | -35.7994 | 0.0 | -0.9494 | 0.9272   | -1.0239 | 1            | 1  | 3391.93  | 0 |     |
| -3 | -1 | 4  | 34.3237  | 34.8810  | 34.8810  | 0.0 | -0.5574 | 0.9528   | -0.5850 | 1            | 1  | 2675.10  | 0 |     |
| -3 | -1 | 5  | 102.6852 | 102.4264 | 102.4265 | 0.0 | 0.2588  | 2.3410   | 0.1105  | 1            | 1  | 19282.78 | 0 |     |
| -3 | -1 | 6  | 71.4995  | 72.8484  | -72.8484 | 0.0 | -1.3489 | 1.6707   | -0.8074 | 1            | 1  | 8229.76  | 0 |     |
| -3 | -1 | 7  | 34.9810  | 35.5366  | -35.5366 | 0.0 | -0.5556 | 1.0995   | -0.5053 | 1            | 1  | 1667.46  | 0 |     |
| -3 | -1 | 8  | 13.1699  | 10.6582  | 10.6582  | 0.0 | 2.5117  | 2.1395   | 1.1740  | 1            | 1  | 128.76   | 0 |     |
| -3 | -1 | 9  | 30.6008  | 30.5063  | 30.5063  | 0.0 | 0.0945  | 1.2815   | 0.0737  | 1            | 1  | 912.43   | 0 |     |
| -3 | -1 | 10 | 44.0970  | 43.3109  | -43.3109 | 0.0 | 0.7861  | 1.3300   | 0.5911  | 1            | 1  | 1602.73  | 0 |     |
| -3 | -1 | 11 | 53.4259  | 52.7834  | -52.7834 | 0.0 | 0.6425  | 1.4693   | 0.4373  | 1            | 1  | 2091.81  | 0 |     |
| -4 | -1 | 0  | 7.3130   | 7.1606   | -7.1606  | 0.0 | 0.1525  | 1.4422   | 0.1057  | 1            | 1  | 149.79   | 0 |     |
| -4 | -1 | 1  | 55.4833  | 55.3773  | -55.3773 | 0.0 | 0.1060  | 1.3256   | 0.0800  | 1            | 1  | 8535.36  | 0 |     |
| -4 | -1 | 2  | 36.9843  | 38.4255  | -38.4255 | 0.0 | -1.4412 | 0.9846   | -1.4638 | 1            | 1  | 3777.59  | 0 |     |
| -4 | -1 | 3  | 72.8914  | 71.6617  | 71.6617  | 0.0 | 1.2297  | 1.6878   | 0.7286  | 1            | 1  | 11517.62 | 0 |     |
| -4 | -1 | 4  | 43.1973  | 42.7585  | 42.7585  | 0.0 | 0.4387  | 1.1101   | 0.3952  | 1            | 1  | 3537.80  | 0 |     |
| -4 | -1 | 5  | 37.2663  | 38.8532  | -38.8532 | 0.0 | -1.5869 | 1.0731   | -1.4788 | 1            | 1  | 2500.71  | 0 |     |
| -4 | -1 | 6  | 19.5020  | 18.3451  | 18.3451  | 0.0 | 1.1569  | 1.3201   | 0.8764  | 1            | 1  | 481.40   | 0 |     |
| -4 | -1 | 7  | 44.1292  | 44.9489  | 44.9489  | 0.0 | -0.8197 | 1.2107   | -0.6771 | 1            | 1  | 2495.90  | 0 |     |
| -4 | -1 | 8  | 55.0031  | 54.7038  | 54.7038  | 0.0 | 0.2993  | 1.3903   | 0.2153  | 1            | 1  | 3207.50  | 0 |     |
| -4 | -1 | 9  | 25.5300  | 23.6729  | -23.6729 | 0.0 | 1.8572  | 1.4507   | 1.2802  | 1            | 1  | 523.90   | 0 |     |
| -4 | -1 | 10 | 14.6811  | 7.7995   | 7.7995   | 0.0 | 6.8817  | 2.5025   | 2.7499  | 1            | 1  | 49.90    | 0 |     |
| -4 | -1 | 11 | 29.6958  | 30.2731  | 30.2731  | 0.0 | -0.5772 | 1.6163   | -0.3571 | 1            | 1  | 664.71   | 0 |     |
| -5 | -1 | 0  | 135.2171 | 120.6812 | 120.6814 | 0.0 | 14.5359 | 3.0546   | 4.7586  | 1            | 1  | 33648.66 | 0 |     |
| -5 | -1 | 1  | 49.5757  | 46.9484  | -46.9485 | 0.0 | 2.6272  | 1.2185   | 2.1562  | 1            | 1  | 4964.31  | 0 |     |
| -5 | -1 | 2  | 21.1091  | 23.3342  | -23.3342 | 0.0 | -2.2252 | 1.0503   | -2.1185 | 1            | 1  | 1145.06  | 0 |     |
| -5 | -1 | 3  | 62.4077  | 60.4281  | -60.4281 | 0.0 | 1.9796  | 1.4781   | 1.3393  | 1            | 1  | 6950.57  | 0 |     |
| -5 | -1 | 4  | 81.9507  | 82.9477  | 82.9477  | 0.0 | -0.9970 | 1.8931   | -0.0056 | 1            | 1  | 11632.97 | 0 |     |
| -5 | -1 | 5  | 78.1028  | 78.8151  | -78.8151 | 0.0 | -0.7123 | 1.8168   | -0.3921 | 1            | 1  | 9240.37  | 0 |     |
| -5 | -1 | 6  | 44.1400  | 44.4458  | -44.4459 | 0.0 | -0.3058 | 1.2042   | -0.2540 | 1            | 1  | 2575.68  | 0 |     |
| 1  | H  | K  | L        | Y(OBS)   | Y(CALC)  | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL       | Q | EXT |
| 5  | -1 | 7  | 17.1682  | 16.5251  | -16.5251 | 0.0 | 0.6431  | 1.6932   | 0.3798  | 1            | 1  | 311.97   | 0 |     |



|     |    |    |         |         |          |     |         |          |         |              |    |          |   |      |
|-----|----|----|---------|---------|----------|-----|---------|----------|---------|--------------|----|----------|---|------|
| -5  | -1 | 7  | 17.1682 | 16.5251 | -16.5251 | 0.0 | 0.6431  | 1.6932   | 0.3798  | 1            | 1  | 311.97   | 0 |      |
| -5  | -1 | 8  | 40.8580 | 40.8582 | 40.8582  | 0.0 | -0.0002 | 1.2389   | -0.0001 | 1            | 1  | 1673.78  | 0 |      |
| -5  | -1 | 9  | 14.5824 | 10.2074 | 10.2074  | 0.0 | 4.3750  | 2.3344   | 1.8741  | 1            | 1  | 91.97    | 0 |      |
| -5  | -1 | 10 | 35.9530 | 34.7124 | -34.7124 | 0.0 | 1.2406  | 1.4040   | 0.8836  | 1            | 1  | 940.98   | 0 |      |
| -6  | -1 | 0  | 77.3831 | 73.3771 | -73.3771 | 0.0 | 4.0060  | 1.7699   | 2.2634  | 1            | 1  | 10157.59 | 0 |      |
| -6  | -1 | 1  | 22.6040 | 22.3708 | -22.3708 | 0.0 | 0.2331  | 1.0749   | 0.2169  | 1            | 1  | 926.37   | 0 |      |
| -6  | -1 | 2  | 17.6021 | 18.4684 | 18.4684  | 0.0 | -0.8663 | 1.2721   | -0.6810 | 1            | 1  | 599.42   | 0 |      |
| -6  | -1 | 3  | 15.9085 | 11.8750 | 11.8751  | 0.0 | 4.0334  | 1.3548   | 2.9772  | 1            | 1  | 229.18   | 0 |      |
| -6  | -1 | 4  | 27.4331 | 30.1643 | -30.1643 | 0.0 | -2.7312 | 1.0971   | -2.4894 | 1            | 1  | 1342.31  | 0 |      |
| -6  | -1 | 5  | 36.8638 | 39.8257 | -39.8257 | 0.0 | -2.9620 | 1.1212   | -2.6417 | 1            | 1  | 2099.15  | 0 |      |
| -6  | -1 | 6  | 46.5733 | 47.2364 | 47.2364  | 0.0 | -0.6631 | 1.2366   | -0.5363 | 1            | 1  | 2631.51  | 0 |      |
| -6  | -1 | 7  | 14.3621 | 9.2764  | 9.2764   | 0.0 | 5.0856  | 2.0294   | 2.5059  | 1            | 1  | 90.15    | 0 |      |
| -6  | -1 | 9  | 8.2565  | 4.8241  | -4.8241  | 0.0 | 3.4324  | 4.3927   | 0.7814  | 1            | 0  | 19.25    | 0 |      |
| -6  | -1 | 10 | 21.0892 | 22.7262 | 22.7262  | 0.0 | -1.6371 | 2.0238   | -0.8089 | 1            | 1  | 381.36   | 0 |      |
| -7  | -1 | 0  | 62.7372 | 60.7438 | -60.7438 | 0.0 | 1.9934  | 1.4629   | 1.3626  | 1            | 1  | 5809.57  | 0 |      |
| -7  | -1 | 1  | 70.1230 | 71.0583 | -71.0583 | 0.0 | -0.9353 | 1.6541   | -0.5654 | 1            | 1  | 7832.23  | 0 |      |
| -7  | -1 | 2  | 47.2578 | 46.6089 | -46.6089 | 0.0 | 0.6488  | 1.2212   | 0.5313  | 1            | 1  | 3234.00  | 0 |      |
| -7  | -1 | 3  | 82.9444 | 85.1524 | 85.1524  | 0.0 | -2.2079 | 1.9236   | -1.1478 | 1            | 1  | 10131.79 | 0 |      |
| -7  | -1 | 4  | 10.9772 | 12.8124 | -12.8124 | 0.0 | -1.8353 | 2.3414   | -0.7838 | 1            | 1  | 211.63   | 0 |      |
| -7  | -1 | 5  | 33.2798 | 34.5750 | -34.5750 | 0.0 | -1.2952 | 1.1614   | -1.1152 | 1            | 1  | 1404.44  | 0 |      |
| -7  | -1 | 6  | 17.3286 | 16.7236 | 16.7236  | 0.0 | 0.6050  | 1.7562   | 0.3445  | 1            | 1  | 297.02   | 0 |      |
| -7  | -1 | 7  | 58.6101 | 59.1826 | 59.1826  | 0.0 | -0.5725 | 1.4745   | -0.3883 | 1            | 1  | 3346.59  | 0 |      |
| -7  | -1 | 8  | 18.6056 | 17.1783 | 17.1783  | 0.0 | 1.4273  | 1.9477   | 0.7328  | 1            | 1  | 253.17   | 0 |      |
| -7  | -1 | 9  | 41.4597 | 40.5202 | -40.5202 | 0.0 | 0.9394  | 1.3649   | 0.6883  | 1            | 1  | 1265.61  | 0 |      |
| -8  | -1 | 0  | 65.9586 | 64.7337 | -64.7337 | 0.0 | 1.2249  | 1.5365   | 0.7972  | 1            | 1  | 5593.25  | 0 |      |
| -8  | -1 | 1  | 38.0256 | 37.2788 | 37.2788  | 0.0 | 0.7468  | 1.1395   | 0.6553  | 1            | 1  | 1832.44  | 0 |      |
| -8  | -1 | 2  | 3.2343  | 9.0516  | -9.0516  | 0.0 | -5.8173 | 8.2330   | -0.7066 | 1            | 0  | 104.46   | 0 |      |
| -8  | -1 | 3  | 29.3930 | 29.5992 | 29.5992  | 0.0 | -0.2063 | 1.1621   | -0.1775 | 1            | 1  | 1059.71  | 0 |      |
| -8  | -1 | 4  | 25.0540 | 26.1986 | -26.1986 | 0.0 | -1.1446 | 1.2836   | -0.8917 | 1            | 1  | 775.47   | 0 |      |
| -8  | -1 | 5  | 44.5017 | 45.0987 | 45.0987  | 0.0 | -0.5969 | 1.2461   | -0.4790 | 1            | 1  | 2120.99  | 0 |      |
| -8  | -1 | 6  | 42.1800 | 43.3537 | 43.3537  | 0.0 | -1.1737 | 1.2648   | -0.9279 | 1            | 1  | 1793.76  | 0 |      |
| -8  | -1 | 7  | 4.5418  | 4.0110  | -4.0110  | 0.0 | 0.5308  | 7.5794   | 0.0700  | 1            | 0  | 13.98    | 0 |      |
| -8  | -1 | 8  | 17.2999 | 18.3108 | 18.3108  | 0.0 | -1.0109 | 2.2435   | -0.4506 | 1            | 1  | 264.40   | 0 |      |
| -9  | -1 | 0  | 41.8403 | 40.6130 | -40.6130 | 0.0 | 1.2273  | 1.1069   | 1.1088  | 1            | 1  | 1888.54  | 0 |      |
| -9  | -1 | 1  | 10.3010 | 3.4868  | -3.4868  | 0.0 | 6.8142  | 2.8175   | 2.4185  | 1            | 1  | 13.78    | 0 |      |
| -9  | -1 | 2  | 43.9973 | 44.3605 | 44.3605  | 0.0 | -0.3632 | 1.2471   | -0.2912 | 1            | 1  | 2168.02  | 0 |      |
| -9  | -1 | 3  | 20.2496 | 20.0413 | -20.0413 | 0.0 | 0.2083  | 1.5595   | 0.1336  | 1            | 1  | 423.22   | 0 |      |
| -9  | -1 | 4  | 32.0827 | 33.1232 | -33.1232 | 0.0 | -1.0405 | 1.2604   | -0.8255 | 1            | 1  | 1090.40  | 0 |      |
| -9  | -1 | 5  | 16.9147 | 18.1942 | -18.1942 | 0.0 | -1.2795 | 2.0140   | -0.6353 | 1            | 1  | 306.88   | 0 |      |
| -9  | -1 | 6  | 30.6698 | 29.2157 | 29.2157  | 0.0 | 1.4542  | 1.3690   | 1.0622  | 1            | 1  | 732.01   | 0 |      |
| -9  | -1 | 7  | 15.9922 | 10.5089 | -10.5089 | 0.0 | 5.4834  | 2.3506   | 2.3327  | 1            | 1  | 37.14    | 0 |      |
| -9  | -1 | 8  | 32.4641 | 29.7693 | -29.7693 | 0.0 | 2.6948  | 1.4907   | 1.8077  | 1            | 1  | 641.59   | 0 |      |
| -10 | -1 | 0  | 31.9716 | 32.4921 | 32.4921  | 0.0 | -0.5204 | 1.1105   | -0.4687 | 1            | 1  | 1046.90  | 0 |      |
| -10 | -1 | 1  | 31.4226 | 31.6561 | 31.6561  | 0.0 | -0.2336 | 1.3475   | -0.1733 | 1            | 1  | 985.05   | 0 |      |
| -10 | -1 | 2  | 11.0802 | 6.4832  | -6.4832  | 0.0 | 4.5969  | 3.0066   | 1.5290  | 1            | 1  | 40.33    | 0 |      |
| -10 | -1 | 3  | 11.4459 | 9.1425  | 9.1425   | 0.0 | 2.3034  | 2.9996   | 0.7679  | 1            | 1  | 77.20    | 0 |      |
| -10 | -1 | 4  | 20.5262 | 18.6078 | 18.6079  | 0.0 | 1.9183  | 1.7933   | 1.0697  | 1            | 1  | 304.05   | 0 |      |
| -10 | -1 | 5  | 35.6876 | 38.8211 | 38.8211  | 0.0 | -3.1335 | 1.3787   | -2.2728 | 1            | 1  | 1245.66  | 0 |      |
| -10 | -1 | 6  | 10.9126 | 14.0827 | -14.0827 | 0.0 | -3.1701 | 3.6473   | -0.8692 | 1            | 0  | 153.12   | 0 |      |
| -10 | -1 | 7  | 8.9233  | 5.4895  | -5.4895  | 0.0 | 3.4337  | 4.6823   | 0.7333  | 1            | 0  | 21.63    | 0 |      |
| -11 | -1 | 0  | 28.4489 | 28.8041 | -28.8041 | 0.0 | -0.3551 | 1.2319   | -0.2883 | 1            | 1  | 718.69   | 0 |      |
| -11 | -1 | 1  | 40.3852 | 42.2738 | 42.2738  | 0.0 | -1.8886 | 1.3890   | -1.3596 | 1            | 1  | 1536.36  | 0 |      |
| -11 | -1 | 2  | 9.0880  | 3.8319  | 3.8319   | 0.0 | 5.2562  | 4.1244   | 1.2744  | 1            | 0  | 12.36    | 0 |      |
| -11 | -1 | 3  | 1.4994  | 4.7485  | -4.7485  | 0.0 | -3.2492 | 25.9357  | -0.1253 | 1            | 0  | 18.37    | 0 |      |
| -11 | -1 | 4  | 10.1110 | 4.4201  | -4.4201  | 0.0 | 5.6909  | 3.8632   | 1.4731  | 1            | 0  | 15.24    | 0 |      |
| 1   | H  | K  | L       | Y(OBS)  | Y(CALC)  | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL       | Q | EXTI |
| -11 | -1 | 5  | 57.6346 | 59.4583 | 59.4583  | 0.0 | -1.8237 | 1.5288   | -1.1228 | 1            | 1  | 1046.90  | 0 |      |





|    |    |    |          |          |           |     |          |          |          |              |    |          |   |      |
|----|----|----|----------|----------|-----------|-----|----------|----------|----------|--------------|----|----------|---|------|
| 5  | -2 | 10 | 10.7966  | 0.0877   | -0.0877   | 0.0 | 10.7088  | 3.5611   | 3.0072   | 1            | 1  | 0.01     | 1 |      |
| 4  | -2 | 1  | 10.9193  | 9.3493   | -9.3493   | 0.0 | 1.5700   | 1.3397   | 1.1719   | 1            | 1  | 228.65   | 0 |      |
| 4  | -2 | 2  | 70.7864  | 69.2964  | 69.2964   | 0.0 | 1.4900   | 1.6418   | 0.9075   | 1            | 1  | 11557.23 | 0 |      |
| 4  | -2 | 3  | 97.8246  | 94.7870  | -94.7870  | 0.0 | 3.0375   | 2.2307   | 1.3617   | 1            | 1  | 19204.75 | 0 |      |
| 4  | -2 | 4  | 44.5147  | 47.2073  | -47.2073  | 0.0 | -2.6926  | 1.2356   | -2.1792  | 1            | 1  | 4154.99  | 0 |      |
| 4  | -2 | 5  | 44.0508  | 43.3651  | -43.3651  | 0.0 | 0.6857   | 1.1414   | 0.6008   | 1            | 1  | 3037.62  | 0 |      |
| 4  | -2 | 7  | 26.9009  | 28.0327  | -28.0327  | 0.0 | -1.1317  | 1.1688   | -0.9683  | 1            | 1  | 953.42   | 0 |      |
| 4  | -2 | 8  | 53.1409  | 54.2580  | -54.2580  | 0.0 | -1.1171  | 1.3654   | -0.8181  | 1            | 1  | 3109.90  | 0 |      |
| 4  | -2 | 9  | 33.6485  | 34.3590  | 34.3590   | 0.0 | -0.7105  | 1.2968   | -0.5479  | 1            | 1  | 1090.71  | 0 |      |
| 4  | -2 | 10 | 4.6875   | 3.9217   | 3.9217    | 0.0 | 0.7658   | 8.3895   | 0.0913   | 1            | 0  | 12.50    | 1 |      |
| 3  | -2 | 1  | 6.7902   | 7.6240   | 7.6240    | 0.0 | -0.8338  | 1.7485   | -0.4769  | 1            | 1  | 189.91   | 0 |      |
| 3  | -2 | 2  | 82.4969  | 79.5378  | -79.5378  | 0.0 | 2.9591   | 1.8874   | 1.5678   | 1            | 1  | 18365.98 | 0 |      |
| 3  | -2 | 3  | 100.4525 | 97.6652  | -97.6652  | 0.0 | 2.7873   | 2.2853   | 1.2197   | 1            | 1  | 23683.69 | 0 |      |
| 3  | -2 | 4  | 69.0598  | 69.4752  | 69.4752   | 0.0 | -0.4153  | 1.5997   | -0.2596  | 1            | 1  | 10128.74 | 0 |      |
| 3  | -2 | 5  | 15.1331  | 12.9057  | -12.9057  | 0.0 | 2.2275   | 1.2944   | 1.7208   | 1            | 1  | 295.63   | 0 |      |
| 3  | -2 | 6  | 110.0240 | 110.4801 | -110.4801 | 0.0 | -0.4561  | 2.5059   | -0.1820  | 1            | 1  | 18427.03 | 0 |      |
| 3  | -2 | 7  | 42.2824  | 42.3764  | -42.3764  | 0.0 | -0.0939  | 1.1568   | -0.3912  | 1            | 1  | 2321.36  | 0 |      |
| 3  | -2 | 8  | 13.6570  | 13.0914  | 13.0914   | 0.0 | 0.5657   | 2.0568   | 0.2750   | 1            | 1  | 190.97   | 0 |      |
| 3  | -2 | 9  | 28.8996  | 27.8911  | 27.8911   | 0.0 | 1.3086   | 1.2382   | 0.7830   | 1            | 1  | 752.12   | 0 |      |
| 3  | -2 | 10 | 69.7421  | 68.4220  | -68.4221  | 0.0 | 1.3201   | 1.6850   | 0.7834   | 1            | 1  | 3954.41  | 0 |      |
| 3  | -2 | 11 | 8.9977   | 5.0906   | -5.0906   | 0.0 | 3.9071   | 4.4005   | 0.8879   | 1            | 0  | 19.28    | 0 |      |
| 2  | -2 | 1  | 7.7641   | 8.4290   | 8.4290    | 0.0 | -0.6649  | 1.2796   | -0.5196  | 1            | 1  | 294.44   | 0 |      |
| 2  | -2 | 2  | 73.9018  | 74.8330  | -74.8330  | 0.0 | -1.8312  | 1.6825   | -1.0884  | 1            | 1  | 19535.80 | 0 |      |
| 2  | -2 | 3  | 95.1273  | 92.1145  | -92.1145  | 0.0 | 3.0129   | 2.1638   | 1.3924   | 1            | 1  | 24105.80 | 0 |      |
| 2  | -2 | 4  | 19.2879  | 13.3188  | -13.3188  | 0.0 | 5.9691   | 1.3598   | 4.3897   | 1            | 1  | 411.20   | 0 |      |
| 2  | -2 | 5  | 16.0742  | 12.2321  | -12.2321  | 0.0 | 3.8421   | 1.1120   | 3.4551   | 1            | 1  | 286.48   | 0 |      |
| 2  | -2 | 6  | 25.1473  | 40.6338  | 40.6338   | 0.0 | -15.4865 | 1.4582   | -10.6199 | 1            | 0  | 2645.69  | 0 |      |
| 2  | -2 | 7  | 36.5928  | 37.1228  | -37.1229  | 0.0 | -0.5301  | 1.0849   | -0.4886  | 1            | 1  | 1869.58  | 0 |      |
| 2  | -2 | 8  | 38.5386  | 40.0292  | 40.0292   | 0.0 | -1.4906  | 1.1975   | -1.2447  | 1            | 1  | 1858.43  | 0 |      |
| 2  | -2 | 9  | 32.0166  | 31.4440  | 31.4440   | 0.0 | 0.5726   | 1.2135   | 0.4718   | 1            | 1  | 998.76   | 0 |      |
| 2  | -2 | 10 | 16.8452  | 19.1322  | 19.1322   | 0.0 | -2.2869  | 2.1109   | -1.0834  | 1            | 1  | 318.17   | 0 |      |
| 1  | -2 | 1  | 88.0103  | 94.9458  | -94.9458  | 0.0 | -6.9355  | 2.0109   | -3.4490  | 1            | 1  | 46387.91 | 0 |      |
| 1  | -2 | 2  | 72.7376  | 76.6261  | -76.6262  | 0.0 | -3.8885  | 1.6676   | -2.3319  | 1            | 1  | 23746.35 | 0 |      |
| 1  | -2 | 3  | 129.2275 | 122.2533 | 122.2534  | 0.0 | 6.9742   | 2.9226   | 2.3863   | 1            | 1  | 46835.21 | 0 |      |
| 1  | -2 | 4  | 77.7001  | 77.4473  | 77.4472   | 0.0 | 0.2528   | 1.7770   | 0.1423   | 1            | 1  | 14878.93 | 0 |      |
| 1  | -2 | 5  | 52.1030  | 53.8597  | -53.8597  | 0.0 | -1.7567  | 1.2398   | -1.4169  | 1            | 1  | 5825.53  | 0 |      |
| 1  | -2 | 6  | 15.0878  | 12.0873  | 12.0873   | 0.0 | 3.0005   | 1.2515   | 2.3976   | 1            | 1  | 243.13   | 0 |      |
| 1  | -2 | 7  | 58.9077  | 60.3371  | 60.3371   | 0.0 | -1.4294  | 1.4067   | -1.0161  | 1            | 1  | 5089.68  | 0 |      |
| 1  | -2 | 8  | 77.1771  | 77.2825  | 77.2825   | 0.0 | -0.1054  | 1.7929   | -0.0588  | 1            | 1  | 7099.88  | 0 |      |
| 1  | -2 | 9  | 44.7141  | 44.0587  | -44.0587  | 0.0 | 0.6554   | 1.2309   | 0.5325   | 1            | 1  | 1931.58  | 0 |      |
| 1  | -2 | 11 | 24.8337  | 22.9796  | 22.9796   | 0.0 | 1.8540   | 1.6056   | 1.1548   | 1            | 1  | 408.35   | 0 |      |
| 0  | -2 | 0  | 18.2076  | 22.8936  | 22.8936   | 0.0 | -4.6861  | 0.6311   | -7.4257  | 1            | 1  | 3415.76  | 0 |      |
| 0  | -2 | 1  | 12.8957  | 14.2860  | -14.2860  | 0.0 | -1.3903  | 0.6868   | -2.0245  | 1            | 1  | 1156.79  | 0 |      |
| 0  | -2 | 2  | 72.0293  | 76.2625  | -76.2625  | 0.0 | -4.2332  | 1.6581   | -2.5530  | 1            | 1  | 24942.56 | 0 |      |
| 0  | -2 | 3  | 7.4902   | 9.0733   | -9.0733   | 0.0 | -1.5831  | 1.3401   | -1.1813  | 1            | 1  | 267.39   | 0 |      |
| 0  | -2 | 4  | 64.2931  | 64.1918  | 64.1918   | 0.0 | 0.1014   | 1.4811   | 0.0684   | 1            | 1  | 10464.96 | 0 |      |
| 0  | -2 | 5  | 20.6167  | 18.6200  | -18.6201  | 0.0 | 1.9967   | 0.8679   | 2.3007   | 1            | 1  | 709.12   | 0 |      |
| 0  | -2 | 7  | 6.3096   | 0.9819   | 0.9819    | 0.0 | 5.3277   | 3.1405   | 1.6965   | 1            | 0  | 1.36     | 1 |      |
| 0  | -2 | 8  | 58.8615  | 59.5176  | 59.5176   | 0.0 | -0.6561  | 1.4194   | -0.4622  | 1            | 1  | 4243.90  | 0 |      |
| 0  | -2 | 9  | 4.8200   | 3.7360   | 3.7360    | 0.0 | 1.0840   | 5.5526   | 0.1952   | 1            | 0  | 14.34    | 1 |      |
| 0  | -2 | 10 | 10.3231  | 5.9573   | -5.9573   | 0.0 | 4.3658   | 3.0449   | 1.4338   | 1            | 1  | 31.56    | 0 |      |
| 0  | -2 | 11 | 19.2764  | 17.9785  | 17.9785   | 0.0 | 1.2980   | 1.9285   | 0.6730   | 1            | 1  | 251.07   | 0 |      |
| -1 | -2 | 0  | 21.9221  | 16.1994  | 16.1994   | 0.0 | 5.7228   | 0.5855   | 9.7744   | 1            | 1  | 1510.21  | 0 |      |
| -1 | -2 | 1  | 114.7293 | 119.3803 | -119.3804 | 0.0 | -4.6510  | 2.6066   | -1.7843  | 1            | 1  | 73174.50 | 0 |      |
| -1 | -2 | 2  | 79.3479  | 84.4162  | 84.4162   | 0.0 | -5.0683  | 1.8160   | -2.7909  | 1            | 1  | 28738.96 | 0 |      |
| 1  | H  | K  | L        | Y(OBS)   | Y(CALC)   | A   | B        | OBS-CALC | SIG(O)   | (O-C)/SIG(O) | IQ | IL       | Q | EYTI |
| -1 | -2 | 3  | 108.9509 | 105.4241 | 105.4241  | 0.0 | 3.5268   | 3.6716   | 1.1452   | 1            | 1  | 108.9509 | 0 |      |

|    |    |    |          |          |           |     |         |          |         |              |    |          |   |    |
|----|----|----|----------|----------|-----------|-----|---------|----------|---------|--------------|----|----------|---|----|
| -1 | -2 | 3  | 108.9509 | 105.4241 | 105.4241  | 0.0 | 3.5268  | 2.4716   | 1.4269  | 1            | 1  | 34735.16 | 0 |    |
| -1 | -2 | 4  | 60.0439  | 60.1712  | -60.1712  | 0.0 | -0.1274 | 1.3924   | -0.0915 | 1            | 1  | 8959.73  | 0 |    |
| -1 | -2 | 5  | 77.1270  | 77.2722  | -77.2722  | 0.0 | -0.1452 | 1.7694   | -0.0821 | 1            | 1  | 11985.65 | 0 |    |
| -1 | -2 | 6  | 33.8687  | 32.4495  | -32.4495  | 0.0 | 1.4193  | 0.9767   | 1.4532  | 1            | 1  | 1748.83  | 0 |    |
| -1 | -2 | 7  | 65.6627  | 64.7148  | 64.7148   | 0.0 | 0.9479  | 1.5415   | 0.6149  | 1            | 1  | 5844.38  | 0 |    |
| -1 | -2 | 8  | 91.4998  | 91.1826  | -91.1826  | 0.0 | 0.3172  | 2.1011   | 0.1510  | 1            | 1  | 9866.70  | 0 |    |
| -1 | -2 | 9  | 31.3489  | 32.1120  | -32.1121  | 0.0 | -0.7632 | 1.1972   | -0.6375 | 1            | 1  | 1050.96  | 0 |    |
| -1 | -2 | 10 | 19.0075  | 18.6502  | -18.6502  | 0.0 | 0.3573  | 1.7430   | 0.2050  | 1            | 1  | 307.18   | 0 |    |
| -1 | -2 | 11 | 51.4247  | 50.4724  | 50.4724   | 0.0 | 0.9523  | 1.4147   | 0.6731  | 1            | 1  | 1967.17  | 0 |    |
| -2 | -2 | 0  | 146.3666 | 136.6352 | -136.6353 | 0.0 | 9.7314  | 3.3056   | 2.9439  | 1            | 1  | 83057.19 | 0 |    |
| -2 | -2 | 1  | 10.4977  | 14.7712  | -14.7712  | 0.0 | -4.2736 | 1.0733   | -3.9817 | 1            | 1  | 901.57   | 0 |    |
| -2 | -2 | 2  | 74.4375  | 78.9214  | -78.9214  | 0.0 | -4.4840 | 1.7250   | -2.5994 | 1            | 1  | 21635.42 | 0 |    |
| -2 | -2 | 3  | 91.6290  | 92.3874  | 92.3875   | 0.0 | -0.7584 | 2.0921   | -0.3625 | 1            | 1  | 24139.79 | 0 |    |
| -2 | -2 | 4  | 21.7774  | 10.0714  | -10.0714  | 0.0 | 11.7060 | 1.2480   | 9.3797  | 1            | 1  | 234.12   | 0 |    |
| -2 | -2 | 5  | 16.1515  | 13.3592  | 13.3592   | 0.0 | 2.7923  | 1.1668   | 2.3930  | 1            | 1  | 340.34   | 0 |    |
| -2 | -2 | 6  | 48.2875  | 48.2411  | 48.2411   | 0.0 | 0.0464  | 1.2947   | 0.0358  | 1            | 1  | 3715.15  | 0 |    |
| -2 | -2 | 7  | 43.4738  | 44.0349  | 44.0349   | 0.0 | -0.5611 | 1.1653   | -0.4815 | 1            | 1  | 2621.40  | 0 |    |
| -2 | -2 | 8  | 53.5829  | 55.5163  | 55.5163   | 0.0 | -1.9334 | 1.3902   | -1.3907 | 1            | 1  | 3562.85  | 0 |    |
| -2 | -2 | 9  | 25.6679  | 25.0936  | -25.0936  | 0.0 | 0.5742  | 1.3397   | 0.4286  | 1            | 1  | 627.74   | 0 |    |
| -2 | -2 | 10 | 20.7167  | 24.1042  | 24.1042   | 0.0 | -3.3875 | 1.8058   | -1.8759 | 1            | 1  | 503.54   | 0 |    |
| -2 | -2 | 11 | 6.4017   | 5.0945   | 5.0945    | 0.0 | 1.3072  | 6.1108   | 0.2139  | 1            | 0  | 19.72    | 0 |    |
| -3 | -2 | 0  | 110.6615 | 116.6100 | -116.6101 | 0.0 | -5.9485 | 2.5068   | -2.3730 | 1            | 1  | 46449.98 | 0 |    |
| -3 | -2 | 1  | 20.7009  | 22.6548  | 22.6548   | 0.0 | -1.9539 | 0.8110   | -2.4094 | 1            | 1  | 1672.09  | 0 |    |
| -3 | -2 | 2  | 77.7141  | 76.3019  | 76.3019   | 0.0 | 1.4122  | 1.7865   | 0.7905  | 1            | 1  | 16823.12 | 0 |    |
| -3 | -2 | 3  | 99.1843  | 95.3802  | -95.3801  | 0.0 | 3.8041  | 2.2585   | 1.6844  | 1            | 1  | 22466.80 | 0 |    |
| -3 | -2 | 4  | 46.2040  | 47.2505  | -47.2505  | 0.0 | -1.0465 | 1.1350   | -0.9221 | 1            | 1  | 4659.25  | 0 |    |
| -3 | -2 | 5  | 19.0896  | 17.9077  | -17.9077  | 0.0 | 1.1819  | 1.1381   | 1.0385  | 1            | 1  | 566.15   | 0 |    |
| -3 | -2 | 6  | 89.5156  | 89.8967  | 89.8967   | 0.0 | -0.3811 | 2.0560   | -0.1854 | 1            | 1  | 12137.54 | 0 |    |
| -3 | -2 | 7  | 52.3969  | 51.8689  | -51.8689  | 0.0 | 0.5280  | 1.3115   | 0.4026  | 1            | 1  | 3460.68  | 0 |    |
| -3 | -2 | 8  | 8.7259   | 4.6974   | -4.6974   | 0.0 | 4.0284  | 3.2045   | 1.2571  | 1            | 0  | 24.47    | 0 |    |
| -3 | -2 | 9  | 26.0771  | 26.9302  | 26.9302   | 0.0 | -0.8531 | 1.3943   | -0.6118 | 1            | 1  | 698.03   | 0 |    |
| -3 | -2 | 10 | 43.4326  | 43.9711  | 43.9712   | 0.0 | -0.5386 | 1.3358   | -0.4032 | 1            | 1  | 1626.18  | 0 |    |
| -3 | -2 | 11 | 6.3475   | 2.7201   | -2.7201   | 0.0 | 3.6275  | 6.2981   | 0.5760  | 1            | 0  | 5.48     | 0 |    |
| -4 | -2 | 0  | 7.4226   | 1.9303   | 1.9303    | 0.0 | 5.4923  | 1.4271   | 3.8487  | 1            | 1  | 10.04    | 0 |    |
| -4 | -2 | 1  | 8.5546   | 3.9387   | 3.9387    | 0.0 | 4.6159  | 1.7026   | 2.7095  | 1            | 1  | 40.47    | 0 |    |
| -4 | -2 | 2  | 88.9978  | 85.7008  | 85.3908   | 0.0 | 3.6071  | 2.0406   | 1.7677  | 1            | 1  | 17469.18 | 0 |    |
| -4 | -2 | 3  | 90.6337  | 88.9684  | 88.9685   | 0.0 | 1.6652  | 2.0727   | 0.8034  | 1            | 1  | 16823.67 | 0 |    |
| -4 | -2 | 4  | 33.5282  | 30.9741  | -30.9741  | 0.0 | 2.5541  | 1.1124   | 2.2961  | 1            | 1  | 1777.77  | 0 |    |
| -4 | -2 | 5  | 30.6314  | 30.1933  | 30.1933   | 0.0 | 0.4381  | 1.0225   | 0.4284  | 1            | 1  | 1463.35  | 0 |    |
| -4 | -2 | 6  | 16.0758  | 21.6803  | 21.6803   | 0.0 | -5.6045 | 1.8885   | -2.9677 | 1            | 1  | 653.22   | 0 |    |
| -4 | -2 | 7  | 28.0211  | 29.2651  | 29.2651   | 0.0 | -1.2440 | 1.1789   | -1.0552 | 1            | 1  | 1032.78  | 0 |    |
| -4 | -2 | 8  | 42.0049  | 44.5961  | -44.5961  | 0.0 | -2.5912 | 1.2628   | -2.0520 | 1            | 1  | 2088.53  | 0 |    |
| -4 | -2 | 9  | 29.2100  | 28.7881  | -28.7881  | 0.0 | 0.4219  | 1.3295   | 0.3174  | 1            | 1  | 761.34   | 0 |    |
| -4 | -2 | 10 | 9.8286   | 10.1932  | 10.1932   | 0.0 | -0.3646 | 4.2596   | -0.0856 | 1            | 0  | 83.97    | 0 |    |
| -5 | -2 | 0  | 18.9086  | 18.8546  | 18.8546   | 0.0 | 0.0540  | 0.8317   | 0.0649  | 1            | 1  | 776.45   | 0 |    |
| -5 | -2 | 1  | 49.5130  | 50.4383  | 50.4383   | 0.0 | -0.9253 | 1.2183   | -0.7595 | 1            | 1  | 5428.12  | 0 |    |
| -5 | -2 | 2  | 9.5355   | 4.8711   | -4.8711   | 0.0 | 4.6644  | 1.8684   | 2.4964  | 1            | 1  | 47.52    | 0 |    |
| -5 | -2 | 3  | 56.6055  | 59.0618  | -59.0618  | 0.0 | -2.4563 | 1.3617   | -1.8038 | 1            | 1  | 6364.75  | 0 |    |
| -5 | -2 | 4  | 27.3890  | 27.3261  | 27.3261   | 0.0 | 0.0629  | 1.0265   | 0.0613  | 1            | 1  | 1217.99  | 0 |    |
| -5 | -2 | 5  | 28.9998  | 29.0749  | 29.0749   | 0.0 | -0.0750 | 1.0814   | -0.0694 | 1            | 1  | 1219.91  | 0 |    |
| -5 | -2 | 6  | 13.3100  | 7.6296   | -7.6296   | 0.0 | 5.6804  | 1.8801   | 3.0213  | 1            | 1  | 73.97    | 0 |    |
| -5 | -2 | 7  | 43.7515  | 44.1837  | -44.1837  | 0.0 | -0.4322 | 1.2273   | -0.3522 | 1            | 1  | 2191.66  | 0 |    |
| -5 | -2 | 8  | 21.2616  | 17.2242  | 17.2242   | 0.0 | 4.0373  | 1.5325   | 2.6344  | 1            | 1  | 291.87   | 0 |    |
| -5 | -2 | 9  | 38.7373  | 38.9608  | 38.9608   | 0.0 | -0.2235 | 1.3265   | -0.1685 | 1            | 1  | 1318.22  | 0 |    |
| -5 | -2 | 10 | 9.7833   | 7.5722   | -7.5722   | 0.0 | 2.2112  | 4.0152   | 0.5507  | 1            | 0  | 44.15    | 0 |    |
| 1  | H  | K  | L        | Y(OBS)   | Y(CALC)   | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL       | Q | EW |
| -6 | -2 | 0  | 4.7184   | 5.1040   | 5.1040    | 0.0 | -0.3856 | 3.9869   | -0.0967 | 1            | 0  | 47.16    | 0 |    |



