

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45°-26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45°-26° |
|------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|---------|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|---------|
| 417581 2006 VA₃ | | | | | | | | | 7753 1988 XB (continuation) | | | | | | | | |
| 11 17 | 10 38.52 | +27 29.6 | 1.881 | 2.038 | 28.9 | 21.4 | 84 W | 72* 27* | 12 9 | 7 10.60 | +25 43.6 | 0.127 | 1.098 | 25.8 | 15.5 | 151 W | 71 38 |
| 11 27 | 10 47.03 | +26 2.2 | 1.675 | 1.970 | 30.1 | 21.1 | 92 W | 71 32* | 12 10 | 7 3.55 | +26 10.5 | 0.133 | 1.106 | 23.3 | 15.5 | 154 W | 71 38 |
| 12 7 | 10 53.49 | +24 32.3 | 1.466 | 1.897 | 30.8 | 20.7 | 100 W | 70 36* | 12 11 | 6 57.00 | +26 33.8 | 0.139 | 1.113 | 21.0 | 15.6 | 156 W | 72 37 |
| 12 17 | 10 57.12 | +22 56.4 | 1.256 | 1.819 | 31.0 | 20.3 | 108 W | 68 40* | 12 12 | 6 50.90 | +26 54.1 | 0.145 | 1.121 | 18.8 | 15.6 | 158 W | 72 37 |
| 12 22 | 10 57.50 | +22 4.2 | 1.153 | 1.779 | 30.7 | 20.1 | 113 W | 67 42* | 12 13 | 6 45.22 | +27 11.8 | 0.152 | 1.129 | 16.8 | 15.7 | 161 W | 72 37 |
| 12 27 | 10 56.63 | +21 7.5 | 1.050 | 1.738 | 30.2 | 19.8 | 117 W | 66 43 | 12 14 | 6 39.92 | +27 27.1 | 0.159 | 1.137 | 14.9 | 15.7 | 163 W | 72 37 |
| 1 1 | 10 54.23 | +20 4.0 | 0.949 | 1.695 | 29.3 | 19.5 | 123 W | 65 44 | 12 15 | 6 34.98 | +27 40.4 | 0.165 | 1.145 | 13.1 | 15.7 | 165 W | 73 36 |
| 1 6 | 10 49.90 | +18 50.9 | 0.851 | 1.651 | 27.9 | 19.2 | 128 W | 64 45 | 12 16 | 6 30.37 | +27 51.9 | 0.172 | 1.152 | 11.4 | 15.8 | 167 W | 73 36 |
| 1 11 | 10 43.06 | +17 23.7 | 0.755 | 1.605 | 26.0 | 18.8 | 134 W | 62 47 | 12 17 | 6 26.07 | +28 1.9 | 0.179 | 1.160 | 9.8 | 15.8 | 168 W | 73 36 |
| 1 16 | 10 32.99 | +15 35.8 | 0.664 | 1.559 | 23.3 | 18.4 | 141 W | 61 48 | 12 19 | 6 18.29 | +28 17.9 | 0.193 | 1.176 | 7.0 | 15.9 | 172 W | 73 36 |
| 101402 1998 VG₁ | | | | | | | | | 12 21 | 6 11.51 | +28 29.7 | 0.208 | 1.191 | 5.0 | 16.0 | 174 W | 73 36 |
| 11 17 | 10 43.40 | +16 47.8 | 2.948 | 2.924 | 19.4 | 21.5 | 79 W | 61* 35* | 12 23 | 6 5.61 | +28 38.1 | 0.224 | 1.207 | 4.2 | 16.1 | 175 E | 74 35 |
| 11 27 | 10 51.51 | +16 30.6 | 2.816 | 2.935 | 19.6 | 21.4 | 87 W | 62 39* | 12 25 | 6 0.47 | +28 43.9 | 0.240 | 1.222 | 5.0 | 16.4 | 174 E | 74 35 |
| 12 7 | 10 58.03 | +16 25.2 | 2.682 | 2.946 | 19.4 | 21.3 | 96 W | 61 43* | 12 27 | 5 56.01 | +28 47.6 | 0.256 | 1.237 | 6.5 | 16.6 | 172 E | 74 35 |
| 12 17 | 11 2.70 | +16 33.3 | 2.549 | 2.955 | 18.8 | 21.1 | 105 W | 62 46* | 1 1 | 5 47.39 | +28 50.8 | 0.299 | 1.276 | 11.0 | 17.2 | 166 E | 74 35 |
| 12 27 | 11 5.25 | +16 56.2 | 2.421 | 2.963 | 17.6 | 21.0 | 114 W | 62 47* | 1 6 | 5 41.72 | +28 48.3 | 0.346 | 1.313 | 15.1 | 17.7 | 160 E | 74 35 |
| 1 1 | 10 54.23 | +20 4.0 | 0.949 | 1.695 | 29.3 | 19.5 | 123 W | 65 44 | 1 11 | 5 38.39 | +28 42.9 | 0.395 | 1.350 | 18.6 | 18.2 | 154 E | 74 35 |
| 1 6 | 10 49.90 | +18 50.9 | 0.851 | 1.651 | 27.9 | 19.2 | 128 W | 64 45 | 1 16 | 5 37.02 | +28 36.0 | 0.448 | 1.386 | 21.6 | 18.6 | 149 E | 74 35 |
| 1 11 | 10 43.06 | +17 23.7 | 0.755 | 1.605 | 26.0 | 18.8 | 134 W | 62 47 | 136900 1998 HL₄₉ | | | | | | | | |
| 1 16 | 10 32.99 | +15 35.8 | 0.664 | 1.559 | 23.3 | 18.4 | 141 W | 61 48 | 11 17 | 13 26.61 | -21 44.1 | 0.439 | 0.641 | 131.6 | 20.4 | 29 W | 10* 21* |
| 84667 2002 VO₈₂ | | | | | | | | | 11 19 | 13 24.84 | -21 40.2 | 0.466 | 0.637 | 126.5 | 20.0 | 31 W | 12* 23* |
| 11 17 | 10 45.89 | + 4 49.1 | 2.920 | 2.809 | 19.7 | 21.5 | 74 W | 49* 44* | 11 21 | 13 24.13 | -21 37.2 | 0.494 | 0.635 | 121.5 | 19.7 | 33 W | 13* 25* |
| 11 27 | 10 54.24 | + 3 56.3 | 2.795 | 2.825 | 20.2 | 21.4 | 82 W | 49* 40* | 11 23 | 13 24.35 | -21 35.1 | 0.522 | 0.635 | 116.7 | 19.5 | 35 W | 14* 26* |
| 12 7 | 11 1.08 | + 3 12.1 | 2.665 | 2.839 | 20.3 | 21.3 | 90 W | 48 55* | 11 25 | 13 25.40 | -21 34.4 | 0.551 | 0.637 | 112.1 | 19.3 | 37 W | 15* 28* |
| 12 17 | 11 6.17 | + 2 38.3 | 2.534 | 2.852 | 19.9 | 21.2 | 99 W | 48 59* | 11 27 | 13 27.18 | -21 34.8 | 0.580 | 0.641 | 107.7 | 19.2 | 38 W | 16* 29* |
| 12 27 | 11 9.28 | + 2 17.2 | 2.405 | 2.865 | 19.1 | 21.1 | 108 W | 47 62* | 12 1 | 13 34.20 | -21 41.2 | 0.651 | 0.658 | 97.7 | 19.0 | 41 W | 18* 32* |
| 1 6 | 11 10.17 | + 2 10.6 | 2.283 | 2.877 | 17.6 | 20.9 | 118 W | 47 62 | 12 7 | 13 43.86 | -21 53.7 | 0.720 | 0.685 | 89.0 | 18.9 | 44 W | 19* 34* |
| 1 16 | 11 8.67 | + 2 20.3 | 2.171 | 2.887 | 15.5 | 20.7 | 128 W | 47 62 | 12 12 | 13 55.15 | -22 10.0 | 0.784 | 0.720 | 81.6 | 18.9 | 46 W | 19* 36* |
| 35396 1997 XF₁₁ | | | | | | | | | 12 17 | 14 7.30 | -22 27.8 | 0.843 | 0.762 | 75.4 | 19.0 | 49 W | 20* 39* |
| 11 17 | 10 48.81 | + 3 22.5 | 2.218 | 2.141 | 26.1 | 21.5 | 73 W | 48* 44* | 12 22 | 14 19.76 | -22 45.3 | 0.896 | 0.808 | 70.3 | 19.1 | 51 W | 20* 41* |
| 11 27 | 10 59.91 | + 2 0.4 | 2.087 | 2.140 | 27.0 | 21.4 | 80 W | 47 50* | 12 27 | 14 32.18 | -23 1.1 | 0.943 | 0.857 | 66.0 | 19.2 | 53 W | 20* 43* |
| 12 7 | 11 9.59 | + 0 44.3 | 1.949 | 2.136 | 27.4 | 21.2 | 87 W | 46 55* | 1 1 | 14 44.33 | -23 14.5 | 0.983 | 0.909 | 62.5 | 19.3 | 55 W | 21* 45* |
| 12 17 | 11 17.56 | + 0 23.5 | 1.808 | 2.129 | 27.4 | 21.1 | 95 W | 45 61* | 1 6 | 14 56.04 | -23 24.9 | 1.017 | 0.961 | 59.5 | 19.4 | 57 W | 21* 48* |
| 12 27 | 11 23.41 | + 1 20.2 | 1.666 | 2.119 | 26.9 | 20.8 | 103 W | 44 65* | 1 11 | 15 7.20 | -23 32.1 | 1.045 | 1.015 | 57.0 | 19.5 | 60 W | 21* 51* |
| 1 6 | 11 26.71 | + 2 2.6 | 1.526 | 2.106 | 25.6 | 20.6 | 112 W | 43 66 | 1 16 | 15 17.71 | -23 35.7 | 1.067 | 1.069 | 54.9 | 19.6 | 63 W | 21* 54* |
| 1 16 | 11 26.88 | + 2 26.5 | 1.392 | 2.090 | 23.5 | 20.3 | 122 W | 43 66 | 153201 2000 WO₁₀₇ | | | | | | | | |
| 399611 2004 BE₁₁ | | | | | | | | | 11 17 | 13 42.19 | -16 44.2 | 0.180 | 0.830 | 148.9 | 23.4 | 26 W | 12* 16* |
| 11 17 | 10 51.94 | + 1 48.6 | 1.004 | 1.143 | 54.4 | 21.5 | 70 W | 42* 47* | 11 18 | 13 38.57 | -16 27.2 | 0.166 | 0.845 | 147.2 | 23.0 | 28 W | 14* 17* |
| 11 27 | 11 30.81 | + 3 35.1 | 0.959 | 1.120 | 56.0 | 21.4 | 70 W | 41* 47* | 11 19 | 13 34.40 | -16 6.9 | 0.151 | 0.860 | 145.4 | 22.5 | 30 W | 15* 19* |
| 12 7 | 12 11.32 | + 5 12.6 | 0.919 | 1.099 | 57.6 | 21.3 | 70 W | 40* 48* | 11 20 | 13 29.48 | -15 42.3 | 0.137 | 0.875 | 143.4 | 22.0 | 32 W | 17* 21* |
| 12 17 | 12 53.39 | + 6 36.0 | 0.887 | 1.081 | 59.0 | 21.2 | 70 W | 38* 49* | 11 21 | 13 23.58 | -15 11.8 | 0.122 | 0.889 | 141.2 | 21.5 | 34 W | 19* 23* |
| 12 27 | 13 36.70 | + 7 39.9 | 0.862 | 1.066 | 60.2 | 21.2 | 70 W | 37* 50* | 11 22 | 13 16.30 | -14 33.0 | 0.108 | 0.904 | 138.7 | 20.9 | 37 W | 21* 25* |
| 1 6 | 14 20.77 | + 8 20.7 | 0.845 | 1.055 | 61.2 | 21.1 | 70 W | 37* 50* | 11 23 | 13 7.06 | -13 41.9 | 0.094 | 0.918 | 135.6 | 20.3 | 41 W | 23* 28* |
| 1 16 | 15 4.95 | + 8 36.4 | 0.835 | 1.047 | 61.8 | 21.1 | 70 W | 36* 51* | 11 24 | 12 54.89 | -12 31.8 | 0.081 | 0.932 | 131.8 | 19.6 | 45 W | 26* 31* |
| 349507 2008 QY | | | | | | | | | 11 25 | 12 38.14 | -10 50.7 | 0.067 | 0.945 | 126.7 | 18.7 | 50 W | 29* 35* |
| 11 17 | 12 1.57 | +10 10.4 | 1.349 | 1.193 | 45.3 | 21.4 | 59 W | 48* 26* | 11 26 | 12 31.86 | - 8 16.0 | 0.055 | 0.959 | 119.6 | 17.7 | 58 W | 34* 40* |
| 11 22 | 12 20.33 | + 7 44.2 | 1.289 | 1.147 | 47.4 | 21.2 | 59 W | 47* 27* | 11 27 | 11 36.44 | - 4 3.4 | 0.043 | 0.972 | 108.8 | 16.5 | 69 W | 40* 46* |
| 11 27 | 12 40.22 | + 5 4.1 | 1.233 | 1.099 | 49.7 | 21.1 | 58 W | 45* 28* | 11 28 | 10 35.95 | + 3 0.2 | 0.034 | 0.985 | 91.6 | 15.1 | 86 W | 48 53* |
| 12 2 | 13 1.44 | + 2 9.4 | 1.182 | 1.049 | 52.0 | 21.0 | 57 W | 43* 29* | 11 29 | 9 2.23 | +13 8.3 | 0.029 | 0.998 | 65.7 | 13.9 | 113 W | 58 51 |
| 12 7 | 13 24.20 | + 1 0.0 | 1.136 | 0.998 | 54.5 | 20.9 | 56 W | 40* 30* | 11 30 | 7 11.24 | +21 35.9 | 0.031 | 1.011 | 37.5 | 13.3 | 141 W | 67 42 |
| 12 12 | 13 48.71 | + 4 22.7 | 1.098 | 0.944 | 57.0 | 20.7 | 54 W | 37* 31* | 12 1 | 5 43.49 | +24 45.2 | 0.039 | 1.023 | 16.7 | 13.2 | 163 W | 70 39 |
| 12 17 | 14 15.20 | + 7 56.2 | 1.068 | 0.889 | 59.5 | 20.6 | 51 W | 33* 32* | 12 2 | 4 48.08 | +25 4.7 | 0.050 | 1.035 | 4.4 | 13.2 | 175 W | 70 39 |
| 12 22 | 14 43.87 | +11 35.6 | 1.048 | 0.834 | 61.8 | 20.5 | 48 W | 29* 32* | 12 3 | 4 13.74 | +24 37.9 | 0.062 | 1.047 | 5.7 | 13.8 | 174 E | 70 39 |
| 12 27 | 15 14.91 | +15 13.7 | 1.040 | 0.777 | 63.6 | 20.4 | 45 W | 25* 31* | 12 4 | 3 51.35 | +24 4.3 | 0.075 | 1.059 | 11.0 | 14.5 | 168 E | 69 40 |
| 1 1 | 15 48.40 | +18 41.2 | 1.043 | 0.720 | 64.8 | 20.3 | 41 W | 21* 30* | 12 5 | 3 35.91 | +23 33.7 | 0.089 | 1.071 | 14.9 | 15.0 | 164 E | 69 40 |
| 1 6 | 16 24.34 | +21 47.0 | 1.060 | 0.664 | 64.8 | 20.1 | 38 W | 16* 28* | 12 6 | 3 24.74 | +23 7.7 | 0.103 | 1.083 | 18.0 | 15.5 | 160 E | 68 41 |
| 1 11 | 17 2.50 | +24 19.7 | 1.090 | 0.611 | 63.5 | 20.0 | 34 W | 12* 26* | 12 7 | 3 16.37 | +22 46.0 | 0.117 | 1.094 | 20.4 | 15.8 | 157 E | 68 41 |
| 1 16 | 17 42.47 | +26 8.4 | 1.133 | 0.564 | 60.2 | 19.8 | 30 W | 8* 23* | 12 8 | 3 9.90 | +22 27.9 | 0.131 | 1.105 | 22.3 | 16.2 | 155 E | 67 42 |
| 7753 1988 XB | | | | | | | | | 12 9 | 3 4.79 | +22 12.8 | 0.146 | 1.116 | 24.0 | 16.5 | 153 E | 67 42 |
| 11 17 | 12 40.26 | +15 35.2 | 0.076 | 0.932 | 136.4 | 19.3 | 41 W | 21* 29* | 12 10 | 3 0.68 | +22 0.1 | 0.160 | 1.127 | 25.4 | 16.8 | 151 E | 67 42 |
| 11 19 | 12 5.39 | +11 7.1 | 0.071 | 0.946 | 124.9 | 18.0 | 52 W | 29* 37* | 12 11 | 2 57.34 | +21 49.4 | 0.175 | 1.138 | 26.6 | 17.0 | 149 E | 67 42 |
| 11 21 | 11 27.41 | + 5 46.6 | 0.067 | 0.961 | 112.0 | 16.9 | 64 W | 38* 45* | 12 12 | 2 54.59 | +21 40.2 | 0.190 | 1.149 | 27.7 | 17.2 | 147 E | 67 42 |
| 11 23 | 10 47.99 | + 0 3.7 | 0.066 | 0.975 | 98.6 | 16.2 | 78 W | 45* 50* | 12 13 | 2 52.32 | +21 32.5 | 0.205 | 1.159 | 28.7 | 17.4 | 146 E | 67 42 |
| 11 25 | 10 9.13 | + 5 49.3 | 0.068 | 0.990 | 85.4 | 15.7 | 91 W | 51 53* | 12 14 | 2 50.43 | +21 25.8 | 0.220 | 1.169 | 29.6 | 17.6 | 144 E | 66 43 |
| 11 27 | 9 32.69 | +10 58.6 | 0.072 | 1.005 | 73.0 | 15.5 | 103 W | 56 52* | 12 15 | 2 48.86 | +21 20.2 | 0.235 | 1.180 | 30.4 | 17.8 | 143 E | 66 43 |
| 11 28 | 9 15.77 | +13 13.9 | 0.075 | 1.013 | 67.4 | 15.4 | 109 W | 58 51* | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|
| 153201 2000 WO₁₀₇ | | | | | | | | | | 361538 2007 JZ₂₀ | | | | | | | | | |
| <i>(continuation)</i> | | | | | | | | | | | | | | | | | | | |
| 1 8 | 2 48.55 | +21 12.1 | 0.611 | 1.382 | 38.8 | 20.5 | 118 E | 66 | 43 | 11 17 | 15 32.56 | -5 56.0 | 2.196 | 1.253 | 10.3 | 21.5 | 13 E | 4* | — |
| 1 10 | 2 49.96 | +21 16.7 | 0.643 | 1.396 | 39.0 | 20.6 | 117 E | 66 | 43 | 11 27 | 16 5.98 | -5 51.1 | 2.123 | 1.200 | 12.6 | 21.4 | 15 W | 6* | — |
| 1 12 | 2 51.48 | +21 21.7 | 0.676 | 1.409 | 39.2 | 20.8 | 115 E | 66 | 43 | 12 7 | 16 41.75 | -5 31.8 | 2.049 | 1.147 | 14.9 | 21.3 | 17 W | 9* | — |
| 1 14 | 2 53.11 | +21 27.1 | 0.709 | 1.422 | 39.4 | 20.9 | 113 E | 66 | 43* | 12 17 | 17 20.07 | -4 56.5 | 1.976 | 1.094 | 17.0 | 21.2 | 19 W | 11* | — |
| 141531 2002 GB | | | | | | | | | | 285872 2001 NR₅ | | | | | | | | | |
| 11 17 | 13 51.88 | +3 35.6 | 0.755 | 0.544 | 97.8 | 20.6 | 33 W | 27* | 5* | 11 17 | 15 34.57 | -16 5.7 | 2.866 | 1.880 | 1.6 | 21.5 | 3 E | — | — |
| 11 19 | 13 54.35 | +3 54.6 | 0.788 | 0.562 | 92.6 | 20.5 | 35 W | 28* | 6* | 11 27 | 15 59.49 | -17 38.6 | 2.833 | 1.851 | 2.4 | 21.5 | 5 W | — | — |
| 11 21 | 13 57.25 | +4 3.2 | 0.820 | 0.581 | 88.0 | 20.5 | 36 W | 30* | 7* | 12 7 | 16 25.37 | -18 59.6 | 2.794 | 1.823 | 4.2 | 21.5 | 8 W | 1* | — |
| 11 23 | 14 0.48 | +4 3.5 | 0.851 | 0.600 | 83.9 | 20.5 | 37 W | 31* | 8* | 12 17 | 16 52.16 | -20 6.7 | 2.750 | 1.796 | 6.2 | 21.5 | 11 W | 4* | 2* |
| 11 25 | 14 3.99 | +3 57.1 | 0.880 | 0.621 | 80.2 | 20.5 | 38 W | 32* | 9* | 12 27 | 17 19.77 | -20 58.3 | 2.702 | 1.770 | 8.2 | 21.6 | 15 W | 5* | 6* |
| 11 27 | 14 7.69 | +3 45.4 | 0.909 | 0.642 | 76.9 | 20.5 | 39 W | 33* | 10* | 451574 2012 AU | | | | | | | | | |
| 11 29 | 14 11.56 | +3 29.4 | 0.936 | 0.663 | 73.9 | 20.5 | 40 W | 33* | 11* | 11 17 | 15 35.64 | -19 38.6 | 3.343 | 2.355 | 0.6 | 21.5 | 2 E | — | — |
| 12 1 | 14 15.53 | +3 10.2 | 0.962 | 0.684 | 71.3 | 20.6 | 41 W | 34* | 12* | 11 27 | 15 53.74 | -21 33.1 | 3.378 | 2.396 | 1.7 | 21.7 | 4 W | — | — |
| 12 3 | 14 19.59 | +2 48.3 | 0.987 | 0.706 | 68.9 | 20.6 | 42 W | 34* | 13* | 12 7 | 16 11.84 | -23 18.6 | 3.400 | 2.436 | 4.0 | 21.9 | 10 W | — | 3* |
| 12 5 | 14 23.71 | +2 24.5 | 1.010 | 0.727 | 66.8 | 20.7 | 43 W | 35* | 14* | 12 17 | 16 29.88 | -24 55.6 | 3.407 | 2.475 | 6.2 | 22.0 | 16 W | 3* | 9* |
| 12 7 | 14 27.87 | +1 59.2 | 1.032 | 0.749 | 64.9 | 20.7 | 43 W | 35* | 15* | 12 27 | 16 47.79 | -26 24.8 | 3.400 | 2.515 | 8.4 | 22.1 | 22 W | 5* | 15* |
| 12 12 | 14 38.32 | +0 51.6 | 1.080 | 0.802 | 61.0 | 20.9 | 45 W | 36* | 18* | 326113 2011 UG₁₀₈ | | | | | | | | | |
| 12 17 | 14 48.73 | -0 18.8 | 1.120 | 0.854 | 57.9 | 21.0 | 47 W | 37* | 21* | 11 17 | 15 40.84 | -16 35.4 | 2.895 | 1.909 | 1.8 | 21.4 | 4 E | — | — |
| 12 22 | 14 58.98 | -1 29.6 | 1.153 | 0.904 | 55.6 | 21.1 | 49 W | 37* | 24* | 11 27 | 16 5.35 | -18 9.2 | 2.862 | 1.878 | 1.7 | 21.4 | 3 W | — | — |
| 12 27 | 15 9.03 | -2 39.2 | 1.178 | 0.952 | 53.7 | 21.2 | 51 W | 37* | 27* | 12 7 | 16 30.84 | -19 31.4 | 2.824 | 1.848 | 3.4 | 21.4 | 6 W | — | — |
| 1 | 15 18.83 | -3 46.9 | 1.196 | 0.999 | 52.3 | 21.3 | 53 W | 37* | 30* | 12 17 | 16 57.28 | -20 40.2 | 2.780 | 1.820 | 5.4 | 21.5 | 10 W | 2* | 1* |
| 1 6 | 15 28.38 | -4 52.2 | 1.207 | 1.043 | 51.2 | 21.4 | 56 W | 37* | 34* | 12 27 | 17 24.59 | -21 33.7 | 2.732 | 1.792 | 7.5 | 21.5 | 14 W | 4* | 5* |
| 1 11 | 15 37.66 | -5 55.0 | 1.213 | 1.085 | 50.3 | 21.5 | 58 W | 37* | 38* | 247877 2003 UU₁₅₂ | | | | | | | | | |
| 267504 2002 KJ₉ | | | | | | | | | | 11 17 | 15 42.49 | -16 22.7 | 3.708 | 2.723 | 1.4 | 21.4 | 4 E | — | — |
| 11 17 | 13 59.69 | -7 56.7 | 2.722 | 1.868 | 12.7 | 21.5 | 24 W | 17* | 9* | 11 27 | 15 58.53 | -17 44.6 | 3.675 | 2.693 | 1.7 | 21.4 | 5 W | — | — |
| 11 27 | 14 23.20 | -10 7.7 | 2.633 | 1.826 | 14.9 | 21.4 | 28 W | 19* | 12* | 12 7 | 16 15.07 | -19 1.5 | 3.626 | 2.662 | 3.7 | 21.5 | 10 W | 3* | — |
| 12 7 | 14 47.72 | -12 14.1 | 2.541 | 1.784 | 17.0 | 21.4 | 32 W | 21* | 17* | 12 17 | 16 32.08 | -20 13.3 | 3.563 | 2.630 | 5.9 | 21.5 | 16 W | 6* | 6* |
| 12 17 | 15 13.33 | -14 13.8 | 2.447 | 1.743 | 19.2 | 21.3 | 36 W | 22* | 21* | 12 27 | 16 49.49 | -21 19.6 | 3.484 | 2.597 | 8.1 | 21.5 | 22 W | 9* | 12* |
| 12 27 | 15 40.11 | -16 4.7 | 2.351 | 1.703 | 21.3 | 21.3 | 39 W | 22* | 26* | 101931 1999 RZ₂₀ | | | | | | | | | |
| 1 6 | 16 8.09 | -17 44.3 | 2.255 | 1.665 | 23.4 | 21.2 | 42 W | 21* | 30* | 11 17 | 15 49.48 | -24 43.7 | 3.273 | 2.296 | 3.2 | 21.4 | 7 E | — | 1* |
| 1 16 | 16 37.31 | -19 10.3 | 2.160 | 1.627 | 25.5 | 21.1 | 45 W | 21* | 35* | 11 27 | 16 11.07 | -25 43.5 | 3.242 | 2.260 | 2.0 | 21.3 | 5 W | — | — |
| 313276 2002 AX₁ | | | | | | | | | | 12 7 | 16 33.49 | -26 34.6 | 3.200 | 2.224 | 2.8 | 21.3 | 6 W | — | — |
| 11 17 | 14 14.94 | +25 15.3 | 0.499 | 0.751 | 102.7 | 21.3 | 48 W | 38* | — | 12 17 | 16 56.70 | -27 15.4 | 3.148 | 2.187 | 4.6 | 21.3 | 10 W | — | — |
| 11 22 | 14 1.46 | +26 53.4 | 0.472 | 0.806 | 97.8 | 21.1 | 54 W | 46* | — | 12 27 | 17 20.62 | -27 44.5 | 3.086 | 2.150 | 6.7 | 21.3 | 15 W | — | — |
| 11 27 | 13 47.49 | +28 4.4 | 0.444 | 0.858 | 93.0 | 20.9 | 60 W | 54* | 2* | 1 6 | 17 45.18 | -28 0.6 | 3.016 | 2.114 | 8.9 | 21.3 | 19 W | 2* | 13* |
| 12 2 | 13 32.64 | +28 56.8 | 0.414 | 0.908 | 88.2 | 20.7 | 67 W | 61* | 8* | 1 16 | 18 10.27 | -28 2.6 | 2.937 | 2.077 | 11.1 | 21.3 | 24 W | 3* | 18* |
| 12 7 | 13 16.13 | +29 37.6 | 0.382 | 0.954 | 83.2 | 20.4 | 74 W | 68* | 14* | 164670 1996 XM₆ | | | | | | | | | |
| 12 9 | 13 8.81 | +29 51.7 | 0.369 | 0.972 | 81.1 | 20.3 | 77 W | 70* | 16* | 11 17 | 15 51.54 | -18 11.2 | 3.732 | 2.748 | 1.9 | 21.4 | 5 E | — | — |
| 12 11 | 13 0.95 | +30 5.0 | 0.356 | 0.990 | 78.8 | 20.2 | 80 W | 72* | 18* | 11 27 | 16 8.25 | -19 8.2 | 3.706 | 2.720 | 0.8 | 21.2 | 2 W | — | — |
| 12 13 | 12 52.44 | +30 17.5 | 0.343 | 1.007 | 76.5 | 20.1 | 84 W | 74* | 21* | 12 7 | 16 25.43 | -19 59.5 | 3.665 | 2.690 | 2.7 | 21.4 | 7 W | 1* | — |
| 12 15 | 12 43.14 | +30 29.1 | 0.329 | 1.023 | 73.9 | 19.9 | 87 W | 75* | 23* | 12 17 | 16 43.02 | -20 44.3 | 3.608 | 2.660 | 4.9 | 21.4 | 13 W | 4* | 4* |
| 12 17 | 12 32.92 | +30 39.5 | 0.316 | 1.039 | 71.2 | 19.8 | 91 W | 76 | 25* | 12 27 | 17 0.95 | -21 22.3 | 3.538 | 2.629 | 7.1 | 21.5 | 19 W | 8* | 10* |
| 12 19 | 12 21.63 | +30 48.4 | 0.303 | 1.055 | 68.3 | 19.6 | 95 W | 76 | 27* | 1 6 | 17 19.17 | -21 52.9 | 3.454 | 2.597 | 9.2 | 21.5 | 25 W | 10* | 16* |
| 12 21 | 12 9.11 | +30 54.9 | 0.291 | 1.070 | 65.1 | 19.5 | 99 W | 76 | 29* | 1 16 | 17 37.59 | -22 15.9 | 3.357 | 2.564 | 11.4 | 21.5 | 31 W | 12* | 23* |
| 12 23 | 11 55.20 | +30 58.0 | 0.278 | 1.085 | 61.6 | 19.3 | 104 W | 76 | 31* | 269780 1999 TF₁₄₅ | | | | | | | | | |
| 12 25 | 11 39.77 | +30 56.0 | 0.267 | 1.099 | 57.8 | 19.1 | 109 W | 76 | 32* | 11 17 | 15 53.22 | -22 11.2 | 2.774 | 1.795 | 3.5 | 21.4 | 6 E | — | — |
| 12 27 | 11 22.69 | +30 47.2 | 0.256 | 1.113 | 53.7 | 18.9 | 114 W | 76 | 33* | 11 27 | 16 20.45 | -23 25.4 | 2.749 | 1.765 | 1.7 | 21.2 | 3 E | — | — |
| 12 29 | 11 3.94 | +30 29.2 | 0.246 | 1.127 | 49.2 | 18.8 | 120 W | 75 | 34 | 12 7 | 16 48.77 | -24 23.7 | 2.719 | 1.736 | 1.3 | 21.2 | 2 W | — | — |
| 12 31 | 10 43.56 | +29 53.3 | 0.238 | 1.140 | 44.3 | 18.6 | 126 W | 75 | 34 | 12 17 | 17 18.10 | -25 3.7 | 2.686 | 1.708 | 2.9 | 21.2 | 5 W | — | — |
| 1 2 | 10 21.74 | +29 15.3 | 0.232 | 1.152 | 39.0 | 18.4 | 132 W | 74 | 35 | 12 27 | 17 48.24 | -25 23.2 | 2.649 | 1.682 | 4.8 | 21.3 | 8 W | — | 2* |
| 1 4 | 9 58.81 | +28 15.3 | 0.227 | 1.165 | 33.4 | 18.2 | 139 W | 73 | 36 | 1 6 | 18 19.00 | -25 20.4 | 2.610 | 1.658 | 6.8 | 21.3 | 11 W | — | 5* |
| 1 6 | 9 35.25 | +26 58.5 | 0.224 | 1.176 | 27.6 | 18.0 | 146 W | 72 | 37 | 1 16 | 18 50.14 | -24 54.2 | 2.569 | 1.635 | 8.7 | 21.3 | 15 W | — | 8* |
| 1 8 | 9 11.63 | +25 25.9 | 0.224 | 1.188 | 21.7 | 17.9 | 154 W | 70 | 39 | 325769 2010 LY₆₃ | | | | | | | | | |
| 1 10 | 8 48.54 | +23 40.2 | 0.226 | 1.199 | 15.7 | 17.7 | 161 W | 69 | 40 | 11 17 | 16 2.37 | -27 36.5 | 2.482 | 1.525 | 7.4 | 21.3 | 11 E | — | 5* |
| 1 12 | 8 26.53 | +21 45.4 | 0.230 | 1.210 | 9.9 | 17.6 | 168 W | 67 | 42 | 11 27 | 16 34.91 | -28 45.2 | 2.434 | 1.469 | 6.2 | 21.1 | 9 E | — | 2* |
| 1 14 | 8 6.01 | +19 46.3 | 0.237 | 1.220 | 4.6 | 17.4 | 174 W | 65 | 44 | 12 7 | 17 9.62 | -29 28.9 | 2.384 | 1.414 | 5.3 | 21.0 | 8 E | — | — |
| 1 16 | 7 47.25 | +17 47.3 | 0.246 | 1.230 | 2.7 | 17.4 | 177 E | 63 | 46 | 12 17 | 17 46.32 | -29 41.4 | 2.334 | 1.360 | 4.7 | 20.8 | 7 E | — | — |
| 160707 2000 QP₁₀ | | | | | | | | | | 12 27 | 18 24.63 | -29 17.2 | 2.284 | 1.310 | 4.5 | 20.7 | 6 E | — | — |
| 11 17 | 15 29.09 | -21 30.6 | 3.416 | 2.429 | 1.0 | 21.4 | 3 W | — | — | 1 6 | 19 4.03 | -28 11.6 | 2.237 | 1.262 | 4.5 | 20.5 | 6 W | — | — |
| 11 27 | 15 48.78 | -22 33.9 | 3.378 | 2.398 | 2.3 | 21.4 | 6 W | — | — | 1 16 | 19 43.92 | -26 22.1 | 2.195 | 1.220 | 4.5 | 20.4 | 6 W | — | — |
| 12 7 | 16 9.08 | -23 30.1 | 3.327 | 2.366 | 4.4 | 21.5 | 11 W | — | 4* | 495851 2002 TL₆₈ | | | | | | | | | |
| 12 17 | 16 29.97 | -24 18.2 | 3.264 | 2.333 | 6.6 | 21.5 | 16 W | 3* | 8* | 11 17 | 15 30.39 | -13 10.1 | 2.846 | 1.865 | 3.1 | 21.4 | 6 E | — | — |
| 12 27 | 16 51.40 | -24 57.1 | 3.190 | 2.300 | 8.8 | 21.5 | 21 W | 6* | 13* | 11 27 | 15 55.82 | -13 45.9 | 2.795 | 1.824 | 4.5 | 21.4 | 8 W | 2* | — |
| 313276 2002 AX₁ | | | | | | | | | | 12 7 | 16 22.21 | -14 8.5 | 2.739 | 1.784 | 6.3 | 21.4 | 11 W | 5* | — |
| 11 17 | 15 30.39 | -13 10.1 | 2.846 | 1.865 | 3.1 | 21.4 | 6 E | — | — | 12 17 | 16 49.53 | -14 16.0 | 2.678 | 1.745 | 8.3 | 21.4 | 15 W | 9* | — |
| 11 27 | 15 55.82 | -13 45.9 | 2.795 | 1.824 | 4.5 | 21.4 | 8 W | 2* | — | 12 27 | 17 17.67 | -14 6.1 | 2.616 | 1.709 | 10.3 | 21.4 | 18 W | 11* | 3* |
| 12 7 | 16 22.21 | -14 8 | | | | | | | | | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|---|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|
| 339492 2005 GQ₂₁ | | | | | | | | | | 358453 2007 EH₈₈ (continuation) | | | | | | | | | |
| 11 17 | 16 15.40 | +0 44.1 | 2.208 | 1.351 | 16.4 | 21.5 | 23 E | 16* | — | 1 2 | 2 59.35 | +64 54.6 | 0.360 | 1.222 | 41.7 | 19.6 | 124 E | 70 | — |
| 11 27 | 16 47.18 | +1 1.4 | 2.161 | 1.319 | 17.5 | 21.4 | 24 E | 16* | — | 1 3 | 3 3.73 | +64 7.8 | 0.367 | 1.228 | 41.4 | 19.7 | 124 E | 71 | — |
| 12 7 | 17 20.68 | +1 28.9 | 2.113 | 1.288 | 18.8 | 21.3 | 25 E | 16* | — | 1 4 | 3 7.87 | +63 22.1 | 0.375 | 1.235 | 41.0 | 19.7 | 124 E | 72 | 1 |
| 12 17 | 17 55.89 | +2 6.9 | 2.069 | 1.258 | 19.9 | 21.3 | 26 E | 15* | — | 1 5 | 3 11.79 | +62 37.5 | 0.383 | 1.241 | 40.7 | 19.8 | 125 E | 72 | 1 |
| 12 27 | 18 32.70 | +2 54.8 | 2.031 | 1.229 | 20.8 | 21.2 | 26 E | 15* | — | 1 6 | 3 15.51 | +61 53.9 | 0.391 | 1.247 | 40.4 | 19.8 | 125 E | 73 | 2 |
| 1 6 | 19 10.87 | +3 50.9 | 2.002 | 1.203 | 21.3 | 21.1 | 26 E | 14* | — | 1 8 | 3 22.48 | +60 29.9 | 0.407 | 1.260 | 40.0 | 19.9 | 125 E | 74 | 3 |
| 1 16 | 19 50.08 | +4 52.3 | 1.983 | 1.179 | 21.3 | 21.1 | 26 W | 13* | — | 1 10 | 3 28.92 | +59 9.9 | 0.423 | 1.272 | 39.6 | 20.0 | 124 E | 76 | 5 |
| 158985 2004 RB₃₃₀ | | | | | | | | | | 360698 2004 TP₁₂ | | | | | | | | | |
| 11 17 | 16 22.14 | -20 22.9 | 2.747 | 1.794 | 6.8 | 21.5 | 12 E | 1* | 6* | 11 17 | 16 39.53 | -12 36.9 | 2.525 | 1.613 | 10.9 | 21.4 | 18 E | 10* | 6* |
| 11 27 | 16 49.45 | -21 4.4 | 2.740 | 1.771 | 4.9 | 21.3 | 9 E | — | 2* | 11 27 | 17 7.46 | -12 27.2 | 2.522 | 1.595 | 9.7 | 21.4 | 16 E | 9* | 2* |
| 12 7 | 17 17.49 | -21 29.2 | 2.729 | 1.750 | 3.0 | 21.2 | 5 E | — | — | 12 7 | 17 35.91 | -12 1.6 | 2.515 | 1.579 | 8.9 | 21.3 | 14 E | 8* | — |
| 12 17 | 17 46.12 | -21 35.5 | 2.714 | 1.731 | 1.4 | 21.0 | 2 E | — | — | 12 17 | 18 4.80 | -11 18.9 | 2.504 | 1.564 | 8.4 | 21.2 | 13 E | 7* | — |
| 12 27 | 18 15.15 | -21 22.2 | 2.695 | 1.714 | 1.6 | 21.0 | 3 W | — | — | 12 27 | 18 34.01 | -10 18.5 | 2.492 | 1.551 | 8.4 | 21.2 | 13 E | 5* | — |
| 1 6 | 18 44.37 | -20 48.7 | 2.674 | 1.698 | 3.3 | 21.1 | 6 W | — | — | 1 6 | 19 3.40 | -9 0.5 | 2.477 | 1.539 | 8.6 | 21.2 | 14 W | 5* | — |
| 1 16 | 19 13.60 | -19 54.9 | 2.651 | 1.686 | 5.1 | 21.2 | 9 W | 1* | 1* | 1 16 | 19 32.88 | -7 25.4 | 2.463 | 1.529 | 9.1 | 21.2 | 14 W | 7* | — |
| 313621 2003 QP₁₀₉ | | | | | | | | | | 282873 2007 ET₆₅ | | | | | | | | | |
| 11 17 | 16 25.76 | -18 29.3 | 2.850 | 1.901 | 6.8 | 21.4 | 13 E | 3* | 5* | 11 17 | 16 46.75 | -21 28.0 | 2.777 | 1.864 | 9.5 | 21.5 | 18 E | 4* | 11* |
| 11 27 | 16 50.97 | -19 36.4 | 2.838 | 1.871 | 4.9 | 21.2 | 9 E | 1* | 1* | 11 27 | 17 12.80 | -22 16.3 | 2.780 | 1.839 | 7.6 | 21.4 | 14 E | 2* | 7* |
| 12 7 | 17 17.11 | -20 29.5 | 2.821 | 1.843 | 3.0 | 21.1 | 6 E | — | — | 12 7 | 17 39.69 | -22 48.8 | 2.776 | 1.815 | 5.6 | 21.3 | 10 E | 1* | 3* |
| 12 17 | 17 44.10 | -21 6.9 | 2.799 | 1.816 | 1.4 | 20.9 | 3 E | — | — | 12 17 | 18 7.28 | -23 4.0 | 2.766 | 1.792 | 3.5 | 21.1 | 6 E | — | — |
| 12 27 | 18 11.79 | -21 27.2 | 2.771 | 1.790 | 1.8 | 20.9 | 3 W | — | — | 12 27 | 18 35.41 | -23 0.7 | 2.752 | 1.770 | 1.5 | 20.9 | 3 E | — | — |
| 1 6 | 18 40.03 | -21 29.2 | 2.740 | 1.767 | 3.6 | 21.0 | 6 W | — | — | 1 6 | 19 3.89 | -22 38.2 | 2.734 | 1.751 | 0.5 | 20.8 | 1 W | — | — |
| 1 16 | 19 8.67 | -21 12.4 | 2.706 | 1.745 | 5.6 | 21.0 | 10 W | — | 3* | 1 16 | 19 32.55 | -21 56.3 | 2.711 | 1.732 | 2.5 | 20.9 | 4 W | — | — |
| 52760 1998 ML₁₄ | | | | | | | | | | 280244 2002 WP₁₁ | | | | | | | | | |
| 11 17 | 16 28.82 | -23 20.6 | 2.619 | 1.680 | 8.4 | 21.3 | 14 E | — | 8* | 11 17 | 16 50.10 | -22 29.5 | 2.274 | 1.378 | 13.6 | 21.4 | 19 E | 4* | 12* |
| 11 27 | 16 56.27 | -24 6.8 | 2.552 | 1.593 | 6.6 | 21.0 | 11 E | — | 4* | 11 27 | 17 24.97 | -22 49.6 | 2.243 | 1.332 | 12.5 | 21.2 | 17 E | 4* | 10* |
| 12 7 | 17 26.02 | -24 36.7 | 2.476 | 1.505 | 4.8 | 20.8 | 7 E | — | 1* | 12 7 | 18 1.42 | -22 40.4 | 2.214 | 1.290 | 11.6 | 21.1 | 15 E | 4* | 8* |
| 12 17 | 17 58.19 | -24 45.0 | 2.395 | 1.416 | 3.2 | 20.5 | 5 E | — | — | 12 17 | 18 39.10 | -21 58.2 | 2.187 | 1.254 | 10.9 | 21.0 | 14 E | 4* | 5* |
| 12 22 | 18 15.19 | -24 39.3 | 2.353 | 1.372 | 2.4 | 20.3 | 3 E | — | — | 12 27 | 19 17.54 | -20 40.9 | 2.165 | 1.225 | 10.2 | 20.9 | 13 E | 4* | 4* |
| 12 27 | 18 32.80 | -24 25.9 | 2.310 | 1.328 | 1.8 | 20.2 | 2 E | — | — | 1 6 | 19 56.20 | -18 48.6 | 2.149 | 1.204 | 9.7 | 20.8 | 12 E | 4* | 2* |
| 1 1 | 18 51.00 | -24 4.1 | 2.268 | 1.285 | 1.2 | 20.0 | 2 E | — | — | 1 16 | 20 34.64 | -16 23.6 | 2.141 | 1.192 | 9.3 | 20.8 | 11 E | 4* | 1* |
| 1 6 | 19 9.78 | -23 33.2 | 2.225 | 1.242 | 0.9 | 19.9 | 1 E | — | — | 468804 2012 HF₅₂ | | | | | | | | | |
| 1 11 | 19 29.11 | -22 52.2 | 2.184 | 1.201 | 0.8 | 19.7 | 1 W | — | — | 11 17 | 16 52.65 | -11 42.3 | 2.714 | 1.828 | 11.3 | 21.5 | 21 E | 13* | 8* |
| 1 16 | 19 48.95 | -22 0.7 | 2.143 | 1.160 | 1.0 | 19.6 | 1 W | — | — | 11 27 | 17 18.53 | -12 11.1 | 2.704 | 1.794 | 9.9 | 21.4 | 18 E | 11* | 4* |
| 358453 2007 EH₈₈ | | | | | | | | | | 12 7 | 17 45.30 | -12 25.4 | 2.690 | 1.762 | 8.7 | 21.3 | 16 E | 10* | — |
| 11 17 | 16 35.96 | +28 31.6 | 0.187 | 0.881 | 120.5 | 20.8 | 50 E | 39* | — | 12 17 | 18 12.85 | -12 23.9 | 2.673 | 1.732 | 7.7 | 21.2 | 14 E | 8* | — |
