

Graphics of selected Asteroid occultation observations.

2024 January

Introduction

The following graphics plot the 620 best observed Asteroid occultations (which is about 6% of all observed Asteroid occultation events).

The plots have a filename convention concatenating the asteroid number, asteroid name or provisional designation, and occultation date.

General features of the plot

- The plot is a sky-plane plot. North and East are indicated with 'N' and 'E'
- The plotted chords represent when the star was visible
- Chords where the star was occulted are drawn as an unbroken line. Chords corresponding to a 'Miss' observation are drawn as broken lines
- The chords of each observer are drawn in different colors, to facilitate the visual matching of chords on opposite sides of the asteroid
- For the best-observed events, the observations are drawn without any best-fit ellipse. This better enables the irregularities in the asteroid profile to be apparent.
- For well-observed events, a best-fit ellipse is drawn through the observations. The ellipse illustrates the general shape of the asteroid profile.
- A blue dot near the center of the plot indicates the location used to report astrometry from the event. It is typically located at the center of the fitted ellipse (whether the ellipse is shown or not). For some events the location is at the center of a fitted shape model (not shown), and represents the center of mass of the asteroid

Plot Heading

The lines in the heading of each plot give the following information

Line 1

Object identification, event date, ellipse size and orientation, and associated uncertainties.

Line 2

The offset of the shadow from the center of the earth, and associated uncertainty values.

Line 3

When applicable, the Separation and Position Angle of the components of the double star, with associated uncertainty.

Important. In all lines, an uncertainty value is only given if there has been a meaningful calculation of the particular quantity. Where there is no uncertainty value, usually the particular value has been assumed.

Double stars

If a double star is involved, the chords for both components are co-aligned. A representation of the double star solution, drawn on the same projected scale as the plot of the asteroid, is shown. When the double star solution is not unique, only one solution is displayed.

Satellites

If a satellite is involved, the plot shows both the main body and the satellite.

Event coding

Event type

- Disappearance events are plotted as red points.
- Reappearance events are plotted as green points.
- Miss events are plotted as broken lines.

Observing method

- Video/CCD observations are plotted with a small square.
- Events recorded visually are plotted with a '+'
- Miss events are plotted with a 'x'.

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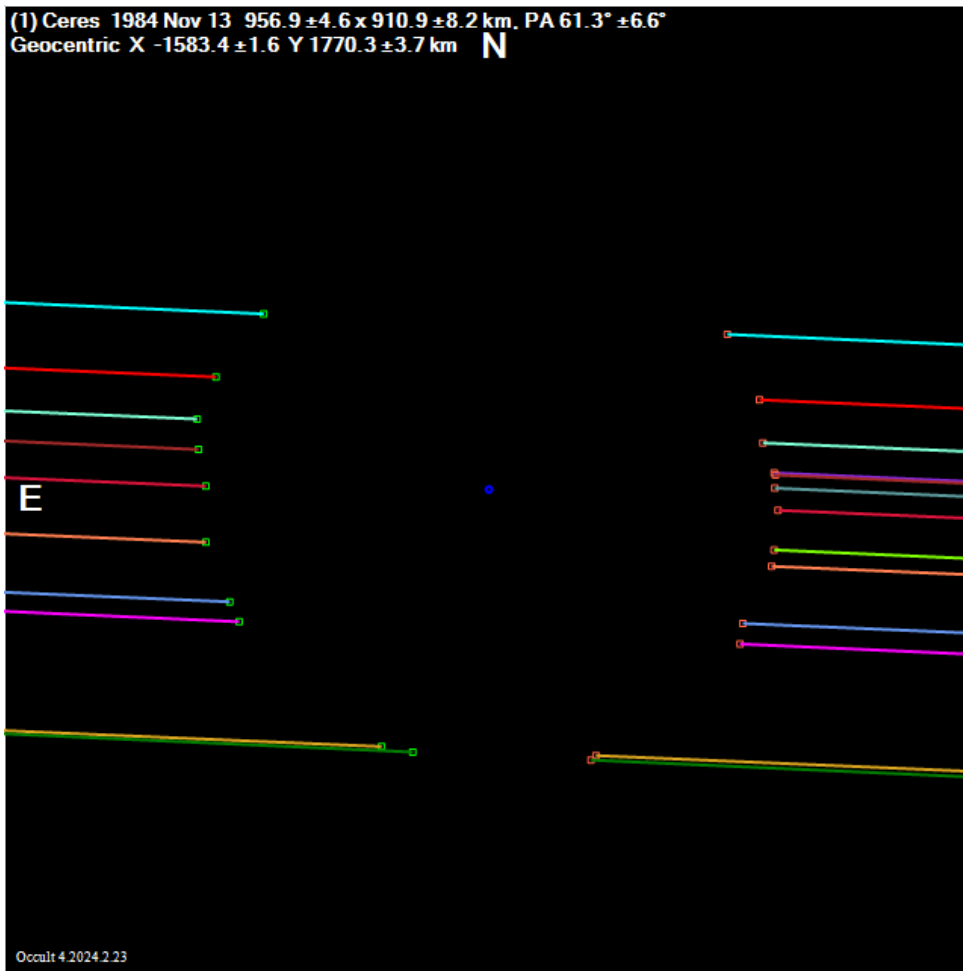
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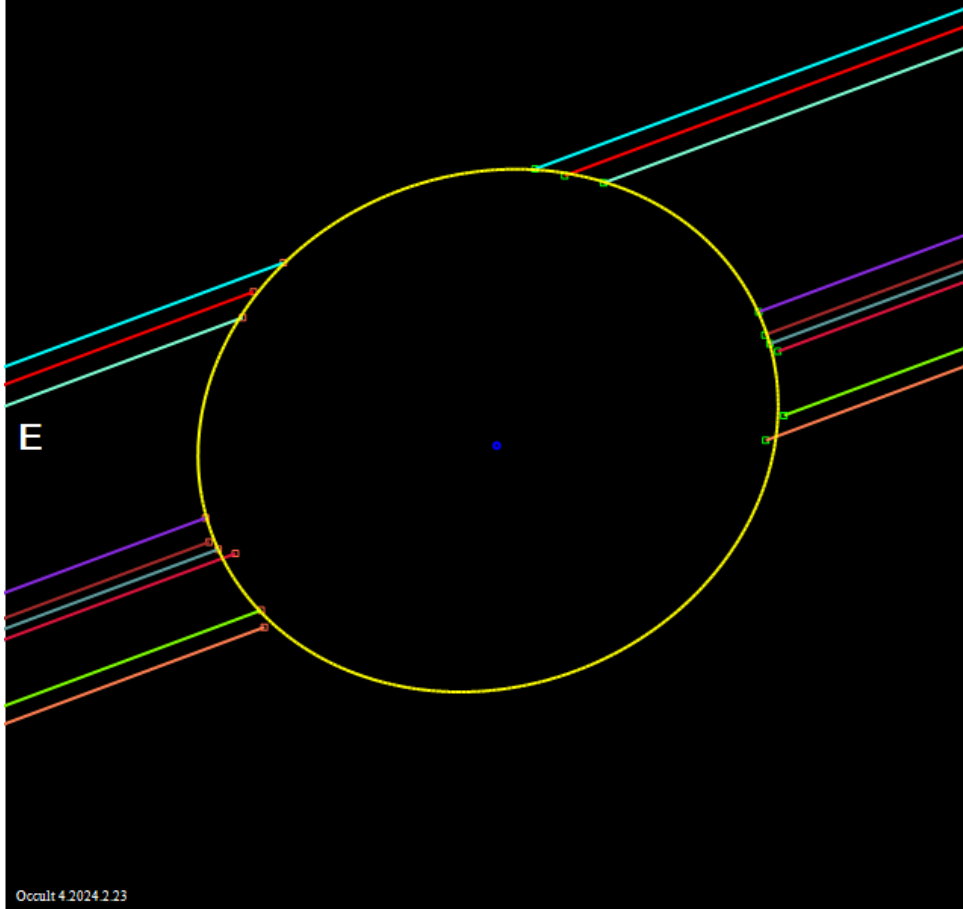
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[P7M03 Titania 2022Dec10](#)
[P9M00 Pluto 1988Jun09](#)
[P9M00 Pluto 2006Jun12](#)
[P9M00 Pluto 2012Aug26](#)
[P9M01 Charon 2005Jul11](#)

1_Ceres_1984Nov13



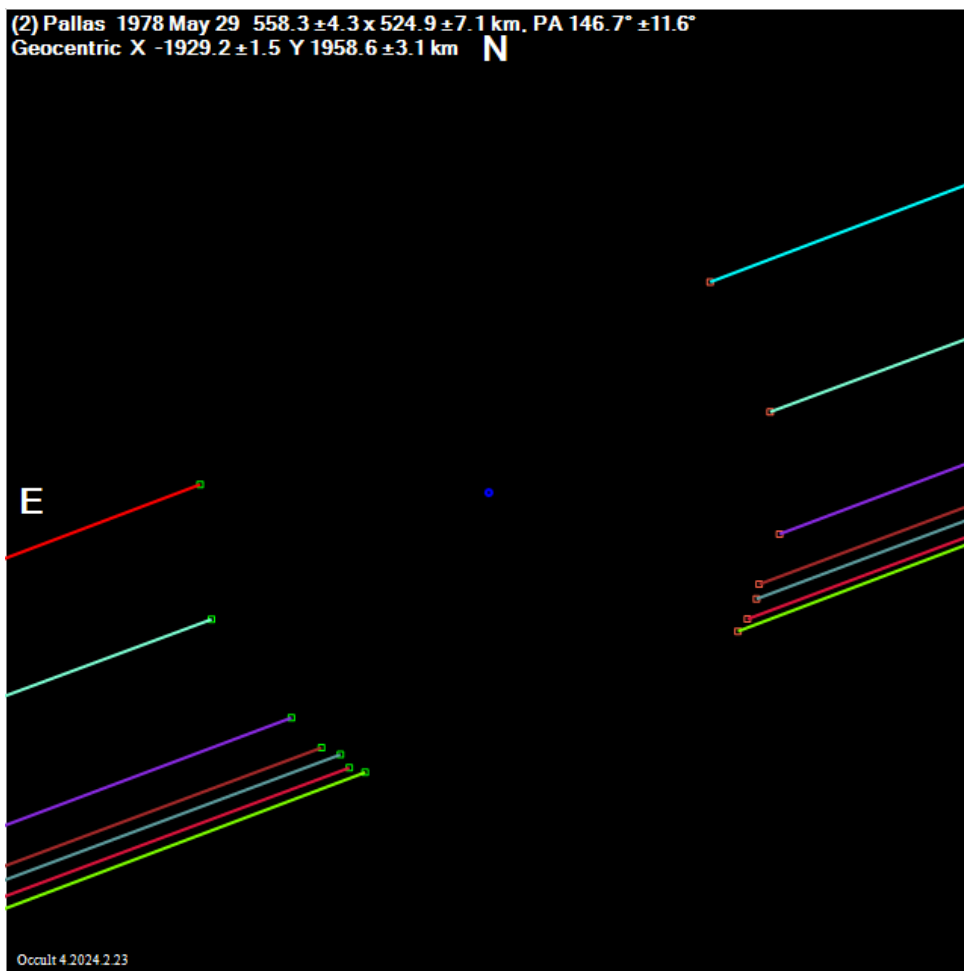
1_Ceres_2013Oct25

(1) Ceres 2013 Oct 25 $966.9 \pm 6.3 \times 837.8 \pm 20.9$ km, PA $111.3^\circ \pm 2.8^\circ$
Geocentric X -4768.4 ± 3.5 Y 3754.8 ± 7.4 km **N**

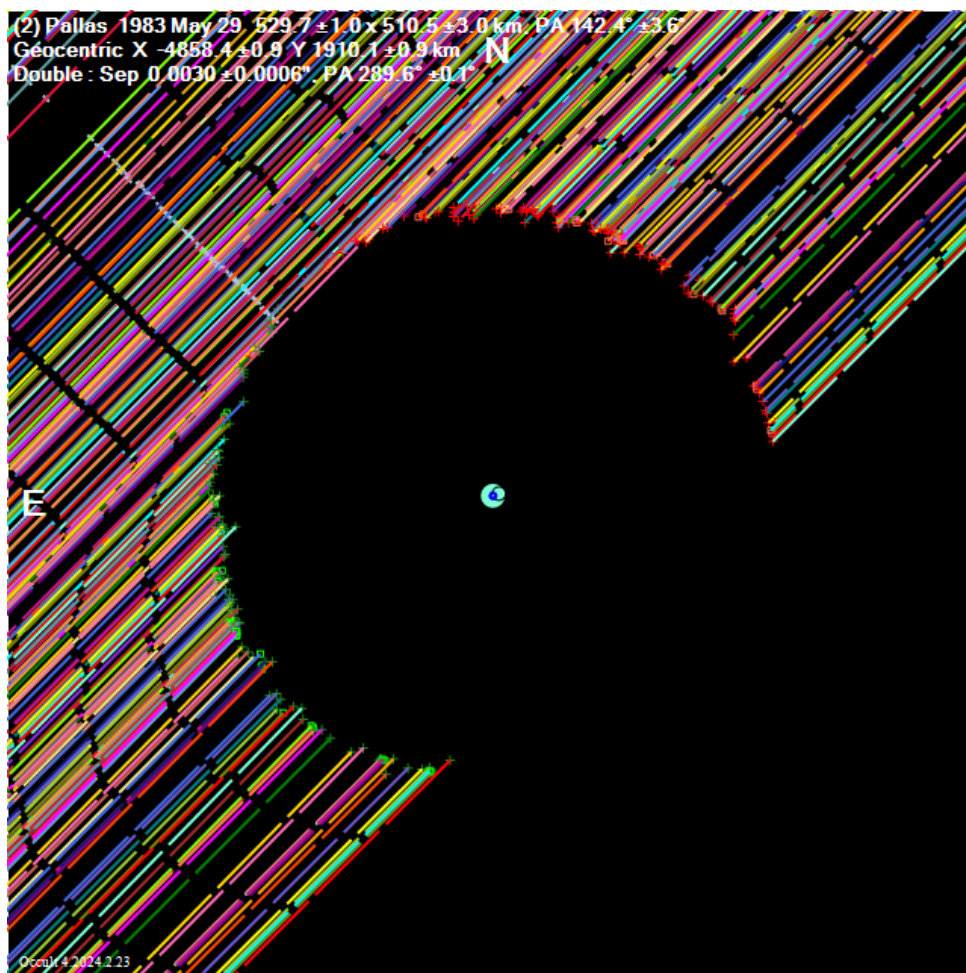


2_Pallas_1978May29

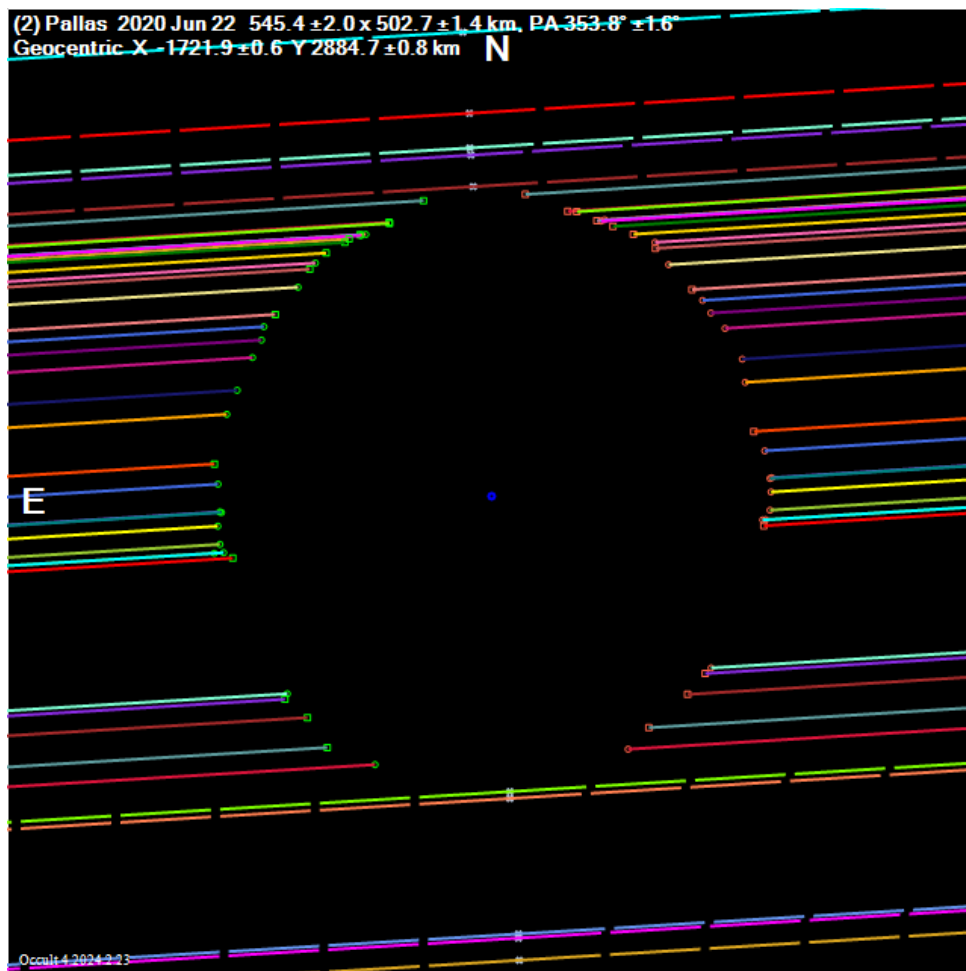
(2) Pallas 1978 May 29 558.3 ± 4.3 x 524.9 ± 7.1 km, PA 146.7° ± 11.6°
Geocentric X -1929.2 ± 1.5 Y 1958.6 ± 3.1 km N



2_Pallas_1983May29

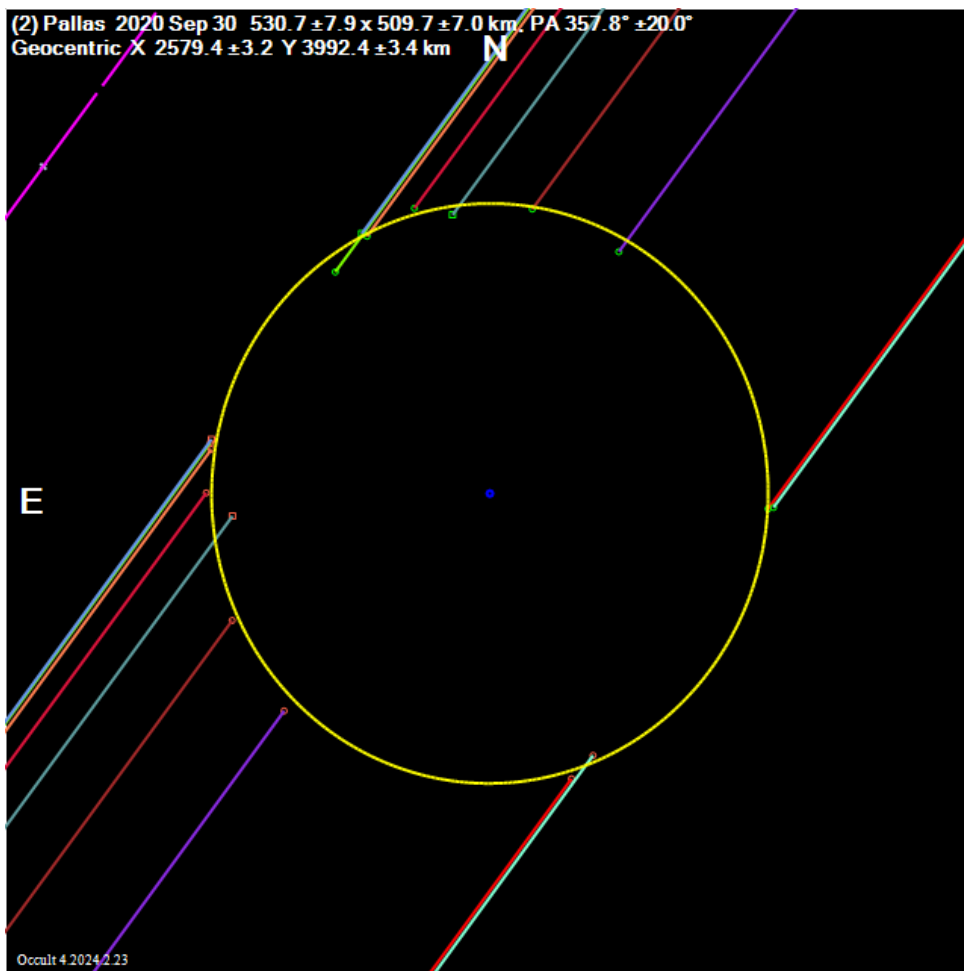


2_Pallas_2020Jun22



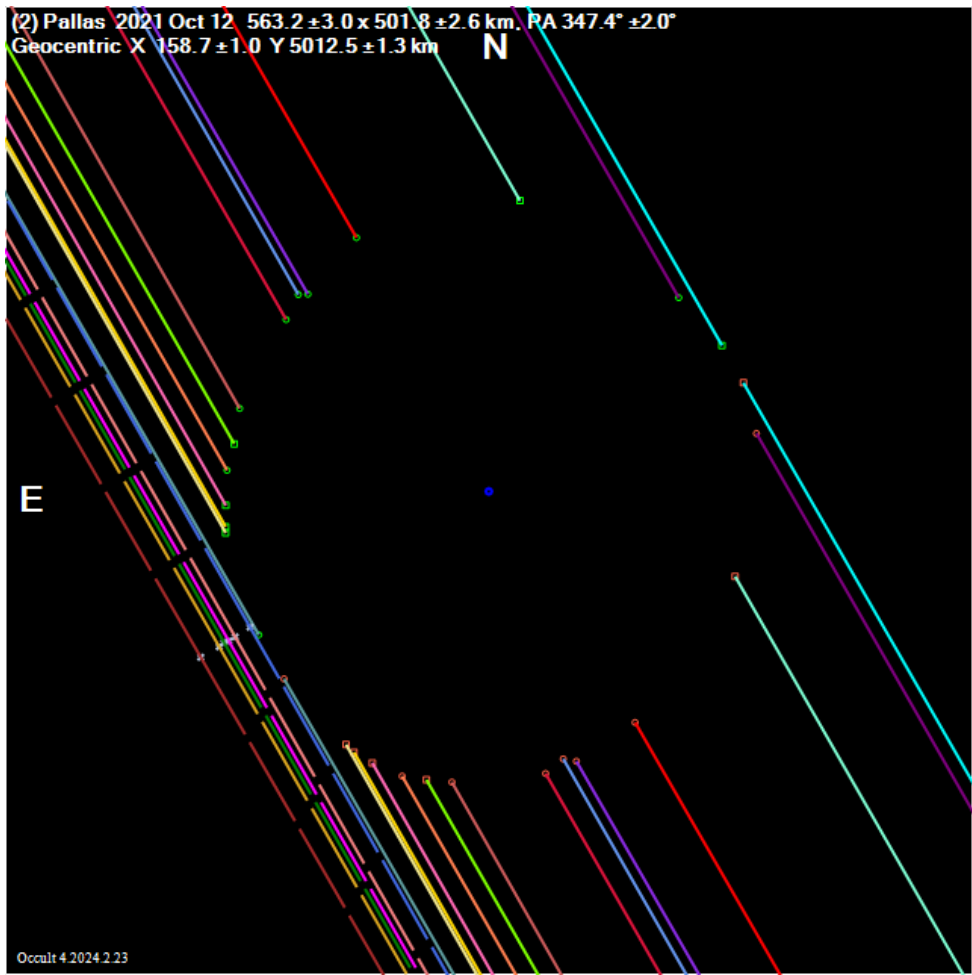
2_Pallas_2020Sep30

(2) Pallas 2020 Sep 30 530.7 ± 7.9 x 509.7 ± 7.0 km PA 357.8° ± 20.0°
Geocentric X 2579.4 ± 3.2 Y 3992.4 ± 3.4 km