|     |    |    |          |          |           |     |         |          |         |              |    |          |      |
|-----|----|----|----------|----------|-----------|-----|---------|----------|---------|--------------|----|----------|------|
| -6  | -2 | 0  | 4.7184   | 5.1040   | 5.1040    | 0.0 | -0.3856 | 3.9869   | -0.0967 | 1            | 0  | 47.14    | 0    |
| -6  | -2 | 1  | 51.2158  | 48.6534  | 48.6534   | 0.0 | 2.5624  | 1.2814   | 1.9997  | 1            | 1  | 4207.07  | 0    |
| -6  | -2 | 2  | 36.1920  | 32.6806  | 32.6807   | 0.0 | 3.5113  | 1.2455   | 2.8191  | 1            | 1  | 1807.23  | 0    |
| -6  | -2 | 3  | 11.6024  | 11.8369  | -11.8369  | 0.0 | -0.2346 | 2.0169   | -0.1163 | 1            | 1  | 220.08   | 0    |
| -6  | -2 | 5  | 39.3102  | 39.2426  | 39.2426   | 0.0 | 0.0676  | 1.1539   | 0.3586  | 1            | 1  | 1985.38  | 0    |
| -6  | -2 | 6  | 19.7650  | 20.8960  | 20.8960   | 0.0 | -1.1310 | 1.6184   | -0.6988 | 1            | 1  | 503.33   | 0    |
| -6  | -2 | 7  | 21.9805  | 21.4014  | -21.4014  | 0.0 | 0.5791  | 1.5291   | 0.3787  | 1            | 1  | 470.39   | 0    |
| -6  | -2 | 10 | 15.9426  | 12.7514  | 12.7514   | 0.0 | 3.1912  | 3.0965   | 1.0306  | 1            | 1  | 118.50   | 0    |
| -7  | -2 | 0  | 35.0657  | 30.7224  | -30.7224  | 0.0 | 4.3433  | 0.9934   | 4.3723  | 1            | 1  | 1438.36  | 0    |
| -7  | -2 | 2  | 154.4708 | 148.8530 | -148.8531 | 0.0 | 5.6178  | 3.5024   | 1.6040  | 1            | 1  | 31998.39 | 0    |
| -7  | -2 | 3  | 22.2342  | 20.7815  | 20.7815   | 0.0 | 1.4527  | 1.2945   | 1.1222  | 1            | 1  | 596.77   | 0    |
| -7  | -2 | 4  | 40.6986  | 39.7605  | 39.7606   | 0.0 | 0.9381  | 1.1919   | 0.7870  | 1            | 1  | 1986.92  | 0    |
| -7  | -2 | 5  | 12.6566  | 13.8697  | -13.8697  | 0.0 | -1.2131 | 2.3481   | -0.5166 | 1            | 1  | 220.92   | 0    |
| -7  | -2 | 6  | 23.2868  | 22.1682  | -22.1683  | 0.0 | 1.1186  | 1.4534   | 0.7696  | 1            | 1  | 511.44   | 0    |
| -7  | -2 | 7  | 5.5045   | 6.3439   | 6.3439    | 0.0 | -0.8393 | 6.1320   | -0.1369 | 1            | 0  | 37.77    | 0    |
| -7  | -2 | 8  | 98.2448  | 97.5557  | 97.5557   | 0.0 | 0.6891  | 2.2765   | 0.3027  | 1            | 1  | 8036.98  | 0    |
| -7  | -2 | 9  | 15.3452  | 16.0718  | -16.0718  | 0.0 | -0.7265 | 2.6888   | -0.2702 | 1            | 1  | 196.37   | 0    |
| -8  | -2 | 0  | 62.5298  | 60.1361  | 60.1361   | 0.0 | 2.3937  | 1.4723   | 1.6258  | 1            | 1  | 4700.76  | 0    |
| -8  | -2 | 1  | 34.7089  | 35.7118  | 35.7118   | 0.0 | -1.0030 | 1.1983   | -0.8370 | 1            | 1  | 1638.30  | 0    |
| -8  | -2 | 2  | 13.4282  | 17.9680  | 17.9680   | 0.0 | -4.5398 | 2.4452   | -1.8566 | 1            | 1  | 401.42   | 0    |
| -8  | -2 | 3  | 8.8619   | 0.9140   | 0.9140    | 0.0 | 7.9479  | 3.1688   | 2.5082  | 1            | 0  | 0.99     | 0    |
| -8  | -2 | 5  | 29.4063  | 31.4518  | 31.4518   | 0.0 | -2.0455 | 1.3129   | -1.5581 | 1            | 1  | 1011.33  | 0    |
| -8  | -2 | 6  | 46.8116  | 47.2322  | -47.2322  | 0.0 | -0.4206 | 1.3723   | -0.3065 | 1            | 1  | 2091.26  | 0    |
| -8  | -2 | 7  | 17.2895  | 14.1952  | -14.1952  | 0.0 | 3.0942  | 2.0942   | 1.4775  | 1            | 1  | 172.25   | 0    |
| -8  | -2 | 8  | 29.5313  | 30.6109  | -30.6109  | 0.0 | -1.0796 | 1.5746   | -0.6856 | 1            | 1  | 728.46   | 0    |
| -9  | -2 | 0  | 35.6606  | 35.5066  | 35.5066   | 0.0 | 0.1540  | 1.0665   | 0.1444  | 1            | 1  | 1411.97  | 0    |
| -9  | -2 | 1  | 32.4512  | 32.6538  | -32.6538  | 0.0 | -0.2026 | 1.2923   | -0.1567 | 1            | 1  | 1182.33  | 0    |
| -9  | -2 | 2  | 33.0338  | 34.4841  | 34.4841   | 0.0 | -1.4503 | 1.2597   | -1.1513 | 1            | 1  | 1282.74  | 0    |
| -9  | -2 | 3  | 99.8370  | 103.0886 | 103.0886  | 0.0 | -3.2516 | 2.3041   | -1.4112 | 1            | 1  | 10975.38 | 0    |
| -9  | -2 | 4  | 3.0807   | 9.4450   | 9.4450    | 0.0 | -6.3642 | 10.7334  | -0.5929 | 1            | 0  | 87.01    | 0    |
| -9  | -2 | 5  | 10.0635  | 10.1584  | 10.1585   | 0.0 | -0.0950 | 3.4057   | -0.0279 | 1            | 0  | 94.02    | 0    |
| -9  | -2 | 7  | 58.6473  | 61.5312  | 61.5313   | 0.0 | -2.8840 | 1.5379   | -1.8752 | 1            | 1  | 2944.99  | 0    |
| -10 | -2 | 0  | 28.3481  | 30.0044  | 30.0044   | 0.0 | -1.6563 | 1.4049   | -1.1789 | 1            | 1  | 876.17   | 0    |
| -10 | -2 | 1  | 17.4330  | 20.1284  | -20.1284  | 0.0 | -2.6955 | 2.1299   | -1.2655 | 1            | 1  | 390.94   | 0    |
| -10 | -2 | 2  | 19.5952  | 19.9173  | -19.9173  | 0.0 | -0.3222 | 1.9683   | -0.1637 | 1            | 1  | 373.86   | 0    |
| -10 | -2 | 5  | 34.5333  | 36.6350  | -36.6350  | 0.0 | -2.1017 | 1.4059   | -1.4950 | 1            | 1  | 1092.68  | 0    |
| -10 | -2 | 6  | 18.6406  | 21.0111  | -21.0111  | 0.0 | -2.3705 | 2.4021   | -0.9868 | 1            | 1  | 336.16   | 0    |
| -11 | -2 | 0  | 37.4040  | 35.2253  | -35.2253  | 0.0 | 2.1786  | 1.1959   | 1.8218  | 1            | 1  | 1057.78  | 0    |
| -11 | -2 | 1  | 15.4668  | 16.1666  | -16.1666  | 0.0 | -0.6998 | 2.6612   | -0.2630 | 1            | 1  | 221.16   | 0    |
| -11 | -2 | 2  | 34.2552  | 35.7789  | 35.7790   | 0.0 | -1.5238 | 1.4542   | -1.0479 | 1            | 1  | 1061.44  | 0    |
| -11 | -2 | 3  | 17.9725  | 16.9638  | 16.9638   | 0.0 | 1.0087  | 2.2734   | 0.4437  | 1            | 1  | 231.03   | 0    |
| -11 | -2 | 4  | 37.3380  | 38.9644  | -38.9644  | 0.0 | -1.6264 | 1.4318   | -1.1359 | 1            | 1  | 1167.84  | 0    |
| -11 | -2 | 5  | 17.2000  | 19.7560  | -19.7560  | 0.0 | -2.5560 | 2.5427   | -1.0053 | 1            | 1  | 285.18   | 0    |
| -12 | -2 | 0  | 10.0110  | 5.9296   | 5.9296    | 0.0 | 4.0815  | 3.5711   | 1.1429  | 1            | 0  | 26.47    | 0    |
| -12 | -2 | 1  | 20.9585  | 23.5588  | -23.5588  | 0.0 | -2.6003 | 2.2394   | -1.1611 | 1            | 1  | 415.25   | 0    |
| -12 | -2 | 2  | 9.7624   | 13.9235  | 13.9235   | 0.0 | -4.1611 | 4.6526   | -0.8944 | 1            | 0  | 142.54   | 0    |
| 12  | -3 | 1  | 14.4860  | 7.0563   | -7.0563   | 0.0 | 7.4296  | 4.8803   | 1.5224  | 1            | 0  | 36.50    | 0    |
| 11  | -3 | 1  | 7.5952   | 6.3583   | 6.3583    | 0.0 | 1.2368  | 5.7566   | 0.2149  | 1            | 0  | 33.39    | 0    |
| 11  | -3 | 2  | 17.5557  | 13.2345  | 13.2345   | 0.0 | 4.3212  | 2.4754   | 1.7456  | 1            | 1  | 142.05   | 0    |
| 11  | -3 | 3  | 22.0938  | 22.0486  | 22.0486   | 0.0 | 0.0452  | 2.0501   | 0.0221  | 1            | 1  | 382.62   | 0    |
| 11  | -3 | 4  | 7.5622   | 10.6458  | 10.6458   | 0.0 | -3.0836 | 5.8913   | -0.5234 | 1            | 0  | 85.67    | 0    |
| 10  | -3 | 1  | 23.2757  | 22.8859  | 22.8859   | 0.0 | 0.3898  | 1.7978   | 0.2168  | 1            | 1  | 491.24   | 0    |
| 10  | -3 | 2  | 22.3498  | 22.6969  | 22.6969   | 0.0 | -0.3471 | 1.8373   | -0.1889 | 1            | 1  | 472.99   | 0    |
| 10  | -3 | 3  | 79.5811  | 79.7521  | -79.7521  | 0.0 | -0.1711 | 1.9006   | -0.0900 | 1            | 1  | 5640.03  | 0    |
| 10  | -3 | 4  | 24.6894  | 21.4058  | -21.4058  | 0.0 | 3.2835  | 1.6837   | 1.9502  | 1            | 1  | 387.76   | 0    |
| 1   | H  | K  | L        | Y(OBS)   | Y(CALC)   | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL       | EXTI |

|    |    |    |          |          |           |     |         |          |         |              |    |          |    |      |
|----|----|----|----------|----------|-----------|-----|---------|----------|---------|--------------|----|----------|----|------|
| 10 | -3 | 5  | 9.2359   | 9.4783   | 9.4783    | 0.0 | -0.2424 | 4.4706   | -0.0542 | 1            | 0  | 71.84    | 0  |      |
| 10 | -3 | 6  | 33.6720  | 33.9478  | 33.9478   | 0.0 | -0.2759 | 1.5236   | -0.1811 | 1            | 1  | 864.31   | 0  |      |
| 9  | -3 | 1  | 15.7869  | 15.0236  | 15.0236   | 0.0 | 0.7633  | 2.2180   | 0.3441  | 1            | 1  | 242.04   | 0  |      |
| 9  | -3 | 2  | 35.3870  | 34.5683  | 34.5683   | 0.0 | 0.8187  | 1.2973   | 0.6311  | 1            | 1  | 1249.94  | 0  |      |
| 9  | -3 | 3  | 31.4801  | 33.6353  | 33.6353   | 0.0 | -2.1551 | 1.4745   | -1.4616 | 1            | 1  | 1136.45  | 10 |      |
| 9  | -3 | 4  | 11.9604  | 7.4542   | 7.4542    | 0.0 | 4.5062  | 2.8737   | 1.5681  | 1            | 1  | 52.89    | 0  |      |
| 9  | -3 | 5  | 16.1947  | 14.2890  | 14.2890   | 0.0 | 1.9058  | 2.2525   | 0.8461  | 1            | 1  | 182.11   | 0  |      |
| 9  | -3 | 6  | 23.1384  | 21.9364  | -21.9364  | 0.0 | 1.2020  | 1.7687   | 0.6796  | 1            | 1  | 398.89   | 0  |      |
| 9  | -3 | 7  | 5.5715   | 7.4393   | 7.4393    | 0.0 | -1.8678 | -7.3345  | -0.2547 | 1            | 0  | 42.40    | 0  |      |
| 8  | -3 | 1  | 41.9386  | 39.8336  | 39.8336   | 0.0 | 2.1051  | 1.2633   | 1.6663  | 1            | 1  | 1958.49  | 0  |      |
| 8  | -3 | 2  | 38.6914  | 38.4639  | -38.4639  | 0.0 | 0.2275  | 1.2514   | 0.1818  | 1            | 1  | 173.22   | 0  |      |
| 8  | -3 | 3  | 34.3489  | 33.0478  | -33.0478  | 0.0 | 1.3011  | 1.2446   | 1.0454  | 1            | 1  | 1248.47  | 0  |      |
| 8  | -3 | 4  | 26.1663  | 26.8044  | 26.8044   | 0.0 | -0.6381 | 1.4109   | -0.4523 | 1            | 1  | 771.59   | 0  |      |
| 8  | -3 | 5  | 23.5527  | 19.3583  | 19.3583   | 0.0 | 4.1944  | 1.5111   | 2.7757  | 1            | 1  | 373.61   | 0  |      |
| 8  | -3 | 6  | 55.5361  | 55.7108  | -55.7108  | 0.0 | -0.1746 | 1.4614   | -0.1195 | 1            | 1  | 2847.52  | 0  |      |
| 8  | -3 | 7  | 43.0485  | 39.7798  | -39.7798  | 0.0 | 3.2688  | 1.3456   | 2.4292  | 1            | 1  | 1328.33  | 0  |      |
| 8  | -3 | 8  | 10.0281  | 6.2020   | 6.2020    | 0.0 | 3.8261  | 4.1028   | 0.9326  | 1            | 0  | 29.45    | 0  |      |
| 7  | -3 | 1  | 13.0925  | 11.4563  | -11.4563  | 0.0 | 1.6362  | 2.0452   | 0.8001  | 1            | 1  | 187.80   | 0  |      |
| 7  | -3 | 2  | 40.8402  | 40.1057  | 40.1057   | 0.0 | 0.7345  | 1.1692   | 0.6282  | 1            | 1  | 2221.72  | 0  |      |
| 7  | -3 | 3  | 11.0016  | 9.2918   | -9.2918   | 0.0 | 1.7098  | 2.4163   | 0.7076  | 1            | 1  | 112.75   | 0  |      |
| 7  | -3 | 4  | 7.4042   | 6.2196   | -6.2196   | 0.0 | 1.1846  | 3.7314   | 0.3175  | 1            | 0  | 46.97    | 0  |      |
| 7  | -3 | 5  | 26.9501  | 28.1552  | -28.1553  | 0.0 | -1.2052 | 1.2902   | -0.9341 | 1            | 1  | 883.72   | 0  |      |
| 7  | -3 | 6  | 29.4978  | 29.3682  | -29.3682  | 0.0 | 0.1296  | 1.2893   | 0.1005  | 1            | 1  | 875.18   | 0  |      |
| 7  | -3 | 7  | 3.7514   | 1.5528   | -1.5528   | 0.0 | 2.1987  | 9.0906   | 0.2419  | 1            | 0  | 2.21     | 1  |      |
| 7  | -3 | 8  | 37.3478  | 36.6456  | -36.6456  | 0.0 | 0.7022  | 1.3471   | 0.5213  | 1            | 1  | 1113.92  | 0  |      |
| 7  | -3 | 9  | 11.4147  | 8.6513   | -8.6513   | 0.0 | 2.7634  | 3.5445   | 0.7796  | 1            | 1  | 56.06    | 0  |      |
| 6  | -3 | 1  | 56.8063  | 56.1901  | -56.1901  | 0.0 | 0.6162  | 1.3833   | 0.4455  | 1            | 1  | 5279.49  | 0  |      |
| 6  | -3 | 2  | 102.2164 | 100.2590 | -100.2590 | 0.0 | 1.9574  | 2.3368   | 0.8376  | 1            | 1  | 16095.10 | 0  |      |
| 6  | -3 | 3  | 20.2725  | 12.2446  | -12.2446  | 0.0 | 8.0279  | 1.8640   | 4.3069  | 1            | 1  | 224.38   | 0  |      |
| 6  | -3 | 4  | 81.8775  | 81.7831  | 81.7831   | 0.0 | 0.0945  | 1.8987   | 0.0498  | 1            | 1  | 9186.11  | 0  |      |
| 6  | -3 | 5  | 67.8240  | 68.0259  | -68.0259  | 0.0 | -0.2019 | 1.6115   | -0.1253 | 1            | 1  | 5759.72  | 0  |      |
| 6  | -3 | 6  | 12.2949  | 7.1846   | -7.1846   | 0.0 | 5.1104  | 2.8339   | 1.8033  | 1            | 1  | 57.76    | 0  |      |
| 6  | -3 | 7  | 21.8781  | 18.7467  | 18.7467   | 0.0 | 3.1313  | 1.4990   | 2.0890  | 1            | 1  | 352.04   | 0  |      |
| 6  | -3 | 8  | 97.2955  | 95.7404  | 95.7404   | 0.0 | 1.5551  | 2.2509   | 0.6909  | 1            | 1  | 8205.86  | 0  |      |
| 5  | -3 | 1  | 36.1934  | 35.1589  | -35.1589  | 0.0 | 1.0345  | 1.0144   | 1.0198  | 1            | 1  | 2436.98  | 0  |      |
| 5  | -3 | 2  | 31.1041  | 30.2616  | 30.2616   | 0.0 | 0.8474  | 0.9742   | 0.8648  | 1            | 1  | 1709.45  | 0  |      |
| 5  | -3 | 3  | 49.1740  | 49.3704  | -49.3705  | 0.0 | -0.1964 | 1.2210   | -0.1609 | 1            | 1  | 4187.94  | 0  |      |
| 5  | -3 | 4  | 22.6219  | 22.7883  | -22.7883  | 0.0 | -0.1663 | 1.1041   | -0.1507 | 1            | 1  | 805.56   | 0  |      |
| 5  | -3 | 5  | 57.5926  | 57.9206  | -57.9206  | 0.0 | -0.3280 | 1.3961   | -0.2349 | 1            | 1  | 4643.73  | 0  |      |
| 5  | -3 | 6  | 8.8996   | 10.6253  | -10.6253  | 0.0 | -1.7257 | 2.8966   | -0.5957 | 1            | 1  | 138.58   | 0  |      |
| 5  | -3 | 7  | 7.2365   | 12.3799  | -12.3799  | 0.0 | -5.1434 | 3.9689   | -1.2959 | 1            | 0  | 166.41   | 0  |      |
| 5  | -3 | 8  | 30.3443  | 30.2959  | -30.2959  | 0.0 | 0.0484  | 1.3001   | 0.0372  | 1            | 1  | 881.50   | 0  |      |
| 5  | -3 | 9  | 6.3290   | 2.7528   | 2.7528    | 0.0 | 3.5762  | 5.5916   | 0.6500  | 1            | 0  | 6.45     | 1  |      |
| 4  | -3 | 1  | 45.3647  | 47.9948  | -47.9948  | 0.0 | -2.6302 | 1.1158   | -2.3571 | 1            | 1  | 5400.95  | 0  |      |
| 4  | -3 | 2  | 9.2002   | 10.7025  | 10.7025   | 0.0 | -1.5023 | 1.6776   | -0.8955 | 1            | 1  | 250.26   | 0  |      |
| 4  | -3 | 3  | 155.1425 | 152.1010 | 152.1012  | 0.0 | 3.0414  | 3.5081   | 0.8670  | 1            | 1  | 45585.46 | 0  |      |
| 4  | -3 | 4  | 73.0302  | 72.9948  | -72.9948  | 0.0 | 0.0354  | 1.6916   | 0.0209  | 1            | 1  | 9288.67  | 0  |      |
| 4  | -3 | 5  | 15.4380  | 9.8889   | -9.8889   | 0.0 | 5.5491  | 1.3521   | 4.1041  | 1            | 1  | 149.44   | 0  |      |
| 4  | -3 | 6  | 8.7965   | 6.3788   | 6.3788    | 0.0 | 2.4178  | 2.5651   | 0.9426  | 1            | 1  | 54.33    | 0  |      |
| 4  | -3 | 7  | 68.9083  | 68.4944  | 68.4944   | 0.0 | 0.4139  | 1.6281   | 0.2542  | 1            | 1  | 5474.22  | 0  |      |
| 4  | -3 | 8  | 40.7437  | 41.3360  | -41.3360  | 0.0 | -0.5924 | 1.2105   | -0.4893 | 1            | 1  | 1745.92  | 0  |      |
| 4  | -3 | 9  | 54.2552  | 54.9753  | -54.9753  | 0.0 | -0.7200 | 1.4108   | -0.5103 | 1            | 1  | 2713.67  | 0  |      |
| 4  | -3 | 10 | 11.2551  | 14.8499  | 14.8499   | 0.0 | -3.5948 | 3.3626   | -1.0690 | 1            | 1  | 174.85   | 0  |      |
| 3  | -3 | 1  | 27.9559  | 25.6961  | -25.6961  | 0.0 | 2.2598  | 0.8111   | 2.7862  | 1            | 1  | 1850.93  | 0  |      |
| 3  | -3 | 2  | 17.4684  | 14.8211  | -14.8211  | 0.0 | 2.6473  | 0.8455   | 3.1309  | 1            | 1  | 561.08   | 0  |      |
| 1  | H  | K  | L        | Y(OBS)   | Y(CALC)   | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IO | IL       | Q  | EXTI |
| 3  | -3 | 3  | 57.5154  | 56.6112  | -56.6112  | 0.0 | 0.9042  | 1.1384   | 0.0000  | 1            | 1  | 0.00     | 0  |      |



|    |    |    |          |          |           |     |         |          |         |              |    |           |   |     |
|----|----|----|----------|----------|-----------|-----|---------|----------|---------|--------------|----|-----------|---|-----|
| 3  | -3 | 3  | 57.5154  | 56.6112  | -56.6112  | 0.0 | 0.9042  | 1.4354   | 0.6299  | 1            | 1  | 7191.03   | 0 |     |
| 3  | -3 | 4  | 14.8371  | 16.4586  | -16.4586  | 0.0 | -1.6215 | 1.1773   | -1.3772 | 1            | 1  | 525.11    | 0 |     |
| 3  | -3 | 5  | 48.3598  | 47.4037  | -47.4037  | 0.0 | 0.9561  | 1.1934   | 0.8011  | 1            | 1  | 2745.59   | 0 |     |
| 3  | -3 | 6  | 20.8731  | 22.2195  | 22.2195   | 0.0 | -1.3464 | 1.2041   | -1.1183 | 1            | 1  | 708.38    | 0 |     |
| 3  | -3 | 8  | 7.0558   | 10.6498  | 10.6498   | 0.0 | -3.5940 | 3.8302   | -0.9262 | 1            | 0  | 121.99    | 0 |     |
| 3  | -3 | 9  | 19.9564  | 21.0956  | 21.0956   | 0.0 | -1.1392 | 1.8359   | -0.6205 | 1            | 1  | 417.51    | 0 |     |
| 3  | -3 | 10 | 14.5229  | 13.1960  | 13.1960   | 0.0 | 1.3269  | 2.4383   | 0.5442  | 1            | 1  | 143.35    | 0 |     |
| 3  | -3 | 11 | 33.0257  | 34.3912  | 34.3912   | 0.0 | -1.3655 | 1.4831   | -0.9207 | 1            | 1  | 860.77    | 0 |     |
| 2  | -3 | 1  | 32.8350  | 32.1602  | -32.1602  | 0.0 | 0.6748  | 0.8803   | 0.7665  | 1            | 1  | 3441.69   | 0 |     |
| 2  | -3 | 2  | 118.2459 | 113.6314 | 113.6315  | 0.0 | 4.6145  | 2.6785   | 1.7228  | 1            | 1  | 38031.11  | 0 |     |
| 2  | -3 | 3  | 54.6329  | 54.0597  | -54.0597  | 0.0 | 0.5733  | 1.2818   | 0.4473  | 1            | 1  | 7334.93   | 0 |     |
| 2  | -3 | 4  | 49.1686  | 51.4397  | -51.4397  | 0.0 | -2.2711 | 1.1806   | -1.9237 | 1            | 1  | 5597.14   | 0 |     |
| 2  | -3 | 5  | 38.3769  | 36.3575  | -36.3575  | 0.0 | 2.0194  | 1.0137   | 1.9921  | 1            | 1  | 2360.50   | 0 |     |
| 2  | -3 | 6  | 96.8867  | 95.8296  | 95.8296   | 0.0 | 1.0571  | 2.2126   | 0.4778  | 1            | 1  | 13929.08  | 0 |     |
| 2  | -3 | 7  | 11.6581  | 12.1962  | -12.1962  | 0.0 | -0.5381 | 1.9952   | -0.2697 | 1            | 1  | 193.00    | 0 |     |
| 2  | -3 | 8  | 24.7828  | 22.6352  | -22.6352  | 0.0 | 2.1476  | 1.2210   | 1.7589  | 1            | 1  | 572.64    | 0 |     |
| 2  | -3 | 9  | 17.6751  | 18.3877  | 18.3877   | 0.0 | -0.7126 | 1.7558   | -0.4058 | 1            | 1  | 327.71    | 0 |     |
| 2  | -3 | 10 | 57.8576  | 56.6581  | 56.6581   | 0.0 | 1.1996  | 1.4699   | 0.8161  | 1            | 1  | 2717.05   | 0 |     |
| 2  | -3 | 11 | 17.3722  | 17.3418  | 17.3419   | 0.0 | 0.0303  | 2.2864   | 0.0133  | 1            | 1  | 224.07    | 0 |     |
| 1  | -3 | 2  | 21.6918  | 23.1916  | -23.1916  | 0.0 | -1.4997 | 0.7170   | -2.0916 | 1            | 1  | 1760.40   | 0 |     |
| 1  | -3 | 3  | 16.8956  | 17.6659  | -17.6659  | 0.0 | -0.7703 | 0.7986   | -0.9645 | 1            | 1  | 846.99    | 0 |     |
| 1  | -3 | 5  | 15.7667  | 15.3107  | -15.3107  | 0.0 | 0.4560  | 1.0847   | 0.4204  | 1            | 1  | 437.64    | 0 |     |
| 1  | -3 | 6  | 39.8438  | 40.0423  | 40.0424   | 0.0 | -0.1986 | 1.0475   | -0.1896 | 1            | 1  | 2518.71   | 0 |     |
| 1  | -3 | 7  | 6.3678   | 2.1822   | -2.1822   | 0.0 | 4.1856  | 3.2657   | 1.2817  | 1            | 0  | 6.36      | 0 |     |
| 1  | -3 | 8  | 31.0966  | 30.8691  | 30.8691   | 0.0 | 0.2275  | 1.0953   | 0.2077  | 1            | 1  | 1090.41   | 0 |     |
| 1  | -3 | 9  | 9.0181   | 6.4425   | 6.4425    | 0.0 | 2.5757  | 3.0758   | 0.8374  | 1            | 0  | 41.03     | 0 |     |
| 1  | -3 | 10 | 8.8462   | 12.3739  | 12.3739   | 0.0 | -3.5277 | 3.7051   | -0.9521 | 1            | 0  | 131.79    | 0 |     |
| 1  | -3 | 11 | 17.9565  | 15.1253  | 15.1253   | 0.0 | 2.8312  | 2.0628   | 1.3725  | 1            | 1  | 172.89    | 0 |     |
| 0  | -3 | 1  | 163.4352 | 163.3154 | 163.3154  | 0.0 | 0.1198  | 3.6923   | 0.0325  | 1            | 1  | 107078.88 | 0 |     |
| 0  | -3 | 2  | 3.2044   | 0.8031   | -0.8031   | 0.0 | 2.4013  | 2.8608   | 0.8394  | 1            | 0  | 2.20      | 0 |     |
| 0  | -3 | 3  | 47.4125  | 46.7542  | -46.7542  | 0.0 | 0.6583  | 1.2401   | 0.5309  | 1            | 1  | 6099.79   | 0 |     |
| 0  | -3 | 4  | 12.0598  | 10.4258  | 10.4258   | 0.0 | 1.6340  | 1.0966   | 1.4901  | 1            | 1  | 248.61    | 0 |     |
| 0  | -3 | 5  | 158.0283 | 153.2308 | 153.2308  | 0.0 | 4.7975  | 3.5690   | 1.3442  | 1            | 1  | 44488.77  | 0 |     |
| 0  | -3 | 6  | 3.9818   | 2.4575   | -2.4575   | 0.0 | 1.5243  | 7.1603   | 0.2129  | 1            | 0  | 9.60      | 0 |     |
| 0  | -3 | 7  | 52.2147  | 52.5764  | -52.5764  | 0.0 | -0.3617 | 1.2759   | -0.2834 | 1            | 1  | 3723.83   | 0 |     |
| 0  | -3 | 8  | 2.1481   | 8.5336   | 8.5336    | 0.0 | -6.3855 | 11.3521  | -0.5625 | 1            | 0  | 83.95     | 0 |     |
| 0  | -3 | 9  | 42.7860  | 41.6223  | 41.6223   | 0.0 | 1.1637  | 1.1999   | 0.9698  | 1            | 1  | 1723.41   | 0 |     |
| 0  | -3 | 10 | 6.6312   | 3.4537   | -3.4537   | 0.0 | 3.1775  | 4.7847   | 0.6641  | 1            | 0  | 10.32     | 0 |     |
| 0  | -3 | 11 | 74.0587  | 72.1271  | -72.1271  | 0.0 | 1.9316  | 1.7722   | 1.0899  | 1            | 1  | 3948.54   | 0 |     |
| -1 | -3 | 0  | 87.9200  | 86.3159  | -86.3159  | 0.0 | 1.6041  | 1.9924   | 0.8051  | 1            | 1  | 30148.43  | 0 |     |
| -1 | -3 | 1  | 9.0805   | 8.1395   | -8.1396   | 0.0 | 0.9409  | 1.0142   | 0.9277  | 1            | 1  | 251.96    | 0 |     |
| -1 | -3 | 2  | 29.5016  | 31.8803  | -31.8803  | 0.0 | -2.3787 | 0.7987   | -2.9782 | 1            | 1  | 3320.17   | 0 |     |
| -1 | -3 | 3  | 15.8965  | 16.6169  | 16.6169   | 0.0 | -0.7204 | 0.8367   | -0.8610 | 1            | 1  | 747.82    | 0 |     |
| -1 | -3 | 4  | 9.3167   | 8.9952   | -8.9952   | 0.0 | 0.3215  | 1.4520   | 0.2214  | 1            | 1  | 181.04    | 0 |     |
| -1 | -3 | 5  | 13.5290  | 13.3312  | -13.3312  | 0.0 | 0.1978  | 1.2021   | 0.1646  | 1            | 1  | 331.15    | 0 |     |
| -1 | -3 | 6  | 39.8906  | 40.2949  | 40.2950   | 0.0 | -0.4043 | 1.0544   | -0.3835 | 1            | 1  | 2545.95   | 0 |     |
| -1 | -3 | 7  | 9.7161   | 6.5880   | 6.5880    | 0.0 | 3.1282  | 2.1340   | 1.4658  | 1            | 1  | 57.84     | 0 |     |
| -1 | -3 | 8  | 33.8512  | 33.5408  | 33.5408   | 0.0 | 0.3104  | 1.0970   | 0.2829  | 1            | 1  | 1285.24   | 0 |     |
| -1 | -3 | 9  | 10.4917  | 10.3496  | -10.3496  | 0.0 | 0.1421  | 2.6925   | 0.0528  | 1            | 1  | 105.74    | 0 |     |
| -1 | -3 | 10 | 15.5702  | 17.6686  | 17.6686   | 0.0 | -2.0984 | 2.1588   | -0.9720 | 1            | 1  | 268.32    | 0 |     |
| -1 | -3 | 11 | 11.3959  | 10.3997  | 10.3998   | 0.0 | 0.9961  | 3.2383   | 0.3076  | 1            | 1  | 81.62     | 0 |     |
| -2 | -3 | 0  | 45.1639  | 53.9704  | 53.9704   | 0.0 | -8.8065 | 1.0514   | -8.3758 | 1            | 1  | 10154.80  | 0 |     |
| -2 | -3 | 1  | 12.7323  | 9.8611   | -9.8612   | 0.0 | 2.8712  | 0.9461   | 3.0348  | 1            | 1  | 322.95    | 0 |     |
| -2 | -3 | 2  | 120.7762 | 119.7201 | -119.7202 | 0.0 | 1.0560  | 2.7386   | 0.3856  | 1            | 1  | 42081.05  | 0 |     |
| -2 | -3 | 3  | 42.1217  | 43.1879  | -43.1879  | 0.0 | -1.0662 | 1.0401   | -1.0251 | 1            | 1  | 4664.24   | 0 |     |
| 1  | H  | K  | L        | Y(OBS)   | Y(CALC)   | A   | B       | OBS-CALC | SIG(O)  | (J-C)/SIG(O) | IQ | IL        | 0 | EXT |
| -2 | -3 | 4  | 51.1407  | 52.3925  | 52.3925   | 0.0 | -1.2518 | 1.0100   | -1.0100 | 1            | 1  | 101.00    | 0 |     |