| 11 19 | 16 41.33 | +33 40.9 | 0.183 | 0.896 | 115.1 | 20.4 | 55 E | 41* | — | 12 27 | 18 41.03 | -12 5.5 | 2.655 | 1.705 | 6.9 | 21.1 | 12 E | 5* | — |
| 11 21 | 16 47.41 | +38 53.5 | 0.181 | 0.912 | 109.6 | 20.0 | 61 E | 44* | — | 1 6 | 19 9.66 | -11 29.6 | 2.635 | 1.681 | 6.4 | 21.0 | 11 E | 2* | — |
| 11 23 | 16 54.43 | +44 5.1 | 0.180 | 0.928 | 104.0 | 19.7 | 66 E | 46* | — | 1 16 | 19 38.60 | -10 36.4 | 2.616 | 1.660 | 6.4 | 21.0 | 11 W | 4* | — |
| 11 25 | 17 2.67 | +49 11.0 | 0.181 | 0.944 | 98.4 | 19.5 | 71 E | 49* | — | 53409 1999 LU₇ | | | | | | | | | |
| 11 27 | 17 12.53 | +54 7.1 | 0.183 | 0.960 | 93.0 | 19.3 | 76 E | 50* | — | 11 17 | 17 4.84 | -17 0.5 | 1.968 | 1.123 | 19.8 | 21.4 | 23 E | 10* | 13* |
| 11 28 | 17 18.24 | +56 30.3 | 0.184 | 0.968 | 90.3 | 19.2 | 79 E | 51* | — | 11 22 | 17 23.10 | -17 19.5 | 1.926 | 1.076 | 20.2 | 21.3 | 22 E | 10* | 12* |
| 11 29 | 17 24.58 | +58 49.7 | 0.186 | 0.976 | 87.8 | 19.1 | 81 E | 52* | — | 11 27 | 17 42.34 | -17 32.5 | 1.882 | 1.031 | 20.7 | 21.2 | 22 E | 10* | 11* |
| 11 30 | 17 31.67 | +61 4.9 | 0.188 | 0.984 | 85.2 | 19.1 | 84 E | 53* | — | 12 2 | 18 2.57 | -17 38.5 | 1.837 | 0.987 | 21.4 | 21.0 | 21 E | 11* | 11* |
| 12 1 | 17 39.64 | +63 15.5 | 0.190 | 0.992 | 82.8 | 19.1 | 86 E | 53* | — | 12 7 | 18 23.83 | -17 36.4 | 1.792 | 0.946 | 22.3 | 20.9 | 21 E | 11* | 10* |
| 12 2 | 17 48.65 | +65 21.0 | 0.193 | 0.999 | 80.4 | 19.0 | 88 E | 53* | — | 12 12 | 18 46.12 | -17 25.3 | 1.747 | 0.907 | 23.6 | 20.8 | 22 E | 12* | 10* |
| 12 3 | 17 58.91 | +67 21.0 | 0.195 | 1.007 | 78.1 | 19.0 | 91 E | 54* | — | 12 17 | 19 9.41 | -17 4.1 | 1.702 | 0.873 | 25.1 | 20.7 | 22 E | 12* | 10* |
| 12 4 | 18 10.66 | +69 15.1 | 0.198 | 1.015 | 75.9 | 19.0 | 93 E | 54* | — | 12 22 | 19 33.66 | -16 32.1 | 1.659 | 0.842 | 26.8 | 20.6 | 23 E | 13* | 10* |
| 12 5 | 18 24.19 | +71 2.6 | 0.201 | 1.023 | 73.7 | 18.9 | 95 E | 54* | — | 12 27 | 19 58.79 | -15 48.6 | 1.617 | 0.817 | 28.9 | 20.6 | 24 E | 14* | 10* |
| 12 6 | 18 39.86 | +72 42.9 | 0.205 | 1.030 | 71.7 | 18.9 | 97 E | 55* | — | 1 1 | 20 24.70 | -14 53.2 | 1.577 | 0.798 | 31.1 | 20.5 | 25 E | 15* | 11* |
| 12 7 | 18 58.05 | +74 15.1 | 0.209 | 1.038 | 69.7 | 18.9 | 99 E | 55* | — | 1 6 | 20 51.26 | -13 46.1 | 1.540 | 0.786 | 33.4 | 20.5 | 26 E | 16* | 12* |
| 12 8 | 19 19.16 | +75 38.2 | 0.212 | 1.046 | 67.7 | 18.9 | 101 E | 55* | — | 1 11 | 21 18.32 | -12 27.6 | 1.506 | 0.781 | 35.7 | 20.5 | 28 E | 18* | 13* |
| 12 9 | 19 43.58 | +76 51.0 | 0.216 | 1.053 | 65.9 | 18.9 | 103 E | 55* | — | 1 16 | 21 45.71 | -10 58.6 | 1.478 | 0.784 | 37.8 | 20.5 | 29 E | 19* | 14* |
| 12 10 | 20 11.50 | +77 51.9 | 0.221 | 1.061 | 64.2 | 18.9 | 104 E | 55* | — | 414032 2007 PJ₃₄ | | | | | | | | | |
| 12 11 | 20 42.80 | +78 39.5 | 0.225 | 1.068 | 62.5 | 18.9 | 106 E | 55* | — | 11 17 | 17 26.82 | -22 21.7 | 2.563 | 1.747 | 15.2 | 21.5 | 28 E | 9* | 20* |
| 12 12 | 21 16.86 | +79 12.6 | 0.230 | 1.076 | 60.9 | 18.9 | 107 E | 55* | — | 11 27 | 17 54.78 | -22 59.5 | 2.582 | 1.727 | 13.4 | 21.4 | 24 E | 8* | 16* |
| 12 13 | 21 52.50 | +79 30.4 | 0.234 | 1.083 | 59.3 | 19.0 | 109 E | 55* | — | 12 7 | 18 23.52 | -23 18.0 | 2.597 | 1.708 | 11.6 | 21.3 | 20 E | 6* | 12* |
| 12 14 | 22 28.18 | +79 33.3 | 0.239 | 1.091 | 57.9 | 19.0 | 110 E | 55 | — | 12 17 | 18 52.84 | -23 15.8 | 2.609 | 1.692 | 9.7 | 21.3 | 17 E | 5* | 9* |
| 12 15 | 23 2.33 | +79 22.3 | 0.244 | 1.098 | 56.5 | 19.0 | 112 E | 56 | — | 12 27 | 19 22.52 | -22 52.4 | 2.618 | 1.678 | 7.9 | 21.2 | 14 E | 3* | 6* |
| 12 16 | 23 33.78 | +78 59.4 | 0.250 | 1.105 | 55.2 | 19.0 | 113 E | 56 | — | 1 6 | 19 52.31 | -22 7.9 | 2.625 | 1.667 | 6.1 | 21.1 | 10 E | 1* | 3* |
| 12 17 | 0 1.90 | +78 26.9 | 0.255 | 1.112 | 53.9 | 19.0 | 114 E | 57 | — | 1 16 | 20 22.00 | -21 3.0 | 2.630 | 1.658 | 4.3 | 21.0 | 7 E | — | — |
| 12 18 | 0 26.57 | +77 47.0 | 0.261 | 1.120 | 52.7 | 19.1 | 115 E | 57 | — | 385240 2000 SW₃₆₃ | | | | | | | | | |
| 12 19 | 0 47.98 | +77 1.7 | 0.266 | 1.127 | 51.6 | 19.1 | 116 E | 58 | — | 11 17 | 17 55.59 | -27 15.0 | 2.684 | 1.950 | 16.6 | 21.5 | 34 E | 8* | 28* |
| 12 20 | 1 6.50 | +76 12.5 | 0.272 | 1.134 | 50.6 | 19.1 | 117 E | 59 | — | 11 27 | 18 21.12 | -27 12.3 | 2.704 | 1.914 | 14.9 | 21.4 | 30 E | 7* | 23* |
| 12 21 | 1 22.54 | +75 20.8 | 0.278 | 1.141 | 49.6 | 19.2 | 118 E | 60 | — | 12 7 | 18 47.50 | -26 53.1 | 2.716 | 1.879 | 13.2 | 21.3 | 26 E | 6* | 19* |
| 12 22 | 1 36.49 | +74 27.5 | 0.284 | 1.148 | 48.6</ | | | | | | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | | | | | | | | | | |
|------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|--|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|-------|---------|----------|-------|-------|-----|------|-------|----|----|
| 189170 2002 VH₆₆ | | | | | | | | | | 350513 2000 BG₁₉ | | | | | | | | | | | | | | | | | | | |
| 11 17 | 18 11.58 | -21 50.9 | 2.254 | 1.594 | 22.4 | 21.5 | 38 E | 14* | 30* | 11 27 | 5 31.95 | +7 10.0 | 2.615 | 3.540 | 6.5 | 23.2 | 156 W | 52 | 57 | 11 27 | 5 31.95 | +7 10.0 | 2.615 | 3.540 | 6.5 | 23.2 | 156 W | 52 | 57 |
| 11 27 | 18 41.15 | -21 22.4 | 2.276 | 1.569 | 21.0 | 21.4 | 35 E | 14* | 26* | 12 7 | 5 22.76 | +6 54.0 | 2.549 | 3.503 | 4.7 | 23.1 | 163 W | 52 | 57 | 12 7 | 5 22.76 | +6 54.0 | 2.549 | 3.503 | 4.7 | 23.1 | 163 W | 52 | 57 |
| 12 7 | 19 11.30 | -20 32.4 | 2.295 | 1.546 | 19.5 | 21.3 | 32 E | 15* | 22* | 12 17 | 5 12.90 | +6 47.6 | 2.515 | 3.466 | 5.0 | 23.0 | 162 E | 52 | 57 | 12 17 | 5 12.90 | +6 47.6 | 2.515 | 3.466 | 5.0 | 23.0 | 162 E | 52 | 57 |
| 12 17 | 19 41.81 | -19 20.6 | 2.313 | 1.526 | 18.1 | 21.3 | 29 E | 14* | 18* | 12 27 | 5 3.18 | +6 52.1 | 2.512 | 3.427 | 7.1 | 23.1 | 155 E | 52 | 57 | 12 27 | 5 3.18 | +6 52.1 | 2.512 | 3.427 | 7.1 | 23.1 | 155 E | 52 | 57 |
| 12 27 | 20 12.45 | -17 47.2 | 2.330 | 1.510 | 16.6 | 21.2 | 26 E | 14* | 14* | 1 6 | 4 54.41 | +7 7.5 | 2.538 | 3.387 | 9.7 | 23.2 | 144 E | 52 | 57 | 1 6 | 4 54.41 | +7 7.5 | 2.538 | 3.387 | 9.7 | 23.2 | 144 E | 52 | 57 |
| 1 6 | 20 43.00 | -15 53.4 | 2.347 | 1.497 | 15.1 | 21.2 | 23 E | 13* | 11* | | | | | | | | | | | | | | | | | | | | |
| 1 16 | 21 13.33 | -13 41.0 | 2.365 | 1.488 | 13.7 | 21.1 | 21 E | 12* | 8* | | | | | | | | | | | | | | | | | | | | |
| 463257 2012 GG₁ | | | | | | | | | | 337091 1998 US₁ | | | | | | | | | | | | | | | | | | | |
| 11 17 | 18 18.11 | -25 9.9 | 1.757 | 1.174 | 32.3 | 21.4 | 39 E | 12* | 32* | 11 27 | 5 34.52 | +14 13.3 | 2.164 | 3.106 | 6.5 | 22.3 | 159 W | 59 | 50 | 11 27 | 5 34.52 | +14 13.3 | 2.164 | 3.106 | 6.5 | 22.3 | 159 W | 59 | 50 |
| 11 27 | 18 56.04 | -23 35.8 | 1.741 | 1.138 | 32.2 | 21.3 | 38 E | 14* | 30* | 12 7 | 5 24.34 | +13 45.5 | 2.149 | 3.121 | 3.5 | 22.2 | 169 W | 59 | 50 | 12 7 | 5 24.34 | +13 45.5 | 2.149 | 3.121 | 3.5 | 22.2 | 169 W | 59 | 50 |
| 12 7 | 19 34.52 | -21 23.5 | 1.724 | 1.107 | 32.3 | 21.3 | 37 E | 16* | 27* | 12 17 | 5 13.82 | +13 23.3 | 2.164 | 3.135 | 3.6 | 22.2 | 168 E | 58 | 51 | 12 17 | 5 13.82 | +13 23.3 | 2.164 | 3.135 | 3.6 | 22.2 | 168 E | 58 | 51 |
| 12 17 | 20 13.19 | -18 33.5 | 1.709 | 1.083 | 32.4 | 21.2 | 36 E | 19* | 24* | 12 27 | 5 3.94 | +13 8.3 | 2.211 | 3.147 | 6.6 | 22.4 | 159 E | 58 | 51 | 12 27 | 5 3.94 | +13 8.3 | 2.211 | 3.147 | 6.6 | 22.4 | 159 E | 58 | 51 |
| 12 27 | 20 51.72 | -15 8.7 | 1.696 | 1.067 | 32.6 | 21.2 | 36 E | 21* | 22* | 1 6 | 4 55.56 | +13 1.3 | 2.287 | 3.159 | 9.7 | 22.6 | 147 E | 58 | 51 | 1 6 | 4 55.56 | +13 1.3 | 2.287 | 3.159 | 9.7 | 22.6 | 147 E | 58 | 51 |
| 1 6 | 21 29.93 | -11 14.4 | 1.687 | 1.059 | 32.9 | 21.1 | 36 E | 23* | 20* | | | | | | | | | | | | | | | | | | | | |
| 1 16 | 22 7.77 | -6 57.8 | 1.686 | 1.059 | 33.0 | 21.1 | 36 E | 25* | 17* | | | | | | | | | | | | | | | | | | | | |
| 483506 2002 XU₆₆ | | | | | | | | | | 423100 2004 BX₁ | | | | | | | | | | | | | | | | | | | |
| 11 17 | 19 40.31 | -2 26.4 | 1.461 | 1.348 | 41.0 | 21.5 | 63 E | 40* | 41* | 11 27 | 5 35.13 | +17 32.4 | 3.469 | 4.410 | 4.4 | 24.7 | 160 W | 63 | 46 | 11 27 | 5 35.13 | +17 32.4 | 3.469 | 4.410 | 4.4 | 24.7 | 160 W | 63 | 46 |
| 11 27 | 20 7.88 | 0 3.0 | 1.466 | 1.316 | 41.1 | 21.4 | 61 E | 42* | 36* | 12 7 | 5 25.42 | +17 32.5 | 3.440 | 4.417 | 1.9 | 24.5 | 171 W | 63 | 46 | 12 7 | 5 25.42 | +17 32.5 | 3.440 | 4.417 | 1.9 | 24.5 | 171 W | 63 | 46 |
| 12 7 | 20 37.48 | +2 34.4 | 1.469 | 1.293 | 41.2 | 21.4 | 60 E | 44* | 31* | 12 17 | 5 15.39 | +17 33.5 | 3.446 | 4.422 | 1.8 | 24.5 | 172 E | 63 | 46 | 12 17 | 5 15.39 | +17 33.5 | 3.446 | 4.422 | 1.8 | 24.5 | 172 E | 63 | 46 |
| 12 17 | 21 9.11 | +5 24.2 | 1.474 | 1.278 | 41.1 | 21.4 | 59 E | 46* | 26* | 12 27 | 5 5.68 | +17 35.7 | 3.486 | 4.427 | 4.2 | 24.7 | 161 E | 63 | 46 | 12 27 | 5 5.68 | +17 35.7 | 3.486 | 4.427 | 4.2 | 24.7 | 161 E | 63 | 46 |
| 12 27 | 21 42.70 | +8 23.5 | 1.482 | 1.273 | 41.0 | 21.4 | 58 E | 48* | 22* | 1 6 | 4 56.90 | +17 39.6 | 3.558 | 4.430 | 6.6 | 24.9 | 149 E | 63 | 46 | 1 6 | 4 56.90 | +17 39.6 | 3.558 | 4.430 | 6.6 | 24.9 | 149 E | 63 | 46 |
| 1 6 | 22 18.10 | +11 26.9 | 1.497 | 1.278 | 40.6 | 21.4 | 58 E | 49* | 19* | | | | | | | | | | | | | | | | | | | | |
| 1 16 | 22 55.10 | +14 27.8 | 1.522 | 1.293 | 39.9 | 21.4 | 57 E | 50* | 17* | | | | | | | | | | | | | | | | | | | | |
| 485652 2011 WO₄₁ | | | | | | | | | | 513497 2009 HB₈₂ | | | | | | | | | | | | | | | | | | | |
| 11 27 | 5 10.24 | +7 10.2 | 3.811 | 4.751 | 4.0 | 23.2 | 160 W | 52 | 57 | 11 27 | 5 41.87 | +34 50.8 | 3.485 | 4.405 | 5.2 | 24.1 | 156 W | 80 | 29 | 11 27 | 5 41.87 | +34 50.8 | 3.485 | 4.405 | 5.2 | 24.1 | 156 W | 80 | 29 |
| 12 7 | 5 2.23 | +7 3.9 | 3.766 | 4.722 | 3.2 | 23.1 | 164 W | 52 | 57 | 12 2 | 5 37.27 | +34 50.9 | 3.459 | 4.403 | 4.2 | 24.0 | 161 W | 80 | 29 | 12 2 | 5 37.27 | +34 50.9 | 3.459 | 4.403 | 4.2 | 24.0 | 161 W | 80 | 29 |
| 12 17 | 4 54.04 | +7 4.4 | 3.754 | 4.693 | 4.0 | 23.1 | 160 E | 52 | 57 | 12 7 | 5 32.45 | +34 48.8 | 3.440 | 4.400 | 3.3 | 23.9 | 165 W | 80 | 29 | 12 7 | 5 32.45 | +34 48.8 | 3.440 | 4.400 | 3.3 | 23.9 | 165 W | 80 | 29 |
| 12 27 | 4 46.20 | +7 12.1 | 3.773 | 4.662 | 5.8 | 23.2 | 152 E | 52 | 57 | 12 12 | 5 27.51 | +34 44.4 | 3.430 | 4.398 | 2.6 | 23.9 | 168 W | 80 | 29 | 12 12 | 5 27.51 | +34 44.4 | 3.430 | 4.398 | 2.6 | 23.9 | 168 W | 80 | 29 |
| 1 6 | 4 39.19 | +7 27.1 | 3.822 | 4.630 | 7.6 | 23.3 | 141 E | 52 | 57 | 12 17 | 5 22.53 | +34 37.7 | 3.428 | 4.395 | 2.6 | 23.9 | 168 E | 80 | 29 | 12 17 | 5 22.53 | +34 37.7 | 3.428 | 4.395 | 2.6 | 23.9 | 168 E | 80 | 29 |
| | | | | | | | | | | 356394 2010 QD₂ | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 22 5 17.62 +34 28.8 3.434 4.392 3.2 23.9 165 E 79 30 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 27 5 12.86 +34 17.9 3.448 4.389 4.2 24.0 161 E 79 30 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 1 1 5 8.34 +34 5.2 3.469 4.386 5.2 24.0 156 E 79 30 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 513497 2009 HB₈₂ | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 11 27 5 42.81 +13 33.0 2.369 3.301 6.7 22.5 157 W 59 50 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 7 5 30.57 +13 23.0 2.297 3.266 3.7 22.2 168 W 58 51 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 17 5 17.30 +13 17.4 2.259 3.229 3.4 22.1 169 E 58 51 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 27 5 4.06 +13 17.1 2.255 3.191 6.4 22.3 159 E 58 51 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 1 6 4 51.91 +13 22.7 2.282 3.150 9.9 22.4 147 E 58 51 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 207398 2006 AS₂ | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 11 27 5 48.42 +19 47.6 1.120 2.066 10.6 22.8 157 W 65 44 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 7 5 33.70 +19 35.6 1.010 1.988 4.7 22.2 171 W 65 44 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 17 5 14.82 +19 20.4 0.926 1.907 3.6 21.9 173 E 64 45 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 27 4 53.75 +19 1.5 0.871 1.823 11.3 22.0 159 E 64 45 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 1 6 4 33.27 +18 41.7 0.843 1.736 19.6 22.1 144 E 64 45 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 523598 2003 ED₅₀ | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 11 27 5 50.29 -31 24.3 1.442 2.140 22.9 24.3 122 W 14 85 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 2 5 41.99 -32 4.7 1.441 2.149 22.5 24.3 124 W 13 84 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 7 5 33.25 -32 30.1 1.444 2.157 22.2 24.3 124 W 12 83 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 12 5 24.31 -32 39.8 1.451 2.164 22.1 24.3 124 W 12 83 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 17 5 15.44 -32 33.5 1.463 2.170 22.1 24.4 124 E 12 83 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 22 5 6.91 -32 11.8 1.479 2.175 22.3 24.4 123 E 13 84 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 27 4 58.94 -31 35.7 1.499 2.180 22.6 24.5 121 E 13 84 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 1 1 4 51.73 -30 46.7 1.523 2.184 23.0 24.5 120 E 14 85 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 465826 2010 GA₂₄ | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 11 27 5 52.12 +31 47.2 2.293 3.216 7.4 25.9 155 W 77 32 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 2 5 46.16 +31 55.4 2.272 3.220 5.7 25.8 161 W 77 32 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 7 5 39.83 +32 0.8 2.259 3.224 4.1 25.7 166 W 77 32 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 12 5 33.28 +32 3.4 2.253 3.228 2.9 25.6 170 W 77 32 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 17 5 26.66 +32 2.9 2.256 3.231 2.8 25.6 171 E 77 32 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 22 5 20.12 +31 59.4 2.266 3.234 3.8 25.7 168 E 77 32 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 27 5 13.83 +31 53.3 2.285 3.236 5.3 25.8 162 E 77 32 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 1 1 5 7.92 +31 44.7 2.312 3.238 6.9 25.9 157 E 77 32 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 469346 2000 TN₆₄ | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 11 27 5 58.90 +30 3.5 1.976 2.897 8.5 23.0 154 W 75 34 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 2 5 53.27 +30 6.4 1.957 2.905 6.6 22.9 160 W 75 34 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 7 5 47.23 +30 6.9 1.945 2.911 4.7 22.8 166 W 75 34 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 12 5 40.92 +30 4.8 1.941 2.918 3.0 22.7 171 W 75 34 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 17 5 34.53 +29 59.9 1.945 2.924 2.3 22.6 173 E 75 34 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 22 5 28.21 +29 52.5 1.956 2.930 3.3 22.7 170 E 75 34 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 27 5 22.15 +29 42.7 1.975 2.936 5.0 22.8 165 E 75 34 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 1 1 5 16.48 +29 31.0 2.002 2.941 6.9 23.0 159 E 75 34 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 217390 2005 CW₂₅ | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 11 27 6 6.16 -18 10.5 1.631 2.403 17.8 22.7 132 W 27 82 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 2 5 59.89 -18 33.4 1.608 2.403 17.1 22.6 134 W 26 83 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 7 5 53.07 -18 46.3 1.591 2.402 16.5 22.6 136 W 26 83 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 12 5 45.87 -18 48.5 1.580 2.400 16.1 22.6 138 W 26 83 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 17 5 38.46 -18 39.3 1.574 2.398 15.9 22.6 138 E 26 83 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 12 22 5 31.05 -18 18.6 1.575 2.395 16.1 22.6 138 E 27 82 | | | | | | | | | | | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° - 26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° - 26° |
|---|-----------------|-----------------|----------|-------|---------|------|--------|-------------------------|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-------------------------|
| 217390 2005 CW₂₅ (continuation) | | | | | | | | | 329436 2002 OC₂₀ | | | | | | | | |
| 12 27 | 5 23.85 | -17 46.6 | 1.581 | 2.391 | 16.5 | 22.6 | 136 E | 27 82 | 11 27 | 6 28.09 | +22 53.0 | 1.601 | 2.496 | 11.9 | 21.9 | 148 W | 68 41 |
| 1 1 | 5 17.04 | -17 4.2 | 1.593 | 2.387 | 17.1 | 22.6 | 134 E | 28 81 | 12 7 | 6 18.02 | +22 56.9 | 1.571 | 2.523 | 7.3 | 21.7 | 161 W | 68 41 |
| 484279 2007 JL₄₀ | | | | | | | | | 215121 1999 JB₁₁ | | | | | | | | |
| 11 27 | 6 12.04 | + 6 12.7 | 1.892 | 2.774 | 11.1 | 21.7 | 147 W | 51 58 | 11 27 | 6 29.65 | -21 54.5 | 1.535 | 2.255 | 20.9 | 22.1 | 125 W | 23 86 |
| 12 7 | 6 2.79 | + 5 39.2 | 1.876 | 2.807 | 8.1 | 21.6 | 156 W | 51 58 | 12 2 | 6 24.86 | -23 31.2 | 1.512 | 2.248 | 20.5 | 22.1 | 127 W | 21 88 |
| 12 17 | 5 52.57 | + 5 20.6 | 1.887 | 2.839 | 6.2 | 21.5 | 162 W | 50 59 | 12 7 | 6 19.32 | -24 59.3 | 1.494 | 2.241 | 20.2 | 22.0 | 128 W | 20 89 |
| 12 27 | 5 42.45 | + 5 18.0 | 1.928 | 2.870 | 6.9 | 21.6 | 159 E | 50 59 | 12 12 | 6 13.12 | -26 16.8 | 1.481 | 2.234 | 20.1 | 22.0 | 129 W | 19 90 |
| 1 6 | 5 33.44 | + 5 30.7 | 1.997 | 2.900 | 9.3 | 21.8 | 152 E | 51 58 | 12 17 | 6 6.43 | -27 22.1 | 1.473 | 2.227 | 20.1 | 22.0 | 129 W | 18 89 |
| 1 16 | 5 26.30 | + 5 56.4 | 2.092 | 2.929 | 12.0 | 22.1 | 142 E | 51 58 | 12 22 | 5 59.44 | -28 14.0 | 1.470 | 2.219 | 20.4 | 22.0 | 128 E | 17 88 |
| 384273 2009 KK₉ | | | | | | | | | 485110 2010 HZ₁₀₈ | | | | | | | | |
| 11 27 | 6 13.26 | +19 16.4 | 1.660 | 2.570 | 10.6 | 21.7 | 151 W | 64 45 | 11 27 | 6 30.12 | -29 35.6 | 0.713 | 1.474 | 35.7 | 22.5 | 119 W | 15 86 |
| 12 7 | 6 2.73 | +18 53.7 | 1.635 | 2.595 | 6.1 | 21.5 | 164 W | 64 45 | 12 2 | 6 23.18 | -30 49.6 | 0.708 | 1.480 | 34.8 | 22.4 | 121 W | 14 85 |
| 12 17 | 5 50.95 | +18 32.9 | 1.638 | 2.620 | 2.1 | 21.3 | 174 W | 64 45 | 12 7 | 6 15.10 | -31 43.6 | 0.704 | 1.486 | 34.0 | 22.4 | 122 W | 13 84 |
| 12 27 | 5 39.29 | +18 14.9 | 1.672 | 2.643 | 4.3 | 21.5 | 168 E | 63 46 | 12 12 | 6 6.17 | -32 15.3 | 0.702 | 1.491 | 33.4 | 22.4 | 123 W | 13 84 |
| 1 6 | 5 29.03 | +18 0.9 | 1.734 | 2.665 | 8.5 | 21.8 | 156 E | 63 46 | 12 17 | 5 56.74 | -32 22.9 | 0.703 | 1.496 | 33.0 | 22.4 | 124 W | 13 84 |
| 1 16 | 5 21.10 | +17 52.3 | 1.823 | 2.686 | 12.3 | 22.1 | 145 E | 63 46 | 12 22 | 5 47.22 | -32 5.7 | 0.705 | 1.500 | 32.8 | 22.4 | 124 E | 13 84 |
| 506491 2003 UW₂₉ | | | | | | | | | 269881 2000 GF₁₅ | | | | | | | | |
| 11 27 | 6 13.51 | +17 16.3 | 1.120 | 2.040 | 13.5 | 23.2 | 151 W | 62 47 | 11 27 | 6 32.09 | +29 2.4 | 2.197 | 3.075 | 10.0 | 21.5 | 147 W | 74 35 |
| 12 7 | 5 49.44 | +16 48.4 | 1.032 | 2.002 | 6.9 | 22.7 | 166 W | 62 47 | 12 7 | 6 22.79 | +29 25.7 | 2.145 | 3.086 | 6.5 | 21.3 | 159 W | 74 35 |
| 12 17 | 5 20.59 | +16 13.2 | 0.979 | 1.958 | 4.2 | 22.4 | 172 E | 61 48 | 12 17 | 6 11.81 | +29 42.8 | 2.121 | 3.096 | 3.1 | 21.1 | 170 W | 75 34 |
| 12 27 | 4 50.39 | +15 31.5 | 0.964 | 1.907 | 11.8 | 22.6 | 157 E | 61 48 | 12 27 | 6 0.23 | +29 51.4 | 2.129 | 3.105 | 2.6 | 21.1 | 172 E | 75 34 |
| 1 6 | 4 22.86 | +14 50.3 | 0.983 | 1.850 | 19.8 | 22.9 | 140 E | 60 49 | 1 6 | 5 49.23 | +29 51.0 | 2.167 | 3.113 | 5.9 | 21.3 | 161 E | 75 34 |
| 474748 2005 PB₄ | | | | | | | | | 470092 2006 SM₄₀₆ | | | | | | | | |
| 11 27 | 6 15.68 | +27 57.2 | 1.852 | 2.757 | 10.0 | 21.8 | 151 W | 73 36 | 11 27 | 6 36.14 | +22 6.6 | 1.669 | 2.551 | 12.3 | 22.3 | 147 W | 67 42 |
| 12 2 | 6 10.50 | +28 0.4 | 1.836 | 2.771 | 7.9 | 21.7 | 157 W | 73 36 | 12 7 | 6 26.42 | +22 15.4 | 1.632 | 2.576 | 7.9 | 22.1 | 159 W | 67 42 |
| 12 7 | 6 4.85 | +28 2.0 | 1.826 | 2.784 | 5.8 | 21.6 | 163 W | 73 36 | 12 17 | 6 14.82 | +22 23.8 | 1.622 | 2.600 | 3.1 | 21.8 | 172 W | 67 42 |
| 12 12 | 5 58.86 | +28 1.7 | 1.824 | 2.797 | 3.7 | 21.5 | 169 W | 73 36 | 12 27 | 6 2.65 | +22 30.1 | 1.642 | 2.623 | 1.8 | 21.8 | 175 E | 68 41 |
| 12 17 | 5 52.71 | +27 59.2 | 1.829 | 2.810 | 1.9 | 21.4 | 174 W | 73 36 | 1 6 | 5 51.33 | +22 34.0 | 1.692 | 2.646 | 6.5 | 22.1 | 162 E | 68 41 |
| 12 22 | 5 46.57 | +27 54.7 | 1.842 | 2.822 | 1.9 | 21.4 | 174 E | 73 36 | 1 16 | 5 42.02 | +22 36.3 | 1.769 | 2.667 | 10.6 | 22.4 | 150 E | 68 41 |
| 12 27 | 5 40.62 | +27 48.3 | 1.862 | 2.835 | 3.7 | 21.6 | 169 E | 73 36 | 52689 1998 FF₂ | | | | | | | | |
| 1 1 | 5 35.01 | +27 40.1 | 1.890 | 2.847 | 5.7 | 21.7 | 163 E | 73 36 | 11 27 | 6 36.94 | +42 27.6 | 1.133 | 2.011 | 17.2 | 21.6 | 143 W | 87 22 |
| 1 6 | 5 29.87 | +27 30.7 | 1.926 | 2.858 | 7.6 | 21.8 | 157 E | 73 36 | 12 2 | 6 29.46 | +43 7.8 | 1.109 | 2.013 | 15.1 | 21.5 | 148 W | 88 21 |
| 1 11 | 5 25.31 | +27 20.4 | 1.968 | 2.870 | 9.5 | 22.0 | 151 E | 72 37 | 12 7 | 6 20.64 | +43 41.3 | 1.089 | 2.015 | 13.0 | 21.4 | 153 W | 89 20 |
| 1 16 | 5 21.42 | +27 9.7 | 2.017 | 2.881 | 11.2 | 22.1 | 145 E | 72 37 | 12 12 | 6 10.73 | +44 6.3 | 1.076 | 2.017 | 11.3 | 21.3 | 156 W | 89 20 |
| 455672 2005 DE | | | | | | | | | 428658 2008 GJ₈₂ | | | | | | | | |
| 11 27 | 6 16.52 | +56 50.2 | 2.323 | 3.123 | 12.3 | 22.3 | 138 W | 78 7 | 11 27 | 6 16.71 | +14 32.5 | 1.965 | 2.860 | 10.0 | 21.6 | 150 W | 60 49 |
| 12 2 | 6 10.16 | +57 13.5 | 2.273 | 3.098 | 11.7 | 22.3 | 141 W | 78 7 | 12 7 | 6 7.21 | +14 28.9 | 1.933 | 2.883 | 6.4 | 21.4 | 161 W | 59 50 |
| 12 7 | 6 2.89 | +57 30.6 | 2.230 | 3.074 | 11.1 | 22.2 | 143 W | 77 6 | 12 17 | 5 56.51 | +14 31.5 | 1.931 | 2.905 | 3.3 | 21.3 | 170 W | 60 49 |
| 12 12 | 5 54.85 | +57 40.4 | 2.192 | 3.049 | 10.7 | 22.1 | 145 W | 77 6 | 12 27 | 5 45.70 | +14 40.2 | 1.959 | 2.927 | 4.1 | 21.4 | 168 E | 60 49 |
| 12 17 | 5 46.29 | +57 41.9 | 2.161 | 3.024 | 10.6 | 22.0 | 146 W | 77 6 | 1 6 | 5 35.85 | +14 54.5 | 2.017 | 2.947 | 7.5 | 21.6 | 157 E | 60 49 |
| 12 22 | 5 37.49 | +57 34.4 | 2.136 | 2.999 | 10.7 | 22.0 | 146 E | 77 6 | 1 16 | 5 27.84 | +15 13.8 | 2.102 | 2.966 | 10.8 | 21.9 | 146 E | 60 49 |
| 12 27 | 5 28.76 | +57 17.8 | 2.117 | 2.974 | 11.0 | 22.0 | 145 E | 78 7 | 337555 2001 SM₂₆₁ | | | | | | | | |
| 1 1 | 5 20.39 | +56 52.3 | 2.105 | 2.949 | 11.6 | 22.0 | 143 E | 78 7 | 11 27 | 6 17.14 | +16 1.9 | 1.894 | 2.792 | 10.2 | 21.7 | 150 W | 61 48 |
| 1 6 | 5 12.64 | +56 18.6 | 2.099 | 2.923 | 12.4 | 22.0 | 140 E | 79 8 | 12 7 | 6 7.53 | +15 44.9 | 1.865 | 2.817 | 6.3 | 21.5 | 162 W | 61 48 |
| 1 11 | 5 5.75 | +55 37.6 | 2.099 | 2.897 | 13.4 | 22.0 | 137 E | 79 8 | 12 17 | 5 56.72 | +15 32.9 | 1.866 | 2.842 | 3.0 | 21.3 | 171 W | 61 48 |
| 1 16 | 4 59.89 | +54 50.5 | 2.105 | 2.872 | 14.4 | 22.0 | 133 E | 80 9 | 12 27 | 5 45.85 | +15 26.4 | 1.896 | 2.866 | 4.0 | 21.4 | 168 E | 60 49 |
| 428658 2008 GJ₈₂ | | | | | | | | | 428223 2006 WW | | | | | | | | |
| 11 27 | 6 16.71 | +14 32.5 | 1.965 | 2.860 | 10.0 | 21.6 | 150 W | 60 49 | 11 27 | 6 37.76 | +25 18.4 | 3.252 | 4.110 | 7.7 | 22.3 | 146 W | 70 39 |
| 12 7 | 6 7.21 | +14 28.9 | 1.933 | 2.883 | 6.4 | 21.4 | 161 W | 59 50 | 12 7 | 6 27.51 | +25 48.6 | 3.223 | 4.156 | 4.9 | 22.2 | 159 W | 71 38 |
| 12 17 | 5 56.51 | +14 31.5 | 1.931 | 2.905 | 3.3 | 21.3 | 170 W | 60 49 | 12 17 | 6 16.21 | +26 15.2 | 3.226 | 4.201 | 2.1 | 22.0 | 171 W | 71 38 |
| 12 27 | 5 45.70 | +14 40.2 | 1.959 | 2.927 | 4.1 | 21.4 | 168 E | 60 49 | 12 27 | 6 4.64 | +26 36.7 | 3.264 | 4.244 | 1.2 | 22.0 | 175 E | 72 37 |
| 1 6 | 5 35.85 | +14 54.5 | 2.017 | 2.947 | 7.5 | 21.6 | 157 E | 60 49 | 1 6 | 5 53.57 | +26 52.4 | 3.338 | 4.286 | 3.9 | 22.2 | 163 E | 72 37 |
| 1 16 | 5 27.84 | +15 13.8 | 2.102 | 2.966 | 10.8 | 21.9 | 146 E | 60 49 | 1 16 | 5 43.70 | +27 2.9 | 3.444 | 4.327 | 6.5 | 22.5 | 150 E | 72 37 |
| 489802 2008 CS₁₈₁ | | | | | | | | | 361611 2007 TY₁₈ | | | | | | | | |
| 11 27 | 6 17.48 | -20 5.0 | 1.002 | 1.793 | 25.5 | 21.4 | 129 W | 25 84 | 11 27 | 6 39.31 | +35 10.7 | 1.711 | 2.581 | 12.7 | 22.2 | 145 W | 80 29 |
| 12 2 | 6 12.53 | -20 25.4 | 0.985 | 1.795 | 24.4 | 21.4 | 131 W | 25 84 | 12 2 | 6 33.56 | +35 29.6 | 1.694 | 2.598 | 10.8 | 22.1 | 151 W | 80 29 |
| 12 7 | 6 6.79 | -20 31.5 | 0.972 | 1.798 | 23.4 | 21.3 | 133 W | 24 85 | 12 7 | 6 27.11 | +35 45.3 | 1.684 | 2.615 | 8.8 | 22.0 | 156 W | 81 28 |
| 12 12 | 6 0.44 | -20 21.9 | 0.962 | 1.800 | 22.6 | 21.3 | 135 W | 25 84 | 12 12 | 6 20.13 | +35 56.9 | 1.681 | 2.632 | 6.9 | 21.9 | 161 W | 81 28 |
| 12 17 | 5 53.73 | -19 55.4 | 0.956 | 1.802 | 22.0 | 21.2 | 137 W | 25 84 | 12 17 | 6 12.82 | +36 4.0 | 1.685 | 2.648 | 5.4 | 21.9 | 165 W | 81 28 |
| 12 22 | 5 46.92 | -19 11.9 | 0.954 | 1.805 | 21.7 | 21.2 | 137 E | 26 83 | 12 22 | 6 5.39 | +36 6.2 | 1.696 | 2.664 | 4.7 | 21.9 | 167 W | 81 28 |
| 12 27 | 5 40.29 | -18 12.0 | 0.957 | 1.807 | 21.7 | 21.2 | 137 E | 27 82 | 12 27 | 5 58.09 | +36 3.4 | 1.715 | 2.680 | 5.0 | 21.9 | 166 E | 81 28 |
| 1 1 | 5 34.09 | -16 56.9 | 0.965 | 1.808 | 22.0 | 21.3 | 136 E | 28 81 | 1 1 | 5 51.11 | +35 56.1 | 1.741 | 2.695 | 6.3 | 22.0 | 162 E | 81 28 |
| 1 6 | 5 28.54 | -15 28.6 | 0.977 | 1.810 | 22.6 | 21.3 | 135 E | 30 79 | 1 6 | 5 44.64 | +35 44.7 | 1.775 | 2.710 | 7.9 | 22.2 | 158 E | 81 28 |
| 1 11 | 5 23.81 | -13 49.1 | 0.993 | 1.812 | 23.4 | 21.4 | 133 E | 31 78 | 1 11 | 5 38.84 | +35 30.0 | 1.815 | 2.725 | 9.7 | 22.3 | 152 E | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|
| 481918 2009 BE₇₇ | | | | | | | | | | 274855 2009 RB₄ | | | | | | | | | |
| 11 27 | 6 40.30 | -7 36.5 | 1.449 | 2.247 | 18.5 | 21.6 | 134 W | 37 | 72 | 11 27 | 6 47.19 | +6 58.4 | 1.270 | 2.122 | 17.4 | 21.6 | 140 W | 52 | 57 |