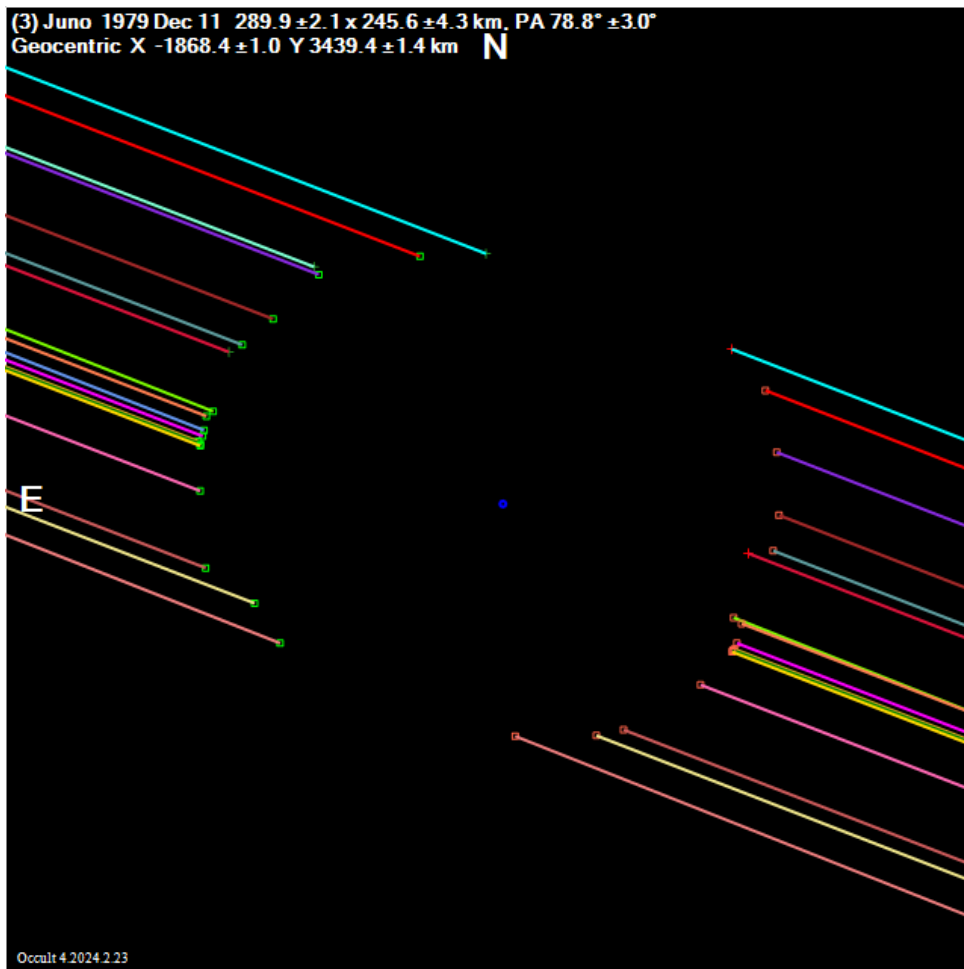
Occult 4 2024 2 23

2_Pallas_2021Oct12



3_Juno_1979Dec11

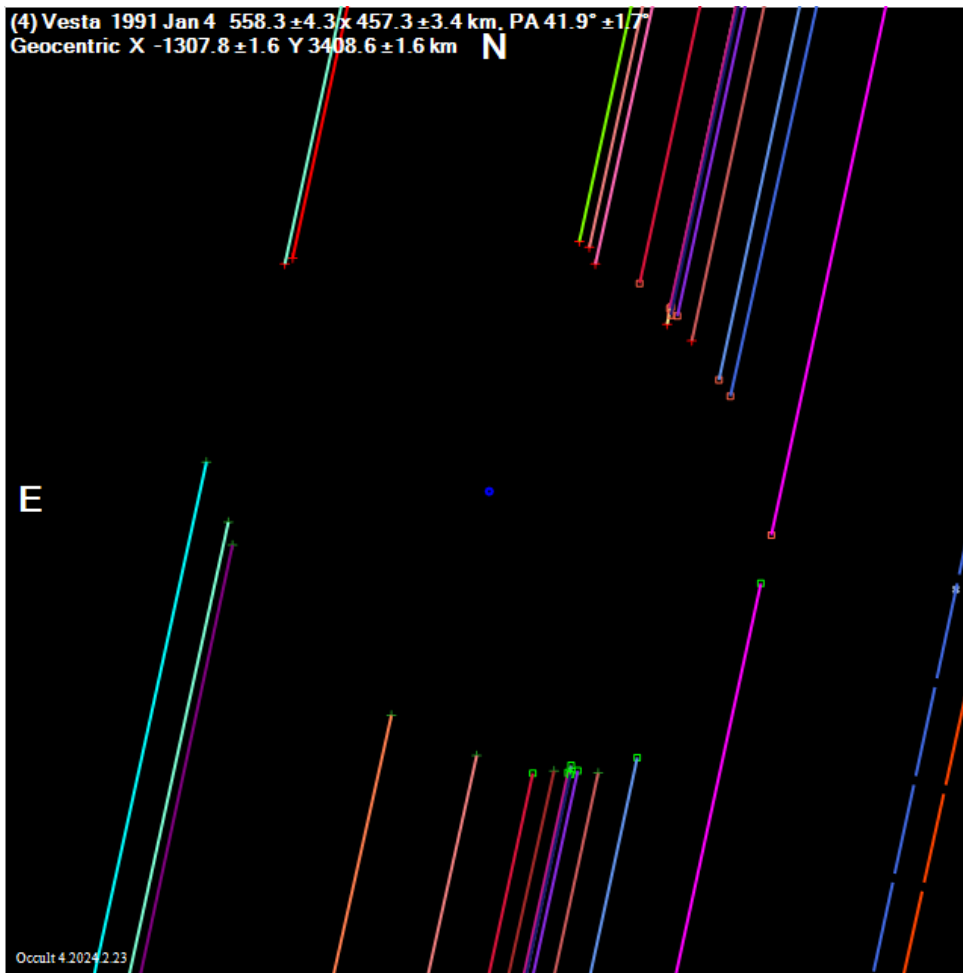
(3) Juno 1979 Dec 11 $289.9 \pm 2.1 \times 245.6 \pm 4.3$ km, PA $78.8^\circ \pm 3.0^\circ$
Geocentric X -1868.4 ± 1.0 Y 3439.4 ± 1.4 km N



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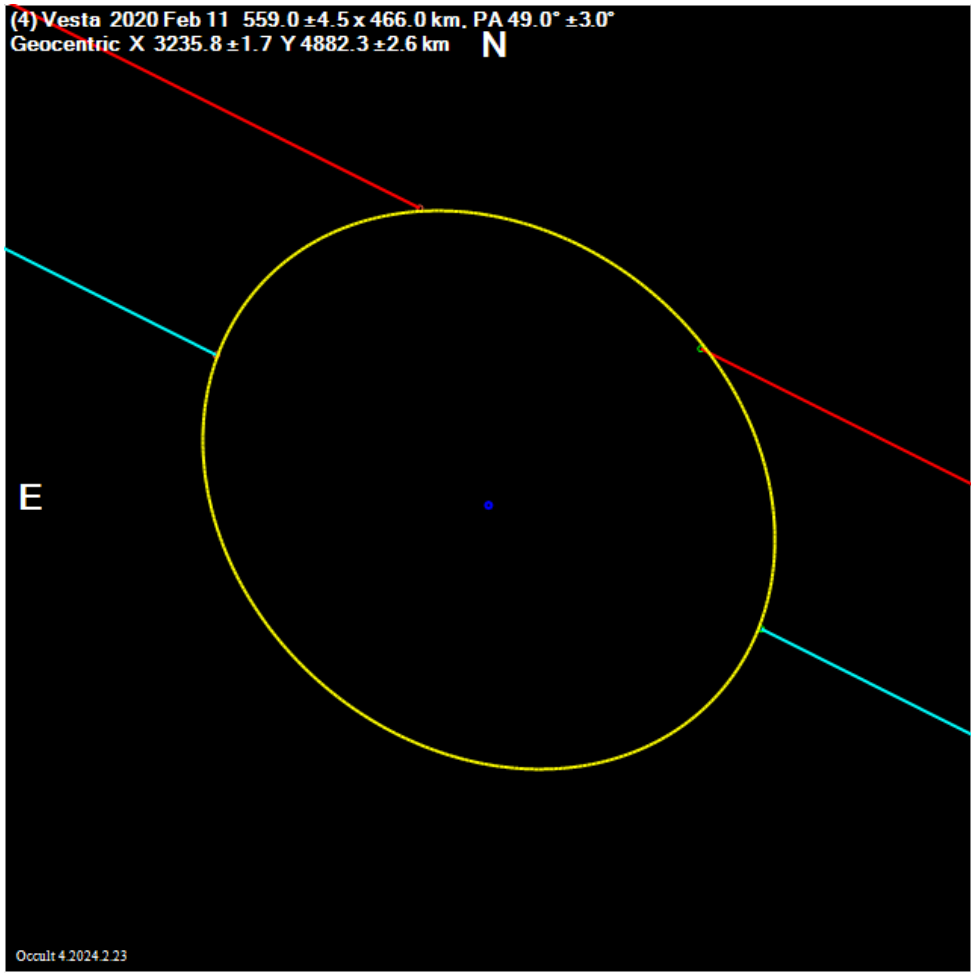
4_Vesta_1991Jan04

(4) Vesta 1991 Jan 4 558.3 ± 4.3 x 457.3 ± 3.4 km PA 41.9° ± 1.7°
Geocentric X -1307.8 ± 1.6 Y 3408.6 ± 1.6 km N



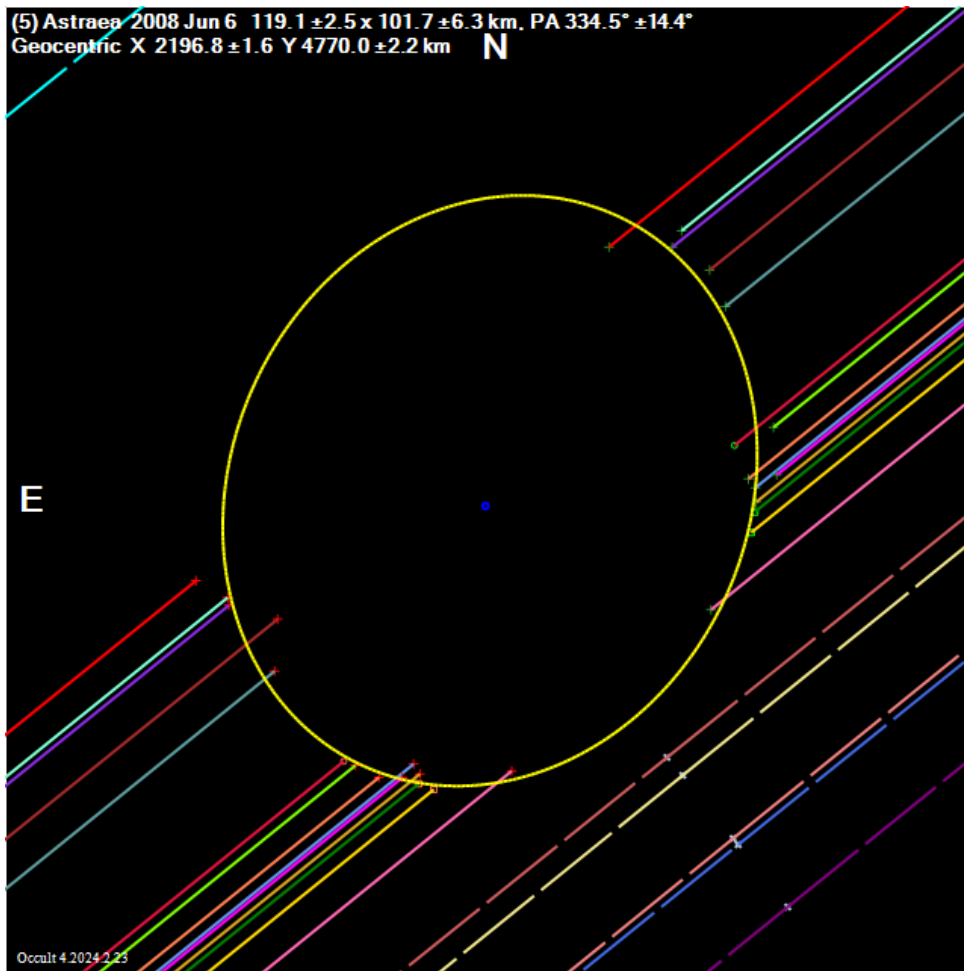
4_Vesta_2020Feb11

(4) Vesta 2020 Feb 11 559.0 ± 4.5 x 466.0 km, PA 49.0° ± 3.0°
Geocentric X 3235.8 ± 1.7 Y 4882.3 ± 2.6 km N



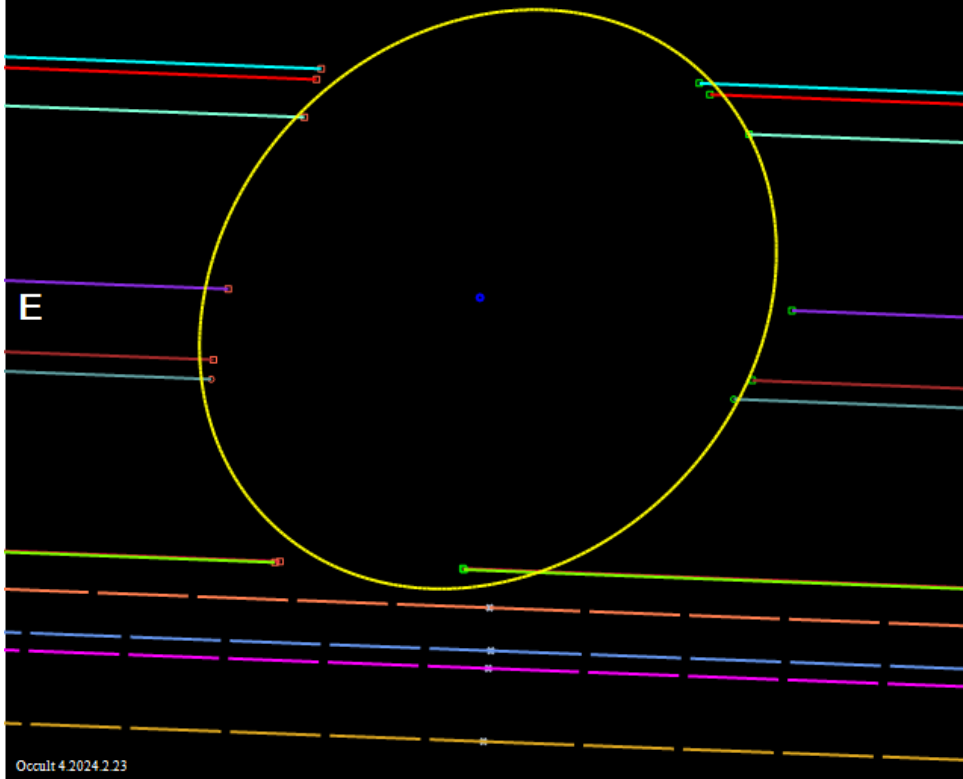
5_Astraea_2008Jun06

(5) Astraea 2008 Jun 6 $119.1 \pm 2.5 \times 101.7 \pm 6.3$ km. PA $334.5^\circ \pm 14.4^\circ$
Geocentric X 2196.8 ± 1.6 Y 4770.0 ± 2.2 km N



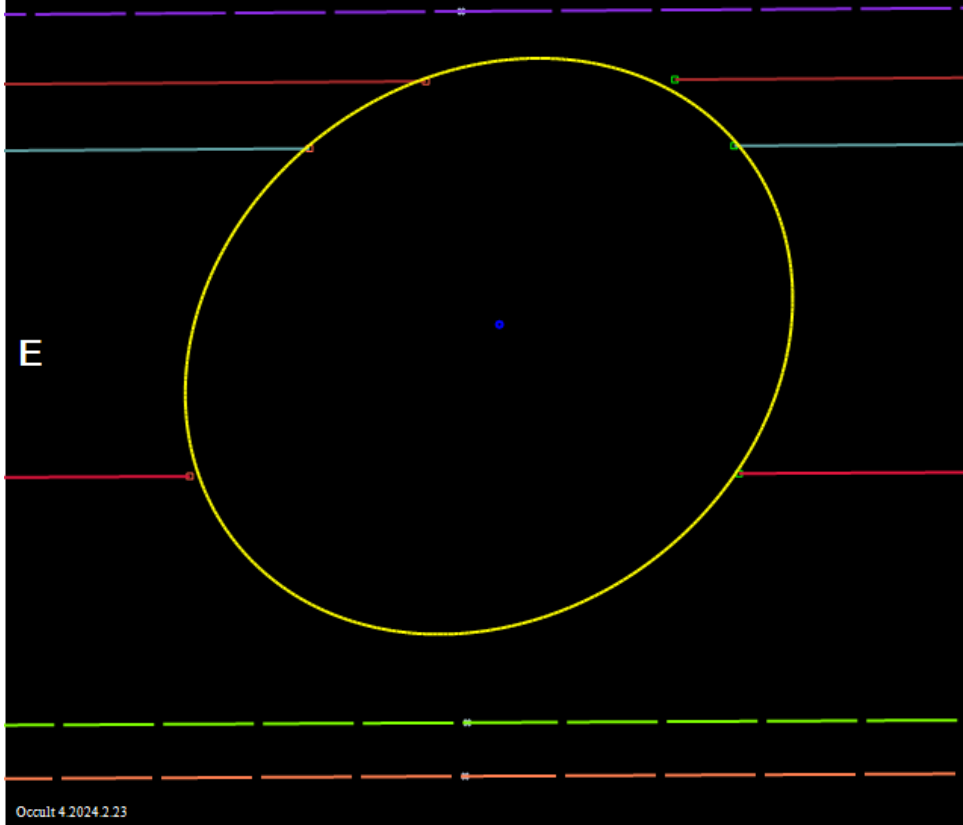
6_Hebe_2020Jan06

(6) Hebe 2020 Jan 6 218.6 ±4.7 x 185.4 ±4.9 km, PA 135.5° ±7.9°
Geocentric X -4078.5 ±1.9 Y 4440.5 ±2.3 km **N**



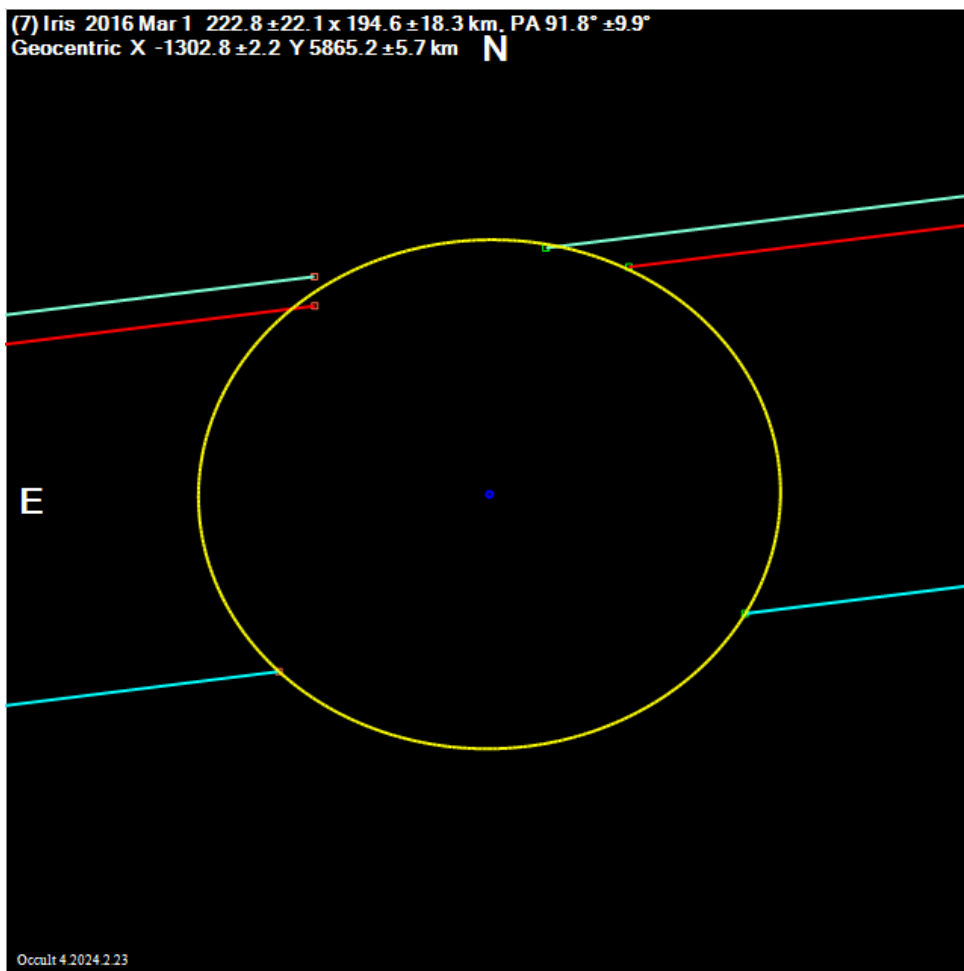
6_Hebe_2021Oct29

(6) Hebe 2021 Oct 29 $220.0 \pm 3.2 \times 184.7 \pm 4.2$ km, PA $125.9^\circ \pm 12.6^\circ$
Geocentric X 2482.2 ± 1.3 Y 4906.3 ± 3.4 km N



7_Iris_2016Mar01

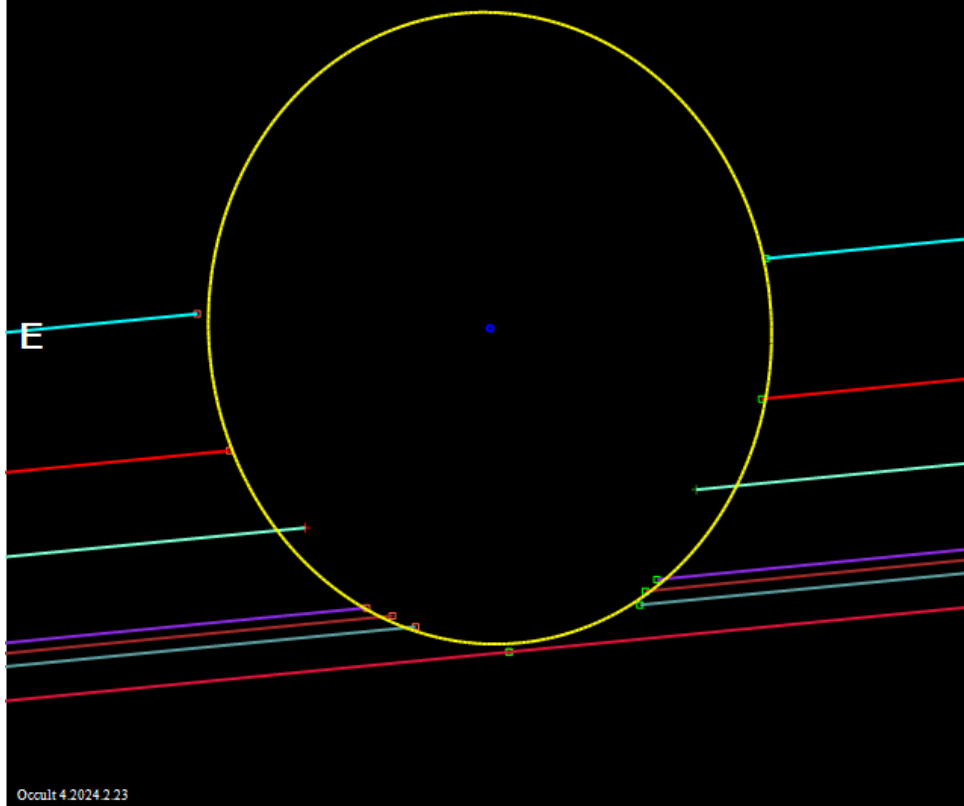
(7) Iris 2016 Mar 1 $222.8 \pm 22.1 \times 194.6 \pm 18.3$ km, PA $91.8^\circ \pm 9.9^\circ$
Geocentric X -1302.8 ± 2.2 Y 5865.2 ± 5.7 km **N**