|    |    |    |          |          |          |     |         |          |         |              |    |             |   |      |
|----|----|----|----------|----------|----------|-----|---------|----------|---------|--------------|----|-------------|---|------|
| -2 | -3 | 4  | 51.1407  | 52.3925  | 52.3925  | 0.0 | -1.2518 | 1.2186   | -1.0273 | 1            | 1  | 5784.83     | 0 |      |
| -2 | -3 | 5  | 31.6214  | 30.0383  | -30.0383 | 0.0 | 1.5831  | 0.9421   | 1.6804  | 1            | 1  | 1605.44     | 0 |      |
| -2 | -3 | 6  | 70.6496  | 70.4035  | -70.4035 | 0.0 | 0.2462  | 1.6458   | 0.1496  | 1            | 1  | 7492.11     | 0 |      |
| -2 | -3 | 7  | 20.9685  | 21.9226  | -21.9226 | 0.0 | -0.9540 | 1.2581   | -0.7584 | 1            | 1  | 621.52      | 0 |      |
| -2 | -3 | 8  | 50.1664  | 49.0470  | 49.0470  | 0.0 | 1.1194  | 1.2880   | 0.8691  | 1            | 1  | 2680.17     | 0 |      |
| -2 | -3 | 9  | 11.2678  | 9.0677   | 9.0677   | 0.0 | 2.2001  | 2.6904   | 0.8178  | 1            | 1  | 79.45       | 0 |      |
| -2 | -3 | 10 | 44.7932  | 42.4389  | -42.4389 | 0.0 | 2.3543  | 1.3394   | 1.7981  | 1            | 1  | 1520.06     | 0 |      |
| -2 | -3 | 11 | 1.6003   | 3.9743   | 3.9743   | 0.0 | -2.3740 | 24.3741  | -0.0974 | 1            | 0  | 11.74       | 0 |      |
| -3 | -3 | 0  | 71.0121  | 65.7973  | -65.7973 | 0.0 | 5.2148  | 1.7017   | 3.0644  | 1            | 1  | 12552.70    | 0 |      |
| -3 | -3 | 1  | 25.6247  | 23.8529  | 23.8530  | 0.0 | 1.7717  | 0.8210   | 2.1581  | 1            | 1  | 1591.40     | 0 |      |
| -3 | -3 | 2  | 11.5904  | 11.2998  | -11.2998 | 0.0 | 0.2906  | 1.2119   | 0.2398  | 1            | 1  | 324.91      | 0 |      |
| -3 | -3 | 3  | 71.5530  | 66.5614  | 66.5615  | 0.0 | 4.9916  | 1.7030   | 2.9310  | 1            | 1  | 9895.49     | 0 |      |
| -3 | -3 | 4  | 12.3319  | 11.2333  | -11.2333 | 0.0 | 1.0986  | 1.3985   | 0.7855  | 1            | 1  | 243.42      | 0 |      |
| -3 | -3 | 5  | 37.7449  | 35.7205  | 35.7205  | 0.0 | 2.0244  | 1.0287   | 1.9679  | 1            | 1  | 2116.38     | 0 |      |
| -3 | -3 | 6  | 36.6166  | 36.5884  | 36.5884  | 0.0 | 0.0282  | 1.0745   | 0.0262  | 1            | 1  | 1911.55     | 0 |      |
| -3 | -3 | 7  | 22.7279  | 20.6828  | 20.6828  | 0.0 | 2.0451  | 1.2149   | 1.6833  | 1            | 1  | 527.73      | 0 |      |
| -3 | -3 | 8  | 21.2879  | 21.5358  | 21.5358  | 0.0 | -0.2479 | 1.4229   | -0.1742 | 1            | 1  | 496.59      | 0 |      |
| -3 | -3 | 9  | 15.0891  | 20.6211  | -20.6211 | 0.0 | -5.5320 | 2.5874   | -2.1381 | 1            | 1  | 397.21      | 0 |      |
| -3 | -3 | 10 | 17.9818  | 19.6254  | 19.6254  | 0.0 | -1.6436 | 2.0868   | -0.7876 | 1            | 1  | 315.76      | 0 |      |
| -3 | -3 | 11 | 12.5617  | 10.0062  | -10.0062 | 0.0 | 2.5555  | 3.2047   | 0.7974  | 1            | 1  | 72.59       | 0 |      |
| -4 | -3 | 0  | 89.4560  | 83.9269  | 83.9269  | 0.0 | 5.5291  | 2.0293   | 2.7246  | 1            | 1  | 16927.28    | 0 |      |
| -4 | -3 | 1  | 57.6855  | 57.8255  | -57.8255 | 0.0 | -0.1400 | 1.3626   | -0.1027 | 1            | 1  | 7822.90     | 0 |      |
| -4 | -3 | 2  | 21.2132  | 20.4657  | -20.4657 | 0.0 | 0.7475  | 0.9271   | 0.8062  | 1            | 1  | 911.55 (12) | 0 |      |
| -4 | -3 | 3  | 178.4768 | 167.6080 | 167.6081 | 0.0 | 10.8689 | 4.0315   | 2.6960  | 1            | 1  | 55077.54    | 0 |      |
| -4 | -3 | 4  | 56.7303  | 57.3136  | 57.3136  | 0.0 | -0.5833 | 1.3584   | -0.4294 | 1            | 1  | 5694.52     | 0 |      |
| -4 | -3 | 5  | 12.3026  | 3.5719   | 3.5719   | 0.0 | 8.7307  | 1.7465   | 4.9988  | 1            | 1  | 19.38       | 0 |      |
| -4 | -3 | 6  | 25.0706  | 25.8398  | -25.8398 | 0.0 | -0.7692 | 1.1612   | -0.6624 | 1            | 1  | 886.30      | 0 |      |
| -4 | -3 | 7  | 86.9534  | 87.3599  | 87.3599  | 0.0 | -0.4065 | 2.0113   | -0.2021 | 1            | 1  | 8853.34     | 0 |      |
| -4 | -3 | 8  | 29.7613  | 30.1408  | 30.1408  | 0.0 | -0.3795 | 1.2389   | -0.3063 | 1            | 1  | 923.00      | 0 |      |
| -4 | -3 | 9  | 72.9344  | 72.0255  | -72.0255 | 0.0 | 0.9089  | 1.7478   | 0.5200  | 1            | 1  | 4632.31     | 0 |      |
| -4 | -3 | 10 | 17.2347  | 14.0525  | -14.0525 | 0.0 | 3.1822  | 2.2159   | 1.4361  | 1            | 1  | 155.75      | 0 |      |
| -5 | -3 | 1  | 28.7147  | 26.5744  | 26.5744  | 0.0 | 2.1402  | 0.9845   | 2.1738  | 1            | 1  | 1389.31     | 0 |      |
| -5 | -3 | 2  | 30.2722  | 31.2152  | 31.2152  | 0.0 | -0.9430 | 1.0143   | -0.9297 | 1            | 1  | 1811.87     | 0 |      |
| -5 | -3 | 3  | 46.4600  | 46.5047  | 46.5047  | 0.0 | -0.0445 | 1.1815   | -0.0378 | 1            | 1  | 3696.83     | 0 |      |
| -5 | -3 | 4  | 13.9609  | 17.5392  | -17.5392 | 0.0 | -3.5783 | 1.6656   | -2.1483 | 1            | 1  | 474.36      | 0 |      |
| -5 | -3 | 5  | 40.0374  | 40.2441  | 40.2441  | 0.0 | -0.2066 | 1.1291   | -0.1830 | 1            | 1  | 2227.53     | 0 |      |
| -5 | -3 | 6  | 8.3032   | 10.5625  | 10.5625  | 0.0 | -2.2593 | 3.1764   | -0.7113 | 1            | 0  | 136.05      | 0 |      |
| -5 | -3 | 7  | 12.2402  | 10.1428  | 10.1428  | 0.0 | 2.0974  | 2.3643   | 0.8871  | 1            | 1  | 110.96      | 0 |      |
| -5 | -3 | 8  | 14.5267  | 9.9667   | -9.9667  | 0.0 | 4.5600  | 2.1584   | 2.1126  | 1            | 1  | 94.77       | 0 |      |
| -5 | -3 | 9  | 11.1797  | 16.9212  | -16.9212 | 0.0 | -5.7415 | 3.3291   | -1.7246 | 1            | 1  | 242.13      | 0 |      |
| -5 | -3 | 10 | 11.6376  | 10.6166  | 10.6166  | 0.0 | 1.0210  | 3.4184   | 0.2987  | 1            | 1  | 84.83       | 0 |      |
| -6 | -3 | 0  | 20.7304  | 20.5664  | -20.5664 | 0.0 | 0.1640  | 1.0028   | 0.1636  | 1            | 1  | 717.51      | 0 |      |
| -6 | -3 | 1  | 53.3184  | 51.4457  | -51.4457 | 0.0 | 1.8727  | 1.3246   | 1.4138  | 1            | 1  | 4416.83     | 0 |      |
| -6 | -3 | 2  | 105.2090 | 102.9484 | 102.9485 | 0.0 | 2.2605  | 2.4061   | 0.9395  | 1            | 1  | 16907.04    | 0 |      |
| -6 | -3 | 3  | 11.7603  | 12.1634  | -12.1634 | 0.0 | -0.4031 | 3.7661   | -0.1070 | 1            | 1  | 220.29      | 0 |      |
| -6 | -3 | 4  | 68.6027  | 69.8125  | -69.8125 | 0.0 | -1.2098 | 1.6285   | -0.7429 | 1            | 1  | 6653.14     | 0 |      |
| -6 | -3 | 5  | 62.6164  | 64.4395  | -64.4395 | 0.0 | -1.8230 | 1.5220   | -1.1978 | 1            | 1  | 5133.71     | 0 |      |
| -6 | -3 | 6  | 10.9102  | 8.4036   | 8.4036   | 0.0 | 2.5066  | 2.9473   | 0.8505  | 1            | 1  | 78.47       | 0 |      |
| -6 | -3 | 7  | 11.3958  | 11.2315  | 11.2315  | 0.0 | 0.1643  | 2.8308   | 0.0581  | 1            | 1  | 125.44      | 0 |      |
| -6 | -3 | 8  | 87.4037  | 88.9782  | -88.9782 | 0.0 | -1.5746 | 2.0462   | -0.7695 | 1            | 1  | 7035.88     | 0 |      |
| -6 | -3 | 9  | 3.8140   | 3.4684   | -3.4684  | 0.0 | 0.3455  | 10.4398  | 0.0331  | 1            | 0  | 9.56        | 1 |      |
| -7 | -3 | 0  | 46.0975  | 45.3041  | 45.3041  | 0.0 | 0.7934  | 1.1562   | 0.6862  | 1            | 1  | 2970.83     | 0 |      |
| -7 | -3 | 1  | 25.4582  | 26.1711  | 26.1711  | 0.0 | -0.7129 | 1.3179   | -0.5409 | 1            | 1  | 978.23      | 0 |      |
| -7 | -3 | 2  | 44.3480  | 42.7870  | 42.7870  | 0.0 | 1.5609  | 1.2254   | 1.2738  | 1            | 1  | 2519.67     | 0 |      |
| -7 | -3 | 3  | 28.9904  | 28.3621  | 28.3621  | 0.0 | 0.6283  | 1.2233   | 0.5136  | 1            | 1  | 1045.22     | 0 |      |
| 1  | H  | K  | L        | Y(OBS)   | Y(CALC)  | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL          | Q | EXTI |
| -7 | -3 | 5  | 30.1457  | 29.7680  | 29.7680  | 0.0 | 0.3777  | 1.2786   | 0.2052  | 1            | 1  | 891.07      | 0 |      |



|     |    |   |         |         |          |     |         |          |         |              |    |         |   |      |
|-----|----|---|---------|---------|----------|-----|---------|----------|---------|--------------|----|---------|---|------|
| -7  | -3 | 5 | 30.1457 | 29.7680 | 29.7680  | 0.0 | 0.3777  | 1.2796   | 0.2952  | 1            | 1  | 981.07  | 0 |      |
| -7  | -3 | 6 | 14.7224 | 14.7809 | -14.7809 | 0.0 | -0.0585 | 2.2680   | -0.0258 | 1            | 1  | 220.05  | 0 |      |
| -7  | -3 | 8 | 27.6291 | 27.8757 | -27.8757 | 0.0 | -0.2465 | 1.5784   | -0.1562 | 1            | 1  | 639.55  | 0 |      |
| -7  | -3 | 9 | 14.7085 | 10.9855 | -10.9856 | 0.0 | 3.7230  | 2.8713   | 1.2966  | 1            | 1  | 89.71   | 0 |      |
| -8  | -3 | 0 | 58.2869 | 55.0785 | -55.0786 | 0.0 | 3.2084  | 1.4046   | 2.2842  | 1            | 1  | 3779.92 | 0 |      |
| -8  | -3 | 1 | 30.3235 | 28.8753 | 28.8753  | 0.0 | 1.4482  | 1.3385   | 1.0819  | 1            | 1  | 1027.31 | 0 |      |
| -8  | -3 | 2 | 37.0445 | 33.7473 | 33.7473  | 0.0 | 3.2972  | 1.2475   | 2.6431  | 1            | 1  | 1360.32 | 0 |      |
| -8  | -3 | 3 | 31.7651 | 30.6002 | -30.6002 | 0.0 | 1.1649  | 1.2998   | 0.8962  | 1            | 1  | 1065.18 | 0 |      |
| -8  | -3 | 4 | 46.5003 | 45.1274 | -45.1274 | 0.0 | 1.3729  | 1.3158   | 1.0434  | 1            | 1  | 2173.86 | 0 |      |
| -8  | -3 | 5 | 34.9441 | 33.1776 | 33.1776  | 0.0 | 1.7665  | 1.2959   | 1.3632  | 1            | 1  | 1089.85 | 0 |      |
| -8  | -3 | 6 | 32.7664 | 32.7095 | 32.7096  | 0.0 | 0.0568  | 1.3996   | 0.0406  | 1            | 1  | 974.24  | 0 |      |
| -8  | -3 | 7 | 25.4819 | 25.9716 | -25.9716 | 0.0 | -0.4898 | 1.7119   | -0.2861 | 1            | 1  | 561.75  | 0 |      |
| -8  | -3 | 8 | 32.8594 | 32.3116 | -32.3116 | 0.0 | 0.5478  | 1.5097   | 0.3628  | 1            | 1  | 793.07  | 0 |      |
| -9  | -3 | 0 | 45.1676 | 42.1299 | 42.1299  | 0.0 | 3.0377  | 1.1881   | 2.5568  | 1            | 1  | 1918.41 | 0 |      |
| -9  | -3 | 2 | 26.0113 | 23.7360 | 23.7360  | 0.0 | 2.2753  | 1.4573   | 1.5614  | 1            | 1  | 587.37  | 0 |      |
| -9  | -3 | 3 | 11.5935 | 13.1175 | -13.1175 | 0.0 | -1.5240 | 3.2986   | -0.4620 | 1            | 1  | 172.03  | 0 |      |
| -9  | -3 | 4 | 10.6818 | 7.8732  | -7.8732  | 0.0 | 2.8086  | 3.2908   | 0.8535  | 1            | 1  | 58.65   | 0 |      |
| -9  | -3 | 5 | 14.5954 | 12.9909 | -12.9909 | 0.0 | 1.6045  | 2.5287   | 0.6345  | 1            | 1  | 149.50  | 0 |      |
| -9  | -3 | 6 | 26.0246 | 25.7120 | -25.7120 | 0.0 | 0.3126  | 1.6363   | 0.1910  | 1            | 1  | 543.92  | 0 |      |
| -9  | -3 | 7 | 13.4931 | 9.9740  | -9.9740  | 0.0 | 3.5191  | 3.0985   | 1.1357  | 1            | 1  | 75.61   | 0 |      |
| -10 | -3 | 0 | 54.4452 | 52.9140 | 52.9140  | 0.0 | 1.5312  | 1.3623   | 1.1239  | 1            | 1  | 2643.57 | 0 |      |
| -10 | -3 | 1 | 25.0596 | 26.3670 | 26.3670  | 0.0 | -1.3074 | 1.7262   | -0.7574 | 1            | 1  | 650.99  | 0 |      |
| -10 | -3 | 2 | 11.3543 | 10.1062 | -10.1062 | 0.0 | 1.2481  | 3.3693   | 0.3704  | 1            | 1  | 93.48   | 0 |      |
| -10 | -3 | 3 | 81.4263 | 83.3923 | -83.3923 | 0.0 | -1.9660 | 1.9393   | -1.0138 | 1            | 1  | 6138.73 | 0 |      |
| -10 | -3 | 4 | 42.7006 | 42.7308 | 42.7308  | 0.0 | -0.0302 | 1.3725   | -0.0220 | 1            | 1  | 1536.39 | 0 |      |
| -10 | -3 | 5 | 12.3243 | 9.0029  | -9.0030  | 0.0 | 3.3214  | 3.2760   | 1.0139  | 1            | 1  | 64.39   | 0 |      |
| -10 | -3 | 6 | 27.6998 | 27.2373 | -27.2373 | 0.0 | 0.4625  | 1.7147   | 0.2697  | 1            | 1  | 552.32  | 0 |      |
| -11 | -3 | 1 | 16.4815 | 16.0949 | -16.0949 | 0.0 | 0.3866  | 2.6297   | 0.1470  | 1            | 1  | 213.62  | 0 |      |
| -11 | -3 | 2 | 5.7877  | 1.9977  | -1.9977  | 0.0 | 3.7900  | 7.2710   | 0.5212  | 1            | 0  | 3.23    | 1 |      |
| -11 | -3 | 3 | 19.1703 | 19.7161 | -19.7161 | 0.0 | -0.5458 | 2.2732   | -0.2401 | 1            | 1  | 304.64  | 0 |      |
| -11 | -3 | 4 | 14.0632 | 16.5322 | -16.5322 | 0.0 | -2.4690 | 3.1538   | -0.7829 | 1            | 1  | 205.49  | 0 |      |
| -12 | -3 | 0 | 16.9900 | 24.8917 | -24.8917 | 0.0 | -7.9017 | 2.5805   | -3.0620 | 1            | 1  | 456.30  | 0 |      |
| -12 | -3 | 1 | 18.4527 | 14.3980 | -14.3980 | 0.0 | 4.0547  | 2.5944   | 1.5629  | 1            | 1  | 151.73  | 0 |      |
| 11  | -4 | 1 | 39.0397 | 40.9322 | -40.9322 | 0.0 | -1.8925 | 1.5376   | -1.2308 | 1            | 1  | 1336.45 | 0 |      |
| 11  | -4 | 2 | 8.0260  | 5.5020  | 5.5020   | 0.0 | 2.5241  | 5.4877   | 0.4600  | 1            | 0  | 23.73   | 0 |      |
| 11  | -4 | 3 | 31.9055 | 35.0656 | -35.0656 | 0.0 | -3.1601 | 1.6345   | -1.9334 | 1            | 1  | 936.59  | 0 |      |
| 11  | -4 | 4 | 27.4178 | 28.7941 | 28.7941  | 0.0 | -1.3763 | 1.8361   | -0.7496 | 1            | 1  | 607.60  | 0 |      |
| 10  | -4 | 1 | 40.7003 | 41.1552 | -41.1552 | 0.0 | -0.4550 | 1.4236   | -0.3196 | 1            | 1  | 1525.63 | 0 |      |
| 10  | -4 | 2 | 17.2246 | 17.2773 | 17.2773  | 0.0 | -0.0528 | 2.4681   | -0.0214 | 1            | 1  | 263.47  | 0 |      |
| 10  | -4 | 3 | 8.8268  | 11.0245 | -11.0245 | 0.0 | -2.1977 | 4.5316   | -0.4850 | 1            | 0  | 103.77  | 0 |      |
| 10  | -4 | 4 | 34.5801 | 32.9074 | -32.9074 | 0.0 | 1.6727  | 1.4336   | 1.1668  | 1            | 1  | 884.13  | 0 |      |
| 10  | -4 | 5 | 38.6532 | 41.1880 | -41.1880 | 0.0 | -2.5348 | 1.4612   | -1.7347 | 1            | 1  | 1312.02 | 0 |      |
| 10  | -4 | 6 | 12.2934 | 13.3746 | 13.3746  | 0.0 | -1.0812 | 3.7052   | -0.2918 | 1            | 1  | 130.10  | 0 |      |
| 9   | -4 | 1 | 32.3159 | 32.5374 | -32.5374 | 0.0 | -0.2216 | 1.4185   | -0.1562 | 1            | 1  | 1083.13 | 0 |      |
| 9   | -4 | 2 | 21.8787 | 21.4455 | -21.4456 | 0.0 | 0.4331  | 1.7131   | 0.2528  | 1            | 1  | 459.57  | 0 |      |
| 9   | -4 | 3 | 26.2502 | 25.4408 | 25.4408  | 0.0 | 0.8094  | 1.5468   | 0.5232  | 1            | 1  | 622.37  | 0 |      |
| 9   | -4 | 4 | 12.6686 | 3.6557  | 3.6557   | 0.0 | 9.0129  | 2.8402   | 3.1734  | 1            | 1  | 12.21   | 1 |      |
| 9   | -4 | 5 | 48.0128 | 48.4453 | -48.4453 | 0.0 | -0.4325 | 1.4018   | -0.3085 | 1            | 1  | 2014.99 | 0 |      |
| 9   | -4 | 6 | 10.4376 | 10.0047 | 10.0047  | 0.0 | 0.4328  | 3.7984   | 0.1140  | 1            | 0  | 80.12   | 0 |      |
| 9   | -4 | 7 | 18.2802 | 15.9836 | 15.9836  | 0.0 | 2.2966  | 2.3511   | 0.9768  | 1            | 1  | 189.62  | 0 |      |
| 8   | -4 | 1 | 31.0632 | 29.6421 | 29.6421  | 0.0 | 1.4211  | 1.2413   | 1.1449  | 1            | 1  | 1026.27 | 0 |      |
| 8   | -4 | 2 | 11.7375 | 6.0116  | 6.0116   | 0.0 | 5.7259  | 2.6090   | 2.1946  | 1            | 1  | 41.06   | 0 |      |
| 8   | -4 | 3 | 9.3698  | 5.6943  | -5.6943  | 0.0 | 3.6754  | 3.2607   | 1.1272  | 1            | 0  | 35.24   | 0 |      |
| 8   | -4 | 4 | 14.9219 | 17.3344 | -17.3344 | 0.0 | -2.4125 | 2.5271   | -0.9547 | 1            | 1  | 307.85  | 0 |      |
| 8   | -4 | 5 | 27.0527 | 28.5157 | 28.5157  | 0.0 | -1.4630 | 1.4360   | -1.0188 | 1            | 1  | 776.31  | 0 |      |
| 1   | H  | K | L       | Y(OBS)  | Y(CALC)  | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL      | Q | EXTI |
| 8   | -4 | 6 | 44.8257 | 44.5252 | 44.5252  | 0.0 | 0.3005  | 1.4322   | 0.2098  | 1            | 1  | 1748.57 | 0 |      |

|   |    |    |         |         |          |     |          |          |         |              |    |          |   |      |
|---|----|----|---------|---------|----------|-----|----------|----------|---------|--------------|----|----------|---|------|
| 8 | -4 | 6  | 44.8257 | 44.5252 | 44.5252  | 0.0 | 0.3005   | 1.4322   | 0.2098  | 1            | 1  | 1748.57  | 0 |      |
| 8 | -4 | 7  | 5.2647  | 8.8150  | -8.8150  | 0.0 | -3.5503  | 7.3333   | -0.4841 | 1            | 0  | 62.95    | 0 |      |
| 8 | -4 | 8  | 11.4361 | 13.5218 | 13.5218  | 0.0 | -2.0857  | 3.7943   | -0.5497 | 1            | 1  | 135.65   | 0 |      |
| 7 | -4 | 1  | 18.3881 | 18.2930 | -18.2930 | 0.0 | 0.0951   | 1.5141   | 0.0628  | 1            | 1  | 448.33   | 0 |      |
| 7 | -4 | 2  | 68.7694 | 68.6451 | 68.6451  | 0.0 | 0.1243   | 1.6343   | 0.0760  | 1            | 1  | 6110.96  | 0 |      |
| 7 | -4 | 3  | 55.8654 | 56.4170 | -56.4170 | 0.0 | -0.5516  | 1.3954   | -0.3953 | 1            | 1  | 3918.44  | 0 |      |
| 7 | -4 | 4  | 48.7811 | 50.1838 | -50.1838 | 0.0 | -1.4027  | 1.2929   | -1.0849 | 1            | 1  | 2896.47  | 0 |      |
| 7 | -4 | 5  | 48.9745 | 49.9458 | -49.9458 | 0.0 | -0.9713  | 1.3087   | -0.7422 | 1            | 1  | 2647.60  | 0 |      |
| 7 | -4 | 6  | 52.1515 | 52.2318 | 52.2318  | 0.0 | -0.0803  | 1.3682   | -0.0587 | 1            | 1  | 2648.62  | 0 |      |
| 7 | -4 | 7  | 20.2098 | 22.7786 | -22.7786 | 0.0 | -2.5687  | 1.8366   | -1.3986 | 1            | 1  | 458.19   | 0 |      |
| 7 | -4 | 8  | 37.8624 | 39.2118 | -39.2118 | 0.0 | -1.3494  | 1.3699   | -0.9850 | 1            | 1  | 1231.54  | 0 |      |
| 6 | -4 | 1  | 32.1573 | 33.7508 | 33.7508  | 0.0 | -1.5935  | 1.0605   | -1.5026 | 1            | 1  | 1758.26  | 0 |      |
| 6 | -4 | 2  | 12.5963 | 11.8535 | -11.8535 | 0.0 | 0.7428   | 1.8108   | 0.4102  | 1            | 1  | 298.57   | 0 |      |
| 6 | -4 | 3  | 16.0238 | 18.8263 | -18.8263 | 0.0 | -2.8025  | 1.5637   | -1.7922 | 1            | 1  | 494.79   | 0 |      |
| 6 | -4 | 5  | 43.3734 | 44.2647 | 44.2647  | 0.0 | -0.8913  | 1.1948   | -0.7460 | 1            | 1  | 2306.52  | 0 |      |
| 6 | -4 | 6  | 9.1918  | 17.6647 | -17.6647 | 0.0 | -8.4729  | 4.0624   | -2.0857 | 1            | 0  | 332.38   | 0 |      |
| 6 | -4 | 7  | 10.3405 | 8.6240  | -8.6241  | 0.0 | 1.7164   | 3.0262   | 0.5672  | 1            | 1  | 71.33    | 0 |      |
| 6 | -4 | 9  | 26.6711 | 25.1267 | 25.1267  | 0.0 | 1.5443   | 1.5837   | 0.9751  | 1            | 1  | 488.87   | 0 |      |
| 5 | -4 | 1  | 84.4693 | 84.5530 | 84.5530  | 0.0 | -0.0837  | 1.9410   | -0.0431 | 1            | 1  | 12757.98 | 0 |      |
| 5 | -4 | 2  | 52.4078 | 52.7937 | -52.7937 | 0.0 | -0.3859  | 1.2742   | -0.3028 | 1            | 1  | 4743.04  | 0 |      |
| 5 | -4 | 3  | 18.9347 | 17.5031 | -17.5031 | 0.0 | 1.4316   | 1.1458   | 1.2494  | 1            | 1  | 484.50   | 0 |      |
| 5 | -4 | 4  | 20.3708 | 22.3287 | -22.3287 | 0.0 | -1.9579  | 1.1954   | -1.6378 | 1            | 1  | 719.14   | 0 |      |
| 5 | -4 | 5  | 64.1283 | 64.0953 | 64.0953  | 0.0 | 0.0330   | 1.5218   | 0.0217  | 1            | 1  | 5338.25  | 0 |      |
| 5 | -4 | 6  | 61.0213 | 61.2788 | 61.2788  | 0.0 | -0.2575  | 1.4725   | -0.1749 | 1            | 1  | 4363.43  | 0 |      |
| 5 | -4 | 7  | 37.2242 | 37.2954 | -37.2954 | 0.0 | -0.0712  | 1.1765   | -0.0605 | 1            | 1  | 1439.97  | 0 |      |
| 5 | -4 | 8  | 32.3578 | 33.2510 | 33.2510  | 0.0 | -0.8932  | 1.2734   | -0.7015 | 1            | 1  | 1018.66  | 0 |      |
| 5 | -4 | 9  | 24.8414 | 22.7917 | 22.7917  | 0.0 | 2.0497   | 1.5478   | 1.3242  | 1            | 1  | 426.46   | 0 |      |
| 5 | -4 | 10 | 37.6319 | 37.8405 | 37.8405  | 0.0 | -0.2085  | 1.3967   | -0.1493 | 1            | 1  | 1051.13  | 0 |      |
| 4 | -4 | 1  | 16.0181 | 15.3434 | -15.3434 | 0.0 | 0.6747   | 1.0571   | 0.6383  | 1            | 1  | 486.23   | 0 |      |
| 4 | -4 | 2  | 28.0968 | 30.3658 | -30.3658 | 0.0 | -2.2690  | 0.9169   | -2.4747 | 1            | 1  | 1796.13  | 0 |      |
| 4 | -4 | 3  | 47.2778 | 47.4351 | 47.4351  | 0.0 | -0.1572  | 1.1556   | -0.1349 | 1            | 1  | 4013.60  | 0 |      |
| 4 | -4 | 4  | 26.8466 | 40.0209 | 40.0209  | 0.0 | -13.1743 | 2.1458   | -6.1395 | 1            | 1  | 2555.95  | 0 |      |
| 4 | -4 | 5  | 6.1702  | 8.5650  | -8.5650  | 0.0 | -2.3948  | 4.8222   | -0.4966 | 1            | 0  | 104.38   | 0 |      |
| 4 | -4 | 7  | 20.6556 | 20.5489 | 20.5489  | 0.0 | 0.1067   | 1.3652   | 0.0782  | 1            | 1  | 467.86   | 0 |      |
| 4 | -4 | 8  | 24.6785 | 25.0070 | 25.0070  | 0.0 | -0.3285  | 1.4324   | -0.2293 | 1            | 1  | 611.15   | 0 |      |
| 4 | -4 | 9  | 29.1872 | 29.0555 | -29.0555 | 0.0 | 0.1317   | 1.3508   | 0.0975  | 1            | 1  | 729.43   | 0 |      |
| 4 | -4 | 10 | 25.8301 | 26.4967 | -26.4967 | 0.0 | -0.6666  | 1.6031   | -0.4158 | 1            | 1  | 538.56   | 0 |      |
| 3 | -4 | 1  | 68.7199 | 66.8380 | 66.8380  | 0.0 | 1.8819   | 1.5866   | 1.1861  | 1            | 1  | 10629.25 | 0 |      |
| 3 | -4 | 2  | 62.8508 | 64.1786 | -64.1786 | 0.0 | -1.3278  | 1.4648   | -0.9065 | 1            | 1  | 9115.77  | 0 |      |
| 3 | -4 | 3  | 48.3949 | 48.7389 | -48.7390 | 0.0 | -0.3441  | 1.1722   | -0.2935 | 1            | 1  | 4731.29  | 0 |      |
| 3 | -4 | 4  | 36.4505 | 36.7258 | 36.7258  | 0.0 | -0.2753  | 0.9971   | -0.2761 | 1            | 1  | 2372.09  | 0 |      |
| 3 | -4 | 5  | 35.3528 | 37.3045 | 37.3045  | 0.0 | -1.9517  | 1.0299   | -1.8951 | 1            | 1  | 2141.92  | 0 |      |
| 3 | -4 | 6  | 73.0206 | 73.1002 | -73.1002 | 0.0 | -0.0796  | 1.7034   | -0.0467 | 1            | 1  | 7177.23  | 0 |      |
| 3 | -4 | 7  | 34.9207 | 34.0643 | -34.0643 | 0.0 | 0.8563   | 1.1004   | 0.7782  | 1            | 1  | 1360.63  | 0 |      |
| 3 | -4 | 8  | 26.7446 | 26.7162 | 26.7162  | 0.0 | 0.0284   | 1.2743   | 0.0223  | 1            | 1  | 732.32   | 0 |      |
| 3 | -4 | 9  | 31.2083 | 30.4413 | 30.4413  | 0.0 | 0.7670   | 1.2941   | 0.5927  | 1            | 1  | 834.93   | 0 |      |
| 3 | -4 | 10 | 34.4319 | 32.8542 | -32.8542 | 0.0 | 1.5777   | 1.3533   | 1.1658  | 1            | 1  | 858.32   | 0 |      |
| 2 | -4 | 1  | 60.9173 | 60.7300 | -60.7300 | 0.0 | 0.1873   | 1.4121   | 0.1327  | 1            | 1  | 9945.46  | 0 |      |
| 2 | -4 | 2  | 62.7179 | 59.8787 | 59.8787  | 0.0 | 2.8392   | 1.4810   | 1.9171  | 1            | 1  | 8854.99  | 0 |      |
| 2 | -4 | 3  | 40.3271 | 41.8660 | 41.8660  | 0.0 | -1.5389  | 1.0389   | -1.5253 | 1            | 1  | 3825.36  | 0 |      |
| 2 | -4 | 4  | 5.8248  | 1.6654  | -1.6654  | 0.0 | 4.1594   | 3.8161   | 1.0900  | 1            | 0  | 5.26     | 1 |      |
| 2 | -4 | 5  | 56.4533 | 56.8897 | -56.8897 | 0.0 | -0.4364  | 1.3420   | -0.3252 | 1            | 1  | 5296.72  | 0 |      |
| 2 | -4 | 7  | 37.6492 | 37.9547 | 37.9547  | 0.0 | -0.3055  | 1.1006   | -0.2776 | 1            | 1  | 1762.88  | 0 |      |
| 2 | -4 | 8  | 20.3579 | 22.8296 | -22.8296 | 0.0 | -2.4717  | 1.6722   | -1.4781 | 1            | 1  | 554.51   | 0 |      |
| 2 | -4 | 9  | 29.9331 | 29.0849 | -29.0849 | 0.0 | 0.8482   | 1.2626   | 0.6718  | 1            | 1  | 786.22   | 0 |      |
| 1 | H  | K  | L       | Y(OBS)  | Y(CALC)  | A   | B        | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL       | Q | EXTI |
| 1 | -4 | 1  | 48.5567 | 51.0812 | -51.0812 | 0.0 | -2.5245  | 1.1482   | -2.1884 | 1            | 1  | 7697.60  | 0 |      |



|    |    |    |          |          |           |     |         |          |         |              |    |          |   |      |
|----|----|----|----------|----------|-----------|-----|---------|----------|---------|--------------|----|----------|---|------|
| 1  | -4 | 1  | 48.5567  | 51.0812  | -51.0812  | 0.0 | -2.5245 | 1.1483   | -2.1984 | 1            | 1  | 7697.40  | 0 |      |
| 1  | -4 | 2  | 47.2761  | 49.8496  | -49.8496  | 0.0 | -2.5735 | 1.1179   | -2.3021 | 1            | 1  | 6624.00  | 0 |      |
| 1  | -4 | 3  | 77.5368  | 77.6103  | 77.6103   | 0.0 | -0.0734 | 1.7731   | -0.0414 | 1            | 1  | 13979.98 | 0 |      |
| 1  | -4 | 4  | 49.2997  | 49.9811  | 49.9811   | 0.0 | -0.6814 | 1.1822   | -0.5764 | 1            | 1  | 4972.21  | 0 |      |
| 1  | -4 | 5  | 12.9915  | 14.3063  | -14.3063  | 0.0 | -1.3148 | 1.3463   | -0.9766 | 1            | 1  | 348.33   | 0 |      |
| 1  | -4 | 6  | 42.9998  | 41.8420  | 41.8420   | 0.0 | 1.1578  | 1.1066   | 1.0463  | 1            | 1  | 2554.30  | 0 |      |
| 1  | -4 | 7  | 45.5464  | 45.7989  | 45.7989   | 0.0 | -0.2525 | 1.1748   | -0.2149 | 1            | 1  | 2635.54  | 0 |      |
| 1  | -4 | 8  | 85.3652  | 84.9690  | 84.9690   | 0.0 | 0.3962  | 1.9719   | 0.2009  | 1            | 1  | 7853.83  | 0 |      |
| 1  | -4 | 9  | 38.1943  | 38.1855  | -38.1855  | 0.0 | 0.0088  | 1.2014   | 0.0073  | 1            | 1  | 1381.04  | 0 |      |
| 1  | -4 | 10 | 22.7644  | 24.0960  | 24.0961   | 0.0 | -1.3316 | 1.5885   | -0.8383 | 1            | 1  | 481.82   | 0 |      |
| 1  | -4 | 11 | 11.7623  | 6.2412   | 6.2412    | 0.0 | 5.5211  | 3.2036   | 1.7234  | 1            | 1  | 28.54    | 0 |      |
| 0  | -4 | 0  | 156.8648 | 151.1436 | -151.1436 | 0.0 | 5.7211  | 3.5461   | 1.6134  | 1            | 1  | 72537.81 | 0 |      |
| 0  | -4 | 2  | 27.7767  | 29.2397  | 29.2398   | 0.0 | -1.4630 | 0.7785   | -1.8792 | 1            | 1  | 2342.05  | 0 |      |
| 0  | -4 | 3  | 4.2114   | 1.5735   | 1.5735    | 0.0 | 2.6379  | 2.8144   | 0.9373  | 1            | 0  | 5.87     | 1 |      |
| 0  | -4 | 4  | 85.1488  | 82.6193  | -82.6193  | 0.0 | 2.5294  | 1.9644   | 1.2876  | 1            | 1  | 13812.87 | 0 |      |
| 0  | -4 | 5  | 9.3352   | 7.3520   | -7.3520   | 0.0 | 1.9831  | 1.7445   | 1.1368  | 1            | 1  | 93.19    | 0 |      |
| 0  | -4 | 6  | 55.3253  | 56.3804  | 56.3804   | 0.0 | -1.0552 | 1.3286   | -0.7942 | 1            | 1  | 4686.02  | 0 |      |
| 0  | -4 | 7  | 3.3894   | 6.3022   | -6.3022   | 0.0 | -2.9128 | 6.7155   | -0.4337 | 1            | 0  | 50.33    | 0 |      |
| 0  | -4 | 8  | 23.8606  | 29.2211  | -29.2211  | 0.0 | -5.3605 | 1.4393   | -3.7245 | 1            | 1  | 935.41   | 0 |      |
| 0  | -4 | 9  | 11.9994  | 12.9297  | -12.9297  | 0.0 | -0.9303 | 2.7289   | -0.3409 | 1            | 1  | 159.27   | 0 |      |
| 0  | -4 | 10 | 36.7610  | 37.7920  | 37.7920   | 0.0 | -1.0310 | 1.2896   | -0.7994 | 1            | 1  | 1191.09  | 0 |      |
| -1 | -4 | 0  | 6.9933   | 4.0487   | -4.0487   | 0.0 | 2.9445  | 1.0384   | 2.8357  | 1            | 1  | 50.22    | 0 |      |
| -1 | -4 | 1  | 38.1624  | 40.0623  | -40.0623  | 0.0 | -1.9000 | 0.9394   | -2.0225 | 1            | 1  | 4730.91  | 0 |      |
| -1 | -4 | 2  | 42.1485  | 44.9934  | 44.9934   | 0.0 | -2.8449 | 1.0160   | -2.8000 | 1            | 1  | 5388.98  | 0 |      |
| -1 | -4 | 3  | 90.8023  | 89.7629  | 89.7629   | 0.0 | 1.0393  | 2.0656   | 0.5032  | 1            | 1  | 18670.65 | 0 |      |
| -1 | -4 | 4  | 61.8362  | 61.8161  | -61.8161  | 0.0 | 0.0201  | 1.4389   | 0.0139  | 1            | 1  | 7592.82  | 0 |      |
| -1 | -4 | 5  | 15.5996  | 16.1483  | -16.1483  | 0.0 | -0.5487 | 1.1602   | -0.4730 | 1            | 1  | 443.05   | 0 |      |
| -1 | -4 | 6  | 12.4083  | 9.0844   | -9.0844   | 0.0 | 3.3239  | 1.5816   | 2.1016  | 1            | 1  | 120.21   | 0 |      |
| -1 | -4 | 7  | 53.7598  | 54.0833  | 54.0833   | 0.0 | -0.3235 | 1.3175   | -0.2455 | 1            | 1  | 3669.38  | 0 |      |
| -1 | -4 | 8  | 63.8669  | 64.6759  | -64.6759  | 0.0 | -0.8090 | 1.5288   | -0.5292 | 1            | 1  | 4543.37  | 0 |      |
| -1 | -4 | 9  | 38.3203  | 37.4521  | -37.4521  | 0.0 | 0.8682  | 1.1923   | 0.7282  | 1            | 1  | 1326.54  | 0 |      |
| -1 | -4 | 10 | 10.0471  | 5.9855   | 5.9855    | 0.0 | 4.0616  | 3.3390   | 1.2164  | 1            | 1  | 29.69    | 0 |      |
| -1 | -4 | 11 | 16.6514  | 16.3072  | 16.3073   | 0.0 | 0.3441  | 2.3522   | 0.1463  | 1            | 1  | 194.57   | 0 |      |
| -2 | -4 | 0  | 31.7139  | 31.1649  | 31.1649   | 0.0 | 0.5490  | 0.7971   | 0.6887  | 1            | 1  | 2704.07  | 0 |      |
| -2 | -4 | 1  | 65.8630  | 66.3795  | 66.3795   | 0.0 | -0.5165 | 1.5205   | -0.3397 | 1            | 1  | 11865.53 | 0 |      |
| -2 | -4 | 2  | 59.4873  | 54.9790  | 54.9790   | 0.0 | 4.5084  | 1.4280   | 3.1570  | 1            | 1  | 7447.35  | 0 |      |
| -2 | -4 | 3  | 25.8083  | 26.1246  | -26.1246  | 0.0 | -0.3164 | 0.8249   | -0.3835 | 1            | 1  | 1485.17  | 0 |      |
| -2 | -4 | 4  | 19.7903  | 11.9853  | -11.9853  | 0.0 | 7.8050  | 1.2439   | 6.2748  | 1            | 1  | 271.42   | 0 |      |
| -2 | -4 | 5  | 53.0115  | 54.4581  | 54.4581   | 0.0 | -1.4466 | 1.2790   | -1.1310 | 1            | 1  | 4838.09  | 0 |      |
| -2 | -4 | 7  | 22.7687  | 21.8461  | -21.8461  | 0.0 | 0.9225  | 1.1861   | 0.7778  | 1            | 1  | 582.24   | 0 |      |
| -2 | -4 | 8  | 21.3843  | 29.7038  | -29.7038  | 0.0 | -8.3194 | 1.6494   | -5.0439 | 1            | 1  | 935.91   | 0 |      |
| -2 | -4 | 9  | 26.3998  | 25.3345  | 25.3346   | 0.0 | 1.0652  | 1.3307   | 0.8005  | 1            | 1  | 594.82   | 0 |      |
| -2 | -4 | 10 | 6.7256   | 1.9166   | -1.9166   | 0.0 | 4.8090  | 5.8202   | 0.8263  | 1            | 0  | 2.99     | 1 |      |
| -2 | -4 | 11 | 22.3418  | 21.6313  | -21.6314  | 0.0 | 0.7105  | 1.8820   | 0.3775  | 1            | 1  | 337.32   | 0 |      |
| -3 | -4 | 0  | 105.9585 | 100.4541 | -100.4541 | 0.0 | 5.5043  | 2.3955   | 2.2978  | 1            | 1  | 24631.09 | 0 |      |
| -3 | -4 | 1  | 73.0663  | 70.8754  | 70.8755   | 0.0 | 2.1908  | 1.6818   | 1.3027  | 1            | 1  | 11932.07 | 0 |      |
| -3 | -4 | 2  | 40.2900  | 41.4835  | 41.4835   | 0.0 | -1.1935 | 1.0163   | -1.1744 | 1            | 1  | 3797.18  | 0 |      |
| -3 | -4 | 3  | 28.1172  | 27.6712  | -27.6712  | 0.0 | 0.4460  | 0.8823   | 0.5055  | 1            | 1  | 1519.23  | 0 |      |
| -3 | -4 | 4  | 57.9180  | 58.6364  | -58.6364  | 0.0 | -0.7184 | 1.3739   | -0.5229 | 1            | 1  | 6021.15  | 0 |      |
| -3 | -4 | 5  | 73.4972  | 73.6581  | 73.6581   | 0.0 | -0.1609 | 1.7052   | -0.0943 | 1            | 1  | 8313.86  | 0 |      |
| -3 | -4 | 6  | 73.7943  | 74.7845  | 74.7845   | 0.0 | -0.9902 | 1.7202   | -0.5756 | 1            | 1  | 7478.46  | 0 |      |
| -3 | -4 | 7  | 28.3157  | 29.5417  | -29.5417  | 0.0 | -1.2260 | 1.1569   | -1.0597 | 1            | 1  | 1018.83  | 0 |      |
| -3 | -4 | 8  | 7.0185   | 9.3600   | -9.3600   | 0.0 | -2.3415 | 4.0997   | -0.5711 | 1            | 0  | 89.50    | 0 |      |
| -3 | -4 | 9  | 7.9688   | 8.2615   | 8.2615    | 0.0 | -0.2927 | 4.0469   | -0.0723 | 1            | 0  | 61.24    | 0 |      |
| -3 | -4 | 10 | 51.2785  | 51.0218  | 51.0218   | 0.0 | 0.2568  | 1.4046   | 0.1828  | 1            | 1  | 2061.85  | 0 |      |
| 1  | H  | K  | L        | Y(OBS)   | Y(CALC)   | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL       | Q | EXTI |
| -4 | -4 | 0  | 49.4222  | 45.0082  | 45.0082   | 0.0 | 4.4140  | 1.4151   | 1.2289  | 1            | 1  | 49.4222  | 0 |      |