| 12 2 | 6 35.39 | -8 56.3 | 1.370 | 2.196 | 17.8 | 21.4 | 137 W | 36 | 73 | 12 2 | 6 42.64 | +6 33.6 | 1.233 | 2.118 | 15.4 | 21.4 | 145 W | 52 | 57 |
| 12 7 | 6 29.29 | -10 16.3 | 1.296 | 2.145 | 17.2 | 21.2 | 140 W | 35 | 74 | 12 7 | 6 37.18 | +6 12.6 | 1.201 | 2.115 | 13.3 | 21.3 | 150 W | 51 | 58 |
| 12 12 | 6 21.92 | -11 34.7 | 1.228 | 2.093 | 16.9 | 21.0 | 142 W | 33 | 76 | 12 12 | 6 30.92 | +5 56.2 | 1.175 | 2.110 | 11.2 | 21.2 | 155 W | 51 | 58 |
| 12 17 | 6 13.31 | -12 49.7 | 1.166 | 2.039 | 16.9 | 20.9 | 143 W | 32 | 77 | 12 17 | 6 24.01 | +5 44.9 | 1.156 | 2.105 | 9.5 | 21.1 | 159 W | 51 | 58 |
| 12 22 | 6 3.51 | -13 58.8 | 1.112 | 1.985 | 17.5 | 20.7 | 143 W | 31 | 78 | 12 22 | 6 16.67 | +5 39.4 | 1.143 | 2.100 | 8.4 | 21.0 | 162 W | 51 | 58 |
| 12 27 | 5 52.66 | -14 59.8 | 1.064 | 1.930 | 18.7 | 20.6 | 141 E | 30 | 79 | 12 27 | 6 9.14 | +5 39.7 | 1.137 | 2.094 | 8.3 | 21.0 | 162 E | 51 | 58 |
| 1 1 | 5 40.96 | -15 50.1 | 1.023 | 1.873 | 20.5 | 20.5 | 138 E | 29 | 80 | 1 1 | 6 1.65 | +5 45.9 | 1.138 | 2.088 | 5.4 | 21.0 | 160 E | 51 | 58 |
| 1 6 | 5 28.66 | -16 27.8 | 0.988 | 1.815 | 22.9 | 20.5 | 134 E | 29 | 80 | 1 6 | 5 54.44 | +5 57.8 | 1.145 | 2.081 | 11.2 | 21.1 | 156 E | 51 | 58 |
| 1 11 | 5 16.10 | -16 51.1 | 0.959 | 1.756 | 25.7 | 20.4 | 129 E | 28 | 81 | 1 11 | 5 47.75 | +6 15.0 | 1.159 | 2.074 | 13.3 | 21.2 | 151 E | 51 | 58 |
| 1 16 | 5 3.62 | -16 59.3 | 0.936 | 1.696 | 28.7 | 20.4 | 124 E | 28 | 81 | 1 16 | 5 41.77 | +6 37.1 | 1.179 | 2.066 | 15.6 | 21.3 | 146 E | 52 | 57 |
| 518441 2004 FC₆ | | | | | | | | | | 376070 2010 NA₄₀ | | | | | | | | | |
| 11 27 | 6 40.96 | +36 33.6 | 1.457 | 2.330 | 14.4 | 21.3 | 144 W | 82 | 27 | 11 27 | 6 48.62 | +25 44.0 | 1.814 | 2.675 | 12.6 | 22.5 | 144 W | 71 | 38 |
| 12 2 | 6 37.22 | +37 5.8 | 1.409 | 2.312 | 12.6 | 21.1 | 149 W | 82 | 27 | 12 2 | 6 39.54 | +25 53.0 | 1.749 | 2.680 | 8.6 | 22.2 | 156 W | 71 | 38 |
| 12 7 | 6 32.46 | +37 36.3 | 1.367 | 2.294 | 10.7 | 21.0 | 154 W | 83 | 26 | 12 7 | 6 28.13 | +25 58.7 | 1.711 | 2.683 | 4.2 | 22.0 | 169 W | 71 | 38 |
| 12 12 | 6 26.77 | +38 4.0 | 1.330 | 2.276 | 9.0 | 20.8 | 159 W | 83 | 26 | 12 17 | 6 15.55 | +25 58.7 | 1.702 | 2.685 | 1.2 | 21.8 | 177 E | 71 | 38 |
| 12 17 | 6 20.27 | +38 27.5 | 1.300 | 2.258 | 7.5 | 20.7 | 163 W | 83 | 26 | 1 6 | 6 3.22 | +25 52.0 | 1.724 | 2.686 | 5.5 | 22.1 | 165 E | 71 | 38 |
| 12 22 | 6 13.17 | +38 45.8 | 1.277 | 2.240 | 6.8 | 20.6 | 164 W | 84 | 25 | 1 16 | 5 52.48 | +25 39.9 | 1.775 | 2.686 | 9.8 | 22.3 | 152 E | 71 | 38 |
| 12 27 | 6 5.73 | +38 57.9 | 1.260 | 2.222 | 7.0 | 20.6 | 164 E | 84 | 25 | 380963 2006 QV₅₉ | | | | | | | | | |
| 1 1 | 5 58.22 | +39 3.3 | 1.250 | 2.203 | 8.3 | 20.6 | 161 E | 84 | 25 | 11 27 | 6 51.50 | +14 16.8 | 1.909 | 2.751 | 12.9 | 22.2 | 141 W | 59 | 50 |
| 1 6 | 5 50.92 | +39 1.9 | 1.246 | 2.185 | 10.2 | 20.6 | 157 E | 84 | 25 | 12 7 | 6 43.41 | +13 59.8 | 1.847 | 2.761 | 9.3 | 22.0 | 153 W | 59 | 50 |
| 1 11 | 5 44.13 | +38 54.2 | 1.249 | 2.166 | 12.4 | 20.7 | 152 E | 84 | 25 | 12 17 | 6 33.31 | +13 50.0 | 1.811 | 2.771 | 5.6 | 21.8 | 164 W | 59 | 50 |
| 1 16 | 5 38.09 | +38 40.7 | 1.257 | 2.147 | 14.7 | 20.8 | 146 E | 84 | 25 | 12 27 | 6 22.15 | +13 47.9 | 1.805 | 2.779 | 3.4 | 21.6 | 170 E | 59 | 50 |
| 430885 2005 QY₁₄₁ | | | | | | | | | | 344072 1997 CY₁ | | | | | | | | | |
| 11 27 | 6 42.77 | +14 38.3 | 1.848 | 2.706 | 12.5 | 22.1 | 144 W | 60 | 49 | 11 27 | 6 59.96 | +59 37.8 | 1.453 | 2.231 | 19.4 | 21.5 | 131 W | 75 | 4 |
| 12 7 | 6 34.11 | +14 25.3 | 1.806 | 2.732 | 8.7 | 22.0 | 155 W | 59 | 50 | 12 2 | 6 50.90 | +60 10.2 | 1.433 | 2.240 | 18.2 | 21.5 | 135 W | 75 | 4 |
| 12 17 | 6 23.69 | +14 19.5 | 1.791 | 2.756 | 4.9 | 21.8 | 166 W | 59 | 50 | 12 7 | 6 40.15 | +60 32.6 | 1.418 | 2.248 | 17.1 | 21.4 | 138 W | 74 | 3 |
| 12 27 | 6 12.60 | +14 20.9 | 1.805 | 2.780 | 3.3 | 21.7 | 171 E | 59 | 50 | 12 12 | 6 28.08 | +60 42.6 | 1.408 | 2.256 | 16.2 | 21.4 | 140 W | 74 | 3 |
| 1 6 | 6 2.02 | +14 28.8 | 1.849 | 2.803 | 6.1 | 21.9 | 163 E | 59 | 50 | 12 17 | 6 15.19 | +60 38.5 | 1.404 | 2.263 | 15.5 | 21.4 | 142 W | 74 | 3 |
| 1 16 | 5 53.00 | +14 42.6 | 1.922 | 2.825 | 9.6 | 22.2 | 151 E | 60 | 49 | 12 22 | 6 2.09 | +60 19.4 | 1.405 | 2.270 | 15.1 | 21.4 | 143 W | 75 | 4 |
| 168378 1997 ET₃₀ | | | | | | | | | | 326646 2002 TE | | | | | | | | | |
| 11 27 | 6 42.78 | +31 49.1 | 2.116 | 2.977 | 11.0 | 21.5 | 145 W | 77 | 32 | 11 27 | 7 0.36 | +5 29.7 | 1.526 | 2.341 | 16.9 | 21.4 | 136 W | 50 | 59 |
| 12 2 | 6 37.80 | +32 5.5 | 2.088 | 2.986 | 9.3 | 21.4 | 151 W | 77 | 32 | 12 7 | 6 52.52 | +5 32.2 | 1.487 | 2.374 | 13.1 | 21.2 | 147 W | 51 | 58 |
| 12 7 | 6 32.20 | +32 20.2 | 2.066 | 2.995 | 7.6 | 21.3 | 156 W | 77 | 32 | 12 17 | 6 42.37 | +5 54.4 | 1.472 | 2.408 | 9.2 | 21.1 | 157 W | 51 | 58 |
| 12 12 | 6 26.10 | +32 32.6 | 2.051 | 3.003 | 5.8 | 21.2 | 162 W | 78 | 31 | 12 27 | 6 31.06 | +6 35.8 | 1.482 | 2.440 | 6.7 | 21.0 | 163 W | 52 | 57 |
| 12 17 | 6 19.64 | +32 42.2 | 2.044 | 3.011 | 4.2 | 21.1 | 167 W | 78 | 31 | 1 6 | 6 19.97 | +7 33.5 | 1.521 | 2.472 | 7.4 | 21.1 | 161 E | 53 | 56 |
| 12 22 | 6 12.99 | +32 48.6 | 2.045 | 3.019 | 3.2 | 21.1 | 170 W | 78 | 31 | 1 16 | 6 10.34 | +8 42.7 | 1.588 | 2.503 | 10.3 | 21.4 | 153 E | 54 | 55 |
| 12 27 | 6 6.31 | +32 51.7 | 2.053 | 3.026 | 3.3 | 21.1 | 170 E | 78 | 31 | 178805 2001 FS₄₁ | | | | | | | | | |
| 1 1 | 5 59.78 | +32 51.4 | 2.070 | 3.033 | 4.5 | 21.2 | 166 E | 78 | 31 | 11 27 | 7 11.78 | +19 43.0 | 2.053 | 2.863 | 13.3 | 21.3 | 138 W | 65 | 44 |
| 1 6 | 5 53.55 | +32 48.0 | 2.094 | 3.039 | 6.1 | 21.3 | 161 E | 78 | 31 | 12 7 | 7 5.26 | +19 50.1 | 1.957 | 2.850 | 10.1 | 21.1 | 150 W | 65 | 44 |
| 1 11 | 5 47.77 | +32 41.8 | 2.126 | 3.045 | 7.8 | 21.4 | 155 E | 78 | 31 | 12 17 | 6 56.27 | +20 1.7 | 1.885 | 2.837 | 6.2 | 20.8 | 162 W | 65 | 44 |
| 1 16 | 5 42.56 | +32 33.2 | 2.164 | 3.051 | 9.5 | 21.5 | 149 E | 78 | 31 | 12 27 | 6 45.51 | +20 16.0 | 1.842 | 2.822 | 2.1 | 20.5 | 174 W | 65 | 44 |
| 426534 2013 RV₆₇ | | | | | | | | | | 203727 2002 QM₄₇ | | | | | | | | | |
| 11 27 | 6 43.16 | +26 45.9 | 1.590 | 2.465 | 13.2 | 21.5 | 145 W | 72 | 37 | 11 27 | 7 15.03 | +20 11.0 | 2.721 | 3.510 | 11.0 | 21.5 | 137 W | 65 | 44 |
| 12 2 | 6 38.57 | +27 7.8 | 1.568 | 2.477 | 11.1 | 21.4 | 151 W | 72 | 37 | 12 7 | 7 8.82 | +20 31.4 | 2.635 | 3.515 | 8.3 | 21.3 | 149 W | 66 | 43 |
| 12 7 | 6 33.25 | +27 29.2 | 1.551 | 2.489 | 8.8 | 21.3 | 157 W | 72 | 37 | 12 17 | 7 0.76 | +20 55.3 | 2.575 | 3.520 | 5.2 | 21.1 | 161 W | 66 | 43 |
| 12 12 | 6 27.35 | +27 49.3 | 1.541 | 2.501 | 6.4 | 21.2 | 163 W | 73 | 36 | 12 27 | 6 51.46 | +21 20.9 | 2.544 | 3.523 | 1.9 | 20.9 | 173 W | 66 | 43 |
| 12 17 | 6 21.02 | +28 7.6 | 1.538 | 2.512 | 4.1 | 21.1 | 169 W | 73 | 36 | 1 6 | 6 41.68 | +21 46.3 | 2.546 | 3.525 | 1.7 | 20.9 | 174 E | 67 | 42 |
| 12 22 | 6 14.46 | +28 23.5 | 1.542 | 2.523 | 2.2 | 21.0 | 174 W | 73 | 36 | 1 16 | 6 32.27 | +22 9.9 | 2.580 | 3.527 | 5.0 | 21.1 | 162 E | 67 | 42 |
| 12 27 | 6 7.88 | +28 36.7 | 1.554 | 2.534 | 2.5 | 21.0 | 174 E | 74 | 35 | 176123 2001 DG₈₇ | | | | | | | | | |
| 1 1 | 6 1.49 | +28 47.1 | 1.574 | 2.545 | 4.4 | 21.2 | 169 E | 74 | 35 | 11 27 | 7 17.42 | +18 27.9 | 2.117 | 2.912 | 13.5 | 21.3 | 136 W | 63 | 46 |
| 1 6 | 5 55.47 | +28 54.7 | 1.600 | 2.555 | 6.6 | 21.4 | 163 E | 74 | 35 | 12 7 | 7 11.21 | +18 37.1 | 2.018 | 2.900 | 10.4 | 21.1 | 148 W | 64 | 45 |
| 1 11 | 5 49.98 | +28 59.8 | 1.634 | 2.566 | 8.8 | 21.5 | 156 E | 74 | 35 | 12 17 | 7 2.53 | +18 52.3 | 1.943 | 2.888 | 6.7 | 20.8 | 160 W | 64 | 45 |
| 1 16 | 5 45.16 | +29 2.7 | 1.674 | 2.576 | 10.9 | 21.7 | 150 E | 74 | 35 | 12 27 | 6 52.04 | +19 11.7 | 1.897 | 2.874 | 2.7 | 20.6 | 172 W | 64 | 45 |
| 112380 2002 NN₂₇ | | | | | | | | | | 168713 2000 HN₈₆ | | | | | | | | | |
| 11 27 | 6 44.26 | +18 2.4 | 1.692 | 2.557 | 13.1 | 21.5 | 144 W | 63 | 46 | 11 27 | 7 28.34 | +24 5.9 | 1.866 | 2.655 | 15.3 | 21.3 | 135 W | 69 | 40 |
| 12 2 | 6 35.09 | +18 8.3 | 1.655 | 2.587 | 8.9 | 21.4 | 156 W | 63 | 46 | 12 7 | 7 21.64 | +24 40.5 | 1.792 | 2.669 | 11.8 | 21.1 | 146 W | 70 | 39 |
| 12 7 | 6 23.99 | +18 18.6 | 1.645 | 2.616 | 4.3 | 21.2 | 168 W | 63 | 46 | 12 17 | 7 12.06 | +25 18.0 | 1.741 | 2.682 | 7.6 | 20.9 | 159 W | 70 | 39 |
| 12 17 | 6 12.18 | +18 31.8 | 1.664 | 2.644 | 2.0 | 21.1 | 175 E | 64 | 45 | 1 6 | 6 40.73 | +19 33.2 | 1.881 | 2.859 | 2.4 | 20.5 | 173 E | 65 | 44 |
| 1 6 | 6 1.00 | +18 46.9 | 1.713 | 2.672 | 5.8 | 21.4 | 164 E | 64 | 45 | 1 16 | 6 29.76 | +19 55.1 | 1.896 | 2.844 | 6.5 | 20.8 | 161 E | 65 | 44 |
| 1 16 | 5 51.60 | +19 3.1 | 1.790 | 2.698 | 9.9 | 21.7 | 152 | | | | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45°-26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45°-26° |
|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|---------|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|---------|
| 376789 2000 RP₄₀ | | | | | | | | | 189012 1998 FO₉₈ | | | | | | | | |
| 11 27 | 7 37.77 | +23 25.8 | 1.664 | 2.442 | 17.3 | 21.5 | 133 W | 68 41 | 11 27 | 8 43.16 | +17 57.8 | 1.725 | 2.338 | 22.2 | 21.3 | 116 W | 63 46 |
| 12 7 | 7 31.34 | +23 22.9 | 1.599 | 2.466 | 13.5 | 21.3 | 144 W | 68 41 | 12 7 | 8 45.34 | +17 27.6 | 1.583 | 2.304 | 20.2 | 21.0 | 126 W | 62 47 |
| 12 17 | 7 21.77 | +23 22.4 | 1.554 | 2.488 | 9.1 | 21.0 | 156 W | 68 41 | 12 17 | 8 44.30 | +17 6.2 | 1.453 | 2.269 | 17.4 | 20.7 | 136 W | 62 47 |
| 12 27 | 7 9.98 | +23 21.4 | 1.537 | 2.510 | 4.2 | 20.8 | 169 W | 68 41 | 12 27 | 8 39.76 | +16 54.5 | 1.341 | 2.233 | 13.7 | 20.4 | 147 W | 62 47 |
| 1 6 | 6 57.30 | +23 17.3 | 1.548 | 2.530 | 1.0 | 20.6 | 177 E | 68 41 | 1 6 | 8 31.75 | +16 52.2 | 1.249 | 2.197 | 9.0 | 20.0 | 159 W | 62 47 |
| 1 16 | 6 45.22 | +23 8.9 | 1.588 | 2.550 | 5.9 | 21.0 | 165 E | 68 41 | 1 16 | 8 20.77 | +16 57.3 | 1.182 | 2.160 | 3.7 | 19.6 | 172 W | 62 47 |
| 351370 2005 EY | | | | | | | | | 383413 2006 UZ₂₀₁ | | | | | | | | |
| 11 27 | 7 42.30 | +35 9.2 | 1.714 | 2.486 | 17.1 | 21.2 | 132 W | 80 29 | 11 27 | 8 54.61 | +19 41.1 | 1.481 | 2.090 | 25.5 | 21.4 | 114 W | 65 44 |
| 12 2 | 7 38.52 | +36 4.4 | 1.616 | 2.436 | 15.8 | 20.9 | 138 W | 81 28 | 12 7 | 8 56.62 | +20 21.9 | 1.408 | 2.124 | 22.6 | 21.3 | 124 W | 65 44 |
| 12 7 | 7 33.26 | +37 4.6 | 1.524 | 2.386 | 14.4 | 20.7 | 143 W | 82 27 | 12 17 | 8 54.84 | +21 20.8 | 1.346 | 2.157 | 18.8 | 21.1 | 135 W | 66 43 |
| 12 12 | 7 26.34 | +38 8.9 | 1.437 | 2.334 | 12.7 | 20.5 | 149 W | 83 26 | 12 27 | 8 49.23 | +22 35.1 | 1.301 | 2.190 | 14.3 | 20.9 | 147 W | 68 41 |
| 12 17 | 7 17.57 | +39 16.0 | 1.357 | 2.282 | 11.0 | 20.2 | 154 W | 84 25 | 1 6 | 8 40.25 | +23 58.0 | 1.278 | 2.223 | 9.2 | 20.7 | 159 W | 69 40 |
| 12 22 | 7 6.82 | +40 23.6 | 1.285 | 2.229 | 9.5 | 20.0 | 158 W | 85 24 | 1 16 | 8 28.90 | +25 20.3 | 1.279 | 2.255 | 4.2 | 20.5 | 170 W | 70 39 |
| 12 27 | 6 54.02 | +41 28.8 | 1.221 | 2.174 | 8.6 | 19.8 | 161 W | 86 23 | 474392 2002 TF₁₅₇ | | | | | | | | |
| 1 1 | 6 39.22 | +42 28.0 | 1.165 | 2.118 | 8.9 | 19.7 | 161 E | 87 22 | 11 27 | 9 6.31 | +14 49.6 | 1.444 | 2.011 | 27.4 | 21.4 | 110 W | 60 49* |
| 1 6 | 6 22.64 | +43 17.1 | 1.119 | 2.061 | 10.6 | 19.6 | 157 E | 88 21 | 12 7 | 9 10.37 | +15 7.0 | 1.370 | 2.044 | 24.8 | 21.3 | 120 W | 60 49 |
| 1 11 | 6 4.70 | +43 52.6 | 1.081 | 2.002 | 13.4 | 19.6 | 152 E | 89 20 | 12 17 | 9 10.80 | +15 45.0 | 1.304 | 2.077 | 21.3 | 21.1 | 130 W | 61 48 |
| 1 16 | 5 46.00 | +44 11.7 | 1.052 | 1.943 | 16.8 | 19.5 | 145 E | 89 20 | 12 27 | 9 7.45 | +16 43.8 | 1.253 | 2.110 | 17.0 | 20.9 | 141 W | 62 47 |
| 289618 2005 GE₃₂ | | | | | | | | | 1 6 | 9 0.59 | +18 0.0 | 1.220 | 2.144 | 11.9 | 20.7 | 153 W | 63 46 |
| 11 27 | 7 44.93 | +5 50.5 | 1.470 | 2.203 | 21.2 | 21.5 | 126 W | 51 58 | 1 16 | 8 50.92 | +19 26.4 | 1.209 | 2.177 | 6.3 | 20.5 | 166 W | 64 45 |
| 12 7 | 7 41.88 | +5 7.2 | 1.374 | 2.193 | 18.1 | 21.2 | 136 W | 50 59 | 475937 2007 EQ₁₂₂ | | | | | | | | |
| 12 17 | 7 35.40 | +4 41.3 | 1.294 | 2.183 | 14.5 | 21.0 | 146 W | 50 59 | 11 27 | 9 7.00 | +28 41.6 | 1.362 | 1.977 | 27.2 | 21.4 | 114 W | 74 35* |
| 12 27 | 7 25.90 | +4 37.7 | 1.236 | 2.171 | 10.6 | 20.7 | 156 W | 50 59 | 12 7 | 9 14.78 | +28 47.5 | 1.236 | 1.946 | 25.5 | 21.1 | 122 W | 74 35 |
| 1 6 | 7 14.36 | +4 58.6 | 1.201 | 2.159 | 7.9 | 20.5 | 162 W | 50 59 | 12 17 | 9 19.08 | +29 5.5 | 1.120 | 1.914 | 22.9 | 20.7 | 131 W | 74 35 |
| 1 16 | 7 2.23 | +5 43.6 | 1.193 | 2.146 | 8.7 | 20.5 | 161 E | 51 58 | 12 27 | 9 19.21 | +29 35.1 | 1.017 | 1.882 | 19.4 | 20.4 | 140 W | 75 34 |
| 482039 2009 WH₇₈ | | | | | | | | | 1 1 | 9 17.53 | +29 53.1 | 0.971 | 1.866 | 17.4 | 20.2 | 145 W | 75 34 |
| 11 27 | 8 0.33 | +25 37.2 | 1.543 | 2.285 | 20.0 | 21.4 | 128 W | 71 38 | 1 6 | 9 14.63 | +30 12.1 | 0.929 | 1.850 | 15.1 | 20.0 | 151 W | 75 34 |
| 12 7 | 7 56.08 | +26 9.4 | 1.484 | 2.318 | 16.2 | 21.3 | 139 W | 71 38 | 1 11 | 9 10.51 | +30 30.8 | 0.893 | 1.835 | 12.7 | 19.8 | 156 W | 76 33 |
| 12 17 | 7 48.22 | +26 46.7 | 1.444 | 2.351 | 11.8 | 21.1 | 151 W | 72 37 | 1 16 | 9 5.23 | +30 47.7 | 0.861 | 1.819 | 10.3 | 19.6 | 161 W | 76 33 |
| 12 27 | 7 37.45 | +27 23.4 | 1.427 | 2.384 | 7.0 | 20.9 | 163 W | 72 37 | 469502 2003 BZ₂₀ | | | | | | | | |
| 1 6 | 7 25.04 | +27 53.3 | 1.437 | 2.416 | 2.7 | 20.7 | 173 W | 73 36 | 11 27 | 9 14.50 | -4 57.1 | 1.003 | 1.540 | 38.9 | 21.5 | 101 W | 40 69* |
| 1 16 | 7 12.58 | +28 12.0 | 1.476 | 2.448 | 4.5 | 20.9 | 169 E | 73 36 | 12 2 | 9 20.49 | -4 33.7 | 0.952 | 1.538 | 38.2 | 21.4 | 105 W | 40 69* |
| 339019 2004 HH | | | | | | | | | 12 7 | 9 25.89 | -3 59.2 | 0.902 | 1.536 | 37.4 | 21.2 | 109 W | 41 68 |
| 11 27 | 8 6.09 | +25 48.2 | 1.360 | 2.102 | 22.2 | 21.4 | 127 W | 71 38 | 12 12 | 9 30.62 | -3 11.3 | 0.853 | 1.533 | 36.3 | 21.1 | 113 W | 42 67 |
| 12 7 | 8 3.54 | +26 1.1 | 1.266 | 2.099 | 18.6 | 21.2 | 137 W | 71 38 | 12 17 | 9 34.59 | -2 7.5 | 0.804 | 1.531 | 34.8 | 20.9 | 117 W | 43 66 |
| 12 17 | 7 56.63 | +26 20.6 | 1.189 | 2.094 | 14.1 | 20.9 | 149 W | 71 38 | 12 22 | 9 37.72 | -0 45.0 | 0.757 | 1.528 | 33.0 | 20.7 | 122 W | 44 65 |
| 12 27 | 7 45.65 | +26 41.8 | 1.134 | 2.088 | 8.8 | 20.6 | 161 W | 72 37 | 12 27 | 9 39.92 | +0 59.1 | 0.712 | 1.525 | 30.8 | 20.5 | 127 W | 46 63 |
| 1 6 | 7 31.72 | +26 57.5 | 1.103 | 2.082 | 3.3 | 20.2 | 173 W | 72 37 | 1 1 | 9 41.09 | +3 7.8 | 0.670 | 1.522 | 28.1 | 20.3 | 133 W | 48 61 |
| 1 16 | 7 16.65 | +27 1.7 | 1.099 | 2.075 | 4.7 | 20.3 | 170 E | 72 37 | 1 6 | 9 41.12 | +5 43.7 | 0.631 | 1.519 | 24.9 | 20.1 | 139 W | 51 58 |
| 426071 2012 CD₂₉ | | | | | | | | | 1 11 | 9 39.90 | +4 88.6 | 0.597 | 1.516 | 21.2 | 19.8 | 146 W | 54 55 |
| 11 27 | 8 28.49 | -14 47.9 | 0.700 | 1.371 | 43.3 | 21.5 | 108 W | 30 79 | 1 16 | 9 37.36 | +12 22.5 | 0.568 | 1.512 | 17.1 | 19.6 | 153 W | 57 52 |
| 12 2 | 8 18.70 | -15 8.5 | 0.682 | 1.405 | 40.1 | 21.4 | 113 W | 30 79 | 273314 2006 SS₃₅₅ | | | | | | | | |
| 12 7 | 8 7.03 | -15 15.6 | 0.666 | 1.437 | 36.6 | 21.3 | 120 W | 30 79 | 11 27 | 9 27.39 | +8 39.6 | 1.236 | 1.751 | 33.2 | 21.5 | 103 W | 54 55* |
| 12 12 | 7 53.55 | -15 5.9 | 0.653 | 1.467 | 32.9 | 21.2 | 126 W | 30 79 | 12 7 | 9 37.27 | +7 44.5 | 1.164 | 1.773 | 31.3 | 21.3 | 111 W | 53 56 |
| 12 17 | 7 38.50 | -14 36.4 | 0.644 | 1.494 | 29.2 | 21.1 | 132 W | 30 79 | 12 17 | 9 43.74 | +7 8.5 | 1.097 | 1.796 | 28.6 | 21.1 | 119 W | 52 57 |
| 12 22 | 7 22.31 | -13 45.0 | 0.640 | 1.520 | 25.7 | 21.0 | 138 W | 31 78 | 12 27 | 9 46.42 | +6 56.5 | 1.037 | 1.821 | 24.9 | 20.9 | 129 W | 52 57 |
| 12 27 | 7 5.59 | -12 31.8 | 0.642 | 1.544 | 22.7 | 21.0 | 143 W | 32 77 | 1 6 | 9 45.15 | +7 11.9 | 0.988 | 1.847 | 20.4 | 20.7 | 139 W | 52 57 |
| 1 1 | 6 48.99 | -10 58.7 | 0.651 | 1.566 | 20.6 | 21.0 | 146 W | 34 75 | 1 16 | 9 40.06 | +7 55.7 | 0.955 | 1.875 | 14.9 | 20.5 | 151 W | 53 56 |
| 1 6 | 6 33.17 | -9 9.5 | 0.668 | 1.586 | 19.6 | 21.0 | 147 E | 36 73 | 333908 1999 TN₁₂ | | | | | | | | |
| 1 11 | 6 18.68 | -7 9.1 | 0.691 | 1.604 | 19.9 | 21.1 | 146 E | 38 71 | 11 27 | 9 27.78 | -31 28.7 | 1.697 | 1.932 | 30.7 | 21.5 | 88 W | 14 82* |
| 1 16 | 6 5.91 | -5 2.7 | 0.721 | 1.621 | 21.2 | 21.3 | 143 E | 40 69 | 12 2 | 9 29.84 | -33 7.1 | 1.681 | 1.956 | 30.3 | 21.5 | 90 W | 12 82* |
| 471006 2009 SK₂₃₅ | | | | | | | | | 12 7 | 9 31.03 | -34 41.1 | 1.664 | 1.979 | 29.8 | 21.5 | 93 W | 10 81 |
| 11 27 | 8 35.54 | +29 40.3 | 1.584 | 2.253 | 22.1 | 21.4 | 121 W | 75 34 | 12 12 | 9 31.30 | -36 10.0 | 1.648 | 2.002 | 29.3 | 21.5 | 96 W | 9 80 |
| 12 7 | 8 33.52 | +30 28.5 | 1.522 | 2.292 | 18.9 | 21.3 | 131 W | 75 34 | 12 17 | 9 30.59 | -37 32.8 | 1.632 | 2.025 | 28.7 | 21.5 | 98 W | 7 78 |
| 12 17 | 8 27.46 | +31 23.7 | 1.475 | 2.331 | 15.1 | 21.1 | 142 W | 76 33 | 12 22 | 9 28.89 | -38 48.3 | 1.616 | 2.047 | 28.1 | 21.4 | 101 W | 6 77 |
| 12 27 | 8 17.72 | +32 18.5 | 1.449 | 2.369 | 10.7 | 21.0 | 153 W | 77 32 | 12 27 | 9 26.18 | -39 55.3 | 1.601 | 2.069 | 27.5 | 21.4 | 104 W | 5 76 |
| 1 6 | 8 5.27 | +33 4.2 | 1.447 | 2.406 | 6.7 | 20.8 | 163 W | 78 31 | 1 1 | 9 22.49 | -40 52.7 | 1.587 | 2.090 | 26.8 | 21.4 | 106 W | 4 75 |
| 1 16 | 7 51.62 | +33 33.0 | 1.474 | 2.443 | 5.0 | 20.8 | 167 W | 79 30 | 1 6 | 9 17.86 | -41 39.2 | 1.574 | 2.111 | 26.1 | 21.4 | 109 W | 3 74 |
| 513132 2000 SH₁₃₆ | | | | | | | | | 1 11 | 9 12.38 | -42 13.4 | 1.563 | 2.132 | 25.4 | 21.4 | 112 W | 3 74 |
| 11 27 | 8 38.04 | +22 23.9 | 1.359 | 2.027 | 25.3 | 21.5 | 119 W | 67 42 | 1 16 | 9 6.19 | -42 34.1 | 1.554 | 2.152 | 24.7 | 21.4 | 114 W | 2 73 |
| 12 7 | 8 36.99 | +22 27.8 | 1.298 | 2.066 | 21.7 | 21.3 | 129 W | 67 42 | 420738 2012 TS | | | | | | | | |
| 12 17 | 8 31.74 | +22 43.4 | 1.250 | 2.104 | 17.3 | 21.1 | 140 W | 68 41 | 11 27 | 9 34.93 | -31 3.2 | 0.421 | 1.050 | 69.7 | 21.5 | 87 W | 14 81* |
| 12 27 | 8 22.62 | +23 6.8 | 1.220 | 2.142 | 12.2 | 20.9 | 153 W | 68 41 | 12 2 | 9 51.69 | -34 17.3 | 0.416 | 1.042 | 70.6 | 21.5 | 86 W | 11 79* |
| 1 6 | 8 10.60 | +23 32.2 | 1.214 | 2.180 | 6.5 | 20.7 | 165 W | 69 40 | 12 7 | 10 9.42 | -37 22.9 | 0.412 | 1.034 | 71.7 | 21.5 | 85 W | 8 77* |
| 1 16 | 7 57.21 | +23 53.2 | 1.234 | 2.217 | 1.4 | 20.5 | 177 W | 69 40 | 12 12 | 10 28.39 | -40 18.6 | 0.407 | 1.025 | 72.8 | 21.4 | 84 W | 5 74* |
| 168315 1982 RA₁ | | | | | | | | | 12 17 | 10 48.85 | -43 2.5 | 0.402 | 1.016 | 74.0 | 21.4 | 83 W | 2 72* |
| 11 27 | 8 39.43 | +11 19.2 | 2.251 | 2.819 | 18.4 | 21.4 | 115 W | 56 53 | 12 22 | 11 11.15 | -45 32.6 | 0.397 | 1.006 | 75.0 | 21.4 | 82 W | — 70* |
| 12 7 | 8 37.87 | +11 1.0 | 2.130 | 2.821 | 16.5 | 21.2 | 126 W | 56 53 | 12 27 | 11 35.65 | -47 46.4 | 0.392 | 0.997 | 76.7 | 21.4 | 80 W | — 67* |
| | | | | | | | | | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|--|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|
| 136635 1994 VA₁ | | | | | | | | | | 199145 2005 YY₁₂₈ (continuation) | | | | | | | | | |
| 11 27 | 9 40.23 | + 3 59.0 | 0.953 | 1.473 | 41.5 | 21.4 | 99 W | 49 | 58* | 12 17 | 12 24.97 | - 4 1.2 | 0.946 | 1.213 | 52.5 | 20.4 | 78 W | 41 | 53* |
| 12 7 | 9 59.38 | + 0 36.1 | 0.863 | 1.449 | 41.5 | 21.1 | 103 W | 46 | 63* | 12 22 | 12 49.54 | - 6 56.5 | 0.875 | 1.150 | 56.1 | 20.3 | 76 W | 38 | 54* |
| 12 17 | 10 17.26 | - 2 57.3 | 0.778 | 1.426 | 41.2 | 20.8 | 107 W | 42 | 67 | 12 27 | 13 17.76 | -10 9.7 | 0.814 | 1.086 | 60.4 | 20.1 | 74 W | 35 | 55* |
| 12 27 | 10 33.63 | - 6 37.9 | 0.700 | 1.404 | 40.5 | 20.6 | 112 W | 38 | 71 | 1 1 | 13 50.28 | -13 36.9 | 0.764 | 1.019 | 65.1 | 20.0 | 70 W | 31* | 54* |
| 1 6 | 10 48.24 | -10 21.2 | 0.627 | 1.384 | 39.4 | 20.3 | 117 W | 35 | 74 | 1 6 | 14 27.58 | -17 8.4 | 0.728 | 0.950 | 70.3 | 19.9 | 66 W | 28* | 53* |
| 1 16 | 11 0.60 | -14 0.8 | 0.561 | 1.365 | 37.8 | 19.9 | 122 W | 31 | 78 | 1 8 | 14 43.85 | -18 30.7 | 0.718 | 0.923 | 72.5 | 19.8 | 63 W | 26* | 52* |
| 472253 2014 NA | | | | | | | | | | | | | | | | | | | |
| 11 27 | 9 53.12 | +12 27.6 | 0.917 | 1.446 | 42.4 | 21.5 | 99 W | 57 | 49* | 1 10 | 15 0.85 | -19 49.8 | 0.711 | 0.894 | 74.6 | 19.8 | 61 W | 25* | 50* |
| 12 7 | 10 7.84 | + 8 23.2 | 0.836 | 1.438 | 41.6 | 21.2 | 104 W | 53 | 55* | 1 12 | 15 18.53 | -21 4.3 | 0.707 | 0.866 | 76.7 | 19.8 | 59 W | 23* | 49* |
| 12 17 | 10 19.61 | + 3 58.7 | 0.759 | 1.432 | 40.3 | 21.0 | 110 W | 49 | 60 | 1 14 | 15 36.78 | -22 12.7 | 0.705 | 0.838 | 78.7 | 19.8 | 57 W | 21* | 47* |
| 12 27 | 10 27.83 | + 0 44.9 | 0.687 | 1.426 | 38.3 | 20.7 | 116 W | 44 | 65 | 1 16 | 15 55.51 | -23 13.8 | 0.708 | 0.809 | 80.6 | 19.8 | 54 W | 20* | 45* |
| 1 6 | 10 31.81 | - 5 45.0 | 0.623 | 1.420 | 35.7 | 20.4 | 123 W | 39 | 70 | 275842 2001 SC₅ | | | | | | | | | |
| 1 16 | 10 30.68 | -10 53.4 | 0.568 | 1.415 | 32.5 | 20.1 | 129 W | 34 | 75 | 11 27 | 11 16.58 | +27 18.8 | 2.764 | 2.874 | 20.0 | 21.4 | 86 W | 72* | 27* |
| 420591 2012 HF₃₁ | | | | | | | | | | | | | | | | | | | |
| 11 27 | 10 6.84 | +22 37.2 | 0.874 | 1.417 | 43.4 | 21.4 | 99 W | 68 | 39* | 12 7 | 11 25.16 | +27 16.8 | 2.613 | 2.855 | 20.1 | 21.3 | 94 W | 72 | 31* |
| 12 7 | 10 9.65 | +22 8.9 | 0.841 | 1.482 | 39.1 | 21.3 | 108 W | 67 | 41* | 12 17 | 11 32.01 | +27 28.9 | 2.463 | 2.836 | 19.8 | 21.1 | 102 W | 72 | 34* |
| 12 17 | 10 6.74 | +22 4.3 | 0.807 | 1.544 | 33.9 | 21.2 | 119 W | 67 | 42 | 12 27 | 11 36.77 | +27 56.3 | 2.317 | 2.816 | 19.1 | 20.9 | 110 W | 73 | 36* |
| 12 27 | 9 57.50 | +22 21.4 | 0.778 | 1.605 | 27.6 | 21.0 | 131 W | 67 | 42 | 1 6 | 11 39.07 | +28 38.8 | 2.179 | 2.795 | 17.9 | 20.8 | 119 W | 74 | 35 |
| 1 6 | 9 42.01 | +22 52.4 | 0.761 | 1.662 | 20.1 | 20.8 | 145 W | 68 | 41 | 1 16 | 11 38.49 | +29 35.1 | 2.053 | 2.773 | 16.1 | 20.6 | 128 W | 75 | 34 |
| 1 16 | 9 21.48 | +23 24.2 | 0.763 | 1.717 | 11.9 | 20.6 | 159 W | 68 | 41 | 152895 2000 CQ₁₀₁ | | | | | | | | | |
| 133577 2003 UB₅₀ | | | | | | | | | | | | | | | | | | | |
| 11 27 | 10 14.65 | +12 52.3 | 2.442 | 2.696 | 21.4 | 21.4 | 94 W | 58 | 47* | 11 27 | 11 17.92 | + 8 0.4 | 1.418 | 1.546 | 38.6 | 21.3 | 78 W | 53* | 42* |
| 12 7 | 10 20.50 | +12 41.7 | 2.304 | 2.697 | 20.9 | 21.3 | 103 W | 58 | 50* | 12 7 | 11 47.18 | + 4 59.1 | 1.295 | 1.485 | 40.8 | 21.1 | 80 W | 50 | 46* |
| 12 17 | 10 24.22 | +12 45.1 | 2.169 | 2.697 | 19.8 | 21.1 | 112 W | 58 | 51* | 12 17 | 12 18.18 | + 1 41.3 | 1.183 | 1.426 | 43.1 | 20.9 | 82 W | 47 | 50* |
| 12 27 | 10 25.51 | +13 4.6 | 2.043 | 2.696 | 18.0 | 20.9 | 122 W | 58 | 51 | 12 27 | 12 51.18 | - 1 51.2 | 1.083 | 1.371 | 45.4 | 20.7 | 83 W | 43 | 55* |
| 1 6 | 10 24.14 | +13 41.1 | 1.929 | 2.695 | 15.6 | 20.7 | 133 W | 59 | 50 | 1 6 | 13 26.47 | - 5 34.8 | 0.997 | 1.319 | 47.8 | 20.5 | 84 W | 39 | 59* |
| 1 16 | 10 19.98 | +14 34.2 | 1.833 | 2.692 | 12.4 | 20.5 | 144 W | 60 | 49 | 1 16 | 14 4.21 | - 9 22.6 | 0.925 | 1.273 | 50.2 | 20.3 | 84 W | 36 | 64* |
| 385343 2002 LV | | | | | | | | | | 481315 2006 AU₂₃ | | | | | | | | | |
| 11 27 | 10 17.50 | + 8 59.4 | 2.264 | 2.500 | 23.2 | 21.5 | 92 W | 54 | 50* | 11 27 | 11 36.24 | + 2 8.0 | 1.971 | 1.899 | 29.5 | 21.5 | 71 W | 47* | 43* |
| 12 7 | 10 20.89 | + 9 43.1 | 2.176 | 2.562 | 22.1 | 21.4 | 102 W | 55 | 53* | 12 7 | 11 55.61 | - 0 16.9 | 1.843 | 1.867 | 30.8 | 21.3 | 76 W | 45* | 48* |
| 12 17 | 10 21.66 | +10 47.2 | 2.090 | 2.622 | 20.4 | 21.3 | 112 W | 56 | 53* | 12 17 | 12 14.77 | - 2 43.2 | 1.717 | 1.837 | 31.9 | 21.1 | 81 W | 42 | 54* |
| 12 27 | 10 19.58 | +12 12.9 | 2.013 | 2.680 | 17.9 | 21.2 | 123 W | 57 | 52 | 12 27 | 12 33.63 | - 5 9.4 | 1.594 | 1.808 | 32.8 | 21.0 | 86 W | 40 | 60* |
| 1 6 | 10 14.57 | +13 59.1 | 1.951 | 2.736 | 14.7 | 21.1 | 135 W | 59 | 50 | 1 6 | 12 52.10 | - 7 34.3 | 1.474 | 1.781 | 33.5 | 20.8 | 91 W | 37 | 67* |
| 1 16 | 10 6.75 | +16 1.8 | 1.910 | 2.790 | 10.9 | 20.9 | 148 W | 61 | 48 | 1 16 | 13 9.99 | - 9 56.3 | 1.358 | 1.756 | 33.9 | 20.6 | 96 W | 35 | 72* |
| 215122 1999 LG₄ | | | | | | | | | | 168381 1997 LY₄ | | | | | | | | | |
| 11 27 | 10 44.69 | -17 28.4 | 2.820 | 2.760 | 20.3 | 21.5 | 76 W | 28 | 64* | 11 27 | 11 41.75 | - 6 17.3 | 2.379 | 2.187 | 24.5 | 21.4 | 67 W | 38* | 46* |
| 12 7 | 10 51.64 | -19 38.4 | 2.694 | 2.759 | 20.8 | 21.4 | 83 W | 25 | 72* | 12 7 | 11 55.62 | - 8 16.8 | 2.243 | 2.169 | 25.7 | 21.3 | 73 W | 37* | 53* |
| 12 17 | 10 56.91 | -21 46.3 | 2.567 | 2.758 | 20.9 | 21.3 | 91 W | 23 | 81* | 12 17 | 12 8.76 | -10 14.6 | 2.103 | 2.149 | 26.7 | 21.2 | 79 W | 35 | 60* |
| 12 27 | 11 0.19 | -23 49.3 | 2.440 | 2.755 | 20.7 | 21.2 | 98 W | 21 | 88 | 12 27 | 12 20.97 | -12 9.6 | 1.960 | 2.127 | 27.5 | 21.0 | 86 W | 33 | 67* |
| 1 6 | 11 1.20 | -25 44.0 | 2.318 | 2.751 | 20.1 | 21.0 | 106 W | 19 | 90 | 1 6 | 12 32.03 | -14 0.5 | 1.816 | 2.104 | 27.8 | 20.8 | 93 W | 31 | 75* |
| 1 16 | 10 59.67 | -27 25.9 | 2.202 | 2.746 | 19.2 | 20.9 | 113 W | 18 | 89 | 1 16 | 12 41.63 | -15 45.8 | 1.672 | 2.080 | 27.8 | 20.6 | 100 W | 29 | 80* |
| 337118 1999 TX₂ | | | | | | | | | | 265187 2003 YS₁₁₇ | | | | | | | | | |
| 11 27 | 10 51.09 | -54 51.7 | 1.452 | 1.405 | 40.4 | 21.4 | 67 W | - | 55* | 11 27 | 11 46.36 | - 8 38.1 | 1.427 | 1.348 | 41.5 | 21.3 | 65 W | 36* | 47* |
| 12 7 | 11 7.43 | -56 2.7 | 1.411 | 1.373 | 41.4 | 21.4 | 67 W | - | 54* | 12 7 | 12 12.33 | -14 49.7 | 1.321 | 1.301 | 44.1 | 21.2 | 67 W | 30* | 52* |
| 12 17 | 11 24.49 | -57 8.3 | 1.367 | 1.340 | 42.7 | 21.3 | 67 W | - | 54* | 12 17 | 12 41.50 | -21 35.3 | 1.225 | 1.251 | 46.8 | 21.0 | 68 W | 23 | 58* |