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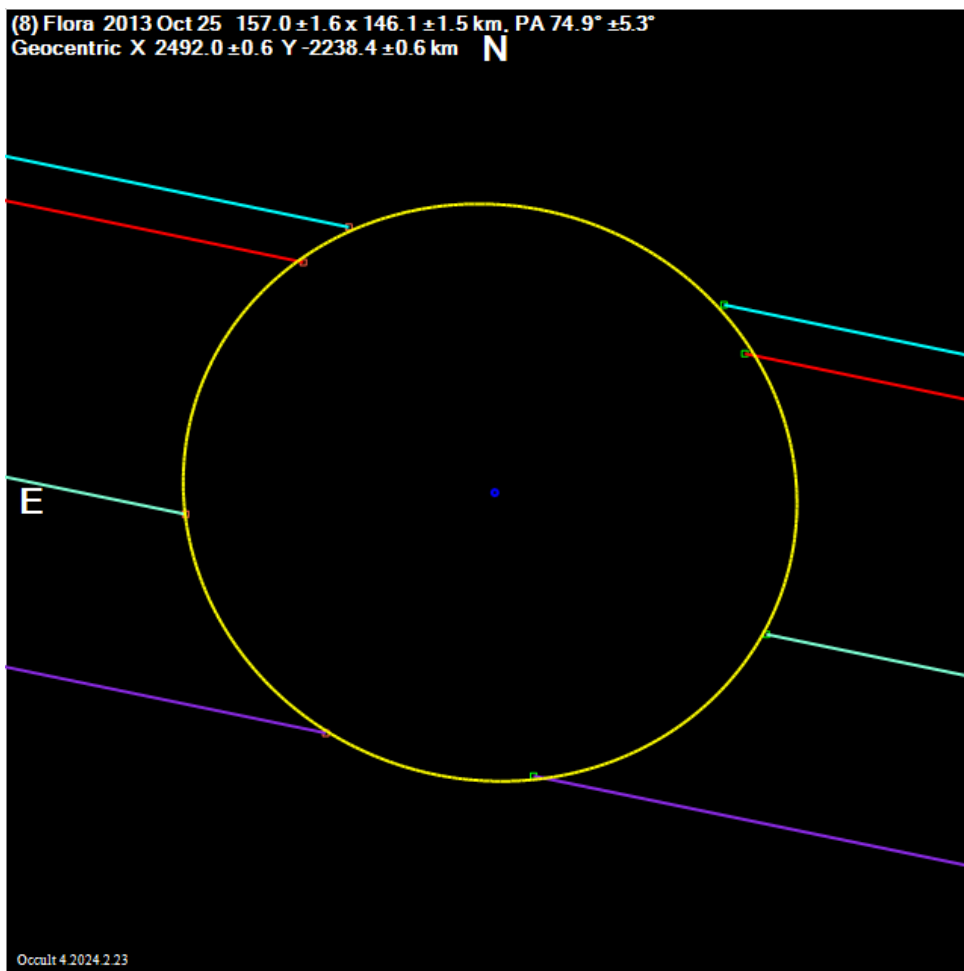
8_Flora_2004Oct29

(8) Flora 2004 Oct 29 $154.3 \pm 16.2 \times 137.5 \pm 2.9$ km, PA $4.8^\circ \pm 10.4^\circ$
Geocentric X -5267.6 ± 1.6 Y 2958.1 ± 7.4 km **N**



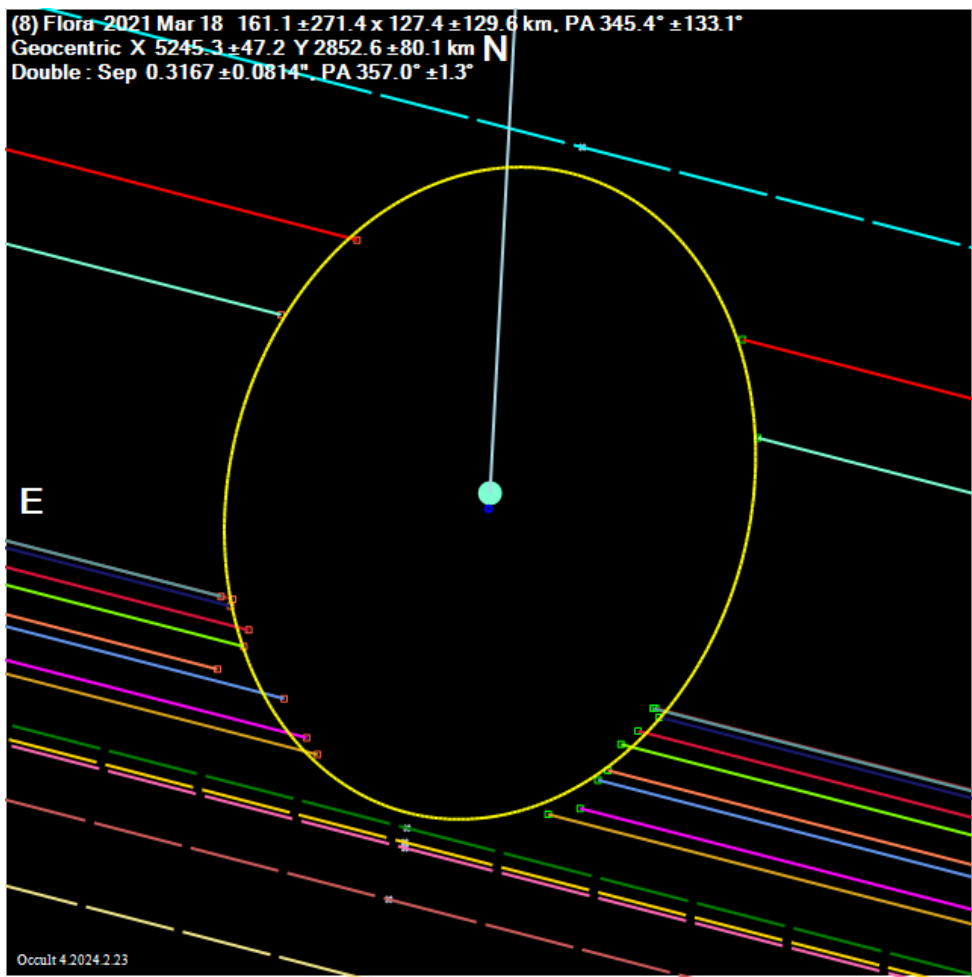
8_Flora_2013Oct25

(8) Flora 2013 Oct 25 $157.0 \pm 1.6 \times 146.1 \pm 1.5$ km, PA $74.9^\circ \pm 5.3^\circ$
Geocentric X 2492.0 ± 0.6 Y -2238.4 ± 0.6 km **N**



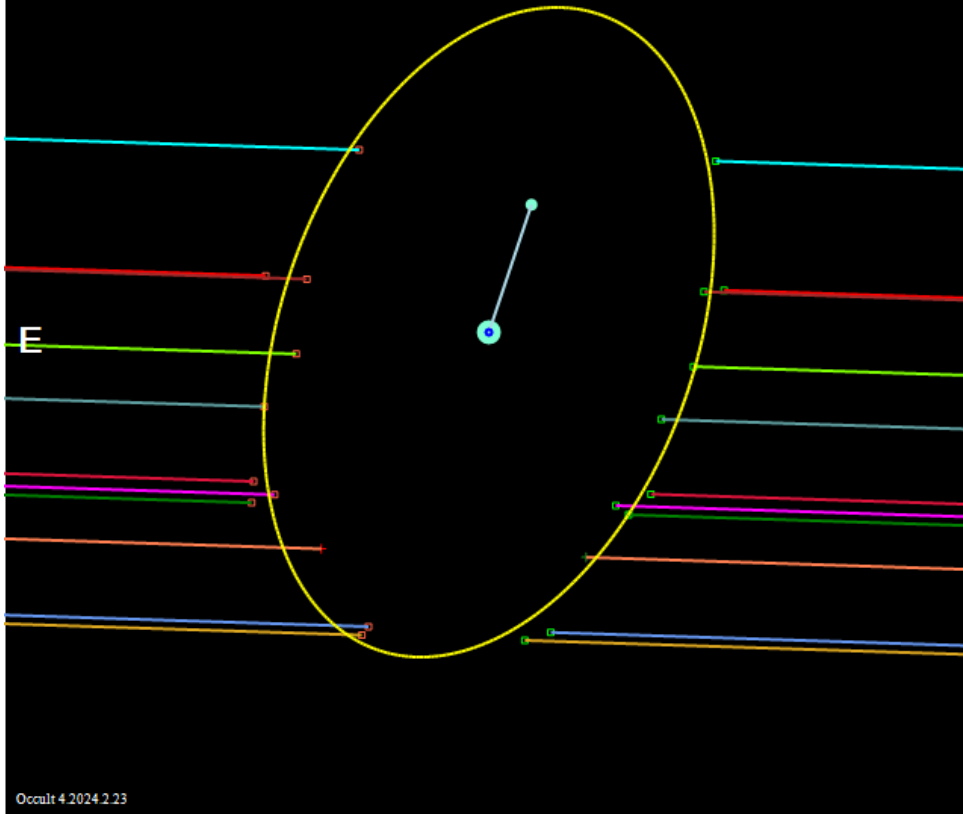
Occult 4.2024.2.23

8_Flora_2021Mar18

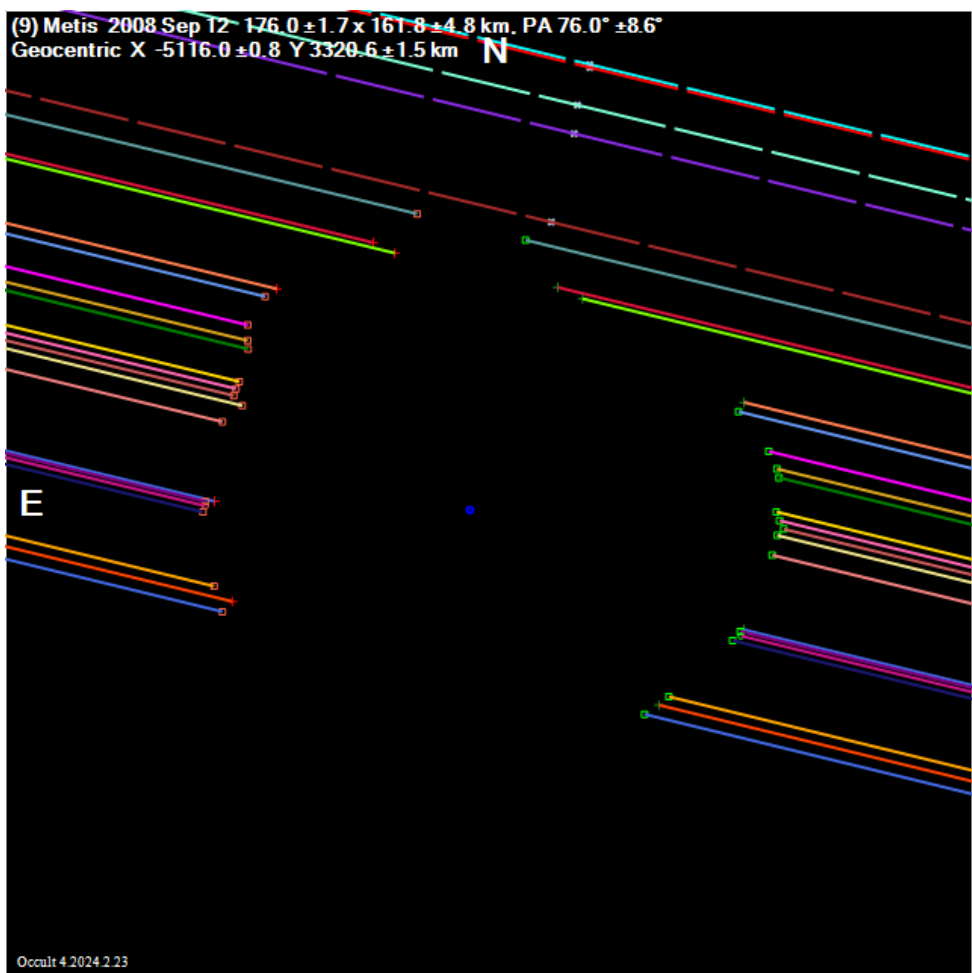


9_Metis_2001Sep07

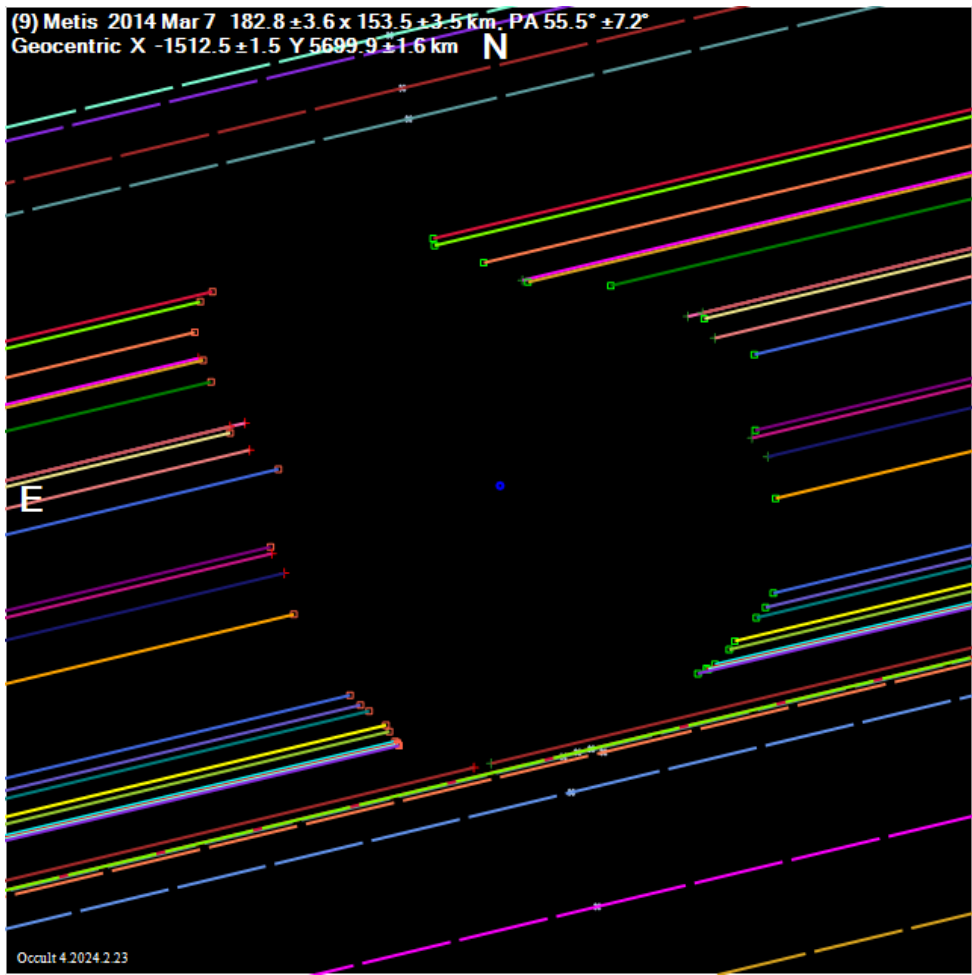
(9) Metis 2001 Sep 7 $196.4 \pm 15.9 \times 121.0 \pm 2.7$ km, PA $340.5^\circ \pm 3.3^\circ$
Geocentric X -4945.1 ± 2.4 Y 3677.2 ± 7.2 km **N**
Double : Sep $0.0242 \pm 0.0048''$, PA $341.5^\circ \pm 3.6^\circ$



9_Metis_2008Sep12

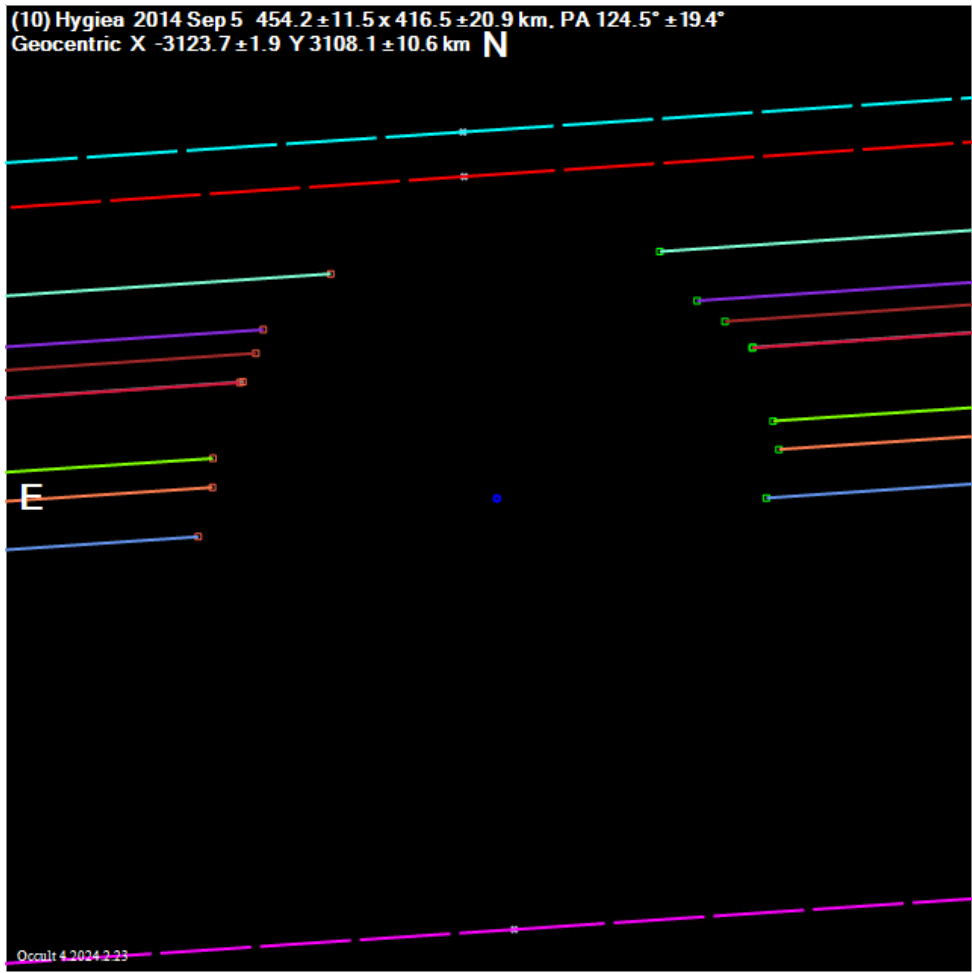


9_Metis_2014Mar07



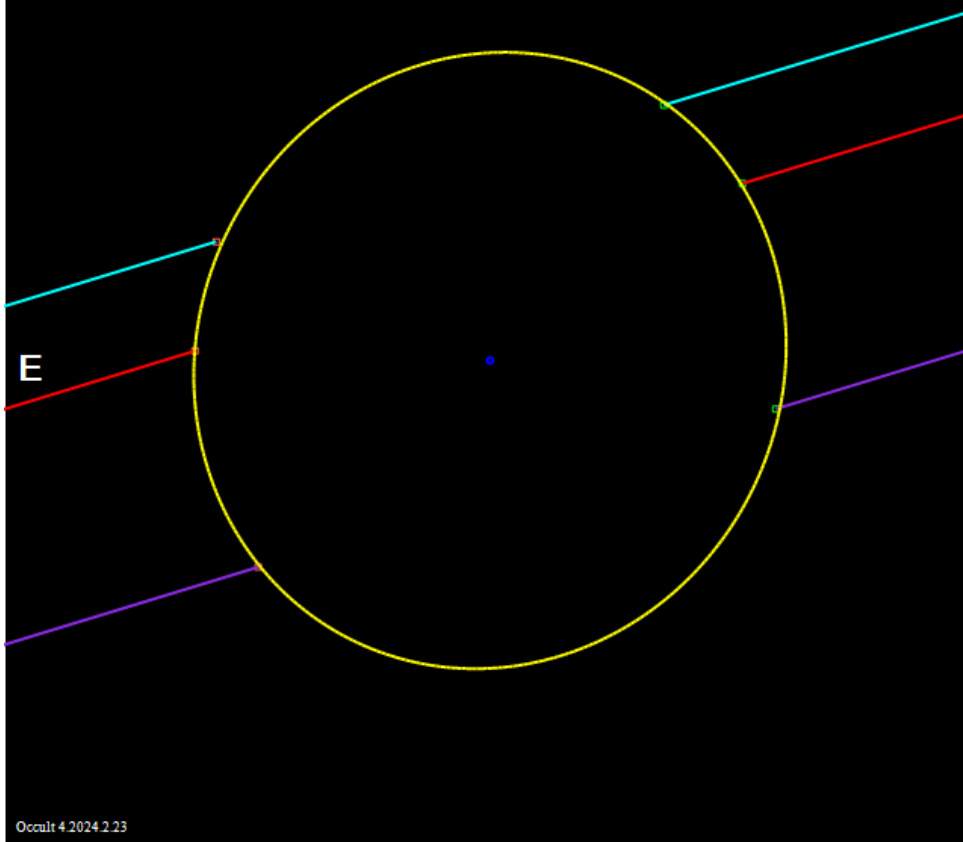
10_Hygiea_2014Sep05

(10) Hygiea 2014 Sep 5 $454.2 \pm 11.5 \times 416.5 \pm 20.9$ km, PA $124.5^\circ \pm 19.4^\circ$
Geocentric X -3123.7 ± 1.9 Y 3108.1 ± 10.6 km **N**

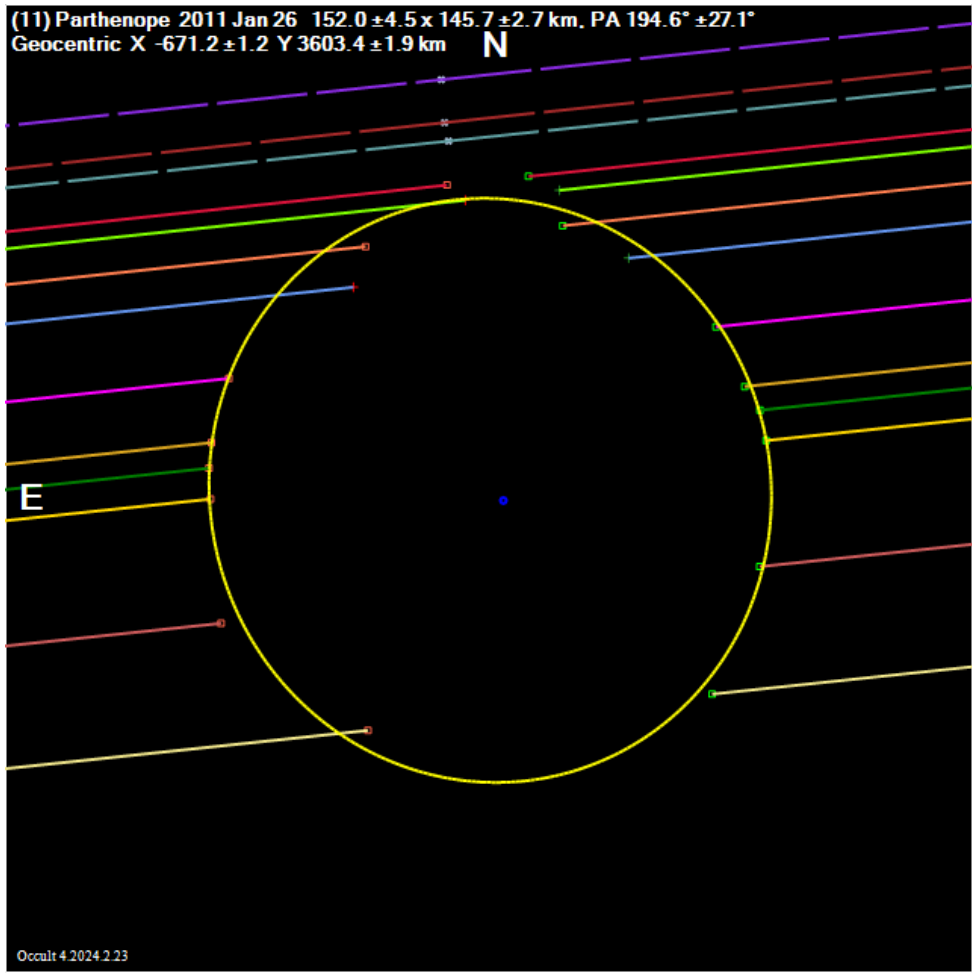


10_Hygiea_2020Oct07

(10) Hygiea 2020 Oct 7 458.9 ± 7.1 x 430.8 ± 5.1 km, PA 333.9° ± 17.5°
Geocentric X -4804.0 ± 1.2 Y 3769.4 ± 2.4 km **N**