|     |    |    |          |          |          |     |          |          |         |              |    |          |   |      |
|-----|----|----|----------|----------|----------|-----|----------|----------|---------|--------------|----|----------|---|------|
| -4  | -4 | 0  | 49.4233  | 45.0082  | 45.0082  | 0.0 | 4.4151   | 1.3195   | 3.3461  | 1            | 1  | 4268.98  | 0 |      |
| -4  | -4 | 1  | 21.3135  | 21.3627  | 21.3627  | 0.0 | -0.0492  | 0.9521   | -0.0516 | 1            | 1  | 940.88   | 0 |      |
| -4  | -4 | 2  | 33.8609  | 34.4552  | -34.4552 | 0.0 | -0.5943  | 0.9628   | -0.6173 | 1            | 1  | 2304.89  | 0 |      |
| -4  | -4 | 3  | 35.4338  | 34.6759  | -34.6759 | 0.0 | 0.7579   | 0.9931   | 0.7632  | 1            | 1  | 2135.53  | 0 |      |
| -4  | -4 | 4  | 35.9866  | 34.4796  | 34.4796  | 0.0 | 1.5070   | 1.3855   | 1.0877  | 1            | 1  | 1895.13  | 0 |      |
| -4  | -4 | 5  | 9.1086   | 2.9708   | 2.9708   | 0.0 | 6.1379   | 2.3517   | 2.6099  | 1            | 1  | 12.49    | 1 |      |
| -4  | -4 | 6  | 13.2390  | 30.4526  | -30.4526 | 0.0 | -17.2136 | 2.8659   | -6.0064 | 1            | 1  | 1159.15  | 0 |      |
| -4  | -4 | 7  | 17.3053  | 16.4587  | -16.4588 | 0.0 | 0.8465   | 1.6415   | 0.5157  | 1            | 1  | 298.50   | 0 |      |
| -4  | -4 | 8  | 26.7596  | 25.4549  | 25.4549  | 0.0 | 1.3047   | 1.4485   | 0.9007  | 1            | 1  | 629.82   | 0 |      |
| -4  | -4 | 9  | 4.9709   | 11.8948  | 11.8948  | 0.0 | -6.9240  | 6.9885   | -0.9908 | 1            | 0  | 121.61   | 0 |      |
| -4  | -4 | 10 | 20.9268  | 22.3056  | -22.3057 | 0.0 | -1.3788  | 1.9503   | -0.7070 | 1            | 1  | 379.74   | 0 |      |
| -5  | -4 | 0  | 131.0570 | 122.6112 | 122.6113 | 0.0 | 8.4458   | 2.9607   | 2.8526  | 1            | 1  | 27259.36 | 0 |      |
| -5  | -4 | 1  | 63.2797  | 61.4886  | 61.4886  | 0.0 | 1.7911   | 1.4956   | 1.1976  | 1            | 1  | 6734.82  | 0 |      |
| -5  | -4 | 2  | 65.6337  | 63.5834  | 53.5834  | 0.0 | 2.0503   | 1.5468   | 1.3256  | 1            | 1  | 6856.64  | 0 |      |
| -5  | -4 | 3  | 22.9131  | 22.3667  | -22.3667 | 0.0 | 0.5464   | 1.0875   | 0.5024  | 1            | 1  | 787.55   | 0 |      |
| -5  | -4 | 4  | 11.7807  | 14.5639  | -14.5639 | 0.0 | -2.7832  | 1.9889   | -1.4000 | 1            | 1  | 304.29   | 0 |      |
| -5  | -4 | 5  | 84.0166  | 83.2085  | 83.2085  | 0.0 | 0.8081   | 1.9427   | 0.4159  | 1            | 1  | 8943.55  | 0 |      |
| -5  | -4 | 6  | 62.0161  | 61.9711  | -61.9712 | 0.0 | 0.0450   | 1.5020   | 0.0299  | 1            | 1  | 4434.97  | 0 |      |
| -5  | -4 | 7  | 26.7959  | 23.5561  | -23.5561 | 0.0 | 3.2398   | 1.2829   | 2.5254  | 1            | 1  | 570.82   | 0 |      |
| -5  | -4 | 8  | 59.8371  | 59.4473  | -59.4473 | 0.0 | 0.3898   | 1.4968   | 0.2604  | 1            | 1  | 3235.49  | 0 |      |
| -5  | -4 | 9  | 30.9556  | 28.7165  | 28.7165  | 0.0 | 2.2391   | 1.4163   | 1.5810  | 1            | 1  | 672.82   | 0 |      |
| -5  | -4 | 10 | 36.3393  | 37.3240  | -37.3240 | 0.0 | -0.9847  | 1.4392   | -0.6842 | 1            | 1  | 1016.59  | 0 |      |
| -6  | -4 | 0  | 12.4477  | 18.2947  | 18.2947  | 0.0 | -5.8470  | 2.1166   | -2.7624 | 1            | 1  | 523.30   | 0 |      |
| -6  | -4 | 1  | 54.7425  | 52.7368  | -52.7368 | 0.0 | 2.0058   | 1.3541   | 1.4813  | 1            | 1  | 4285.19  | 0 |      |
| -6  | -4 | 2  | 12.3397  | 12.6143  | -12.6143 | 0.0 | -0.2746  | 2.0306   | -0.1352 | 1            | 1  | 235.41   | 0 |      |
| -6  | -4 | 3  | 11.5305  | 9.6281   | 9.6281   | 0.0 | 1.9024   | 2.1355   | 0.8908  | 1            | 1  | 128.81   | 0 |      |
| -6  | -4 | 5  | 51.3234  | 51.5058  | -51.5058 | 0.0 | -0.1823  | 1.3217   | -0.1380 | 1            | 1  | 3103.24  | 0 |      |
| -6  | -4 | 7  | 19.9821  | 18.7894  | 18.7894  | 0.0 | 1.1927   | 1.7419   | 0.6847  | 1            | 1  | 336.23   | 0 |      |
| -6  | -4 | 8  | 8.4159   | 7.2619   | -7.2519  | 0.0 | 1.1540   | 4.4136   | 0.2615  | 1            | 0  | 45.12    | 0 |      |
| -6  | -4 | 9  | 22.3437  | 20.9595  | -20.9595 | 0.0 | 1.3842   | 1.8453   | 0.7501  | 1            | 1  | 337.83   | 0 |      |
| -7  | -4 | 0  | 56.6097  | 55.3251  | 55.3251  | 0.0 | 1.2846   | 1.3455   | 0.9547  | 1            | 1  | 4144.40  | 0 |      |
| -7  | -4 | 1  | 19.5490  | 19.1893  | -19.1893 | 0.0 | 0.3597   | 1.5613   | 0.2304  | 1            | 1  | 492.49   | 0 |      |
| -7  | -4 | 2  | 73.1344  | 70.0744  | -70.0745 | 0.0 | 3.0600   | 1.7000   | 1.7688  | 1            | 1  | 6347.04  | 0 |      |
| -7  | -4 | 3  | 43.1410  | 41.7425  | 41.7425  | 0.0 | 1.3985   | 1.2228   | 1.1437  | 1            | 1  | 2135.14  | 0 |      |
| -7  | -4 | 4  | 38.6241  | 38.2423  | 38.2423  | 0.0 | 0.3817   | 1.2149   | 0.3142  | 1            | 1  | 1672.42  | 0 |      |
| -7  | -4 | 5  | 32.4123  | 33.0593  | -33.0593 | 0.0 | -0.6469  | 1.2814   | -0.5049 | 1            | 1  | 1152.42  | 0 |      |
| -7  | -4 | 6  | 64.5467  | 65.3432  | -65.3432 | 0.0 | -0.7965  | 1.5885   | -0.5014 | 1            | 1  | 4116.15  | 0 |      |
| -7  | -4 | 8  | 22.2780  | 19.7869  | 19.7869  | 0.0 | 2.4911   | 1.8802   | 1.3249  | 1            | 1  | 311.26   | 0 |      |
| -8  | -4 | 0  | 61.1967  | 59.5223  | -59.5223 | 0.0 | 0.6744   | 1.4676   | 1.1410  | 1            | 1  | 4174.79  | 0 |      |
| -8  | -4 | 1  | 24.2853  | 24.4507  | -24.4507 | 0.0 | -0.1654  | 1.5564   | -0.1063 | 1            | 1  | 697.11   | 0 |      |
| -8  | -4 | 3  | 13.3579  | 12.8557  | 12.8557  | 0.0 | 0.5022   | 2.5033   | 0.2006  | 1            | 1  | 178.79   | 0 |      |
| -8  | -4 | 4  | 24.1882  | 22.5990  | -22.6990 | 0.0 | 1.4893   | 1.7999   | 0.8274  | 1            | 1  | 524.86   | 0 |      |
| -8  | -4 | 5  | 28.7509  | 30.6835  | -30.6835 | 0.0 | -1.9327  | 1.4677   | -1.3168 | 1            | 1  | 892.93   | 0 |      |
| -8  | -4 | 6  | 47.4713  | 46.5785  | 46.5785  | 0.0 | 0.8928   | 1.4735   | 0.6059  | 1            | 1  | 1899.83  | 0 |      |
| -8  | -4 | 7  | 12.8857  | 15.6274  | 15.6274  | 0.0 | -2.7417  | 3.2072   | -0.8548 | 1            | 1  | 196.36   | 0 |      |
| -8  | -4 | 8  | 11.4828  | 11.4783  | 11.4783  | 0.0 | 0.0046   | 3.8491   | 0.0012  | 1            | 0  | 97.00    | 0 |      |
| -9  | -4 | 0  | 45.7872  | 42.3394  | 42.3394  | 0.0 | 3.4477   | 1.2348   | 2.7921  | 1            | 1  | 1847.75  | 0 |      |
| -9  | -4 | 1  | 55.7214  | 53.0125  | -53.0125 | 0.0 | 2.7089   | 1.5206   | 1.7815  | 1            | 1  | 2870.58  | 0 |      |
| -9  | -4 | 2  | 48.7590  | 46.0861  | 46.0861  | 0.0 | 2.6729   | 1.4089   | 1.8971  | 1            | 1  | 2115.70  | 0 |      |
| -9  | -4 | 3  | 9.6559   | 6.7977   | 6.7978   | 0.0 | 2.8581   | 3.9964   | 0.7152  | 1            | 0  | 44.24    | 0 |      |
| -9  | -4 | 4  | 14.2221  | 14.5432  | 14.5432  | 0.0 | -0.3211  | 2.8047   | -0.1145 | 1            | 1  | 192.11   | 0 |      |
| -9  | -4 | 5  | 48.2425  | 47.8997  | -47.8997 | 0.0 | 0.3428   | 1.4303   | 0.2397  | 1            | 1  | 1957.02  | 0 |      |
| -9  | -4 | 6  | 11.1573  | 12.5617  | -12.5617 | 0.0 | -1.4044  | 3.8320   | -0.3665 | 1            | 0  | 125.40   | 0 |      |
| -9  | -4 | 7  | 15.4299  | 18.4032  | 18.4032  | 0.0 | -2.9733  | 2.9770   | -0.9988 | 1            | 1  | 249.48   | 0 |      |
| -10 | -4 | 0  | 32.9581  | 32.6718  | -32.6718 | 0.0 | 0.2863   | 1.2326   | 0.2323  | 1            | 1  | 967.62   | 0 |      |
| 1   | H  | K  | L        | Y(OBS)   | Y(CALC)  | A   | B        | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL       | Q | EXTI |
| -10 | -4 | 1  | 20.0624  | 18.3205  | 18.3206  | 0.0 | 1.7419   | 2.1799   | 0.7991  | 1            | 1  | 301.86   | 0 |      |



|     |    |   |         |         |          |     |         |          |         |              |    |         |   |     |
|-----|----|---|---------|---------|----------|-----|---------|----------|---------|--------------|----|---------|---|-----|
| -10 | -4 | 1 | 20.0624 | 18.3205 | 18.3206  | 0.0 | 1.7419  | 2.1799   | 0.7991  | 1            | 1  | 301.86  | 0 |     |
| -10 | -4 | 2 | 21.2208 | 22.2990 | 22.2990  | 0.0 | -1.0782 | 2.1703   | -0.4958 | 1            | 1  | 437.57  | 0 |     |
| -10 | -4 | 3 | 8.1362  | 2.4925  | -2.4925  | 0.0 | 5.6437  | 4.9771   | 1.1339  | 1            | 0  | 5.28    | 0 |     |
| -10 | -4 | 4 | 24.4659 | 27.4246 | -27.4246 | 0.0 | -2.9587 | 1.8924   | -1.5635 | 1            | 1  | 610.71  | 0 |     |
| -10 | -4 | 5 | 36.6750 | 37.4395 | 37.4395  | 0.0 | -0.7645 | 1.5004   | -0.5196 | 1            | 1  | 1177.19 | 0 |     |
| -10 | -4 | 6 | 22.7011 | 17.9068 | 17.9068  | 0.0 | 4.7943  | 2.1346   | 2.2460  | 1            | 1  | 231.58  | 0 |     |
| -11 | -4 | 0 | 75.5080 | 74.3056 | -74.3056 | 0.0 | 1.2025  | 1.7834   | 0.6742  | 1            | 1  | 4428.09 | 0 |     |
| -11 | -4 | 1 | 22.4688 | 22.7060 | -22.7060 | 0.0 | -0.2372 | 2.1442   | -0.1106 | 1            | 1  | 410.65  | 0 |     |
| -11 | -4 | 3 | 32.9510 | 32.9694 | -32.9694 | 0.0 | -0.1183 | 1.6050   | -0.0737 | 1            | 1  | 824.55  | 0 |     |
| -11 | -4 | 4 | 34.8732 | 33.9806 | -33.9807 | 0.0 | 0.8926  | 1.5909   | 0.5610  | 1            | 1  | 941.81  | 0 |     |
| 11  | -5 | 1 | 37.9552 | 35.5981 | 35.5981  | 0.0 | 2.3571  | 1.5186   | 1.5522  | 1            | 1  | 968.69  | 0 |     |
| 11  | -5 | 2 | 32.8499 | 32.7318 | -32.7318 | 0.0 | 0.1181  | 1.6021   | 0.0737  | 1            | 1  | 805.57  | 0 |     |
| 11  | -5 | 3 | 35.5776 | 37.5815 | -37.5815 | 0.0 | -2.0039 | 1.5858   | -1.2637 | 1            | 1  | 1033.55 | 0 |     |
| 10  | -5 | 1 | 9.8823  | 9.8053  | 9.8053   | 0.0 | 0.0770  | 4.2798   | 0.0180  | 1            | 0  | 82.44   | 0 |     |
| 10  | -5 | 2 | 10.1691 | 0.8009  | -0.8009  | 0.0 | 9.3683  | 3.9603   | 2.3656  | 1            | 0  | 0.54    | 0 |     |
| 10  | -5 | 3 | 30.9007 | 32.2851 | -32.2851 | 0.0 | -1.3845 | 1.5736   | -0.8798 | 1            | 1  | 849.65  | 0 |     |
| 10  | -5 | 4 | 10.7094 | 9.2978  | -9.2978  | 0.0 | 1.4116  | 3.9292   | 0.3593  | 1            | 0  | 67.55   | 0 |     |
| 10  | -5 | 5 | 13.1595 | 12.0284 | 12.0284  | 0.0 | 1.1311  | 3.4201   | 0.3307  | 1            | 1  | 107.41  | 0 |     |
| 9   | -5 | 1 | 23.5498 | 23.1914 | -23.1915 | 0.0 | 0.3583  | 1.6181   | 0.2215  | 1            | 1  | 519.81  | 0 |     |
| 9   | -5 | 2 | 73.5767 | 75.9056 | -75.9056 | 0.0 | -2.3289 | 1.7752   | -1.3119 | 1            | 1  | 5446.75 | 0 |     |
| 9   | -5 | 3 | 34.9921 | 36.2971 | -36.2971 | 0.0 | -1.3051 | 1.3423   | -0.9723 | 1            | 1  | 1201.34 | 0 |     |
| 9   | -5 | 4 | 43.9712 | 43.9018 | 43.9019  | 0.0 | 0.0694  | 1.3484   | 0.0515  | 1            | 1  | 1674.52 | 0 |     |
| 9   | -5 | 5 | 23.5628 | 25.2936 | -25.2936 | 0.0 | -1.7308 | 1.7587   | -0.9842 | 1            | 1  | 524.27  | 0 |     |
| 9   | -5 | 6 | 4.0573  | 7.5309  | -7.5309  | 0.0 | -3.4736 | 9.9952   | -0.3475 | 1            | 0  | 43.50   | 0 |     |
| 8   | -5 | 1 | 33.0159 | 33.7855 | 33.7855  | 0.0 | -0.7696 | 1.2696   | -0.6062 | 1            | 1  | 1248.00 | 0 |     |
| 8   | -5 | 2 | 4.0407  | 4.6627  | 4.6627   | 0.0 | -0.6220 | 7.5860   | -0.0820 | 1            | 0  | 2.17    | 0 |     |
| 8   | -5 | 3 | 14.6636 | 14.0522 | 14.0522  | 0.0 | 0.6114  | 2.1606   | 0.2830  | 1            | 1  | 201.92  | 0 |     |
| 8   | -5 | 4 | 7.2468  | 11.4112 | 11.4112  | 0.0 | -4.1643 | 4.4814   | -0.9292 | 1            | 0  | 126.01  | 0 |     |
| 8   | -5 | 5 | 29.0742 | 30.1708 | 30.1708  | 0.0 | -1.0966 | 1.3799   | -0.7947 | 1            | 1  | 824.44  | 0 |     |
| 8   | -5 | 6 | 17.2111 | 13.4607 | -13.4607 | 0.0 | 3.7504  | 2.1047   | 1.7819  | 1            | 1  | 152.30  | 0 |     |
| 7   | -5 | 1 | 52.6322 | 54.7456 | -54.7456 | 0.0 | -2.1133 | 1.3406   | -1.5764 | 1            | 1  | 3716.45 | 0 |     |
| 7   | -5 | 2 | 17.3245 | 17.2550 | -17.2550 | 0.0 | 0.0695  | 1.5884   | 0.0438  | 1            | 1  | 358.41  | 0 |     |
| 7   | -5 | 3 | 86.1038 | 87.3567 | 87.3567  | 0.0 | -1.2528 | 1.9957   | -0.6278 | 1            | 1  | 8758.45 | 0 |     |
| 7   | -5 | 4 | 10.8104 | 6.8276  | 6.8276   | 0.0 | 3.9828  | 2.5620   | 1.5546  | 1            | 1  | 50.24   | 0 |     |
| 7   | -5 | 5 | 25.0590 | 24.0183 | -24.0184 | 0.0 | 1.0406  | 1.3664   | 0.7616  | 1            | 1  | 577.00  | 0 |     |
| 7   | -5 | 6 | 16.1797 | 14.8934 | 14.8934  | 0.0 | 1.2863  | 2.0238   | 0.6356  | 1            | 1  | 204.09  | 0 |     |
| 7   | -5 | 7 | 55.4796 | 58.3582 | 58.3582  | 0.0 | -2.8786 | 1.4623   | -1.9686 | 1            | 1  | 2866.00 | 0 |     |
| 7   | -5 | 8 | 22.5727 | 24.2069 | 24.2069  | 0.0 | -1.6342 | 1.8109   | -0.9024 | 1            | 1  | 449.68  | 0 |     |
| 6   | -5 | 1 | 12.9020 | 12.9805 | -12.9805 | 0.0 | -0.0785 | 1.8092   | -0.0434 | 1            | 1  | 237.28  | 0 |     |
| 6   | -5 | 2 | 12.4424 | 15.6515 | -15.6515 | 0.0 | -3.2091 | 1.9297   | -1.6629 | 1            | 1  | 333.20  | 0 |     |
| 6   | -5 | 3 | 20.3229 | 21.2583 | -21.2583 | 0.0 | -0.9354 | 1.2869   | -0.7269 | 1            | 1  | 581.67  | 0 |     |
| 6   | -5 | 4 | 30.6760 | 30.0523 | 30.0524  | 0.0 | 0.6237  | 1.1034   | 0.5652  | 1            | 1  | 1081.98 | 0 |     |
| 6   | -5 | 5 | 24.7895 | 25.1577 | -25.1577 | 0.0 | -0.3683 | 1.2584   | -0.2925 | 1            | 1  | 697.01  | 0 |     |
| 6   | -5 | 6 | 2.2606  | 2.6480  | -2.6480  | 0.0 | -0.3873 | 12.7930  | -0.0303 | 1            | 0  | 7.04    | 0 |     |
| 6   | -5 | 8 | 19.3294 | 20.6108 | 20.6108  | 0.0 | -1.2814 | 1.9342   | -0.6625 | 1            | 1  | 349.27  | 0 |     |
| 6   | -5 | 9 | 8.2172  | 1.1456  | -1.1456  | 0.0 | 7.0716  | 4.6682   | 1.5148  | 1            | 0  | 0.98    | 0 |     |
| 5   | -5 | 1 | 21.3394 | 20.8508 | -20.8508 | 0.0 | 0.4886  | 1.0806   | 0.4522  | 1            | 1  | 594.87  | 0 |     |
| 5   | -5 | 2 | 10.3332 | 5.8382  | 5.8382   | 0.0 | 4.4950  | 1.9963   | 2.2517  | 1            | 1  | 52.29   | 0 |     |
| 5   | -5 | 3 | 25.9319 | 24.0869 | 24.0869  | 0.0 | 1.8450  | 1.0305   | 1.7904  | 1            | 1  | 834.77  | 0 |     |
| 5   | -5 | 4 | 48.4420 | 50.7870 | -50.7870 | 0.0 | -2.3450 | 1.2334   | -1.9012 | 1            | 1  | 3419.08 | 0 |     |
| 5   | -5 | 5 | 9.6893  | 5.9875  | -5.9875  | 0.0 | 3.7018  | 3.6808   | 1.0057  | 1            | 0  | 43.23   | 0 |     |
| 5   | -5 | 6 | 78.0263 | 80.0393 | 80.0394  | 0.0 | -2.0130 | 1.8247   | -1.1032 | 1            | 1  | 6970.97 | 0 |     |
| 5   | -5 | 7 | 16.0489 | 16.4241 | 16.4241  | 0.0 | -0.3752 | 1.9016   | -0.1973 | 1            | 1  | 263.60  | 0 |     |
| 5   | -5 | 8 | 6.2819  | 1.7127  | 1.7127   | 0.0 | 4.5693  | 5.1803   | 0.8821  | 1            | 0  | 2.57    | 0 |     |
| 5   | -5 | 9 | 18.4208 | 15.0369 | -15.0369 | 0.0 | 3.3839  | 2.0363   | 1.6618  | 1            | 1  | 177.61  | 0 |     |
| 1   | H  | K | L       | Y(OBS)  | Y(CALC)  | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL      | Q | EXT |

|    |    |    |          |          |           |     |         |          |         |              |    |          |   |      |
|----|----|----|----------|----------|-----------|-----|---------|----------|---------|--------------|----|----------|---|------|
| 4  | -5 | 1  | 12.0974  | 7.3472   | 7.3473    | 0.0 | 4.7501  | 1.4564   | 3.2615  | 1            | 1  | 97.54    | 0 |      |
| 4  | -5 | 2  | 20.9543  | 19.8357  | 19.8357   | 0.0 | 1.1186  | 1.0108   | 1.1066  | 1            | 1  | 677.29   | 0 |      |
| 4  | -5 | 3  | 39.9650  | 39.9948  | 39.9948   | 0.0 | -0.0299 | 1.0650   | -0.0280 | 1            | 1  | 2555.68  | 0 |      |
| 4  | -5 | 4  | 35.0268  | 35.3698  | -35.3698  | 0.0 | -0.3430 | 1.0250   | -0.3347 | 1            | 1  | 1820.60  | 0 |      |
| 4  | -5 | 8  | 34.0204  | 33.9872  | -33.9872  | 0.0 | 0.0332  | 1.2343   | 0.0269  | 1            | 1  | 1069.46  | 0 |      |
| 4  | -5 | 9  | 21.3670  | 22.1528  | -22.1529  | 0.0 | -0.7859 | 1.7230   | -0.4561 | 1            | 1  | 404.57   | 0 |      |
| 3  | -5 | 1  | 144.9831 | 137.7404 | 137.7404  | 0.0 | 7.2427  | 3.2795   | 2.2084  | 1            | 1  | 38384.01 | 0 |      |
| 3  | -5 | 2  | 79.0515  | 78.0624  | 78.0624   | 0.0 | 0.9891  | 1.8163   | 0.5446  | 1            | 1  | 11644.86 | 0 |      |
| 3  | -5 | 3  | 56.1634  | 52.2042  | 52.2042   | 0.0 | 3.9592  | 1.3365   | 2.3624  | 1            | 1  | 4779.02  | 0 |      |
| 3  | -5 | 4  | 26.6422  | 26.4801  | -26.4801  | 0.0 | 0.1621  | 0.9840   | 0.1647  | 1            | 1  | 1106.77  | 0 |      |
| 3  | -5 | 5  | 162.7812 | 159.2817 | 159.2818  | 0.0 | 3.4995  | 3.6802   | 0.9509  | 1            | 1  | 35637.83 | 0 |      |
| 3  | -5 | 6  | 25.6085  | 25.7358  | 25.7358   | 0.0 | -0.1273 | 1.1074   | -0.1149 | 1            | 1  | 823.19   | 0 |      |
| 3  | -5 | 7  | 23.3119  | 23.5959  | -23.5959  | 0.0 | -0.2840 | 1.2892   | -0.2203 | 1            | 1  | 610.94   | 0 |      |
| 3  | -5 | 8  | 32.5498  | 30.6178  | -30.6178  | 0.0 | 1.9320  | 1.1954   | 1.6162  | 1            | 1  | 908.43   | 0 |      |
| 3  | -5 | 9  | 15.1007  | 8.9983   | 8.9983    | 0.0 | 6.1024  | 2.2030   | 2.7700  | 1            | 1  | 69.44    | 0 |      |
| 3  | -5 | 10 | 21.7200  | 21.3232  | 21.3232   | 0.0 | 0.3967  | 1.8374   | 0.2159  | 1            | 1  | 346.54   | 0 |      |
| 2  | -5 | 1  | 10.7561  | 9.2177   | -9.2177   | 0.0 | 1.5385  | 1.2875   | 1.1949  | 1            | 1  | 188.91   | 0 |      |
| 2  | -5 | 2  | 8.9306   | 12.0373  | 12.0373   | 0.0 | -3.1067 | 1.6505   | -1.8823 | 1            | 1  | 301.68   | 0 |      |
| 2  | -5 | 3  | 53.2025  | 50.5627  | -50.5627  | 0.0 | 2.6398  | 1.2626   | 2.0908  | 1            | 1  | 4831.14  | 0 |      |
| 2  | -5 | 4  | 30.4573  | 29.9282  | -29.9282  | 0.0 | 0.5291  | 0.9321   | 3.5676  | 1            | 1  | 1506.91  | 0 |      |
| 2  | -5 | 5  | 28.0617  | 26.9931  | -26.9931  | 0.0 | 1.0686  | 0.9793   | 1.0912  | 1            | 1  | 1080.41  | 0 |      |
| 2  | -5 | 6  | 45.0190  | 45.9200  | 45.9200   | 0.0 | -0.9010 | 1.1675   | -0.7717 | 1            | 1  | 2744.25  | 0 |      |
| 2  | -5 | 7  | 16.2923  | 16.8454  | -16.8454  | 0.0 | -0.5532 | 1.5809   | -0.3499 | 1            | 1  | 323.90   | 0 |      |
| 2  | -5 | 8  | 8.5768   | 1.9920   | 1.9920    | 0.0 | 6.5847  | 3.1943   | 2.0614  | 1            | 0  | 3.98     | 1 |      |
| 2  | -5 | 9  | 8.8375   | 9.0348   | 9.0348    | 0.0 | -0.1972 | 3.5832   | -0.0550 | 1            | 0  | 72.09    | 0 |      |
| 2  | -5 | 10 | 38.7634  | 39.0487  | 39.0487   | 0.0 | -0.2853 | 1.3181   | -0.2165 | 1            | 1  | 1191.71  | 0 |      |
| 1  | -5 | 1  | 44.5100  | 46.5753  | 46.5753   | 0.0 | -2.0653 | 1.0751   | -1.9210 | 1            | 1  | 5141.86  | 0 |      |
| 1  | -5 | 2  | 13.2966  | 13.8435  | -13.8435  | 0.0 | -0.5469 | 1.0379   | -0.5270 | 1            | 1  | 422.50   | 0 |      |
| 1  | -5 | 3  | 31.7400  | 33.3609  | -33.3609  | 0.0 | -1.6208 | 0.8911   | -1.8190 | 1            | 1  | 2208.44  | 0 |      |
| 1  | -5 | 4  | 57.2712  | 58.1886  | 58.1886   | 0.0 | -0.9174 | 1.3521   | -0.6785 | 1            | 1  | 5934.22  | 0 |      |
| 1  | -5 | 5  | 46.5578  | 45.8508  | 45.8508   | 0.0 | 0.7071  | 1.1548   | 0.6123  | 1            | 1  | 3225.49  | 0 |      |
| 1  | -5 | 6  | 87.7023  | 88.3745  | -88.3745  | 0.0 | -0.6721 | 2.0117   | -0.3341 | 1            | 1  | 10459.48 | 0 |      |
| 1  | -5 | 7  | 21.9499  | 22.6754  | -22.6754  | 0.0 | -0.7254 | 1.2075   | -0.6007 | 1            | 1  | 601.30   | 0 |      |
| 1  | -5 | 9  | 27.9643  | 26.5622  | 26.5622   | 0.0 | 1.4021  | 1.2971   | 1.0809  | 1            | 1  | 634.25   | 0 |      |
| 1  | -5 | 10 | 55.2599  | 55.6201  | -55.6201  | 0.0 | -0.3602 | 1.4449   | -0.2493 | 1            | 1  | 2454.86  | 0 |      |
| 0  | -5 | 1  | 93.7102  | 90.1282  | 90.1282   | 0.0 | 3.5819  | 2.1303   | 1.6815  | 1            | 1  | 19696.35 | 0 |      |
| 0  | -5 | 3  | 6.8108   | 2.2393   | 2.2393    | 0.0 | 4.5715  | 2.0570   | 2.2224  | 1            | 1  | 10.12    | 1 |      |
| 0  | -5 | 4  | 5.4366   | 6.3016   | -6.3016   | 0.0 | -0.8650 | 2.9044   | -0.2978 | 1            | 0  | 70.56    | 0 |      |
| 0  | -5 | 5  | 91.7152  | 93.4035  | 93.4035   | 0.0 | -1.6883 | 2.1318   | -0.7920 | 1            | 1  | 13536.45 | 0 |      |
| 0  | -5 | 7  | 18.4623  | 16.2784  | -16.2784  | 0.0 | 2.1840  | 1.3265   | 1.6464  | 1            | 1  | 312.30   | 0 |      |
| 0  | -5 | 8  | 0.5305   | 6.6969   | -6.6969   | 0.0 | -6.1664 | 55.1474  | -0.1118 | 1            | 0  | 46.20    | 0 |      |
| 0  | -5 | 9  | 14.7170  | 16.5839  | 16.5840   | 0.0 | -1.8669 | 2.1470   | -0.8696 | 1            | 1  | 248.61   | 0 |      |
| -1 | -5 | 0  | 175.2767 | 162.9704 | 162.9705  | 0.0 | 12.3062 | 3.9495   | 3.1159  | 1            | 1  | 64610.64 | 0 |      |
| -1 | -5 | 1  | 46.8959  | 46.9892  | -46.9893  | 0.0 | -0.0934 | 1.1174   | -0.0835 | 1            | 1  | 5230.75  | 0 |      |
| -1 | -5 | 2  | 15.7800  | 17.2829  | -17.2830  | 0.0 | -1.5030 | 0.9286   | -1.6186 | 1            | 1  | 557.86   | 0 |      |
| -1 | -5 | 3  | 43.6577  | 43.5975  | 43.5975   | 0.0 | 0.0602  | 1.0683   | 0.0563  | 1            | 1  | 3766.89  | 0 |      |
| -1 | -5 | 4  | 49.5827  | 50.4232  | 50.4232   | 0.0 | -0.8405 | 1.1980   | -0.7015 | 1            | 1  | 4449.74  | 0 |      |
| -1 | -5 | 5  | 32.7632  | 33.2403  | -33.2403  | 0.0 | -0.4772 | 0.9689   | -0.4925 | 1            | 1  | 1692.76  | 0 |      |
| -1 | -5 | 6  | 114.6573 | 113.3564 | -113.3565 | 0.0 | 1.3010  | 2.6044   | 0.4995  | 1            | 1  | 17183.31 | 0 |      |
| -1 | -5 | 7  | 26.8688  | 27.6938  | 27.6938   | 0.0 | -0.8250 | 1.1250   | -0.7333 | 1            | 1  | 895.59   | 0 |      |
| -1 | -5 | 8  | 23.1620  | 20.8363  | -20.8363  | 0.0 | 2.3257  | 1.2837   | 1.8118  | 1            | 1  | 443.71   | 0 |      |
| -1 | -5 | 9  | 42.4259  | 41.8644  | -41.8644  | 0.0 | 0.5615  | 1.2454   | 0.4509  | 1            | 1  | 1573.34  | 0 |      |
| -1 | -5 | 10 | 67.7673  | 69.0240  | -69.0240  | 0.0 | -1.2567 | 1.6527   | -0.7604 | 1            | 1  | 3775.63  | 0 |      |
| -2 | -5 | 0  | 47.8717  | 47.3030  | 47.3030   | 0.0 | 0.5687  | 1.1134   | 0.5107  | 1            | 1  | 5091.34  | 0 |      |
| -2 | -5 | 1  | 8.6702   | 4.8980   | 4.8980    | 0.0 | 3.7722  | 1.5396   | 2.4501  | 1            | 1  | 53.29    | 0 |      |
| 1  | H  | K  | L        | Y(OBS)   | Y(CALC)   | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL       | Q | EXTI |
| -2 | -5 | 2  | 16.0632  | 18.0300  | -18.0300  | 0.0 | -1.9668 | 1.0031   | -1.9608 | 1            | 1  | 675.60   | 0 |      |