| 12 27 | 11 42.40 | -58 7.8 | 1.320 | 1.306 | 44.0 | 21.2 | 67 W | - | 53* | 12 27 | 13 15.51 | -28 47.3 | 1.143 | 1.199 | 49.6 | 20.8 | 68 W | 16 | 61* |
| 1 6 | 11 1.31 | -59 0.1 | 1.269 | 1.271 | 45.6 | 21.1 | 67 W | - | 53* | 1 6 | 13 56.86 | -36 6.3 | 1.078 | 1.146 | 52.4 | 20.7 | 67 W | 9 | 61* |
| 1 16 | 11 24.49 | -57 8.3 | 1.367 | 1.340 | 42.7 | 21.3 | 67 W | - | 54* | 1 16 | 14 48.71 | -42 55.0 | 1.033 | 1.092 | 55.1 | 20.6 | 66 W | 2* | 59* |
| 12 12 | 11 42.40 | -58 7.8 | 1.320 | 1.306 | 44.0 | 21.2 | 67 W | - | 53* | 175729 1998 BB₁₀ | | | | | | | | | |
| 12 17 | 12 1.31 | -59 0.1 | 1.269 | 1.271 | 45.6 | 21.1 | 67 W | - | 53* | 11 27 | 11 57.83 | -20 3.8 | 0.353 | 0.860 | 100.4 | 21.4 | 59 W | 24* | 49* |
| 12 22 | 12 21.42 | -59 44.0 | 1.215 | 1.236 | 47.3 | 21.0 | 67 W | - | 52* | 12 7 | 11 57.81 | -17 13.1 | 0.364 | 0.892 | 93.8 | 21.2 | 65 W | 27* | 52* |
| 12 27 | 12 42.95 | -60 17.6 | 1.158 | 1.199 | 49.3 | 20.9 | 68 W | - | 52* | 12 7 | 11 59.27 | -14 38.3 | 0.374 | 0.926 | 87.8 | 21.1 | 70 W | 30* | 55* |
| 1 1 | 13 6.15 | -60 38.6 | 1.097 | 1.161 | 51.5 | 20.7 | 68 W | - | 52* | 12 12 | 12 1.49 | -12 14.9 | 0.381 | 0.960 | 82.3 | 21.0 | 75 W | 33 | 58* |
| 1 6 | 13 31.29 | -60 43.7 | 1.033 | 1.123 | 54.1 | 20.6 | 68 W | - | 51* | 12 17 | 12 3.92 | - 9 57.8 | 0.386 | 0.996 | 77.1 | 20.9 | 80 W | 35 | 61* |
| 1 11 | 13 58.61 | -60 28.1 | 0.965 | 1.084 | 57.0 | 20.5 | 68 W | - | 51* | 12 22 | 12 6.11 | - 7 42.4 | 0.389 | 1.031 | 72.0 | 20.8 | 86 W | 37 | 63* |
| 1 16 | 14 28.30 | -59 45.0 | 0.895 | 1.044 | 60.4 | 20.3 | 67 W | - | 51* | 12 27 | 12 7.71 | - 5 24.6 | 0.390 | 1.067 | 67.1 | 20.8 | 91 W | 40 | 64* |
| 75015 1999 UW₄ | | | | | | | | | | 382838 2004 BG₈₃ | | | | | | | | | |
| 11 27 | 11 0.94 | + 7 35.9 | 2.640 | 2.677 | 21.4 | 21.5 | 81 W | 53 | 45* | 1 6 | 12 7.97 | + 0 28.4 | 0.387 | 1.138 | 57.1 | 20.6 | 104 W | 45 | 64* |
| 12 7 | 11 8.61 | + 6 46.0 | 2.512 | 2.690 | 21.5 | 21.4 | 89 W | 52 | 51* | 1 11 | 12 6.06 | + 2 15.3 | 0.384 | 1.173 | 51.9 | 20.5 | 110 W | 47 | 62 |
| 12 17 | 11 14.51 | + 6 6.5 | 2.383 | 2.702 | 21.1 | 21.3 | 98 W | 51 | 55* | 1 16 | 12 2.46 | + 5 11.2 | 0.382 | 1.207 | 46.5 | 20.4 | 117 W | 50 | 59 |
| 12 27 | 11 18.35 | + 5 39.3 | 2.255 | 2.714 | 20.3 | 21.1 | 107 W | 51 | 58* | 424965 2009 AM₁₅ | | | | | | | | | |
| 1 6 | 11 19.89 | + 5 26.0 | 2.133 | 2.724 | 18.8 | 21.0 | 117 W | 50 | 59 | 11 27 | 12 14.82 | -13 45.4 | 1.326 | 1.138 | 46.4 | 21.5 | 57 W | 29* | 43* |
| 1 16 | 11 18.86 | | | | | | | | | | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|
| 424965 2009 AM₁₅ | | | | | | | | | | 162063 1997 EH₂₉ | | | | | | | | | |
| <i>(continuation)</i> | | | | | | | | | | <i>(continuation)</i> | | | | | | | | | |
| 1 1 | 14 45.01 | -17 20.9 | 1.007 | 0.941 | 60.5 | 20.8 | 56 W | 26* | 44* | 1 6 | 13 4.37 | -20 41.9 | 0.653 | 1.111 | 61.4 | 20.4 | 83 W | 24 | 72* |
| 1 6 | 15 14.05 | -17 14.4 | 0.973 | 0.901 | 63.1 | 20.8 | 55 W | 26* | 42* | 1 11 | 13 0.70 | -20 1.4 | 0.646 | 1.167 | 57.4 | 20.4 | 89 W | 25 | 78* |
| 1 11 | 15 45.36 | -16 52.0 | 0.946 | 0.859 | 65.8 | 20.7 | 53 W | 26* | 40* | 1 16 | 12 55.88 | -19 12.8 | 0.636 | 1.220 | 53.4 | 20.3 | 95 W | 26 | 82* |
| 1 16 | 16 18.82 | -16 12.0 | 0.927 | 0.814 | 68.4 | 20.6 | 50 W | 25* | 38* | 523616 2007 LC₁₅ | | | | | | | | | |
| 351278 2004 SB₂₀ | | | | | | | | | | 11 27 | 14 46.08 | -11 21.6 | 0.876 | 0.383 | 95.0 | 19.6 | 23 W | 15* | 8* |
| 11 27 | 12 59.47 | +28 2.2 | 1.167 | 1.208 | 49.0 | 21.4 | 68 W | 62* | 11* | 11 29 | 14 51.62 | -9 50.5 | 0.925 | 0.407 | 86.3 | 19.5 | 24 W | 17* | 8* |
| 12 2 | 13 19.19 | +25 51.5 | 1.131 | 1.176 | 50.6 | 21.3 | 67 W | 61* | 12* | 12 1 | 14 57.90 | -8 40.3 | 0.974 | 0.433 | 78.7 | 19.5 | 26 W | 18* | 7* |
| 12 7 | 13 38.89 | +23 28.0 | 1.097 | 1.142 | 52.1 | 21.2 | 66 W | 60* | 14* | 12 3 | 15 4.63 | -7 46.8 | 1.022 | 0.463 | 72.3 | 19.5 | 27 W | 19* | 7* |
| 12 12 | 13 58.60 | +20 51.2 | 1.065 | 1.108 | 53.8 | 21.1 | 65 W | 58* | 15* | 12 5 | 15 11.59 | -7 6.3 | 1.068 | 0.494 | 66.9 | 19.6 | 27 W | 20* | 7* |
| 12 17 | 14 18.36 | +18 1.0 | 1.036 | 1.074 | 55.6 | 21.1 | 64 W | 56* | 17* | 12 7 | 15 18.62 | -6 35.9 | 1.112 | 0.526 | 62.4 | 19.7 | 28 W | 21* | 7* |
| 12 22 | 14 38.22 | +14 57.1 | 1.010 | 1.038 | 57.4 | 21.0 | 63 W | 54* | 20* | 12 9 | 15 25.64 | -6 13.2 | 1.154 | 0.558 | 58.5 | 19.7 | 29 W | 22* | 7* |
| 12 27 | 14 58.28 | +11 39.4 | 0.987 | 1.002 | 59.3 | 20.9 | 61 W | 51* | 22* | 12 11 | 15 32.57 | -5 56.4 | 1.194 | 0.591 | 55.2 | 19.9 | 30 W | 22* | 8* |
| 1 1 | 15 18.66 | + 8 8.2 | 0.967 | 0.967 | 61.1 | 20.8 | 59 W | 48* | 24* | 12 13 | 15 39.37 | -5 44.1 | 1.232 | 0.624 | 52.4 | 20.0 | 30 W | 23* | 8* |
| 1 6 | 15 39.52 | + 4 24.3 | 0.951 | 0.931 | 63.0 | 20.8 | 58 W | 45* | 27* | 12 15 | 15 46.04 | -5 35.2 | 1.269 | 0.657 | 49.9 | 20.1 | 31 W | 24* | 8* |
| 1 11 | 16 1.03 | + 0 29.4 | 0.939 | 0.896 | 64.8 | 20.7 | 55 W | 41* | 29* | 12 17 | 15 52.54 | -5 28.9 | 1.303 | 0.689 | 47.9 | 20.2 | 31 W | 24* | 9* |
| 1 16 | 16 23.40 | - 3 33.9 | 0.932 | 0.861 | 66.4 | 20.7 | 53 W | 37* | 32* | 12 22 | 16 8.07 | - 5 20.8 | 1.383 | 0.769 | 43.8 | 20.4 | 33 W | 25* | 10* |
| 503892 2001 UF₁₈ | | | | | | | | | | 12 27 | 16 22.59 | - 5 18.7 | 1.452 | 0.846 | 40.9 | 20.7 | 34 W | 26* | 12* |
| 11 27 | 13 14.12 | +25 57.2 | 1.079 | 1.095 | 54.0 | 21.4 | 64 W | 58* | 9* | 1 1 | 16 36.18 | - 5 18.9 | 1.513 | 0.919 | 38.8 | 20.9 | 36 W | 27* | 14* |
| 12 2 | 13 39.39 | +23 10.5 | 1.041 | 1.043 | 56.5 | 21.3 | 62 W | 56* | 10* | 1 6 | 16 48.90 | - 5 19.3 | 1.566 | 0.990 | 37.3 | 21.1 | 38 W | 28* | 16* |
| 12 7 | 14 5.09 | +19 58.5 | 1.008 | 0.989 | 59.1 | 21.2 | 59 W | 53* | 11* | 1 11 | 17 0.85 | - 5 18.8 | 1.611 | 1.058 | 36.3 | 21.2 | 40 W | 29* | 19* |
| 12 12 | 14 31.14 | +16 20.9 | 0.983 | 0.932 | 61.8 | 21.1 | 57 W | 50* | 11* | 1 16 | 17 12.08 | - 5 16.5 | 1.649 | 1.123 | 35.6 | 21.4 | 42 W | 30* | 22* |
| 12 17 | 14 57.51 | +12 18.7 | 0.966 | 0.874 | 64.4 | 21.0 | 53 W | 46* | 13* | 388798 2008 BU₂ | | | | | | | | | |
| 12 22 | 15 24.20 | + 7 54.1 | 0.958 | 0.814 | 66.9 | 20.9 | 50 W | 42* | 14* | 11 27 | 15 0.92 | + 6 35.7 | 1.886 | 1.183 | 26.8 | 21.3 | 33 W | 26* | — |
| 12 27 | 15 51.32 | + 3 10.8 | 0.959 | 0.753 | 68.9 | 20.8 | 46 W | 37* | 15* | 12 2 | 15 18.95 | + 4 56.0 | 1.822 | 1.122 | 28.1 | 21.1 | 32 W | 26* | — |
| 1 1 | 16 19.10 | - 1 45.9 | 0.971 | 0.691 | 70.2 | 20.7 | 41 W | 32* | 16* | 12 7 | 15 38.10 | + 3 9.2 | 1.759 | 1.059 | 29.4 | 20.9 | 32 W | 26* | — |
| 1 6 | 16 47.90 | - 6 48.7 | 0.994 | 0.630 | 70.5 | 20.6 | 37 W | 27* | 17* | 12 12 | 15 58.51 | + 1 14.4 | 1.698 | 0.992 | 30.7 | 20.8 | 31 W | 25* | — |
| 1 11 | 17 18.28 | -11 48.7 | 1.029 | 0.571 | 69.2 | 20.4 | 33 W | 21* | 18* | 12 17 | 16 20.35 | - 0 49.0 | 1.641 | 0.923 | 31.7 | 20.6 | 30 W | 24* | — |
| 1 16 | 17 50.91 | -16 33.6 | 1.075 | 0.519 | 65.8 | 20.2 | 29 W | 15* | 18* | 12 22 | 16 43.79 | - 3 1.8 | 1.589 | 0.851 | 32.5 | 20.3 | 28 W | 22* | 1* |
| 8176 1991 WA | | | | | | | | | | 12 27 | 17 9.06 | - 5 24.3 | 1.541 | 0.777 | 32.8 | 20.1 | 25 W | 19* | 1* |
| 11 27 | 13 33.91 | +27 18.5 | 2.350 | 2.073 | 24.8 | 21.5 | 62 W | 55* | 5* | 1 1 | 17 36.43 | - 7 56.7 | 1.499 | 0.699 | 32.4 | 19.8 | 22 W | 16* | 2* |
| 12 7 | 13 54.96 | +26 21.5 | 2.210 | 2.013 | 26.5 | 21.3 | 66 W | 60* | 9* | 1 6 | 18 6.23 | -10 38.2 | 1.463 | 0.621 | 30.9 | 19.4 | 19 W | 13* | 1* |
| 12 17 | 14 16.40 | +25 32.3 | 2.066 | 1.949 | 28.2 | 21.2 | 69 W | 63* | 13* | 1 11 | 18 38.90 | -13 26.8 | 1.433 | 0.542 | 27.4 | 19.0 | 15 W | 8* | 1* |
| 12 27 | 14 38.28 | +24 52.0 | 1.919 | 1.880 | 30.0 | 21.0 | 73 W | 65* | 18* | 1 16 | 19 15.01 | -16 18.1 | 1.406 | 0.467 | 20.8 | 18.4 | 10 W | 3* | — |
| 1 6 | 15 0.72 | +24 20.6 | 1.772 | 1.808 | 31.9 | 20.8 | 76 W | 67* | 22* | 358744 2008 CR₁₁₈ | | | | | | | | | |
| 1 16 | 15 23.84 | +23 58.5 | 1.624 | 1.731 | 33.9 | 20.6 | 79 W | 67* | 26* | 11 27 | 15 11.24 | -15 35.8 | 2.020 | 1.101 | 13.8 | 21.4 | 15 W | 8* | 4* |
| 498143 2007 TR₆₅ | | | | | | | | | | 12 2 | 15 32.11 | -16 57.7 | 1.987 | 1.068 | 14.1 | 21.3 | 15 W | 7* | 5* |
| 11 27 | 13 45.22 | +55 55.2 | 1.065 | 1.362 | 46.0 | 21.5 | 83 W | 63* | — | 12 7 | 15 53.92 | -18 13.6 | 1.957 | 1.037 | 14.2 | 21.2 | 15 W | 7* | 5* |
| 12 2 | 14 11.48 | +54 18.9 | 1.030 | 1.325 | 47.5 | 21.4 | 82 W | 63* | — | 12 12 | 16 16.65 | -19 21.7 | 1.930 | 1.008 | 14.2 | 21.2 | 15 W | 6* | 5* |
| 12 7 | 14 36.39 | +52 27.7 | 0.997 | 1.286 | 49.2 | 21.3 | 81 W | 63* | — | 12 17 | 16 40.26 | -20 20.4 | 1.907 | 0.982 | 14.0 | 21.1 | 14 W | 5* | 5* |
| 12 12 | 14 59.92 | +50 22.3 | 0.964 | 1.246 | 51.0 | 21.2 | 79 W | 63* | — | 12 22 | 17 4.67 | -21 7.9 | 1.889 | 0.958 | 13.7 | 21.0 | 13 W | 4* | 4* |
| 12 17 | 15 22.09 | +48 2.9 | 0.933 | 1.203 | 53.0 | 21.1 | 78 W | 63* | — | 12 27 | 17 29.76 | -21 42.8 | 1.874 | 0.939 | 13.1 | 20.9 | 13 W | 3* | 4* |
| 12 22 | 15 42.99 | +45 29.3 | 0.902 | 1.160 | 55.3 | 21.0 | 76 W | 62* | — | 1 1 | 17 55.38 | -22 3.6 | 1.864 | 0.922 | 12.4 | 20.8 | 12 W | 2* | 4* |
| 12 27 | 16 2.76 | +42 40.5 | 0.872 | 1.114 | 57.8 | 20.9 | 74 W | 62* | — | 1 6 | 18 21.35 | -22 9.5 | 1.858 | 0.910 | 11.6 | 20.7 | 11 W | 1* | 3* |
| 1 1 | 16 21.59 | +39 34.6 | 0.842 | 1.067 | 60.7 | 20.8 | 71 W | 61* | — | 1 11 | 18 47.46 | -22 0.0 | 1.856 | 0.903 | 10.6 | 20.7 | 10 W | — | 3* |
| 1 6 | 16 39.69 | +36 9.1 | 0.812 | 1.018 | 63.9 | 20.7 | 68 W | 60* | — | 1 16 | 19 13.50 | -21 34.9 | 1.859 | 0.900 | 9.6 | 20.6 | 9 W | — | 2* |
| 1 11 | 16 57.32 | +32 20.2 | 0.783 | 0.967 | 67.4 | 20.7 | 65 W | 58* | 1* | 369986 1998 SO | | | | | | | | | |
| 1 16 | 17 14.76 | +28 3.3 | 0.754 | 0.915 | 71.5 | 20.6 | 62 W | 56* | 4* | 11 27 | 15 27.86 | -18 34.2 | 1.094 | 0.221 | 55.7 | 19.5 | 11 W | 3* | 2* |
| 304330 2006 SX₂₁₇ | | | | | | | | | | 11 28 | 15 37.89 | -17 54.3 | 1.124 | 0.224 | 47.4 | 19.4 | 10 W | 3* | — |
| 11 27 | 13 53.08 | - 1 23.4 | 1.592 | 1.036 | 37.0 | 21.5 | 39 W | 30* | 15* | 11 29 | 15 48.18 | -17 19.4 | 1.152 | 0.231 | 40.0 | 19.3 | 9 W | 2* | — |
| 12 2 | 14 11.39 | - 4 7.9 | 1.583 | 1.021 | 37.2 | 21.4 | 39 W | 29* | 17* | 11 30 | 15 58.57 | -16 49.1 | 1.177 | 0.241 | 33.8 | 19.3 | 8 W | 2* | — |
| 12 7 | 14 29.99 | - 6 52.2 | 1.575 | 1.008 | 37.3 | 21.4 | 38 W | 28* | 18* | 12 1 | 16 8.92 | -16 23.3 | 1.201 | 0.254 | 29.0 | 19.3 | 7 W | 1* | — |
| 12 12 | 14 48.91 | - 9 34.8 | 1.570 | 0.997 | 37.3 | 21.4 | 38 W | 26* | 20* | 12 2 | 16 19.13 | -16 1.1 | 1.222 | 0.270 | 25.6 | 19.4 | 7 W | 1* | — |
| 12 17 | 15 8.22 | -12 14.1 | 1.566 | 0.988 | 37.3 | 21.4 | 37 W | 24* | 21* | 12 3 | 16 29.13 | -15 42.1 | 1.242 | 0.287 | 23.6 | 19.5 | 7 W | — | — |
| 12 22 | 15 27.96 | -14 48.7 | 1.565 | 0.981 | 37.2 | 21.3 | 37 W | 22* | 23* | 12 4 | 16 38.88 | -15 25.7 | 1.260 | 0.305 | 22.6 | 19.6 | 7 W | — | — |
| 12 27 | 15 48.18 | -17 16.9 | 1.566 | 0.976 | 37.1 | 21.3 | 37 W | 20* | 24* | 12 5 | 16 48.36 | -15 11.5 | 1.277 | 0.324 | 22.4 | 19.8 | 7 E | — | — |
| 1 1 | 16 8.90 | -19 37.1 | 1.568 | 0.974 | 37.0 | 21.3 | 37 W | 18* | 26* | 12 6 | 16 57.57 | -14 58.8 | 1.294 | 0.343 | 22.5 | 19.9 | 8 E | 1* | — |
| 1 6 | 16 30.15 | -21 47.7 | 1.573 | 0.974 | 36.7 | 21.3 | 36 W | 16* | 27* | 12 7 | 17 6.51 | -14 47.6 | 1.309 | 0.363 | 23.0 | 20.1 | 8 E | 2* | — |
| 1 11 | 16 51.90 | -23 47.1 | 1.578 | 0.977 | 36.5 | 21.3 | 36 W | 14* | 28* | 12 9 | 17 23.58 | -14 28.1 | 1.339 | 0.402 | 24.0 | 20.4 | 10 E | 3* | — |
| 1 16 | 17 14.12 | -25 33.9 | 1.586 | 0.982 | 36.3 | 21.3 | 36 W | 11* | 29* | 12 11 | 17 39.68 | -14 11.3 | 1.367 | 0.441 | 24.9 | 20.7 | 11 E | 5* | — |
| 162063 1997 EH₂₉ | | | | | | | | | | 12 13 | 17 54.87 | -13 56.2 | 1.394 | 0.479 | 25.6 | 20.9 | 12 E | 6* | — |
| 11 27 | 13 53.99 | -26 25.6 | 0.556 | 0.593 | 118.4 | 21.2 | 32 W | 9* | 25* | 12 15 | 18 9.24 | -13 42.1 | 1.421 | 0.515 | 26.0 | 21.1 | 13 E | 7* | — |
| 11 29 | 13 46.16 | -26 0.7 | 0.565 | 0.620 | 112.6 | 21.0 | 35 W | 11* | 28* | 12 17 | 18 22.86 | -13 28.6 | 1.448 | 0.551 | 26.2 | 21.3 | 14 E | 8* | — |
| 12 1 | 13 39.57 | -25 35.5 | 0.574 | 0.648 | 107.4 | 20.8 | 39 W | 13* | 31* | 12 22 | 18 54.08 | -12 55.6 | 1.515 | 0.634 | 25.9 | 21.7 | 16 E | 10* | — |
| 12 3 | 13 34.08 | -25 11.0 | 0.584 | 0.676 | 102.7 | 20.6 | 42 W | 15* | 34* | 12 27 | 19 21.88 | -12 22.2 | 1.582 | 0.710 | 24.8 | 22.0 | 18 E | 11* | 1* |
| 12 5 | 13 29.54 | -24 47.5 | 0.593 | 0.704 | 98.5 | 20.6 | | | | | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|
| 354368 2003 QS₄ | | | | | | | | | | 190327 1998 QE₈₅ | | | | | | | | | |
| 11 27 | 16 14.89 | -19 25.0 | 2.630 | 1.644 | 1.1 | 21.4 | 2 E | — | — | 11 27 | 16 49.30 | -19 5.7 | 3.428 | 2.458 | 3.6 | 21.4 | 9 E | 1* | 1* |
| 12 7 | 16 44.98 | -20 19.4 | 2.622 | 1.639 | 2.0 | 21.5 | 3 W | — | — | 12 7 | 17 8.64 | -19 26.4 | 3.416 | 2.435 | 1.8 | 21.2 | 4 E | — | — |
| 12 17 | 17 15.48 | -20 53.3 | 2.613 | 1.638 | 3.6 | 21.6 | 6 W | — | — | 12 17 | 17 28.37 | -19 37.9 | 3.390 | 2.411 | 1.8 | 21.2 | 4 W | — | — |
| 12 27 | 17 46.13 | -21 5.5 | 2.604 | 1.639 | 5.3 | 21.7 | 9 W | 1* | — | 12 27 | 17 48.42 | -19 39.3 | 3.352 | 2.386 | 3.7 | 21.3 | 9 W | 2* | — |
| 1 6 | 18 16.67 | -20 55.8 | 2.594 | 1.644 | 7.1 | 21.8 | 12 W | 3* | 4* | 1 6 | 18 8.69 | -19 30.3 | 3.302 | 2.360 | 5.8 | 21.3 | 14 W | 5* | 5* |
| 280252 2002 XK₁₄ | | | | | | | | | | 168828 2000 SY₃₂₀ | | | | | | | | | |
| 11 27 | 16 15.03 | -16 48.2 | 3.151 | 2.168 | 2.0 | 21.4 | 4 E | — | — | 11 27 | 17 2.16 | -24 56.7 | 3.785 | 2.829 | 4.2 | 21.4 | 12 E | — | 6* |
| 12 7 | 16 36.79 | -17 41.5 | 3.113 | 2.137 | 3.0 | 21.4 | 7 W | 1* | — | 12 7 | 17 19.18 | -24 44.0 | 3.784 | 2.806 | 2.1 | 21.3 | 6 E | — | — |
| 12 17 | 16 59.21 | -18 24.3 | 3.066 | 2.106 | 4.9 | 21.5 | 11 W | 4* | — | 12 17 | 17 36.41 | -24 24.9 | 3.767 | 2.783 | 0.4 | 21.1 | 1 W | — | — |
| 12 27 | 17 22.21 | -18 55.4 | 3.009 | 2.074 | 7.0 | 21.5 | 15 W | 7* | 4* | 12 27 | 17 53.75 | -23 58.6 | 3.733 | 2.759 | 2.4 | 21.2 | 7 W | — | — |
| 1 6 | 17 45.75 | -19 14.0 | 2.943 | 2.042 | 9.2 | 21.5 | 19 W | 9* | 9* | 1 6 | 18 11.11 | -23 24.5 | 3.683 | 2.734 | 4.7 | 21.3 | 13 W | 2* | 6* |
| 193846 2001 QZ₁₀₃ | | | | | | | | | | 86067 1999 RM₂₈ | | | | | | | | | |
| 11 27 | 16 16.63 | -21 34.0 | 3.704 | 2.717 | 0.4 | 21.3 | 1 E | — | — | 11 27 | 17 11.39 | -4 42.3 | 3.293 | 2.405 | 8.8 | 21.5 | 22 E | 16* | — |
| 12 7 | 16 34.12 | -22 2.5 | 3.672 | 2.692 | 1.8 | 21.4 | 5 W | — | — | 12 7 | 17 29.23 | -5 38.0 | 3.215 | 2.404 | 7.6 | 21.5 | 19 E | 12* | — |
| 12 17 | 16 51.94 | -22 24.1 | 3.625 | 2.666 | 4.0 | 21.5 | 11 W | 2* | 3* | 12 17 | 17 47.23 | -6 22.5 | 3.324 | 2.400 | 6.9 | 21.4 | 17 E | 8* | — |
| 12 27 | 17 9.99 | -22 38.2 | 3.563 | 2.638 | 6.2 | 21.5 | 17 W | 5* | 9* | 12 27 | 18 5.31 | -6 56.0 | 3.319 | 2.396 | 6.9 | 21.4 | 17 W | 9* | — |
| 1 6 | 17 28.21 | -22 44.2 | 3.487 | 2.610 | 8.4 | 21.6 | 23 W | 8* | 15* | 1 6 | 18 23.40 | -7 18.9 | 3.301 | 2.389 | 7.5 | 21.4 | 19 W | 12* | — |
| 461909 2006 QL₅₃ | | | | | | | | | | 412961 2014 QS₂₉₀ | | | | | | | | | |
| 11 27 | 16 21.61 | -24 59.5 | 2.756 | 1.774 | 2.5 | 21.4 | 4 E | — | — | 11 27 | 17 15.13 | -20 59.3 | 2.684 | 1.748 | 8.3 | 21.4 | 15 E | 4* | 7* |
| 12 7 | 16 50.70 | -25 53.7 | 2.729 | 1.747 | 1.9 | 21.3 | 3 W | — | — | 12 7 | 17 43.25 | -21 47.8 | 2.684 | 1.728 | 6.3 | 21.3 | 11 E | 2* | 3* |
| 12 17 | 17 20.73 | -26 28.1 | 2.700 | 1.722 | 3.0 | 21.3 | 5 W | — | — | 12 17 | 18 12.12 | -22 17.3 | 2.681 | 1.711 | 4.4 | 21.2 | 8 E | — | — |
| 12 27 | 17 51.47 | -26 40.6 | 2.668 | 1.700 | 4.6 | 21.4 | 8 W | — | 2* | 12 27 | 18 41.52 | -22 26.6 | 2.675 | 1.695 | 2.5 | 21.1 | 4 E | — | — |
| 1 6 | 18 22.67 | -26 29.7 | 2.635 | 1.681 | 6.4 | 21.4 | 11 W | — | 5* | 1 6 | 19 11.25 | -22 15.3 | 2.666 | 1.682 | 0.5 | 20.9 | 1 E | — | — |
| 1 16 | 18 54.04 | -25 54.6 | 2.602 | 1.664 | 8.2 | 21.5 | 14 W | — | 8* | 1 16 | 19 41.09 | -21 43.3 | 2.654 | 1.672 | 1.4 | 20.9 | 2 W | — | — |
| 481442 2006 WO₃ | | | | | | | | | | 461371 2000 SN₁₇₁ | | | | | | | | | |
| 11 27 | 16 25.15 | -21 22.2 | 1.425 | 0.443 | 7.0 | 21.1 | 3 E | — | — | 11 27 | 17 22.30 | -29 23.9 | 2.664 | 1.752 | 10.0 | 21.5 | 18 E | — | 12* |
| 12 2 | 17 5.74 | -20 18.8 | 1.402 | 0.445 | 17.3 | 21.5 | 8 E | — | — | 12 7 | 17 52.16 | -29 37.3 | 2.648 | 1.713 | 8.3 | 21.4 | 15 E | — | 9* |
| 12 7 | 17 45.42 | -18 44.0 | 1.375 | 0.464 | 27.1 | 21.8 | 12 E | 5* | 2* | 12 17 | 18 23.06 | -29 28.2 | 2.627 | 1.675 | 6.8 | 21.2 | 12 E | — | 6* |
| 12 12 | 18 23.59 | -16 46.6 | 1.347 | 0.495 | 35.2 | 22.2 | 17 E | 9* | 5* | 12 27 | 18 54.69 | -28 54.5 | 2.603 | 1.639 | 5.4 | 21.1 | 9 E | — | 3* |
| 12 17 | 19 0.02 | -14 34.9 | 1.321 | 0.535 | 41.2 | 22.5 | 21 E | 13* | 7* | 1 6 | 19 26.76 | -27 54.7 | 2.577 | 1.605 | 4.2 | 21.0 | 7 E | — | — |
| 355873 2008 VK₂ | | | | | | | | | | 382456 2000 QV₈₄ | | | | | | | | | |
| 11 27 | 16 26.10 | -21 55.5 | 2.945 | 1.961 | 1.7 | 21.3 | 3 E | — | — | 11 27 | 17 29.47 | -15 34.3 | 3.350 | 2.440 | 7.6 | 21.4 | 19 E | 10* | 8* |
| 12 7 | 16 51.23 | -22 29.8 | 2.910 | 1.925 | 0.5 | 21.1 | 1 W | — | — | 12 7 | 17 48.67 | -15 52.8 | 3.341 | 2.399 | 5.8 | 21.3 | 14 E | 7* | 2* |
| 12 17 | 17 17.18 | -22 49.6 | 2.867 | 1.889 | 2.6 | 21.3 | 5 W | — | — | 12 17 | 18 8.54 | -16 1.2 | 3.320 | 2.357 | 4.2 | 21.1 | 10 E | 4* | — |
| 12 27 | 17 43.85 | -22 53.4 | 2.818 | 1.854 | 4.8 | 21.3 | 9 W | — | 2* | 12 27 | 18 28.97 | -15 58.9 | 3.287 | 2.316 | 3.2 | 21.0 | 7 E | — | — |
| 1 6 | 18 11.12 | -22 39.4 | 2.763 | 1.819 | 7.0 | 21.3 | 13 W | 2* | 6* | 1 6 | 18 49.90 | -15 45.1 | 3.244 | 2.274 | 3.4 | 21.0 | 8 W | 2* | — |
| 1 16 | 18 38.86 | -22 6.7 | 2.704 | 1.785 | 9.2 | 21.3 | 17 W | 4* | 9* | 1 16 | 19 11.26 | -15 19.6 | 3.190 | 2.232 | 4.8 | 21.0 | 11 W | 5* | — |
| 418073 2007 VT₂₂₆ | | | | | | | | | | 154715 2004 LB₆ | | | | | | | | | |
| 11 27 | 16 27.82 | -21 11.8 | 3.013 | 2.030 | 1.8 | 21.5 | 4 E | — | — | 11 27 | 17 29.96 | -20 50.2 | 2.205 | 1.305 | 13.7 | 21.5 | 18 E | 6* | 10* |
| 12 7 | 16 52.09 | -21 30.0 | 2.979 | 1.995 | 0.6 | 21.3 | 1 W | — | — | 12 7 | 18 3.44 | -21 7.8 | 2.146 | 1.229 | 12.7 | 21.3 | 16 E | 5* | 7* |
| 12 17 | 17 17.05 | -21 34.4 | 2.937 | 1.960 | 2.7 | 21.4 | 5 W | — | — | 12 17 | 18 39.42 | -20 58.2 | 2.082 | 1.153 | 12.0 | 21.0 | 14 E | 5* | 5* |
| 12 27 | 17 42.57 | -21 23.5 | 2.888 | 1.925 | 4.9 | 21.4 | 10 W | 2* | 1* | 12 27 | 19 17.89 | -20 15.7 | 2.014 | 1.078 | 11.8 | 20.8 | 13 E | 5* | 4* |
| 1 6 | 18 8.55 | -20 55.8 | 2.832 | 1.892 | 7.1 | 21.5 | 14 W | 4* | 5* | 1 6 | 19 58.73 | -18 54.8 | 1.945 | 1.008 | 12.2 | 20.6 | 12 E | 5* | 3* |
| 1 16 | 18 34.87 | -20 10.5 | 2.771 | 1.859 | 9.3 | 21.5 | 18 W | 6* | 9* | 1 16 | 20 41.72 | -16 51.4 | 1.878 | 0.943 | 13.2 | 20.4 | 13 E | 5* | 3* |
| 422679 1999 VU₂₂₅ | | | | | | | | | | 331506 1999 VC₁₂ | | | | | | | | | |
| 11 27 | 16 31.62 | -19 26.7 | 3.193 | 2.212 | 2.2 | 21.5 | 5 E | — | — | 11 27 | 17 31.19 | -23 10.9 | 3.488 | 2.571 | 7.0 | 21.5 | 18 E | 4* | 11* |
| 12 7 | 16 53.21 | -20 23.6 | 3.153 | 2.169 | 1.0 | 21.3 | 2 W | — | — | 12 7 | 17 50.07 | -23 11.3 | 3.479 | 2.527 | 4.9 | 21.3 | 13 E | 2* | 5* |
| 12 17 | 17 15.67 | -21 10.6 | 3.103 | 2.126 | 2.7 | 21.4 | 6 W | — | — | 12 17 | 18 9.58 | -23 3.0 | 3.456 | 2.482 | 2.8 | 21.2 | 7 E | — | — |
| 12 27 | 17 38.96 | -21 46.3 | 3.042 | 2.083 | 4.9 | 21.4 | 10 W | 2* | 2* | 12 27 | 18 29.62 | -22 45.0 | 3.419 | 2.437 | 0.6 | 20.9 | 2 E | — | — |
| 1 6 | 18 3.02 | -22 9.6 | 2.974 | 2.040 | 7.1 | 21.4 | 15 W | 4* | 7* | 1 6 | 18 50.09 | -22 16.6 | 3.371 | 2.391 | 1.7 | 20.9 | 4 W | — | — |
| 1 16 | 18 27.80 | -22 19.4 | 2.897 | 1.996 | 9.4 | 21.4 | 19 W | 5* | 12* | 1 16 | 19 10.93 | -21 37.1 | 3.310 | 2.345 | 3.9 | 21.0 | 9 W | — | 2* |
| 469441 2002 GP₁₂₆ | | | | | | | | | | 302162 2001 SL₃₃₃ | | | | | | | | | |
| 11 27 | 16 36.72 | -25 24.3 | 2.461 | 1.487 | 4.7 | 21.4 | 7 E | — | 1* | 11 27 | 17 43.60 | -25 26.4 | 2.607 | 1.727 | 12.1 | 21.5 | 21 E | 4* | 15* |
| 12 7 | 17 12.03 | -26 26.7 | 2.454 | 1.476 | 3.6 | 21.3 | 5 E | — | — | 12 7 | 18 12.97 | -25 37.1 | 2.620 | 1.710 | 10.3 | 21.4 | 18 E | 3* | 11* |
| 12 17 | 17 48.13 | -26 57.9 | 2.452 | 1.472 | 2.8 | 21.3 | 4 E | — | — | 12 17 | 18 42.86 | -25 26.3 | 2.629 | 1.695 | 8.4 | 21.3 | 15 E | 2* | 8* |
| 12 27 | 18 24.47 | -26 56.3 | 2.454 | 1.474 | 2.4 | 21.3 | 4 E | — | — | 12 27 | 19 12.99 | -24 53.5 | 2.635 | 1.682 | 6.6 | 21.2 | 11 E | — | 5* |
| 1 6 | 19 0.48 | -26 22.0 | 2.461 | 1.482 | 2.8 | 21.3 | 4 W | — | — | 1 6 | 19 43.11 | -23 58.7 | 2.638 | 1.671 | 4.9 | 21.1 | 8 E | — | 2* |
| 1 16 | 19 35.68 | -25 17.1 | 2.472 | 1.496 | 3.7 | 21.4 | 6 W | — | — | 1 16 | 20 13.00 | -22 42.9 | 2.640 | 1.663 | 3.2 | 21.0 | 5 E | — | — |
| 501934 2014 XT₃ | | | | | | | | | | 430560 2002 NC₃₂ | | | | | | | | | |
| 11 27 | 16 44.20 | -28 30.7 | 2.573 | 1.613 | 6.4 | 21.4 | 10 E | — | 4* | 11 27 | 17 50.77 | -18 29.4 | 3.210 | 2.338 | 9.6 | 21.4 | 23 E | 11* | 14* |
| 12 7 | 17 16.26 | -28 49.7 | 2.524 | 1.554 | 5.0 | 21.2 | 8 E | — | 1* | 12 7 | 18 10.07 | -17 53.1 | 3.213 | 2.298 | 7.7 | 21.3 | 18 E | 9* | 7* |
| 12 17 | 17 49.90 | -28 42.3 | 2.473 | 1.497 | 3.9 | 21.0 | 6 E | — | — | 12 17 | 18 29.90 | -17 6.5 | 3.203 | 2.257 | 5.8 | 21.2 | 13 E | 7* | 1* |
| 12 27 | 18 24.84 | -28 4.5 | 2.420 | 1.443 | 3.2 | 20.8 | 5 E | — | — | 12 27 | 18 50.17 | -16 8.5 | 3.181 | 2.217 | 4.2 | 21.0 | 10 E | 4* | — |
| 1 6 | 19 0.71 | -26 52.6 | 2.369 | 1.391 | 3.3 | 20.7 | 5 W | — | — | 1 6 | 19 10.80 | -14 58.2 | 3.146 | 2.176 | 3.4 | 20.9 | 8 E | — | — |
| 1 16 | 19 37.10 | -25 4.7 | 2.321 | 1.344 | 3.8 | 20.6 | 5 W | — | — | 1 16 | 19 31.74 | -13 35.0 | 3.102 | 2.135 | 4.0 | 20.9 | 9 W | 3* | — |
| 484549 2008 GW₇₃ | | | | | | | | | | | | | | | | | | | |
| 11 27 | 16 47.47 | -21 25.7 | 5.674 | 4.700 | 1.7 | 21.4 | 8 E | — | 1* | | | | | | | | | | |
| 12 7 | 16 58.38 | -21 52.1 | 5.683 | 4.698 | 0.2 | 21.3 | 1 E | — | — | | | | | | | | | | |
| 12 17 | 17 9.38 | -22 15.6 | 5.671 | 4.695 | 1.5 | 21.4 | 7 W | — | — | | | | | | | | | | |
| 12 27 | 17 20.36 | -22 36.0 | 5.639 | 4.693 | 3.0 | 21.5 | 15 W | 4* | 6* | | | | | | | | | | |
| 1 6 | 17 31.23 | -22 53.5 | 5.587 | 4.691 | 4.5 | 21.6 | 22 W | 8* | 14* | | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|---|-----------------|-----------------|----------|--------|---------|------|--------|-----|------|
| 410186 2007 RH₁₀₃ | | | | | | | | | | 417655 2006 YF₁₃ (continuation) | | | | | | | | | |
| 11 27 | 17 56.36 | -20 57.4 | 2.451 | 1.604 | 14.7 | 21.5 | 24 E | 10* | 16* | 12 19 | 23 10.28 | -19 20.5 | 0.462 | 0.966 | 78.5 | 20.9 | 74 E | 26 | 62* |
| 12 7 | 18 26.97 | -20 52.2 | 2.462 | 1.586 | 13.1 | 21.4 | 21 E | 9* | 12* | 12 21 | 23 24.69 | -18 27.0 | 0.469 | 0.979 | 76.7 | 20.9 | 76 E | 27 | 63* |
| 12 17 | 18 58.04 | -20 24.7 | 2.473 | 1.571 | 11.5 | 21.4 | 19 E | 8* | 9* | 12 23 | 23 38.46 | -17 31.5 | 0.477 | 0.993 | 75.0 | 20.9 | 77 E | 27 | 64* |
| 12 27 | 19 29.28 | -19 34.5 | 2.483 | 1.560 | 9.8 | 21.3 | 16 E | 7* | 6* | 12 25 | 23 51.60 | -16 34.7 | 0.487 | 1.006 | 73.3 | 20.9 | 78 E | 28 | 65* |
| 1 6 | 20 0.43 | -18 22.2 | 2.494 | 1.552 | 8.2 | 21.2 | 13 E | 5* | 3* | 12 27 | 0 4.13 | -15 37.1 | 0.497 | 1.018 | 71.7 | 20.9 | 80 E | 29 | 65* |
| 1 16 | 20 31.29 | -16 49.4 | 2.506 | 1.548 | 6.6 | 21.1 | 10 E | 3* | — | 1 1 | 0 32.88 | -13 12.6 | 0.527 | 1.049 | 68.2 | 21.0 | 82 E | 32 | 65* |
| 496868 2000 OA₅₁ | | | | | | | | | | 1 6 | 0 58.37 | -10 51.5 | 0.561 | 1.078 | 65.1 | 21.1 | 84 E | 34 | 65* |
| 11 27 | 17 58.62 | -21 4.8 | 2.144 | 1.316 | 18.4 | 21.5 | 25 E | 10* | 16* | 1 11 | 1 21.11 | -8 36.7 | 0.598 | 1.105 | 62.5 | 21.2 | 85 E | 36 | 64* |
| 12 7 | 18 36.12 | -20 19.9 | 2.167 | 1.324 | 17.3 | 21.5 | 24 E | 10* | 14* | 1 16 | 1 41.62 | -6 29.6 | 0.639 | 1.130 | 60.2 | 21.3 | 85 E | 39 | 62* |
| 12 17 | 19 13.03 | -19 4.9 | 2.198 | 1.340 | 16.2 | 21.5 | 22 E | 11* | 11* | 455176 1999 VF₂₂ | | | | | | | | | |
| 12 27 | 19 48.90 | -17 23.1 | 2.235 | 1.362 | 14.9 | 21.5 | 21 E | 11* | 9* | 11 27 | 21 56.50 | -6 35.9 | 0.437 | 1.037 | 71.2 | 21.4 | 84 E | 38 | 61* |
| 1 6 | 20 23.45 | -15 18.8 | 2.279 | 1.390 | 13.5 | 21.6 | 19 E | 11* | 6* | 11 29 | 22 14.23 | -4 52.9 | 0.457 | 1.064 | 67.8 | 21.4 | 87 E | 40 | 61* |
| 438105 2005 GO₂₂ | | | | | | | | | | 12 1 | 22 30.38 | -3 17.1 | 0.480 | 1.090 | 64.8 | 21.5 | 89 E | 42 | 61* |
| 11 27 | 19 2.82 | -23 39.6 | 1.509 | 0.976 | 40.0 | 21.1 | 39 E | 15* | 31* | 12 3 | 22 45.08 | -1 48.7 | 0.505 | 1.116 | 62.1 | 21.6 | 91 E | 43 | 61* |
| 12 2 | 19 14.54 | -23 18.0 | 1.453 | 0.893 | 41.7 | 20.9 | 37 E | 14* | 28* | 12 5 | 22 58.49 | -0 27.6 | 0.531 | 1.141 | 59.6 | 21.7 | 93 E | 45 | 60* |
| 12 7 | 19 26.91 | -22 51.3 | 1.387 | 0.809 | 44.2 | 20.6 | 35 E | 14* | 26* | 366615 2003 LO₆ | | | | | | | | | |
| 12 12 | 19 39.85 | -22 19.0 | 1.311 | 0.721 | 47.8 | 20.4 | 33 E | 14* | 23* | 12 7 | 5 49.99 | +14 19.7 | 3.594 | 4.551 | 3.3 | 23.3 | 165 W | 59 | 50 |
| 12 17 | 19 53.10 | -21 40.8 | 1.223 | 0.631 | 53.2 | 20.1 | 31 E | 14* | 21* | 12 17 | 5 41.50 | +13 45.4 | 3.569 | 4.543 | 2.1 | 23.2 | 170 W | 59 | 50 |
| 12 22 | 20 6.06 | -20 57.6 | 1.120 | 0.542 | 61.4 | 19.8 | 29 E | 13* | 19* | 12 27 | 5 33.01 | +13 14.7 | 3.579 | 4.534 | 3.4 | 23.3 | 164 E | 58 | 51 |