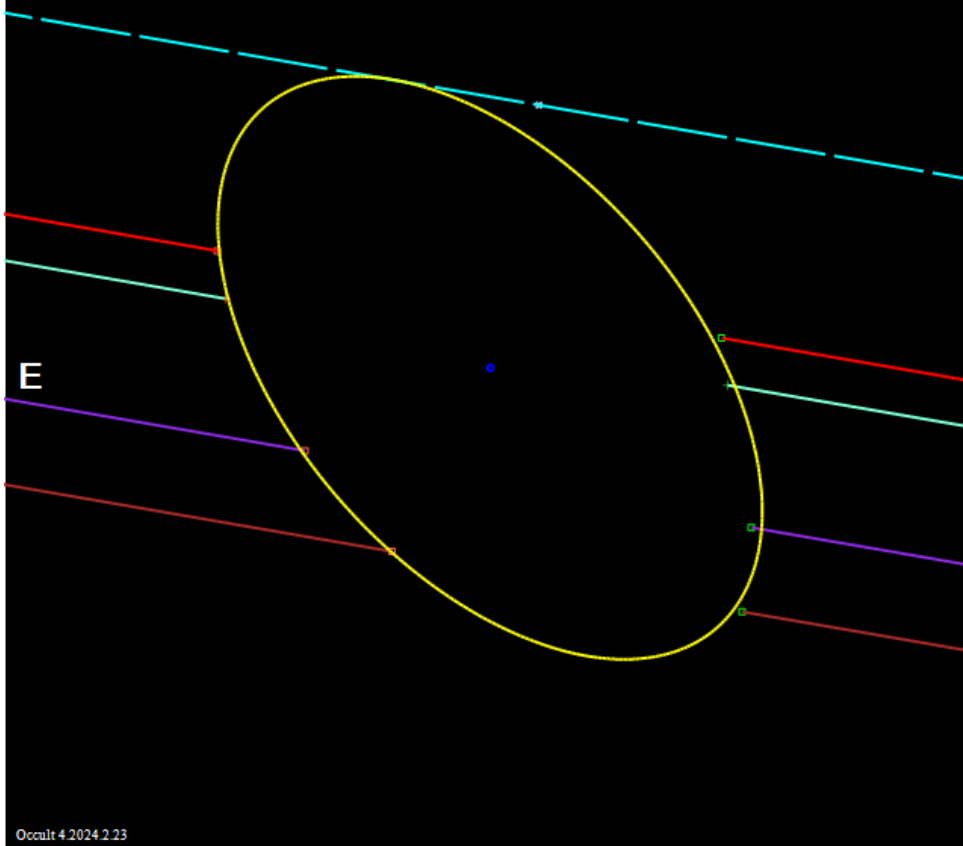


11_Parthenope_2011Jan26



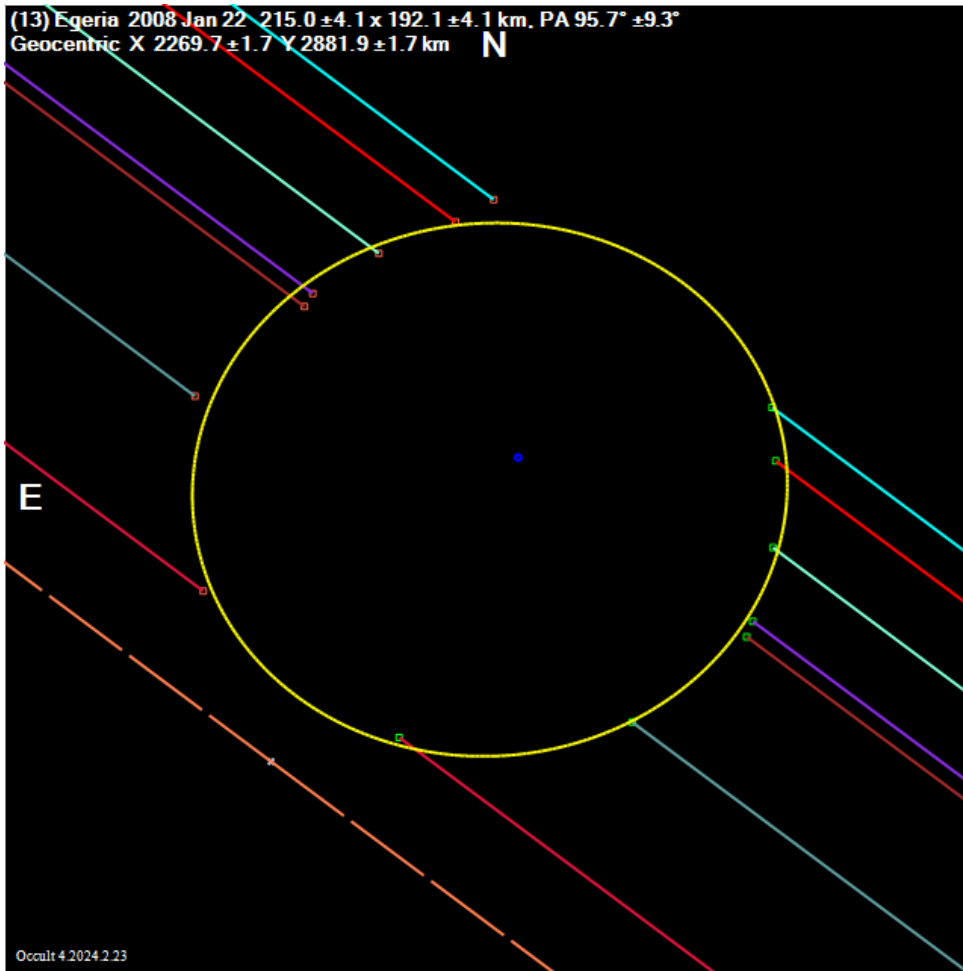
12_Victoria_2023Mar19

(12) Victoria 2023 Mar 19 $142.6 \pm 2.1 \times 82.7 \pm 1.4$ km, PA $41.1^\circ \pm 1.2^\circ$
Geocentric X 4176.6 ± 0.6 Y 2913.3 ± 0.8 km **N**



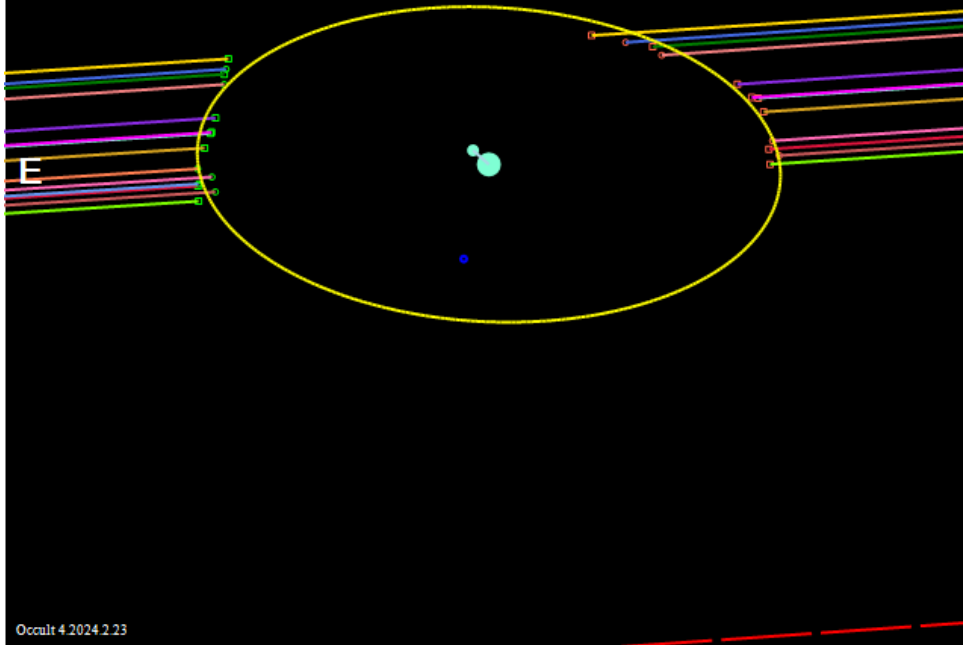
13_Egeria_2008Jan22

(13) Egeria 2008 Jan 22 215.0 ± 4.1 x 192.1 ± 4.1 km. PA 95.7° ± 9.3°
Geocentric X 2269.7 ± 1.7 Y 2881.9 ± 1.7 km N



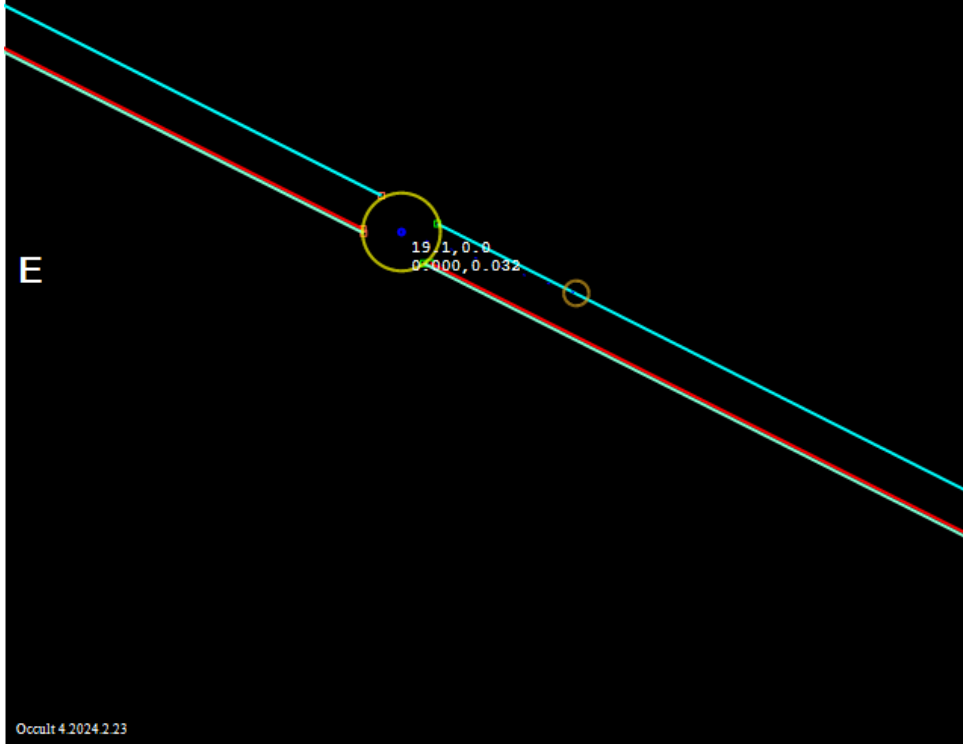
13_Egeria_2021Jan05

(13) Egeria 2021 Jan 5 232.1 ±3.5 x 124.9 ±16.4 km. PA 87.0° ±3.0°
Geocentric X -2195.2 ±2.2 Y -3.0 ±5.3 km N
Double : Sep 0.0079 ±0.0029", PA 48.3° ±0.1°



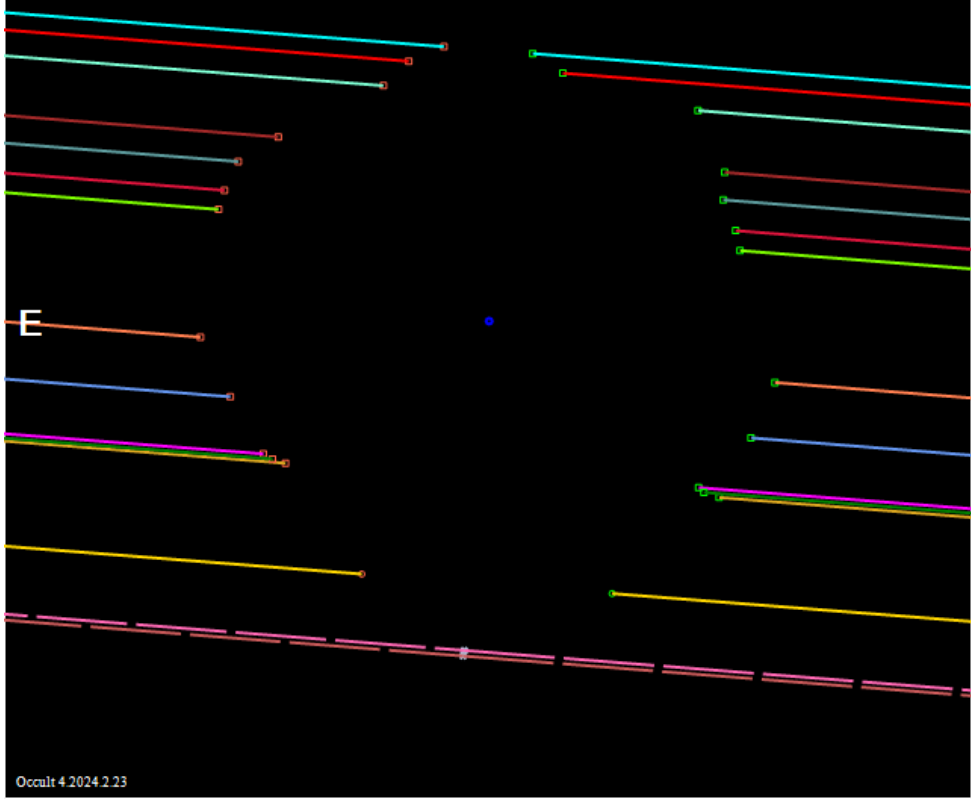
15_Eunomia_2019Apr27

(15) Eunomia 2019 Apr 27 248.3 km
Geocentric X -4266.4 ± 3.4 Y -2602.0 ± 4.8 km **N**
Sat: 80.0 x 80.0km, PA 0.0°; Sep 0.3160" at PA 250.7°



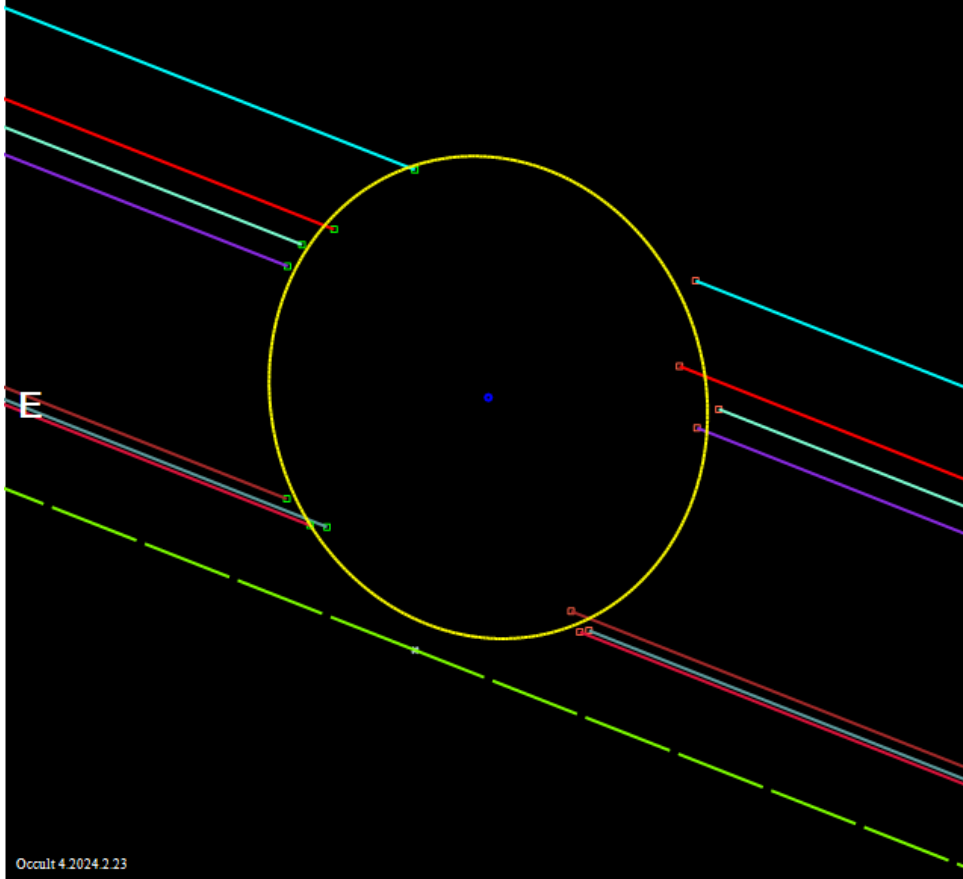
16_Psyche_2010Aug21

(16) Psyche 2010 Aug 21 $232.9 \pm 4.1 \times 232.6 \pm 6.0$ km, PA $111.1^\circ \pm 847.4^\circ$
Geocentric X -3643.7 ± 1.7 Y 2212.4 ± 2.5 km **N**



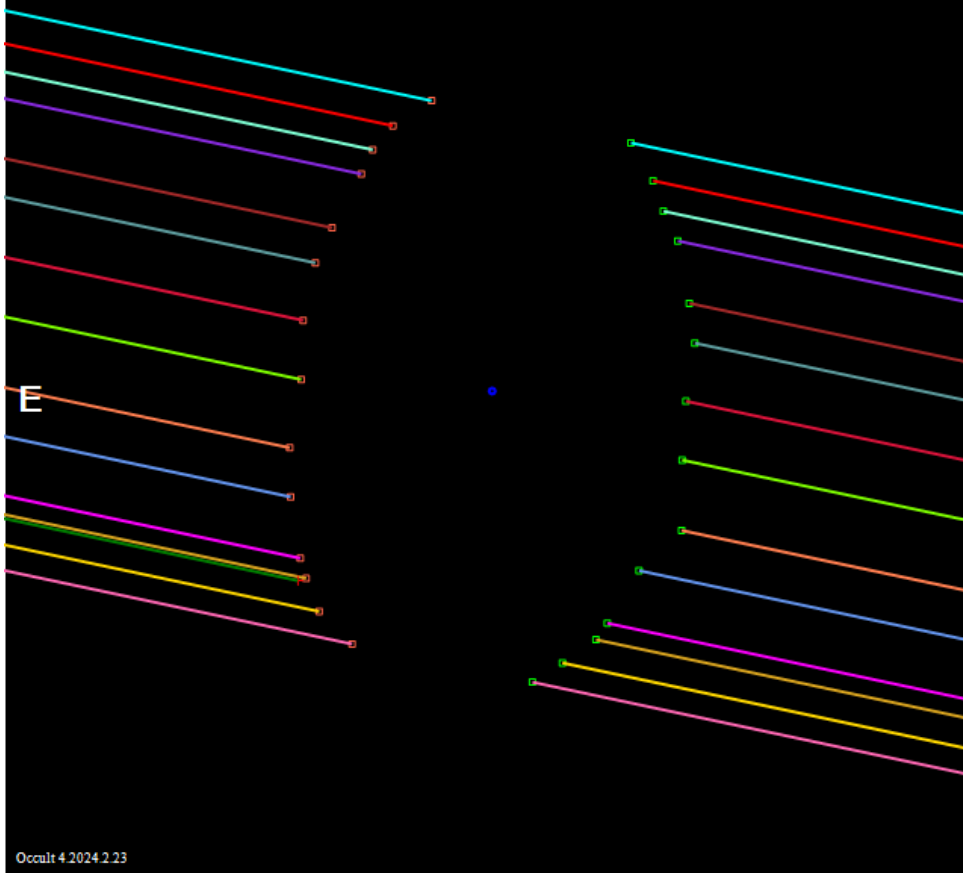
16_Psyche_2014Jul22

(16) Psyche 2014 Jul 22 $208.3 \pm 5.7 \times 185.6 \pm 4.1$ km, PA $197.4^\circ \pm 16.6^\circ$
Geocentric X -1217.0 ± 1.8 Y 5426.5 ± 2.6 km **N**



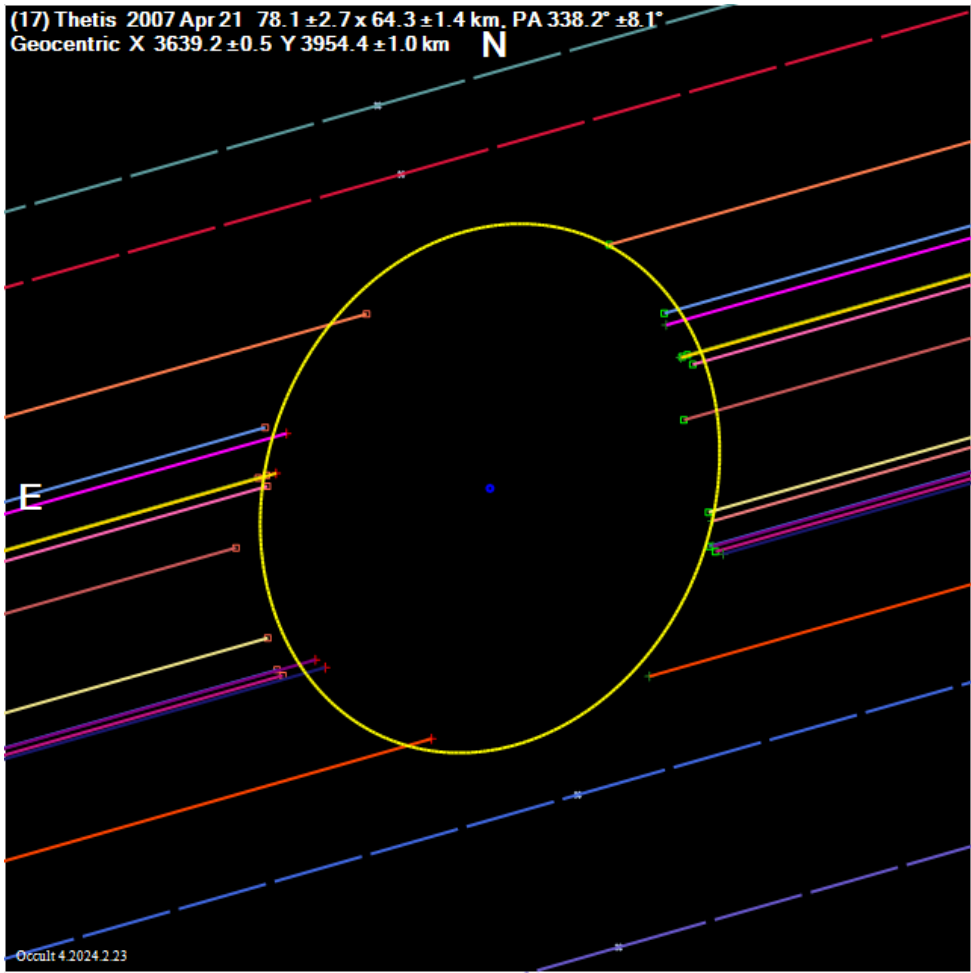
16_Psyche_2019Oct24

(16) Psyche 2019 Oct 24 $275.4 \pm 3.4 \times 174.9 \pm 1.6$ km, PA $352.5^\circ \pm 0.7^\circ$
Geocentric X 4511.6 ± 0.6 Y 4224.5 ± 1.0 km N