|    |    |    |          |          |           |     |         |          |                     |    |    |          |      |
|----|----|----|----------|----------|-----------|-----|---------|----------|---------------------|----|----|----------|------|
| -2 | -5 | 2  | 16.0632  | 18.0300  | -18.0300  | 0.0 | -1.9668 | 1.0031   | -1.9608             | 1  | 1  | 675.60   | 0    |
| -2 | -5 | 3  | 43.9092  | 41.7555  | -41.7555  | 0.0 | 2.1537  | 1.0865   | 1.9822              | 1  | 1  | 3286.95  | 0    |
| -2 | -5 | 4  | 5.6631   | 7.2152   | 7.2152    | 0.0 | -1.5521 | 3.0733   | -0.5050             | 1  | 0  | 87.35    | 0    |
| -2 | -5 | 5  | 13.8607  | 13.1561  | -13.1561  | 0.0 | 0.7046  | 1.4433   | 0.4882              | 1  | 1  | 255.93   | 0    |
| -2 | -5 | 6  | 27.3314  | 28.7737  | -28.7737  | 0.0 | -1.4424 | 1.0506   | -1.3729             | 1  | 1  | 1074.42  | 0    |
| -2 | -5 | 7  | 13.6496  | 13.8395  | -13.8395  | 0.0 | -0.1899 | 1.8405   | -0.1032             | 1  | 1  | 218.00   | 0    |
| -2 | -5 | 9  | 14.2296  | 17.3084  | -17.3085  | 0.0 | -3.0788 | 2.3350   | -1.3186             | 1  | 1  | 263.85   | 0    |
| -2 | -5 | 10 | 14.0045  | 13.5724  | -13.5724  | 0.0 | 0.4321  | 2.5766   | 0.1677              | 1  | 1  | 143.60   | 0    |
| -3 | -5 | 1  | 117.1317 | 113.4089 | -113.4090 | 0.0 | 3.7228  | 2.6575   | 1.4009              | 1  | 1  | 25936.92 | 0    |
| -3 | -5 | 2  | 87.4397  | 84.5448  | 84.5448   | 0.0 | 2.8949  | 1.9994   | 1.4479              | 1  | 1  | 13626.44 | 0    |
| -3 | -5 | 3  | 43.4126  | 40.5536  | -40.5536  | 0.0 | 2.8589  | 1.1030   | 2.5919              | 1  | 1  | 2874.81  | 0    |
| -3 | -5 | 4  | 23.7071  | 24.0960  | -24.0960  | 0.0 | -0.3889 | 1.0264   | -0.3789             | 1  | 1  | 913.11   | 0    |
| -3 | -5 | 5  | 149.7793 | 146.3693 | -146.3693 | 0.0 | 3.4101  | 3.3897   | 1.0060              | 1  | 1  | 29976.11 | 0    |
| -3 | -5 | 6  | 26.2374  | 27.9066  | 27.9066   | 0.0 | -1.6692 | 1.1357   | -1.4693             | 1  | 1  | 964.01   | 0    |
| -3 | -5 | 7  | 16.2586  | 14.9743  | -14.9743  | 0.0 | 1.2842  | 1.6921   | 0.7590              | 1  | 1  | 245.05   | 0    |
| -3 | -5 | 8  | 38.8234  | 39.0397  | -39.0397  | 0.0 | -0.2163 | 1.2312   | -0.1757             | 1  | 1  | 1470.99  | 0    |
| -3 | -5 | 9  | 15.8510  | 11.2363  | -11.2363  | 0.0 | 4.6147  | 2.1294   | 2.1671              | 1  | 1  | 107.86   | 0    |
| -3 | -5 | 10 | 20.8624  | 20.1021  | -20.1021  | 0.0 | 0.7603  | 1.8744   | 0.4056              | 1  | 1  | 306.84   | 0    |
| -4 | -5 | 0  | 23.6074  | 24.3956  | 24.3956   | 0.0 | -0.7882 | 0.7917   | -0.9955             | 1  | 1  | 1093.22  | 0    |
| -4 | -5 | 1  | 24.4801  | 24.2462  | -24.2462  | 0.0 | 0.2338  | 0.9553   | 0.2448              | 1  | 1  | 1060.70  | 0    |
| -4 | -5 | 2  | 14.6140  | 15.4211  | -15.4211  | 0.0 | -0.8070 | 1.3575   | -0.5945             | 1  | 1  | 478.24   | 0    |
| -4 | -5 | 3  | 27.6686  | 26.8991  | -26.8991  | 0.0 | 0.7695  | 0.9953   | 0.7731              | 1  | 1  | 1151.76  | 0    |
| -4 | -5 | 4  | 22.8774  | 23.4507  | 23.4507   | 0.0 | -0.5733 | 1.1049   | -0.5189             | 1  | 1  | 796.82   | 0    |
| -4 | -5 | 5  | 7.1501   | 2.0599   | -2.0599   | 0.0 | 5.0932  | 3.1566   | 1.6125              | 1  | 0  | 5.53     | 1    |
| -4 | -5 | 6  | 6.2744   | 1.9980   | -1.9980   | 0.0 | 4.2764  | 4.0000   | 1.0691              | 1  | 0  | 4.65     | 1    |
| -4 | -5 | 7  | 19.8377  | 17.7072  | -17.7072  | 0.0 | 2.1305  | 1.5055   | 1.4152              | 1  | 1  | 324.78   | 0    |
| -4 | -5 | 8  | 12.3420  | 14.3578  | 14.3578   | 0.0 | -2.0158 | 2.5856   | -0.7796             | 1  | 1  | 189.89   | 0    |
| -4 | -5 | 9  | 24.5581  | 23.9350  | -23.9351  | 0.0 | 0.6230  | 1.5783   | 0.3948              | 1  | 1  | 469.93   | 0    |
| -4 | -5 | 10 | 11.1729  | 0.1853   | -0.1853   | 0.0 | 10.9876 | 3.4572   | 3.1782              | 1  | 1  | 0.03     | 1    |
| -5 | -5 | 0  | 138.0092 | 134.1719 | -134.1720 | 0.0 | 3.8373  | 3.1233   | 1.2285              | 1  | 1  | 29168.54 | 0    |
| -5 | -5 | 2  | 14.4192  | 7.4764   | -7.4764   | 0.0 | 6.9428  | 1.5146   | 4.5839              | 1  | 1  | 85.50    | 0    |
| -5 | -5 | 3  | 31.4322  | 30.9644  | -30.9644  | 0.0 | 0.4678  | 1.0588   | 0.4418              | 1  | 1  | 1373.95  | 0    |
| -5 | -5 | 4  | 80.4864  | 80.7186  | -80.7186  | 0.0 | -0.2323 | 1.8660   | -0.1245             | 1  | 1  | 8594.90  | 0    |
| -5 | -5 | 5  | 1.9990   | 7.4488   | 7.4489    | 0.0 | -5.4499 | 19.5211  | -0.2792             | 1  | 0  | 66.55    | 0    |
| -5 | -5 | 6  | 44.9325  | 43.3398  | 43.3398   | 0.0 | 1.5926  | 1.2341   | 1.2905              | 1  | 1  | 2032.19  | 0    |
| -5 | -5 | 7  | 12.8660  | 9.8308   | -9.8308   | 0.0 | 3.0353  | 2.3639   | 1.2840              | 1  | 1  | 93.88    | 0    |
| -5 | -5 | 8  | 31.0956  | 29.1389  | -29.1389  | 0.0 | 1.9567  | 1.3390   | 1.4613              | 1  | 1  | 739.28   | 0    |
| -5 | -5 | 9  | 17.6573  | 15.9888  | 15.9888   | 0.0 | 1.6685  | 2.1973   | 0.7593              | 1  | 1  | 199.64   | 0    |
| -6 | -5 | 0  | 26.0690  | 26.3775  | -26.3775  | 0.0 | -0.3085 | 0.9105   | -0.3388             | 1  | 1  | 991.04   | 0    |
| -6 | -5 | 1  | 11.3942  | 8.5957   | -8.5957   | 0.0 | 2.7985  | 2.1788   | 1.2844              | 1  | 1  | 103.88   | 0    |
| -6 | -5 | 2  | 20.6995  | 19.2686  | -19.2686  | 0.0 | 1.4309  | 1.3001   | 1.1007              | 1  | 1  | 503.48   | 0    |
| -6 | -5 | 3  | 23.1660  | 22.2507  | -22.2507  | 0.0 | 0.9153  | 1.2579   | 0.7276              | 1  | 1  | 634.56   | 0    |
| -6 | -5 | 4  | 29.3647  | 29.8881  | -29.8881  | 0.0 | -0.5235 | 1.1712   | -0.4469             | 1  | 1  | 1064.68  | 0    |
| -6 | -5 | 5  | 16.4934  | 17.8246  | -17.8246  | 0.0 | -1.3312 | 1.8226   | -0.7304             | 1  | 1  | 347.86   | 0    |
| -6 | -5 | 6  | 15.7306  | 12.3685  | 12.3685   | 0.0 | 3.3621  | 1.9732   | 1.7039              | 1  | 1  | 152.57   | 0    |
| -6 | -5 | 7  | 7.1723   | 2.9701   | -2.9701   | 0.0 | 4.2022  | 4.6065   | 0.9122              | 1  | 0  | 7.97     | 1    |
| -6 | -5 | 8  | 23.6954  | 22.3106  | -22.3106  | 0.0 | 1.3849  | 1.6806   | 0.8240              | 1  | 1  | 406.55   | 0    |
| -7 | -5 | 0  | 8.2191   | 9.1292   | -9.1292   | 0.0 | -0.9101 | 2.4429   | -0.3725             | 1  | 1  | 104.34   | 0    |
| -7 | -5 | 1  | 40.6465  | 39.8714  | 39.8714   | 0.0 | 0.7751  | 1.2194   | 0.6356              | 1  | 1  | 1968.21  | 0    |
| -7 | -5 | 2  | 16.2138  | 11.4122  | -11.4122  | 0.0 | 4.8016  | 1.7919   | 2.6795              | 1  | 1  | 156.31   | 0    |
| -7 | -5 | 3  | 104.5522 | 101.7466 | -101.7466 | 0.0 | 2.8056  | 2.4001   | 1.1690              | 1  | 1  | 11830.77 | 0    |
| -7 | -5 | 4  | 14.4623  | 16.9008  | 16.9008   | 0.0 | -2.4385 | 2.1861   | -1.1154             | 1  | 1  | 306.24   | 0    |
| -7 | -5 | 5  | 24.0016  | 20.8091  | 20.8091   | 0.0 | 3.1925  | 1.4616   | 2.1842              | 1  | 1  | 430.49   | 0    |
| -7 | -5 | 6  | 10.4062  | 9.2074   | 9.2075    | 0.0 | 1.1988  | 3.3101   | 0.3622              | 1  | 1  | 77.49    | 0    |
| -7 | -5 | 7  | 53.1921  | 50.8615  | -50.8615  | 0.0 | 2.3305  | 1.4316   | 1.6279              | 1  | 1  | 2161.89  | 0    |
| 1  | H  | K  | L        | Y(OBS)   | Y(CALC)   | A   | B       | OBS-CALC | SIG(O) (D-C)/SIG(O) | IQ | IL | Q        | EXTI |
| -7 | -5 | 8  | 17.9339  | 18.4518  | 18.4518   | 0.0 | -0.5178 | 2.3202   | -0.2222             | 1  | 1  | 259.66   | 0    |

|     |    |   |         |         |          |     |         |          |         |              |    |         |   |      |
|-----|----|---|---------|---------|----------|-----|---------|----------|---------|--------------|----|---------|---|------|
| -7  | -5 | 8 | 17.9339 | 18.4518 | 18.4518  | 0.0 | -0.5179 | 2.3202   | -0.2232 | 1            | 1  | 259.44  | 0 |      |
| -8  | -5 | 0 | 27.8947 | 27.4675 | -27.4675 | 0.0 | 0.4271  | 1.0832   | 0.3943  | 1            | 1  | 831.65  | 0 |      |
| -8  | -5 | 1 | 22.8102 | 19.1106 | 19.1106  | 0.0 | 3.6996  | 1.5920   | 2.3238  | 1            | 1  | 398.69  | 0 |      |
| -8  | -5 | 2 | 4.3815  | 5.5686  | 5.5686   | 0.0 | -1.1870 | 7.7113   | -0.1539 | 1            | 0  | 32.95   | 0 |      |
| -8  | -5 | 3 | 7.7448  | 9.1519  | 9.1519   | 0.0 | -1.4071 | 4.3337   | -0.3247 | 1            | 0  | 85.28   | 0 |      |
| -8  | -5 | 4 | 12.1267 | 11.4043 | -11.4043 | 0.0 | 0.7224  | 2.8790   | 0.2509  | 1            | 1  | 125.19  | 0 |      |
| -8  | -5 | 5 | 41.0065 | 41.6751 | 41.6751  | 0.0 | -0.6686 | 1.3490   | -0.4955 | 1            | 1  | 1563.33 | 0 |      |
| -8  | -5 | 6 | 21.7080 | 21.2542 | 21.2542  | 0.0 | 0.4538  | 1.8633   | 0.2435  | 1            | 1  | 377.15  | 0 |      |
| -8  | -5 | 7 | 3.6059  | 2.9893  | 2.9893   | 0.0 | 0.6165  | 11.3302  | 0.0544  | 1            | 0  | 6.88    | 1 |      |
| -9  | -5 | 1 | 5.0817  | 0.0305  | 0.0305   | 0.0 | 5.0512  | 7.8155   | 0.6463  | 1            | 0  | 0.00    | 1 |      |
| -9  | -5 | 2 | 71.1727 | 68.0305 | -68.0305 | 0.0 | 3.1422  | 1.7470   | 1.7986  | 1            | 1  | 4362.37 | 0 |      |
| -9  | -5 | 3 | 19.1936 | 20.7902 | 20.7902  | 0.0 | -1.5966 | 2.1556   | -0.7407 | 1            | 1  | 392.47  | 0 |      |
| -9  | -5 | 4 | 50.2839 | 48.5528 | 48.5528  | 0.0 | 1.7311  | 1.4422   | 1.2003  | 1            | 1  | 2037.27 | 0 |      |
| -9  | -5 | 5 | 26.6887 | 25.2404 | 25.2405  | 0.0 | 1.4482  | 1.6903   | 0.8568  | 1            | 1  | 518.85  | 0 |      |
| -9  | -5 | 6 | 3.8978  | 3.7786  | -3.7786  | 0.0 | 0.1191  | 11.2223  | 0.0106  | 1            | 0  | 10.88   | 1 |      |
| -10 | -5 | 0 | 48.7033 | 47.1184 | 47.1184  | 0.0 | 1.5850  | 1.4121   | 1.1224  | 1            | 1  | 1915.02 | 0 |      |
| -10 | -5 | 1 | 16.5981 | 18.2005 | 18.2005  | 0.0 | -1.6024 | 2.8889   | -0.5547 | 1            | 1  | 283.61  | 0 |      |
| -10 | -5 | 2 | 16.0013 | 14.8802 | 14.8802  | 0.0 | 1.1211  | 2.8340   | 0.3956  | 1            | 1  | 185.72  | 0 |      |
| -10 | -5 | 3 | 36.4540 | 34.8302 | -34.8302 | 0.0 | 1.6238  | 1.5311   | 1.0605  | 1            | 1  | 984.85  | 0 |      |
| -10 | -5 | 4 | 25.6349 | 26.3482 | 26.3482  | 0.0 | -0.7133 | 1.8811   | -0.3792 | 1            | 1  | 539.69  | 0 |      |
| -11 | -5 | 0 | 13.6244 | 9.3123  | 9.3123   | 0.0 | 4.3121  | 2.5298   | 1.7045  | 1            | 1  | 66.63   | 0 |      |
| -11 | -5 | 1 | 34.1770 | 30.9932 | -30.9932 | 0.0 | 3.1838  | 1.6575   | 1.9208  | 1            | 1  | 733.27  | 0 |      |
| -11 | -5 | 2 | 10.0755 | 6.8138  | -6.8138  | 0.0 | 3.2617  | 4.6804   | 0.6969  | 1            | 0  | 34.82   | 0 |      |
| -11 | -5 | 3 | 32.1092 | 30.7724 | 30.7724  | 0.0 | 1.3368  | 1.7089   | 0.7822  | 1            | 1  | 600.26  | 0 |      |
| 11  | -6 | 1 | 12.2259 | 9.7700  | 9.7700   | 0.0 | 2.4559  | 3.8920   | 0.6310  | 1            | 1  | 69.48   | 0 |      |
| 10  | -6 | 1 | 44.4741 | 45.0205 | -45.0205 | 0.0 | -0.5465 | 1.4419   | -0.3790 | 1            | 1  | 1642.35 | 0 |      |
| 10  | -6 | 2 | 29.4218 | 31.1832 | 31.1832  | 0.0 | -1.7614 | 1.6623   | -1.0596 | 1            | 1  | 773.97  | 0 |      |
| 10  | -6 | 3 | 7.4146  | 8.0736  | -8.0736  | 0.0 | -0.6590 | 5.6766   | -0.1161 | 1            | 0  | 50.38   | 0 |      |
| 10  | -6 | 4 | 44.4385 | 45.9623 | -45.9623 | 0.0 | -1.5238 | 1.4707   | -1.0361 | 1            | 1  | 1569.71 | 0 |      |
| 9   | -6 | 1 | 23.9651 | 21.9561 | 21.9561  | 0.0 | 2.0090  | 1.6299   | 1.2326  | 1            | 1  | 436.65  | 0 |      |
| 9   | -6 | 2 | 7.7813  | 3.1609  | 3.1609   | 0.0 | 4.6204  | 4.5618   | 1.0128  | 1            | 0  | 8.87    | 1 |      |
| 9   | -6 | 3 | 19.1760 | 20.4579 | 20.4579  | 0.0 | -1.2820 | 2.0072   | -0.6387 | 1            | 1  | 359.15  | 0 |      |
| 9   | -6 | 5 | 34.8178 | 34.6158 | 34.6158  | 0.0 | 0.2021  | 1.4076   | 0.1436  | 1            | 1  | 930.77  | 0 |      |
| 8   | -6 | 1 | 52.9244 | 53.4464 | 53.4464  | 0.0 | -0.5220 | 1.3925   | -0.3748 | 1            | 1  | 2899.27 | 0 |      |
| 8   | -6 | 2 | 10.9138 | 11.7055 | 11.7055  | 0.0 | -0.7917 | 3.1547   | -0.2509 | 1            | 1  | 135.85  | 0 |      |
| 8   | -6 | 3 | 12.6207 | 15.8269 | -15.8269 | 0.0 | -3.2062 | 2.6363   | -1.2162 | 1            | 1  | 239.05  | 0 |      |
| 8   | -6 | 4 | 12.1034 | 10.3941 | -10.3941 | 0.0 | 1.7093  | 2.8029   | 0.6098  | 1            | 1  | 97.98   | 0 |      |
| 8   | -6 | 5 | 46.3611 | 46.9252 | 46.9252  | 0.0 | -0.5641 | 1.3413   | -0.4206 | 1            | 1  | 1877.74 | 0 |      |
| 8   | -6 | 6 | 55.0228 | 56.2515 | 56.2515  | 0.0 | -1.2287 | 1.6034   | -0.7663 | 1            | 1  | 2516.96 | 0 |      |
| 8   | -6 | 7 | 32.3112 | 30.6478 | -30.6478 | 0.0 | 1.6634  | 1.4693   | 1.1321  | 1            | 1  | 693.17  | 0 |      |
| 7   | -6 | 2 | 13.0031 | 9.5932  | 9.5932   | 0.0 | 3.4098  | 2.1535   | 1.5834  | 1            | 1  | 101.98  | 0 |      |
| 7   | -6 | 4 | 5.8122  | 2.1679  | 2.1679   | 0.0 | 3.6443  | 5.0986   | 0.7162  | 1            | 0  | 4.71    | 1 |      |
| 7   | -6 | 6 | 13.9821 | 14.4206 | -14.4206 | 0.0 | -0.4385 | 2.4745   | -0.1772 | 1            | 1  | 179.95  | 0 |      |
| 7   | -6 | 8 | 3.8528  | 2.6386  | -2.6386  | 0.0 | 1.2142  | 10.2640  | 0.1183  | 1            | 0  | 5.09    | 1 |      |
| 6   | -6 | 1 | 50.0396 | 50.0599 | 50.0599  | 0.0 | -0.0203 | 1.2730   | -0.0160 | 1            | 1  | 3195.69 | 0 |      |
| 6   | -6 | 2 | 34.2031 | 36.6808 | -36.6808 | 0.0 | -2.4778 | 1.1452   | -2.1635 | 1            | 1  | 1653.77 | 0 |      |
| 6   | -6 | 3 | 72.8532 | 74.5768 | -74.5768 | 0.0 | -1.7236 | 1.7192   | -1.0026 | 1            | 1  | 6546.50 | 0 |      |
| 6   | -6 | 4 | 18.5936 | 16.9366 | 16.9366  | 0.0 | 1.6570  | 1.5245   | 1.0869  | 1            | 1  | 316.47  | 0 |      |
| 6   | -6 | 5 | 43.1080 | 44.4952 | 44.4952  | 0.0 | -1.3872 | 1.2407   | -1.1181 | 1            | 1  | 2022.84 | 0 |      |
| 6   | -6 | 6 | 43.1423 | 45.0522 | -45.0522 | 0.0 | -1.9100 | 1.3706   | -1.3935 | 1            | 1  | 1903.77 | 0 |      |
| 6   | -6 | 7 | 41.5822 | 44.6162 | -44.6162 | 0.0 | -3.0341 | 1.3361   | -2.2709 | 1            | 1  | 1704.22 | 0 |      |
| 6   | -6 | 8 | 4.3287  | 10.9390 | 10.9390  | 0.0 | -6.6103 | 8.8254   | -0.7490 | 1            | 0  | 93.24   | 0 |      |
| 5   | -6 | 1 | 9.2807  | 6.1069  | -6.1069  | 0.0 | 3.1737  | 2.2895   | 1.3862  | 1            | 1  | 53.10   | 0 |      |
| 5   | -6 | 2 | 15.1207 | 15.9916 | 15.9916  | 0.0 | -0.8708 | 1.5202   | -0.5728 | 1            | 1  | 351.49  | 0 |      |
| 5   | -6 | 3 | 29.6477 | 29.9683 | 29.9683  | 0.0 | -0.3205 | 1.0522   | -0.3046 | 1            | 1  | 1167.15 | 0 |      |
| 1   | H  | K | L       | Y(OBS)  | Y(CALC)  | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL      | Q | EXTI |
| 5   | -6 | 4 | 7.3306  | 7.5470  | 7.5470   | 0.0 | -0.2164 | 3.2965   | 0.0657  | 1            | 0  | 10.00   | 0 |      |



|    |    |    |          |          |           |     |          |          |          |              |    |          |   |      |
|----|----|----|----------|----------|-----------|-----|----------|----------|----------|--------------|----|----------|---|------|
| 5  | -6 | 4  | 7.3306   | 7.5470   | 7.5470    | 0.0 | -0.2164  | 3.2965   | -0.0657  | 1            | 0  | 68.83    | 0 |      |
| 5  | -6 | 5  | 17.0065  | 14.9202  | 14.9202   | 0.0 | 2.0863   | 1.5685   | 1.3302   | 1            | 1  | 247.08   | 0 |      |
| 5  | -6 | 6  | 4.3307   | 4.9426   | -4.9426   | 0.0 | -0.6119  | 6.4934   | -0.0942  | 1            | 0  | 24.69    | 0 |      |
| 5  | -6 | 7  | 25.1855  | 23.2422  | 23.2422   | 0.0 | 1.9433   | 1.3651   | 1.4235   | 1            | 1  | 494.34   | 0 |      |
| 5  | -6 | 8  | 12.7977  | 11.3693  | -11.3693  | 0.0 | 1.4284   | 2.6924   | 0.5305   | 1            | 1  | 106.84   | 0 |      |
| 5  | -6 | 9  | 7.3445   | 10.8209  | -10.8209  | 0.0 | -3.4764  | 5.2037   | -0.6681  | 1            | 0  | 87.43    | 0 |      |
| 4  | -6 | 1  | 14.3603  | 13.9897  | -13.9898  | 0.0 | 0.3706   | 1.4291   | 0.2593   | 1            | 1  | 309.08   | 0 |      |
| 4  | -6 | 2  | 115.1452 | 114.1911 | -114.1912 | 0.0 | 0.9541   | 2.6189   | 0.3643   | 1            | 1  | 19775.50 | 0 |      |
| 4  | -6 | 3  | 73.3733  | 74.4056  | 74.4056   | 0.0 | -1.0323  | 1.7076   | -0.6045  | 1            | 1  | 7880.54  | 0 |      |
| 4  | -6 | 4  | 49.0456  | 65.9685  | 65.9685   | 0.0 | -16.9229 | 1.4400   | -11.7524 | 1            | 0  | 5712.45  | 0 |      |
| 4  | -6 | 5  | 11.6369  | 7.9011   | 7.9011    | 0.0 | 3.7358   | 2.0765   | 1.7990   | 1            | 1  | 74.62    | 0 |      |
| 4  | -6 | 6  | 21.7758  | 21.5635  | -21.5635  | 0.0 | 0.2123   | 1.4814   | 0.1433   | 1            | 1  | 501.97   | 0 |      |
| 4  | -6 | 7  | 23.9431  | 23.9775  | 23.9775   | 0.0 | -0.0344  | 1.3748   | -0.0250  | 1            | 1  | 557.85   | 0 |      |
| 4  | -6 | 8  | 78.4034  | 79.0538  | 79.0539   | 0.0 | -0.6504  | 1.8556   | -0.3505  | 1            | 1  | 5439.38  | 0 |      |
| 4  | -6 | 9  | 40.1713  | 40.4051  | -40.4052  | 0.0 | -0.2339  | 1.3318   | -0.1756  | 1            | 1  | 1275.26  | 0 |      |
| 3  | -6 | 1  | 7.0966   | 8.7852   | 8.7852    | 0.0 | -1.6886  | 2.5540   | -0.6612  | 1            | 0  | 133.61   | 0 |      |
| 3  | -6 | 2  | 54.6460  | 54.8361  | 54.8361   | 0.0 | -0.1901  | 1.3121   | -0.1449  | 1            | 1  | 4971.99  | 0 |      |
| 3  | -6 | 3  | 11.6333  | 2.2872   | -2.2872   | 0.0 | 9.3461   | 2.5526   | 3.6614   | 1            | 1  | 8.06     | 0 |      |
| 3  | -6 | 4  | 7.5617   | 5.7550   | -5.7550   | 0.0 | 1.8067   | 2.7454   | 0.6581   | 1            | 0  | 46.66    | 0 |      |
| 3  | -6 | 6  | 18.3013  | 17.5335  | -17.5335  | 0.0 | 0.7678   | 1.2299   | 0.6243   | 1            | 1  | 350.64   | 0 |      |
| 3  | -6 | 8  | 43.9106  | 43.8324  | -43.8324  | 0.0 | 0.0781   | 1.2634   | 0.0618   | 1            | 1  | 1744.57  | 0 |      |
| 3  | -6 | 9  | 3.9818   | 3.0691   | -3.0691   | 0.0 | 0.9127   | 8.7764   | 0.1040   | 1            | 0  | 7.63     | 0 |      |
| 3  | -6 | 10 | 16.4330  | 14.4249  | -14.4249  | 0.0 | 2.0080   | 2.3877   | 0.8410   | 1            | 1  | 151.05   | 0 |      |
| 2  | -6 | 1  | 63.7127  | 63.9103  | -63.9103  | 0.0 | -0.1976  | 1.4844   | -0.1331  | 1            | 1  | 7611.61  | 0 |      |
| 2  | -6 | 2  | 63.9160  | 62.5547  | 62.5547   | 0.0 | 1.3613   | 1.4907   | 0.9132   | 1            | 1  | 6929.75  | 0 |      |
| 2  | -6 | 3  | 84.0358  | 83.2675  | 83.2675   | 0.0 | 0.7682   | 1.9246   | 0.3992   | 1            | 1  | 11360.27 | 0 |      |
| 2  | -6 | 4  | 6.2463   | 8.8516   | 8.8516    | 0.0 | -2.6053  | 3.2366   | -0.8050  | 1            | 0  | 116.55   | 0 |      |
| 2  | -6 | 5  | 35.4496  | 36.3339  | -36.3339  | 0.0 | -0.8844  | 1.0452   | -0.8461  | 1            | 1  | 1701.54  | 0 |      |
| 2  | -6 | 6  | 33.5080  | 33.5359  | -33.5359  | 0.0 | -0.0280  | 1.0813   | -0.0259  | 1            | 1  | 1336.99  | 0 |      |
| 2  | -6 | 7  | 60.5800  | 58.9443  | 58.9443   | 0.0 | 1.6357   | 1.4680   | 1.1143   | 1            | 1  | 3668.07  | 0 |      |
| 2  | -6 | 8  | 36.4753  | 35.9200  | -35.9200  | 0.0 | 0.5553   | 1.1935   | 0.4653   | 1            | 1  | 1208.97  | 0 |      |
| 2  | -6 | 9  | 34.1167  | 33.6371  | -33.6371  | 0.0 | 0.4795   | 1.2903   | 0.3716   | 1            | 1  | 942.41   | 0 |      |
| 2  | -6 | 10 | 5.2433   | 11.1881  | -11.1881  | 0.0 | -5.9448  | 7.2956   | -0.8149  | 1            | 0  | 93.02    | 0 |      |
| 1  | -6 | 1  | 12.6745  | 13.1024  | -13.1024  | 0.0 | -0.4279  | 1.2508   | -0.3421  | 1            | 1  | 335.73   | 0 |      |
| 1  | -6 | 2  | 26.6871  | 26.9618  | 26.9618   | 0.0 | -0.2747  | 0.8803   | -0.3120  | 1            | 1  | 1345.89  | 0 |      |
| 1  | -6 | 3  | 61.8035  | 60.6396  | -60.6396  | 0.0 | 1.1638   | 1.4463   | 0.8047   | 1            | 1  | 6267.91  | 0 |      |
| 1  | -6 | 4  | 11.9360  | 12.3439  | -12.3439  | 0.0 | -0.4079  | 1.5808   | -0.2580  | 1            | 1  | 234.59   | 0 |      |
| 1  | -6 | 5  | 26.6468  | 26.0547  | -26.0547  | 0.0 | 0.5922   | 0.9942   | 0.5956   | 1            | 1  | 933.12   | 0 |      |
| 1  | -6 | 6  | 11.0647  | 3.7375   | -3.7375   | 0.0 | 7.3272   | 1.9934   | 3.6757   | 1            | 1  | 17.04    | 0 |      |
| 1  | -6 | 7  | 27.4125  | 27.7772  | -27.7772  | 0.0 | -0.3647  | 1.1506   | -0.3170  | 1            | 1  | 832.79   | 0 |      |
| 1  | -6 | 8  | 30.5783  | 32.3525  | -32.3525  | 0.0 | -1.7742  | 1.2120   | -1.4639  | 1            | 1  | 999.71   | 0 |      |
| 1  | -6 | 9  | 7.6872   | 7.3271   | 7.3271    | 0.0 | 0.3601   | 4.2451   | 0.0848   | 1            | 0  | 45.46    | 0 |      |
| 1  | -6 | 10 | 15.0229  | 9.1863   | -9.1863   | 0.0 | 5.8366   | 2.3894   | 2.4427   | 1            | 1  | 63.61    | 0 |      |
| 0  | -6 | 0  | 129.7417 | 124.3922 | -124.3923 | 0.0 | 5.3496   | 2.9679   | 1.8025   | 1            | 1  | 31388.10 | 0 |      |
| 0  | -6 | 1  | 4.9536   | 2.6543   | 2.6543    | 0.0 | 2.2993   | 2.9378   | 0.7827   | 1            | 0  | 14.01    | 0 |      |
| 0  | -6 | 2  | 55.6921  | 50.3215  | 50.3215   | 0.0 | 5.3706   | 1.4085   | 3.8129   | 1            | 1  | 4760.29  | 0 |      |
| 0  | -6 | 3  | 5.7690   | 0.5004   | 0.5004    | 0.0 | 5.2686   | 3.2515   | 1.6204   | 1            | 0  | 0.43     | 0 |      |
| 0  | -6 | 4  | 92.3976  | 93.4958  | -93.4958  | 0.0 | -1.0982  | 2.1092   | -0.5207  | 1            | 1  | 13613.11 | 0 |      |
| 0  | -6 | 5  | 16.2514  | 16.3847  | 16.3847   | 0.0 | -0.1333  | 1.3110   | -0.1017  | 1            | 1  | 372.62   | 0 |      |
| 0  | -6 | 6  | 53.8568  | 57.7856  | 57.7856   | 0.0 | -3.9287  | 1.6154   | -2.4321  | 1            | 1  | 4106.32  | 0 |      |
| 0  | -6 | 7  | 6.6431   | 4.7696   | -4.7696   | 0.0 | 1.8735   | 3.7678   | 0.4972   | 1            | 0  | 24.73    | 0 |      |
| 0  | -6 | 8  | 52.5226  | 53.1982  | -53.1982  | 0.0 | -0.6756  | 1.3453   | -0.5022  | 1            | 1  | 2719.40  | 0 |      |
| 0  | -6 | 9  | 4.6040   | 1.9686   | 1.9686    | 0.0 | 2.6354   | 8.4931   | 0.3103   | 1            | 0  | 3.30     | 0 |      |
| 0  | -6 | 10 | 38.5882  | 39.6197  | 39.6197   | 0.0 | -1.0315  | 1.6459   | -0.6267  | 1            | 1  | 1188.44  | 0 |      |
| -1 | -6 | 1  | 10.1623  | 7.0969   | 7.0969    | 0.0 | 3.0654   | 1.4512   | 2.1123   | 1            | 1  | 98.46    | 0 |      |
| 1  | H  | K  | L        | Y(OBS)   | Y(CALC)   | A   | B        | OBS-CALC | SIG(O)   | (O-C)/SIG(O) | IQ | IL       | Q | EXTI |
| -1 | -6 | 2  | 20.3094  | 19.8991  | -19.8991  | 0.0 | 0.4103   | 0.9099   | 0.4509   | 1            | 1  | 732.57   | 0 |      |

|    |    |    |          |          |           |     |         |          |         |              |    |          |    |        |
|----|----|----|----------|----------|-----------|-----|---------|----------|---------|--------------|----|----------|----|--------|
| -1 | -6 | 2  | 20.3094  | 19.8991  | -19.8991  | 0.0 | 0.4103  | 0.9099   | 0.4509  | 1            | 1  | 732.57   | 0  |        |
| -1 | -6 | 3  | 51.8793  | 51.6793  | -51.6793  | 0.0 | 0.2000  | 1.2460   | 0.1605  | 1            | 1  | 4547.79  | 0  |        |
| -1 | -6 | 4  | 5.1743   | 2.4435   | 2.4435    | 0.0 | 2.7308  | 3.5005   | 0.7801  | 1            | 0  | 9.18     | 1  |        |
| -1 | -6 | 5  | 30.5919  | 29.7122  | -29.7122  | 0.0 | 0.8797  | 0.9954   | 0.8837  | 1            | 1  | 1211.94  | 0  |        |
| -1 | -6 | 6  | 13.6041  | 16.5703  | -16.5703  | 0.0 | -2.9662 | 1.7562   | -1.6890 | 1            | 1  | 334.44   | 0  |        |
| -1 | -6 | 7  | 23.6593  | -24.6958 | -24.6958  | 0.0 | -1.0365 | 1.2496   | -0.8295 | 1            | 1  | 657.40   | 0  |        |
| -1 | -6 | 9  | 19.1112  | 18.0642  | 18.0642   | 0.0 | 1.0470  | 1.7695   | 0.5917  | 1            | 1  | 275.98   | 0  |        |
| -2 | -6 | 0  | 112.1731 | 103.4181 | 103.4182  | 0.0 | 8.7550  | 2.5381   | 3.4495  | 1            | 1  | 20284.91 | 0  |        |
| -2 | -6 | 1  | 54.3676  | 54.1351  | 54.1351   | 0.0 | 0.2324  | 1.2901   | 0.1802  | 1            | 1  | 5457.05  | 0  |        |
| -2 | -6 | 2  | 73.0651  | 70.8723  | 70.8723   | 0.0 | 2.1928  | 1.6876   | 1.2993  | 1            | 1  | 8882.35  | 0  |        |
| -2 | -6 | 3  | 95.8020  | 95.2455  | -95.2455  | 0.0 | 0.5566  | 2.1854   | 0.2547  | 1            | 1  | 14835.08 | 0  |        |
| -2 | -6 | 4  | 9.5686   | 13.5276  | 13.5276   | 0.0 | -3.9590 | 2.2786   | -1.7374 | 1            | 1  | 271.60   | 0  |        |
| -2 | -6 | 5  | 38.7943  | 39.0233  | 39.0233   | 0.0 | -0.2290 | 1.0780   | -0.2124 | 1            | 1  | 2026.99  | 0  |        |
| -2 | -6 | 6  | 34.9011  | 34.1917  | -34.1917  | 0.0 | 0.7094  | 1.0875   | 0.6523  | 1            | 1  | 1386.25  | 0  |        |
| -2 | -6 | 7  | 57.1211  | 57.0116  | -57.0116  | 0.0 | 0.1095  | 1.4077   | 0.0778  | 1            | 1  | 3422.58  | 0  |        |
| -2 | -6 | 8  | 46.6871  | 46.7814  | -46.7814  | 0.0 | -0.0943 | 1.2829   | -0.0735 | 1            | 1  | 2045.35  | 0  |        |
| -2 | -6 | 9  | 51.0347  | 49.7823  | 49.7823   | 0.0 | 1.2524  | 1.3693   | 0.9146  | 1            | 1  | 2058.99  | 0  |        |
| -2 | -6 | 10 | 14.8317  | 17.9279  | -17.9279  | 0.0 | -3.0962 | 2.6535   | -1.1668 | 1            | 1  | 238.28   | 0  |        |
| -3 | -6 | 0  | 46.8398  | 45.3010  | -45.3010  | 0.0 | 1.5388  | 1.1279   | 1.3642  | 1            | 1  | 3608.60  | 0  |        |
| -3 | -6 | 1  | 17.0646  | 17.4388  | -17.4388  | 0.0 | -0.3742 | 1.1694   | -0.3200 | 1            | 1  | 525.92   | 0  |        |
| -3 | -6 | 2  | 47.8689  | 47.6869  | -47.6869  | 0.0 | 0.1820  | 1.1853   | 0.1535  | 1            | 1  | 3752.74  | 0  |        |
| -3 | -6 | 3  | 29.6610  | 28.7654  | -28.7654  | 0.0 | 0.8956  | 1.2107   | 0.7397  | 1            | 1  | 1271.15  | 0  |        |
| -3 | -6 | 4  | 5.7672   | 7.5396   | 7.5397    | 0.0 | -1.7724 | 3.6857   | -0.4809 | 1            | 0  | 79.83    | 0  |        |
| -3 | -6 | 5  | 19.0020  | 18.9991  | -18.9992  | 0.0 | 0.0028  | 1.3115   | 0.0022  | 1            | 1  | 457.70   | 0  |        |
| -3 | -6 | 6  | 19.6544  | 18.1377  | 18.1377   | 0.0 | 1.5167  | 1.4574   | 1.0407  | 1            | 1  | 373.86   | 0  |        |
| -3 | -6 | 7  | 2.9910   | 1.9758   | -1.9758   | 0.0 | 1.0152  | 9.3096   | 0.1090  | 1            | 0  | 3.96     | 1  |        |
| -3 | -6 | 8  | 36.8589  | 35.8299  | 35.8299   | 0.0 | 1.0290  | 1.2280   | 0.8380  | 1            | 1  | 1161.37  | 0  |        |
| -3 | -6 | 9  | 14.4680  | 14.3869  | 14.3869   | 0.0 | 0.0811  | 2.4942   | 0.0325  | 1            | 1  | 167.15   | 0  |        |
| -3 | -6 | 10 | 18.9966  | 15.4750  | 15.4750   | 0.0 | 3.5216  | 2.0837   | 1.6901  | 1            | 1  | 173.23   | 0  |        |
| -4 | -6 | 0  | 16.9552  | 16.8083  | 16.8083   | 0.0 | 0.1468  | 1.0895   | 0.1348  | 1            | 1  | 452.27   | 0  |        |
| -4 | -6 | 1  | 22.5148  | 21.3118  | 21.3119   | 0.0 | 1.2029  | 1.0693   | 1.1250  | 1            | 1  | 716.40   | 0  |        |
| -4 | -6 | 2  | 121.4995 | 119.1993 | -119.1994 | 0.0 | 2.3001  | 2.7603   | 0.8333  | 1            | 1  | 21498.38 | 0  |        |
| -4 | -6 | 3  | 69.7643  | 69.7857  | -69.7857  | 0.0 | -0.0214 | 1.6325   | -0.0131 | 1            | 1  | 6910.20  | 0  |        |
| -4 | -6 | 4  | 61.3855  | 69.2317  | 69.2317   | 0.0 | -7.8462 | 1.5755   | -4.9801 | 1            | 1  | 6267.43  | 0  |        |
| -4 | -6 | 5  | 4.4470   | 4.8312   | 4.8312    | 0.0 | -0.3842 | 5.5305   | -0.0695 | 1            | 0  | 27.78    | 0  |        |
| -4 | -6 | 6  | 26.4583  | 29.7164  | -29.7164  | 0.0 | -3.2582 | 1.3461   | -2.4204 | 1            | 1  | 948.98   | 0  |        |
| -4 | -6 | 7  | 33.5702  | 32.4357  | -32.4357  | 0.0 | 1.1345  | 1.2019   | 0.9439  | 1            | 1  | 1016.04  | 0  |        |
| -4 | -6 | 8  | 86.9841  | 86.7151  | 86.7151   | 0.0 | 0.2690  | 2.0331   | 0.1323  | 1            | 1  | 6513.85  | 0  |        |
| -4 | -6 | 9  | 33.0918  | 34.2490  | 34.2490   | 0.0 | -1.1572 | 1.3988   | -0.8273 | 1            | 1  | 912.01   | 0  |        |
| -5 | -6 | 0  | 21.5891  | 21.0688  | -21.0688  | 0.0 | 0.5203  | 0.9141   | 0.5692  | 1            | 1  | 639.51   | 0  |        |
| -5 | -6 | 1  | 5.8223   | 4.7629   | -4.7629   | 0.0 | 1.0594  | 3.9089   | 0.2710  | 1            | 0  | 32.26    | 0  |        |
| -5 | -6 | 2  | 3.8844   | 3.4946   | -3.4946   | 0.0 | 0.3898  | 5.8833   | 0.0663  | 1            | 0  | 16.74    | 0  |        |
| -5 | -6 | 3  | 9.3897   | 13.7489  | 13.7489   | 0.0 | -4.3591 | 2.6305   | -1.6571 | 1            | 1  | 244.79   | 0  |        |
| -5 | -6 | 4  | 5.8477   | 3.5018   | 3.5018    | 0.0 | 2.3458  | 4.2620   | 0.5504  | 1            | 0  | 14.76    | 0  |        |
| -5 | -6 | 5  | 11.1992  | 7.7472   | -7.7472   | 0.0 | 3.4520  | 2.3963   | 1.4406  | 1            | 1  | 66.29    | 0  |        |
| -5 | -6 | 6  | 23.6212  | 22.6607  | 22.6607   | 0.0 | 0.9605  | 1.3785   | 0.6968  | 1            | 1  | 516.19   | 0  |        |
| -5 | -6 | 7  | 4.0241   | 7.1121   | 7.1121    | 0.0 | -3.0880 | 7.9897   | -0.3865 | 1            | 0  | 46.03    | 21 |        |
| -5 | -6 | 8  | 7.5170   | 10.7651  | 10.7651   | 0.0 | -3.2481 | 4.7582   | -0.6826 | 1            | 0  | 95.26    | 0  |        |
| -6 | -6 | 0  | 36.1755  | 43.9181  | 43.9181   | 0.0 | -7.7425 | 1.6676   | -4.6428 | 1            | 1  | 2484.49  | 0  |        |
| -6 | -6 | 1  | 63.4783  | 61.4848  | -61.4848  | 0.0 | 1.9935  | 1.5295   | 1.3033  | 1            | 1  | 4814.10  | 0  |        |
| -6 | -6 | 2  | 23.0668  | 23.9538  | -23.9538  | 0.0 | -0.8870 | 1.3425   | -0.6607 | 1            | 1  | 707.62   | 0  |        |
| -6 | -6 | 3  | 58.1391  | 58.6441  | 58.6441   | 0.0 | -0.5050 | 1.4517   | -0.3479 | 1            | 1  | 4032.79  | 0  |        |
| -6 | -6 | 4  | 24.9776  | 24.9691  | 24.9691   | 0.0 | 0.0085  | 1.3307   | 0.0064  | 1            | 1  | 684.63   | 0  |        |
| -6 | -6 | 5  | 39.4948  | 39.1369  | -39.1369  | 0.0 | 0.3578  | 1.2271   | 0.2916  | 1            | 1  | 1556.64  | 0  |        |
| -6 | -6 | 6  | 37.3467  | 47.0759  | -47.0759  | 0.0 | -9.7292 | 1.5327   | -6.3476 | 1            | 1  | 2066.60  | 0  |        |
| 1  | H  | K  | L        | Y(OBS)   | Y(CALC)   | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL       | Q  | FVT II |
| -6 | -6 | 7  | 43.3925  | 44.2232  | 44.2232   | 0.0 | -0.8307 | 1.3316   | -0.6238 | 1            | 1  | 1666.18  | 0  |        |