| 12 27 | 20 17.18 | -20 13.4 | 1.002 | 0.456 | 74.5 | 19.6 | 27 E | 13* | 16* | 1 6 | 5 25.06 | +12 48.7 | 3.621 | 4.524 | 5.5 | 23.4 | 154 E | 58 | 51 |
| 12 29 | 20 20.42 | -19 57.7 | 0.951 | 0.424 | 81.7 | 19.6 | 25 E | 12* | 15* | 1 16 | 5 18.15 | +12 28.0 | 3.693 | 4.514 | 7.6 | 23.6 | 143 E | 57 | 52 |
| 12 31 | 20 22.43 | -19 44.9 | 0.897 | 0.396 | 90.4 | 19.6 | 24 E | 11* | 13* | 337069 1998 FX₁₃₄ | | | | | | | | | |
| 1 2 | 20 22.72 | -19 36.7 | 0.843 | 0.372 | 100.8 | 19.9 | 22 E | 10* | 12* | 12 7 | 6 0.49 | +30 59.9 | 2.105 | 3.062 | 5.3 | 23.0 | 163 W | 76 | 33 |
| 1 4 | 20 20.67 | -19 35.1 | 0.789 | 0.353 | 113.1 | 20.3 | 19 E | 9* | 9* | 12 12 | 5 54.51 | +31 2.9 | 2.080 | 3.051 | 3.7 | 22.9 | 168 W | 76 | 33 |
| 1 6 | 20 15.68 | -19 41.5 | 0.738 | 0.342 | 127.1 | 21.1 | 16 E | 6* | 7* | 12 17 | 5 48.26 | +31 3.2 | 2.063 | 3.041 | 2.6 | 22.8 | 172 W | 76 | 33 |
| 361539 2007 KN₃ | | | | | | | | | | 12 22 | 5 41.90 | +31 0.7 | 2.054 | 3.030 | 2.8 | 22.8 | 171 E | 76 | 33 |
| 11 27 | 19 8.27 | -24 12.3 | 2.108 | 1.503 | 25.3 | 21.5 | 41 E | 15* | 33* | 12 27 | 5 35.59 | +30 55.4 | 2.053 | 3.019 | 4.2 | 22.8 | 167 E | 76 | 33 |
| 12 7 | 19 40.55 | -23 30.2 | 2.135 | 1.487 | 24.0 | 21.4 | 38 E | 15* | 29* | 1 1 | 5 29.50 | +30 47.6 | 2.059 | 3.007 | 6.0 | 22.9 | 161 E | 76 | 33 |
| 12 17 | 20 13.08 | -22 21.7 | 2.163 | 1.475 | 22.7 | 21.4 | 35 E | 15* | 26* | 1 6 | 5 23.77 | +30 37.4 | 2.073 | 2.996 | 7.8 | 23.0 | 155 E | 76 | 33 |
| 12 27 | 20 45.54 | -20 47.9 | 2.193 | 1.468 | 21.4 | 21.4 | 33 E | 15* | 23* | 154783 2004 PA₄₄ | | | | | | | | | |
| 1 6 | 21 17.63 | -18 50.9 | 2.223 | 1.465 | 20.0 | 21.4 | 31 E | 15* | 20* | 12 7 | 6 3.02 | +20 32.9 | 21.544 | 22.493 | 0.7 | 27.1 | 164 W | 66 | 43 |
| 1 16 | 21 49.17 | -16 33.6 | 2.256 | 1.466 | 18.5 | 21.3 | 28 E | 15* | 17* | 12 17 | 6 1.28 | +20 32.7 | 21.528 | 22.507 | 0.3 | 27.1 | 174 W | 66 | 43 |
| 217807 2000 XK₄₄ | | | | | | | | | | 12 27 | 5 59.51 | +20 32.6 | 21.543 | 22.521 | 0.3 | 27.1 | 174 E | 66 | 43 |
| 11 27 | 19 22.62 | -30 12.4 | 1.885 | 1.354 | 30.2 | 21.4 | 44 E | 10* | 37* | 1 6 | 5 57.78 | +20 32.7 | 21.590 | 22.535 | 0.7 | 27.2 | 164 E | 66 | 43 |
| 12 7 | 19 55.67 | -28 38.5 | 1.875 | 1.302 | 29.7 | 21.3 | 41 E | 11* | 34* | 1 16 | 5 56.15 | +20 33.0 | 21.667 | 22.549 | 1.1 | 27.2 | 153 E | 66 | 43 |
| 12 17 | 20 29.59 | -26 31.4 | 1.859 | 1.251 | 29.4 | 21.2 | 39 E | 13* | 31* | 475950 2007 FE₁ | | | | | | | | | |
| 12 27 | 21 4.07 | -23 49.5 | 1.840 | 1.204 | 29.2 | 21.1 | 37 E | 14* | 28* | 12 7 | 6 9.96 | +33 27.1 | 1.779 | 2.727 | 7.0 | 22.6 | 160 W | 78 | 31 |
| 1 6 | 21 38.85 | -20 32.6 | 1.819 | 1.162 | 29.1 | 21.0 | 35 E | 16* | 25* | 12 12 | 6 2.78 | +33 45.6 | 1.744 | 2.708 | 5.3 | 22.5 | 165 W | 79 | 30 |
| 1 16 | 22 13.77 | -16 42.3 | 1.798 | 1.125 | 29.2 | 20.9 | 34 E | 18* | 23* | 12 17 | 5 55.07 | +34 0.6 | 1.716 | 2.688 | 4.1 | 22.4 | 169 W | 79 | 30 |
| 24447 2000 QY₁ | | | | | | | | | | 12 22 | 5 47.03 | +34 11.3 | 1.696 | 2.668 | 4.1 | 22.4 | 169 E | 79 | 30 |
| 11 27 | 19 26.24 | -19 0.9 | 2.261 | 1.721 | 24.2 | 21.5 | 46 E | 21* | 35* | 12 27 | 5 38.89 | +34 17.5 | 1.685 | 2.648 | 5.4 | 22.4 | 165 E | 79 | 30 |
| 12 7 | 19 51.06 | -18 47.2 | 2.301 | 1.690 | 22.6 | 21.4 | 41 E | 20* | 30* | 1 1 | 5 30.87 | +34 19.1 | 1.680 | 2.627 | 7.3 | 22.5 | 160 E | 79 | 30 |
| 12 17 | 20 16.62 | -18 16.1 | 2.334 | 1.658 | 20.9 | 21.4 | 37 E | 19* | 25* | 1 6 | 5 23.20 | +34 16.3 | 1.684 | 2.605 | 9.4 | 22.5 | 154 E | 79 | 30 |
| 12 27 | 20 42.80 | -17 27.5 | 2.359 | 1.626 | 19.3 | 21.3 | 33 E | 18* | 21* | 373135 2011 SD₁₇₃ | | | | | | | | | |
| 1 6 | 21 9.48 | -16 21.6 | 2.378 | 1.595 | 17.6 | 21.2 | 29 E | 16* | 17* | 12 7 | 6 12.33 | +17 3.0 | 1.518 | 2.471 | 7.5 | 22.9 | 161 W | 62 | 47 |
| 1 16 | 21 36.58 | -14 59.0 | 2.390 | 1.563 | 15.9 | 21.1 | 26 E | 15* | 14* | 12 12 | 6 5.04 | +16 56.8 | 1.498 | 2.468 | 5.1 | 22.8 | 167 W | 62 | 47 |
| 163412 2002 RV₂₅ | | | | | | | | | | 12 17 | 5 57.39 | +16 51.3 | 1.486 | 2.465 | 3.1 | 22.6 | 172 W | 62 | 47 |
| 11 27 | 19 53.20 | -45 21.0 | 2.246 | 1.797 | 25.3 | 21.5 | 51 E | — | 44* | 12 22 | 5 49.57 | +16 46.6 | 1.482 | 2.461 | 2.9 | 22.6 | 173 E | 62 | 47 |
| 12 7 | 20 20.12 | -42 19.6 | 2.258 | 1.737 | 24.4 | 21.4 | 47 E | — | 40* | 12 27 | 5 41.82 | +16 42.8 | 1.486 | 2.457 | 4.7 | 22.7 | 168 E | 62 | 47 |
| 12 17 | 20 46.61 | -39 0.5 | 2.265 | 1.676 | 23.4 | 21.3 | 43 E | 2* | 36* | 1 1 | 5 34.35 | +16 39.9 | 1.498 | 2.452 | 7.1 | 22.8 | 162 E | 62 | 47 |
| 12 27 | 21 12.60 | -35 23.2 | 2.265 | 1.615 | 22.3 | 21.2 | 38 E | 5* | 32* | 1 6 | 5 27.34 | +16 38.1 | 1.516 | 2.446 | 9.5 | 23.0 | 156 E | 62 | 47 |
| 1 6 | 21 38.05 | -31 27.4 | 2.259 | 1.552 | 21.0 | 21.1 | 34 E | 6* | 28* | 14827 Hypnos | | | | | | | | | |
| 1 16 | 22 3.02 | -27 13.3 | 2.248 | 1.489 | 19.7 | 20.9 | 31 E | 7* | 24* | 12 7 | 6 16.44 | +24 44.4 | 2.943 | 3.889 | 4.7 | 24.0 | 161 W | 70 | 39 |
| 422719 2001 AU₁ | | | | | | | | | | 12 17 | 6 6.36 | +24 49.7 | 2.950 | 3.930 | 1.6 | 23.8 | 174 W | 70 | 39 |
| 11 27 | 20 5.32 | -15 1.1 | 2.118 | 1.759 | 27.5 | 21.5 | 56 E | 28* | 42* | 12 27 | 5 56.17 | +24 51.5 | 2.991 | 3.969 | 1.6 | 23.9 | 174 E | 70 | 39 |
| 12 7 | 20 27.93 | -13 38.8 | 2.157 | 1.719 | 26.5 | 21.4 | 51 E | 28* | 36* | 1 6 | 5 46.63 | +24 50.1 | 3.064 | 4.008 | 4.5 | 24.1 | 161 E | 70 | 39 |
| 12 17 | 20 51.49 | -12 1.9 | 2.191 | 1.681 | 25.3 | 21.4 | 47 E | 28* | 31* | 1 16 | 5 38.39 | +24 46.3 | 3.168 | 4.045 | 7.1 | 24.4 | 149 E | 70 | 39 |
| 12 27 | 21 15.87 | -10 10.3 | 2.218 | 1.644 | 24.1 | 21.3 | 43 E | 28* | 25* | 414800 2010 SV₃ | | | | | | | | | |
| 1 6 | 21 40.94 | -8 4.5 | 2.242 | 1.610 | 22.9 | 21.3 | 40 E | 27* | 21* | 12 7 | 6 16.51 | +33 0.1 | 1.242 | 2.192 | 9.2 | 23.6 | 159 W | 78 | 31 |
| 1 16 | 22 6.66 | -5 45.2 | 2.261 | 1.578 | 21.6 | 21.2 | 36 E | 26* | 17* | 12 12 | 6 7.20 | +33 19.2 | 1.213 | 2.179 | 6.7 | 23.4 | 165 W | 78 | 31 |
| 417655 2006 YF₁₃ | | | | | | | | | | 12 17 | 5 57.11 | +33 32.9 | 1.191 | 2.166 | 4.9 | 23.3 | 169 W | 79 | 30 |
| 11 27 | 20 5.56 | -23 49.3 | 0.477 | 0.802 | 97.7 | 21.3 | 54 E | 19* | 45* | 12 22 | 5 46.55 | +33 40.2 | 1.177 | 2.151 | 4.9 | 23.2 | 169 E | 79 | 30 |
| 11 29 | 20 22.65 | -23 55.7 | 0.467 | 0.818 | 96.4 | 21.3 | 55 E | 20* | 47* | 12 27 | 5 35.89 | +33 40.6 | 1.171 | 2.137 | 6.7 | 23.3 | 165 E | 79 | 30 |
| 12 1 | 20 40.01 | -23 56.1 | 0.459 | 0.833 | 95.0 | 21.2 | 57 E | 20* | 49* | 1 1 | 5 25.51 | +33 34.3 | 1.172 | 2.121 | 9.3 | 23.4 | 160 E | 79 | 30 |
| 12 3 | 20 57.52 | -23 49.9 | 0.453 | 0.849 | 93.4 | 21.1 | 59 E | 20* | 50* | 1 6 | 5 15.75 | +33 21.9 | 1.180 | 2.104 | 12.2 | 23.5 | 153 E | 78 | 31 |
| 12 5 | 21 15.08 | -23 37.1 | 0.449 | 0.864 | 91.7 | 21.1 | 61 E | 21* | 52* | 442253 2011 PR₁ | | | | | | | | | |
| 12 7 | 21 32.57 | -23 17.6 | 0.446 | 0.879 | 89.9 | 21.0 | 63 E | 22* | 54* | 12 | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|---|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|--------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|
| 442253 2011 PR ₁ (continuation) | | | | | | | | | | 481050 2005 GV ₃₂ | | | | | | | | | |
| 1 1 | 5 51.82 | +23 12.8 | 2.130 | 3.098 | 3.9 | 23.3 | 168 E | 68 | 41 | 12 7 | 6 47.00 | +14 26.3 | 1.361 | 2.280 | 11.6 | 21.5 | 152 W | 59 | 50 |
| 1 6 | 5 46.88 | +23 3.5 | 2.165 | 3.112 | 5.8 | 23.4 | 161 E | 68 | 41 | 12 17 | 6 38.67 | +14 7.0 | 1.276 | 2.237 | 7.3 | 21.1 | 163 W | 59 | 50 |
| 1 11 | 5 42.39 | +22 54.1 | 2.207 | 3.127 | 7.6 | 23.5 | 155 E | 68 | 41 | 12 27 | 6 28.10 | +13 57.3 | 1.217 | 2.193 | 4.2 | 20.8 | 171 W | 59 | 50 |
| 314082 Dryope | | | | | | | | | | 306587 2000 FL ₂₄ | | | | | | | | | |
| 12 7 | 6 22.02 | +12 57.6 | 2.485 | 3.415 | 6.4 | 22.6 | 157 W | 58 | 51 | 12 7 | 6 47.01 | +23 8.3 | 2.925 | 3.837 | 6.4 | 21.5 | 154 W | 68 | 41 |
| 12 17 | 6 11.64 | +13 13.0 | 2.430 | 3.397 | 3.7 | 22.4 | 167 W | 58 | 51 | 12 17 | 6 38.54 | +23 33.9 | 2.882 | 3.845 | 3.5 | 21.4 | 166 W | 69 | 40 |
| 12 27 | 6 0.52 | +13 34.8 | 2.407 | 3.377 | 3.2 | 22.4 | 169 E | 59 | 50 | 12 27 | 6 29.25 | +23 58.3 | 2.870 | 3.853 | 0.4 | 21.1 | 179 W | 69 | 40 |
| 1 6 | 5 49.57 | +14 2.1 | 2.417 | 3.356 | 5.9 | 22.5 | 160 E | 59 | 50 | 1 6 | 6 19.88 | +24 20.2 | 2.891 | 3.861 | 2.8 | 21.3 | 169 E | 69 | 40 |
| 1 16 | 5 39.68 | +14 33.9 | 2.458 | 3.334 | 9.0 | 22.7 | 148 E | 60 | 49 | 1 16 | 6 11.17 | +24 38.7 | 2.944 | 3.867 | 5.8 | 21.5 | 157 E | 70 | 39 |
| 430440 2000 OH | | | | | | | | | | 235124 2003 QS ₃₃ | | | | | | | | | |
| 12 7 | 6 22.22 | +29 35.3 | 2.831 | 3.769 | 5.3 | 23.1 | 159 W | 75 | 34 | 12 7 | 6 47.32 | +25 23.5 | 2.354 | 3.269 | 7.5 | 21.8 | 154 W | 70 | 39 |
| 12 12 | 6 16.86 | +29 29.6 | 2.816 | 3.776 | 3.8 | 23.0 | 165 W | 74 | 35 | 12 17 | 6 37.89 | +25 31.6 | 2.300 | 3.265 | 4.0 | 21.5 | 166 W | 71 | 38 |
| 12 17 | 6 11.29 | +29 22.1 | 2.808 | 3.782 | 2.4 | 22.9 | 171 W | 74 | 35 | 12 27 | 6 27.35 | +25 36.4 | 2.277 | 3.259 | 0.7 | 21.3 | 178 W | 71 | 38 |
| 12 22 | 6 5.64 | +29 12.7 | 2.809 | 3.789 | 1.5 | 22.8 | 174 W | 74 | 35 | 12 27 | 6 27.35 | +25 36.4 | 2.277 | 3.259 | 0.7 | 21.3 | 178 W | 71 | 38 |
| 12 27 | 6 0.02 | +29 1.6 | 2.818 | 3.795 | 2.0 | 22.9 | 172 E | 74 | 35 | 1 6 | 6 16.69 | +25 36.5 | 2.285 | 3.253 | 3.6 | 21.5 | 168 E | 71 | 38 |
| 1 1 | 5 54.54 | +28 48.9 | 2.836 | 3.801 | 3.3 | 23.0 | 167 E | 74 | 35 | 1 16 | 6 6.91 | +25 32.0 | 2.324 | 3.246 | 7.2 | 21.7 | 156 E | 71 | 38 |
| 1 6 | 5 49.31 | +28 34.8 | 2.862 | 3.806 | 4.7 | 23.1 | 161 E | 74 | 35 | 257838 2000 JQ ₆₆ | | | | | | | | | |
| 1 11 | 5 44.41 | +28 19.5 | 2.895 | 3.812 | 6.2 | 23.2 | 155 E | 73 | 36 | 12 7 | 6 52.84 | +12 43.6 | 2.064 | 2.961 | 9.5 | 22.5 | 150 W | 58 | 51 |
| 455687 2005 EK ₉₄ | | | | | | | | | | 12 17 | 6 42.71 | +12 40.2 | 2.027 | 2.977 | 6.0 | 22.3 | 162 W | 58 | 51 |
| 12 7 | 6 24.32 | +18 2.7 | 1.944 | 2.884 | 7.2 | 23.6 | 159 W | 63 | 46 | 12 27 | 6 31.51 | +12 44.7 | 2.021 | 2.993 | 3.5 | 22.1 | 169 W | 58 | 51 |
| 12 17 | 6 12.18 | +18 33.3 | 1.895 | 2.871 | 3.1 | 23.3 | 171 W | 64 | 45 | 1 6 | 6 20.29 | +12 56.6 | 2.045 | 3.007 | 4.8 | 22.3 | 165 E | 58 | 51 |
| 12 27 | 5 59.04 | +19 6.5 | 1.878 | 2.856 | 2.4 | 23.2 | 173 E | 64 | 45 | 1 16 | 6 10.08 | +13 14.6 | 2.100 | 3.019 | 8.0 | 22.5 | 155 E | 58 | 51 |
| 1 6 | 5 46.16 | +19 40.3 | 1.893 | 2.840 | 6.5 | 23.4 | 161 E | 65 | 44 | 443668 2015 HX | | | | | | | | | |
| 1 16 | 5 34.78 | +20 13.5 | 1.938 | 2.822 | 10.6 | 23.7 | 148 E | 65 | 44 | 12 7 | 6 53.01 | +22 18.1 | 2.025 | 2.936 | 8.8 | 22.2 | 153 W | 67 | 42 |
| 6489 Golevka | | | | | | | | | | 12 17 | 6 43.15 | +22 46.7 | 1.982 | 2.944 | 4.9 | 21.9 | 165 W | 68 | 41 |
| 12 7 | 6 27.46 | +20 40.6 | 3.030 | 3.963 | 5.2 | 25.0 | 158 W | 66 | 43 | 12 27 | 6 31.98 | +23 14.8 | 1.969 | 2.952 | 0.6 | 21.6 | 178 W | 68 | 41 |
| 12 17 | 6 18.07 | +20 42.7 | 2.998 | 3.972 | 2.3 | 24.8 | 171 W | 66 | 43 | 1 6 | 6 20.65 | +23 39.9 | 1.986 | 2.958 | 3.6 | 21.9 | 169 E | 69 | 40 |
| 12 27 | 6 8.21 | +20 44.4 | 3.000 | 3.981 | 1.1 | 24.7 | 176 E | 66 | 43 | 1 16 | 6 10.29 | +24 0.7 | 2.034 | 2.963 | 7.6 | 22.1 | 157 E | 69 | 40 |
| 1 6 | 5 58.62 | +20 45.7 | 3.034 | 3.988 | 3.9 | 25.0 | 164 E | 66 | 43 | 154244 2002 KL ₆ | | | | | | | | | |
| 1 16 | 5 49.97 | +20 46.7 | 3.101 | 3.994 | 6.7 | 25.2 | 152 E | 66 | 43 | 12 7 | 6 54.99 | +18 40.9 | 1.947 | 2.853 | 9.4 | 21.8 | 152 W | 64 | 45 |
| 322713 2000 KD ₄₁ | | | | | | | | | | 12 17 | 6 43.39 | +18 46.1 | 1.938 | 2.898 | 5.3 | 21.7 | 164 W | 64 | 45 |
| 12 7 | 6 32.42 | +17 20.7 | 3.428 | 4.349 | 5.2 | 22.9 | 157 W | 62 | 47 | 12 27 | 6 30.94 | +18 53.1 | 1.959 | 2.941 | 1.6 | 21.5 | 175 W | 64 | 45 |
| 12 17 | 6 24.63 | +17 25.4 | 3.419 | 4.386 | 2.7 | 22.8 | 168 W | 62 | 47 | 1 6 | 6 18.84 | +19 0.8 | 2.013 | 2.982 | 3.9 | 21.8 | 168 E | 64 | 45 |
| 12 27 | 6 16.49 | +17 32.2 | 3.443 | 4.422 | 1.3 | 22.7 | 174 E | 63 | 46 | 1 16 | 6 8.17 | +19 8.7 | 2.098 | 3.022 | 7.7 | 22.1 | 156 E | 64 | 45 |
| 1 6 | 6 8.58 | +17 40.7 | 3.499 | 4.458 | 3.2 | 22.9 | 165 E | 63 | 46 | 218082 2002 GU ₁₁₈ | | | | | | | | | |
| 1 16 | 6 1.45 | +17 50.4 | 3.587 | 4.492 | 5.5 | 23.1 | 154 E | 63 | 46 | 12 7 | 6 54.99 | +25 6.5 | 2.009 | 2.919 | 9.0 | 21.3 | 153 W | 70 | 39 |
| 307378 2002 SF ₅₂ | | | | | | | | | | 12 12 | 6 50.10 | +25 19.3 | 1.983 | 2.922 | 7.0 | 21.2 | 159 W | 70 | 39 |
| 12 7 | 6 33.25 | +25 4.9 | 2.509 | 3.439 | 6.3 | 22.5 | 157 W | 70 | 39 | 12 17 | 6 44.73 | +25 31.6 | 1.963 | 2.925 | 5.0 | 21.1 | 165 W | 71 | 38 |
| 12 17 | 6 23.60 | +25 26.5 | 2.485 | 3.458 | 2.9 | 22.3 | 170 W | 70 | 39 | 12 22 | 6 39.02 | +25 43.0 | 1.951 | 2.927 | 3.0 | 21.0 | 171 W | 71 | 38 |
| 12 27 | 6 13.31 | +25 44.5 | 2.493 | 3.476 | 0.9 | 22.1 | 177 E | 71 | 38 | 12 27 | 6 33.09 | +25 53.2 | 1.947 | 2.929 | 1.1 | 20.8 | 177 W | 71 | 38 |
| 1 6 | 6 3.30 | +25 57.9 | 2.534 | 3.493 | 4.2 | 22.4 | 165 E | 71 | 38 | 1 1 | 6 27.12 | +26 1.9 | 1.951 | 2.931 | 1.7 | 20.9 | 175 E | 71 | 38 |
| 1 16 | 5 54.42 | +26 6.7 | 2.604 | 3.509 | 7.4 | 22.6 | 153 E | 71 | 38 | 1 6 | 6 21.25 | +26 8.9 | 1.962 | 2.933 | 3.7 | 21.1 | 169 E | 71 | 38 |
| 319591 2006 SU ₁₆₂ | | | | | | | | | | 1 11 | 6 15.62 | +26 14.4 | 1.981 | 2.934 | 5.8 | 21.2 | 163 E | 71 | 38 |
| 12 7 | 6 33.25 | +14 44.5 | 2.054 | 2.978 | 7.9 | 22.6 | 155 W | 60 | 49 | 1 16 | 6 10.40 | +26 18.2 | 2.008 | 2.935 | 7.7 | 21.3 | 156 E | 71 | 38 |
| 12 17 | 6 22.99 | +14 40.4 | 2.020 | 2.986 | 4.4 | 22.4 | 166 W | 60 | 49 | 370482 2003 QA ₂₇ | | | | | | | | | |
| 12 27 | 6 11.95 | +14 42.1 | 2.017 | 2.992 | 3.0 | 22.3 | 171 E | 60 | 49 | 12 7 | 6 56.92 | +20 33.5 | 1.553 | 2.465 | 10.9 | 21.6 | 152 W | 66 | 43 |
| 1 6 | 6 1.20 | +14 49.4 | 2.045 | 2.998 | 5.7 | 22.5 | 162 E | 60 | 49 | 12 17 | 6 46.31 | +20 37.7 | 1.525 | 2.487 | 6.2 | 21.4 | 164 W | 66 | 43 |
| 1 16 | 5 51.73 | +15 1.6 | 2.103 | 3.002 | 9.1 | 22.7 | 151 E | 60 | 49 | 12 27 | 6 34.28 | +20 43.2 | 1.526 | 2.508 | 1.4 | 21.1 | 176 W | 66 | 43 |
| 509073 2005 UM ₅ | | | | | | | | | | 1 6 | 6 22.28 | +20 48.3 | 1.555 | 2.528 | 4.1 | 21.3 | 169 E | 66 | 43 |
| 12 7 | 6 39.62 | +23 18.9 | 0.894 | 1.838 | 12.6 | 22.4 | 156 W | 68 | 41 | 1 16 | 6 11.71 | +20 52.7 | 1.614 | 2.548 | 8.7 | 21.7 | 157 E | 66 | 43 |
| 12 12 | 6 28.89 | +23 37.6 | 0.862 | 1.828 | 8.8 | 22.2 | 164 W | 69 | 40 | 229007 2003 XF ₁₁ | | | | | | | | | |
| 12 17 | 6 16.82 | +23 54.6 | 0.837 | 1.816 | 4.7 | 21.9 | 171 W | 69 | 40 | 12 7 | 7 0.03 | +18 46.4 | 2.603 | 3.495 | 8.0 | 22.4 | 151 W | 64 | 45 |
| 12 22 | 6 3.78 | +24 8.5 | 0.820 | 1.803 | 0.5 | 21.5 | 179 W | 69 | 40 | 12 17 | 6 48.12 | +19 4.9 | 2.584 | 3.539 | 4.6 | 22.2 | 163 W | 64 | 45 |
| 12 27 | 5 50.25 | +24 18.1 | 0.810 | 1.789 | 4.2 | 21.8 | 172 E | 69 | 40 | 12 27 | 6 35.39 | +19 23.7 | 2.599 | 3.580 | 1.3 | 22.0 | 175 W | 64 | 45 |
| 1 1 | 5 36.76 | +24 23.0 | 0.808 | 1.774 | 8.7 | 22.0 | 164 E | 69 | 40 | 1 6 | 6 22.80 | +19 41.6 | 2.649 | 3.619 | 2.9 | 22.2 | 169 E | 65 | 44 |
| 1 6 | 5 23.83 | +24 23.3 | 0.813 | 1.758 | 13.1 | 22.1 | 156 E | 69 | 40 | 1 16 | 6 11.25 | +19 57.7 | 2.733 | 3.657 | 6.1 | 22.5 | 157 E | 65 | 44 |
| 1 11 | 5 11.93 | +24 20.1 | 0.824 | 1.740 | 17.3 | 22.3 | 148 E | 69 | 40 | 477326 2009 TQ ₇ | | | | | | | | | |
| 1 16 | 5 1.44 | +24 14.5 | 0.842 | 1.721 | 21.1 | 22.4 | 141 E | 69 | 40 | 12 7 | 7 0.09 | +7 55.7 | 1.705 | 2.585 | 12.1 | 21.8 | 147 W | 53 | 56 |
| 494677 2003 SJ ₁₁₁ | | | | | | | | | | 12 17 | 6 50.37 | +7 26.9 | 1.680 | 2.613 | 8.6 | 21.6 | 157 W | 52 | 57 |
| 12 7 | 6 40.78 | +12 50.2 | 1.728 | 2.645 | 9.7 | 22.3 | 153 W | 58 | 51 | 12 27 | 6 39.41 | +7 13.4 | 1.682 | 2.639 | 6.1 | 21.5 | 163 W | 52 | 57 |
| 12 17 | 6 30.47 | +12 42.8 | 1.699 | 2.659 | 5.9 | 22.1 | 164 W | 58 | 51 | 1 6 | 6 28.43 | +7 15.2 | 1.712 | 2.665 | 6.5 | 21.6 | 162 E | 52 | 57 |
| 12 27 | 6 19.18 | +12 44.8 | 1.699 | 2.672 | 3.9 | 22.0 | 169 E | 58 | 51 | 1 16 | 6 18.58 | +7 31.0 | 1.772 | 2.690 | 9.3 | 21.8 | 154 E | 53 | 56 |
| 1 6 | 6 8.14 | +12 55.6 | 1.729 | | | | | | | | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | | | | | | | | | | |
|------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|--|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|-------|---------|----------|-------|-------|------|------|-------|----|----|
| 462736 2010 BL₂ | | | | | | | | | | 457663 2009 DN₁ (continuation) | | | | | | | | | | | | | | | | | | | |
| 12 7 | 7 1.19 | +33 5.3 | 2.856 | 3.744 | 7.5 | 22.1 | 150 W | 78 | 31 | 1 1 | 6 23.85 | +24 9.6 | 0.690 | 1.672 | 3.0 | 20.9 | 175 E | 69 | 40 | 1 6 | 6 13.15 | +23 33.6 | 0.684 | 1.657 | 7.4 | 21.1 | 167 E | 69 | 40 |
| 12 12 | 6 54.70 | +33 42.8 | 2.836 | 3.757 | 6.1 | 22.0 | 156 W | 79 | 30 | 1 11 | 6 2.91 | +22 54.4 | 0.683 | 1.642 | 11.8 | 21.3 | 160 E | 68 | 41 | 1 16 | 5 53.57 | +22 13.3 | 0.688 | 1.626 | 16.1 | 21.4 | 153 E | 67 | 42 |
| 12 17 | 6 47.77 | +34 18.0 | 2.824 | 3.770 | 4.8 | 21.9 | 161 W | 79 | 30 | | | | | | | | | | | | | | | | | | | | |
| 12 22 | 6 40.50 | +34 50.4 | 2.821 | 3.782 | 3.7 | 21.9 | 166 W | 80 | 29 | | | | | | | | | | | | | | | | | | | | |
| 12 27 | 6 33.03 | +35 19.4 | 2.827 | 3.794 | 3.1 | 21.9 | 168 W | 80 | 29 | | | | | | | | | | | | | | | | | | | | |
| 1 1 | 6 25.52 | +35 44.5 | 2.842 | 3.806 | 3.4 | 21.9 | 167 E | 81 | 28 | | | | | | | | | | | | | | | | | | | | |
| 1 6 | 6 18.09 | +36 5.6 | 2.867 | 3.817 | 4.4 | 22.0 | 163 E | 81 | 28 | | | | | | | | | | | | | | | | | | | | |
| 1 11 | 6 10.90 | +36 22.7 | 2.900 | 3.827 | 5.6 | 22.1 | 158 E | 81 | 28 | | | | | | | | | | | | | | | | | | | | |
| 1 16 | 6 4.06 | +36 35.9 | 2.941 | 3.838 | 6.9 | 22.2 | 152 E | 82 | 27 | | | | | | | | | | | | | | | | | | | | |
| 317766 2003 SD₉₆ | | | | | | | | | | 496326 2013 LB₁ | | | | | | | | | | | | | | | | | | | |
| 12 7 | 7 2.36 | +25 37.0 | 1.787 | 2.691 | 10.3 | 21.7 | 151 W | 71 | 38 | 12 7 | 7 13.63 | + 9 50.9 | 1.633 | 2.502 | 13.2 | 21.2 | 145 W | 55 | 54 | 12 17 | 7 3.24 | + 7 38.7 | 1.518 | 2.443 | 10.0 | 20.9 | 154 W | 53 | 56 |
| 12 12 | 6 57.49 | +25 45.8 | 1.761 | 2.695 | 8.2 | 21.6 | 157 W | 71 | 38 | 12 27 | 6 50.01 | + 5 25.8 | 1.432 | 2.383 | 7.7 | 20.6 | 161 W | 50 | 59 | 1 6 | 6 35.03 | + 3 19.7 | 1.377 | 2.323 | 8.6 | 20.5 | 159 E | 48 | 61 |
| 12 17 | 6 52.07 | +25 54.0 | 1.741 | 2.699 | 6.0 | 21.4 | 163 W | 71 | 38 | 1 16 | 6 19.86 | + 1 29.0 | 1.353 | 2.261 | 12.4 | 20.6 | 150 E | 46 | 63 | | | | | | | | | | |
| 12 22 | 6 46.23 | +26 1.2 | 1.729 | 2.702 | 3.8 | 21.3 | 169 W | 71 | 38 | | | | | | | | | | | | | | | | | | | | |
| 12 27 | 6 40.14 | +26 7.0 | 1.725 | 2.706 | 1.7 | 21.2 | 175 W | 71 | 38 | | | | | | | | | | | | | | | | | | | | |
| 1 1 | 6 33.96 | +26 11.1 | 1.727 | 2.709 | 1.5 | 21.1 | 176 E | 71 | 38 | | | | | | | | | | | | | | | | | | | | |
| 1 6 | 6 27.87 | +26 13.4 | 1.738 | 2.712 | 3.5 | 21.3 | 170 E | 71 | 38 | | | | | | | | | | | | | | | | | | | | |
| 1 11 | 6 22.04 | +26 13.9 | 1.751 | 2.715 | 5.7 | 21.4 | 164 E | 71 | 38 | | | | | | | | | | | | | | | | | | | | |
| 1 16 | 6 16.64 | +26 12.8 | 1.781 | 2.717 | 7.9 | 21.6 | 158 E | 71 | 38 | | | | | | | | | | | | | | | | | | | | |
| 505001 2011 KO₁₅ | | | | | | | | | | 478422 2012 GG₅ | | | | | | | | | | | | | | | | | | | |
| 12 7 | 7 4.11 | +11 23.9 | 2.363 | 3.236 | 9.5 | 21.7 | 147 W | 56 | 53 | 12 7 | 7 14.49 | +16 30.1 | 2.004 | 2.879 | 10.8 | 22.5 | 147 W | 62 | 47 | 12 17 | 7 5.47 | +16 17.9 | 1.941 | 2.879 | 7.2 | 22.3 | 159 W | 61 | 48 |
| 12 12 | 6 55.69 | +10 26.4 | 2.257 | 3.189 | 6.7 | 21.5 | 158 W | 55 | 54 | 12 27 | 6 54.75 | +16 10.9 | 1.905 | 2.878 | 3.5 | 22.0 | 170 W | 61 | 48 | 1 6 | 6 43.38 | +16 8.2 | 1.901 | 2.877 | 2.9 | 22.0 | 171 E | 61 | 48 |
| 12 17 | 6 45.67 | + 9 33.9 | 2.181 | 3.142 | 4.6 | 21.3 | 165 W | 55 | 54 | 1 16 | 6 32.47 | +16 9.3 | 1.927 | 2.874 | 6.5 | 22.2 | 161 E | 61 | 48 | | | | | | | | | | |
| 1 6 | 6 34.85 | + 8 48.5 | 2.136 | 3.094 | 5.0 | 21.2 | 164 E | 54 | 55 | | | | | | | | | | | | | | | | | | | | |
| 1 16 | 6 24.19 | + 8 12.2 | 2.122 | 3.044 | 7.7 | 21.3 | 155 E | 53 | 56 | | | | | | | | | | | | | | | | | | | | |
| 216652 2003 UG₁₅ | | | | | | | | | | 369499 2010 VY₁₆ | | | | | | | | | | | | | | | | | | | |
| 12 7 | 7 6.56 | +33 41.3 | 1.857 | 2.750 | 10.6 | 21.7 | 149 W | 79 | 30 | 12 7 | 7 15.26 | +25 11.2 | 1.387 | 2.283 | 13.2 | 21.5 | 148 W | 70 | 39 | 12 12 | 7 10.32 | +25 14.7 | 1.369 | 2.295 | 10.8 | 21.4 | 154 W | 70 | 39 |
| 12 12 | 7 1.52 | +34 1.9 | 1.829 | 2.751 | 8.8 | 21.6 | 155 W | 79 | 30 | 12 17 | 7 4.69 | +25 17.8 | 1.357 | 2.308 | 8.2 | 21.3 | 160 W | 70 | 39 | 12 22 | 6 58.53 | +25 20.0 | 1.352 | 2.321 | 5.5 | 21.1 | 167 W | 70 | 39 |
| 12 17 | 6 55.85 | +34 20.4 | 1.807 | 2.752 | 7.0 | 21.5 | 160 W | 79 | 30 | 12 27 | 6 52.07 | +25 20.7 | 1.353 | 2.333 | 2.9 | 21.0 | 173 W | 70 | 39 | 1 1 | 6 45.51 | +25 19.8 | 1.362 | 2.345 | 1.0 | 20.9 | 178 E | 70 | 39 |
| 12 22 | 6 49.68 | +34 35.9 | 1.792 | 2.753 | 5.4 | 21.4 | 165 W | 80 | 29 | 1 6 | 6 39.07 | +25 17.2 | 1.378 | 2.357 | 3.0 | 21.1 | 173 E | 70 | 39 | 1 11 | 6 32.95 | +25 12.8 | 1.401 | 2.369 | 5.5 | 21.3 | 167 E | 70 | 39 |
| 12 27 | 6 43.18 | +34 47.8 | 1.784 | 2.753 | 4.3 | 21.3 | 168 W | 80 | 29 | 1 16 | 6 27.35 | +25 7.0 | 1.431 | 2.380 | 8.0 | 21.4 | 160 E | 70 | 39 | | | | | | | | | | |
| 1 1 | 6 36.55 | +34 55.6 | 1.784 | 2.754 | 4.3 | 21.3 | 168 E | 80 | 29 | | | | | | | | | | | | | | | | | | | | |
| 1 6 | 6 29.96 | +34 59.2 | 1.792 | 2.754 | 5.3 | 21.4 | 165 E | 80 | 29 | | | | | | | | | | | | | | | | | | | | |
| 1 11 | 6 23.62 | +34 58.6 | 1.807 | 2.753 | 6.8 | 21.5 | 161 E | 80 | 29 | | | | | | | | | | | | | | | | | | | | |
| 1 16 | 6 17.70 | +34 54.0 | 1.829 | 2.753 | 8.6 | 21.6 | 155 E | 80 | 29 | | | | | | | | | | | | | | | | | | | | |
| 243147 2007 TX₁₈ | | | | | | | | | | 380431 2003 QC₅₇ | | | | | | | | | | | | | | | | | | | |
| 12 7 | 7 6.83 | +24 15.0 | 1.941 | 2.836 | 10.1 | 21.6 | 150 W | 69 | 40 | 12 7 | 7 16.83 | +16 32.6 | 1.769 | 2.644 | 12.0 | 22.1 | 146 W | 62 | 47 | 12 17 | 7 7.56 | +16 48.5 | 1.724 | 2.663 | 7.9 | 21.9 | 158 W | 62 | 47 |
| 12 12 | 7 1.54 | +24 15.4 | 1.919 | 2.847 | 8.1 | 21.5 | 156 W | 69 | 40 | 12 27 | 6 56.51 | +17 10.9 | 1.707 | 2.681 | 3.6 | 21.6 | 170 W | 62 | 47 | 1 6 | 6 44.86 | +17 37.2 | 1.719 | 2.697 | 2.6 | 21.6 | 173 E | 63 | 46 |
| 12 17 | 6 55.76 | +24 15.3 | 1.904 | 2.858 | 6.0 | 21.3 | 162 W | 69 | 40 | 1 16 | 6 33.86 | +18 5.4 | 1.762 | 2.713 | 6.6 | 21.9 | 162 E | 63 | 46 | | | | | | | | | | |
| 12 22 | 6 49.62 | +24 14.3 | 1.897 | 2.869 | 3.8 | 21.2 | 169 W | 69 | 40 | | | | | | | | | | | | | | | | | | | | |
| 12 27 | 6 43.27 | +24 12.3 | 1.898 | 2.879 | 1.6 | 21.1 | 175 W | 69 | 40 | | | | | | | | | | | | | | | | | | | | |
| 1 1 | 6 36.89 | +24 9.1 | 1.906 | 2.889 | 0.8 | 21.0 | 178 E | 69 | 40 | | | | | | | | | | | | | | | | | | | | |
| 1 6 | 6 30.62 | +24 4.8 | 1.922 | 2.898 | 2.9 | 21.2 | 171 E | 69 | 40 | | | | | | | | | | | | | | | | | | | | |
| 1 11 | 6 24.63 | +23 59.3 | 1.946 | 2.907 | 5.0 | 21.4 | 165 E | 69 | 40 | | | | | | | | | | | | | | | | | | | | |
| 1 16 | 6 19.06 | +23 52.9 | 1.978 | 2.916 | 7.1 | 21.5 | 159 E | 69 | 40 | | | | | | | | | | | | | | | | | | | | |
| 335283 2005 OJ₉ | | | | | | | | | | 377971 2006 LW₆ | | | | | | | | | | | | | | | | | | | |
| 12 7 | 7 8.24 | +30 56.8 | 2.090 | 2.980 | 9.7 | 22.0 | 149 W | 76 | 33 | 12 7 | 7 16.93 | +17 9.3 | 1.835 | 2.711 | 11.6 | 22.3 | 146 W | 62 | 47 | 12 17 | 7 7.62 | +17 23.3 | 1.791 | 2.730 | 7.6 | 22.1 | 158 W | 62 | 47 |
| 12 12 | 7 3.39 | +31 3.5 | 2.060 | 2.982 | 8.0 | 21.9 | 155 W | 76 | 33 | 12 27 | 6 56.59 | +17 42.9 | 1.774 | 2.749 | 3.4 | 21.9 | 170 W | 63 | 46 | 1 6 | 6 45.00 | +18 5.7 | 1.787 | 2.766 | 2.5 | 21.8 | 173 E | 63 | 46 |
| 12 17 | 6 58.00 | +31 8.5 | 2.037 | 2.984 | 6.2 | 21.8 | 161 W | 76 | 33 | 1 16 | 6 34.04 | +18 29.6 | 1.831 | 2.782 | 6.4 | 22.1 | 162 E | 63 | 46 | | | | | | | | | | |
| 12 22 | 6 52.20 | +31 11.3 | 2.022 | 2.987 | 4.5 | 21.7 | 166 W | 76 | 33 | | | | | | | | | | | | | | | | | | | | |
| 12 27 | 6 46.13 | +31 11.5 | 2.014 | 2.988 | 3.1 | 21.6 | 171 W | 76 | 33 | | | | | | | | | | | | | | | | | | | | |
| 1 1 | 6 39.95 | +31 9.0 | 2.014 | 2.990 | 2.7 | 21.6 | 172 E | 76 | 33 | | | | | | | | | | | | | | | | | | | | |
| 1 6 | 6 33.83 | +31 3.7 | 2.021 | 2.991 | 3.7 | 21.7 | 169 E | 76 | 33 | | | | | | | | | | | | | | | | | | | | |
| 1 11 | 6 27.92 | +30 55.5 | 2.036 | 2.992 | 5.3 | 21.8 | 164 E | 76 | 33 | | | | | | | | | | | | | | | | | | | | |
| 1 16 | 6 22.36 | +30 44.9 | 2.059 | 2.993 | 7.1 | 21.9 | 158 E | 76 | 33 | | | | | | | | | | | | | | | | | | | | |
| 434052 2001 UP₁₇ | | | | | | | | | | 327745 2006 TD₂₉ | | | | | | | | | | | | | | | | | | | |
| 12 7 | 7 8.37 | + 8 45.9 | 2.272 | 3.131 | 10.3 | 22.2 | 145 W | 54 | 55 | 12 7 | 7 17.13 | +24 39.9 | 1.703 | 2.588 | 11.8 | 21.6 | 147 W | 70 | 39 | 12 12 | 7 12.52 | +24 53.0 | 1.680 | 2.599 | 9.7 | 21.5 | 154 W | 70 | 39 |
| 12 12 | 6 59.33 | + 8 25.6 | 2.234 | 3.157 | 7.4 | 22.1 | 156 W | 53 | 56 | 12 17 | 7 7.31 | +25 6.2 | 1.665 | 2.610 | 7.5 | 21.4 | 160 W | 70 | 39 | 12 22 | 7 1.61 | +25 18.7 | 1.656 | 2.621 | 5.2 | 21.3 | 166 W | 70 | 39 |