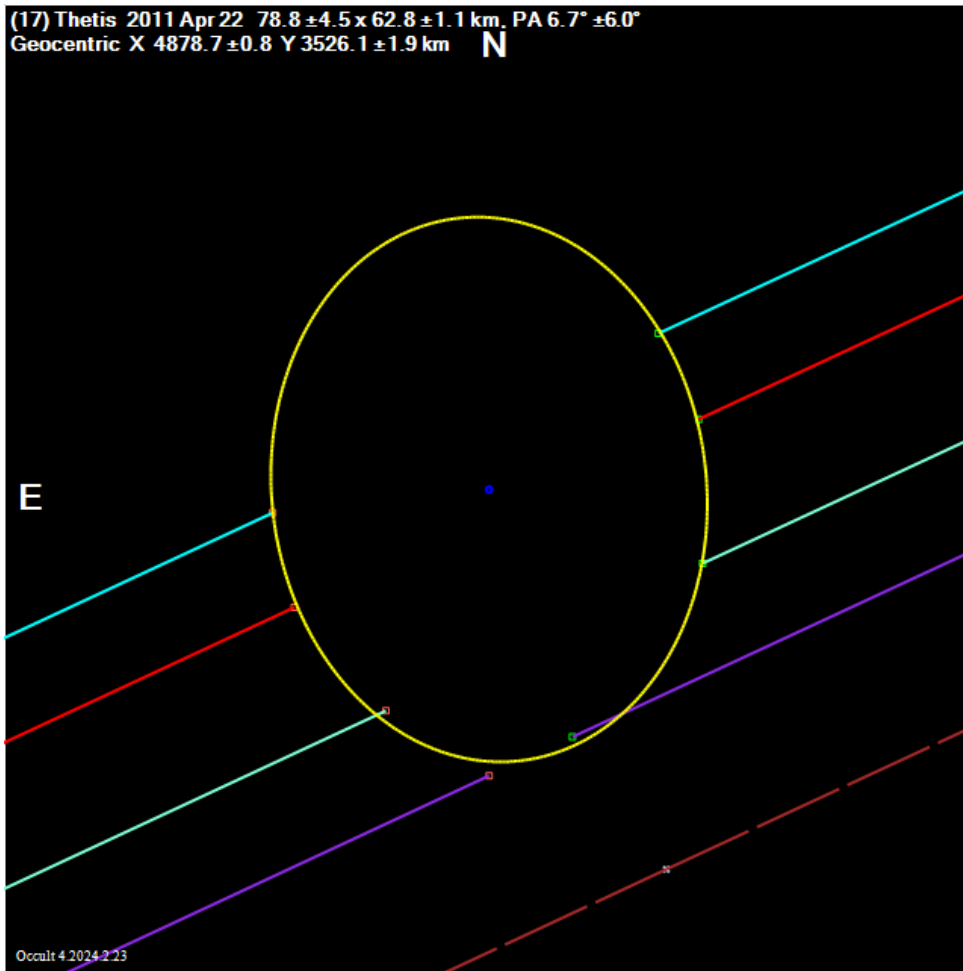
Occult 4.2024.2.23

17_Thetis_2007Apr21



17_Thetis_2011Apr22

(17) Thetis 2011 Apr 22 $78.8 \pm 4.5 \times 62.8 \pm 1.1$ km, PA $6.7^\circ \pm 6.0^\circ$
Geocentric X 4878.7 ± 0.8 Y 3526.1 ± 1.9 km N



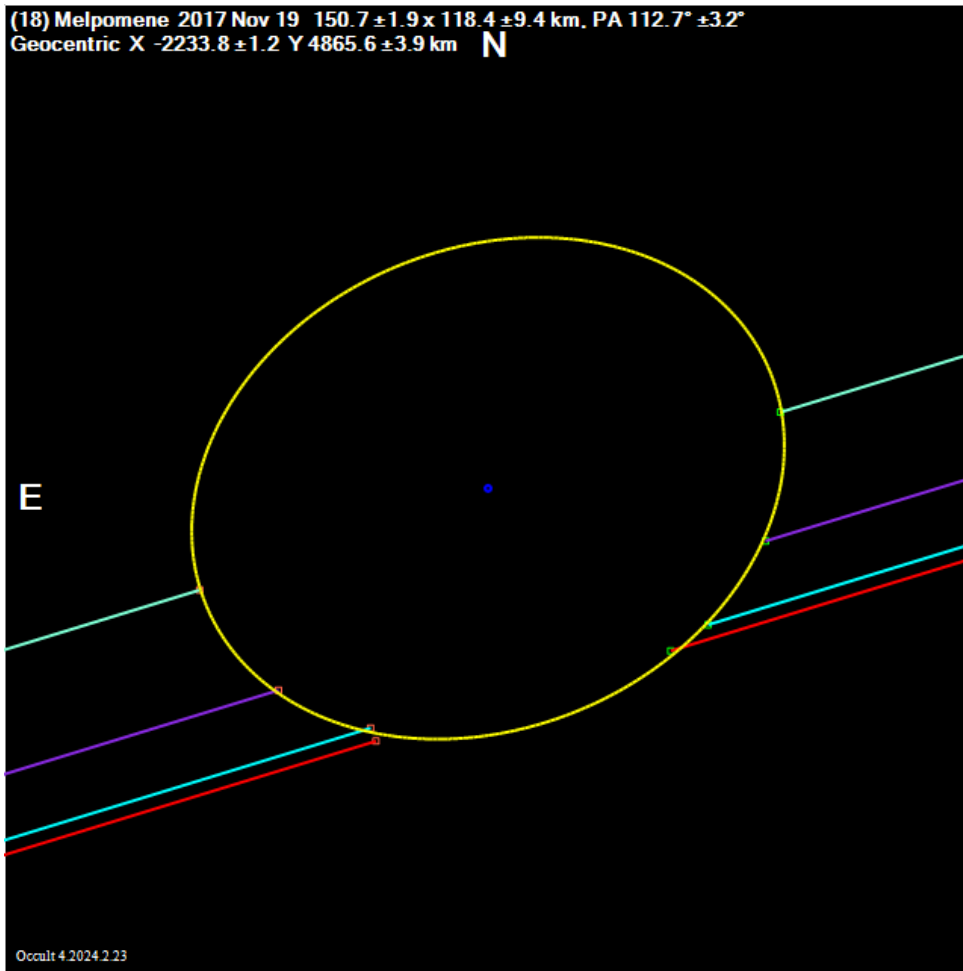
18_Melpomene_1978Dec11

(18) Melpomene 1978 Dec 11 134.5 ± 7.6 x 120.9 ± 38.8 km. PA 91.2° ± 53.7°
Geocentric X 3285.5 ± 3.5 Y 3541.4 ± 8.9 km N
Sat: 10.0 x 10.0 km, PA 0.0°; Sep 0.0000" at PA 0.0°



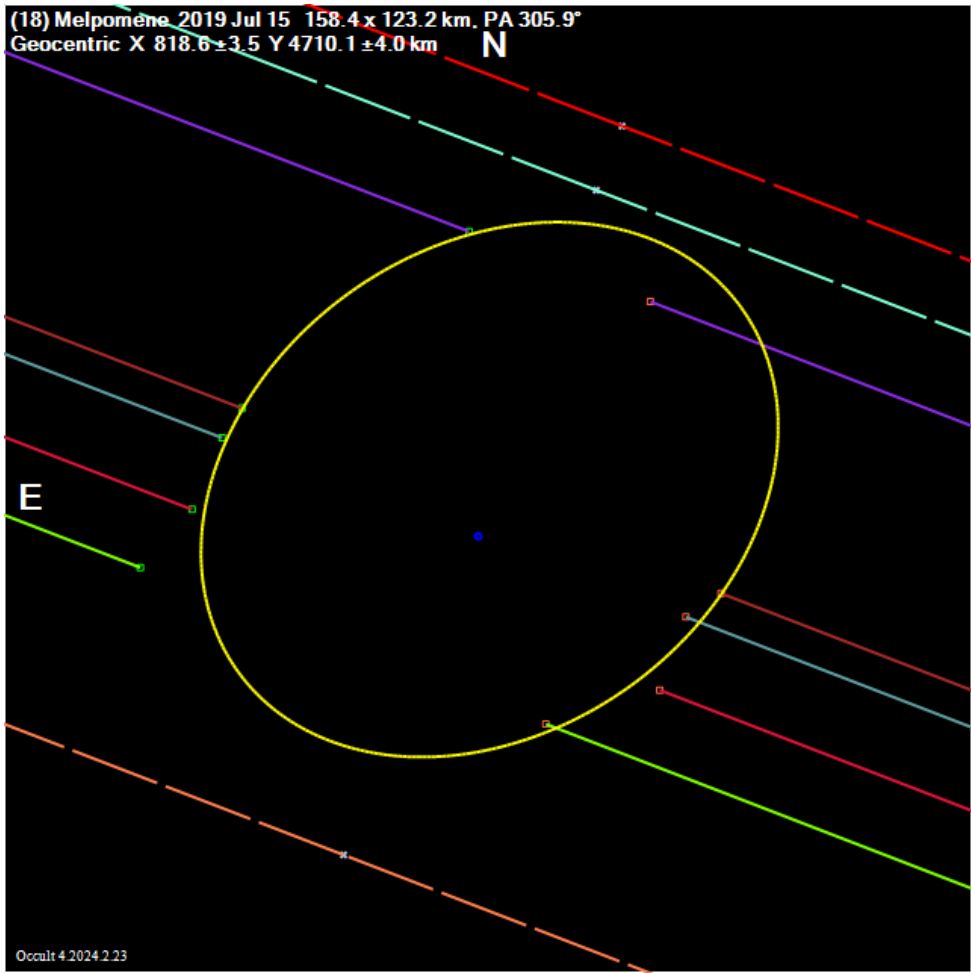
18_Melpomene_2017Nov19

(18) Melpomene 2017 Nov 19 $150.7 \pm 1.9 \times 118.4 \pm 9.4$ km, PA $112.7^\circ \pm 3.2^\circ$
Geocentric X -2233.8 ± 1.2 Y 4865.6 ± 3.9 km **N**



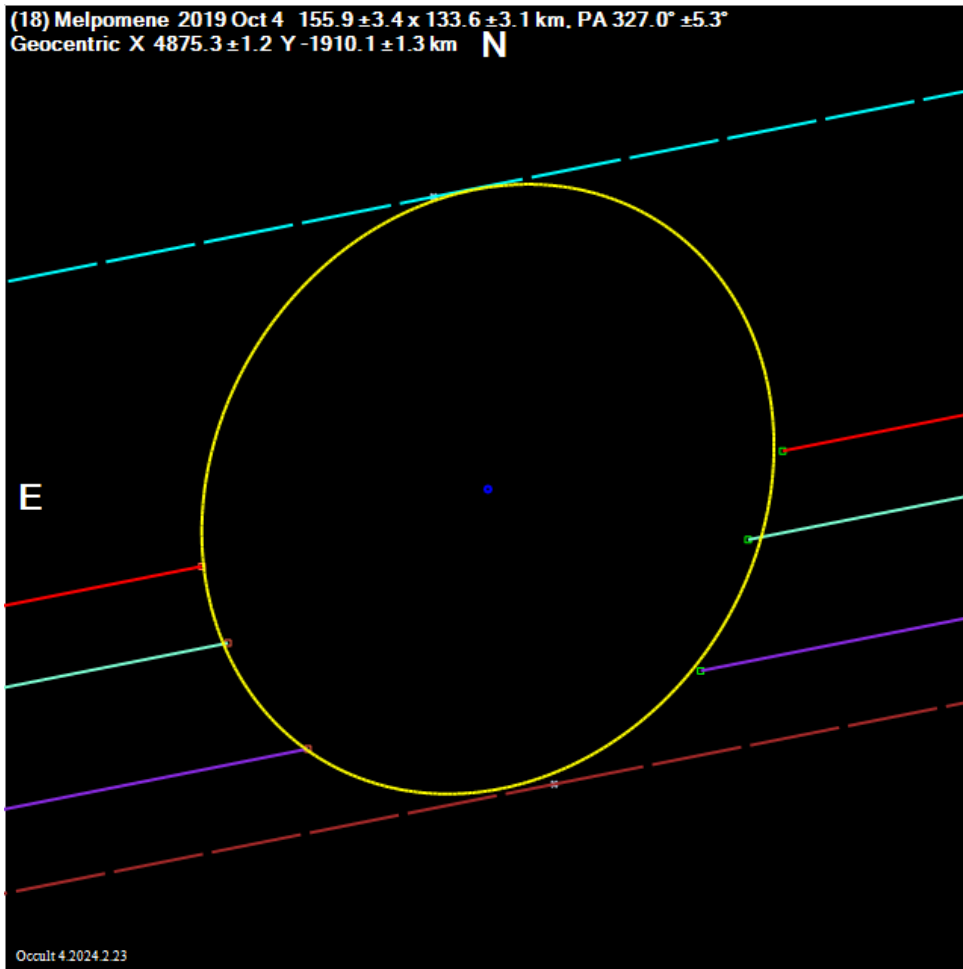
Occult 4.2024.2.23

18_Melpomene_2019Jul15



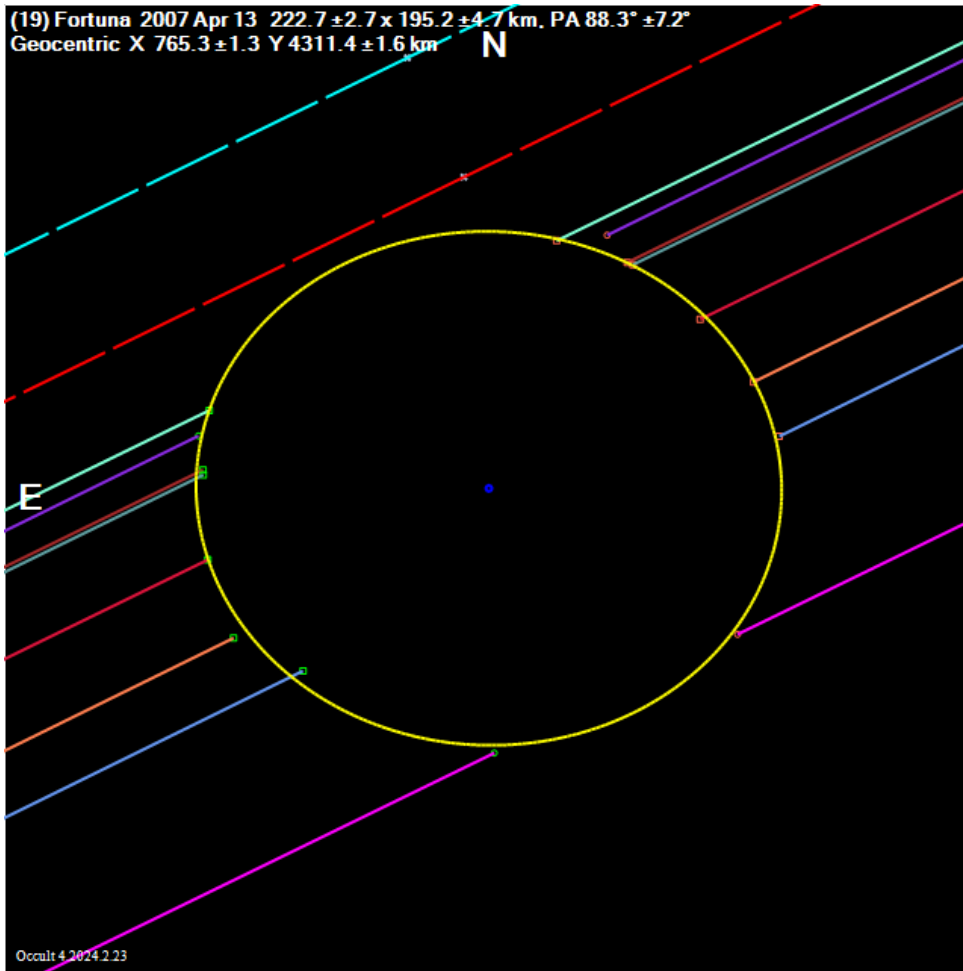
18_Melpomene_2019Oct04

(18) Melpomene 2019 Oct 4 $155.9 \pm 3.4 \times 133.6 \pm 3.1$ km, PA $327.0^\circ \pm 5.3^\circ$
Geocentric X 4875.3 ± 1.2 Y -1910.1 ± 1.3 km **N**



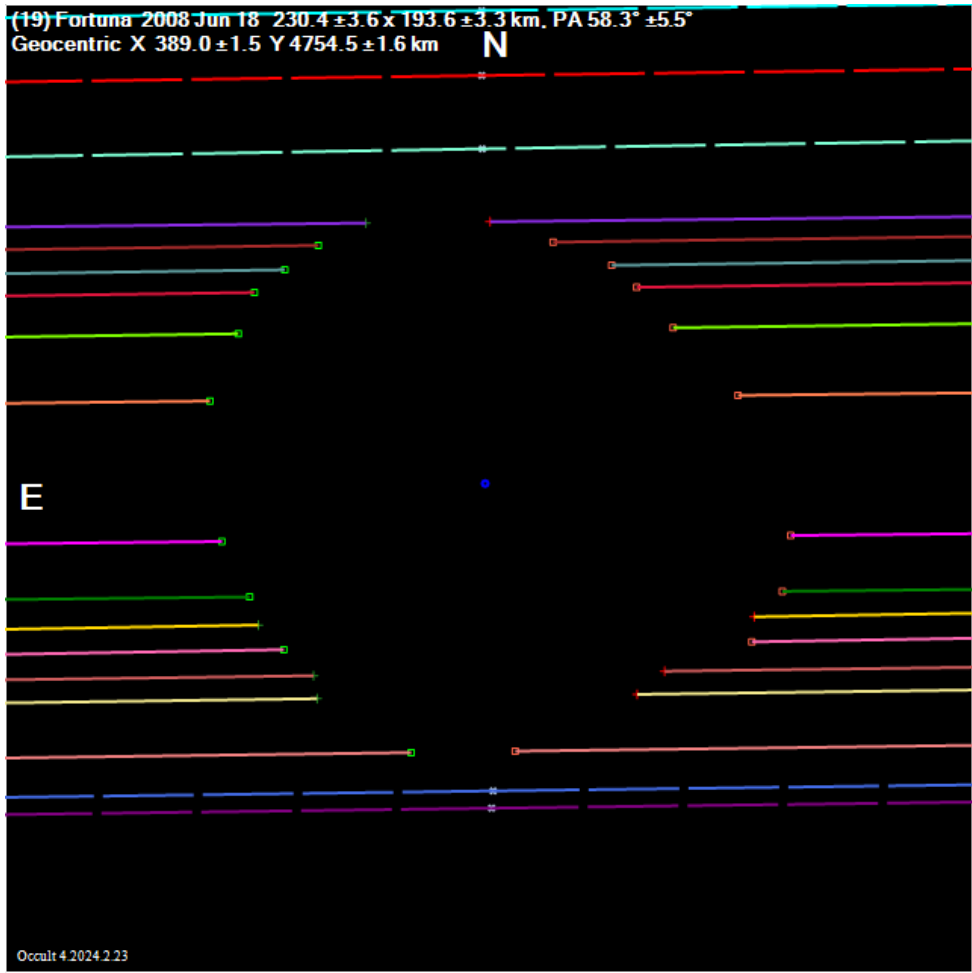
19_Fortuna_2007Apr13

(19) Fortuna 2007 Apr 13 $222.7 \pm 2.7 \times 195.2 \pm 4.7$ km, PA $88.3^\circ \pm 7.2^\circ$
Geocentric X 765.3 ± 1.3 Y 4311.4 ± 1.6 km



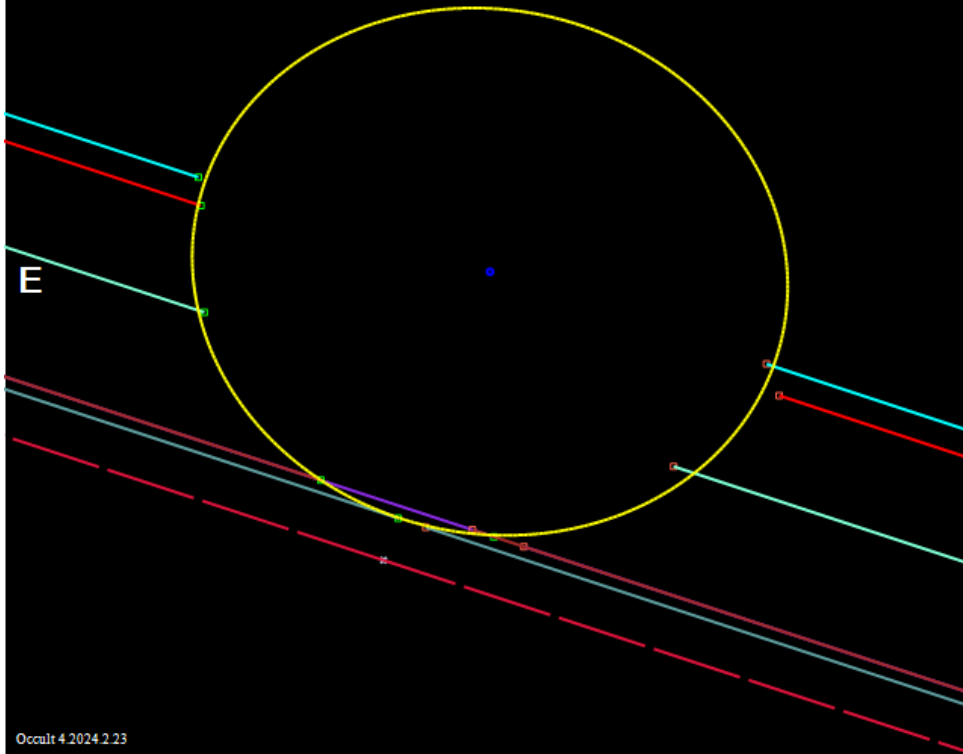
19_Fortuna_2008Jun18

(19) Fortuna 2008 Jun 18 $230.4 \pm 3.6 \times 193.6 \pm 3.3$ km, PA $58.3^\circ \pm 5.5^\circ$
Geocentric X 389.0 ± 1.5 Y 4754.5 ± 1.6 km