|     |    |   |         |         |          |     |         |          |         |              |    |         |   |
|-----|----|---|---------|---------|----------|-----|---------|----------|---------|--------------|----|---------|---|
| -6  | -6 | 7 | 43.3925 | 44.2232 | 44.2232  | 0.0 | -0.8307 | 1.3316   | -0.6238 | 1            | 1  | 1664.18 | 0 |
| -7  | -6 | 0 | 35.3162 | 33.3296 | -33.3296 | 0.0 | 1.9865  | 1.0205   | 1.9467  | 1            | 1  | 1275.42 | 0 |
| -7  | -6 | 1 | 14.5877 | 17.2792 | 17.2792  | 0.0 | -2.6915 | 2.2193   | -1.2128 | 1            | 1  | 339.36  | 0 |
| -7  | -6 | 2 | 14.7122 | 14.3290 | -14.3290 | 0.0 | 0.3832  | 2.1157   | 0.1811  | 1            | 1  | 226.89  | 0 |
| -7  | -6 | 3 | 12.6109 | 8.5134  | 8.5134   | 0.0 | 4.0974  | 2.3958   | 1.7103  | 1            | 1  | 76.60   | 0 |
| -7  | -6 | 4 | 9.9257  | 2.4566  | -2.4566  | 0.0 | 7.4692  | 3.1846   | 2.3454  | 1            | 1  | 6.02    | 0 |
| -7  | -6 | 5 | 16.6910 | 13.6471 | 13.6471  | 0.0 | 3.0439  | 2.0292   | 1.5000  | 1            | 1  | 173.17  | 0 |
| -7  | -6 | 6 | 29.8459 | 30.7609 | 30.7610  | 0.0 | -0.9150 | 1.4520   | -0.6302 | 1            | 1  | 813.80  | 0 |
| -7  | -6 | 8 | 21.3083 | 22.7695 | 22.7695  | 0.0 | -1.4612 | 2.0895   | -0.6993 | 1            | 1  | 376.28  | 0 |
| -8  | -6 | 0 | 55.2784 | 55.0529 | -55.0529 | 0.0 | 0.2255  | 1.3797   | 0.1635  | 1            | 1  | 3099.29 | 0 |
| -8  | -6 | 1 | 40.4648 | 40.5153 | -40.5153 | 0.0 | -0.0505 | 1.3390   | -0.0377 | 1            | 1  | 1663.70 | 0 |
| -8  | -6 | 2 | 10.3411 | 9.0043  | 9.0043   | 0.0 | 1.3368  | 3.6937   | 0.3619  | 1            | 0  | 80.16   | 0 |
| -8  | -6 | 3 | 23.1959 | 20.6250 | 20.6250  | 0.0 | 2.5708  | 1.5945   | 1.6123  | 1            | 1  | 404.36  | 0 |
| -8  | -6 | 4 | 14.7739 | 10.0434 | -10.0434 | 0.0 | 4.7304  | 2.4838   | 1.9045  | 1            | 1  | 91.02   | 0 |
| -8  | -6 | 5 | 50.2804 | 49.0863 | -49.0863 | 0.0 | 1.1941  | 1.4136   | 0.8447  | 1            | 1  | 2042.86 | 0 |
| -8  | -6 | 6 | 58.2418 | 57.9287 | 57.9287  | 0.0 | 0.3131  | 1.6981   | 0.1844  | 1            | 1  | 2552.42 | 0 |
| -8  | -6 | 7 | 21.2864 | 19.5114 | 19.5115  | 0.0 | 1.7749  | 2.0651   | 0.8595  | 1            | 1  | 279.07  | 0 |
| -9  | -6 | 0 | 10.0556 | 8.8024  | -8.8024  | 0.0 | 1.2532  | 2.8322   | 0.4425  | 1            | 1  | 70.64   | 0 |
| -9  | -6 | 1 | 24.8276 | 23.4393 | 23.4393  | 0.0 | 1.3882  | 1.7887   | 0.7761  | 1            | 1  | 496.94  | 0 |
| -9  | -6 | 3 | 13.4845 | 15.9304 | 15.9304  | 0.0 | -2.4459 | 3.1177   | -0.7845 | 1            | 1  | 216.92  | 0 |
| -9  | -6 | 5 | 30.5459 | 29.0658 | 29.0658  | 0.0 | 1.4801  | 1.5957   | 0.9275  | 1            | 1  | 652.46  | 0 |
| -9  | -6 | 6 | 7.9161  | 10.5086 | 10.5086  | 0.0 | -2.5924 | 5.7215   | -0.4531 | 1            | 0  | 80.12   | 0 |
| -10 | -6 | 0 | 29.8255 | 28.0090 | -28.0090 | 0.0 | 1.8165  | 1.3408   | 1.3548  | 1            | 1  | 639.25  | 0 |
| -10 | -6 | 1 | 33.6663 | 31.5266 | 31.5266  | 0.0 | 2.1397  | 1.6714   | 1.2802  | 1            | 1  | 804.29  | 0 |
| -10 | -6 | 2 | 39.0935 | 40.9150 | 40.9150  | 0.0 | -1.8215 | 1.6006   | -1.1380 | 1            | 1  | 1328.92 | 0 |
| -10 | -6 | 3 | 19.7449 | 6.7414  | -6.7414  | 0.0 | 13.0035 | 2.3036   | 5.6449  | 1            | 1  | 34.99   | 0 |
| -10 | -6 | 4 | 28.1028 | 29.7406 | -29.7406 | 0.0 | -1.6377 | 1.9326   | -0.8474 | 1            | 1  | 654.06  | 0 |
| -11 | -6 | 0 | 20.1985 | 16.9492 | 16.9492  | 0.0 | 3.2493  | 1.8635   | 1.7437  | 1            | 1  | 210.12  | 0 |
| -11 | -6 | 1 | 9.4400  | 11.9670 | 11.9670  | 0.0 | -2.5270 | 5.6216   | -0.4495 | 1            | 0  | 104.11  | 0 |
| 10  | -7 | 1 | 13.4642 | 8.2783  | -8.2783  | 0.0 | 5.1859  | 3.2243   | 1.6083  | 1            | 1  | 52.19   | 0 |
| 10  | -7 | 2 | 27.2470 | 26.3045 | -26.3045 | 0.0 | 0.9425  | 1.7168   | 0.5490  | 1            | 1  | 518.36  | 0 |
| 10  | -7 | 3 | 48.9713 | 50.3529 | 50.3529  | 0.0 | -1.3815 | 1.4786   | -0.9344 | 1            | 1  | 1848.73 | 0 |
| 9   | -7 | 2 | 30.6165 | 28.4492 | -28.4492 | 0.0 | 2.1673  | 1.4465   | 1.4982  | 1            | 1  | 670.26  | 0 |
| 9   | -7 | 3 | 18.1596 | 22.0232 | -22.0232 | 0.0 | -3.8635 | 2.2221   | -1.7386 | 1            | 1  | 389.45  | 0 |
| 9   | -7 | 4 | 45.1664 | 45.7419 | 45.7419  | 0.0 | -0.5755 | 1.3965   | -0.4121 | 1            | 1  | 1611.73 | 0 |
| 9   | -7 | 5 | 7.0291  | 7.8095  | -7.8095  | 0.0 | -0.7804 | 5.8372   | -0.1337 | 1            | 0  | 44.67   | 0 |
| 8   | -7 | 1 | 16.0960 | 19.6829 | -19.6829 | 0.0 | -3.5869 | 2.2225   | -1.6139 | 1            | 1  | 362.85  | 0 |
| 8   | -7 | 2 | 26.1176 | 27.6211 | 27.6212  | 0.0 | -1.5036 | 1.4596   | -1.0301 | 1            | 1  | 699.42  | 0 |
| 8   | -7 | 3 | 40.5434 | 41.4100 | 41.4100  | 0.0 | -0.8665 | 1.3000   | -0.6666 | 1            | 1  | 1518.12 | 0 |
| 8   | -7 | 4 | 19.3886 | 20.3074 | -20.3075 | 0.0 | -0.9189 | 1.9052   | -0.4823 | 1            | 1  | 348.41  | 0 |
| 8   | -7 | 5 | 10.7778 | 1.6061  | -1.6061  | 0.0 | 9.1717  | 3.3874   | 2.7076  | 1            | 1  | 2.06    | 0 |
| 8   | -7 | 6 | 16.8819 | 15.9701 | 15.9701  | 0.0 | 0.9129  | 2.3551   | 0.3872  | 1            | 1  | 190.95  | 0 |
| 7   | -7 | 1 | 18.8514 | 19.1428 | -19.1428 | 0.0 | -0.2914 | 1.6838   | -0.1731 | 1            | 1  | 380.74  | 0 |
| 7   | -7 | 2 | 24.0543 | 24.6898 | 24.6898  | 0.0 | -0.6355 | 1.3941   | -0.4558 | 1            | 1  | 618.24  | 0 |
| 7   | -7 | 3 | 70.4807 | 73.4662 | 73.4662  | 0.0 | -2.9854 | 1.6852   | -1.7715 | 1            | 1  | 5263.25 | 0 |
| 7   | -7 | 5 | 16.8936 | 14.5303 | -14.5303 | 0.0 | 2.3633  | 2.0217   | 1.1690  | 1            | 1  | 183.45  | 0 |
| 7   | -7 | 6 | 30.7770 | 33.6885 | -33.6885 | 0.0 | -2.9115 | 1.4522   | -2.0050 | 1            | 1  | 918.36  | 0 |
| 7   | -7 | 7 | 31.3246 | 31.9703 | 31.9703  | 0.0 | -0.6457 | 1.7019   | -0.3794 | 1            | 1  | 766.01  | 0 |
| 6   | -7 | 1 | 6.6551  | 6.8897  | 6.8897   | 0.0 | -0.2346 | 4.0164   | -0.0584 | 1            | 0  | 54.58   | 0 |
| 6   | -7 | 2 | 46.1415 | 47.2198 | 47.2198  | 0.0 | -1.0783 | 1.2436   | -0.8670 | 1            | 1  | 2494.74 | 0 |
| 6   | -7 | 3 | 8.1280  | 10.8863 | -10.8863 | 0.0 | -2.7583 | 3.4589   | -0.7975 | 1            | 0  | 126.90  | 0 |
| 6   | -7 | 4 | 39.5792 | 40.1056 | -40.1057 | 0.0 | -0.5264 | 1.1992   | -0.4390 | 1            | 1  | 1624.90 | 0 |
| 6   | -7 | 5 | 29.5004 | 29.9270 | 29.9270  | 0.0 | -0.4266 | 1.2672   | -0.3366 | 1            | 1  | 843.91  | 0 |
| 6   | -7 | 7 | 10.8668 | 4.0018  | -4.0018  | 0.0 | 6.8651  | 3.2610   | 2.1052  | 1            | 1  | 12.83   | 0 |
| 6   | -7 | 8 | 44.5902 | 45.6385 | -45.6385 | 0.0 | -1.0484 | 1.3904   | -0.7540 | 1            | 1  | 1530.05 | 0 |
| 1   | H  | K | L       | Y(OBS)  | Y(CALC)  | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL      | Q |
| 5   | -7 | 1 | 30.9160 | 31.8433 | -31.8433 | 0.0 | 0.8872  | 1.2155   | 1.2155  | 1            | 1  | 1.2155  | 0 |

|    |    |   |          |          |           |     |         |          |         |              |       |          |      |
|----|----|---|----------|----------|-----------|-----|---------|----------|---------|--------------|-------|----------|------|
| 5  | -7 | 1 | 30.9160  | 31.8433  | -31.8433  | 0.0 | -0.9273 | 1.1065   | -0.8380 | 1            | 1     | 1283.75  | 0    |
| 5  | -7 | 2 | 24.7197  | 24.6211  | 24.6211   | 0.0 | 0.0986  | 1.1727   | 0.0841  | 1            | 1     | 744.32   | 0    |
| 5  | -7 | 3 | 47.3463  | 46.7221  | -46.7221  | 0.0 | 0.6242  | 1.2374   | 0.5044  | 1            | 1     | 2552.14  | 0    |
| 5  | -7 | 4 | 40.8520  | 41.0979  | -41.0979  | 0.0 | -0.2460 | 1.1702   | -0.2102 | 1            | 1     | 1851.63  | 0    |
| 5  | -7 | 5 | 52.4462  | 52.4049  | -52.4049  | 0.0 | 0.0414  | 1.3337   | 0.0310  | 1            | 1     | 2789.37  | 0    |
| 5  | -7 | 6 | 14.4318  | 12.7497  | 12.7497   | 0.0 | 1.6821  | 2.1614   | 0.7783  | 1            | 1     | 151.64   | 0    |
| 5  | -7 | 8 | 38.2768  | 37.6469  | -37.6469  | 0.0 | 0.6300  | 1.3318   | 0.4730  | 1            | 1     | 1999.39  | 0    |
| 4  | -7 | 1 | 24.9914  | 25.8447  | 25.8447   | 0.0 | -0.8532 | 1.1266   | -0.7573 | 1            | 1     | 923.61   | 0    |
| 4  | -7 | 2 | 10.1285  | 9.3380   | 9.3380    | 0.0 | 0.7906  | 2.2566   | 0.3503  | 1            | 1     | 116.52   | 0    |
| 4  | -7 | 3 | 56.7545  | 57.5570  | -57.5570  | 0.0 | -0.8026 | 1.3790   | -0.5820 | 1            | 1     | 4192.96  | 0    |
| 4  | -7 | 4 | 37.6060  | 37.2315  | 37.2315   | 0.0 | 0.3745  | 1.1212   | 0.3340  | 1            | 1     | 1634.93  | 0    |
| 4  | -7 | 5 | 19.7700  | 18.6332  | 18.6332   | 0.0 | 1.1368  | 1.4453   | 0.7866  | 1            | 1     | 376.91   | 0    |
| 4  | -7 | 6 | 10.7467  | 12.4998  | -12.4998  | 0.0 | -1.7531 | 2.7245   | -0.6434 | 1            | 1     | 154.77   | 0    |
| 4  | -7 | 7 | 27.7767  | 27.5038  | -27.5038  | 0.0 | 0.2729  | 1.3555   | 0.2014  | 1            | 1     | 679.96   | 0    |
| 4  | -7 | 8 | 12.7884  | 9.6249   | 9.6249    | 0.0 | 3.1636  | 2.7269   | 1.1602  | 1            | 1     | 75.36    | 0    |
| 4  | -7 | 9 | 29.4734  | 29.9837  | 29.9837   | 0.0 | -0.5104 | 1.5197   | -0.3358 | 1            | 1     | 661.94   | 0    |
| 3  | -7 | 1 | 46.8319  | 46.0156  | 46.0156   | 0.0 | 0.8163  | 1.1834   | 0.6998  | 1            | 1     | 3159.44  | 0    |
| 3  | -7 | 2 | 41.4795  | 43.9408  | 43.9408   | 0.0 | -2.4612 | 1.1101   | -2.2172 | 1            | 1     | 2774.18  | 0    |
| 3  | -7 | 3 | 67.6665  | 68.5392  | -68.5392  | 0.0 | -0.8726 | 1.5880   | -0.5495 | 1            | 1     | 6360.48  | 0    |
| 3  | -7 | 4 | 21.7046  | 19.7230  | -19.7230  | 0.0 | 1.9816  | 1.1629   | 1.7041  | 1            | 1     | 487.92   | 0    |
| 3  | -7 | 5 | 32.4488  | 31.1164  | 31.1164   | 0.0 | 1.3324  | 1.1017   | 1.2093  | 1            | 1     | 1111.06  | 0    |
| 3  | -7 | 6 | 9.5905   | 12.9052  | 12.9052   | 0.0 | -3.3147 | 2.8612   | -1.1585 | 1            | 1     | 173.36   | 0    |
| 3  | -7 | 7 | 55.5485  | 55.8095  | -55.8095  | 0.0 | -0.2610 | 1.4102   | -0.1851 | 1            | 1     | 2926.01  | 0    |
| 3  | -7 | 8 | 25.7336  | 27.4170  | -27.4170  | 0.0 | -1.6834 | 1.4888   | -1.1307 | 1            | 1     | 635.80   | 0    |
| 3  | -7 | 9 | 31.1506  | 31.3125  | 31.3125   | 0.0 | -0.1619 | 1.4399   | -0.1124 | 1            | 1     | 746.91   | 0    |
| 2  | -7 | 1 | 19.1415  | 19.3737  | -19.3737  | 0.0 | -0.2522 | 1.1058   | -0.2100 | 1            | 1     | 594.32   | 0    |
| 2  | -7 | 2 | 52.0239  | 51.7956  | -51.7956  | 0.0 | 0.2283  | 1.2641   | 0.1806  | 1            | 1     | 4077.63  | 0    |
| 2  | -7 | 3 | 7.1235   | 8.3295   | 8.3295    | 0.0 | -1.2061 | 2.8126   | -0.4288 | 1            | 0     | 98.94    | 0    |
| 2  | -7 | 4 | 36.6925  | 38.3859  | 38.3859   | 0.0 | -1.6934 | 1.0587   | -1.5996 | 1            | 1     | 1936.78  | 0    |
| 2  | -7 | 5 | 9.5755   | 11.3019  | -11.3019  | 0.0 | -1.7263 | 2.4633   | -0.7008 | 1            | 1     | 152.83   | 0    |
| 2  | -7 | 6 | 50.6022  | 49.9461  | -49.9461  | 0.0 | 0.6560  | 1.2880   | 0.5094  | 1            | 1     | 2694.91  | 0    |
| 2  | -7 | 7 | 6.6101   | 8.9525   | 8.9525    | 0.0 | -2.3425 | 4.3614   | -0.5371 | 1            | 0     | 77.80    | 0    |
| 2  | -7 | 8 | 20.3381  | 21.0060  | 21.0060   | 0.0 | -0.6678 | 1.6884   | -0.3955 | 1            | 1     | 384.14   | 0    |
| 2  | -7 | 9 | 6.5926   | 9.1941   | -9.1941   | 0.0 | -2.6014 | 5.4957   | -0.4734 | 1            | 0     | 66.03    | 0    |
| 1  | -7 | 1 | 14.0309  | 11.4367  | -11.4367  | 0.0 | 2.5942  | 1.3220   | 1.9623  | 1            | 1     | 215.13   | 0    |
| 1  | -7 | 2 | 113.4121 | 112.6874 | -112.6875 | 0.0 | 0.7247  | 2.5760   | 0.2813  | 1            | 1     | 20003.15 | 0    |
| 1  | -7 | 3 | 107.3340 | 105.7298 | -105.7299 | 0.0 | 1.6042  | 2.4417   | 0.6570  | 1            | 1     | 16469.93 | 0    |
| 1  | -7 | 4 | 38.4119  | 38.6734  | 38.6734   | 0.0 | -0.2615 | 1.0637   | -0.2458 | 1            | 1     | 2024.26  | 0    |
| 1  | -7 | 5 | 38.1333  | 36.8397  | -36.8397  | 0.0 | 1.2937  | 1.0770   | 1.2012  | 1            | 1     | 1666.49  | 0    |
| 1  | -7 | 6 | 13.7694  | 9.3155   | -9.3155   | 0.0 | 4.4539  | 1.7998   | 2.4747  | 1            | 1     | 95.91    | 0    |
| 1  | -7 | 7 | 37.0603  | 36.6911  | -36.6911  | 0.0 | 0.3693  | 1.1609   | 0.3181  | 1            | 1     | 1333.29  | 0    |
| 1  | -7 | 8 | 71.2838  | 70.8131  | 70.8132   | 0.0 | 0.4707  | 1.6965   | 0.2774  | 1            | 1     | 4442.82  | 0    |
| 1  | -7 | 9 | 51.8458  | 49.8013  | 49.8013   | 0.0 | 2.0446  | 1.3824   | 1.4790  | 1            | 1     | 1967.30  | 0    |
| 0  | -7 | 1 | 68.2079  | 67.6979  | -67.6979  | 0.0 | 0.5100  | 1.5832   | 0.3221  | 1            | 1     | 7636.49  | 0    |
| 0  | -7 | 2 | 6.3003   | 7.1387   | 7.1387    | 0.0 | -0.8384 | 2.8600   | -0.2931 | 1            | 0     | 81.25    | 0    |
| 0  | -7 | 3 | 30.7279  | 32.1579  | 32.1579   | 0.0 | -1.4300 | 0.9746   | -1.4672 | 1            | 1     | 1540.33  | 0    |
| 0  | -7 | 4 | 5.0569   | 6.6184   | 6.6184    | 0.0 | -1.5615 | 4.4838   | -0.3483 | 1            | 0     | 59.86    | 0    |
| 0  | -7 | 5 | 66.5110  | 67.1287  | -67.1287  | 0.0 | -0.6177 | 1.5675   | -0.3940 | 1            | 1     | 5580.29  | 0    |
| 0  | -7 | 7 | 24.0566  | 31.9202  | 31.9202   | 0.0 | -7.8636 | 2.5919   | -3.0339 | 1            | 1     | 1015.56  | 0    |
| 0  | -7 | 8 | 14.1862  | 11.0419  | -11.0419  | 0.0 | 3.1443  | 2.1768   | 1.4445  | 1            | 1     | 108.62   | 0    |
| 0  | -7 | 9 | 27.2531  | 26.3961  | -26.3961  | 0.0 | 0.8570  | 1.4841   | 0.5774  | 1            | 1     | 555.31   | 0    |
| -1 | -7 | 0 | 17.6072  | 17.7527  | -17.7527  | 0.0 | -0.1455 | 0.8592   | -0.1693 | 1            | 1     | 526.11   | 0    |
| -1 | -7 | 1 | 5.5368   | 0.1848   | -0.1848   | 0.0 | 5.3520  | 3.1832   | 1.6813  | 1            | 0     | 0.06     | 1    |
| -1 | -7 | 2 | 111.1083 | 109.2346 | -109.2346 | 0.0 | 1.8737  | 2.5246   | 0.7422  | 1            | 1     | 18784.65 | 0    |
| -1 | -7 | 3 | 93.4600  | 92.2244  | 92.2244   | 0.0 | 1.2356  | 2.1345   | 0.5789  | 1            | 1     | 12520.57 | 0    |
| 1  | H  | K | L        | Y(OBS)   | Y(CALC)   | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ IL | Q        | EXTI |
| -1 | -7 | 4 | 46.8866  | 46.3493  | 46.3493   | 0.0 | 0.5373  | 1.1798   | 0.4554  | 1            | 1     | 2904.66  | 0    |



|    |    |   |         |         |          |     |         |          |         |              |       |         |      |
|----|----|---|---------|---------|----------|-----|---------|----------|---------|--------------|-------|---------|------|
| -1 | -7 | 4 | 46.8866 | 46.3493 | 46.3493  | 0.0 | 0.5373  | 1.1798   | 0.4554  | 1            | 1     | 2904.66 | 0    |
| -1 | -7 | 5 | 39.6007 | 39.4314 | 39.4314  | 0.0 | 0.1693  | 1.1021   | 0.1536  | 1            | 1     | 1907.10 | 0    |
| -1 | -7 | 6 | 18.0684 | 17.6126 | -17.6127 | 0.0 | 0.4558  | 1.4764   | 0.3087  | 1            | 1     | 342.45  | 0    |
| -1 | -7 | 7 | 39.4424 | 40.3597 | 40.3597  | 0.0 | -0.9173 | 1.1826   | -0.7757 | 1            | 1     | 1611.30 | 0    |
| -1 | -7 | 8 | 69.1439 | 68.5417 | 68.5417  | 0.0 | 0.5022  | 1.6557   | 0.3637  | 1            | 1     | 4157.33 | 0    |
| -1 | -7 | 9 | 25.4335 | 27.2610 | -27.2610 | 0.0 | -1.8275 | 1.5610   | -1.1707 | 1            | 1     | 588.79  | 0    |
| -2 | -7 | 0 | 39.8247 | 39.5114 | -39.5114 | 0.0 | 0.3133  | 0.9787   | 0.3201  | 1            | 1     | 2506.66 | 0    |
| -2 | -7 | 1 | 13.8731 | 10.8626 | -10.8626 | 0.0 | 3.0105  | 1.4054   | 2.1421  | 1            | 1     | 186.72  | 23   |
| -2 | -7 | 2 | 57.9944 | 56.7401 | 56.7401  | 0.0 | 1.2543  | 1.3801   | 0.9088  | 1            | 1     | 4887.64 | 0    |
| -2 | -7 | 3 | 9.5386  | 9.6475  | 9.6475   | 0.0 | -0.1089 | 2.1800   | -0.0500 | 1            | 1     | 132.51  | 0    |
| -2 | -7 | 4 | 33.2806 | 32.1661 | -32.1661 | 0.0 | 1.1145  | 1.0369   | 1.0749  | 1            | 1     | 1357.36 | 0    |
| -2 | -7 | 5 | 14.7635 | 13.7508 | -13.7508 | 0.0 | 1.0127  | 1.6592   | 0.6104  | 1            | 1     | 225.76  | 0    |
| -2 | -7 | 6 | 35.6695 | 36.5883 | 36.5883  | 0.0 | -0.9188 | 1.1493   | -0.7995 | 1            | 1     | 1442.89 | 0    |
| -2 | -7 | 7 | 14.8124 | 10.7265 | 10.7265  | 0.0 | 4.0859  | 1.9584   | 2.0863  | 1            | 1     | 111.43  | 0    |
| -2 | -7 | 8 | 32.9193 | 30.0971 | -30.0972 | 0.0 | 2.8221  | 1.2684   | 2.2249  | 1            | 1     | 786.74  | 0    |
| -3 | -7 | 0 | 9.2261  | 2.7342  | -2.7342  | 0.0 | 6.4919  | 1.5624   | 4.1552  | 1            | 1     | 11.30   | 1    |
| -3 | -7 | 1 | 52.8782 | 52.3983 | -52.3983 | 0.0 | 0.4799  | 1.2915   | 0.3716  | 1            | 1     | 4093.23 | 0    |
| -3 | -7 | 2 | 49.1910 | 50.4848 | 50.4848  | 0.0 | -1.2937 | 1.2252   | -1.0559 | 1            | 1     | 3656.09 | 0    |
| -3 | -7 | 3 | 45.5145 | 47.1913 | 47.1913  | 0.0 | -1.6768 | 1.1760   | -1.4258 | 1            | 1     | 3008.57 | 0    |
| -3 | -7 | 4 | 5.4145  | 1.9655  | -1.9655  | 0.0 | 3.4490  | 4.2370   | 0.8140  | 1            | 0     | 4.83    | 1    |
| -3 | -7 | 5 | 35.3628 | 35.4409 | -35.4409 | 0.0 | -0.0781 | 1.1170   | -0.0699 | 1            | 1     | 1436.94 | 0    |
| -3 | -7 | 6 | 42.7295 | 43.4212 | 43.4212  | 0.0 | -0.6917 | 1.2037   | -0.5746 | 1            | 1     | 1956.16 | 0    |
| -3 | -7 | 7 | 34.7752 | 35.2020 | 35.2020  | 0.0 | -0.4268 | 1.2258   | -0.3482 | 1            | 1     | 1160.16 | 0    |
| -3 | -7 | 8 | 6.7413  | 1.8415  | -1.8415  | 0.0 | 4.8998  | 4.9793   | 0.9840  | 1            | 0     | 2.86    | 1    |
| -3 | -7 | 9 | 14.1934 | 16.8782 | -16.8782 | 0.0 | -2.6848 | 2.7321   | -0.9827 | 1            | 1     | 216.28  | 0    |
| -4 | -7 | 0 | 45.3346 | 44.0645 | -44.0645 | 0.0 | 1.2701  | 1.1044   | 1.1501  | 1            | 1     | 2715.64 | 0    |
| -4 | -7 | 1 | 21.8940 | 22.2571 | 22.2571  | 0.0 | -0.3631 | 1.2127   | -0.2994 | 1            | 1     | 684.29  | 0    |
| -4 | -7 | 2 | 5.8347  | 6.5814  | 6.5814   | 0.0 | -0.7468 | 3.9494   | -0.1891 | 1            | 0     | 57.77   | 0    |
| -4 | -7 | 3 | 76.4859 | 76.3930 | -76.3930 | 0.0 | 0.0929  | 1.7810   | 0.0522  | 1            | 1     | 7366.05 | 0    |
| -4 | -7 | 4 | 14.3930 | 9.6074  | -9.6074  | 0.0 | 4.7855  | 1.7502   | 2.7342  | 1            | 1     | 108.50  | 0    |
| -4 | -7 | 5 | 12.4362 | 9.2144  | -9.2144  | 0.0 | 3.2218  | 2.2056   | 1.4607  | 1            | 1     | 91.82   | 0    |
| -4 | -7 | 6 | 20.3982 | 22.8355 | 22.8355  | 0.0 | -2.4373 | 1.5934   | -1.5296 | 1            | 1     | 514.41  | 0    |
| -4 | -7 | 7 | 49.5647 | 49.3036 | -49.3036 | 0.0 | 0.2610  | 1.3402   | 0.1948  | 1            | 1     | 2175.65 | 0    |
| -4 | -7 | 8 | 4.7770  | 3.0203  | -3.0203  | 0.0 | 1.7567  | 7.4660   | 0.2353  | 1            | 0     | 7.39    | 1    |
| -4 | -7 | 9 | 29.5010 | 28.8580 | 28.8580  | 0.0 | 0.6430  | 1.5394   | 0.4177  | 1            | 1     | 610.54  | 0    |
| -5 | -7 | 0 | 35.1598 | 33.5433 | -33.5433 | 0.0 | 1.6166  | 0.9637   | 1.6774  | 1            | 1     | 1438.91 | 0    |
| -5 | -7 | 1 | 38.8241 | 38.8861 | 38.8861  | 0.0 | -0.0620 | 1.1422   | -0.0542 | 1            | 1     | 1912.20 | 0    |
| -5 | -7 | 2 | 30.4883 | 30.7397 | 30.7398  | 0.0 | -0.2515 | 1.1318   | -0.2222 | 1            | 1     | 1157.66 | 0    |
| -5 | -7 | 3 | 56.2635 | 55.6103 | 55.6103  | 0.0 | 0.6532  | 1.3935   | 0.4687  | 1            | 1     | 3604.21 | 0    |
| -5 | -7 | 4 | 33.3738 | 31.8718 | -31.8718 | 0.0 | 1.5020  | 1.1563   | 1.2990  | 1            | 1     | 1109.30 | 0    |
| -5 | -7 | 5 | 66.9408 | 66.3331 | 66.3331  | 0.0 | 0.6077  | 1.6050   | 0.3786  | 1            | 1     | 4449.39 | 0    |
| -5 | -7 | 6 | 20.7034 | 18.7348 | 18.7348  | 0.0 | 1.9686  | 1.6509   | 1.1924  | 1            | 1     | 325.86  | 0    |
| -5 | -7 | 7 | 12.4637 | 11.3720 | 11.3720  | 0.0 | 1.0917  | 2.7807   | 0.3926  | 1            | 1     | 109.61  | 0    |
| -5 | -7 | 8 | 34.1359 | 34.7395 | -34.7396 | 0.0 | -0.6036 | 1.4018   | -0.4306 | 1            | 1     | 931.36  | 0    |
| -6 | -7 | 0 | 5.9572  | 1.2811  | -1.2811  | 0.0 | 4.6762  | 3.2818   | 1.4249  | 1            | 0     | 1.90    | 1    |
| -6 | -7 | 1 | 36.2929 | 36.1273 | 36.1273  | 0.0 | 0.1657  | 1.1858   | 0.1397  | 1            | 1     | 1498.82 | 0    |
| -6 | -7 | 2 | 62.0104 | 60.8751 | -60.8751 | 0.0 | 1.1353  | 1.5120   | 0.7509  | 1            | 1     | 4136.41 | 0    |
| -6 | -7 | 3 | 6.1390  | 1.0016  | 1.0016   | 0.0 | 5.1374  | 4.7312   | 1.0859  | 1            | 0     | 1.07    | 1    |
| -6 | -7 | 4 | 29.8138 | 29.3082 | 29.3082  | 0.0 | 0.5056  | 1.2711   | 0.3978  | 1            | 1     | 864.09  | 0    |
| -6 | -7 | 5 | 19.6328 | 19.5045 | 19.5045  | 0.0 | 0.1283  | 1.7270   | 0.0743  | 1            | 1     | 356.72  | 0    |
| -6 | -7 | 6 | 9.3194  | 3.1071  | -3.1071  | 0.0 | 6.2123  | 3.6940   | 1.6817  | 1            | 0     | 8.37    | 1    |
| -6 | -7 | 7 | 13.1594 | 15.1033 | -15.1033 | 0.0 | -1.9439 | 2.9547   | -0.6579 | 1            | 1     | 181.75  | 0    |
| -6 | -7 | 8 | 54.0969 | 56.2386 | 56.2386  | 0.0 | -2.1417 | 1.4971   | -1.4306 | 1            | 1     | 2310.13 | 0    |
| -7 | -7 | 0 | 53.7130 | 54.6163 | 54.6163  | 0.0 | -0.9034 | 1.5889   | -0.5685 | 1            | 1     | 3123.53 | 0    |
| -7 | -7 | 1 | 47.7056 | 46.8262 | 46.8262  | 0.0 | 0.8794  | 1.3471   | 0.6528  | 1            | 1     | 2275.33 | 0    |
| 1  | H  | K | L       | Y(OBS)  | Y(CALC)  | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ IL | Q       | EXTI |
| -7 | -7 | 2 | 30.3227 | 27.1943 | 27.1943  | 0.0 | 3.1284  | 1.3076   | 2.3924  | 1            | 1     | 768.17  | 0    |