| 12 17 | 6 49.14 | + 8 16.1 | 2.226 | 3.182 | 5.0 | 22.0 | 164 W | 53 | 56 | 12 27 | 6 55.60 | +25 30.2 | 1.654 | 2.632 | 2.8 | 21.2 | 172 W | 71 | 38 | 1 1 | 6 49.45 | +25 40.2 | 1.660 | 2.642 | 1.0 | 21.1 | 177 W | 71 | 38 |
| 1 6 | 6 38.71 | + 8 17.5 | 2.248 | 3.205 | 4.8 | 22.0 | 164 E | 53 | 56 | 1 6 | 6 43.33 | +25 48.4 | 1.673 | 2.652 | 2.4 | 21.2 | 174 E | 71 | 38 | 1 11 | 6 37.42 | +25 54.7 | 1.694 | 2.662 | 4.6 | 21.4 | 167 E | 71 | 38 |
| 1 16 | 6 28.95 | + 8 28.9 | 2.301 | 3.227 | 7.0 | 22.2 | 157 E | 53 | 56 | 1 16 | 6 31.90 | +25 59.2 | 1.722 | 2.672 | 6.8 | 21.5 | 161 E | 71 | 38 | | | | | | | | | | |
| 437975 2003 RW₇ | | | | | | | | | | 470070 2006 SD₂₈₁ | | | | | | | | | | | | | | | | | | | |
| 12 7 | 7 8.42 | -14 20.7 | 2.536 | 3.265 | 13.2 | 21.8 | 131 W | 31 | 78 | 12 7 | 7 18.72 | +24 7.9 | 1.635 | 2.519 | 12.3 | 21.4 | 147 W | 69 | 40 | 12 12 | 7 14.10 | +24 29.1 | 1.615 | 2.533 | 10.1 | 21.3 | 153 W | 69 | 40 |
| 12 12 | 7 0.27 | -15 8.2 | 2.505 | 3.291 | 11.8 | 21.7 | 137 W | 30 | 79 | 12 17 | 7 8.83 | +24 50.4 | 1.601 | 2.546 | 7.8 | 21.2 | 160 W | 70 | 39 | 12 22 | 7 7.31 | +25 11.3 | 1.594 | 2.560 | 5.4 | 21.1 | 166 W | 70 | 39 |
| 12 17 | 6 51.06 | -15 30.4 | 2.497 | 3.316 | 10.9 | 21.7 | 141 W | 29 | 80 | 12 27 | 6 56.9 | | | | | | | | | | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° - 26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° - 26° |
|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-------------------------|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-------------------------|
| 469446 2002 NL₈ | | | | | | | | | 423022 2003 TJ₂ | | | | | | | | |
| 12 7 | 7 19.67 | +22 47.6 | 1.678 | 2.560 | 12.2 | 21.7 | 147 W | 68 41 | 12 7 | 8 7.83 | +49 52.8 | 1.112 | 1.928 | 21.7 | 21.6 | 134 W | 85 14 |
| 12 17 | 7 9.35 | +22 42.4 | 1.647 | 2.591 | 7.7 | 21.5 | 159 W | 68 41 | 12 12 | 7 58.65 | +50 50.0 | 1.084 | 1.933 | 19.8 | 21.5 | 138 W | 84 13 |
| 12 27 | 6 57.31 | +22 36.4 | 1.644 | 2.621 | 2.9 | 21.3 | 172 W | 68 41 | 12 17 | 7 47.28 | +51 40.1 | 1.061 | 1.937 | 18.0 | 21.4 | 143 W | 83 12 |
| 1 6 | 6 44.87 | +22 28.0 | 1.670 | 2.651 | 1.9 | 21.3 | 175 E | 67 42 | 12 22 | 7 33.91 | +52 19.1 | 1.044 | 1.940 | 16.4 | 21.3 | 146 W | 83 12 |
| 1 16 | 6 33.43 | +22 17.0 | 1.726 | 2.679 | 6.5 | 21.6 | 162 E | 67 42 | 12 27 | 7 18.98 | +52 43.3 | 1.033 | 1.942 | 15.2 | 21.3 | 149 W | 82 11 |
| | | | | | | | | | 1 1 | 7 3.12 | +52 49.9 | 1.028 | 1.943 | 14.7 | 21.2 | 150 W | 82 11 |
| | | | | | | | | | 1 6 | 6 47.07 | +52 37.5 | 1.030 | 1.943 | 14.8 | 21.2 | 150 E | 82 11 |
| | | | | | | | | | 1 11 | 6 31.62 | +52 6.5 | 1.039 | 1.943 | 15.7 | 21.3 | 148 E | 83 12 |
| | | | | | | | | | 1 16 | 6 17.48 | +51 18.7 | 1.053 | 1.941 | 17.1 | 21.4 | 145 E | 84 13 |
| 435159 2007 LQ₁₉ | | | | | | | | | 380472 2003 WR₂₄ | | | | | | | | |
| 12 7 | 7 20.51 | +16 54.6 | 2.158 | 3.021 | 10.7 | 21.8 | 145 W | 62 47 | 12 7 | 8 12.65 | +14 39.3 | 2.082 | 2.844 | 14.7 | 21.4 | 133 W | 60 49 |
| 12 17 | 7 10.06 | +17 39.1 | 2.142 | 3.076 | 6.9 | 21.7 | 158 W | 63 46 | 12 17 | 8 6.22 | +14 27.2 | 2.000 | 2.857 | 11.6 | 21.2 | 144 W | 59 50 |
| 12 27 | 6 58.35 | +18 27.1 | 2.156 | 3.130 | 3.0 | 21.5 | 171 W | 63 46 | 12 27 | 7 57.38 | +14 23.6 | 1.942 | 2.869 | 8.0 | 21.0 | 156 W | 59 50 |
| 1 6 | 6 46.40 | +19 15.0 | 2.203 | 3.182 | 1.8 | 21.6 | 174 E | 64 45 | 1 6 | 7 46.81 | +14 27.4 | 1.911 | 2.880 | 4.2 | 20.8 | 168 W | 59 50 |
| 1 16 | 6 35.27 | +20 0.3 | 2.282 | 3.233 | 5.3 | 21.9 | 162 E | 65 44 | 1 16 | 7 35.47 | +14 36.9 | 1.911 | 2.889 | 2.5 | 20.7 | 173 E | 60 49 |
| 481063 2005 OC₃ | | | | | | | | | 257851 2000 OA₁₃ | | | | | | | | |
| 12 7 | 7 23.14 | +23 47.7 | 1.881 | 2.754 | 11.5 | 22.0 | 146 W | 69 40 | 12 7 | 8 16.57 | +18 42.8 | 1.681 | 2.460 | 17.1 | 21.4 | 133 W | 64 45 |
| 12 17 | 7 13.60 | +24 36.1 | 1.845 | 2.784 | 7.5 | 21.8 | 158 W | 70 39 | 12 17 | 8 10.78 | +19 12.3 | 1.613 | 2.481 | 13.3 | 21.2 | 145 W | 64 45 |
| 12 27 | 7 2.23 | +25 23.5 | 1.837 | 2.812 | 3.2 | 21.6 | 171 W | 70 39 | 12 27 | 8 2.00 | +19 51.4 | 1.567 | 2.501 | 8.9 | 21.0 | 157 W | 65 44 |
| 1 6 | 6 50.19 | +26 5.5 | 1.859 | 2.840 | 1.8 | 21.5 | 175 E | 71 38 | 1 6 | 7 51.05 | +20 35.6 | 1.547 | 2.520 | 4.0 | 20.7 | 170 W | 66 43 |
| 1 16 | 6 38.77 | +26 39.0 | 1.913 | 2.866 | 5.9 | 21.9 | 163 E | 72 37 | 1 16 | 7 39.10 | +21 19.9 | 1.556 | 2.539 | 1.1 | 20.5 | 177 E | 66 43 |
| 446889 2002 JW₈₂ | | | | | | | | | 136617 1994 CC | | | | | | | | |
| 12 7 | 7 26.47 | +50 50.4 | 2.546 | 3.355 | 11.0 | 22.2 | 139 W | 84 13 | 12 7 | 8 19.80 | +17 33.5 | 1.524 | 2.301 | 18.6 | 21.4 | 132 W | 63 46 |
| 12 12 | 7 21.03 | +51 38.6 | 2.526 | 3.364 | 10.2 | 22.2 | 143 W | 83 12 | 12 17 | 8 11.57 | +17 36.3 | 1.440 | 2.310 | 14.5 | 21.1 | 144 W | 63 46 |
| 12 17 | 7 14.80 | +52 22.5 | 2.513 | 3.372 | 9.5 | 22.2 | 146 W | 83 12 | 12 27 | 7 59.67 | +17 48.6 | 1.379 | 2.316 | 9.6 | 20.9 | 157 W | 63 46 |
| 12 22 | 7 7.90 | +53 1.1 | 2.507 | 3.380 | 8.9 | 22.1 | 148 W | 82 11 | 1 6 | 7 45.01 | +18 6.8 | 1.344 | 2.319 | 4.1 | 20.5 | 170 W | 63 46 |
| 12 27 | 7 0.50 | +53 33.4 | 2.507 | 3.388 | 8.6 | 22.1 | 149 W | 81 10 | 1 16 | 7 29.09 | +18 26.9 | 1.340 | 2.321 | 2.4 | 20.4 | 174 E | 63 46 |
| 1 1 | 6 52.78 | +53 58.8 | 2.515 | 3.396 | 8.6 | 22.1 | 149 W | 81 10 | | | | | | | | | |
| 1 6 | 6 44.96 | +54 16.9 | 2.529 | 3.403 | 8.8 | 22.2 | 148 E | 81 10 | | | | | | | | | |
| 1 11 | 6 37.27 | +54 27.6 | 2.551 | 3.410 | 9.3 | 22.2 | 146 E | 81 10 | | | | | | | | | |
| 1 16 | 6 29.91 | +54 31.2 | 2.579 | 3.418 | 9.9 | 22.3 | 143 E | 80 9 | | | | | | | | | |
| 319458 2006 LY₄ | | | | | | | | | 137206 1999 LJ₂₅ | | | | | | | | |
| 12 7 | 7 27.00 | +14 39.5 | 1.936 | 2.788 | 12.2 | 22.2 | 143 W | 60 49 | 12 7 | 8 45.39 | +19 43.4 | 2.117 | 2.817 | 16.3 | 21.4 | 127 W | 65 44 |
| 12 17 | 7 18.67 | +14 42.9 | 1.872 | 2.795 | 8.6 | 22.0 | 155 W | 60 49 | 12 17 | 8 41.73 | +20 21.2 | 2.017 | 2.823 | 13.6 | 21.2 | 138 W | 65 44 |
| 12 27 | 7 8.42 | +14 54.4 | 1.834 | 2.800 | 4.7 | 21.8 | 166 W | 60 49 | 12 27 | 8 35.25 | +21 9.6 | 1.937 | 2.829 | 10.2 | 20.9 | 150 W | 66 43 |
| 1 6 | 6 57.22 | +15 12.5 | 1.827 | 2.804 | 2.7 | 21.6 | 172 E | 60 49 | 1 6 | 8 26.32 | +22 4.9 | 1.882 | 2.833 | 6.2 | 20.7 | 162 W | 67 42 |
| 1 16 | 6 46.22 | +15 35.4 | 1.850 | 2.808 | 5.6 | 21.8 | 164 E | 61 48 | 1 16 | 8 15.64 | +23 2.0 | 1.856 | 2.836 | 2.1 | 20.5 | 174 W | 68 41 |
| 380091 2013 SH₅₇ | | | | | | | | | 207020 2004 VX₁₄ | | | | | | | | |
| 12 7 | 7 29.74 | +17 37.3 | 1.430 | 2.298 | 14.8 | 21.4 | 143 W | 63 46 | 12 7 | 8 45.87 | +21 19.7 | 1.905 | 2.617 | 17.5 | 21.3 | 127 W | 66 43 |
| 12 17 | 7 20.39 | +17 19.9 | 1.393 | 2.325 | 10.1 | 21.2 | 156 W | 62 47 | 12 17 | 8 41.80 | +21 31.1 | 1.806 | 2.621 | 14.6 | 21.1 | 138 W | 67 42 |
| 12 27 | 7 8.83 | +17 9.0 | 1.382 | 2.352 | 5.1 | 21.0 | 168 W | 62 47 | 12 27 | 8 34.57 | +21 50.6 | 1.728 | 2.624 | 10.9 | 20.9 | 150 W | 67 42 |
| 1 6 | 6 56.46 | +17 3.4 | 1.398 | 2.378 | 2.5 | 20.9 | 174 E | 62 47 | 1 6 | 8 24.62 | +22 14.7 | 1.673 | 2.627 | 6.6 | 20.6 | 162 W | 67 42 |
| 1 16 | 6 44.82 | +17 1.9 | 1.443 | 2.404 | 6.5 | 21.2 | 164 E | 62 47 | 1 16 | 8 12.77 | +22 38.6 | 1.647 | 2.628 | 2.0 | 20.3 | 175 W | 68 41 |
| 334469 2002 PO₁₅₂ | | | | | | | | | 26209 1997 RD₁ | | | | | | | | |
| 12 7 | 7 31.80 | +16 47.9 | 1.875 | 2.725 | 12.6 | 22.2 | 143 W | 62 47 | 12 7 | 9 11.27 | + 4 1.5 | 2.903 | 3.444 | 15.0 | 21.4 | 115 W | 49 60 |
| 12 17 | 7 24.26 | +17 4.9 | 1.790 | 2.712 | 9.0 | 21.9 | 155 W | 62 47 | 12 17 | 9 8.92 | + 3 55.2 | 2.797 | 3.466 | 13.3 | 21.3 | 126 W | 49 60 |
| 12 27 | 7 14.42 | +17 29.9 | 1.732 | 2.699 | 4.8 | 21.7 | 167 W | 62 47 | 12 27 | 9 4.55 | + 4 1.8 | 2.706 | 3.487 | 11.2 | 21.2 | 137 W | 49 60 |
| 1 6 | 7 3.21 | +18 0.3 | 1.703 | 2.684 | 1.7 | 21.4 | 175 E | 63 46 | 1 6 | 8 58.38 | + 4 22.2 | 2.637 | 3.507 | 8.6 | 21.0 | 148 W | 49 60 |
| 1 16 | 6 51.80 | +18 33.4 | 1.703 | 2.668 | 5.2 | 21.6 | 166 E | 64 45 | 1 16 | 8 50.80 | + 4 55.8 | 2.593 | 3.526 | 5.9 | 20.9 | 158 W | 50 59 |
| 393410 2001 KH₁ | | | | | | | | | 514041 2014 MQ₁₈ | | | | | | | | |
| 12 7 | 7 33.68 | +34 58.4 | 2.728 | 3.568 | 9.5 | 22.5 | 143 W | 80 29 | 12 7 | 9 20.62 | +55 44.5 | 3.008 | 3.625 | 13.4 | 21.5 | 122 W | 79 8 |
| 12 12 | 7 29.81 | +35 26.5 | 2.698 | 3.576 | 8.2 | 22.4 | 149 W | 80 29 | 12 12 | 9 17.02 | +56 23.7 | 2.985 | 3.647 | 12.7 | 21.4 | 126 W | 79 8 |
| 12 17 | 7 25.41 | +35 53.5 | 2.674 | 3.583 | 7.0 | 22.3 | 154 W | 81 28 | 12 17 | 9 12.40 | +57 1.4 | 2.967 | 3.668 | 12.0 | 21.4 | 129 W | 78 7 |
| 12 22 | 7 20.57 | +36 18.6 | 2.657 | 3.591 | 5.7 | 22.3 | 159 W | 81 28 | 12 22 | 9 6.77 | +57 36.7 | 2.953 | 3.689 | 11.3 | 21.4 | 132 W | 77 6 |
| 12 27 | 7 15.38 | +36 41.4 | 2.648 | 3.598 | 4.7 | 22.2 | 163 W | 82 27 | 12 27 | 9 0.19 | +58 8.2 | 2.945 | 3.710 | 10.7 | 21.4 | 135 W | 77 6 |
| 1 1 | 7 9.96 | +37 1.2 | 2.646 | 3.605 | 4.0 | 22.2 | 165 W | 82 27 | 1 1 | 8 52.77 | +58 35.0 | 2.943 | 3.731 | 10.2 | 21.4 | 138 W | 76 5 |
| 1 6 | 7 4.43 | +37 17.8 | 2.653 | 3.612 | 4.0 | 22.2 | 165 E | 82 27 | 1 6 | 8 44.63 | +58 55.9 | 2.947 | 3.752 | 9.8 | 21.4 | 140 W | 76 5 |
| 1 11 | 6 58.91 | +37 30.8 | 2.667 | 3.619 | 4.6 | 22.2 | 163 E | 83 26 | 1 11 | 8 35.96 | +59 10.1 | 2.958 | 3.772 | 9.5 | 21.4 | 141 W | 76 5 |
| 1 16 | 6 53.53 | +37 40.1 | 2.689 | 3.625 | 5.5 | 22.3 | 159 E | 83 26 | 1 16 | 8 26.97 | +59 17.0 | 2.975 | 3.792 | 9.4 | 21.4 | 141 W | 76 5 |
| 285093 1994 HC | | | | | | | | | 387814 2004 FK₁ | | | | | | | | |
| 12 7 | 7 40.59 | +29 29.0 | 1.901 | 2.748 | 12.6 | 22.1 | 142 W | 74 35 | 12 7 | 9 22.76 | - 3 45.5 | 2.264 | 2.756 | 19.7 | 21.5 | 110 W | 41 68 |
| 12 12 | 7 36.30 | +29 51.2 | 1.870 | 2.756 | 10.8 | 22.0 | 148 W | 75 34 | 12 17 | 9 23.32 | - 4 16.0 | 2.117 | 2.731 | 18.4 | 21.3 | 119 W | 41 68 |
| 12 17 | 7 31.29 | +30 12.9 | 1.845 | 2.764 | 8.9 | 21.9 | 154 W | 75 34 | 12 27 | 9 21.39 | - 4 29.0 | 1.982 | 2.706 | 16.5 | 21.0 | 128 W | 41 68 |
| 12 22 | 7 25.67 | +30 33.4 | 1.826 | 2.771 | 7.0 | 21.8 | 160 W | 76 33 | 1 6 | 9 16.90 | - 4 19.8 | 1.863 | 2.680 | 14.1 | 20.8 | 139 W | 41 68 |
| 12 27 | 7 19.56 | +30 51.9 | 1.815 | 2.778 | 5.1 | 21.7 | 165 W | 76 33 | 1 16 | 9 9.99 | - 3 44.3 | 1.763 | 2.653 | 11.1 | 20.5 | 149 W | 41 68 |
| 1 1 | 7 13.14 | +31 7.8 | 1.811 | 2.784 | 3.6 | 21.7 | 170 W | 76 33 | | | | | | | | | |
| 1 6 | 7 6.55 | +31 20.7 | 1.815 | 2.791 | 3.1 | 21.6 | 171 E | 76 33 | | | | | | | | | |
| 1 11 | 7 0.00 | +31 30.0 | 1.826 | 2.797 | 4.1 | 21.7 | 168 E | 77 32 | | | | | | | | | |
| 1 16 | 6 53.67 | +31 35.8 | 1.846 | 2.802 | 5.8 | 21.8 | 163 E | 77 32 | | | | | | | | | |
| 182263 2001 HQ₈ | | | | | | | | | 220169 2002 TY₂₈₃ | | | | | | | | |
| 12 7 | 8 0.71 | - 3 30.1 | 2.290 | 2.996 | 15.1 | 21.4 | 128 W | 41 68 | 12 7 | 9 26.31 | +22 15.9 | 1.681 | 2.313 | 22.1 | 21.4 | 118 W | 67 42 |
| 12 17 | 7 55.07 | - 3 41.4 | 2.194 | 2.992 | 12.9 | 21.2 | 137 W | 41 68 | 12 17 | 9 25.45 | +22 36.6 | 1.606 | 2.346 | 19.2 | 21.3 | 128 W | 68 41 |
| 12 27 | 7 47.35 | - 3 32.1 | 2.120 | 2.988 | 10.5 | 21.1 | 1 | | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° - 26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° - 26° |
|--|-----------------|-----------------|----------|-------|---------|------|--------|-------------------------|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-------------------------|
| 415987 2002 AE₉ (continuation) | | | | | | | | | 177287 2003 WF₁₆₆ | | | | | | | | |
| 12 27 | 9 36.14 | - 9 42.1 | 0.618 | 1.415 | 35.9 | 20.2 | 122 W | 35 74 | 12 7 | 10 29.34 | +11 33.0 | 2.247 | 2.609 | 21.8 | 21.5 | 100 W | 57 50* |
| 1 1 | 9 35.89 | - 8 11.1 | 0.550 | 1.391 | 33.9 | 19.8 | 128 W | 37 72 | 12 17 | 10 32.50 | +11 9.0 | 2.132 | 2.630 | 20.6 | 21.4 | 110 W | 56 53* |
| 1 6 | 9 34.13 | - 5 58.5 | 0.485 | 1.367 | 31.0 | 19.4 | 134 W | 39 70 | 12 27 | 10 33.07 | +10 58.8 | 2.024 | 2.651 | 18.8 | 21.2 | 120 W | 56 53 |
| 1 8 | 9 32.90 | - 4 50.4 | 0.460 | 1.357 | 29.6 | 19.3 | 137 W | 40 69 | 1 6 | 10 30.86 | +11 3.4 | 1.926 | 2.670 | 16.3 | 21.0 | 130 W | 56 53 |
| 1 10 | 9 31.33 | - 3 31.8 | 0.435 | 1.346 | 28.0 | 19.1 | 140 W | 41 68 | 1 16 | 10 25.79 | +11 22.5 | 1.846 | 2.688 | 13.1 | 20.8 | 142 W | 56 53 |
| 1 12 | 9 29.37 | - 2 1.3 | 0.411 | 1.336 | 26.2 | 18.9 | 143 W | 43 66 | 101818 1999 JD₁₃ | | | | | | | | |
| 1 14 | 9 26.98 | - 0 17.1 | 0.388 | 1.325 | 24.2 | 18.7 | 147 W | 45 64 | 12 7 | 10 31.57 | + 2 22.0 | 2.239 | 2.544 | 22.6 | 21.5 | 96 W | 47 59* |
| 1 16 | 9 24.11 | + 1 42.6 | 0.366 | 1.314 | 21.8 | 18.5 | 150 W | 47 62 | 12 17 | 10 37.36 | + 1 22.4 | 2.086 | 2.522 | 22.2 | 21.3 | 105 W | 46 62* |
| 286889 2002 PO₂₁ | | | | | | | | | 12 27 | 10 41.03 | + 0 33.4 | 1.937 | 2.500 | 21.1 | 21.1 | 114 W | 46 63 |
| 12 7 | 9 35.54 | +10 50.8 | 1.585 | 2.161 | 24.9 | 21.4 | 112 W | 56 53 | 1 6 | 10 42.28 | - 0 2.1 | 1.797 | 2.476 | 19.4 | 20.8 | 123 W | 45 64 |
| 12 17 | 9 37.40 | +10 58.1 | 1.506 | 2.194 | 22.3 | 21.3 | 122 W | 56 53 | 1 16 | 10 40.79 | - 0 20.6 | 1.669 | 2.452 | 17.0 | 20.6 | 133 W | 45 64 |
| 12 27 | 9 35.87 | +11 26.1 | 1.437 | 2.226 | 18.9 | 21.1 | 133 W | 56 53 | 38091 1999 JT₃ | | | | | | | | |
| 1 6 | 9 30.99 | +12 14.7 | 1.384 | 2.257 | 14.7 | 20.9 | 144 W | 57 52 | 12 7 | 10 42.12 | +18 59.6 | 2.519 | 2.860 | 19.8 | 21.4 | 100 W | 64 42* |
| 1 16 | 9 23.11 | +13 21.2 | 1.352 | 2.289 | 9.8 | 20.7 | 157 W | 58 51 | 12 17 | 10 46.80 | +19 17.8 | 2.359 | 2.838 | 19.1 | 21.2 | 109 W | 64 44* |
| 120352 Gordonwong | | | | | | | | | 12 27 | 10 49.29 | +19 52.3 | 2.207 | 2.814 | 17.9 | 21.0 | 119 W | 65 44 |
| 12 7 | 9 39.23 | +16 0.9 | 2.388 | 2.920 | 18.1 | 21.4 | 113 W | 61 48* | 1 6 | 10 49.25 | +20 43.5 | 2.066 | 2.789 | 16.0 | 20.8 | 129 W | 66 43 |
| 12 17 | 9 39.34 | +16 21.2 | 2.262 | 2.922 | 16.3 | 21.2 | 123 W | 61 48 | 1 16 | 10 46.37 | +21 50.6 | 1.941 | 2.763 | 13.4 | 20.5 | 139 W | 67 42 |
| 12 27 | 9 36.86 | +16 55.6 | 2.150 | 2.924 | 13.9 | 21.0 | 134 W | 62 47 | 504024 2005 QA₁₈₁ | | | | | | | | |
| 1 6 | 9 31.77 | +17 42.9 | 2.058 | 2.924 | 10.9 | 20.8 | 146 W | 63 46 | 12 7 | 10 47.87 | +43 52.4 | 1.065 | 1.645 | 35.0 | 21.4 | 107 W | 89 18* |
| 1 16 | 9 24.26 | +18 40.3 | 1.988 | 2.924 | 7.2 | 20.6 | 158 W | 64 45 | 12 12 | 10 54.02 | +43 46.9 | 1.026 | 1.645 | 34.3 | 21.3 | 110 W | 89 19* |
| 219275 2000 BL₁₁ | | | | | | | | | 12 17 | 10 58.87 | +43 44.5 | 0.988 | 1.644 | 33.4 | 21.2 | 113 W | 89 20* |
| 12 7 | 9 47.36 | +11 39.6 | 1.846 | 2.371 | 23.0 | 21.5 | 110 W | 57 52* | 12 22 | 11 2.28 | +43 45.1 | 0.951 | 1.644 | 32.4 | 21.0 | 116 W | 89 20* |
| 12 17 | 9 48.16 | +11 8.0 | 1.755 | 2.401 | 20.9 | 21.4 | 120 W | 56 53 | 12 27 | 11 4.12 | +43 48.3 | 0.915 | 1.644 | 31.2 | 20.9 | 120 W | 89 20 |
| 12 27 | 9 45.82 | +10 50.9 | 1.675 | 2.430 | 18.0 | 21.2 | 130 W | 56 53 | 1 1 | 11 4.24 | +43 53.2 | 0.881 | 1.644 | 29.8 | 20.8 | 124 W | 89 20 |
| 1 6 | 9 40.35 | +10 49.0 | 1.610 | 2.459 | 14.3 | 21.0 | 142 W | 56 53 | 1 6 | 11 2.51 | +43 58.8 | 0.848 | 1.645 | 28.2 | 20.7 | 128 W | 89 20 |
| 1 16 | 9 32.06 | +11 1.5 | 1.566 | 2.487 | 10.1 | 20.8 | 154 W | 56 53 | 1 11 | 10 58.79 | +44 3.1 | 0.818 | 1.646 | 26.5 | 20.5 | 132 W | 89 20 |
| 349074 2007 BM₈ | | | | | | | | | 1 16 | 10 52.99 | +44 3.6 | 0.790 | 1.646 | 24.5 | 20.4 | 136 W | 89 20 |
| 12 7 | 9 55.38 | +31 21.7 | 1.199 | 1.833 | 29.5 | 21.3 | 114 W | 76 32* | 490171 2008 UD₂₅₃ | | | | | | | | |
| 12 12 | 10 0.23 | +32 58.6 | 1.114 | 1.799 | 28.9 | 21.1 | 118 W | 78 31* | 12 7 | 10 59.52 | +21 11.0 | 4.280 | 4.507 | 12.5 | 21.5 | 97 W | 66 39* |
| 12 17 | 10 4.57 | +34 54.0 | 1.032 | 1.763 | 28.3 | 20.8 | 122 W | 80 29 | 12 17 | 11 1.52 | +21 26.0 | 4.168 | 4.547 | 12.0 | 21.4 | 107 W | 66 42* |
| 12 22 | 10 8.32 | +37 10.9 | 0.953 | 1.725 | 27.5 | 20.6 | 126 W | 82 27 | 12 27 | 11 1.97 | +21 49.9 | 4.065 | 4.587 | 11.1 | 21.3 | 116 W | 67 42* |
| 12 27 | 10 11.31 | +39 52.4 | 0.879 | 1.686 | 26.7 | 20.4 | 130 W | 85 24 | 1 6 | 11 0.83 | +22 21.4 | 3.973 | 4.626 | 9.8 | 21.3 | 126 W | 67 42 |
| 1 1 | 10 13.34 | +43 2.0 | 0.810 | 1.646 | 25.9 | 20.1 | 133 W | 88 21 | 1 16 | 10 58.12 | +22 58.6 | 3.899 | 4.665 | 8.3 | 21.2 | 137 W | 68 41 |
| 1 6 | 10 14.06 | +46 42.5 | 0.746 | 1.603 | 25.4 | 19.9 | 136 W | 88 17 | 137176 1999 JZ₁₁ | | | | | | | | |
| 1 11 | 10 12.96 | +50 56.1 | 0.689 | 1.559 | 25.5 | 19.6 | 137 W | 84 13 | 12 7 | 11 13.18 | + 6 52.0 | 2.600 | 2.756 | 20.9 | 21.4 | 88 W | 52 50* |
| 1 16 | 10 9.15 | +55 42.7 | 0.638 | 1.514 | 26.4 | 19.4 | 137 W | 79 8 | 12 17 | 11 19.70 | + 6 26.8 | 2.459 | 2.758 | 20.7 | 21.3 | 97 W | 51 54* |
| 179778 2002 SY₄₇ | | | | | | | | | 12 27 | 11 24.34 | + 6 14.8 | 2.319 | 2.758 | 20.0 | 21.1 | 106 W | 51 57* |
| 12 7 | 9 58.02 | + 3 37.0 | 2.439 | 2.851 | 19.5 | 21.5 | 105 W | 49 60* | 1 6 | 11 26.85 | + 6 18.1 | 2.185 | 2.757 | 18.7 | 21.0 | 116 W | 51 58 |
| 12 17 | 9 59.50 | + 3 9.0 | 2.308 | 2.855 | 18.3 | 21.3 | 114 W | 48 61 | 1 16 | 11 26.94 | + 6 38.2 | 2.061 | 2.756 | 16.8 | 20.8 | 126 W | 52 57 |
| 12 27 | 9 58.60 | + 2 55.1 | 2.187 | 2.858 | 16.5 | 21.2 | 124 W | 48 61 | 174881 2004 BU₅₈ | | | | | | | | |
| 1 6 | 9 55.21 | + 2 57.4 | 2.079 | 2.860 | 14.1 | 21.0 | 135 W | 48 61 | 12 7 | 11 17.02 | +20 25.1 | 1.441 | 1.787 | 33.4 | 21.4 | 93 W | 65 38* |
| 1 16 | 9 49.39 | + 3 17.4 | 1.991 | 2.861 | 11.0 | 20.8 | 146 W | 48 61 | 12 12 | 11 25.57 | +22 5.0 | 1.358 | 1.767 | 33.6 | 21.2 | 97 W | 67 38* |
| 235756 2004 VC | | | | | | | | | 12 17 | 11 34.34 | +24 2.4 | 1.277 | 1.746 | 33.7 | 21.0 | 100 W | 69 37* |
| 12 7 | 9 59.85 | -43 57.6 | 1.143 | 1.426 | 43.4 | 21.4 | 84 W | 1 72* | 12 22 | 11 43.37 | +26 19.8 | 1.198 | 1.724 | 33.6 | 20.9 | 104 W | 71 36* |
| 12 12 | 10 6.21 | -45 55.8 | 1.118 | 1.424 | 43.5 | 21.4 | 85 W | - 70* | 12 27 | 11 52.78 | +28 59.8 | 1.123 | 1.700 | 33.5 | 20.7 | 107 W | 74 34* |
| 12 17 | 10 11.94 | -47 50.7 | 1.091 | 1.421 | 43.7 | 21.3 | 86 W | - 68 | 1 1 | 12 2.66 | +32 5.0 | 1.053 | 1.675 | 33.3 | 20.5 | 111 W | 77 31* |
| 12 22 | 10 16.97 | -49 41.9 | 1.063 | 1.417 | 43.9 | 21.3 | 88 W | - 66 | 1 6 | 12 13.20 | +35 37.4 | 0.988 | 1.649 | 33.1 | 20.3 | 114 W | 81 28* |
| 12 27 | 10 21.20 | -51 29.0 | 1.033 | 1.413 | 44.1 | 21.2 | 89 W | - 65 | 1 11 | 12 24.59 | +39 38.4 | 0.929 | 1.621 | 33.1 | 20.2 | 116 W | 85 24* |
| 1 1 | 10 24.54 | -53 11.6 | 1.001 | 1.407 | 44.3 | 21.1 | 90 W | - 63 | 1 16 | 12 37.17 | +44 7.5 | 0.878 | 1.593 | 33.2 | 20.0 | 117 W | 89 20 |
| 1 6 | 10 26.84 | -54 49.1 | 0.968 | 1.401 | 44.6 | 21.1 | 92 W | - 61 | 223456 2003 UB₁₀ | | | | | | | | |
| 1 11 | 10 27.93 | -56 20.7 | 0.933 | 1.393 | 44.8 | 21.0 | 93 W | - 60 | 12 7 | 11 25.09 | + 3 48.4 | 1.299 | 1.554 | 39.1 | 21.3 | 85 W | 49 51* |
| 1 16 | 10 27.65 | -57 45.2 | 0.896 | 1.385 | 45.1 | 20.9 | 95 W | - 58 | 12 17 | 11 50.34 | + 1 43.3 | 1.174 | 1.507 | 40.7 | 21.0 | 88 W | 47 55* |
| 183220 2002 TJ₃₉ | | | | | | | | | 12 27 | 12 16.97 | - 0 23.7 | 1.055 | 1.459 | 42.4 | 20.8 | 91 W | 45 59* |
| 12 7 | 10 2.99 | + 3 42.5 | 2.464 | 2.858 | 19.6 | 21.4 | 103 W | 49 60* | 1 6 | 12 45.45 | - 2 31.0 | 0.942 | 1.410 | 44.1 | 20.5 | 94 W | 42 63* |
| 12 17 | 10 4.43 | + 3 5.3 | 2.337 | 2.867 | 18.4 | 21.3 | 113 W | 48 61 | 1 16 | 13 16.29 | - 4 36.4 | 0.839 | 1.362 | 45.9 | 20.2 | 96 W | 40 67* |
| 12 27 | 10 3.47 | + 2 41.2 | 2.219 | 2.875 | 16.7 | 21.1 | 123 W | 48 61 | 482054 2010 AE | | | | | | | | |
| 1 6 | 10 0.04 | + 2 32.2 | 2.114 | 2.883 | 14.3 | 20.9 | 134 W | 48 61 | 12 7 | 11 25.21 | + 1 37.5 | 0.874 | 1.243 | 52.0 | 21.5 | 84 W | 47 52* |
| 1 16 | 9 54.18 | + 2 39.7 | 2.028 | 2.889 | 11.3 | 20.7 | 145 W | 48 61 | 12 17 | 11 59.98 | - 5 36.1 | 0.792 | 1.186 | 55.5 | 21.3 | 83 W | 39 59* |
| 217726 1999 WN | | | | | | | | | 12 27 | 12 38.96 | -13 42.1 | 0.730 | 1.131 | 59.2 | 21.1 | 81 W | 31 65* |
| 12 7 | 10 13.45 | +14 16.6 | 2.114 | 2.551 | 21.9 | 21.4 | 105 W | 59 49* | 1 6 | 13 23.79 | -22 13.9 | 0.689 | 1.079 | 63.1 | 21.0 | 78 W | 23 69* |
| 12 17 | 10 16.40 | +14 22.6 | 2.007 | 2.574 | 20.4 | 21.3 | 114 W | 59 50 | 1 16 | 14 16.03 | -30 22.0 | 0.671 | 1.031 | 66.7 | 21.0 | 74 W | 15 68* |
| 12 27 | 10 16.60 | +14 45.0 | 1.908 | 2.596 | 18.2 | 21.1 | 125 W | 60 49 | 224000 2005 GX₈ | | | | | | | | |
| 1 6 | 10 13.90 | +15 23.6 | 1.823 | 2.617 | 15.2 | 20.9 | 136 W | 60 49 | 12 7 | 11 25.25 | +31 46.6 | 2.465 | 2.744 | 20.9 | 21.4 | 96 W | 77 27* |
| 1 16 | 10 8.29 | +16 16.6 | 1.756 | 2.638 | 11.7 | 20.7 | 147 W | 61 48 | 12 17 | 11 33.07 | +32 21.4 | 2.331 | 2.733 | 20.5 | 21.2 | 103 W | 77 29* |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|---|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|
| 313552 2003 BX₃₃ (continuation) | | | | | | | | | | 329615 2003 LV₁ | | | | | | | | | |
| 12 27 | 11 2.81 | -10 30.5 | 0.310 | 1.100 | 60.3 | 20.7 | 104 W | 34 | 75 | 12 7 | 12 51.88 | +31 0.0 | 1.234 | 1.427 | 42.7 | 21.5 | 79 W | 72* | 17* |
| 1 1 | 10 53.37 | -8 14.9 | 0.308 | 1.135 | 53.5 | 20.6 | 112 W | 37 | 72 | 12 12 | 13 10.07 | +31 2.0 | 1.211 | 1.424 | 42.9 | 21.4 | 80 W | 73* | 17* |
| 1 6 | 10 42.32 | -5 43.5 | 0.307 | 1.169 | 46.5 | 20.4 | 120 W | 39 | 70 | 12 17 | 13 28.01 | +31 2.8 | 1.190 | 1.421 | 43.1 | 21.4 | 81 W | 73* | 17* |
| 1 11 | 10 29.59 | -2 55.6 | 0.307 | 1.202 | 39.1 | 20.3 | 130 W | 42 | 67 | 12 22 | 13 45.61 | +31 2.7 | 1.170 | 1.419 | 43.3 | 21.4 | 82 W | 74* | 18* |
| 1 16 | 10 15.36 | +0 7.0 | 0.310 | 1.235 | 31.5 | 20.2 | 139 W | 45 | 64 | 12 27 | 14 2.82 | +31 2.0 | 1.152 | 1.417 | 43.5 | 21.3 | 83 W | 74* | 19* |
| 53319 1999 JM₈ | | | | | | | | | | 163132 2002 CU₁₁ | | | | | | | | | |
| 12 7 | 11 31.90 | +8 21.6 | 3.384 | 3.438 | 16.6 | 21.4 | 85 W | 53 | 46* | 12 7 | 12 53.11 | -9 25.7 | 1.461 | 1.278 | 41.5 | 21.5 | 59 W | 34* | 41* |
| 12 17 | 11 37.56 | +8 17.5 | 3.181 | 3.389 | 16.8 | 21.3 | 94 W | 53 | 51* | 12 12 | 13 10.06 | -8 53.8 | 1.400 | 1.256 | 43.1 | 21.4 | 61 W | 35* | 42* |
| 12 27 | 11 41.87 | +8 26.1 | 2.979 | 3.339 | 16.7 | 21.1 | 103 W | 53 | 54* | 12 17 | 13 27.90 | -8 12.5 | 1.340 | 1.233 | 44.7 | 21.3 | 62 W | 36* | 42* |
| 1 6 | 11 44.57 | +8 49.2 | 2.783 | 3.287 | 16.0 | 20.9 | 112 W | 54 | 55 | 12 22 | 13 46.76 | -7 20.9 | 1.282 | 1.210 | 46.4 | 21.2 | 63 W | 37* | 42* |
| 1 16 | 11 45.38 | +9 28.6 | 2.595 | 3.234 | 14.8 | 20.6 | 123 W | 54 | 55 | 12 27 | 14 6.73 | -6 17.8 | 1.227 | 1.187 | 48.1 | 21.1 | 64 W | 38* | 42* |
| 376842 2001 QM₂₅₉ | | | | | | | | | | 153195 2000 WB₁ | | | | | | | | | |
| 12 7 | 11 33.76 | +8 38.6 | 2.251 | 2.369 | 24.5 | 21.5 | 85 W | 54 | 45* | 12 7 | 12 58.69 | +44 46.3 | 1.708 | 1.914 | 30.9 | 21.4 | 86 W | 79* | 6* |
| 12 17 | 11 42.73 | +6 49.3 | 2.088 | 2.338 | 24.9 | 21.3 | 92 W | 52 | 52* | 12 17 | 13 19.83 | +45 19.3 | 1.584 | 1.871 | 31.7 | 21.2 | 90 W | 83* | 8* |
| 12 27 | 11 50.02 | +5 1.0 | 1.926 | 2.305 | 24.9 | 21.1 | 100 W | 50 | 57* | 12 27 | 13 40.29 | +46 16.7 | 1.460 | 1.822 | 32.5 | 21.0 | 94 W | 87* | 10* |
| 1 6 | 11 55.28 | +3 13.7 | 1.768 | 2.272 | 24.3 | 20.9 | 108 W | 48 | 61* | 1 6 | 13 59.94 | +47 42.6 | 1.337 | 1.769 | 33.4 | 20.8 | 98 W | 87 | 11* |
| 1 16 | 11 58.03 | +1 27.6 | 1.616 | 2.239 | 23.1 | 20.6 | 117 W | 46 | 63 | 1 16 | 14 18.54 | +49 42.4 | 1.216 | 1.711 | 34.3 | 20.5 | 102 W | 85 | 11* |
| 388468 2007 DB₈₃ | | | | | | | | | | 453707 2010 XY₇₂ | | | | | | | | | |
| 12 7 | 11 56.01 | +13 54.9 | 1.337 | 1.543 | 39.2 | 21.4 | 82 W | 59* | 38* | 12 7 | 13 22.81 | +26 39.6 | 1.291 | 1.347 | 43.8 | 21.5 | 71 W | 65* | 15* |
| 12 17 | 12 23.42 | +11 59.0 | 1.228 | 1.503 | 40.7 | 21.2 | 85 W | 57 | 42* | 12 17 | 13 46.87 | +25 3.6 | 1.248 | 1.363 | 44.0 | 21.4 | 74 W | 66* | 19* |
| 12 27 | 12 51.42 | +9 58.5 | 1.125 | 1.463 | 42.2 | 21.0 | 88 W | 55 | 46* | 12 27 | 14 9.06 | +23 37.0 | 1.197 | 1.376 | 44.3 | 21.4 | 78 W | 67* | 23* |
| 1 6 | 13 20.09 | +7 53.9 | 1.028 | 1.425 | 43.6 | 20.8 | 90 W | 53 | 50* | 1 6 | 14 29.46 | +22 21.0 | 1.137 | 1.385 | 44.6 | 21.3 | 81 W | 67* | 28* |
| 1 16 | 13 49.45 | +5 45.4 | 0.939 | 1.388 | 45.1 | 20.6 | 92 W | 51 | 54* | 1 16 | 14 48.02 | +21 16.7 | 1.069 | 1.390 | 44.8 | 21.2 | 85 W | 66* | 33* |
| 470283 2007 DJ₈₆ | | | | | | | | | | 175114 2004 QQ | | | | | | | | | |
| 12 7 | 12 1.57 | +15 17.4 | 1.561 | 1.714 | 34.6 | 21.5 | 81 W | 60* | 36* | 12 7 | 13 39.95 | -15 12.9 | 2.749 | 2.191 | 19.0 | 21.5 | 47 W | 25* | 33* |
| 12 17 | 12 15.63 | +12 51.7 | 1.488 | 1.739 | 34.4 | 21.4 | 87 W | 58 | 42* | 12 17 | 13 58.61 | -17 4.9 | 2.573 | 2.112 | 21.5 | 21.3 | 52 W | 26* | 39* |
| 12 27 | 12 27.14 | +10 33.5 | 1.411 | 1.767 | 33.8 | 21.3 | 93 W | 56 | 48* | 12 27 | 14 18.38 | -18 57.5 | 2.392 | 2.030 | 24.0 | 21.2 | 57 W | 25* | 45* |
| 1 6 | 12 35.77 | +8 23.4 | 1.334 | 1.796 | 32.6 | 21.2 | 101 W | 53 | 54* | 1 6 | 14 39.55 | -20 50.0 | 2.206 | 1.945 | 26.5 | 21.0 | 62 W | 24* | 51* |
| 1 16 | 12 41.08 | +6 22.0 | 1.257 | 1.826 | 30.7 | 21.0 | 109 W | 51 | 58* | 1 16 | 15 2.48 | -22 41.5 | 2.020 | 1.857 | 29.0 | 20.7 | 66 W | 22* | 57* |
| 150340 1999 XH₃₁ | | | | | | | | | | 391399 2007 BH₂₀ | | | | | | | | | |
| 12 7 | 12 5.25 | -4 25.6 | 2.964 | 2.822 | 19.4 | 21.5 | 72 W | 41* | 49* | 12 7 | 13 42.54 | -11 52.7 | 2.135 | 1.631 | 26.2 | 21.5 | 47 W | 28* | 31* |
| 12 17 | 12 13.47 | +5 29.6 | 2.840 | 2.839 | 20.0 | 21.4 | 80 W | 40 | 56* | 12 17 | 14 8.65 | -14 37.4 | 2.066 | 1.624 | 27.8 | 21.5 | 50 W | 27* | 36* |