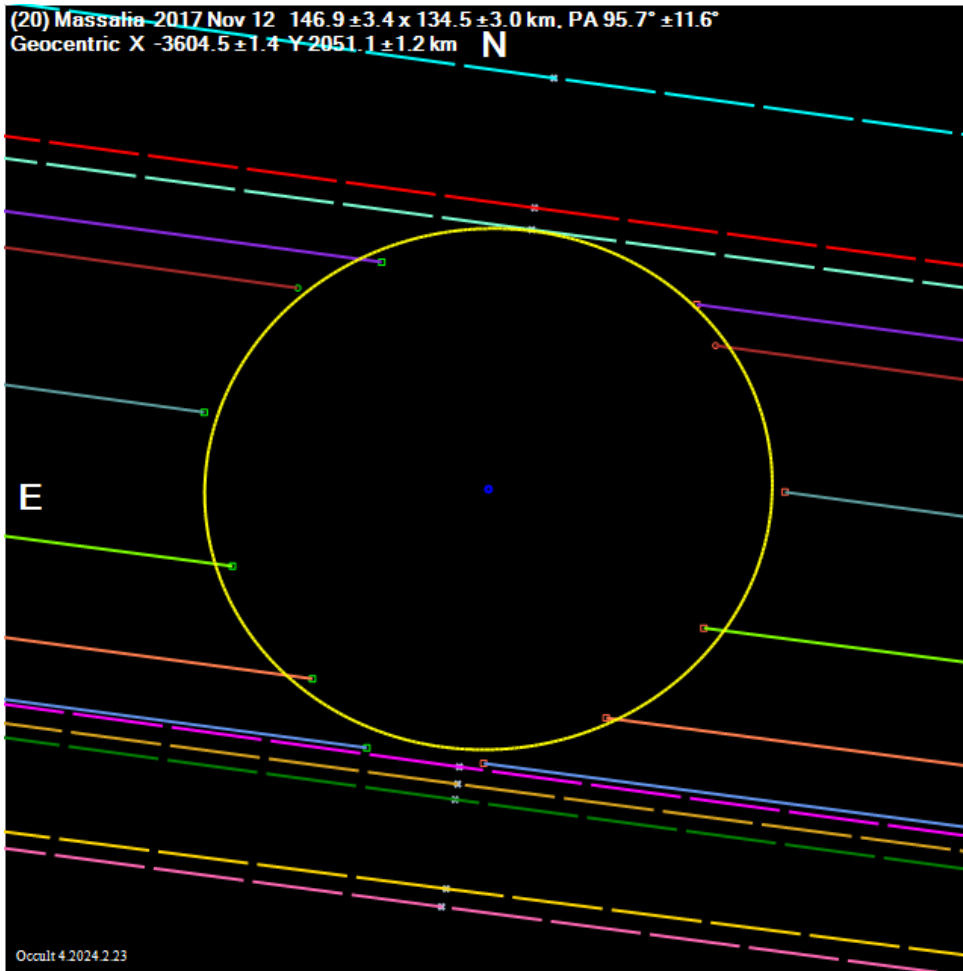
19_Fortuna_2016Aug13

(19) Fortuna 2016 Aug 13 $224.2 \pm 3.2 \times 196.0$ km, PA $257.9^\circ \pm 10.2^\circ$
Geocentric X -1321.0 ± 1.8 Y 5538.7 ± 1.3 km **N**

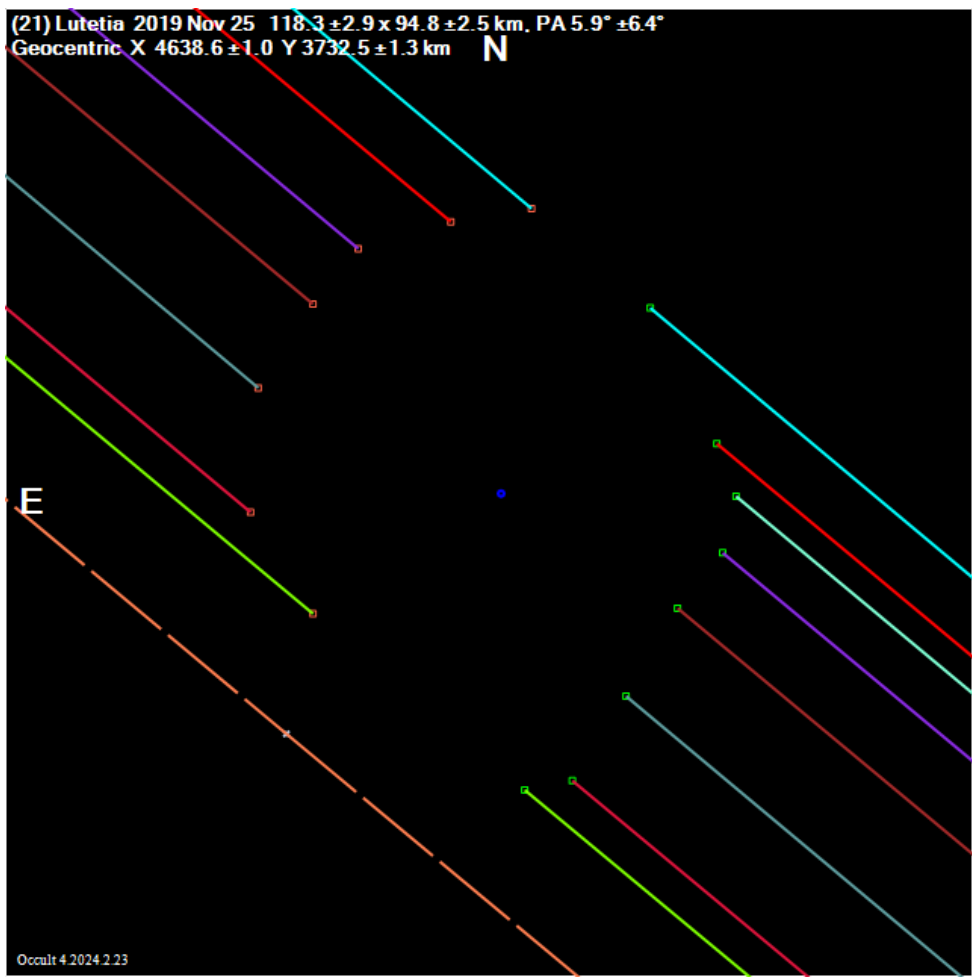


20_Massalia_2017Nov12

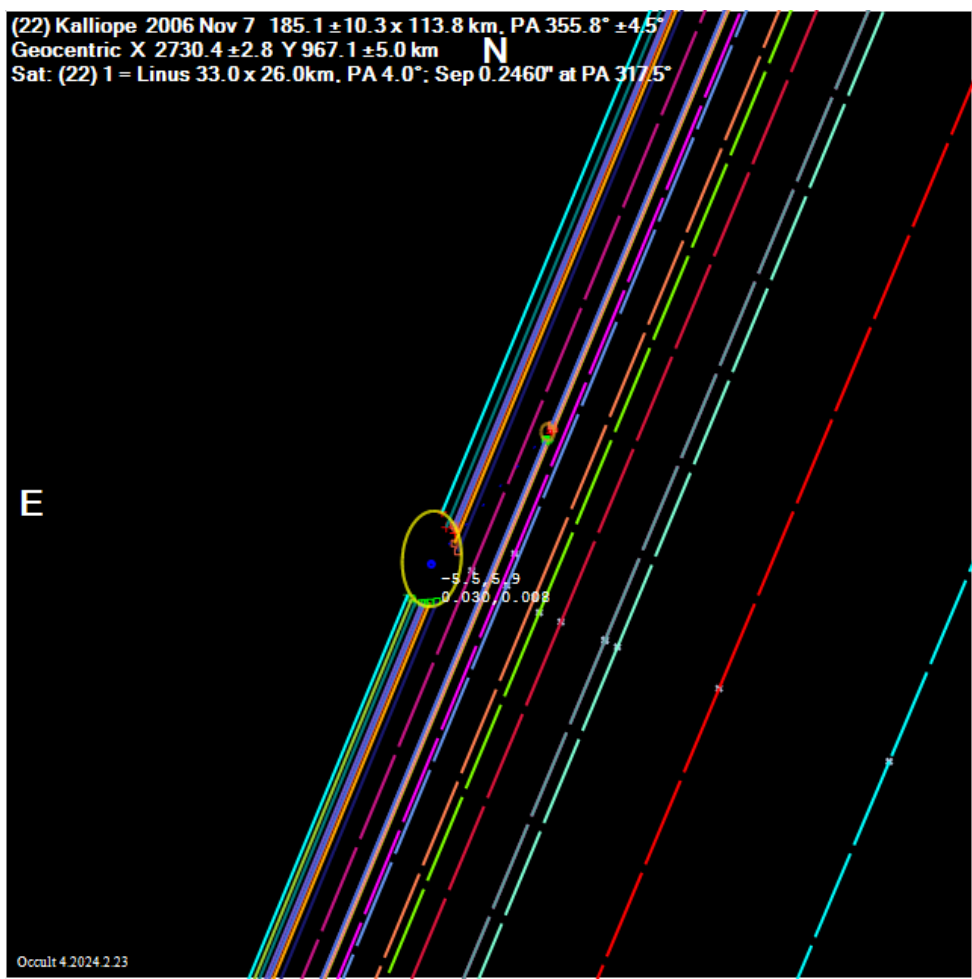
(20) Massalia - 2017 Nov 12 $146.9 \pm 3.4 \times 134.5 \pm 3.0$ km, PA $95.7^\circ \pm 11.6^\circ$
Geocentric X -3604.5 ± 1.4 Y 2051.1 ± 1.2 km **N**



21_Lutetia_2019Nov25

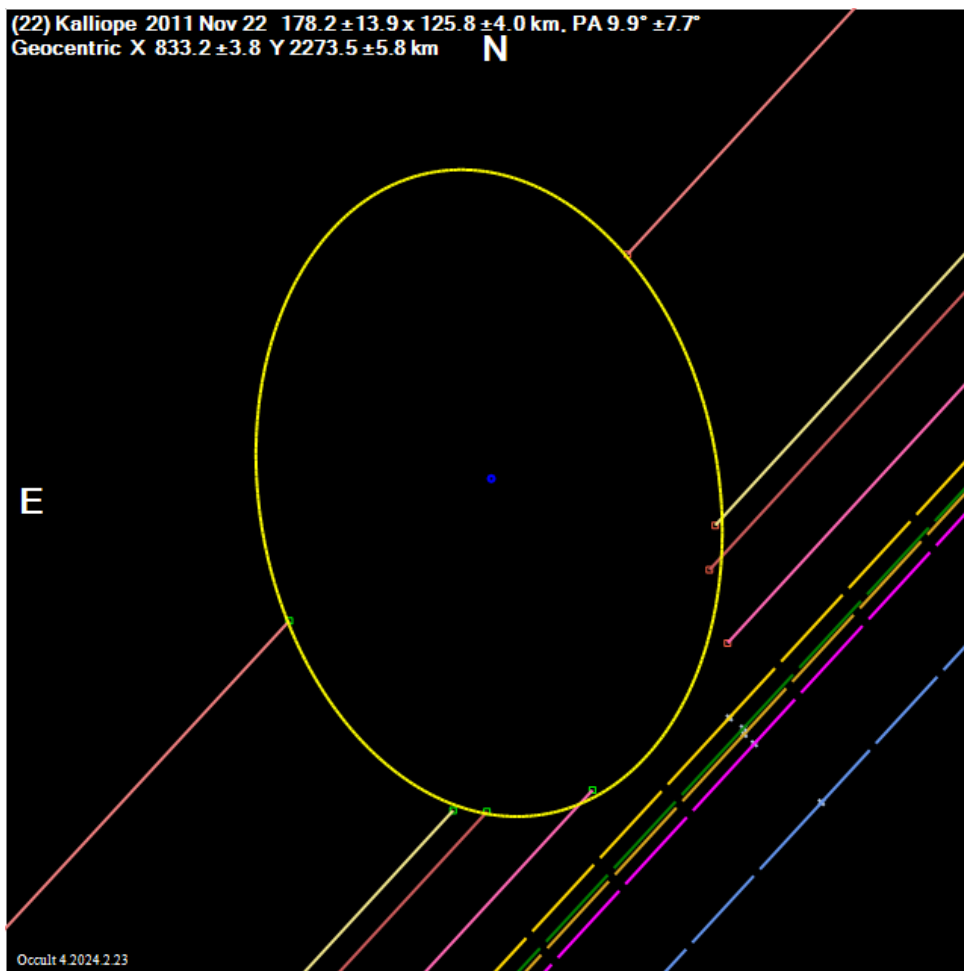


22_Kalliope_2006Nov07



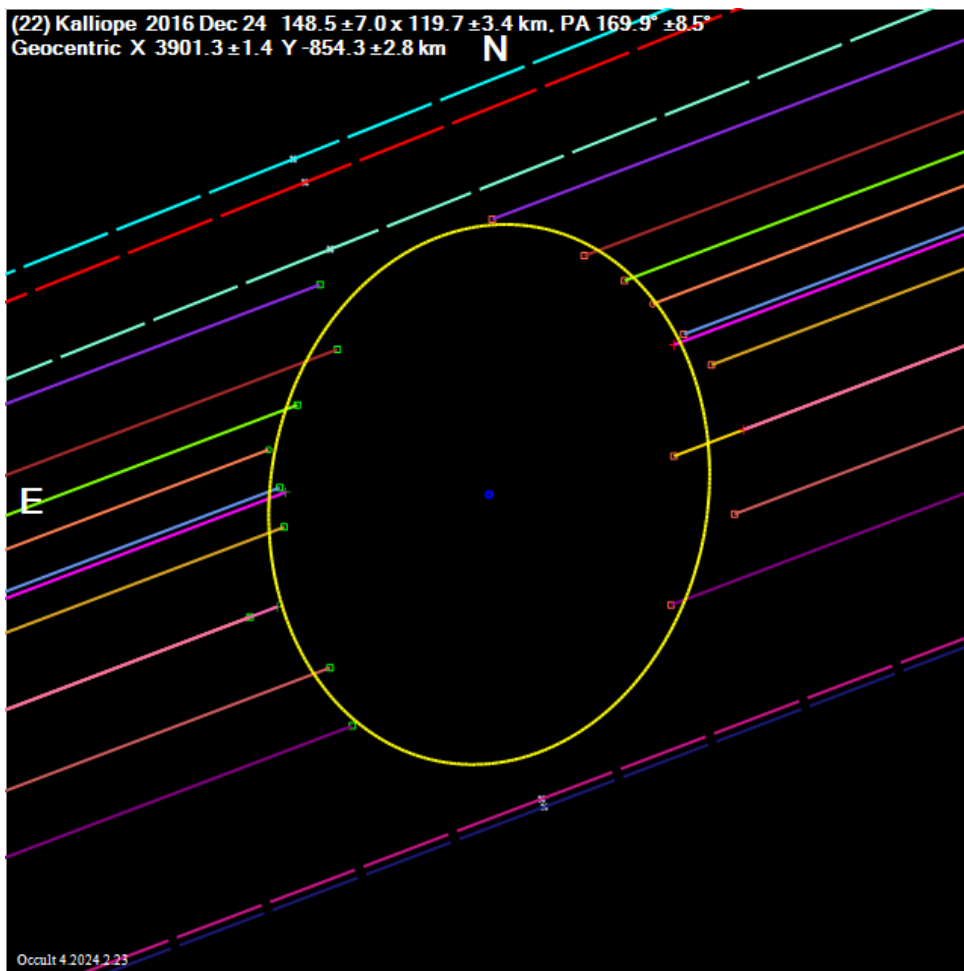
22_Kalliope_2011Nov22

(22) Kalliope 2011 Nov 22 178.2 ± 13.9 x 125.8 ± 4.0 km. PA 9.9° ± 7.7°
Geocentric X 833.2 ± 3.8 Y 2273.5 ± 5.8 km N



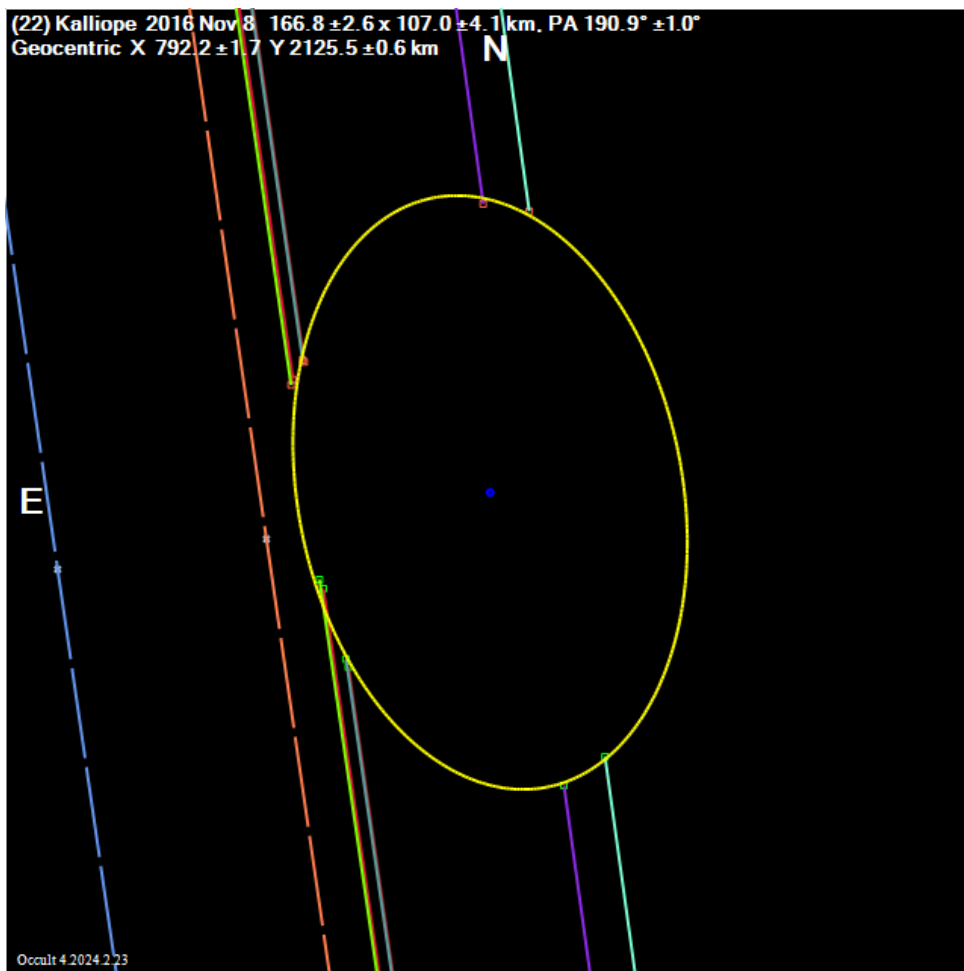
22_Kalliope_2016Dec24

(22) Kalliope 2016 Dec 24 $148.5 \pm 7.0 \times 119.7 \pm 3.4$ km, PA $169.9^\circ \pm 8.5^\circ$
Geocentric X 3901.3 ± 1.4 Y -854.3 ± 2.8 km **N**



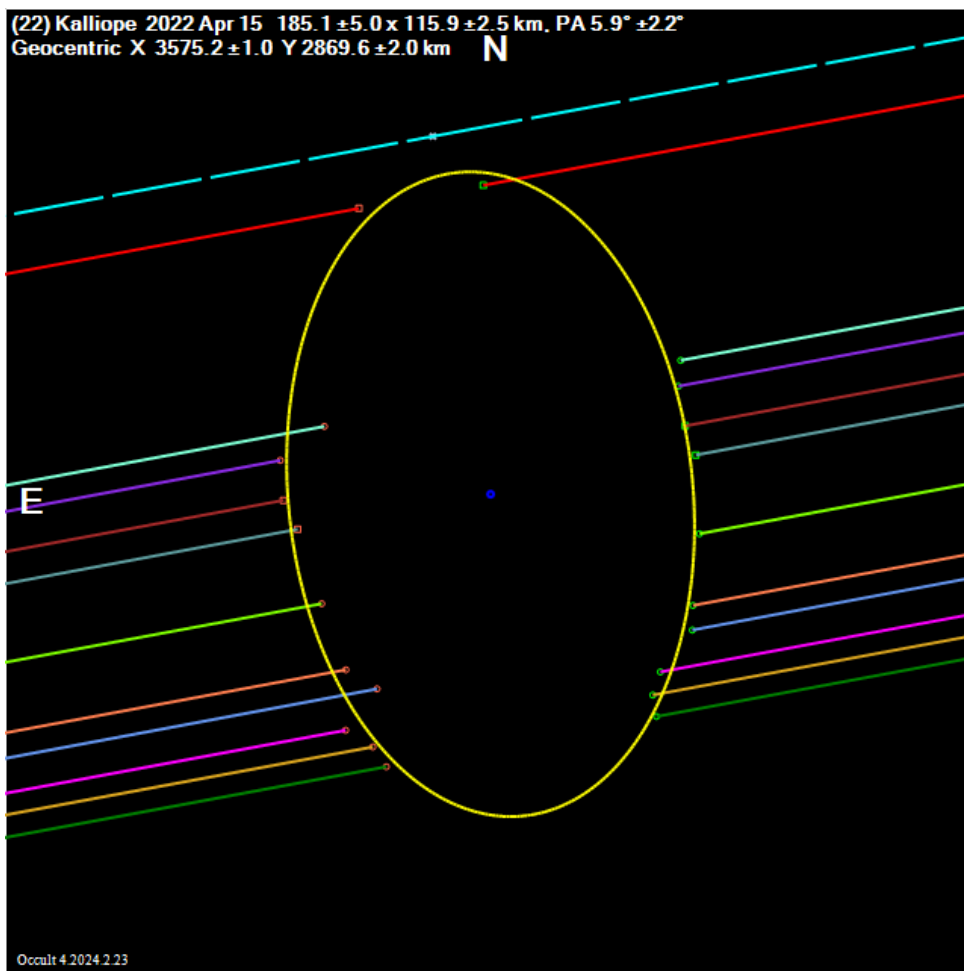
22_Kalliope_2016Nov08

(22) Kalliope 2016 Nov 8 $166.8 \pm 2.6 \times 107.0 \pm 4.1$ km, PA $190.9^\circ \pm 1.0^\circ$
Geocentric X 792.2 ± 1.7 Y 2125.5 ± 0.6 km



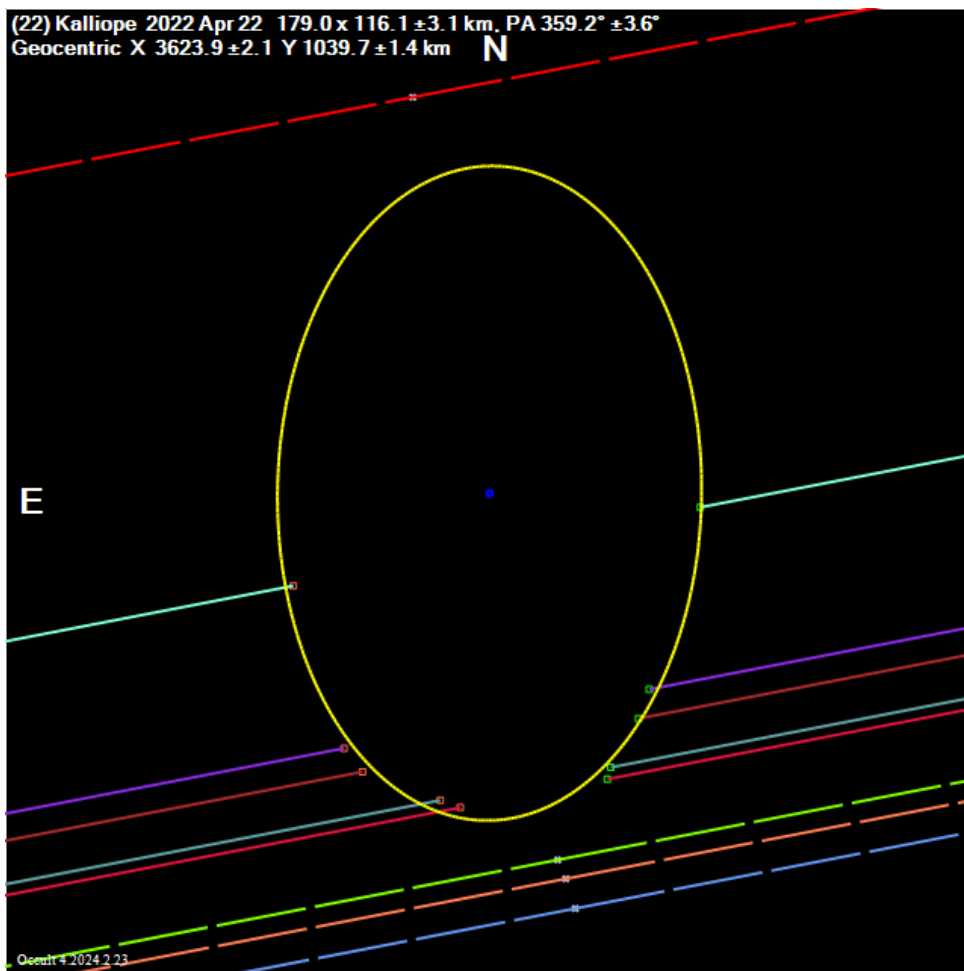
22_Kalliope_2022Apr15

(22) Kalliope 2022 Apr 15 $185.1 \pm 5.0 \times 115.9 \pm 2.5$ km. PA $5.9^\circ \pm 2.2^\circ$
Geocentric X 3575.2 ± 1.0 Y 2869.6 ± 2.0 km N