|     |    |   |         |         |          |     |         |          |         |              |    |         |   |      |
|-----|----|---|---------|---------|----------|-----|---------|----------|---------|--------------|----|---------|---|------|
| -7  | -7 | 2 | 30.3227 | 27.1943 | 27.1943  | 0.0 | 3.1284  | 1.3076   | 2.3924  | 1            | 1  | 748.17  | 0 |      |
| -7  | -7 | 3 | 67.4250 | 66.9303 | -66.9303 | 0.0 | 0.4947  | 1.6435   | 0.3010  | 1            | 1  | 4352.95 | 0 |      |
| -7  | -7 | 4 | 17.1785 | 17.2703 | 17.2703  | 0.0 | -0.0918 | 2.0813   | -0.0441 | 1            | 1  | 274.80  | 0 |      |
| -7  | -7 | 5 | 9.3853  | 9.6601  | 9.6601   | 0.0 | -0.2748 | 3.9426   | -0.0697 | 1            | 0  | 80.67   | 0 |      |
| -7  | -7 | 6 | 20.9300 | 20.2619 | -20.2620 | 0.0 | 0.6681  | 1.9420   | 0.3440  | 1            | 1  | 330.33  | 0 |      |
| -7  | -7 | 7 | 59.9561 | 59.2943 | -59.2943 | 0.0 | 0.6618  | 1.6402   | 0.4035  | 1            | 1  | 2619.21 | 0 |      |
| -8  | -7 | 0 | 2.7589  | 8.9850  | 8.9850   | 0.0 | -6.2260 | 9.3757   | -0.6641 | 1            | 0  | 76.13   | 0 |      |
| -8  | -7 | 1 | 16.3779 | 15.4795 | -15.4795 | 0.0 | 0.8984  | 2.3346   | 0.3848  | 1            | 1  | 224.13  | 0 |      |
| -8  | -7 | 2 | 35.4683 | 35.7346 | -35.7346 | 0.0 | -0.2663 | 1.3763   | -0.1935 | 1            | 1  | 1167.73 | 0 |      |
| -8  | -7 | 3 | 41.8638 | 42.2716 | 42.2716  | 0.0 | -0.4077 | 1.3653   | -0.2986 | 1            | 1  | 1576.23 | 0 |      |
| -8  | -7 | 4 | 23.7041 | 19.0217 | 19.0217  | 0.0 | 4.6824  | 1.6879   | 2.7740  | 1            | 1  | 304.29  | 0 |      |
| -8  | -7 | 5 | 10.9516 | 7.3340  | -7.3340  | 0.0 | 3.6176  | 3.6150   | 1.0007  | 1            | 1  | 42.71   | 0 |      |
| -9  | -7 | 0 | 31.3731 | 28.9865 | 28.9865  | 0.0 | 2.3866  | 1.1948   | 1.9974  | 1            | 1  | 713.30  | 0 |      |
| -9  | -7 | 1 | 8.2069  | 5.6369  | 5.6369   | 0.0 | 2.5701  | 5.1938   | 0.4948  | 1            | 0  | 26.78   | 0 |      |
| -9  | -7 | 2 | 48.0734 | 44.7517 | -44.7517 | 0.0 | 3.3217  | 1.4550   | 2.2829  | 1            | 1  | 1654.38 | 0 |      |
| -9  | -7 | 3 | 27.9841 | 28.1897 | 28.1898  | 0.0 | -0.2056 | 1.6813   | -0.1223 | 1            | 1  | 635.78  | 0 |      |
| -9  | -7 | 4 | 23.6491 | 21.5064 | 21.5064  | 0.0 | 2.1427  | 1.9440   | 1.1022  | 1            | 1  | 354.67  | 0 |      |
| -9  | -7 | 5 | 24.7475 | 21.1790 | 21.1790  | 0.0 | 3.5685  | 1.8950   | 1.8831  | 1            | 1  | 326.82  | 0 |      |
| -10 | -7 | 0 | 17.1947 | 15.1143 | -15.1143 | 0.0 | 2.0804  | 2.0242   | 1.0277  | 1            | 1  | 174.98  | 0 |      |
| -10 | -7 | 1 | 12.7209 | 15.5533 | -15.5533 | 0.0 | -2.8323 | 4.0169   | -0.7051 | 1            | 1  | 184.01  | 0 |      |
| -10 | -7 | 2 | 9.8249  | 9.0340  | 9.0340   | 0.0 | 0.7909  | 4.9614   | 0.1594  | 1            | 0  | 60.99   | 0 |      |
| -10 | -7 | 3 | 50.6423 | 48.5726 | 48.5726  | 0.0 | 2.0697  | 1.5455   | 1.3392  | 1            | 1  | 1714.26 | 0 |      |
| 9   | -8 | 1 | 24.0079 | 21.9147 | 21.9147  | 0.0 | 2.0932  | 1.7940   | 1.1668  | 1            | 1  | 376.12  | 0 |      |
| 9   | -8 | 2 | 13.3854 | 12.1916 | 12.1916  | 0.0 | 1.1938  | 2.9994   | 0.3980  | 1            | 1  | 114.42  | 0 |      |
| 9   | -8 | 3 | 56.9106 | 57.4563 | -57.4563 | 0.0 | -0.5457 | 1.5223   | -0.3585 | 1            | 1  | 2470.91 | 0 |      |
| 8   | -8 | 1 | 21.5434 | 20.7281 | 20.7281  | 0.0 | 0.8153  | 1.7654   | 0.4618  | 1            | 1  | 369.89  | 0 |      |
| 8   | -8 | 2 | 32.1772 | 32.9361 | 32.9361  | 0.0 | -0.7589 | 1.3880   | -0.5468 | 1            | 1  | 915.97  | 0 |      |
| 8   | -8 | 4 | 8.5379  | 6.7798  | 6.7798   | 0.0 | 1.7581  | 5.8350   | 0.3013  | 1            | 0  | 36.04   | 0 |      |
| 8   | -8 | 5 | 19.9628 | 18.7819 | 18.7819  | 0.0 | 1.1810  | 2.0252   | 0.5831  | 1            | 1  | 262.64  | 0 |      |
| 7   | -8 | 1 | 10.3327 | 5.5127  | 5.5127   | 0.0 | 4.8201  | 3.0906   | 1.5596  | 1            | 1  | 28.73   | 0 |      |
| 7   | -8 | 2 | 83.0864 | 83.6325 | -83.6325 | 0.0 | -0.5461 | 1.9437   | -0.2810 | 1            | 1  | 6470.04 | 0 |      |
| 7   | -8 | 3 | 1.8173  | 5.2261  | 5.2261   | 0.0 | -3.4087 | 18.1896  | -0.1874 | 1            | 0  | 24.39   | 0 |      |
| 7   | -8 | 4 | 38.6443 | 40.4075 | 40.4075  | 0.0 | -1.7632 | 1.3000   | -1.3563 | 1            | 1  | 1390.52 | 0 |      |
| 7   | -8 | 6 | 38.6915 | 39.2182 | -39.2182 | 0.0 | -0.5267 | 1.3824   | -0.3810 | 1            | 1  | 1159.35 | 0 |      |
| 6   | -8 | 1 | 6.7173  | 4.2739  | 4.2739   | 0.0 | 2.4435  | 4.3497   | 0.5618  | 1            | 0  | 18.90   | 0 |      |
| 6   | -8 | 2 | 20.4668 | 22.3486 | 22.3486  | 0.0 | -1.8817 | 1.7470   | -1.0771 | 1            | 1  | 504.40  | 0 |      |
| 6   | -8 | 3 | 59.8872 | 60.5083 | -60.5083 | 0.0 | -0.6211 | 1.4798   | -0.4198 | 1            | 1  | 3555.56 | 0 |      |
| 6   | -8 | 4 | 10.8646 | 9.3220  | -9.3220  | 0.0 | 1.5426  | 3.1727   | 0.4862  | 1            | 1  | 80.10   | 0 |      |
| 6   | -8 | 5 | 20.9668 | 22.3362 | -22.3362 | 0.0 | -1.3694 | 1.6885   | -0.8110 | 1            | 1  | 431.87  | 0 |      |
| 6   | -8 | 6 | 48.7755 | 49.1637 | -49.1637 | 0.0 | -0.3881 | 1.3815   | -0.2809 | 1            | 1  | 1948.98 | 0 |      |
| 6   | -8 | 7 | 26.8587 | 26.9838 | -26.9839 | 0.0 | -0.1251 | 1.5642   | -0.0800 | 1            | 1  | 543.93  | 0 |      |
| 5   | -8 | 1 | 72.9556 | 73.4972 | -73.4972 | 0.0 | -0.5416 | 1.7209   | -0.3147 | 1            | 1  | 6081.05 | 0 |      |
| 5   | -8 | 2 | 14.0474 | 12.6602 | -12.6602 | 0.0 | 1.3872  | 1.9699   | 0.7042  | 1            | 1  | 175.68  | 0 |      |
| 5   | -8 | 3 | 27.6464 | 28.6959 | 28.6959  | 0.0 | -1.0495 | 1.2686   | -0.8273 | 1            | 1  | 864.57  | 0 |      |
| 5   | -8 | 4 | 14.7196 | 12.8472 | 12.8472  | 0.0 | 1.8724  | 2.0331   | 0.9210  | 1            | 1  | 163.69  | 0 |      |
| 5   | -8 | 5 | 62.9183 | 63.6668 | -63.6667 | 0.0 | -0.7485 | 1.5401   | -0.4860 | 1            | 1  | 3754.54 | 0 |      |
| 5   | -8 | 6 | 24.7755 | 26.9369 | -26.9369 | 0.0 | -2.1615 | 1.5246   | -1.4177 | 1            | 1  | 622.42  | 0 |      |
| 5   | -8 | 7 | 38.3352 | 37.2196 | 37.2196  | 0.0 | 1.1156  | 1.3305   | 0.8385  | 1            | 1  | 1094.26 | 0 |      |
| 4   | -8 | 1 | 29.2231 | 29.0368 | -29.0368 | 0.0 | 0.1863  | 1.1333   | 0.1644  | 1            | 1  | 1024.00 | 0 |      |
| 4   | -8 | 2 | 33.9337 | 39.8242 | -39.8242 | 0.0 | -5.8905 | 1.2817   | -4.5959 | 1            | 1  | 1870.63 | 0 |      |
| 4   | -8 | 3 | 23.0566 | 22.8605 | -22.8605 | 0.0 | 0.1961  | 1.3063   | 0.1501  | 1            | 1  | 588.17  | 0 |      |
| 4   | -8 | 4 | 17.2723 | 17.6121 | 17.6121  | 0.0 | -0.3398 | 1.9299   | -0.1761 | 1            | 1  | 328.20  | 0 |      |
| 4   | -8 | 5 | 39.4564 | 39.0435 | -39.0435 | 0.0 | 0.4128  | 1.2046   | 0.3427  | 1            | 1  | 1498.68 | 0 |      |
| 4   | -8 | 6 | 10.5458 | 7.1003  | 7.1003   | 0.0 | 3.4455  | 3.1759   | 1.0849  | 1            | 1  | 45.66   | 0 |      |
| 4   | -8 | 7 | 5.5865  | -1.0288 | -1.0288  | 0.0 | 4.5577  | 6.1516   | 0.7409  | 1            | 0  | 0.88    | 1 |      |
| 1   | H  | K | L       | Y(JBS)  | Y(CALC)  | A   | B       | DRS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL      | Q | EYTI |
| 4   | -8 | 8 | 29.2203 | 28.4591 | 28.4591  | 0.0 | 0.7612  | 1.4954   | 0.5090  | 1            | 1  | 613.46  | 0 |      |



|    |    |   |          |          |           |     |         |          |         |              |    |          |    |     |
|----|----|---|----------|----------|-----------|-----|---------|----------|---------|--------------|----|----------|----|-----|
| 4  | -8 | 8 | 29.2203  | 28.4591  | 28.4591   | 0.0 | 0.7612  | 1.4954   | 0.5090  | 1            | 1  | 613.46   | 0  |     |
| 3  | -8 | 1 | 37.9316  | 36.9821  | -36.9821  | 0.0 | 0.9495  | 1.0854   | 0.8748  | 1            | 1  | 1771.21  | 0  |     |
| 3  | -8 | 2 | 24.4551  | 24.5164  | 24.5164   | 0.0 | -0.0613 | 1.1579   | -0.0529 | 1            | 1  | 754.11   | 0  |     |
| 3  | -8 | 3 | 53.1350  | 53.3130  | 53.3130   | 0.0 | -0.1780 | 1.3263   | -0.1342 | 1            | 1  | 3390.51  | 0  |     |
| 3  | -8 | 4 | 40.0368  | 40.8165  | -40.8166  | 0.0 | -0.7798 | 1.1544   | -0.6754 | 1            | 1  | 1860.35  | 0  |     |
| 3  | -9 | 5 | 19.6356  | 19.0160  | -19.0160  | 0.0 | 0.6196  | 1.4829   | 0.4178  | 1            | 1  | 373.46   | 0  |     |
| 3  | -8 | 6 | 76.5675  | 77.2145  | 77.2145   | 0.0 | -0.5470 | 1.7999   | -0.3595 | 1            | 1  | 5645.49  | 0  |     |
| 3  | -8 | 7 | 35.3615  | 35.0372  | 35.0372   | 0.0 | 0.3242  | 1.2696   | 0.2554  | 1            | 1  | 1059.75  | 0  |     |
| 3  | -8 | 8 | 13.0005  | 5.1301   | 5.1301    | 0.0 | 7.8704  | 2.7549   | 2.8568  | 1            | 1  | 20.65    | 0  |     |
| 2  | -8 | 1 | 30.2917  | 31.4349  | -31.4349  | 0.0 | -1.1432 | 1.0371   | -1.1023 | 1            | 1  | 1344.17  | 0  |     |
| 2  | -8 | 3 | 24.1748  | 24.5244  | -24.5244  | 0.0 | -0.3496 | 1.1307   | -0.3092 | 1            | 1  | 749.79   | 0  |     |
| 2  | -8 | 5 | 47.0502  | 48.0734  | -48.0734  | 0.0 | -1.0231 | 1.2443   | -0.8222 | 1            | 1  | 2476.40  | 0  |     |
| 2  | -8 | 9 | 8.2431   | 6.1810   | 6.1810    | 0.0 | 2.0621  | 4.5604   | 0.4522  | 1            | 0  | 27.89    | 0  |     |
| 1  | -8 | 1 | 37.1276  | 37.5207  | 37.5208   | 0.0 | -0.3931 | 1.0439   | -0.3766 | 1            | 1  | 1975.24  | 0  |     |
| 1  | -8 | 2 | 39.6611  | 39.1258  | 39.1258   | 0.0 | 0.5353  | 1.0795   | 0.4959  | 1            | 1  | 2073.55  | 0  |     |
| 1  | -8 | 3 | 35.5605  | 35.7316  | -35.7316  | 0.0 | -0.1711 | 1.0557   | -0.1621 | 1            | 1  | 1636.01  | 0  |     |
| 1  | -8 | 4 | 36.1851  | 36.0307  | -36.0307  | 0.0 | 0.1544  | 1.0802   | 0.1429  | 1            | 1  | 1548.10  | 0  |     |
| 1  | -8 | 5 | 49.4727  | 49.4764  | 49.4764   | 0.0 | -0.0038 | 1.2626   | -0.0030 | 1            | 1  | 2683.29  | 0  |     |
| 1  | -8 | 6 | 14.7023  | 8.9287   | 8.9287    | 0.0 | 5.7736  | 1.8670   | 3.0925  | 1            | 1  | 79.64    | 0  |     |
| 1  | -8 | 7 | 22.3748  | 23.0856  | -23.0856  | 0.0 | -0.7108 | 1.5079   | -0.4714 | 1            | 1  | 482.56   | 0  |     |
| 1  | -8 | 8 | 36.8067  | 35.9758  | -35.9758  | 0.0 | 0.8309  | 1.2729   | 0.6528  | 1            | 1  | 1059.50  | 0  |     |
| 1  | -8 | 9 | 34.1666  | 31.6162  | 31.6162   | 0.0 | 2.5504  | 1.3758   | 1.8538  | 1            | 1  | 739.89   | 0  |     |
| 0  | -8 | 0 | 117.9309 | 117.2570 | -117.2570 | 0.0 | 0.6739  | 2.7351   | 0.2464  | 1            | 1  | 19736.21 | 0  |     |
| 0  | -8 | 1 | 23.0882  | 7.5584   | 7.5584    | 0.0 | 15.5298 | 1.2519   | 12.4049 | 1            | 0  | 81.00    | 0  |     |
| 0  | -8 | 2 | 34.9988  | 33.9383  | -33.9383  | 0.0 | 1.0605  | 1.0441   | 1.0157  | 1            | 1  | 1575.71  | 0  |     |
| 0  | -8 | 3 | 7.0456   | 4.9733   | 4.9733    | 0.0 | 2.0723  | 3.0356   | 0.6827  | 1            | 0  | 31.98    | 25 |     |
| 0  | -8 | 4 | 21.0645  | 24.0640  | -24.0640  | 0.0 | -2.9995 | 1.3090   | -2.2914 | 1            | 1  | 696.27   | 0  |     |
| 0  | -8 | 6 | 63.8185  | 64.1585  | 64.1585   | 0.0 | -0.3401 | 1.5372   | -0.2212 | 1            | 1  | 4138.94  | 0  |     |
| 0  | -8 | 7 | 8.8390   | 3.4459   | 3.4459    | 0.0 | 5.3931  | 3.4074   | 1.5828  | 1            | 0  | 10.81    | 1  |     |
| 0  | -8 | 8 | 29.1956  | 27.8346  | 27.8346   | 0.0 | 1.3610  | 2.1720   | 0.6266  | 1            | 1  | 637.43   | 0  |     |
| -1 | -8 | 0 | 29.0804  | 28.9691  | 28.9691   | 0.0 | 0.1113  | 0.8474   | 0.1314  | 1            | 1  | 1191.68  | 0  |     |
| -1 | -8 | 1 | 66.4544  | 66.7967  | 66.7967   | 0.0 | -0.3423 | 1.5596   | -0.2195 | 1            | 1  | 6258.54  | 0  |     |
| -1 | -8 | 2 | 36.5275  | 36.1362  | -36.1362  | 0.0 | 0.3913  | 1.0447   | 0.3745  | 1            | 1  | 1767.89  | 0  |     |
| -1 | -8 | 3 | 16.8573  | 14.6120  | -14.6120  | 0.0 | 2.2453  | 1.3582   | 1.6531  | 1            | 1  | 273.40   | 0  |     |
| -1 | -8 | 4 | 57.6957  | 58.1671  | 58.1671   | 0.0 | -0.4715 | 1.3970   | -0.3375 | 1            | 1  | 4031.23  | 0  |     |
| -1 | -8 | 5 | 57.8746  | 59.4198  | 59.4198   | 0.0 | -1.5452 | 1.4131   | -1.0935 | 1            | 1  | 3866.45  | 0  |     |
| -1 | -8 | 7 | 32.2265  | 30.5778  | -30.5778  | 0.0 | 1.6487  | 1.2440   | 1.3254  | 1            | 1  | 845.69   | 0  |     |
| -1 | -8 | 8 | 57.5977  | 58.8813  | 58.8813   | 0.0 | -1.2835 | 1.4739   | -0.8709 | 1            | 1  | 2835.02  | 0  |     |
| -1 | -8 | 9 | 17.6448  | 17.6538  | 17.6539   | 0.0 | -0.0091 | 2.1966   | -0.0041 | 1            | 1  | 230.44   | 0  |     |
| -2 | -8 | 1 | 23.0947  | 23.3747  | 23.3747   | 0.0 | -0.2800 | 1.1615   | -0.2410 | 1            | 1  | 742.85   | 0  |     |
| -2 | -8 | 3 | 7.1356   | 5.9959   | 5.9959    | 0.0 | 1.1397  | 3.3127   | 0.3440  | 1            | 0  | 44.76    | 0  |     |
| -2 | -8 | 5 | 17.8493  | 19.7401  | 19.7401   | 0.0 | -1.8908 | 1.6089   | -1.1752 | 1            | 1  | 416.76   | 0  |     |
| -2 | -8 | 7 | 16.6442  | 15.8173  | -15.8173  | 0.0 | 0.8269  | 2.0141   | 0.4105  | 1            | 1  | 222.00   | 0  |     |
| -2 | -8 | 9 | 8.9371   | 4.3931   | -4.3931   | 0.0 | 4.5440  | 4.3458   | 1.0456  | 1            | 0  | 14.06    | 1  |     |
| -3 | -8 | 0 | 103.9308 | 102.7662 | 102.7663  | 0.0 | 1.1646  | 2.3568   | 0.4941  | 1            | 1  | 13822.73 | 0  |     |
| -3 | -3 | 1 | 35.0559  | 35.7516  | -35.7516  | 0.0 | -0.6956 | 1.0972   | -0.6340 | 1            | 1  | 1654.12  | 0  |     |
| -3 | -8 | 2 | 20.8630  | 22.6905  | -22.6905  | 0.0 | -1.8275 | 1.3085   | -1.3966 | 1            | 1  | 645.08   | 0  |     |
| -3 | -8 | 3 | 57.4518  | 56.4239  | 56.4239   | 0.0 | 1.0280  | 1.3988   | 0.7349  | 1            | 1  | 3790.44  | 0  |     |
| -3 | -8 | 4 | 49.8815  | 49.9795  | 49.9795   | 0.0 | -0.0980 | 1.2811   | -0.0765 | 1            | 1  | 2782.76  | 0  |     |
| -3 | -8 | 5 | 22.2324  | 22.4090  | -22.4090  | 0.0 | -0.1767 | 1.3939   | -0.1267 | 1            | 1  | 517.22   | 0  |     |
| -3 | -8 | 6 | 75.5427  | 74.4975  | -74.4975  | 0.0 | 1.0453  | 1.7788   | 0.5876  | 1            | 1  | 5239.74  | 0  |     |
| -3 | -8 | 7 | 35.8680  | 36.0286  | 36.0286   | 0.0 | -0.1606 | 1.2847   | -0.1250 | 1            | 1  | 1117.13  | 0  |     |
| -3 | -8 | 8 | 9.3571   | 4.2619   | 4.2619    | 0.0 | 5.0952  | 3.9088   | 1.3035  | 1            | 0  | 14.21    | 1  |     |
| -4 | -8 | 0 | 23.5235  | 23.7315  | -23.7316  | 0.0 | -0.2081 | 1.2144   | -0.1713 | 1            | 1  | 690.66   | 0  |     |
| -4 | -3 | 1 | 28.6492  | 27.4876  | 27.4876   | 0.0 | 1.1615  | 1.1480   | 1.0117  | 1            | 1  | 916.85   | 0  |     |
| 1  | H  | K | L        | Y(OBS)   | Y(CALC)   | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL       | Q  | EXT |
| -4 | -8 | 2 | 48.1206  | 51.3864  | -51.3864  | 0.0 | -3.2658 | 1.3615   | -2.4244 | 1            | 1  | 2188.25  | 0  |     |

|    |    |   |         |         |          |     |         |          |         |              |    |              |   |       |
|----|----|---|---------|---------|----------|-----|---------|----------|---------|--------------|----|--------------|---|-------|
| -4 | -8 | 2 | 48.1206 | 51.3864 | -51.3864 | 0.0 | -3.2658 | 1.3415   | -2.4344 | 1            | 1  | 3109.25      | 0 |       |
| -4 | -8 | 3 | 24.5616 | 23.1768 | 23.1769  | 0.0 | 1.3847  | 1.2495   | 1.1082  | 1            | 1  | 603.12       | 0 |       |
| -4 | -8 | 5 | 42.3665 | 41.8011 | 41.8011  | 0.0 | 0.5654  | 1.2374   | 0.4569  | 1            | 1  | 1712.00      | 0 |       |
| -4 | -8 | 6 | 10.9035 | 10.1881 | 10.1881  | 0.0 | 0.7155  | 3.0295   | 0.2362  | 1            | 1  | 93.65        | 0 |       |
| -4 | -8 | 8 | 47.4925 | 47.8008 | 47.8008  | 0.0 | -0.3083 | 1.4105   | -0.2186 | 1            | 1  | 1723.81      | 0 |       |
| -5 | -8 | 0 | 31.5800 | 31.3887 | -31.3887 | 0.0 | 0.1913  | 0.9798   | 0.1952  | 1            | 1  | 1118.88      | 0 |       |
| -5 | -8 | 1 | 53.5984 | 53.7520 | -53.7520 | 0.0 | -0.1537 | 1.3680   | -0.1123 | 1            | 1  | 3249.32      | 0 |       |
| -5 | -8 | 3 | 44.7705 | 44.6043 | 44.6043  | 0.0 | 0.1661  | 1.2515   | 0.1327  | 1            | 1  | 2983.12      | 0 |       |
| -5 | -8 | 4 | 20.5715 | 21.0102 | -21.0102 | 0.0 | -0.4387 | 1.5789   | -0.2778 | 1            | 1  | 436.27       | 0 |       |
| -5 | -8 | 5 | 64.2696 | 63.5701 | -63.5702 | 0.0 | 0.6994  | 1.5709   | 0.4452  | 1            | 1  | 3728.29      | 0 |       |
| -5 | -8 | 6 | 6.7866  | 9.0886  | 9.0886   | 0.0 | -2.3021 | 5.0998   | -0.4514 | 1            | 0  | 70.55        | 0 |       |
| -5 | -8 | 7 | 28.4252 | 27.4147 | 27.4147  | 0.0 | 1.0105  | 1.5004   | 0.6735  | 1            | 1  | 590.95       | 0 |       |
| -5 | -8 | 8 | 5.6527  | 4.0343  | -4.0343  | 0.0 | 1.6184  | 7.1694   | 0.2257  | 1            | 0  | 11.75        | 1 |       |
| -6 | -8 | 0 | 45.9772 | 54.5677 | 54.5677  | 0.0 | -8.5905 | 1.2762   | -6.7314 | 1            | 1  | 3104.81      | 0 |       |
| -6 | -8 | 1 | 12.3268 | 8.6752  | 8.6752   | 0.0 | 3.6516  | 2.5392   | 1.4381  | 1            | 1  | 77.78        | 0 |       |
| -6 | -8 | 2 | 21.4125 | 30.8792 | 30.8792  | 0.0 | -9.4667 | 1.9209   | -4.9282 | 1            | 1  | 960.93       | 0 |       |
| -6 | -8 | 3 | 66.6809 | 67.0983 | 67.0983  | 0.0 | -0.4174 | 1.6181   | -0.2580 | 1            | 1  | 4358.98      | 0 |       |
| -6 | -8 | 5 | 27.5303 | 27.9698 | 27.9698  | 0.0 | -0.4395 | 1.4531   | -0.3024 | 1            | 1  | 674.21       | 0 |       |
| -6 | -8 | 6 | 30.4456 | 32.0259 | -32.0259 | 0.0 | -1.5803 | 1.4886   | -1.0617 | 1            | 1  | 823.03       | 0 |       |
| -6 | -8 | 7 | 23.1694 | 26.0922 | 26.0923  | 0.0 | -2.9228 | 1.8563   | -1.5746 | 1            | 1  | 505.98       | 0 |       |
| -7 | -8 | 0 | 17.7729 | 14.6977 | -14.6977 | 0.0 | 3.0751  | 1.4355   | 2.1422  | 1            | 1  | 205.64       | 0 |       |
| -7 | -8 | 1 | 8.0850  | 2.3620  | -2.3620  | 0.0 | 5.7231  | 4.3600   | 1.3126  | 1            | 0  | 5.27         | 1 |       |
| -7 | -8 | 2 | 82.4492 | 80.3041 | 80.3041  | 0.0 | 2.1451  | 1.9482   | 1.1011  | 1            | 1  | 5952.03      | 0 |       |
| -7 | -8 | 4 | 42.7815 | 42.6036 | -42.6036 | 0.0 | 0.1779  | 1.3728   | 0.1296  | 1            | 1  | 1539.54      | 0 |       |
| -7 | -8 | 5 | 10.6927 | 7.7467  | 7.7467   | 0.0 | 2.9459  | 3.6229   | 0.8131  | 1            | 0  | 48.04        | 0 |       |
| -7 | -8 | 6 | 26.0188 | 24.8040 | 24.8040  | 0.0 | 1.2147  | 1.7350   | 0.7001  | 1            | 1  | 461.36       | 0 |       |
| -8 | -8 | 0 | 25.1236 | 23.8099 | 23.8099  | 0.0 | 1.3136  | 2.2597   | 0.5813  | 1            | 1  | 491.08       | 0 |       |
| -8 | -8 | 1 | 16.6135 | 12.7515 | -12.7515 | 0.0 | 3.8619  | 2.4492   | 1.5768  | 1            | 1  | 139.82       | 0 |       |
| -8 | -8 | 2 | 20.0840 | 20.1023 | 20.1023  | 0.0 | -0.0183 | 2.0577   | -0.0089 | 1            | 1  | 340.44       | 0 |       |
| -8 | -8 | 3 | 9.7937  | 0.5590  | -0.5590  | 0.0 | 9.2347  | 4.0243   | 2.2947  | 1            | 0  | 0.25         | 1 |       |
| -8 | -8 | 5 | 22.3284 | 22.7109 | -22.7109 | 0.0 | -0.3825 | 2.0238   | -0.1890 | 1            | 1  | 382.17       | 0 |       |
| -9 | -8 | 0 | 25.4888 | 23.8738 | -23.8739 | 0.0 | 1.6150  | 1.3741   | 1.1754  | 1            | 1  | 448.80       | 0 |       |
| -9 | -8 | 1 | 30.7522 | 25.8457 | 25.8457  | 0.0 | 4.9065  | 1.6807   | 2.9193  | 1            | 1  | 522.54       | 0 |       |
| -9 | -8 | 2 | 19.0350 | 17.8272 | -17.8273 | 0.0 | 1.2077  | 2.4030   | 0.5026  | 1            | 1  | 244.10       | 0 |       |
| -9 | -8 | 3 | 57.1760 | 55.0275 | -55.0275 | 0.0 | 2.1485  | 1.5733   | 1.3656  | 1            | 1  | 2258.97 (26) | 0 |       |
| 9  | -9 | 1 | 9.7140  | 9.6816  | -9.6816  | 0.0 | 0.0325  | 4.5201   | 0.0072  | 1            | 0  | 67.99        | 0 |       |
| 8  | -9 | 1 | 47.2968 | 48.9664 | -48.9664 | 0.0 | -1.6697 | 1.4086   | -1.1854 | 1            | 1  | 1893.81      | 0 |       |
| 8  | -9 | 2 | 9.8884  | 9.3544  | 9.3544   | 0.0 | 0.5340  | 3.9307   | 0.1359  | 1            | 0  | 67.92        | 0 |       |
| 8  | -9 | 3 | 23.7842 | 25.9516 | -25.9516 | 0.0 | -2.1674 | 1.7776   | -1.2193 | 1            | 1  | 508.07       | 0 |       |
| 8  | -9 | 4 | 13.3756 | 12.1244 | -12.1244 | 0.0 | 1.2512  | 3.0601   | 0.4089  | 1            | 1  | 106.73       | 0 |       |
| 7  | -9 | 1 | 7.6009  | 11.2818 | 11.2818  | 0.0 | -3.6809 | 4.7262   | -0.7788 | 1            | 0  | 109.32       | 0 |       |
| 7  | -9 | 2 | 6.7781  | 5.8749  | 5.8749   | 0.0 | 0.9032  | 5.2238   | 0.1729  | 1            | 0  | 29.08        | 0 |       |
| 7  | -9 | 3 | 6.6318  | 3.4424  | 3.4424   | 0.0 | 3.1894  | 5.4191   | 0.5885  | 1            | 0  | 9.67         | 1 |       |
| 7  | -9 | 4 | 12.4772 | 6.2081  | -6.2081  | 0.0 | 6.2691  | 2.9367   | 2.1348  | 1            | 1  | 30.15        | 0 |       |
| 7  | -9 | 5 | 13.2077 | 14.8180 | 14.8180  | 0.0 | -1.6103 | 2.9899   | -0.5386 | 1            | 1  | 163.13       | 0 |       |
| 6  | -9 | 1 | 37.0359 | 35.5073 | 35.5073  | 0.0 | 1.5287  | 1.2428   | 1.2300  | 1            | 1  | 1173.34      | 0 |       |
| 6  | -9 | 2 | 14.0131 | 9.4215  | 9.4215   | 0.0 | 4.5915  | 2.3351   | 1.9663  | 1            | 1  | 80.86        | 0 |       |
| 6  | -9 | 4 | 56.1477 | 56.0285 | -56.0285 | 0.0 | 0.1193  | 1.4498   | 0.0823  | 1            | 1  | 2636.13      | 0 |       |
| 6  | -9 | 5 | 23.1255 | 25.2133 | 25.2133  | 0.0 | -2.0878 | 1.7134   | -1.2185 | 1            | 1  | 504.58       | 0 |       |
| 6  | -9 | 6 | 31.3692 | 30.2611 | 30.2611  | 0.0 | 1.1081  | 1.6758   | 0.6612  | 1            | 1  | 681.92       | 0 |       |
| 5  | -9 | 1 | 6.7390  | 3.5153  | 3.5153   | 0.0 | 3.2237  | 4.4264   | 0.7283  | 1            | 0  | 12.39        | 1 |       |
| 5  | -9 | 2 | 12.7733 | 10.9498 | -10.9498 | 0.0 | 1.8235  | 2.4064   | 0.7577  | 1            | 1  | 117.41       | 0 |       |
| 5  | -9 | 3 | 4.8348  | 0.6063  | 0.6063   | 0.0 | 4.2285  | 6.3951   | 0.6612  | 1            | 0  | 0.35         | 1 |       |
| 5  | -9 | 4 | 13.2461 | 14.5661 | 14.5661  | 0.0 | -1.3200 | 2.5068   | -0.5266 | 1            | 1  | 190.19       | 0 |       |
| 5  | -9 | 5 | 9.9362  | 9.0855  | 9.0855   | 0.0 | 0.8507  | 3.4525   | 0.2464  | 1            | 0  | 69.62        | 0 |       |
| 1  | H  | K | L       | Y(OBS)  | Y(CALC)  | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL           | Q | EXJII |
| 5  | -9 | 6 | 2.0434  | 4.2796  | -4.2796  | 0.0 | -2.2362 | 17.8797  | 0.1244  | 1            | 0  | 0.00         | 0 |       |



|    |    |   |         |         |          |     |         |          |         |              |    |         |   |      |
|----|----|---|---------|---------|----------|-----|---------|----------|---------|--------------|----|---------|---|------|
| 5  | -9 | 6 | 2.0434  | 4.2796  | -4.2796  | 0.0 | -2.2362 | 17.9707  | -0.1244 | 1            | 0  | 14.42   | 0 |      |
| 5  | -9 | 7 | 12.0103 | 12.4407 | 12.4407  | 0.0 | -0.4304 | 3.2913   | -0.1308 | 1            | 1  | 113.14  | 0 |      |
| 4  | -9 | 1 | 42.5219 | 42.8359 | 42.8359  | 0.0 | -0.3140 | 1.2245   | -0.2565 | 1            | 1  | 1964.62 | 0 |      |
| 4  | -9 | 2 | 45.7208 | 45.1128 | -45.1129 | 0.0 | 0.6080  | 1.2536   | 0.4850  | 1            | 1  | 2124.61 | 0 |      |
| 4  | -9 | 3 | 56.9547 | 57.1756 | -57.1756 | 0.0 | -0.2209 | 1.4292   | -0.1546 | 1            | 1  | 3276.25 | 0 |      |
| 4  | -9 | 4 | 39.6651 | 39.6590 | 39.6590  | 0.0 | 0.0060  | 1.2387   | 0.0049  | 1            | 1  | 1493.13 | 0 |      |
| 4  | -9 | 5 | 29.4221 | 28.3132 | 28.3132  | 0.0 | 1.1089  | 1.3430   | 0.8257  | 1            | 1  | 713.03  | 0 |      |
| 4  | -9 | 6 | 8.4639  | 12.3296 | 12.3296  | 0.0 | -3.8657 | 4.2088   | -0.9185 | 1            | 0  | 125.65  | 0 |      |
| 4  | -9 | 7 | 38.2625 | 36.2926 | -36.2926 | 0.0 | 1.9699  | 1.3503   | 1.4588  | 1            | 1  | 1006.07 | 0 |      |
| 3  | -9 | 1 | 10.0889 | 11.6029 | -11.6029 | 0.0 | -1.5140 | 2.6558   | -0.5701 | 1            | 1  | 152.29  | 0 |      |
| 3  | -9 | 2 | 18.9294 | 18.7065 | 18.7065  | 0.0 | 0.2229  | 1.5036   | 0.1483  | 1            | 1  | 385.28  | 0 |      |
| 3  | -9 | 3 | 18.7531 | 19.2477 | 19.2477  | 0.0 | -0.4946 | 2.0794   | -0.2378 | 1            | 1  | 390.56  | 0 |      |
| 3  | -9 | 4 | 12.4147 | 12.3615 | 12.3615  | 0.0 | 0.0532  | 2.3500   | 0.3226  | 1            | 1  | 152.09  | 0 |      |
| 3  | -9 | 5 | 8.0961  | 9.2356  | -9.2356  | 0.0 | -1.1395 | 3.7909   | -0.3006 | 1            | 0  | 79.26   | 0 |      |
| 3  | -9 | 7 | 9.7904  | 7.0259  | 7.0259   | 0.0 | 2.7645  | 3.6630   | 0.7547  | 1            | 0  | 39.08   | 0 |      |
| 3  | -9 | 8 | 2.3491  | 5.9490  | -5.9490  | 0.0 | -3.5998 | 16.6956  | -0.2156 | 1            | 0  | 25.72   | 0 |      |
| 2  | -9 | 1 | 15.7946 | 14.8244 | 14.8244  | 0.0 | 0.9702  | 1.6329   | 0.5942  | 1            | 1  | 259.13  | 0 |      |
| 2  | -9 | 2 | 65.0288 | 63.8672 | -63.8672 | 0.0 | 1.1617  | 1.5488   | 0.7501  | 1            | 1  | 4674.65 | 0 |      |
| 2  | -9 | 3 | 66.1972 | 65.3562 | 65.3562  | 0.0 | 0.8410  | 1.5772   | 0.5332  | 1            | 1  | 4671.19 | 0 |      |
| 2  | -9 | 4 | 39.6143 | 39.2143 | 39.2143  | 0.0 | 0.4000  | 1.1782   | 0.3395  | 1            | 1  | 1585.71 | 0 |      |
| 2  | -9 | 5 | 36.6392 | 38.2144 | 38.2144  | 0.0 | -1.5751 | 1.2082   | -1.3037 | 1            | 1  | 1401.85 | 0 |      |
| 2  | -9 | 6 | 58.5883 | 57.8531 | -57.8531 | 0.0 | 0.7352  | 1.4668   | 0.5012  | 1            | 1  | 2965.50 | 0 |      |
| 2  | -9 | 7 | 24.5605 | 22.7417 | 22.7417  | 0.0 | 1.8188  | 1.5237   | 1.1936  | 1            | 1  | 420.55  | 0 |      |
| 2  | -9 | 8 | 33.0776 | 34.0427 | 34.0427  | 0.0 | -0.9651 | 1.4387   | -0.6708 | 1            | 1  | 862.34  | 0 |      |
| 1  | -9 | 1 | 4.2317  | 10.2056 | -10.2056 | 0.0 | -5.9738 | 5.8320   | -1.0243 | 1            | 0  | 126.03  | 0 |      |
| 1  | -9 | 2 | 15.7001 | 14.3958 | 14.3958  | 0.0 | 1.3043  | 1.5759   | 0.8277  | 1            | 1  | 243.49  | 0 |      |
| 1  | -9 | 3 | 8.1202  | 6.7000  | 6.7000   | 0.0 | 1.4202  | 3.0655   | 0.4633  | 1            | 0  | 50.32   | 0 |      |
| 1  | -9 | 4 | 16.9774 | 17.0544 | -17.0544 | 0.0 | -0.0770 | 1.6473   | -0.0467 | 1            | 1  | 306.53  | 0 |      |
| 1  | -9 | 5 | 23.2787 | 24.3108 | -24.3108 | 0.0 | -1.0320 | 1.3824   | -0.7466 | 1            | 1  | 578.78  | 0 |      |
| 1  | -9 | 6 | 13.0210 | 13.7524 | 13.7524  | 0.0 | -0.7314 | 2.4278   | -0.3013 | 1            | 1  | 170.63  | 0 |      |
| 1  | -9 | 7 | 10.0374 | 7.2185  | 7.2185   | 0.0 | 2.8189  | 3.3315   | 0.8461  | 1            | 1  | 43.06   | 0 |      |
| 1  | -9 | 8 | 9.0726  | 10.7334 | -10.7334 | 0.0 | -1.6608 | 4.1139   | -0.4037 | 1            | 0  | 86.96   | 0 |      |
| 0  | -9 | 1 | 87.0625 | 86.1204 | -86.1204 | 0.0 | 0.9422  | 2.0058   | 0.4697  | 1            | 1  | 9053.32 | 0 |      |
| 0  | -9 | 2 | 7.2569  | 2.2812  | -2.2812  | 0.0 | 4.9757  | 3.2824   | 1.5159  | 1            | 0  | 6.17    | 1 |      |
| 0  | -9 | 3 | 41.0051 | 40.7761 | 40.7761  | 0.0 | 0.2291  | 1.2593   | 0.1819  | 1            | 1  | 1878.44 | 0 |      |
| 0  | -9 | 4 | 5.7090  | 3.6035  | 3.6035   | 0.0 | 2.1055  | 4.9240   | 0.4276  | 1            | 0  | 13.78   | 1 |      |
| 0  | -9 | 5 | 87.5983 | 87.7679 | -87.7680 | 0.0 | -0.1696 | 2.0276   | -0.0837 | 1            | 1  | 7592.74 | 0 |      |
| 0  | -9 | 7 | 40.3976 | 40.0229 | 40.0229  | 0.0 | 0.3747  | 1.2868   | 0.2912  | 1            | 1  | 1330.64 | 0 |      |
| 0  | -9 | 8 | 17.5371 | 16.5774 | 16.5774  | 0.0 | 0.9597  | 2.1530   | 0.4457  | 1            | 1  | 208.38  | 0 |      |
| -1 | -9 | 0 | 17.7827 | 17.5773 | -17.5773 | 0.0 | 0.2054  | 1.0607   | 0.1937  | 1            | 1  | 377.61  | 0 |      |
| -1 | -9 | 1 | 31.2753 | 30.7438 | 30.7438  | 0.0 | 0.5314  | 1.0873   | 0.4888  | 1            | 1  | 1143.47 | 0 |      |
| -1 | -9 | 2 | 17.2434 | 18.2872 | 18.2872  | 0.0 | -1.0438 | 1.5032   | -0.6943 | 1            | 1  | 392.76  | 0 |      |
| -1 | -9 | 3 | 13.3048 | 10.6346 | 10.6346  | 0.0 | 2.6702  | 1.9274   | 1.3854  | 1            | 1  | 126.70  | 0 |      |
| -1 | -9 | 4 | 8.7423  | 10.9370 | -10.9370 | 0.0 | -2.1947 | 3.1069   | -0.7064 | 1            | 0  | 125.97  | 0 |      |
| -1 | -9 | 5 | 24.6847 | 22.7374 | 22.7374  | 0.0 | 1.9472  | 1.2956   | 1.5029  | 1            | 1  | 505.86  | 0 |      |
| -1 | -9 | 6 | 7.2807  | 12.3158 | 12.3158  | 0.0 | -5.0351 | 4.3742   | -1.1511 | 1            | 0  | 136.72  | 0 |      |
| -1 | -9 | 7 | 8.6414  | 6.5146  | -6.5146  | 0.0 | 2.1268  | 3.8910   | 0.5466  | 1            | 0  | 35.04   | 0 |      |
| -1 | -9 | 8 | 14.0378 | 10.1467 | -10.1467 | 0.0 | 3.8911  | 2.6214   | 1.4844  | 1            | 1  | 77.64   | 0 |      |
| -2 | -9 | 0 | 54.3482 | 54.1238 | -54.1238 | 0.0 | 0.2244  | 1.2897   | 0.1740  | 1            | 1  | 3487.31 | 0 |      |
| -2 | -9 | 1 | 14.8562 | 15.2190 | 15.2190  | 0.0 | -0.3628 | 1.7968   | -0.2019 | 1            | 1  | 272.99  | 0 |      |
| -2 | -9 | 2 | 50.0266 | 49.6674 | 49.6674  | 0.0 | 0.3592  | 1.2869   | 0.2791  | 1            | 1  | 2824.77 | 0 |      |
| -2 | -9 | 3 | 78.2199 | 75.6666 | 75.6667  | 0.0 | 2.5533  | 1.8259   | 1.3984  | 1            | 1  | 6262.02 | 0 |      |
| -2 | -9 | 4 | 45.5391 | 45.8236 | -45.8236 | 0.0 | -0.2845 | 1.2551   | -0.2267 | 1            | 1  | 2162.16 | 0 |      |
| -2 | -9 | 5 | 49.2185 | 48.4216 | 48.4216  | 0.0 | 0.7969  | 1.3057   | 0.6103  | 1            | 1  | 2247.02 | 0 |      |
| -2 | -9 | 6 | 50.4946 | 49.3807 | 49.3807  | 0.0 | 1.1139  | 1.3482   | 0.8262  | 1            | 1  | 2156.61 | 0 |      |
| 1  | H  | K | L       | Y(OBS)  | Y(CALC)  | A   | B       | OBS-CALC | SIG(O)  | (n-C)/SIG(O) | IQ | IL      | Q | EXTI |
| -2 | -9 | 7 | 27.3977 | 29.4840 | 29.4840  | 0.0 | -2.0863 | 1.5043   | 1.3868  | 1            | 1  | 715.50  | 0 |      |