| 12 27 | 12 20.23 | +6 25.0 | 2.711 | 2.855 | 20.1 | 21.3 | 88 W | 39 | 63* | 12 27 | 14 35.16 | -17 12.1 | 1.997 | 1.620 | 29.2 | 21.4 | 54 W | 26* | 41* |
| 1 6 | 12 25.29 | +7 10.3 | 2.580 | 2.870 | 19.9 | 21.2 | 97 W | 38 | 69* | 1 6 | 15 2.02 | -19 34.4 | 1.929 | 1.619 | 30.6 | 21.4 | 57 W | 24* | 46* |
| 1 16 | 12 28.39 | -7 43.8 | 2.451 | 2.884 | 19.1 | 21.1 | 106 W | 37 | 72 | 1 16 | 15 29.12 | -21 42.3 | 1.861 | 1.621 | 31.9 | 21.4 | 61 W | 22* | 51* |
| 82474 2001 OB₂₃ | | | | | | | | | | 193749 2001 KG | | | | | | | | | |
| 12 7 | 12 14.57 | +11 17.3 | 3.070 | 2.998 | 18.6 | 21.5 | 77 W | 56* | 37* | 12 7 | 14 4.57 | -8 22.4 | 3.006 | 2.387 | 16.4 | 21.5 | 43 W | 29* | 25* |
| 12 17 | 12 22.95 | +10 52.0 | 2.924 | 2.994 | 19.1 | 21.4 | 84 W | 56 | 43* | 12 17 | 14 21.37 | -9 56.5 | 2.880 | 2.354 | 18.4 | 21.4 | 49 W | 31* | 31* |
| 12 27 | 12 29.96 | +10 38.5 | 2.776 | 2.989 | 19.2 | 21.3 | 93 W | 56 | 48* | 12 27 | 14 38.25 | -11 26.1 | 2.745 | 2.321 | 20.2 | 21.3 | 55 W | 31* | 38* |
| 1 6 | 12 35.36 | +10 38.2 | 2.629 | 2.983 | 18.8 | 21.1 | 101 W | 56 | 52* | 1 6 | 15 55.15 | -12 50.6 | 2.604 | 2.286 | 22.0 | 21.2 | 61 W | 31* | 45* |
| 1 16 | 12 38.87 | +10 52.0 | 2.485 | 2.977 | 18.0 | 21.0 | 111 W | 56 | 53* | 1 16 | 15 12.03 | -14 9.7 | 2.458 | 2.252 | 23.6 | 21.1 | 66 W | 30* | 52* |
| 232772 2004 PG₆₁ | | | | | | | | | | 163696 2003 EB₅₀ | | | | | | | | | |
| 12 7 | 12 17.87 | +2 15.3 | 3.082 | 2.929 | 18.6 | 21.4 | 72 W | 47* | 42* | 12 7 | 14 6.80 | +10 21.8 | 2.742 | 2.285 | 20.1 | 21.5 | 53 W | 45* | 15* |
| 12 17 | 12 26.47 | +1 11.0 | 2.928 | 2.917 | 19.4 | 21.3 | 80 W | 46 | 49* | 12 17 | 14 22.28 | +9 20.1 | 2.619 | 2.260 | 21.7 | 21.4 | 58 W | 48* | 21* |
| 12 27 | 12 33.85 | +0 14.1 | 2.771 | 2.903 | 19.8 | 21.2 | 88 W | 45 | 56* | 12 27 | 14 37.44 | +8 28.4 | 2.486 | 2.232 | 23.3 | 21.3 | 64 W | 50* | 28* |
| 1 6 | 12 39.76 | +0 34.5 | 2.611 | 2.888 | 19.8 | 21.1 | 96 W | 44 | 62* | 1 6 | 14 52.19 | +7 47.3 | 2.345 | 2.201 | 24.7 | 21.2 | 69 W | 52* | 35* |
| 1 16 | 12 43.92 | -1 13.6 | 2.454 | 2.873 | 19.3 | 20.9 | 105 W | 44 | 65* | 1 16 | 15 6.42 | +7 17.9 | 2.197 | 2.167 | 26.0 | 21.1 | 75 W | 52* | 41* |
| 309215 2007 LN₁₈ | | | | | | | | | | 275446 2011 CW₆₂ | | | | | | | | | |
| 12 7 | 12 18.19 | -25 7.0 | 3.049 | 2.740 | 18.6 | 21.5 | 63 W | 20* | 54* | 12 7 | 14 7.80 | -8 45.4 | 2.377 | 1.779 | 21.9 | 21.5 | 42 W | 28* | 24* |
| 12 17 | 12 29.68 | -27 22.2 | 2.909 | 2.714 | 19.8 | 21.4 | 69 W | 18 | 61* | 12 17 | 14 32.66 | -10 46.3 | 2.286 | 1.754 | 23.8 | 21.4 | 46 W | 29* | 29* |
| 12 27 | 12 40.40 | -29 38.4 | 2.763 | 2.687 | 20.7 | 21.3 | 75 W | 15 | 69* | 12 27 | 14 58.13 | -12 38.7 | 2.195 | 1.730 | 25.7 | 21.4 | 50 W | 29* | 34* |
| 1 6 | 12 50.13 | -31 55.0 | 2.615 | 2.659 | 21.5 | 21.2 | 82 W | 13 | 76* | 1 6 | 15 24.20 | -14 20.5 | 2.103 | 1.709 | 27.5 | 21.3 | 53 W | 28* | 39* |
| 1 16 | 12 58.60 | -34 10.8 | 2.465 | 2.630 | 22.0 | 21.0 | 89 W | 11 | 81* | 1 16 | 15 50.82 | -15 50.1 | 2.012 | 1.689 | 29.2 | 21.2 | 57 W | 27* | 44* |
| 317638 2003 EQ₁₁ | | | | | | | | | | 212359 2006 EV₅₂ | | | | | | | | | |
| 12 7 | 12 21.17 | -5 29.1 | 2.284 | 2.123 | 25.5 | 21.4 | 68 W | 39* | 46* | 12 7 | 14 13.98 | -7 18.5 | 2.783 | 2.149 | 17.7 | 21.4 | 42 W | 29* | 22* |
| 12 17 | 12 39.61 | -6 58.5 | 2.133 | 2.078 | 27.0 | 21.2 | 73 W | 38 | 52* | 12 17 | 14 33.19 | -8 19.9 | 2.610 | 2.067 | 20.4 | 21.3 | 47 W | 31* | 28* |
| 12 27 | 12 58.15 | -8 21.3 | 1.982 | 2.034 | 28.3 | 21.1 | 79 W | 37 | 58* | 12 27 | 14 53.58 | -9 14.7 | 2.429 | 1.982 | 23.0 | 21.1 | 52 W | 32* | 33* |
| 1 6 | 13 16.76 | -9 35.4 | 1.833 | 1.991 | 29.4 | 20.9 | 84 W | 35 | 64* | 1 6 | 15 15.39 | -10 1.1 | 2.243 | 1.893 | 25.8 | 20.9 | 57 W | 33* | 39* |
| 1 16 | 13 35.35 | -10 38.1 | 1.686 | 1.950 | 30.3 | 20.7 | 90 W | 34 | 70* | 1 16 | 15 38.97 | -10 36.9 | 2.054 | 1.800 | 28.6 | 20.7 | 61 W | 33* | 45* |
| 390546 2000 EK₅₀ | | | | | | | | | | 508774 1999 JE₁ | | | | | | | | | |
| 12 7 | 12 22.92 | +3 43.5 | 1.706 | 1.675 | 33.9 | 21.4 | 71 W | 48* | 40* | 12 7 | 14 41.08 | +12 33.5 | 0.419 | 0.771 | 108.0 | 21.4 | 48 W | 42* | 7* |
| 12 17 | 12 49.49 | +3 30.9 | 1.599 | 1.653 | 35.2 | 21.3 | 75 W | 48* | 43* | 12 12 | 14 32.27 | +19 12.3 | 0.429 | 0.843 | 96.0 | 21.0 | 58 W | 52* | 10* |
| 12 27 | 13 16.50 | +3 36.2 | 1.498 | 1.633 | 36.3 | 21.1 | 79 W | 49 | 46* | 12 1 | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45°-26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45°-26° |
|---|-----------------|-----------------|----------|-------|---------|------|--------|---------|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|---------|
| 508774 1999 JE ₁ (continuation) | | | | | | | | | 465402 2008 HW ₁ | | | | | | | | |
| 12 27 | 14 10.71 | +35 36.2 | 0.469 | 1.044 | 69.5 | 20.7 | 84 W | 77* 14* | 12 7 | 15 51.55 | -20 20.0 | 0.833 | 0.281 | 115.0 | 18.6 | 15 W | 5* 6* |
| 1 1 | 14 2.44 | +40 24.1 | 0.484 | 1.106 | 62.7 | 20.7 | 91 W | 85* 14* | 12 8 | 15 44.76 | -19 38.9 | 0.839 | 0.315 | 108.4 | 18.5 | 18 W | 8* 8* |
| 1 6 | 13 52.28 | +44 59.1 | 0.500 | 1.166 | 56.6 | 20.7 | 98 W | 90 14* | 12 9 | 15 38.90 | -19 0.2 | 0.846 | 0.349 | 102.9 | 18.4 | 20 W | 10* 10* |
| 1 11 | 13 39.29 | +49 20.0 | 0.518 | 1.223 | 51.0 | 20.7 | 105 W | 86 12* | 12 10 | 15 33.82 | -18 23.9 | 0.854 | 0.381 | 98.3 | 18.4 | 23 W | 11* 12* |
| 1 16 | 13 22.54 | +53 22.1 | 0.538 | 1.279 | 45.9 | 20.7 | 111 W | 82 10* | 12 11 | 15 29.38 | -17 49.8 | 0.863 | 0.413 | 94.4 | 18.4 | 25 W | 13* 13* |
| 386454 2008 XM | | | | | | | | | 417210 2005 XV ₇₇ | | | | | | | | |
| 12 7 | 15 11.25 | -20 14.8 | 0.937 | 0.407 | 84.5 | 20.9 | 24 W | 11* 15* | 12 7 | 16 9.03 | -26 14.9 | 1.488 | 0.555 | 20.0 | 21.2 | 11 W | — 5* |
| 12 12 | 16 14.66 | -22 32.4 | 1.008 | 0.251 | 77.4 | 19.7 | 14 W | 4* 6* | 12 12 | 16 46.89 | -26 20.5 | 1.477 | 0.517 | 14.5 | 20.8 | 8 W | — 2* |
| 12 17 | 17 38.07 | -23 8.0 | 1.095 | 0.111 | 2.8 | 15.7 | 0 W | — — | 12 17 | 17 26.10 | -25 41.8 | 1.464 | 0.487 | 7.7 | 20.4 | 4 W | — — |
| 12 22 | 19 1.56 | -21 35.6 | 0.990 | 0.241 | 81.4 | 19.7 | 14 E | 4* 5* | 12 22 | 18 5.85 | -24 16.8 | 1.449 | 0.466 | 2.8 | 20.0 | 1 E | — — |
| 12 27 | 20 4.55 | -19 4.0 | 0.901 | 0.398 | 89.8 | 20.9 | 24 E | 12* 13* | 12 27 | 18 45.20 | -22 8.9 | 1.430 | 0.459 | 11.1 | 20.4 | 5 E | — — |
| 1 1 | 21 1.64 | -15 39.7 | 0.861 | 0.534 | 86.3 | 21.3 | 33 E | 19* 20* | 1 1 | 19 23.35 | -19 26.0 | 1.408 | 0.467 | 20.3 | 20.7 | 9 E | 3* — |
| 163252 2002 GD ₁₁ | | | | | | | | | 1566 Icarus | | | | | | | | |
| 12 7 | 15 15.14 | -12 39.8 | 2.449 | 1.620 | 15.3 | 21.4 | 26 W | 17* 11* | 12 7 | 16 27.88 | -20 3.8 | 0.831 | 0.188 | 141.5 | 19.9 | 7 W | — — |
| 12 17 | 15 44.08 | -14 41.7 | 2.355 | 1.562 | 17.5 | 21.3 | 28 W | 17* 14* | 12 8 | 16 24.60 | -18 47.8 | 0.868 | 0.187 | 123.9 | 18.1 | 9 W | 2* — |
| 12 27 | 16 14.89 | -16 32.4 | 2.263 | 1.507 | 19.6 | 21.2 | 31 W | 18* 18* | 12 9 | 16 23.27 | -17 50.4 | 0.911 | 0.192 | 107.1 | 17.1 | 11 W | 4* — |
| 1 6 | 16 47.67 | -18 8.2 | 2.174 | 1.453 | 21.7 | 21.1 | 33 W | 17* 22* | 12 10 | 16 23.73 | -17 11.3 | 0.956 | 0.203 | 92.1 | 16.6 | 12 W | 5* — |
| 1 16 | 17 22.45 | -19 24.4 | 2.091 | 1.401 | 23.6 | 21.0 | 35 W | 16* 25* | 12 11 | 16 25.59 | -16 48.0 | 1.001 | 0.220 | 79.4 | 16.4 | 13 W | 6* 1* |
| 162433 2000 FK ₁₀ | | | | | | | | | 455184 2000 ED ₁₄ | | | | | | | | |
| 12 7 | 15 22.39 | -16 51.3 | 1.793 | 0.960 | 23.1 | 21.5 | 23 W | 12* 11* | 12 7 | 16 37.02 | -26 0.0 | 1.446 | 0.474 | 11.1 | 20.7 | 5 W | — — |
| 12 12 | 15 45.28 | -18 56.9 | 1.759 | 0.921 | 23.4 | 21.4 | 22 W | 11* 11* | 12 9 | 16 53.39 | -26 33.7 | 1.425 | 0.450 | 9.8 | 20.5 | 4 W | — — |
| 12 17 | 16 9.67 | -20 56.0 | 1.730 | 0.882 | 23.4 | 21.2 | 21 W | 9* 11* | 12 11 | 17 10.47 | -26 59.1 | 1.404 | 0.428 | 9.3 | 20.3 | 4 W | — — |
| 12 22 | 16 35.66 | -22 45.2 | 1.704 | 0.846 | 23.1 | 21.1 | 20 W | 7* 11* | 12 13 | 17 28.21 | -27 14.8 | 1.382 | 0.408 | 10.6 | 20.2 | 4 E | — — |
| 12 27 | 17 3.24 | -24 20.7 | 1.684 | 0.812 | 22.4 | 21.0 | 18 W | 5* 11* | 12 15 | 17 46.52 | -27 19.3 | 1.359 | 0.390 | 13.9 | 20.2 | 5 E | — — |
| 1 1 | 17 32.37 | -25 38.5 | 1.668 | 0.781 | 21.4 | 20.8 | 17 W | 3* 10* | 12 17 | 18 5.25 | -27 11.4 | 1.334 | 0.377 | 18.7 | 20.3 | 7 E | — 1* |
| 1 6 | 18 2.86 | -26 34.2 | 1.657 | 0.754 | 20.1 | 20.7 | 15 W | 1* 9* | 12 19 | 18 24.23 | -26 50.0 | 1.306 | 0.367 | 24.5 | 20.3 | 9 E | — 3* |
| 1 11 | 18 34.42 | -27 4.0 | 1.651 | 0.732 | 18.3 | 20.6 | 14 W | — 7* | 12 21 | 18 43.23 | -26 14.8 | 1.277 | 0.362 | 30.8 | 20.5 | 11 E | — 5* |
| 1 16 | 19 6.64 | -27 5.2 | 1.650 | 0.716 | 16.3 | 20.4 | 12 W | — 6* | 12 23 | 19 2.03 | -25 25.7 | 1.246 | 0.363 | 37.5 | 20.6 | 13 E | 1* 6* |
| 495829 1995 LG | | | | | | | | | 461506 2003 QE ₂₉ | | | | | | | | |
| 12 7 | 15 38.78 | -30 33.5 | 0.914 | 0.318 | 93.3 | 19.3 | 19 W | — 13* | 12 7 | 16 42.73 | -31 21.2 | 3.043 | 2.076 | 4.3 | 21.5 | 9 W | — 1* |
| 12 8 | 15 38.72 | -31 49.4 | 0.941 | 0.339 | 87.2 | 19.3 | 20 W | — 14* | 12 17 | 17 9.04 | -32 1.1 | 2.999 | 2.042 | 5.2 | 21.5 | 11 W | — 4* |
| 12 9 | 15 39.31 | -32 57.8 | 0.968 | 0.360 | 81.9 | 19.3 | 21 W | — 15* | 12 27 | 17 36.20 | -32 25.6 | 2.949 | 2.008 | 6.7 | 21.5 | 14 W | — 8* |
| 12 10 | 15 40.43 | -33 59.5 | 0.995 | 0.381 | 77.3 | 19.3 | 22 W | — 16* | 1 6 | 18 4.07 | -32 32.9 | 2.891 | 1.974 | 8.5 | 21.5 | 17 W | — 11* |
| 12 11 | 15 41.99 | -34 55.3 | 1.022 | 0.403 | 73.3 | 19.3 | 23 W | — 17* | 1 16 | 18 32.46 | -32 21.5 | 2.828 | 1.941 | 10.4 | 21.5 | 21 W | — 15* |
| 12 12 | 15 43.90 | -35 46.1 | 1.048 | 0.424 | 69.7 | 19.4 | 24 W | — 18* | | | | | | | | | |
| 12 13 | 15 46.10 | -36 32.2 | 1.073 | 0.446 | 66.5 | 19.4 | 25 W | — 18* | | | | | | | | | |
| 12 14 | 15 48.53 | -37 14.4 | 1.098 | 0.467 | 63.7 | 19.5 | 25 W | — 19* | | | | | | | | | |
| 12 15 | 15 51.14 | -37 53.0 | 1.122 | 0.488 | 61.2 | 19.6 | 26 W | — 19* | | | | | | | | | |
| 12 16 | 15 53.91 | -38 28.5 | 1.145 | 0.509 | 58.9 | 19.6 | 26 W | — 20* | | | | | | | | | |
| 12 17 | 15 56.79 | -39 1.2 | 1.168 | 0.529 | 56.8 | 19.7 | 27 W | — 20* | | | | | | | | | |
| 12 19 | 16 2.84 | -39 59.2 | 1.212 | 0.570 | 53.3 | 19.9 | 28 W | — 21* | | | | | | | | | |
| 12 21 | 16 9.12 | -40 48.9 | 1.253 | 0.609 | 50.4 | 20.0 | 28 W | — 22* | | | | | | | | | |
| 12 23 | 16 15.54 | -41 31.8 | 1.292 | 0.647 | 47.9 | 20.1 | 29 W | — 22* | | | | | | | | | |
| 12 25 | 16 22.03 | -42 9.1 | 1.328 | 0.684 | 45.9 | 20.2 | 30 W | — 23* | | | | | | | | | |
| 12 27 | 16 28.53 | -42 41.5 | 1.363 | 0.720 | 44.1 | 20.4 | 31 W | — 24* | | | | | | | | | |
| 12 29 | 16 35.00 | -43 9.8 | 1.396 | 0.755 | 42.6 | 20.5 | 31 W | — 24* | | | | | | | | | |
| 12 31 | 16 41.43 | -43 34.6 | 1.426 | 0.789 | 41.3 | 20.6 | 32 W | — 25* | | | | | | | | | |
| 1 2 | 16 47.79 | -43 56.4 | 1.455 | 0.823 | 40.2 | 20.7 | 33 W | — 25* | | | | | | | | | |
| 1 4 | 16 54.07 | -44 15.5 | 1.482 | 0.855 | 39.3 | 20.8 | 33 W | — 26* | | | | | | | | | |
| 1 6 | 17 0.26 | -44 32.3 | 1.508 | 0.886 | 38.5 | 20.9 | 34 W | — 26* | | | | | | | | | |
| 1 8 | 17 6.35 | -44 47.1 | 1.532 | 0.917 | 37.8 | 21.0 | 35 W | — 27* | | | | | | | | | |
| 1 10 | 17 12.34 | -45 0.1 | 1.554 | 0.946 | 37.2 | 21.0 | 36 W | — 28* | | | | | | | | | |
| 1 12 | 17 18.22 | -45 11.5 | 1.575 | 0.975 | 36.7 | 21.1 | 36 W | — 29* | | | | | | | | | |
| 1 14 | 17 23.99 | -45 21.5 | 1.594 | 1.004 | 36.2 | 21.2 | 37 W | — 29* | | | | | | | | | |
| 1 16 | 17 29.65 | -45 30.2 | 1.612 | 1.031 | 35.9 | 21.3 | 38 W | — 30* | | | | | | | | | |
| 433961 1999 RL ₄₁ | | | | | | | | | | | | | | | | | |
| 12 7 | 15 46.60 | -28 32.0 | 2.983 | 2.058 | 7.8 | 21.5 | 17 W | — 10* | | | | | | | | | |
| 12 17 | 16 12.17 | -30 14.8 | 2.884 | 1.993 | 10.0 | 21.4 | 21 W | 1* 14* | | | | | | | | | |
| 12 27 | 16 39.64 | -31 47.2 | 2.781 | 1.929 | 12.2 | 21.4 | 24 W | 2* 18* | | | | | | | | | |
| 1 6 | 17 9.10 | -33 5.6 | 2.675 | 1.866 | 14.4 | 21.3 | 28 W | 2* 22* | | | | | | | | | |
| 1 16 | 17 40.59 | -34 5.7 | 2.568 | 1.805 | 16.6 | 21.2 | 32 W | 1* 26* | | | | | | | | | |
| 425755 2011 CP ₄ | | | | | | | | | | | | | | | | | |
| 12 7 | 15 50.11 | -18 4.3 | 1.188 | 0.361 | 48.3 | 21.2 | 16 W | 7* 5* | | | | | | | | | |
| 12 9 | 16 12.16 | -19 11.1 | 1.174 | 0.302 | 45.2 | 20.7 | 13 W | 5* 3* | | | | | | | | | |
| 12 11 | 16 36.82 | -20 16.9 | 1.161 | 0.240 | 38.6 | 20.0 | 9 W | 2* — | | | | | | | | | |
| 12 13 | 17 5.01 | -21 22.4 | 1.144 | 0.177 | 23.9 | 18.9 | 4 W | — — | | | | | | | | | |
| 12 15 | 17 37.49 | -22 30.1 | 1.106 | 0.126 | 14.5 | 17.7 | 2 E | — — | | | | | | | | | |
| 12 17 | 18 9.27 | -23 40.3 | 1.024 | 0.128 | 68.3 | 19.2 | 7 E | — — | | | | | | | | | |
| 12 18 | 18 21.77 | -24 12.9 | 0.974 | 0.150 | 89.6 | 20.2 | 9 E | — 2* | | | | | | | | | |
| 12 19 | 18 32.19 | -24 42.9 | 0.924 | 0.179 | 104.3 | 21.1 | 10 E | — 3* | | | | | | | | | |
| 12 20 | 18 41.23 | -25 10.5 | 0.878 | 0.210 | 114.3 | 22.0 | 11 E | — 5* | | | | | | | | | |
| 12 21 | 18 49.46 | -25 36.3 | 0.836 | 0.242 | 121.4 | 22.7 | 12 E | — 6* | | | | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|
| 376830 2001 MJ₁₁ | | | | | | | | | | 468583 2007 LS | | | | | | | | | |
| 12 7 | 16 43.79 | -19 57.2 | 2.804 | 1.822 | 2.0 | 21.5 | 4 W | — | — | 12 7 | 17 41.08 | -19 36.6 | 2.534 | 1.579 | 6.9 | 21.4 | 11 E | 3* | 2* |
| 12 17 | 17 10.66 | -21 1.9 | 2.767 | 1.794 | 3.8 | 21.5 | 7 W | — | — | 12 17 | 18 10.14 | -19 40.6 | 2.449 | 1.481 | 5.4 | 21.1 | 8 E | 2* | — |
| 12 27 | 17 38.40 | -21 50.5 | 2.726 | 1.768 | 5.8 | 21.6 | 11 W | 2* | 2* | 12 27 | 18 41.60 | -19 23.1 | 2.359 | 1.384 | 4.1 | 20.8 | 6 E | — | — |
| 1 6 | 18 6.88 | -22 21.5 | 2.680 | 1.743 | 7.9 | 21.6 | 14 W | 3* | 6* | 1 6 | 19 15.56 | -18 39.5 | 2.265 | 1.287 | 3.3 | 20.5 | 4 E | — | — |
| 1 16 | 18 35.96 | -22 33.7 | 2.632 | 1.720 | 9.9 | 21.6 | 17 W | 4* | 10* | 1 16 | 19 52.10 | -17 24.6 | 2.172 | 1.192 | 3.0 | 20.3 | 4 E | — | — |
| 190135 2005 QE₃₀ | | | | | | | | | | 408794 2000 GG₁₈₆ | | | | | | | | | |
| 12 7 | 16 56.66 | -22 57.6 | 3.185 | 2.200 | 0.2 | 21.5 | 1 E | — | — | 12 7 | 17 47.21 | -27 22.1 | 2.664 | 1.717 | 7.3 | 21.4 | 13 E | — | 7* |
| 12 17 | 17 16.12 | -23 13.5 | 3.252 | 2.274 | 2.3 | 21.8 | 5 W | — | — | 12 17 | 18 17.57 | -27 32.1 | 2.652 | 1.690 | 5.6 | 21.3 | 10 E | — | 4* |
| 12 27 | 17 34.73 | -23 20.2 | 3.302 | 2.345 | 4.7 | 22.0 | 11 W | 1* | 4* | 12 27 | 18 48.58 | -27 18.8 | 2.638 | 1.666 | 4.1 | 21.2 | 7 E | — | 1* |
| 1 6 | 17 52.49 | -23 18.7 | 3.335 | 2.414 | 7.0 | 22.2 | 17 W | 5* | 10* | 1 6 | 19 19.95 | -26 41.5 | 2.621 | 1.644 | 3.0 | 21.1 | 5 E | — | — |
| 1 16 | 18 9.35 | -23 10.0 | 3.349 | 2.479 | 9.2 | 22.4 | 24 W | 7* | 16* | 1 16 | 19 51.42 | -25 39.8 | 2.603 | 1.625 | 2.8 | 21.0 | 5 E | — | — |
| 255591 2006 OB₆ | | | | | | | | | | 399441 2002 AR₂₀₈ | | | | | | | | | |
| 12 7 | 17 3.24 | -24 48.2 | 3.142 | 2.159 | 1.3 | 21.3 | 3 E | — | — | 12 7 | 17 47.97 | -24 1.6 | 2.892 | 1.940 | 6.2 | 21.4 | 12 E | 1* | 5* |
| 12 17 | 17 26.82 | -25 8.9 | 3.102 | 2.120 | 1.5 | 21.3 | 3 W | — | — | 12 17 | 18 13.79 | -23 41.4 | 2.880 | 1.910 | 4.1 | 21.3 | 8 E | — | 1* |
| 12 27 | 17 51.08 | -25 16.6 | 3.052 | 2.081 | 3.6 | 21.4 | 8 W | — | 1* | 12 27 | 18 40.00 | -23 4.7 | 2.862 | 1.882 | 2.0 | 21.1 | 4 E | — | — |
| 1 6 | 18 15.92 | -25 10.0 | 2.994 | 2.043 | 5.8 | 21.4 | 12 W | — | 6* | 1 6 | 19 6.46 | -22 10.7 | 2.837 | 1.854 | 0.2 | 20.9 | 0 W | — | — |
| 1 16 | 18 41.24 | -24 48.0 | 2.928 | 2.004 | 8.0 | 21.4 | 17 W | 2* | 10* | 1 16 | 19 33.04 | -20 59.3 | 2.807 | 1.827 | 2.3 | 21.0 | 4 W | — | — |
| 247760 2003 QN₅ | | | | | | | | | | 66400 1999 LT₇ | | | | | | | | | |
| 12 7 | 17 10.20 | -30 4.7 | 3.687 | 2.715 | 3.0 | 21.4 | 8 E | — | 1* | 12 7 | 18 3.51 | -25 34.5 | 1.861 | 0.952 | 16.5 | 21.2 | 16 E | 2* | 9* |
| 12 17 | 17 29.19 | -29 52.8 | 3.663 | 2.688 | 2.5 | 21.3 | 7 W | — | — | 12 12 | 18 22.52 | -25 42.8 | 1.817 | 0.904 | 16.5 | 21.1 | 15 E | 2* | 8* |
| 12 27 | 17 48.33 | -29 33.3 | 3.623 | 2.660 | 3.7 | 21.4 | 10 W | — | 4* | 12 17 | 18 42.47 | -25 41.5 | 1.767 | 0.852 | 16.9 | 20.9 | 15 E | 2* | 8* |
| 1 6 | 18 7.51 | -29 5.8 | 3.569 | 2.631 | 5.6 | 21.4 | 15 W | — | 9* | 12 22 | 19 3.44 | -25 28.9 | 1.712 | 0.797 | 17.7 | 20.7 | 14 E | 2* | 7* |
| 1 16 | 18 26.66 | -28 29.7 | 3.500 | 2.602 | 7.6 | 21.4 | 21 W | 1* | 14* | 12 27 | 19 25.51 | -25 2.8 | 1.651 | 0.738 | 19.1 | 20.5 | 14 E | 2* | 7* |
| 306895 2001 TT₁₂₇ | | | | | | | | | | 495552 2014 WS₂₀₀ | | | | | | | | | |
| 12 7 | 17 13.16 | -18 45.9 | 3.582 | 2.604 | 2.2 | 21.5 | 6 E | — | — | 1 1 | 19 48.75 | -24 20.9 | 1.583 | 0.677 | 21.3 | 20.3 | 15 E | 2* | 7* |
| 12 17 | 17 31.12 | -18 33.6 | 3.608 | 2.629 | 1.9 | 21.5 | 5 W | — | — | 1 6 | 20 13.20 | -23 20.1 | 1.507 | 0.614 | 24.7 | 20.1 | 15 E | 3* | 8* |
| 12 27 | 17 48.79 | -18 12.9 | 3.618 | 2.654 | 3.5 | 21.7 | 10 W | 3* | — | 1 11 | 20 38.85 | -21 56.7 | 1.421 | 0.549 | 29.8 | 19.9 | 16 E | 4* | 8* |
| 1 6 | 18 6.06 | -17 43.7 | 3.614 | 2.677 | 5.5 | 21.8 | 15 W | 7* | 4* | 1 16 | 21 5.48 | -20 6.6 | 1.324 | 0.485 | 37.4 | 19.6 | 17 E | 6* | 9* |
| 1 16 | 18 22.88 | -17 6.3 | 3.594 | 2.700 | 7.6 | 21.9 | 21 W | 10* | 11* | 495552 2014 WS₂₀₀ | | | | | | | | | |
| 462550 2009 CB₃ | | | | | | | | | | 12 7 | 18 8.94 | -30 19.6 | 2.803 | 1.893 | 9.4 | 21.4 | 18 E | — | 12* |
| 12 7 | 17 13.61 | -13 1.3 | 1.841 | 0.891 | 11.7 | 21.2 | 11 E | 4* | — | 12 17 | 18 36.97 | -29 58.9 | 2.797 | 1.861 | 7.6 | 21.3 | 15 E | — | 8* |
| 12 12 | 17 33.44 | -14 0.1 | 1.771 | 0.819 | 11.9 | 20.9 | 10 E | 3* | — | 12 27 | 19 5.46 | -29 18.6 | 2.785 | 1.830 | 6.0 | 21.2 | 11 E | — | 5* |
| 12 17 | 17 55.10 | -14 58.8 | 1.697 | 0.742 | 12.2 | 20.6 | 9 E | 3* | — | 1 6 | 19 34.18 | -28 17.9 | 2.768 | 1.801 | 4.5 | 21.1 | 8 E | — | 2* |
| 12 22 | 18 18.92 | -15 57.4 | 1.618 | 0.661 | 12.8 | 20.3 | 9 E | 2* | — | 1 16 | 20 2.93 | -26 56.8 | 2.747 | 1.773 | 3.6 | 21.0 | 7 E | — | — |
| 12 27 | 18 45.32 | -16 56.0 | 1.533 | 0.577 | 14.1 | 19.9 | 8 E | 2* | — | 32906 1994 RH | | | | | | | | | |
| 1 1 | 19 14.82 | -17 54.9 | 1.440 | 0.490 | 17.3 | 19.6 | 9 E | 2* | — | 12 7 | 18 9.87 | -35 2.7 | 3.775 | 2.873 | 6.9 | 21.5 | 21 E | — | 14* |
| 1 6 | 19 47.81 | -18 55.3 | 1.334 | 0.404 | 25.1 | 19.2 | 10 E | 3* | — | 12 17 | 18 28.03 | -34 32.6 | 3.778 | 2.841 | 5.3 | 21.4 | 15 E | — | 9* |
| 1 11 | 20 24.01 | -19 59.9 | 1.208 | 0.332 | 41.3 | 19.0 | 13 E | 4* | 4* | 12 27 | 18 46.41 | -33 57.0 | 3.764 | 2.809 | 4.1 | 21.3 | 12 E | — | 4* |
| 1 16 | 21 0.47 | -21 13.4 | 1.054 | 0.295 | 68.3 | 19.3 | 16 E | 4* | 8* | 1 6 | 19 4.93 | -33 15.5 | 3.735 | 2.775 | 3.8 | 21.2 | 11 W | — | — |
| 244739 2003 SY₂₇ | | | | | | | | | | 1 16 | 19 23.49 | -32 27.9 | 3.689 | 2.739 | 4.6 | 21.2 | 13 W | — | 5* |
| 12 7 | 17 24.27 | -20 29.8 | 2.949 | 1.975 | 3.5 | 21.5 | 7 E | — | — | 2202 Pele | | | | | | | | | |
| 12 17 | 17 49.27 | -20 39.5 | 2.919 | 1.938 | 1.8 | 21.3 | 4 E | — | — | 12 7 | 18 15.72 | -17 54.1 | 2.846 | 1.945 | 9.7 | 21.5 | 19 E | 10* | 9* |
| 12 27 | 18 14.95 | -20 34.0 | 2.882 | 1.901 | 1.8 | 21.2 | 3 W | — | — | 12 17 | 18 39.06 | -17 54.6 | 2.812 | 1.879 | 7.8 | 21.3 | 15 E | 7* | 4* |
| 1 6 | 18 41.19 | -20 12.0 | 2.839 | 1.865 | 3.5 | 21.3 | 7 W | — | — | 12 27 | 19 3.57 | -17 40.6 | 2.768 | 1.812 | 5.9 | 21.1 | 11 E | 4* | — |
| 1 16 | 19 7.89 | -19 32.9 | 2.790 | 1.831 | 5.5 | 21.3 | 10 W | 2* | 2* | 1 6 | 19 29.22 | -17 10.6 | 2.715 | 1.744 | 4.1 | 20.9 | 7 E | 1* | — |
| 282795 2006 PR₁₇ | | | | | | | | | | 1 16 | 19 55.97 | -16 23.4 | 2.655 | 1.677 | 2.8 | 20.6 | 5 E | — | — |
| 12 7 | 17 27.48 | -22 18.2 | 3.366 | 2.393 | 3.1 | 21.4 | 7 E | — | — | 154331 2002 VF₉₅ | | | | | | | | | |
| 12 17 | 17 48.13 | -22 24.2 | 3.342 | 2.359 | 0.9 | 21.2 | 2 E | — | — | 12 7 | 18 20.41 | -20 17.8 | 2.643 | 1.750 | 11.1 | 21.4 | 20 E | 8* | 11* |
| 12 27 | 18 9.24 | -22 19.7 | 3.305 | 2.324 | 1.5 | 21.2 | 3 W | — | — | 12 17 | 18 48.02 | -20 0.7 | 2.645 | 1.723 | 9.2 | 21.3 | 16 E | 7* | 7* |
| 1 6 | 18 30.73 | -22 4.0 | 3.257 | 2.289 | 3.7 | 21.3 | 9 W | — | 1* | 12 27 | 19 16.13 | -19 24.9 | 2.641 | 1.697 | 7.4 | 21.2 | 13 E | 5* | 3* |
| 1 16 | 18 52.51 | -21 36.5 | 3.198 | 2.254 | 5.9 | 21.4 | 14 W | 3* | 6* | 1 6 | 19 44.55 | -18 30.2 | 2.634 | 1.673 | 5.6 | 21.1 | 10 E | 3* | — |
| 171465 Evamaria | | | | | | | | | | 1 16 | 20 13.14 | -17 16.6 | 2.624 | 1.650 | 3.8 | 20.9 | 6 E | — | — |
| 12 7 | 17 29.67 | -14 42.8 | 4.959 | 3.998 | 2.8 | 21.5 | 11 E | 5* | — | 361518 2007 FD | | | | | | | | | |
| 12 17 | 17 41.94 | -14 54.6 | 4.950 | 3.980 | 2.1 | 21.4 | 8 E | 1* | — | 12 7 | 18 23.11 | -19 6.3 | 2.761 | 1.873 | 10.8 | 21.3 | 21 E | 10* | 11* |
| 12 27 | 17 54.32 | -15 1.0 | 4.923 | 3.961 | 2.7 | 21.4 | 11 W | 5* | — | 12 17 | 18 45.98 | -18 47.1 | 2.717 | 1.793 | 8.8 | 21.1 | 16 E | 8* | 6* |
| 1 6 | 18 6.74 | -15 1.8 | 4.877 | 3.942 | 4.0 | 21.5 | 16 W | 9* | 3* | 12 27 | 19 10.19 | -18 12.7 | 2.661 | 1.711 | 6.9 | 20.9 | 12 E | 5* | 1* |
| 1 16 | 18 19.07 | -14 57.1 | 4.812 | 3.923 | 5.5 | 21.5 | 23 W | 13* | 11* | 1 6 | 19 35.78 | -17 21.4 | 2.593 | 1.627 | 5.1 | 20.6 | 8 E | 2* | — |
| 302193 2001 UA | | | | | | | | | | 1 16 | 20 2.82 | -16 10.8 | 2.517 | 1.540 | 3.5 | 20.4 | 6 E | — | — |
| 12 7 | 17 36.54 | -26 18.9 | 2.791 | 1.829 | 5.4 | 21.5 | 10 E | — | 4* | 100438 1996 PC₃ | | | | | | | | | |
| 12 17 | 18 4.66 | -26 39.0 | 2.775 | 1.801 | 3.6 | 21.3 | 7 E | — | 1* | 12 7 | 18 32.60 | -38 24.8 | 4.104 | 3.248 | 7.7 | 21.5 | 26 E | — | 20* |
| 12 27 | 18 33.49 | -26 39.6 | 2.754 | 1.774 | 2.2 | 21.2 | 4 E | — | — | 12 17 | 18 49.35 | -37 38.5 | 4.127 | 3.226 | 6.2 | 21.4 | 21 E | — | 14* |
| 1 6 | 19 2.82 | -26 19.8 | 2.728 | 1.749 | 2.2 | 21.1 | 4 W | — | — | 12 27 | 19 6.19 | -36 49.0 | 4.134 | 3.202 | 5.0 | 21.3 | 16 E | — | 9* |
| 1 16 | 19 32.45 | -25 38.7 | 2.699 | 1.725 | 3.6 | 21.2 | 6 W | — | — | 1 6 | 19 23.02 | -35 56.2 | 4.124 | 3.177 | 4.2 | 21.3 | 14 E | — | 4* |
| 455231 2001 SX₁₁₁ | | | | | | | | | | 1 16 | 19 39.74 | -34 59.8 | 4.096 | 3.152 | 4.4 | 21.2 | 14 W | — | 3* |
| 12 7 | 17 38.55 | -30 33.2 | 2.670 | 1.721 | 7.1 | 21.4 | 13 E | — | 6* | 200175 1999 JH₁₄ | | | | | | | | | |
| 12 17 | 18 9.62 | -30 28.3 | 2.644 | 1.683 | 5.7 | 21.3 | 10 E | — | 3* | 12 7 | 18 37.40 | -34 23.9 | 3.540 | 2.683 | 9.0 | 21.5 | 25 E | — | 19* |
| 12 27 | 18 41.46 | -29 58.7 | 2.615 | 1.646 | 4.6 | 21.2 | 8 E | — | 1* | 12 17 | 18 57.28 | -34 19.9 | 3.608 | 2.706 | 7.2 | 21.5 | 20 E | — | 14* |
| 1 6 | 19 13.74 | -29 2.5 | 2.584 | 1.611 | 4.1 | 21.1 | 7 E | — | — | 12 27 | 19 17.11 | -34 8.5 | 3.661 | 2.729 | 5.7 | 21.5 | 16 E | — | 9* |
| 1 16 | 19 46.17 | -27 39.0 | 2.552 | 1.579 | 4.2 | 21.0 | 7 W | — | — | 1 6 | 19 36.80 | -33 50.5 | 3.700 | 2.750 | 4.6 | 21.4 | 13 E | — | 5* |
| | | | | | | | | | | 1 16 | 19 56.26 | -33 26.3 | 3.723 | 2.771 | 4.4 | 21.5 | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|
| 99761 2002 JK₁₀₁ | | | | | | | | | | 455795 2005 SF | | | | | | | | | |
| 12 7 | 18 45.48 | -19 17.6 | 3.772 | 2.918 | 8.5 | 21.5 | 26 E | 13* | 16* | 12 17 | 6 38.16 | +19 3.3 | 2.071 | 3.034 | 4.6 | 23.2 | 166 W | 64 | 45 |
| 12 17 | 19 1.08 | -19 32.5 | 3.843 | 2.933 | 6.4 | 21.5 | 19 E | 9* | 9* | 12 22 | 6 31.64 | +19 15.3 | 2.043 | 3.020 | 2.7 | 23.0 | 172 W | 64 | 45 |
| 12 27 | 19 16.78 | -19 39.8 | 3.898 | 2.948 | 4.3 | 21.4 | 13 E | 5* | 3* | 12 27 | 6 24.84 | +19 27.5 | 2.023 | 3.005 | 1.3 | 22.9 | 176 W | 64 | 45 |
| 1 6 | 19 32.51 | -19 39.9 | 3.936 | 2.961 | 2.1 | 21.3 | 6 E | — | — | 1 1 | 6 17.92 | +19 39.8 | 2.012 | 2.990 | 2.4 | 23.0 | 173 E | 65 | 44 |
| 1 16 | 19 48.19 | -19 33.7 | 3.957 | 2.974 | 0.5 | 21.2 | 2 W | — | — | 1 6 | 6 11.03 | +19 52.0 | 2.009 | 2.974 | 4.4 | 23.1 | 167 E | 65 | 44 |
| 392704 2012 AE₁ | | | | | | | | | | 498068 2007 RT₁₄₆ | | | | | | | | | |
| 12 7 | 18 48.22 | -28 15.6 | 1.775 | 0.990 | 26.0 | 21.4 | 26 E | 5* | 19* | 12 17 | 6 40.36 | -2 28.7 | 1.745 | 2.645 | 10.7 | 22.8 | 150 W | 43 | 66 |
| 12 12 | 19 10.17 | -27 28.7 | 1.740 | 0.956 | 26.7 | 21.3 | 26 E | 6* | 19* | 12 27 | 6 27.82 | -2 41.2 | 1.733 | 2.651 | 9.4 | 22.7 | 154 W | 42 | 67 |
| 12 17 | 19 32.63 | -26 26.4 | 1.704 | 0.924 | 27.7 | 21.2 | 26 E | 7* | 18* | 1 6 | 6 15.24 | -2 28.4 | 1.748 | 2.656 | 10.0 | 22.8 | 152 E | 43 | 66 |
| 12 22 | 19 55.48 | -25 7.6 | 1.667 | 0.894 | 28.8 | 21.1 | 26 E | 8* | 18* | 1 16 | 6 3.84 | -1 52.1 | 1.791 | 2.659 | 12.2 | 22.9 | 145 E | 43 | 66 |
| 12 27 | 20 18.61 | -23 31.8 | 1.631 | 0.868 | 30.2 | 21.1 | 26 E | 10* | 18* | 1 26 | 5 54.65 | -0 57.1 | 1.860 | 2.660 | 14.8 | 23.1 | 136 E | 44 | 65 |
| 1 1 | 20 41.93 | -21 38.8 | 1.595 | 0.844 | 31.8 | 21.0 | 27 E | 11* | 18* | 379520 2010 OS₂₃ | | | | | | | | | |
| 1 6 | 21 5.34 | -19 28.7 | 1.559 | 0.825 | 33.5 | 20.9 | 28 E | 13* | 17* | 12 17 | 6 41.07 | +27 43.6 | 2.987 | 3.947 | 3.6 | 22.7 | 165 W | 73 | 36 |
| 1 11 | 21 28.77 | -17 2.2 | 1.525 | 0.810 | 35.4 | 20.9 | 28 E | 15* | 17* | 12 22 | 6 36.26 | +27 57.3 | 2.979 | 3.954 | 2.2 | 22.6 | 171 W | 73 | 36 |
| 1 16 | 21 52.15 | -14 20.6 | 1.492 | 0.800 | 37.3 | 20.9 | 30 E | 17* | 17* | 12 27 | 6 31.32 | +28 9.8 | 2.979 | 3.959 | 1.3 | 22.5 | 175 W | 73 | 36 |