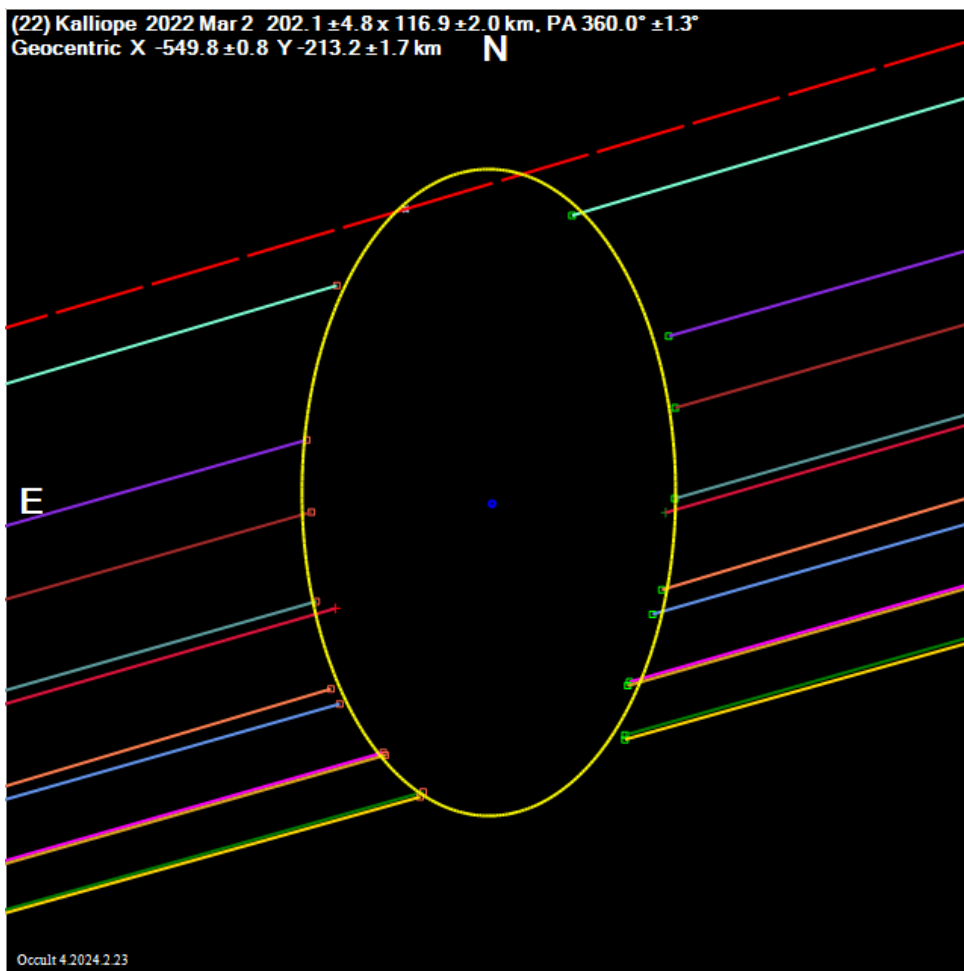
22_Kalliope_2022Apr22

(22) Kalliope 2022 Apr 22 179.0 x 116.1 ± 3.1 km, PA 359.2° ± 3.6°
Geocentric X 3623.9 ± 2.1 Y 1039.7 ± 1.4 km N



22_Kalliope_2022Mar02

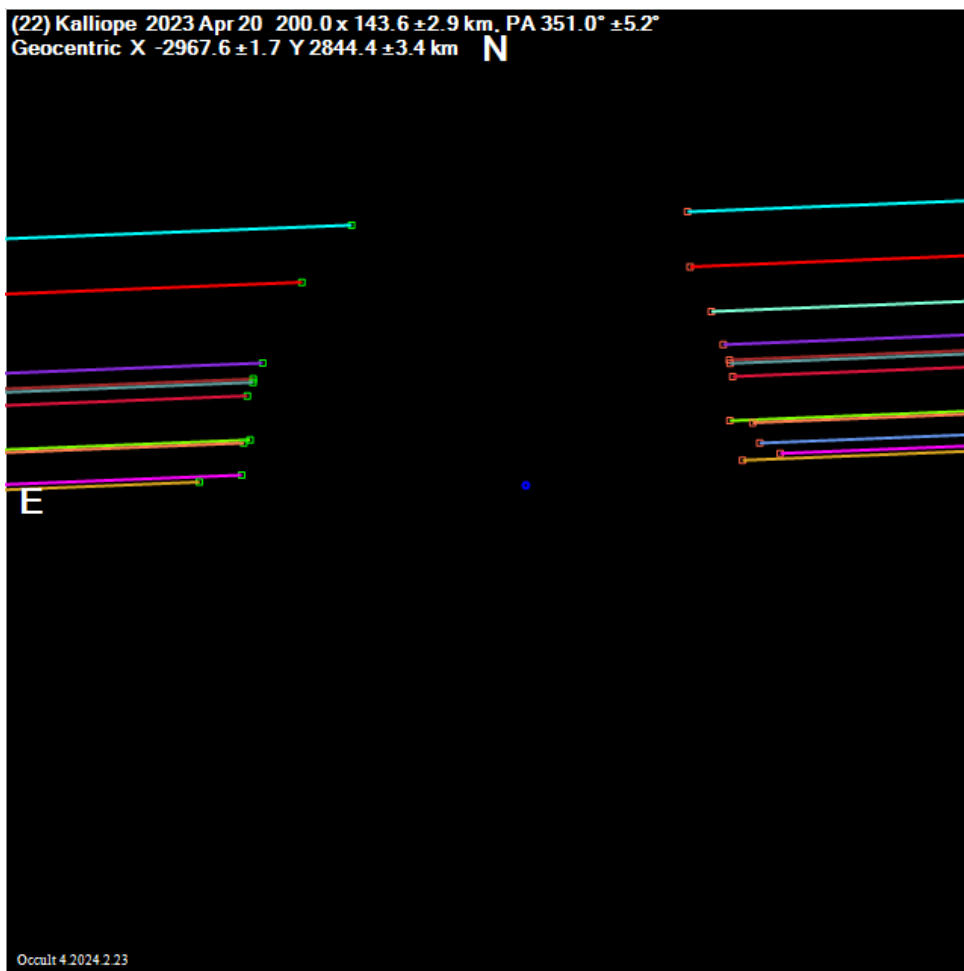
(22) Kalliope 2022 Mar 2 202.1 ± 4.8 x 116.9 ± 2.0 km, PA 360.0° ± 1.3°
Geocentric X -549.8 ± 0.8 Y -213.2 ± 1.7 km N



Occult 4.2024.2.23

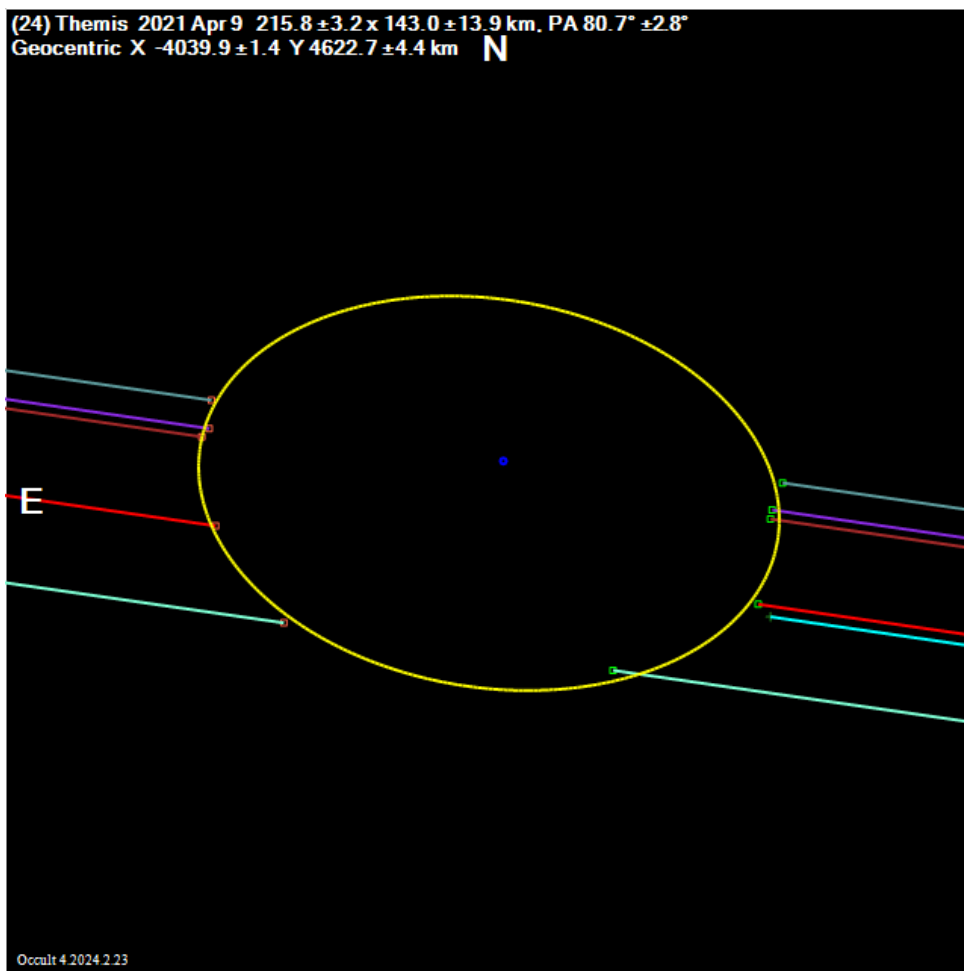
22_Kalliope_2023Apr20

(22) Kalliope 2023 Apr 20 200.0 x 143.6 ± 2.9 km, PA 351.0° ± 5.2°
Geocentric X -2967.6 ± 1.7 Y 2844.4 ± 3.4 km N



24_Themis_2021Apr09

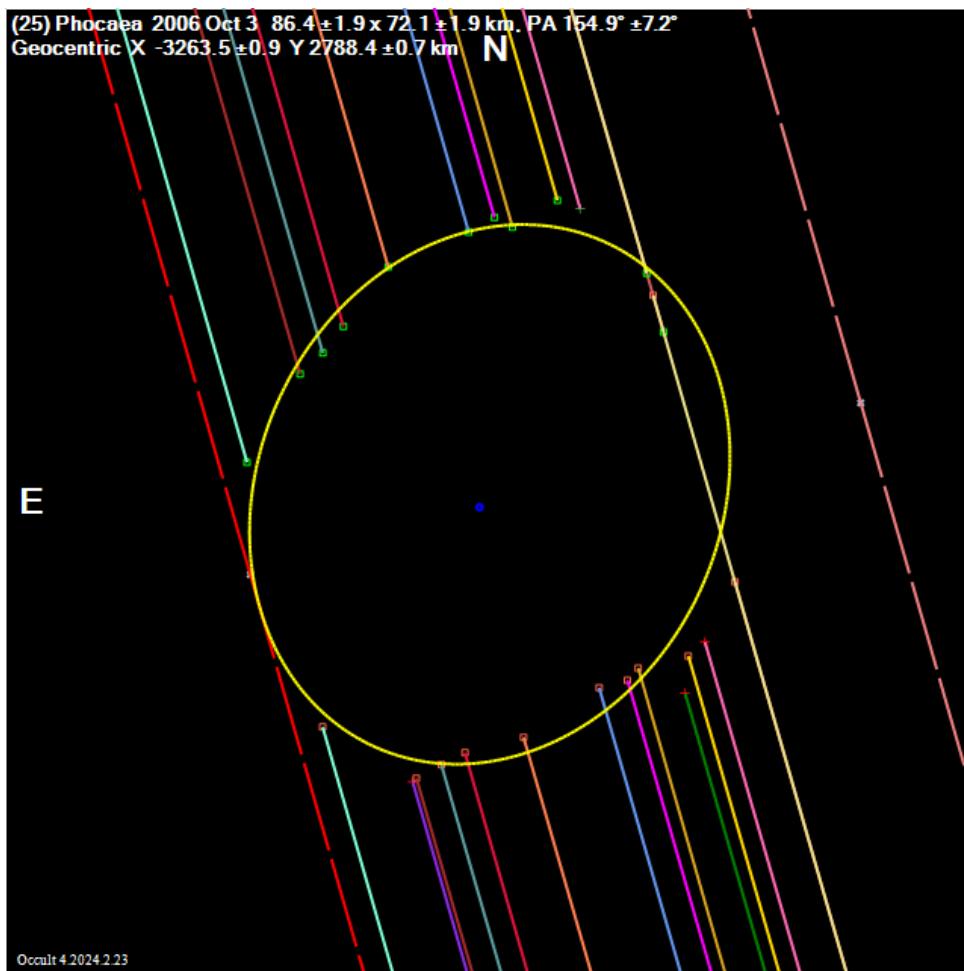
(24) Themis 2021 Apr 9 215.8 ± 3.2 x 143.0 ± 13.9 km, PA 80.7° ± 2.8°
Geocentric X -4039.9 ± 1.4 Y 4622.7 ± 4.4 km **N**



Occult 4.2024.2.23

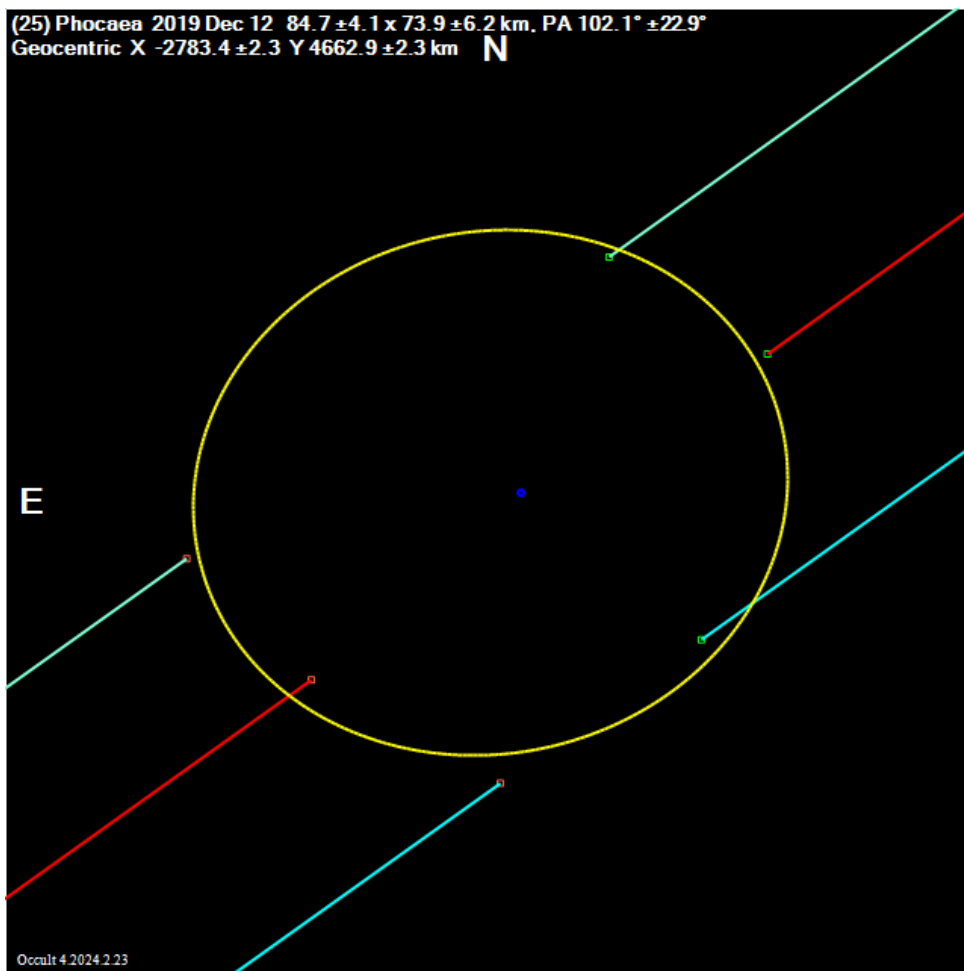
25_Phocaea_2006Oct03

(25) Phocaea 2006 Oct 3 $86.4 \pm 1.9 \times 72.1 \pm 1.9$ km. PA $154.9^\circ \pm 7.2^\circ$
Geocentric X -3263.5 ± 0.9 Y 2788.4 ± 0.7 km



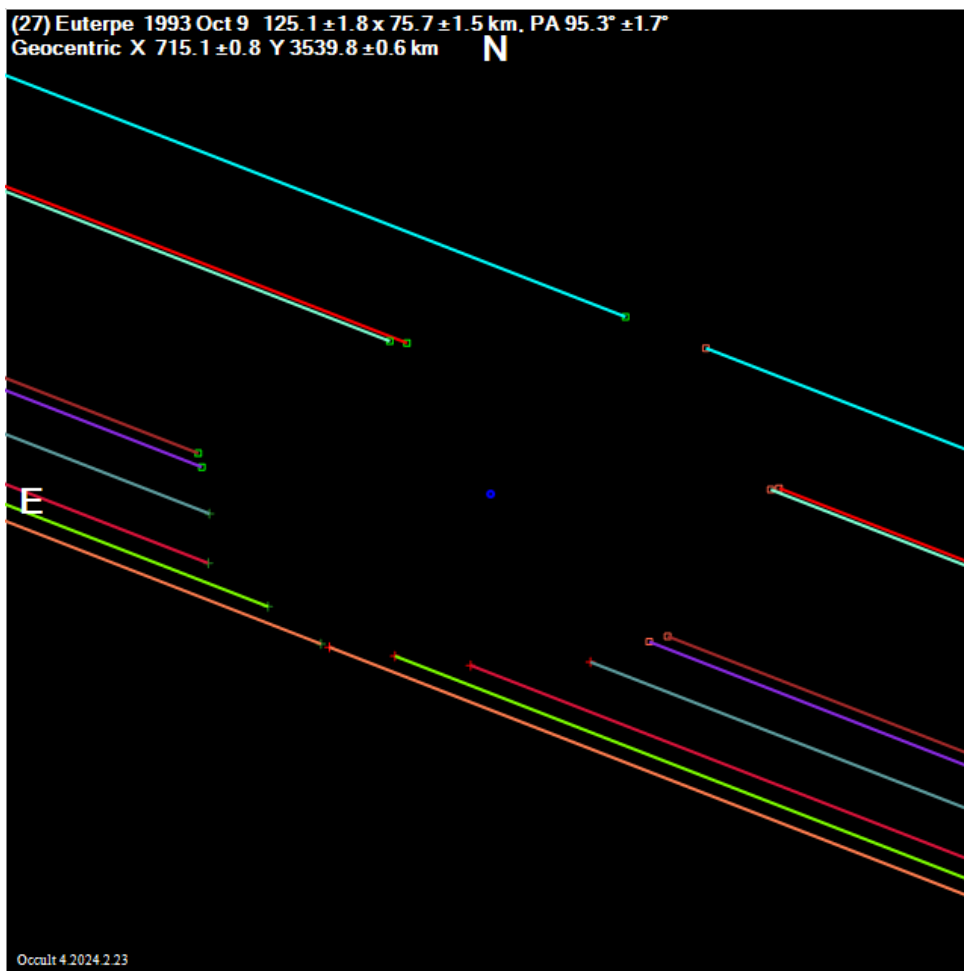
25_Phocaea_2019Dec12

(25) Phocaea 2019 Dec 12 $84.7 \pm 4.1 \times 73.9 \pm 6.2$ km. PA $102.1^\circ \pm 22.9^\circ$
Geocentric X -2783.4 ± 2.3 Y 4662.9 ± 2.3 km **N**



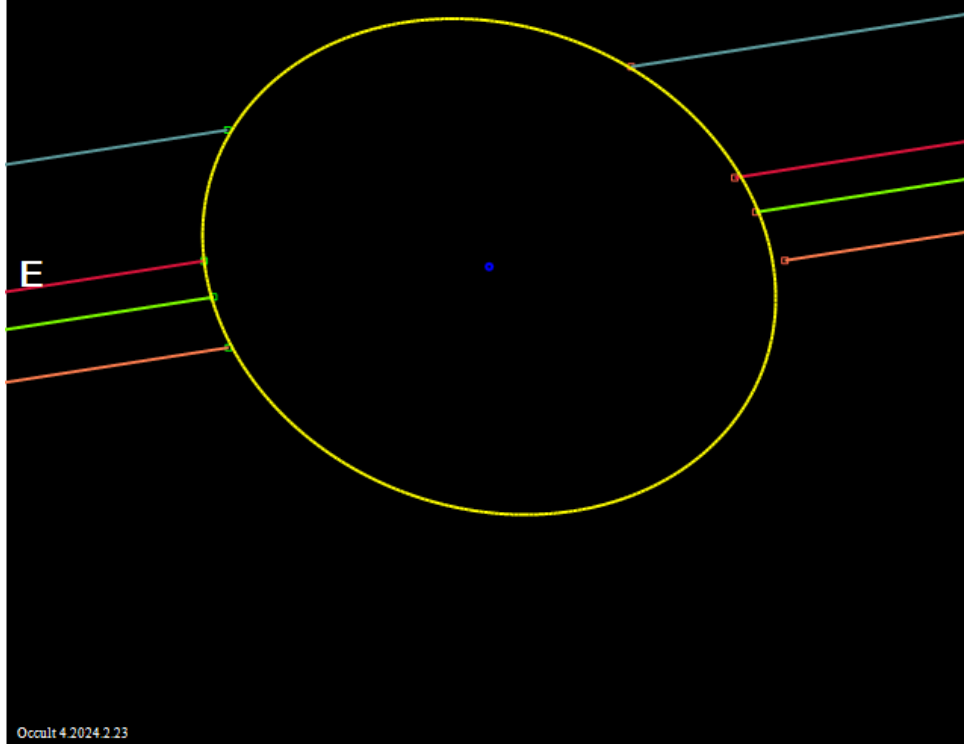
27_Euterpe_1993Oct09

(27) Euterpe 1993 Oct 9 $125.1 \pm 1.8 \times 75.7 \pm 1.5$ km. PA $95.3^\circ \pm 1.7^\circ$
Geocentric X 715.1 ± 0.8 Y 3539.8 ± 0.6 km **N**