|    |     |   |         |         |          |     |         |          |         |              |    |         |   |       |
|----|-----|---|---------|---------|----------|-----|---------|----------|---------|--------------|----|---------|---|-------|
| 4  | -10 | 1 | 26.3492 | 26.2363 | 26.2363  | 0.0 | 0.1129  | 1.4232   | 0.0793  | 1            | 1  | 652.40  | 0 |       |
| 4  | -10 | 2 | 48.5340 | 51.3329 | 51.3329  | 0.0 | -2.7988 | 1.3605   | -2.0571 | 1            | 1  | 2443.09 | 0 |       |
| 4  | -10 | 3 | 29.2847 | 27.9656 | 27.9656  | 0.0 | 1.3191  | 1.3526   | 0.9753  | 1            | 1  | 699.69  | 0 |       |
| 4  | -10 | 4 | 24.9897 | 25.7395 | -25.7395 | 0.0 | -0.7498 | 1.5669   | -0.4785 | 1            | 1  | 565.15  | 0 |       |
| 4  | -10 | 5 | 45.3855 | 46.8941 | 46.8942  | 0.0 | -1.5086 | 1.3595   | -1.1097 | 1            | 1  | 1770.93 | 0 |       |
| 4  | -10 | 6 | 37.5501 | 38.1370 | 38.1370  | 0.0 | -0.5869 | 1.4460   | -0.4059 | 1            | 1  | 1097.43 | 0 |       |
| 3  | -10 | 1 | 14.6256 | 13.2902 | -13.2902 | 0.0 | 1.3354  | 2.0718   | 0.6445  | 1            | 1  | 175.55  | 0 |       |
| 3  | -10 | 2 | 5.6786  | 7.4547  | 7.4547   | 0.0 | -1.7760 | 5.3996   | -0.3289 | 1            | 0  | 53.96   | 0 |       |
| 3  | -10 | 3 | 28.6429 | 28.9456 | 28.9456  | 0.0 | -0.3027 | 1.3107   | -0.2310 | 1            | 1  | 783.46  | 0 |       |
| 3  | -10 | 4 | 32.4884 | 32.1617 | -32.1617 | 0.0 | 0.3267  | 1.2738   | 0.2565  | 1            | 1  | 919.86  | 0 |       |
| 3  | -10 | 5 | 15.5813 | 17.0558 | -17.0558 | 0.0 | -1.4746 | 2.2683   | -0.6501 | 1            | 1  | 243.51  | 0 |       |
| 3  | -10 | 6 | 55.5506 | 56.4931 | 56.4931  | 0.0 | -0.9424 | 1.4676   | -0.6421 | 1            | 1  | 2494.96 | 0 |       |
| 2  | -10 | 1 | 54.5029 | 54.8408 | 54.8408  | 0.0 | -0.3378 | 1.3814   | -0.2446 | 1            | 1  | 3097.43 | 0 |       |
| 2  | -10 | 3 | 11.3756 | 5.9926  | -5.9926  | 0.0 | 5.3830  | 2.6043   | 2.0670  | 1            | 1  | 34.70   | 0 |       |
| 2  | -10 | 5 | 51.1034 | 51.3155 | 51.3155  | 0.0 | -0.2121 | 1.3669   | -0.1552 | 1            | 1  | 2268.41 | 0 |       |
| 2  | -10 | 6 | 24.0217 | 21.8909 | -21.8909 | 0.0 | 2.1308  | 1.6015   | 1.3305  | 1            | 1  | 384.59  | 0 |       |
| 2  | -10 | 7 | 27.5855 | 27.7341 | -27.7341 | 0.0 | -0.1486 | 1.5530   | -0.0957 | 1            | 1  | 572.01  | 0 |       |
| 1  | -10 | 1 | 41.9655 | 42.1071 | 42.1071  | 0.0 | -0.1416 | 1.1970   | -0.1183 | 1            | 1  | 1866.70 | 0 |       |
| 1  | -10 | 2 | 23.1516 | 22.5255 | 22.5255  | 0.0 | 0.6261  | 1.3609   | 0.4601  | 1            | 1  | 520.98  | 0 |       |
| 1  | -10 | 3 | 25.1379 | 26.3773 | -26.3773 | 0.0 | -1.2394 | 1.3395   | -0.9252 | 1            | 1  | 686.16  | 0 |       |
| 1  | -10 | 4 | 36.6782 | 36.8839 | -36.8839 | 0.0 | -0.2057 | 1.2228   | -0.1682 | 1            | 1  | 1271.78 | 0 |       |
| 1  | -10 | 5 | 30.9271 | 31.0039 | 31.0039  | 0.0 | -0.0768 | 1.2991   | -0.0591 | 1            | 1  | 842.72  | 0 |       |
| 1  | -10 | 6 | 13.5765 | 14.6510 | -14.6510 | 0.0 | -1.0745 | 2.5936   | -0.4143 | 1            | 1  | 175.05  | 0 |       |
| 1  | -10 | 7 | 20.5536 | 21.1338 | -21.1338 | 0.0 | -0.5802 | 1.9115   | -0.3035 | 1            | 1  | 336.97  | 0 |       |
| 0  | -10 | 0 | 95.5763 | 96.0004 | 96.0004  | 0.0 | -0.4241 | 2.3180   | -0.1829 | 1            | 1  | 9859.98 | 0 |       |
| 0  | -10 | 1 | 14.3582 | 2.4230  | 2.4230   | 0.0 | 11.9353 | 2.6352   | 4.5291  | 1            | 1  | 6.23    | 1 |       |
| 0  | -10 | 3 | 14.1030 | 10.5852 | 10.5852  | 0.0 | 3.5178  | 2.0238   | 1.7383  | 1            | 1  | 111.24  | 0 |       |
| 0  | -10 | 4 | 35.9219 | 36.7789 | 36.7789  | 0.0 | -0.8570 | 1.2366   | -0.6931 | 1            | 1  | 1272.43 | 0 |       |
| 0  | -10 | 5 | 4.6879  | 8.8666  | 8.8666   | 0.0 | -4.1787 | 7.3123   | -0.5715 | 1            | 0  | 69.32   | 0 |       |
| 0  | -10 | 6 | 54.6858 | 54.7009 | -54.7009 | 0.0 | -0.0150 | 1.4288   | -0.0105 | 1            | 1  | 2452.69 | 0 |       |
| 0  | -10 | 7 | 15.3669 | 13.5963 | 13.5963  | 0.0 | 1.7706  | 2.8290   | 0.6259  | 1            | 1  | 140.11  | 0 |       |
| -1 | -10 | 0 | 6.5505  | 2.1719  | -2.1719  | 0.0 | 4.3786  | 3.0081   | 1.4556  | 1            | 0  | 5.01    | 1 |       |
| -1 | -10 | 1 | 33.2407 | 32.0874 | 32.0874  | 0.0 | 1.1532  | 1.1622   | 0.9923  | 1            | 1  | 1083.81 | 0 |       |
| -1 | -10 | 2 | 37.2449 | 36.2356 | -36.2356 | 0.0 | 1.0092  | 1.1738   | 0.8598  | 1            | 1  | 1347.68 | 0 |       |
| -1 | -10 | 3 | 30.1236 | 30.7561 | -30.7561 | 0.0 | -0.6325 | 1.2287   | -0.5148 | 1            | 1  | 932.41  | 0 |       |
| -1 | -10 | 4 | 19.5597 | 21.5368 | 21.5368  | 0.0 | -1.9771 | 1.6802   | -1.1767 | 1            | 1  | 433.33  | 0 |       |
| -1 | -10 | 5 | 36.1597 | 37.1034 | 37.1034  | 0.0 | -0.9437 | 1.2675   | -0.7445 | 1            | 1  | 1206.01 | 0 |       |
| -1 | -10 | 7 | 25.0550 | 25.6338 | -25.6338 | 0.0 | -0.5788 | 1.6520   | -0.3504 | 1            | 1  | 495.31  | 0 |       |
| -2 | -10 | 1 | 47.5025 | 47.7374 | -47.7374 | 0.0 | -0.2348 | 1.2799   | -0.1835 | 1            | 1  | 2346.14 | 0 |       |
| -2 | -10 | 3 | 12.0700 | 13.3746 | 13.3746  | 0.0 | -1.3046 | 2.5804   | -0.5056 | 1            | 1  | 172.70  | 0 |       |
| -2 | -10 | 4 | 9.7125  | 3.0459  | -3.0459  | 0.0 | 6.6665  | 0.2599   | 2.0450  | 1            | 0  | 8.50    | 1 |       |
| -2 | -10 | 5 | 62.1335 | 62.0606 | -62.0606 | 0.0 | 0.0729  | 1.5447   | 0.0472  | 1            | 1  | 3313.00 | 0 |       |
| -2 | -10 | 6 | 20.5761 | 22.4147 | -22.4147 | 0.0 | -1.8387 | 1.9403   | -0.9476 | 1            | 1  | 402.57  | 0 |       |
| -2 | -10 | 7 | 18.0710 | 17.8305 | 17.8306  | 0.0 | 0.2405  | 2.2441   | 0.1072  | 1            | 1  | 236.03  | 0 |       |
| -3 | -10 | 0 | 77.6435 | 76.6665 | 76.6666  | 0.0 | 0.9770  | 1.7892   | 0.5461  | 1            | 1  | 5887.27 | 0 |       |
| -3 | -10 | 1 | 25.8037 | 25.8808 | -25.8808 | 0.0 | -0.0771 | 1.3577   | -0.0568 | 1            | 1  | 665.38  | 0 |       |
| -3 | -10 | 3 | 25.6664 | 24.9240 | 24.9240  | 0.0 | 0.7424  | 1.3794   | 0.5382  | 1            | 1  | 580.03  | 0 |       |
| -3 | -10 | 4 | 23.1844 | 24.0344 | 24.0344  | 0.0 | -0.8500 | 1.5708   | -0.5411 | 1            | 1  | 512.77  | 0 |       |
| -3 | -10 | 5 | 13.6547 | 12.9319 | -12.9319 | 0.0 | 0.7228  | 2.5590   | 0.2824  | 1            | 1  | 139.69  | 0 |       |
| -3 | -10 | 6 | 55.0891 | 55.8528 | -55.8528 | 0.0 | -0.7637 | 1.4689   | -0.5200 | 1            | 1  | 2433.04 | 0 |       |
| -3 | -10 | 7 | 23.0108 | 24.4677 | 24.4677  | 0.0 | -1.4569 | 1.8839   | -0.7734 | 1            | 1  | 433.73  | 0 |       |
| -4 | -10 | 0 | 30.6055 | 29.9033 | -29.9033 | 0.0 | 0.7022  | 1.1037   | 0.6362  | 1            | 1  | 853.67  | 0 |       |
| -4 | -10 | 1 | 32.4658 | 32.9831 | -32.9831 | 0.0 | -0.5173 | 1.3171   | -0.3928 | 1            | 1  | 1030.40 | 0 |       |
| -4 | -10 | 2 | 43.8907 | 44.2749 | 44.2750  | 0.0 | -0.3842 | 1.3032   | -0.2948 | 1            | 1  | 1815.14 | 0 |       |
| -4 | -10 | 3 | 24.4055 | 25.2247 | -25.2248 | 0.0 | -0.8192 | 1.5495   | -0.5287 | 1            | 1  | 568.22  | 0 |       |
| 1  | H   | K | L       | Y(OBS)  | Y(CALC)  | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL      | Q | FYJII |
| -4 | -10 | 4 | 42.3511 | 43.5571 | -43.5571 | 0.0 | -1.2060 | 1.2262   | 0.0025  | 1            | 1  | 1030.40 | 0 |       |

|    |     |   |         |         |          |     |         |           |         |              |    |         |   |      |
|----|-----|---|---------|---------|----------|-----|---------|-----------|---------|--------------|----|---------|---|------|
| -4 | -10 | 4 | 42.3511 | 43.5571 | -43.5571 | 0.0 | -1.2060 | 1.3362    | -0.9025 | 1            | 1  | 1614.64 | 0 |      |
| -4 | -10 | 5 | 41.0038 | 43.5991 | -43.5991 | 0.0 | -2.5953 | 1.3682    | -1.8968 | 1            | 1  | 1526.69 | 0 |      |
| -4 | -10 | 6 | 19.2107 | 18.0852 | 18.0852  | 0.0 | 1.1254  | 2.1908    | 0.5137  | 1            | 1  | 246.06  | 0 |      |
| -5 | -10 | 0 | 46.1372 | 47.2076 | -47.2076 | 0.0 | -1.0704 | 1.2553    | -0.3527 | 1            | 1  | 2007.56 | 0 |      |
| -5 | -10 | 1 | 37.7879 | 35.7219 | -35.7219 | 0.0 | 2.0660  | 1.3149    | 1.5712  | 1            | 1  | 1140.97 | 0 |      |
| -5 | -10 | 2 | 22.1382 | 23.0849 | -23.0849 | 0.0 | -0.9466 | 1.7291    | -0.5475 | 1            | 1  | 466.48  | 0 |      |
| -5 | -10 | 3 | 9.1530  | 10.1481 | 10.1481  | 0.0 | -0.9952 | 4.0229    | -0.2474 | 1            | 0  | 87.13   | 0 |      |
| -5 | -10 | 4 | 17.7204 | 13.4500 | -13.4500 | 0.0 | 4.2704  | 2.0903    | 2.0430  | 1            | 1  | 146.29  | 0 |      |
| -5 | -10 | 5 | 36.8548 | 33.1362 | -33.1362 | 0.0 | 3.7186  | 1.4140    | 2.6299  | 1            | 1  | 840.83  | 0 |      |
| -5 | -10 | 6 | 23.6411 | 21.7740 | 21.7740  | 0.0 | 1.8671  | 1.8345    | 1.0178  | 1            | 1  | 341.40  | 0 |      |
| -6 | -10 | 0 | 50.4061 | 52.2375 | -52.2375 | 0.0 | -1.8314 | 1.2876    | -1.4223 | 1            | 1  | 2301.30 | 0 |      |
| -6 | -10 | 1 | 19.1144 | 20.5940 | 20.5940  | 0.0 | -1.4796 | 2.1506    | -0.6880 | 1            | 1  | 355.19  | 0 |      |
| -6 | -10 | 3 | 51.4046 | 51.8941 | -51.8941 | 0.0 | -0.4895 | 1.4464    | -0.3385 | 1            | 1  | 2142.66 | 0 |      |
| -6 | -10 | 4 | 19.3286 | 21.6577 | -21.6577 | 0.0 | -2.3292 | 2.4159    | -0.9641 | 1            | 1  | 357.86  | 0 |      |
| -7 | -10 | 0 | 13.1305 | 4.8879  | -4.8879  | 0.0 | 8.2426  | 2.2167    | 3.7184  | 1            | 1  | 18.76   | 0 |      |
| -7 | -10 | 1 | 6.9898  | 0.8676  | -0.8676  | 0.0 | 6.1222  | 6.0381    | 1.0139  | 1            | 0  | 0.59    | 1 |      |
| -7 | -10 | 2 | 62.4936 | 63.2673 | 63.2673  | 0.0 | -0.7737 | 1.6145    | -0.4792 | 1            | 1  | 3066.26 | 0 |      |
| -7 | -10 | 3 | 11.2108 | 8.1140  | 8.1140   | 0.0 | 3.0967  | 3.8220    | 0.8102  | 1            | 0  | 49.00   | 0 |      |
| -8 | -10 | 0 | 19.8423 | 16.1420 | -16.1420 | 0.0 | 3.7003  | 1.6737    | 2.2109  | 1            | 1  | 189.76  | 0 |      |
| -8 | -10 | 1 | 16.0918 | 2.9619  | 2.9619   | 0.0 | 13.1299 | 2.8521    | 4.6037  | 1            | 1  | 6.35    | 1 |      |
| 6  | -11 | 1 | 28.2304 | 26.5516 | 26.5516  | 0.0 | 1.6789  | 1.6113    | 1.0420  | 1            | 1  | 533.71  | 0 |      |
| 6  | -11 | 2 | 32.4838 | 35.0648 | 35.0648  | 0.0 | -2.5810 | 1.5068    | -1.7130 | 1            | 1  | 915.51  | 0 |      |
| 6  | -11 | 3 | 26.8186 | 27.4761 | 27.4761  | 0.0 | -0.6575 | 1.6728    | -0.3930 | 1            | 1  | 547.12  | 0 |      |
| 5  | -11 | 1 | 24.7138 | 24.2802 | 24.2803  | 0.0 | 0.4336  | 1.6961    | 0.2556  | 1            | 1  | 472.61  | 0 |      |
| 5  | -11 | 2 | 43.8865 | 45.5602 | -45.5602 | 0.0 | -1.6737 | 1.3858    | -1.2078 | 1            | 1  | 1634.43 | 0 |      |
| 5  | -11 | 3 | 7.9376  | 16.2022 | 16.2022  | 0.0 | -8.2646 | 5.1711    | -1.5982 | 1            | 0  | 200.75  | 0 |      |
| 5  | -11 | 4 | 32.5840 | 33.8221 | 33.8221  | 0.0 | -1.2381 | 1.4968    | -0.8271 | 1            | 1  | 841.17  | 0 |      |
| 4  | -11 | 1 | 5.5906  | 2.8551  | -2.8551  | 0.0 | 2.7354  | 6.6173    | 0.4134  | 1            | 0  | 6.87    | 1 |      |
| 4  | -11 | 2 | 12.8528 | 9.3346  | 9.3346   | 0.0 | 3.5182  | 2.8660    | 1.2276  | 1            | 1  | 72.05   | 0 |      |
| 4  | -11 | 3 | 37.6192 | 39.6106 | -39.6106 | 0.0 | -1.9914 | 1.3888    | -1.4339 | 1            | 1  | 1257.62 | 0 |      |
| 4  | -11 | 4 | 17.4443 | 11.8358 | 11.8358  | 0.0 | 5.6085  | 2.2402    | 2.5035  | 1            | 1  | 107.70  | 0 |      |
| 4  | -11 | 5 | 12.4493 | 10.9264 | -10.9264 | 0.0 | 1.5229  | 3.2547    | 0.4679  | 1            | 1  | 87.26   | 0 |      |
| 3  | -11 | 1 | 45.5353 | 44.0163 | -44.0163 | 0.0 | 1.5191  | 1.3287    | 1.1433  | 1            | 1  | 1701.87 | 0 |      |
| 3  | -11 | 2 | 35.2860 | 35.1033 | -35.1033 | 0.0 | 0.1827  | 1.3204    | 0.1384  | 1            | 1  | 1060.76 | 0 |      |
| 3  | -11 | 3 | 51.5979 | 51.1372 | 51.1372  | 0.0 | 0.4607  | 1.4024    | 0.3285  | 1            | 1  | 2178.49 | 0 |      |
| 3  | -11 | 4 | 15.8227 | 16.4946 | 16.4947  | 0.0 | -0.6720 | 2.3780    | -0.2826 | 1            | 1  | 216.93  | 0 |      |
| 3  | -11 | 5 | 30.1614 | 29.5660 | -29.5660 | 0.0 | 0.5954  | 1.5147    | 0.3931  | 1            | 1  | 660.98  | 0 |      |
| 2  | -11 | 1 | 19.9887 | 20.3775 | 20.3775  | 0.0 | -0.3888 | 1.7391    | -0.2236 | 1            | 1  | 376.14  | 0 |      |
| 2  | -11 | 3 | 10.4401 | 9.0552  | 9.0552   | 0.0 | 1.3849  | 3.2684    | 0.4237  | 1            | 1  | 70.30   | 0 |      |
| 2  | -11 | 4 | 7.6607  | 0.0990  | -0.0990  | 0.0 | 7.5617  | 4.5854    | 1.6491  | 1            | 0  | 0.01    | 1 |      |
| 2  | -11 | 5 | 20.2917 | 17.2739 | 17.2739  | 0.0 | 3.0178  | 1.8567    | 1.6166  | 1            | 1  | 231.38  | 0 |      |
| 2  | -11 | 6 | 28.5895 | 27.1187 | -27.1187 | 0.0 | 1.4708  | 1.5423    | 0.9537  | 1            | 1  | 535.91  | 0 |      |
| 1  | -11 | 1 | 16.9836 | 16.8289 | -16.8289 | 0.0 | 0.1547  | 1.9839    | 0.0780  | 1            | 1  | 261.45  | 0 |      |
| 1  | -11 | 2 | 62.8561 | 62.0294 | 62.0294  | 0.0 | 0.8268  | 1.5446    | 0.5353  | 1            | 1  | 3476.21 | 0 |      |
| 1  | -11 | 3 | 63.4789 | 65.3967 | 65.3968  | 0.0 | -1.9178 | 1.5706    | -1.2211 | 1            | 1  | 3731.56 | 0 |      |
| 1  | -11 | 4 | 43.7111 | 43.8042 | -43.8042 | 0.0 | -0.0931 | 1.3224    | -0.0704 | 1            | 1  | 1598.16 | 0 |      |
| 1  | -11 | 5 | 7.3937  | 10.0286 | 10.0286  | 0.0 | -2.6349 | 4.9919    | -0.5278 | 1            | 0  | 79.19   | 0 |      |
| 1  | -11 | 6 | 14.2913 | 8.5002  | 8.5002   | 0.0 | 5.7911  | 2.7037    | 2.1419  | 1            | 1  | 53.40   | 0 |      |
| 0  | -11 | 1 | 33.8095 | 32.6943 | -32.6943 | 0.0 | 1.1152  | 1.2674    | 0.8799  | 1            | 1  | 993.09  | 0 |      |
| 0  | -11 | 2 | 11.4381 | 0.8702  | -0.8702  | 0.0 | 10.5680 | 2.7343    | 3.8649  | 1            | 1  | 0.69    | 1 |      |
| 0  | -11 | 3 | 40.4749 | 39.4159 | -39.4159 | 0.0 | 1.0590  | 1.2800    | 0.8274  | 1            | 1  | 1363.45 | 0 |      |
| 0  | -11 | 4 | 11.9324 | 7.3298  | -7.3298  | 0.0 | 4.6027  | 2.8271    | 1.6281  | 1            | 1  | 44.99   | 0 |      |
| 0  | -11 | 5 | 54.6720 | 54.5377 | -54.5377 | 0.0 | 0.1342  | 1.4449    | 0.0929  | 1            | 1  | 2353.80 | 0 |      |
| -1 | -11 | 0 | 8.9350  | 3.3609  | -3.3609  | 0.0 | 5.5740  | 2.5986    | 2.1450  | 1            | 1  | 10.50   | 1 |      |
| -1 | -11 | 1 | 14.9118 | 12.1531 | 12.1531  | 0.0 | 2.7587  | 2.1932    | 1.2578  | 1            | 1  | 136.33  | 0 |      |
| 1  | H   | K | L       | Y(OBS)  | Y(CALC)  | A   | B       | ORBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL      | Q | EXTI |
| -1 | -11 | 2 | 74.0290 | 74.3760 | 74.3760  | 0.0 | -0.3471 | 1.7680    | 0.1863  | 1            | 1  | 6886.22 | 0 |      |



|    |     |   |         |         |          |     |         |          |         |              |    |         |    |      |
|----|-----|---|---------|---------|----------|-----|---------|----------|---------|--------------|----|---------|----|------|
| -1 | -11 | 2 | 74.0290 | 74.3760 | 74.3760  | 0.0 | -0.3471 | 1.7680   | -0.1963 | 1            | 1  | 4996.23 | 0  |      |
| -1 | -11 | 3 | 60.7629 | 62.6868 | -62.6868 | 0.0 | -1.9239 | 1.5286   | -1.2586 | 1            | 1  | 3427.18 | 0  |      |
| -1 | -11 | 4 | 27.6407 | 27.3211 | -27.3211 | 0.0 | 0.3196  | 1.4334   | 0.2230  | 1            | 1  | 621.35  | 0  |      |
| -1 | -11 | 5 | 11.7283 | 0.8815  | -0.8815  | 0.0 | 10.8468 | 3.0664   | 3.5373  | 1            | 1  | 0.61    | 1  |      |
| -1 | -11 | 6 | 25.1708 | 23.5109 | 23.5109  | 0.0 | 1.6599  | 1.6947   | 0.9795  | 1            | 1  | 408.21  | 0  |      |
| -2 | -11 | 0 | 24.1379 | 24.8232 | -24.8232 | 0.0 | -0.6853 | 1.1725   | -0.5845 | 1            | 1  | 562.19  | 0  |      |
| -2 | -11 | 3 | 5.2484  | 8.6351  | -8.6351  | 0.0 | -3.3867 | 6.5220   | -0.5193 | 1            | 0  | 63.87   | 0  |      |
| -2 | -11 | 4 | 11.0644 | 6.8371  | -6.8371  | 0.0 | 4.2273  | 3.2112   | 1.3164  | 1            | 1  | 38.25   | 0  |      |
| -2 | -11 | 5 | 10.8982 | 2.4635  | 2.4635   | 0.0 | 8.4347  | 3.3747   | 2.4994  | 1            | 1  | 4.70    | 1  |      |
| -2 | -11 | 6 | 11.7786 | 11.9402 | 11.9402  | 0.0 | -0.1616 | 3.4195   | -0.0473 | 1            | 1  | 103.74  | 0  |      |
| -3 | -11 | 0 | 5.2351  | 9.1840  | 9.1840   | 0.0 | -3.9489 | 4.8193   | -0.8194 | 1            | 0  | 74.59   | 0  |      |
| -3 | -11 | 1 | 33.7960 | 33.5341 | 33.5341  | 0.0 | 0.2619  | 1.3480   | 0.1943  | 1            | 1  | 987.37  | 0  |      |
| -3 | -11 | 2 | 37.2576 | 36.0667 | -38.0667 | 0.0 | -0.8091 | 1.3230   | -0.6116 | 1            | 1  | 1246.32 | 0  |      |
| -3 | -11 | 3 | 54.4311 | 54.5037 | -54.5038 | 0.0 | -0.0725 | 1.4388   | -0.0505 | 1            | 1  | 2471.65 | 30 |      |
| -3 | -11 | 5 | 27.5217 | 24.9785 | 24.9785  | 0.0 | 2.5432  | 1.5817   | 1.6080  | 1            | 1  | 470.90  | 0  |      |
| -4 | -11 | 0 | 26.7512 | 28.4061 | -28.4062 | 0.0 | -1.6550 | 1.2264   | -1.3494 | 1            | 1  | 684.46  | 0  |      |
| -4 | -11 | 1 | 11.2906 | 7.2080  | 7.2080   | 0.0 | 4.0825  | 3.2894   | 1.2411  | 1            | 1  | 43.77   | 0  |      |
| -4 | -11 | 3 | 40.0048 | 39.7035 | -39.7035 | 0.0 | 0.3013  | 1.3693   | 0.2201  | 1            | 1  | 1261.49 | 0  |      |
| -4 | -11 | 4 | 13.4743 | 14.4863 | -14.4863 | 0.0 | -1.0120 | 2.9763   | -0.3400 | 1            | 1  | 161.00  | 0  |      |
| -4 | -11 | 5 | 7.6466  | 9.5844  | -9.5844  | 0.0 | -1.9379 | 5.3750   | -0.3605 | 1            | 0  | 66.98   | 0  |      |
| -5 | -11 | 0 | 35.6643 | 33.7683 | 33.7683  | 0.0 | 1.8960  | 1.1602   | 1.6342  | 1            | 1  | 919.51  | 0  |      |
| -5 | -11 | 1 | 21.5529 | 19.9434 | -19.9434 | 0.0 | 1.6095  | 1.9427   | 0.8285  | 1            | 1  | 318.64  | 0  |      |
| -5 | -11 | 2 | 33.8285 | 33.6049 | -33.6049 | 0.0 | 0.2235  | 1.4516   | 0.1540  | 1            | 1  | 888.04  | 0  |      |
| -5 | -11 | 3 | 9.2089  | 11.9357 | -11.9357 | 0.0 | -2.7268 | 4.4421   | -0.6138 | 1            | 0  | 108.74  | 0  |      |
| -5 | -11 | 4 | 47.9819 | 47.9647 | 47.9647  | 0.0 | 0.0172  | 1.4389   | 0.0119  | 1            | 1  | 1687.68 | 0  |      |
| -6 | -11 | 0 | 15.8671 | 18.4548 | -18.4548 | 0.0 | -2.5676 | 1.9676   | -1.3050 | 1            | 1  | 259.22  | 0  |      |
| -6 | -11 | 1 | 8.5188  | 6.4268  | 6.4268   | 0.0 | 2.0920  | 5.0342   | 0.4156  | 1            | 0  | 31.25   | 0  |      |
| -6 | -11 | 2 | 30.6895 | 27.4320 | -27.4320 | 0.0 | 3.2576  | 1.5485   | 2.1036  | 1            | 1  | 559.50  | 0  |      |
| -6 | -11 | 3 | 6.8902  | 11.6812 | 11.6812  | 0.0 | -4.7910 | 6.3404   | -0.7556 | 1            | 0  | 98.68   | 0  |      |
| 4  | -12 | 1 | 0.7939  | 1.3878  | 1.3878   | 0.0 | -0.5939 | 52.8040  | -0.0112 | 1            | 0  | 1.45    | 1  |      |
| 4  | -12 | 2 | 55.0432 | 53.2658 | 53.2658  | 0.0 | 1.7774  | 1.5306   | 1.1612  | 1            | 1  | 2103.74 | 0  |      |
| 3  | -12 | 3 | 12.6043 | 11.6067 | -11.6067 | 0.0 | 0.9976  | 3.2397   | 0.3079  | 1            | 1  | 100.53  | 0  |      |
| 2  | -12 | 1 | 30.1527 | 30.3625 | 30.3625  | 0.0 | -0.2098 | 1.5091   | -0.1390 | 1            | 1  | 739.66  | 0  |      |
| 2  | -12 | 2 | 46.9317 | 48.4090 | -48.4090 | 0.0 | -1.4773 | 1.4012   | -1.0543 | 1            | 1  | 1846.36 | 0  |      |
| 2  | -12 | 3 | 60.9819 | 60.2886 | -60.2886 | 0.0 | 0.6933  | 1.5640   | 0.4433  | 1            | 1  | 2780.66 | 0  |      |
| 2  | -12 | 4 | 8.5921  | 2.4355  | -2.4355  | 0.0 | 6.1566  | 4.6556   | 1.3224  | 1            | 0  | 4.36    | 1  |      |
| 1  | -12 | 3 | 2.5952  | 0.8624  | 0.8624   | 0.0 | 1.7329  | 14.7150  | 0.1178  | 1            | 0  | 0.58    | 1  |      |
| 1  | -12 | 4 | 8.8378  | 11.1967 | 11.1967  | 0.0 | -2.3589 | 4.4985   | -0.5244 | 1            | 0  | 93.54   | 0  |      |
| 0  | -12 | 0 | 48.1263 | 51.9944 | 51.9944  | 0.0 | -3.8681 | 2.1101   | -1.8331 | 1            | 1  | 2231.08 | 0  |      |
| 0  | -12 | 1 | 11.7554 | 11.4968 | -11.4968 | 0.0 | 0.2586  | 3.4375   | 0.0752  | 1            | 1  | 108.39  | 0  |      |
| 0  | -12 | 2 | 48.1517 | 48.7619 | -48.7619 | 0.0 | -0.6102 | 1.3829   | -0.4413 | 1            | 1  | 1913.50 | 0  |      |
| 0  | -12 | 4 | 51.8766 | 51.0854 | 51.0854  | 0.0 | 0.7912  | 1.5043   | 0.5260  | 1            | 1  | 1956.31 | 0  |      |
| -1 | -12 | 0 | 29.5154 | 32.1812 | -32.1812 | 0.0 | -2.6657 | 1.1991   | -2.2231 | 1            | 1  | 849.92  | 0  |      |
| -1 | -12 | 1 | 26.5667 | 26.5302 | -26.5302 | 0.0 | 0.0365  | 1.5689   | 0.0233  | 1            | 1  | 573.96  | 0  |      |
| -1 | -12 | 3 | 21.3991 | 19.7749 | -19.7749 | 0.0 | 1.6242  | 1.8551   | 0.8755  | 1            | 1  | 303.64  | 0  |      |
| -1 | -12 | 4 | 10.1799 | 10.0185 | -10.0185 | 0.0 | 0.1614  | 3.8745   | 0.0417  | 1            | 0  | 74.85   | 0  |      |
| -2 | -12 | 0 | 45.2915 | 45.2765 | -45.2765 | 0.0 | 0.0150  | 1.2148   | 0.0124  | 1            | 1  | 1654.76 | 0  |      |
| -2 | -12 | 1 | 30.7491 | 30.7614 | -30.7614 | 0.0 | -0.0123 | 1.4851   | -0.0083 | 1            | 1  | 759.02  | 0  |      |
| -2 | -12 | 2 | 46.9193 | 45.5379 | -45.5379 | 0.0 | 1.3815  | 1.3828   | 0.9990  | 1            | 1  | 1632.99 | 0  |      |
| -2 | -12 | 3 | 58.0206 | 57.4539 | 57.4539  | 0.0 | 0.5666  | 1.5205   | 0.3727  | 1            | 1  | 2523.42 | 0  |      |
| -3 | -12 | 0 | 12.9716 | 12.5423 | -12.5423 | 0.0 | 0.4294  | 2.2423   | 0.1915  | 1            | 1  | 123.62  | 0  |      |
| -3 | -12 | 1 | 12.1621 | 13.3433 | 13.3433  | 0.0 | -1.1812 | 3.4195   | -0.3454 | 1            | 1  | 139.05  | 0  |      |
| -3 | -12 | 2 | 20.3318 | 15.5825 | 15.5825  | 0.0 | 4.7493  | 2.0211   | 2.3499  | 1            | 1  | 186.28  | 0  |      |
| -3 | -12 | 3 | 10.5309 | 11.6545 | -11.6545 | 0.0 | -1.1236 | 3.9273   | -0.2861 | 1            | 0  | 101.25  | 0  |      |
| -4 | -12 | 1 | 15.4777 | 12.5840 | -12.5840 | 0.0 | 2.8937  | 2.7592   | 1.0487  | 1            | 1  | 119.33  | 0  |      |
| 1  | H   | K | L       | Y(OBS)  | Y(CALC)  | A   | B       | OBS-CALC | SIG(O)  | (O-C)/SIG(O) | IQ | IL      | Q  | EXTI |
| -4 | -12 | 2 | 65.5153 | 65.1399 | 65.1400  | 0.0 | 0.3753  | 1.6726   | 0.2244  | 1            | 1  | 3143.19 | 0  |      |
| -4 | -12 | 3 | 40.7282 | 40.3902 | 40.3902  | 0.0 | 0.3380  | 1.8582   | 0.1819  | 1            | 1  | 1175.74 | 0  |      |
| -5 | -12 | 0 | 17.8524 | 18.5252 | -18.5252 | 0.0 | -0.6728 | 1.8258   | -0.3685 | 1            | 1  | 248.97  | 0  |      |
| -5 | -12 | 1 | 22.8934 | 22.6261 | 22.6261  | 0.0 | 0.2674  | 2.9392   | 0.0910  | 1            | 1  | 369.31  | 0  |      |

1SLAWSONITE XRAY REFINEMENT

DR