| 417999 2007 TG₄₀₀ | | | | | | | | | | 425047 2009 QE₈ | | | | | | | | | |
| 12 7 | 18 52.56 | -22 59.1 | 2.383 | 1.571 | 16.6 | 21.5 | 27 E | 10* | 18* | 12 17 | 6 50.58 | +33 18.7 | 2.218 | 3.167 | 5.7 | 22.7 | 161 W | 78 | 31 |
| 12 17 | 19 24.03 | -22 38.2 | 2.398 | 1.553 | 15.0 | 21.4 | 24 E | 9* | 15* | 12 22 | 6 44.48 | +33 25.4 | 2.200 | 3.164 | 4.2 | 22.6 | 166 W | 78 | 31 |
| 12 27 | 19 55.84 | -21 52.8 | 2.412 | 1.538 | 13.4 | 21.3 | 21 E | 8* | 12* | 12 27 | 6 38.13 | +33 29.0 | 2.189 | 3.160 | 3.3 | 22.5 | 169 W | 78 | 31 |
| 1 6 | 20 27.66 | -20 43.6 | 2.426 | 1.528 | 11.9 | 21.3 | 19 E | 7* | 10* | 1 1 | 6 31.68 | +33 29.4 | 2.186 | 3.156 | 3.4 | 22.5 | 169 E | 78 | 31 |
| 1 16 | 20 59.27 | -19 11.9 | 2.442 | 1.521 | 10.3 | 21.2 | 16 E | 6* | 7* | 1 6 | 6 25.29 | +33 26.5 | 2.190 | 3.152 | 4.4 | 22.6 | 166 E | 78 | 31 |
| 367073 2006 PZ₁₉ | | | | | | | | | | 426084 2006 SN₆ | | | | | | | | | |
| 12 7 | 18 54.94 | -19 54.1 | 2.750 | 1.936 | 13.8 | 21.4 | 28 E | 13* | 18* | 12 7 | 18 59.12 | -23 54.4 | 2.838 | 2.027 | 13.4 | 21.5 | 28 E | 10* | 20* |
| 12 17 | 19 19.54 | -19 42.1 | 2.765 | 1.904 | 11.9 | 21.3 | 24 E | 11* | 13* | 12 17 | 19 22.90 | -23 17.1 | 2.852 | 1.991 | 11.5 | 21.4 | 24 E | 9* | 15* |
| 12 27 | 19 44.74 | -19 14.2 | 2.773 | 1.873 | 10.0 | 21.2 | 19 E | 9* | 9* | 12 27 | 19 47.20 | -22 25.1 | 2.857 | 1.956 | 9.6 | 21.3 | 19 E | 7* | 11* |
| 1 6 | 20 10.40 | -18 30.5 | 2.774 | 1.844 | 8.1 | 21.1 | 15 E | 7* | 5* | 1 6 | 20 11.87 | -21 18.2 | 2.855 | 1.922 | 7.6 | 21.1 | 15 E | 5* | 7* |
| 1 16 | 20 36.39 | -17 30.9 | 2.770 | 1.815 | 6.1 | 21.0 | 11 E | 4* | 2* | 1 16 | 20 36.82 | -19 56.2 | 2.846 | 1.889 | 5.6 | 21.0 | 11 E | 2* | 3* |
| 266084 2006 SN₆ | | | | | | | | | | 416804 2005 GP₁₂₈ | | | | | | | | | |
| 12 7 | 18 59.12 | -23 54.4 | 2.838 | 2.027 | 13.4 | 21.5 | 28 E | 10* | 20* | 12 17 | 6 52.73 | +16 32.0 | 3.297 | 4.242 | 4.2 | 24.8 | 161 W | 62 | 47 |
| 12 17 | 19 22.90 | -23 17.1 | 2.852 | 1.991 | 11.5 | 21.4 | 24 E | 9* | 15* | 12 27 | 6 44.22 | +16 40.9 | 3.272 | 4.247 | 1.9 | 24.6 | 172 W | 62 | 47 |
| 12 27 | 19 47.20 | -22 25.1 | 2.857 | 1.956 | 9.6 | 21.3 | 19 E | 7* | 11* | 1 6 | 6 35.47 | +16 52.1 | 3.279 | 4.252 | 2.2 | 24.7 | 171 E | 62 | 47 |
| 1 6 | 20 11.87 | -21 18.2 | 2.855 | 1.922 | 7.6 | 21.1 | 15 E | 5* | 7* | 1 16 | 6 27.09 | +17 5.0 | 3.319 | 4.255 | 4.6 | 24.8 | 160 E | 62 | 47 |
| 1 16 | 20 36.82 | -19 56.2 | 2.846 | 1.889 | 5.6 | 21.0 | 11 E | 2* | 3* | 1 26 | 6 19.69 | +17 19.0 | 3.389 | 4.258 | 7.0 | 25.0 | 148 E | 62 | 47 |
| 257737 2000 AY₄₈ | | | | | | | | | | 447795 2007 TH₁₉ | | | | | | | | | |
| 12 7 | 19 10.43 | -29 10.0 | 3.073 | 2.286 | 12.8 | 21.5 | 31 E | 7* | 24* | 12 17 | 6 58.46 | +23 24.8 | 2.816 | 3.764 | 4.7 | 23.4 | 162 W | 68 | 41 |
| 12 17 | 19 31.72 | -29 4.7 | 3.095 | 2.251 | 11.0 | 21.4 | 26 E | 5* | 19* | 12 27 | 6 48.82 | +23 40.5 | 2.786 | 3.766 | 1.5 | 23.2 | 174 W | 69 | 40 |
| 12 27 | 19 53.74 | -28 47.9 | 3.105 | 2.215 | 9.1 | 21.3 | 21 E | 2* | 15* | 1 6 | 6 38.78 | +23 53.9 | 2.789 | 3.767 | 1.8 | 23.2 | 173 E | 69 | 40 |
| 1 6 | 20 16.36 | -28 19.3 | 3.103 | 2.178 | 7.4 | 21.2 | 17 E | — | 10* | 1 16 | 6 29.15 | +24 4.1 | 2.824 | 3.767 | 4.9 | 23.5 | 161 E | 69 | 40 |
| 1 16 | 20 39.49 | -27 38.8 | 3.090 | 2.142 | 5.9 | 21.1 | 13 E | — | 7* | 1 26 | 6 20.70 | +24 10.8 | 2.890 | 3.766 | 7.8 | 23.6 | 149 E | 69 | 40 |
| 363548 2003 WA₁₃ | | | | | | | | | | 434147 2002 RH₁₅₆ | | | | | | | | | |
| 12 7 | 19 21.87 | -26 37.7 | 2.451 | 1.718 | 18.4 | 21.5 | 33 E | 10* | 26* | 12 17 | 6 59.42 | +22 7.4 | 1.949 | 2.899 | 6.2 | 22.4 | 161 W | 67 | 42 |
| 12 17 | 19 50.90 | -25 30.5 | 2.481 | 1.701 | 16.8 | 21.4 | 30 E | 10* | 22* | 12 22 | 6 54.06 | +22 12.0 | 1.933 | 2.902 | 4.1 | 22.3 | 168 W | 67 | 42 |
| 12 27 | 20 19.90 | -24 2.8 | 2.508 | 1.687 | 15.1 | 21.4 | 27 E | 10* | 18* | 12 27 | 6 48.43 | +22 16.3 | 1.925 | 2.905 | 2.0 | 22.2 | 174 W | 67 | 42 |
| 1 6 | 20 48.66 | -22 15.6 | 2.533 | 1.676 | 13.4 | 21.3 | 23 E | 9* | 15* | 1 1 | 6 42.69 | +22 20.1 | 1.924 | 2.908 | 0.3 | 22.0 | 179 E | 67 | 42 |
| 1 16 | 21 17.04 | -20 10.7 | 2.556 | 1.667 | 11.7 | 21.3 | 20 E | 8* | 12* | 1 6 | 6 36.97 | +22 23.4 | 1.932 | 2.910 | 2.4 | 22.2 | 173 E | 67 | 42 |
| 247179 2001 DC₉ | | | | | | | | | | 391211 2006 HZ₅₁ | | | | | | | | | |
| 12 7 | 19 36.75 | -33 21.8 | 3.112 | 2.400 | 14.3 | 21.5 | 37 E | 6* | 31* | 12 17 | 7 0.16 | +26 58.6 | 1.801 | 2.751 | 6.6 | 22.5 | 161 W | 72 | 37 |
| 12 17 | 19 56.48 | -31 42.5 | 3.152 | 2.368 | 12.5 | 21.4 | 31 E | 5* | 25* | 12 22 | 6 53.55 | +27 25.5 | 1.783 | 2.751 | 4.4 | 22.3 | 168 W | 72 | 37 |
| 12 27 | 20 16.32 | -29 55.9 | 3.179 | 2.335 | 10.6 | 21.3 | 26 E | 4* | 20* | 12 27 | 6 46.57 | +27 50.8 | 1.772 | 2.751 | 2.5 | 22.2 | 173 W | 73 | 36 |
| 1 6 | 20 36.16 | -28 1.5 | 3.195 | 2.302 | 8.7 | 21.2 | 21 E | 2* | 14* | 1 1 | 6 39.39 | +28 13.9 | 1.770 | 2.750 | 1.9 | 22.2 | 175 E | 73 | 36 |
| 1 16 | 20 55.95 | -25 59.2 | 3.200 | 2.268 | 6.7 | 21.1 | 16 E | — | 9* | 1 6 | 6 32.19 | +28 34.2 | 1.775 | 2.749 | 3.6 | 22.3 | 170 E | 74 | 35 |
| 247779 2003 RU | | | | | | | | | | 513472 2009 CS₅ | | | | | | | | | |
| 12 7 | 19 50.07 | -16 8.5 | 2.551 | 1.929 | 19.8 | 21.5 | 42 E | 23* | 29* | 12 17 | 7 4.87 | +59 48.0 | 1.559 | 2.402 | 15.1 | 23.1 | 141 W | 75 | 4 |
| 12 17 | 20 11.01 | -14 15.6 | 2.586 | 1.895 | 18.2 | 21.4 | 37 E | 22* | 22* | 12 19 | 6 58.35 | +59 52.0 | 1.555 | 2.405 | 14.7 | 23.1 | 142 W | 75 | 4 |
| 12 27 | 20 32.42 | -12 11.3 | 2.613 | 1.861 | 16.5 | 21.3 | 33 E | 21* | 16* | 12 21 | 6 51.70 | +59 53.4 | 1.553 | 2.408 | 14.5 | 23.1 | 142 W | 75 | 4 |
| 1 6 | 20 54.25 | -9 55.4 | 2.632 | 1.829 | 14.8 | 21.2 | 28 E | 20* | 11* | 12 23 | 6 44.96 | +59 52.0 | 1.552 | 2.411 | 14.2 | 23.1 | 143 W | 75 | 4 |
| 1 16 | 21 16.45 | -7 27.9 | 2.644 | 1.797 | 13.2 | 21.2 | 25 E | 18* | 6* | 12 25 | 6 38.19 | +59 47.9 | 1.552 | 2.414 | 14.1 | 23.1 | 143 W | 75 | 4 |
| 409296 2004 SV₅₁ | | | | | | | | | | 474350 2002 QN₅₂ | | | | | | | | | |
| 12 7 | 19 53.92 | -25 3.1 | 2.285 | 1.669 | 22.7 | 21.5 | 41 E | 15* | 32* | 12 17 | 6 35.55 | +14 50.0 | 1.688 | 2.649 | 5.8 | 22.6 | 164 W | 60 | 49 |
| 12 17 | 20 22.21 | -23 33.7 | 2.318 | 1.647 | 21.2 | 21.4 | 37 E | 15* | 28* | 12 27 | 6 24.29 | +15 8.7 | 1.694 | 2.671 | 3.0 | 22.5 | 172 W | 60 | 49 |
| 12 27 | 20 50.58 | -21 44.6 | 2.348 | 1.627 | 19.7 | 21.4 | 34 E | 15* | 24* | 1 6 | 6 13.25 | +15 33.0 | 1.729 | 2.691 | 5.3 | 22.7 | 165 E | 61 | 48 |
| 1 6 | 21 18.85 | -19 37.2 | 2.377 | 1.611 | 18.1 | 21.4 | 31 E | 15* | 20* | 1 16 | 6 3.60 | +16 1.4 | 1.792 | 2.711 | 9.1 | 22.9 | 154 E | 61 | 48 |
| 1 16 | 21 46.89 | -17 13.0 | 2.403 | 1.597 | 16.6 | 21.3 | 28 E | 14* | 17* | 1 26 | 5 56.26 | +16 32.4 | 1.882 | 2.731 | 12.7 | 23.2 | 143 E | 62 | 47 |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|------------|-------------|-------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|------------|-------------|
| 8709 Kadlu | | | | | | | | | | 397287 2006 SG₅₄ | | | | | | | | | |
| 12 17 | 7 8.40 | +20 59.7 | 2.798 | 3.735 | 5.4 | 22.4 | 159 W | 66 | 43 | 12 17 | 7 26.79 | +8 59.0 | 2.541 | 3.432 | 8.1 | 22.0 | 151 W | 54 | 55 |
| 12 27 | 6 59.18 | +21 17.2 | 2.750 | 3.726 | 2.2 | 22.2 | 172 W | 66 | 43 | 12 27 | 7 18.24 | +8 49.9 | 2.509 | 3.452 | 5.5 | 21.8 | 160 W | 54 | 55 |
| 1 6 | 6 49.34 | +21 34.6 | 2.735 | 3.716 | 1.1 | 22.1 | 176 E | 67 | 42 | 1 6 | 7 8.99 | +8 50.2 | 2.508 | 3.471 | 3.8 | 21.8 | 166 W | 54 | 55 |
| 1 16 | 6 39.66 | +21 50.5 | 2.752 | 3.706 | 4.4 | 22.3 | 163 E | 67 | 42 | 1 16 | 6 59.81 | +8 59.2 | 2.537 | 3.489 | 4.8 | 21.8 | 163 E | 54 | 55 |
| 1 26 | 6 30.94 | +22 4.2 | 2.801 | 3.694 | 7.4 | 22.5 | 151 E | 67 | 42 | 1 26 | 6 51.49 | +9 15.6 | 2.596 | 3.506 | 7.2 | 22.0 | 154 E | 54 | 55 |
| 399340 2000 LM₃₆ | | | | | | | | | | 296318 2009 EN₂ | | | | | | | | | |
| 12 17 | 7 10.31 | +11 31.2 | 3.062 | 3.977 | 5.9 | 23.4 | 155 W | 57 | 52 | 12 17 | 7 28.31 | -29 47.5 | 1.843 | 2.493 | 19.8 | 22.8 | 121 W | 15 | 86 |
| 12 27 | 7 2.11 | +11 35.9 | 3.036 | 3.994 | 3.6 | 23.3 | 165 W | 57 | 52 | 12 22 | 7 21.23 | -29 41.0 | 1.818 | 2.500 | 19.2 | 22.8 | 124 W | 15 | 86 |
| 1 6 | 6 53.50 | +11 46.7 | 3.042 | 4.011 | 2.7 | 23.2 | 169 E | 57 | 52 | 12 27 | 7 13.69 | -29 22.3 | 1.798 | 2.505 | 18.5 | 22.7 | 126 W | 16 | 87 |
| 1 16 | 6 45.12 | +12 2.7 | 3.080 | 4.026 | 4.4 | 23.4 | 162 E | 57 | 52 | 1 1 | 7 5.86 | -28 50.6 | 1.784 | 2.511 | 18.0 | 22.7 | 128 W | 16 | 87 |
| 1 26 | 6 37.60 | +12 22.7 | 3.149 | 4.041 | 6.7 | 23.5 | 151 E | 57 | 52 | 1 6 | 6 57.93 | -28 6.0 | 1.774 | 2.515 | 17.6 | 22.7 | 129 E | 17 | 88 |
| 498918 2009 BF | | | | | | | | | | 431821 2008 RL₁₀₇ | | | | | | | | | |
| 12 17 | 7 11.95 | +65 28.5 | 1.512 | 2.317 | 17.4 | 22.4 | 135 W | 70 | — | 12 17 | 7 29.24 | +11 29.6 | 2.178 | 3.077 | 8.8 | 22.4 | 151 W | 56 | 53 |
| 12 19 | 7 3.50 | +65 14.5 | 1.506 | 2.320 | 17.0 | 22.4 | 136 W | 70 | — | 12 27 | 7 19.91 | +11 53.5 | 2.148 | 3.100 | 5.5 | 22.3 | 162 W | 57 | 52 |
| 12 21 | 6 55.04 | +64 56.9 | 1.501 | 2.323 | 16.6 | 22.4 | 137 W | 70 | — | 1 6 | 7 9.70 | +12 26.1 | 2.149 | 3.121 | 3.2 | 22.1 | 170 W | 57 | 52 |
| 12 23 | 6 46.64 | +64 35.8 | 1.498 | 2.326 | 16.3 | 22.4 | 138 W | 70 | — | 1 16 | 6 59.55 | +13 5.0 | 2.180 | 3.142 | 4.5 | 22.3 | 165 E | 58 | 51 |
| 12 25 | 6 38.38 | +64 11.2 | 1.495 | 2.329 | 16.1 | 22.4 | 139 W | 71 | — | 1 26 | 6 50.43 | +13 47.4 | 2.243 | 3.162 | 7.6 | 22.5 | 155 E | 59 | 50 |
| 12 27 | 6 30.32 | +63 43.1 | 1.494 | 2.331 | 15.9 | 22.4 | 140 W | 71 | — | 141690 2002 JM₁₄₃ | | | | | | | | | |
| 12 29 | 6 22.53 | +63 11.6 | 1.494 | 2.334 | 15.7 | 22.4 | 140 E | 72 | 1 | 12 17 | 7 30.09 | +18 37.7 | 1.895 | 2.811 | 8.9 | 21.4 | 154 W | 64 | 45 |
| 12 31 | 6 15.04 | +62 37.0 | 1.495 | 2.337 | 15.6 | 22.4 | 140 E | 72 | 1 | 12 27 | 7 19.90 | +18 49.0 | 1.859 | 2.823 | 4.8 | 21.2 | 166 W | 64 | 45 |
| 1 2 | 6 7.90 | +61 59.4 | 1.497 | 2.339 | 15.6 | 22.4 | 140 E | 73 | 2 | 1 6 | 7 8.60 | +19 2.9 | 1.852 | 2.834 | 1.2 | 21.0 | 177 W | 64 | 45 |
| 1 4 | 6 1.15 | +61 19.0 | 1.500 | 2.342 | 15.6 | 22.4 | 140 E | 74 | 3 | 1 16 | 6 57.34 | +19 17.3 | 1.876 | 2.844 | 4.4 | 21.2 | 167 E | 64 | 45 |
| 1 6 | 5 54.80 | +60 36.2 | 1.505 | 2.344 | 15.7 | 22.4 | 140 E | 74 | 3 | 1 26 | 6 47.32 | +19 30.9 | 1.930 | 2.853 | 8.4 | 21.5 | 155 E | 65 | 44 |
| 1 8 | 5 48.88 | +59 51.0 | 1.511 | 2.347 | 15.8 | 22.4 | 139 E | 75 | 4 | 255501 2006 BG | | | | | | | | | |
| 1 10 | 5 43.38 | +59 4.0 | 1.518 | 2.349 | 16.0 | 22.4 | 139 E | 76 | 5 | 12 17 | 7 31.26 | +21 44.4 | 1.610 | 2.532 | 9.8 | 22.3 | 154 W | 67 | 42 |
| 1 12 | 5 38.32 | +58 15.2 | 1.527 | 2.351 | 16.3 | 22.5 | 138 E | 77 | 6 | 12 27 | 7 15.59 | +22 3.9 | 1.514 | 2.484 | 4.7 | 21.9 | 168 W | 67 | 42 |
| 1 14 | 5 33.68 | +57 25.1 | 1.536 | 2.353 | 16.6 | 22.5 | 137 E | 78 | 7 | 1 6 | 6 57.11 | +22 20.6 | 1.449 | 2.432 | 1.0 | 21.5 | 178 E | 67 | 42 |
| 1 16 | 5 29.47 | +56 33.9 | 1.547 | 2.355 | 16.9 | 22.5 | 136 E | 78 | 7 | 1 16 | 6 37.52 | +22 30.2 | 1.419 | 2.377 | 7.0 | 21.8 | 163 E | 68 | 41 |
| 376775 2000 HW₂₃ | | | | | | | | | | 164214 2004 LZ₁₁ | | | | | | | | | |
| 12 17 | 7 12.03 | +31 25.8 | 2.082 | 3.016 | 7.0 | 22.9 | 158 W | 76 | 33 | 12 17 | 7 32.02 | +25 57.4 | 1.647 | 2.570 | 9.6 | 22.8 | 154 W | 71 | 38 |
| 12 22 | 7 6.13 | +31 45.3 | 2.066 | 3.022 | 5.3 | 22.8 | 163 W | 77 | 32 | 12 22 | 7 26.10 | +26 20.6 | 1.637 | 2.586 | 7.3 | 22.7 | 161 W | 71 | 38 |
| 12 27 | 6 59.88 | +32 2.3 | 2.058 | 3.027 | 3.8 | 22.7 | 168 W | 77 | 32 | 12 27 | 7 19.73 | +26 42.7 | 1.634 | 2.601 | 4.9 | 22.6 | 167 W | 72 | 37 |
| 1 1 | 6 53.43 | +32 16.4 | 2.058 | 3.032 | 3.0 | 22.7 | 171 W | 77 | 32 | 1 1 | 7 13.07 | +27 2.9 | 1.638 | 2.616 | 2.8 | 22.5 | 173 W | 72 | 37 |
| 1 6 | 6 46.94 | +32 27.3 | 2.066 | 3.037 | 3.5 | 22.7 | 169 E | 77 | 32 | 1 6 | 7 6.32 | +27 20.8 | 1.650 | 2.631 | 1.8 | 22.4 | 175 E | 72 | 37 |
| 1 11 | 6 40.57 | +32 34.7 | 2.081 | 3.041 | 4.9 | 22.8 | 165 E | 78 | 31 | 1 11 | 6 59.66 | +27 35.8 | 1.670 | 2.646 | 3.3 | 22.6 | 171 E | 73 | 36 |
| 1 16 | 6 34.50 | +32 38.7 | 2.105 | 3.045 | 6.5 | 22.9 | 159 E | 78 | 31 | 1 16 | 6 53.28 | +27 47.9 | 1.697 | 2.660 | 5.4 | 22.7 | 165 E | 73 | 36 |
| 7236 1987 PA | | | | | | | | | | 222956 2002 PF₁₂₉ | | | | | | | | | |
| 12 17 | 7 12.04 | +32 29.3 | 3.286 | 4.213 | 5.1 | 24.4 | 158 W | 77 | 32 | 12 17 | 7 33.02 | +33 40.9 | 1.926 | 2.838 | 9.0 | 21.4 | 153 W | 79 | 30 |
| 12 22 | 7 7.32 | +32 33.3 | 3.267 | 4.217 | 3.9 | 24.4 | 163 W | 78 | 31 | 12 22 | 7 27.80 | +34 5.3 | 1.896 | 2.834 | 7.4 | 21.3 | 158 W | 79 | 30 |
| 12 27 | 7 2.38 | +32 35.6 | 3.255 | 4.221 | 2.9 | 24.3 | 167 W | 78 | 31 | 12 27 | 7 22.02 | +34 27.5 | 1.874 | 2.829 | 5.8 | 21.2 | 163 W | 79 | 30 |
| 1 1 | 6 57.32 | +32 36.0 | 3.252 | 4.224 | 2.3 | 24.2 | 170 W | 78 | 31 | 1 1 | 7 15.83 | +34 46.7 | 1.858 | 2.824 | 4.7 | 21.1 | 167 W | 80 | 29 |
| 1 6 | 6 52.23 | +32 34.2 | 3.257 | 4.227 | 2.5 | 24.3 | 169 E | 78 | 31 | 1 6 | 7 9.38 | +35 2.1 | 1.851 | 2.819 | 4.3 | 21.1 | 167 W | 80 | 29 |
| 1 11 | 6 47.22 | +32 30.4 | 3.270 | 4.230 | 3.3 | 24.3 | 166 E | 78 | 31 | 1 11 | 7 2.85 | +35 13.4 | 1.851 | 2.813 | 5.1 | 21.1 | 165 E | 80 | 29 |
| 1 16 | 6 42.37 | +32 24.4 | 3.291 | 4.233 | 4.4 | 24.4 | 161 E | 77 | 32 | 1 16 | 6 56.45 | +35 20.2 | 1.858 | 2.807 | 6.4 | 21.2 | 161 E | 80 | 29 |
| 143487 2003 CR₂₀ | | | | | | | | | | 40329 1999 ML | | | | | | | | | |
| 12 17 | 7 15.40 | +15 34.3 | 2.419 | 3.342 | 6.9 | 23.7 | 156 W | 61 | 48 | 12 17 | 7 33.86 | +18 3.7 | 1.847 | 2.759 | 9.4 | 21.8 | 153 W | 63 | 46 |
| 12 27 | 7 4.09 | +15 46.4 | 2.339 | 3.307 | 3.6 | 23.5 | 168 W | 61 | 48 | 12 27 | 7 22.67 | +18 21.2 | 1.833 | 2.796 | 5.1 | 21.6 | 165 W | 63 | 46 |
| 1 6 | 6 51.63 | +16 2.7 | 2.293 | 3.270 | 2.3 | 23.3 | 172 E | 61 | 48 | 1 6 | 7 10.56 | +18 41.3 | 1.849 | 2.831 | 1.4 | 21.4 | 176 W | 64 | 45 |
| 1 16 | 6 39.00 | +16 21.7 | 2.280 | 3.231 | 5.3 | 23.5 | 162 E | 61 | 48 | 1 16 | 6 58.75 | +19 1.4 | 1.897 | 2.865 | 4.2 | 21.7 | 168 E | 64 | 45 |
| 1 26 | 6 27.27 | +16 42.2 | 2.300 | 3.191 | 8.9 | 23.6 | 150 E | 62 | 47 | 1 26 | 6 48.42 | +19 20.0 | 1.975 | 2.898 | 8.2 | 22.0 | 155 E | 64 | 45 |
| 163697 2003 EF₅₄ | | | | | | | | | | 354683 2005 PM₄ | | | | | | | | | |
| 12 17 | 7 22.16 | +21 10.5 | 1.347 | 2.282 | 10.1 | 23.1 | 156 W | 66 | 43 | 12 17 | 7 33.98 | +31 23.8 | 2.524 | 3.432 | 7.4 | 21.7 | 153 W | 76 | 33 |
| 12 22 | 7 15.01 | +21 17.1 | 1.313 | 2.271 | 7.3 | 22.9 | 163 W | 66 | 43 | 12 22 | 7 29.56 | +31 46.8 | 2.485 | 3.421 | 6.0 | 21.6 | 159 W | 77 | 32 |
| 12 27 | 7 7.12 | +21 23.9 | 1.285 | 2.260 | 4.4 | 22.7 | 170 W | 66 | 43 | 12 27 | 7 24.69 | +32 8.6 | 2.454 | 3.410 | 4.6 | 21.5 | 164 W | 77 | 32 |
| 1 1 | 6 58.69 | +21 30.1 | 1.265 | 2.248 | 1.5 | 22.5 | 177 W | 67 | 42 | 1 1 | 7 19.48 | +32 28.8 | 2.430 | 3.398 | 3.5 | 21.4 | 168 W | 77 | 32 |
| 1 6 | 6 49.96 | +21 35.4 | 1.253 | 2.235 | 1.8 | 22.5 | 176 E | 67 | 42 | 1 6 | 7 14.02 | +32 46.7 | 2.415 | 3.386 | 3.0 | 21.4 | 170 W | 78 | 31 |
| 1 11 | 6 41.19 | +21 39.3 | 1.249 | 2.222 | 4.9 | 22.6 | 169 E | 67 | 42 | 1 11 | 7 8.46 | +33 2.0 | 2.407 | 3.374 | 3.5 | 21.4 | 168 E | 78 | 31 |
| 1 16 | 6 32.67 | +21 41.7 | 1.252 | 2.207 | 8.0 | 22.8 | 162 E | 67 | 42 | 1 16 | 7 2.91 | +33 14.4 | 2.407 | 3.362 | 4.7 | 21.4 | 164 E | 78 | 31 |
| 164215 Doloreshill | | | | | | | | | | 100493 1996 VK₃₇ | | | | | | | | | |
| 12 17 | 7 23.60 | +16 43.5 | 1.774 | 2.696 | 9.0 | 24.0 | 155 W | 62 | 47 | 12 17 | 7 34.27 | +18 8.0 | 1.903 | 2.813 | 9.3 | 21.4 | 153 W | 63 | 46 |
| 12 27 | 7 12.05 | +16 49.3 | 1.755 | 2.722 | 4.7 | 23.8 | 167 W | 62 | 47 | 12 27 | 7 24.46 | +18 23.1 | 1.858 | 2.819 | 5.2 | 21.1 | 165 W | 63 | 46 |
| 1 6 | 6 59.69 | +16 59.2 | 1.767 | 2.747 | 2.1 | 23.7 | 174 E | 62 | 47 | 1 6 | 7 13.38 | +18 41.7 | 1.843</ | | | | | | |

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

| 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° | 20/21 | α_{2000} | δ_{2000} | Δ | r | β | V | ψ | 45° | -26° |
|--|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|--------------------------------------|-----------------|-----------------|----------|-------|---------|------|--------|-----|------|
| 235700 2004 TR ₁₃ (continuation) | | | | | | | | | | 376721 1997 GR ₃₀ | | | | | | | | | |
| 1 6 | 6 59.06 | +49 3.0 | 2.079 | 2.991 | 8.5 | 23.1 | 153 E | 86 | 15 | 12 17 | 7 50.35 | +13 45.5 | 1.800 | 2.683 | 11.4 | 22.2 | 148 W | 59 | 50 |
| 1 11 | 6 49.01 | +49 10.3 | 2.067 | 2.968 | 9.1 | 23.0 | 152 E | 86 | 15 | 12 27 | 7 41.18 | +13 55.7 | 1.736 | 2.679 | 7.4 | 22.0 | 159 W | 59 | 50 |
| 1 16 | 6 39.06 | +49 9.0 | 2.062 | 2.945 | 10.1 | 23.1 | 148 E | 86 | 15 | 1 6 | 7 30.23 | +14 15.3 | 1.701 | 2.675 | 3.6 | 21.7 | 170 W | 59 | 50 |
| 469516 2003 RZ ₂₃ | | | | | | | | | | 366795 2004 VA ₆₁ | | | | | | | | | |
| 12 17 | 7 34.89 | +14 12.6 | 1.644 | 2.551 | 10.7 | 22.1 | 151 W | 59 | 50 | 12 17 | 7 52.48 | +12 21.3 | 1.598 | 2.479 | 12.6 | 21.9 | 147 W | 57 | 52 |
| 12 27 | 7 24.66 | +14 12.6 | 1.613 | 2.569 | 6.5 | 21.9 | 163 W | 59 | 50 | 12 27 | 7 42.43 | +12 30.9 | 1.565 | 2.506 | 8.3 | 21.7 | 158 W | 58 | 51 |
| 1 6 | 7 13.19 | +14 21.1 | 1.610 | 2.587 | 3.1 | 21.7 | 172 W | 59 | 50 | 1 6 | 7 30.79 | +12 51.6 | 1.560 | 2.532 | 4.3 | 21.6 | 169 W | 58 | 51 |
| 1 16 | 7 1.76 | +14 35.9 | 1.637 | 2.604 | 5.0 | 21.9 | 167 E | 60 | 49 | 1 16 | 7 18.83 | +13 20.6 | 1.584 | 2.557 | 4.1 | 21.6 | 169 E | 58 | 51 |
| 1 26 | 6 51.67 | +14 55.1 | 1.692 | 2.619 | 9.0 | 22.1 | 155 E | 60 | 49 | 1 26 | 7 7.94 | +13 54.5 | 1.638 | 2.581 | 7.9 | 21.9 | 159 E | 59 | 50 |
| 319495 2006 QW ₅₉ | | | | | | | | | | 448562 2010 RZ ₁₄₃ | | | | | | | | | |
| 12 17 | 7 35.58 | +16 22.8 | 1.785 | 2.692 | 9.9 | 21.6 | 152 W | 61 | 48 | 12 17 | 7 54.48 | -11 25.9 | 1.176 | 1.974 | 21.7 | 21.5 | 132 W | 34 | 75 |
| 12 27 | 7 25.47 | +16 29.4 | 1.749 | 2.708 | 5.8 | 21.3 | 164 W | 61 | 48 | 12 22 | 7 50.18 | -11 52.0 | 1.153 | 1.981 | 20.3 | 21.4 | 136 W | 33 | 76 |
| 1 6 | 7 14.14 | +16 41.4 | 1.743 | 2.723 | 2.2 | 21.1 | 174 W | 62 | 47 | 12 27 | 7 45.14 | -12 7.4 | 1.135 | 1.987 | 18.8 | 21.3 | 139 W | 33 | 76 |
| 1 16 | 7 2.77 | +16 56.8 | 1.767 | 2.736 | 4.3 | 21.3 | 168 E | 62 | 47 | 1 1 | 7 39.51 | -12 11.1 | 1.121 | 1.992 | 17.5 | 21.3 | 142 W | 33 | 76 |
| 1 26 | 6 52.61 | +17 13.6 | 1.820 | 2.749 | 8.4 | 21.6 | 156 E | 62 | 47 | 1 6 | 7 33.46 | -12 2.7 | 1.112 | 1.998 | 16.5 | 21.2 | 145 W | 33 | 76 |
| 474348 2002 QR ₃ | | | | | | | | | | 370702 2004 NC ₉ | | | | | | | | | |
| 12 17 | 7 35.71 | +22 14.9 | 1.676 | 2.592 | 9.9 | 22.2 | 153 W | 67 | 42 | 12 17 | 7 54.48 | +48 53.6 | 2.205 | 3.050 | 11.2 | 22.2 | 143 W | 86 | 15 |
| 12 22 | 7 30.53 | +22 18.0 | 1.660 | 2.604 | 7.6 | 22.1 | 159 W | 67 | 42 | 12 22 | 7 48.32 | +49 18.2 | 2.154 | 3.024 | 10.3 | 22.1 | 147 W | 86 | 15 |
| 12 27 | 7 24.89 | +22 21.2 | 1.652 | 2.616 | 5.3 | 22.0 | 166 W | 67 | 42 | 12 27 | 7 41.20 | +49 38.0 | 2.109 | 2.999 | 9.5 | 22.0 | 150 W | 85 | 14 |
| 1 1 | 7 18.96 | +22 24.1 | 1.651 | 2.628 | 2.9 | 21.9 | 172 W | 67 | 42 | 1 1 | 7 33.34 | +49 51.9 | 2.071 | 2.973 | 9.1 | 22.0 | 152 W | 85 | 14 |
| 1 6 | 7 12.90 | +22 26.3 | 1.657 | 2.640 | 0.5 | 21.7 | 179 W | 67 | 42 | 1 6 | 7 24.91 | +49 58.6 | 2.040 | 2.947 | 8.9 | 21.9 | 152 W | 85 | 14 |
| 1 11 | 7 6.88 | +22 27.8 | 1.670 | 2.651 | 2.0 | 21.9 | 175 E | 67 | 42 | 1 11 | 7 16.13 | +49 57.4 | 2.017 | 2.920 | 9.2 | 21.9 | 152 E | 85 | 14 |
| 1 16 | 7 1.07 | +22 28.2 | 1.692 | 2.663 | 4.3 | 22.1 | 168 E | 67 | 42 | 1 16 | 7 7.28 | +49 47.6 | 2.000 | 2.894 | 9.8 | 21.9 | 150 E | 85 | 14 |
| 470010 2006 QV ₁₃₀ | | | | | | | | | | 442442 2011 UD ₁₆₉ | | | | | | | | | |
| 12 17 | 7 40.07 | +23 13.5 | 1.582 | 2.496 | 10.6 | 22.3 | 152 W | 68 | 41 | 12 17 | 7 55.09 | +13 45.6 | 2.529 | 3.394 | 9.2 | 22.5 | 146 W | 59 | 50 |
| 12 22 | 7 35.01 | +23 40.3 | 1.568 | 2.509 | 8.2 | 22.1 | 159 W | 69 | 40 | 12 27 | 7 46.91 | +14 2.9 | 2.488 | 3.420 | 6.1 | 22.3 | 158 W | 59 | 50 |
| 12 27 | 7 29.42 | +24 7.2 | 1.559 | 2.522 | 5.8 | 22.0 | 165 W | 69 | 40 | 1 6 | 7 37.60 | +14 26.7 | 2.475 | 3.446 | 3.1 | 22.2 | 169 W | 59 | 50 |
| 1 1 | 7 23.46 | +24 33.4 | 1.558 | 2.535 | 3.4 | 21.9 | 171 W | 70 | 39 | 1 16 | 7 27.93 | +14 54.9 | 2.494 | 3.471 | 2.3 | 22.1 | 172 E | 60 | 49 |
| 1 6 | 7 17.30 | +24 58.3 | 1.565 | 2.547 | 1.3 | 21.8 | 177 W | 70 | 39 | 1 26 | 7 18.75 | +15 25.1 | 2.546 | 3.495 | 5.0 | 22.4 | 162 E | 60 | 49 |
| 1 11 | 7 11.13 | +25 21.2 | 1.579 | 2.559 | 2.1 | 21.9 | 175 E | 70 | 39 | 450894 2008 BT ₁₈ | | | | | | | | | |
| 1 16 | 7 5.14 | +25 41.9 | 1.600 | 2.571 | 4.4 | 22.1 | 168 E | 71 | 38 | 12 17 | 7 55.41 | +20 23.5 | 1.791 | 2.679 | 11.1 | 22.4 | 148 W | 65 | 44 |
| 495168 2012 HC ₃₄ | | | | | | | | | | 332715 2009 SX ₁₃₈ | | | | | | | | | |
| 12 17 | 7 42.07 | +69 42.4 | 1.475 | 2.240 | 19.6 | 23.9 | 130 W | 65 | — | 12 17 | 7 55.42 | +13 3.3 | 1.680 | 2.557 | 12.4 | 21.7 | 146 W | 58 | 51 |
| 12 22 | 7 25.90 | +70 57.7 | 1.486 | 2.257 | 19.2 | 23.9 | 131 W | 64 | — | 12 27 | 7 46.24 | +13 10.9 | 1.646 | 2.584 | 8.2 | 21.5 | 158 W | 58 | 51 |
| 12 27 | 7 7.07 | +71 54.6 | 1.504 | 2.274 | 19.0 | 23.9 | 131 W | 63 | — | 1 6 | 7 35.47 | +13 28.6 | 1.638 | 2.609 | 4.2 | 21.3 | 169 W | 58 | 51 |
| 1 1 | 6 46.54 | +72 30.9 | 1.526 | 2.290 | 19.1 | 24.0 | 131 W | 62 | — | 1 16 | 7 24.27 | +13 53.9 | 1.659 | 2.634 | 3.5 | 21.3 | 170 E | 59 | 50 |
| 1 6 | 6 25.67 | +72 46.4 | 1.553 | 2.306 | 19.2 | 24.0 | 129 E | 62 | — | 1 26 | 7 13.95 | +14 23.7 | 1.710 | 2.659 | 7.1 | 21.6 | 160 E | 59 | 50 |
| 1 11 | 6 5.93 | +72 42.1 | 1.584 | 2.321 | 19.6 | 24.1 | 128 E | 62 | — | 228368 2000 WK ₁₀ | | | | | | | | | |
| 1 16 | 5 48.55 | +72 21.0 | 1.620 | 2.336 | 20.0 | 24.2 | 126 E | 63 | — | 12 17 | 7 55.79 | +38 28.2 | 1.295 | 2.189 | 14.1 | 21.5 | 147 W | 83 | 26 |
| 510189 2011 CZ ₄ | | | | | | | | | | 301894 1998 RX ₂₈ | | | | | | | | | |
| 12 17 | 7 43.38 | +44 34.7 | 1.798 | 2.677 | 11.6 | 21.8 | 147 W | 90 | 19 | 12 17 | 7 56.17 | +10 47.7 | 2.060 | 2.921 | 11.1 | 22.1 | 145 W | 56 | 53 |
| 12 22 | 7 36.82 | +44 48.9 | 1.756 | 2.660 | 10.3 | 21.7 | 151 W | 90 | 19 | 12 27 | 7 47.89 | +11 10.8 | 2.026 | 2.954 | 7.6 | 21.9 | 157 W | 56 | 53 |
| 12 27 | 7 29.42 | +44 57.6 | 1.722 | 2.644 | 9.2 | 21.6 | 155 W | 90 | 19 | 1 6 | 7 38.31 | +11 44.4 | 2.021 | 2.987 | 4.3 | 21.8 | 167 W | 57 | 52 |
| 1 1 | 7 21.36 | +44 59.7 | 1.694 | 2.626 | 8.5 | 21.5 | 157 W | 90 | 19 | 1 16 | 7 28.35 | +12 25.7 | 2.045 | 3.018 | 3.3 | 21.8 | 170 E | 57 | 52 |
| 1 6 | 7 12.87 | +44 54.1 | 1.673 | 2.609 | 8.3 | 21.5 | 158 W | 90 | 19 | 1 26 | 7 19.02 | +13 11.6 | 2.100 | 3.049 | 5.9 | 22.0 | 161 E | 58 | 51 |
| 1 11 | 7 4.22 | +44 40.2 | 1.659 | 2.591 | 8.7 | 21.5 | 157 E | 90 | 19 | 435541 2008 OF ₃ | | | | | | | | | |
| 1 16 | 6 55.70 | +44 18.0 | 1.653 | 2.573 | 9.6 | 21.5 | 154 E | 89 | 20 | 12 17 | 7 58.56 | +15 7.5 | 2.177 | 3.044 | 10.4 | 22.5 | 146 W | 60 | 49 |
| 377973 2006 NF | | | | | | | | | | 469457 2002 QE ₄₄ | | | | | | | | | |
| 12 17 | 7 47.22 | +17 35.0 | 1.857 | 2.751 | 10.5 | 21.8 | 150 W | 63 | 46 | 12 17 | 8 1.08 | +21 8.1 | 1.568 | 2.454 | 12.6 | 21.7 | 147 W | 66 | 43 |
| 12 27 | 7 38.11 | +18 17.5 | 1.795 | 2.746 | 6.4 | 21.6 | 162 W | 63 | 46 | 12 22 | 7 56.70 | +21 31.4 | 1.549 | 2.468 | 10.3 | 21.6 | 153 W | 67 | 42 |
| 1 6 | 7 27.25 | +19 6.1 | 1.760 | 2.741 | 2.0 | 21.3 | 174 W | 64 | 45 | 12 27 | 7 51.71 | +21 55.8 | 1.537 | 2.482 | 7.9 | 21.5 | 160 W | 67 | 42 |
| 1 16 | 7 15.70 | +19 56.6 | 1.757 | 2.734 | 3.0 | 21.3 | 172 E | 65 | 44 | 1 1 | 7 46.22 | +22 20.7 | 1.531 | 2.496 | 5.5 | 21.4 | 166 W | 67 | 42 |
| 1 26 | 7 4.77 | +20 45.1 | 1.783 | 2.726 | 7.4 | 21.6 | 159 E | 66 | 43 | 259353 2003 GT ₄₁ | | | | | | | | | |
| 375129 2007 VM ₂₅₀ | | | | | | | | | | 221963 1995 SY ₃₅ | | | | | | | | | |
| 12 17 | 7 48.23 | +23 48.7 | 1.523 | 2.428 | 11.5 | 21.8 | 150 W | 69 | 40 | 12 17 | 7 49.98 | +11 56.9 | 1.744 | 2.624 | 11.8 | 22.0 | 147 W | 57 | 52 |
| 12 22 | 7 43.05 | +23 52.5 | 1.503 | 2.438 | 9.2 | 21.7 | 157 W | 69 | 40 | 12 27 | 7 40.84 | +12 12.1 | 1.707 | 2.647 | 7.8 | 21.8 | 159 W | 57 | 52 |
| 12 27 | 7 37.28 | +23 56.2 | 1.490 | 2.448 | 6.7 | 21.6 | 163 W | 69 | 40 | 1 6 | 7 30.21 | +12 38.3 | 1.698 | 2.669 | 4.1 | 21.7 | 169 W | 58 | 51 |
| 1 1 | 7 31.09 | +23 59.1 | 1.484 | 2.458 | 4.2 | 21.5 | 170 W | 69 | 40 | 1 16 | 7 19.23 | +13 12.8 | 1.718 | 2.690 | 4.0 | 21.7 | 169 E | 58 | 51 |
| 1 6 | 7 24.65 | +24 0.9 | 1.486 | 2.467 | 1.7 | 21.3 | 176 W | 69 | 40 | 1 26 | 7 9.14 | +13 52.1 | 1.768 | 2.711 | 7.4 | 21.9 | 159 E | 59 | 50 |
| 1 11 | 7 18.17 | +24 1.3 | 1.494 | 2.477 | 1.3 | 21.3 | 177 E | 69 | 40 | 379353 2003 GT ₄₁ | | | | | | | | | |
| 1 16 | 7 11.84 | +24 0.1 | 1.510 | 2.486 | 3.8 | 21.5 | 170 E | 69 | 40 | 12 17 | 7 49.19 | +22 0.8 | 2.067 | 2.960 | 9.6 | 21.7 | 150 W | 67 | 42 |
| 259353 2003 GT ₄₁ | | | | | | | | | | 221963 1995 SY ₃₅ | | | | | | | | | |
| 12 17 | 7 49.19 | +22 0.8 | 2.067 | 2.960 | 9.6 | 21.7 | 150 W | 67 | 42 | 12 27 | 7 39.44 | +22 49.9 | 2.016 | 2.969 | 5.7 | 21.4 | 163 W | 68 | 41 |
| 12 27 | 7 39.44 | +22 49.9 | 2.016 | 2.969 | 5.7 | 21.4 | 163 W | 68 | 41 | 1 6 | 7 28 | | | | | | | | |