27_Euterpe_2015Dec13

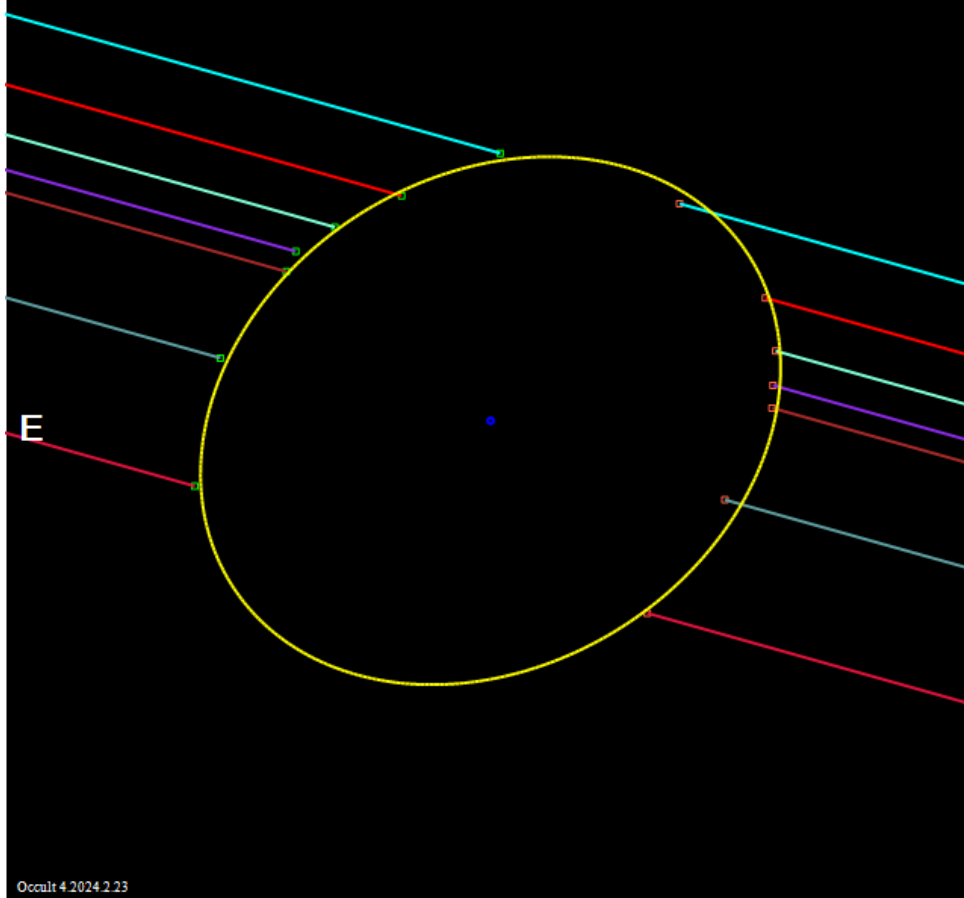
(27) Euterpe 2015 Dec 13 $120.0 \pm 3.7 \times 98.9 \pm 6.2$ km, PA $69.6^\circ \pm 12.3^\circ$
Geocentric X -4531.7 ± 1.1 Y 3279.2 ± 2.9 km **N**



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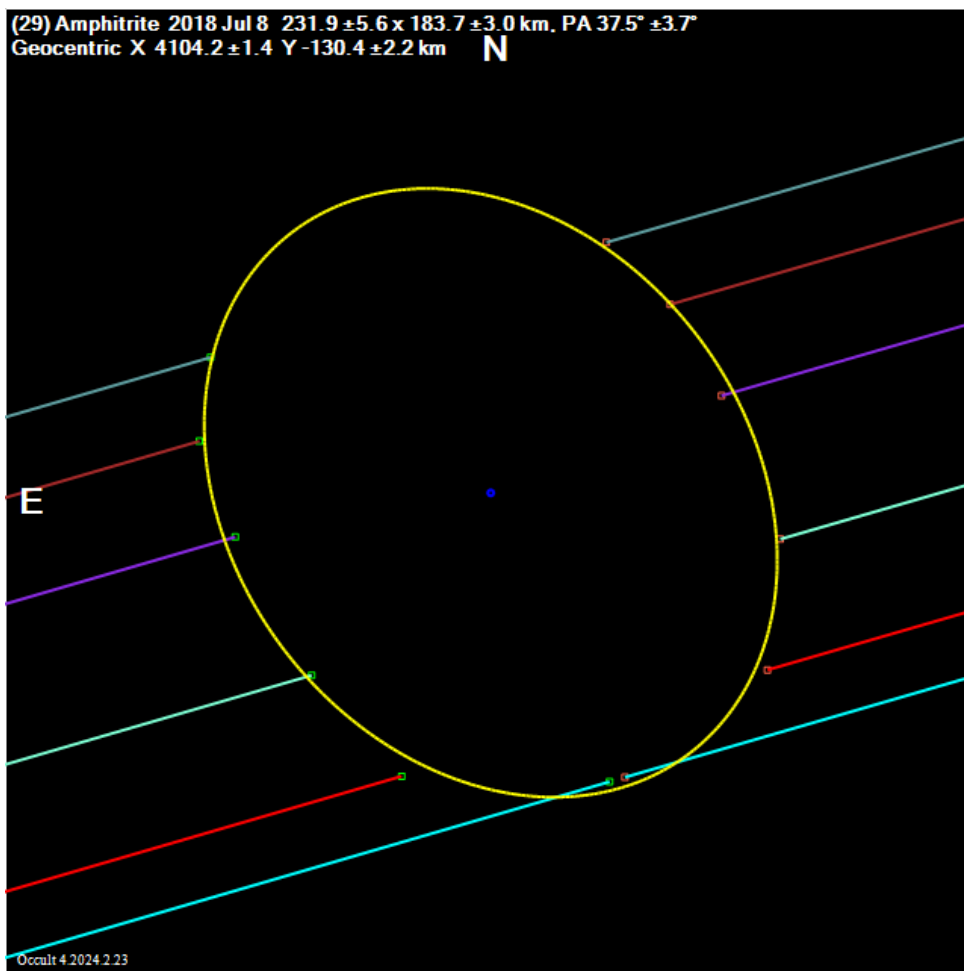
29_Amphitrite_2015Nov11

(29) Amphitrite 2015 Nov 11 $229.4 \pm 5.3 \times 182.9 \pm 3.2$ km, PA $122.4^\circ \pm 4.6^\circ$
Geocentric X -1179.1 ± 1.5 Y 1674.3 ± 2.4 km **N**



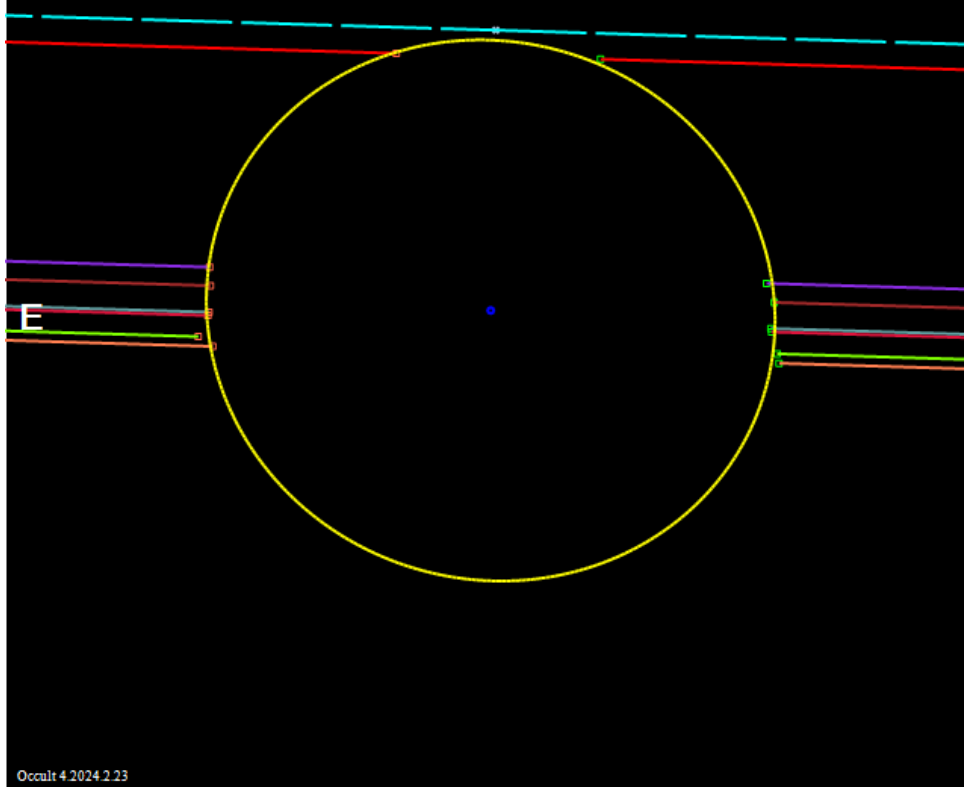
29_Amphitrite_2018Jul08

(29) Amphitrite 2018 Jul 8 $231.9 \pm 5.6 \times 183.7 \pm 3.0$ km, PA $37.5^\circ \pm 3.7^\circ$
Geocentric X 4104.2 ± 1.4 Y -130.4 ± 2.2 km N



31_Euphrosyne_2023Nov17

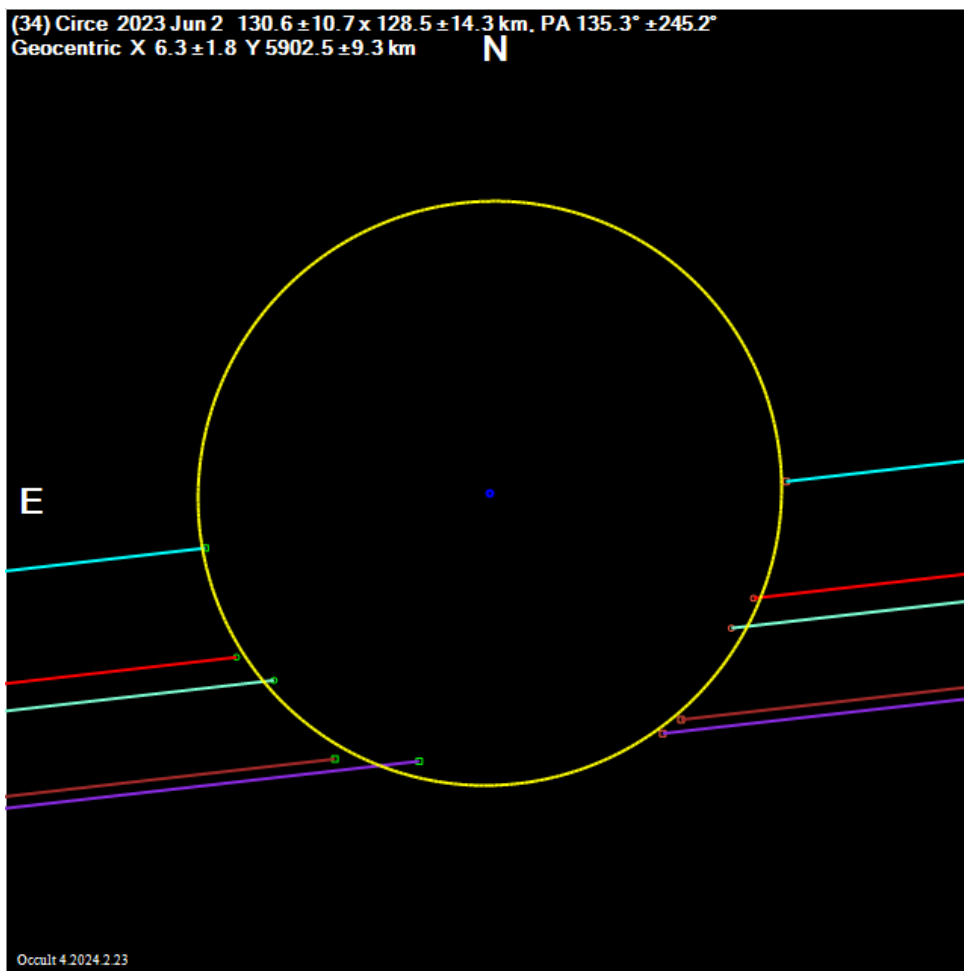
(31) Euphrosyne 2023 Nov 17 289.1 ± 2.7 x 271.6 km, PA 72.1° ± 12.9°
Geocentric X -3655.4 ± 0.7 Y 634.4 ± 2.0 km N



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34_Circe_2023Jun02

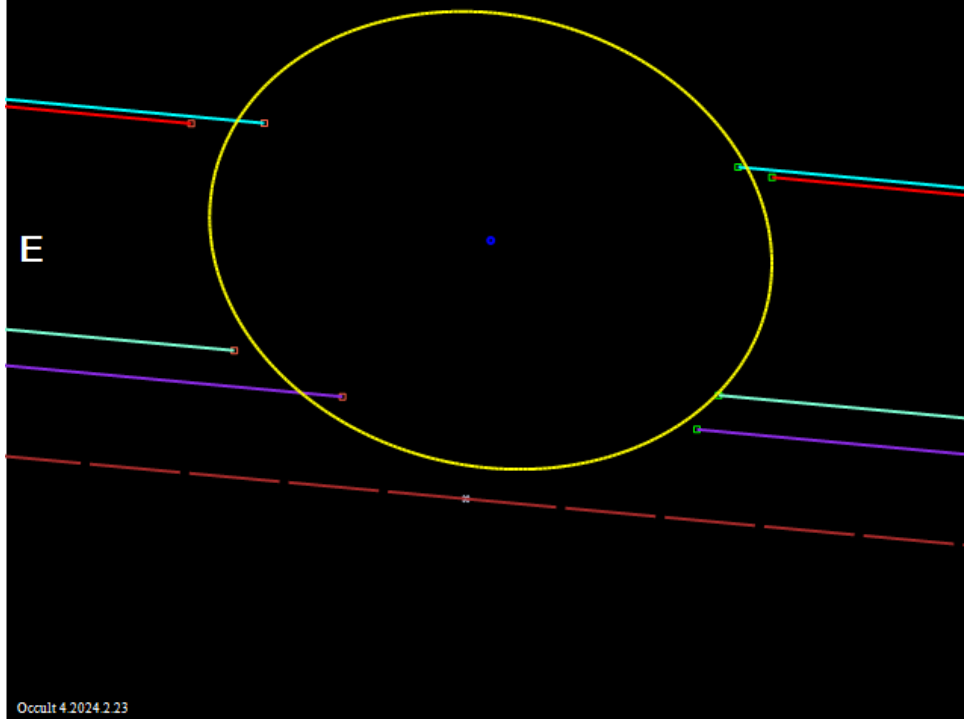
(34) Circe 2023 Jun 2 $130.6 \pm 10.7 \times 128.5 \pm 14.3$ km. PA $135.3^\circ \pm 245.2^\circ$
Geocentric X 6.3 ± 1.8 Y 5902.5 ± 9.3 km **N**



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34_Circe_2023Nov26

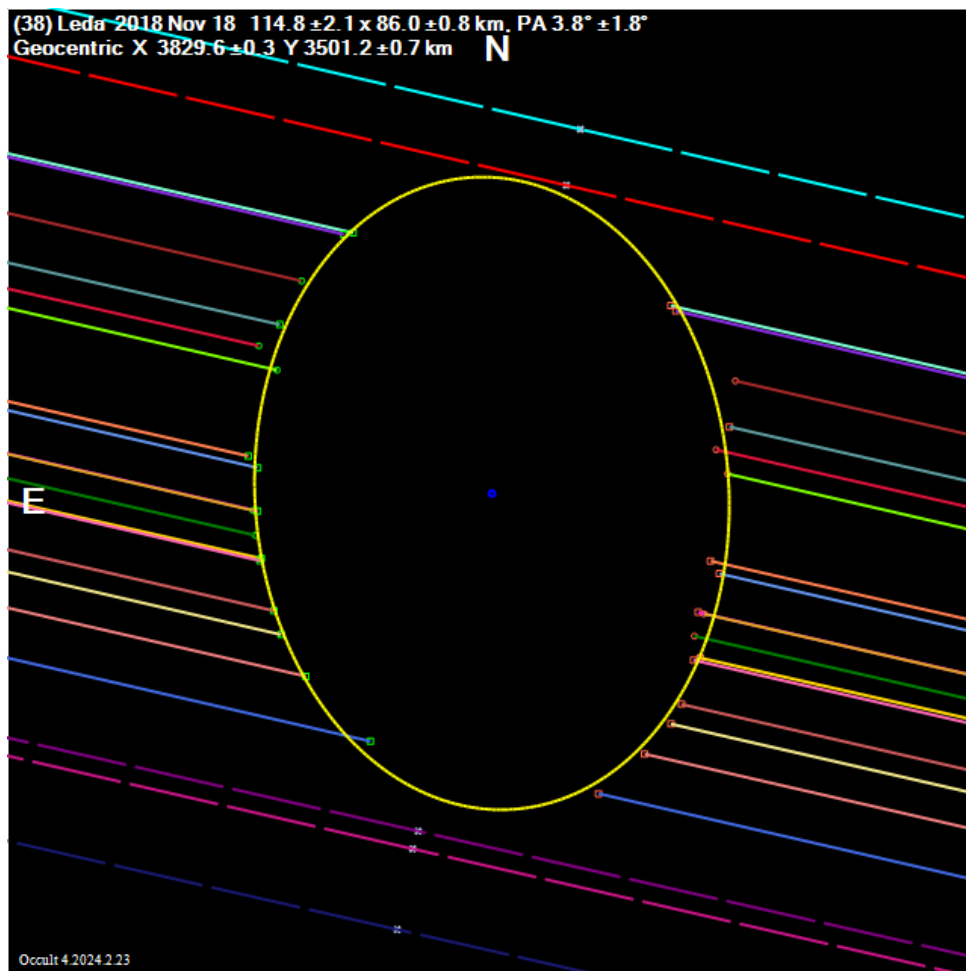
(34) Circe 2023 Nov 26 139.0 x 110.4 ± 11.5 km, PA 77.0° ± 10.1°
Geocentric X 5090.0 ± 2.3 Y -2960.8 ± 3.6 km N



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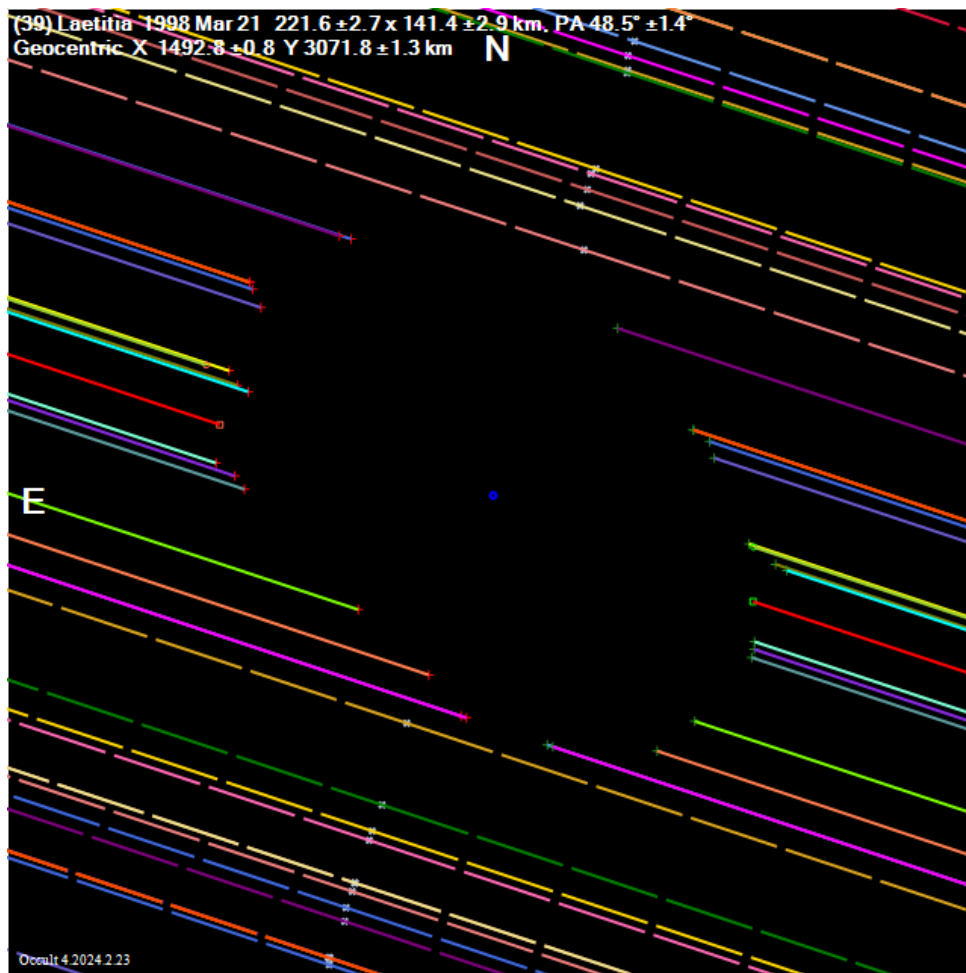
38_Leda_2018Nov18

(38) Leda 2018 Nov 18 $114.8 \pm 2.1 \times 86.0 \pm 0.8$ km, PA $3.8^\circ \pm 1.8^\circ$
Geocentric X 3829.6 ± 0.3 Y 3501.2 ± 0.7 km N



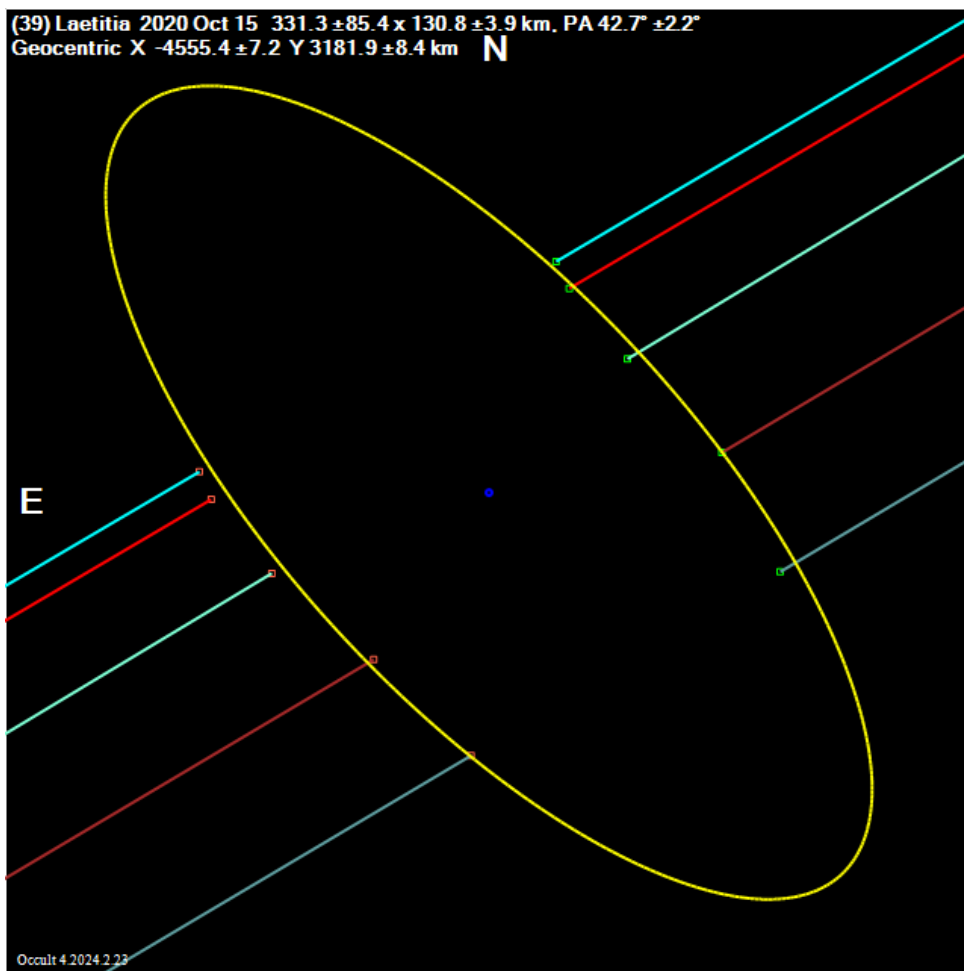
Occult 4.2024.2.23

39_Laetitia_1998Mar21



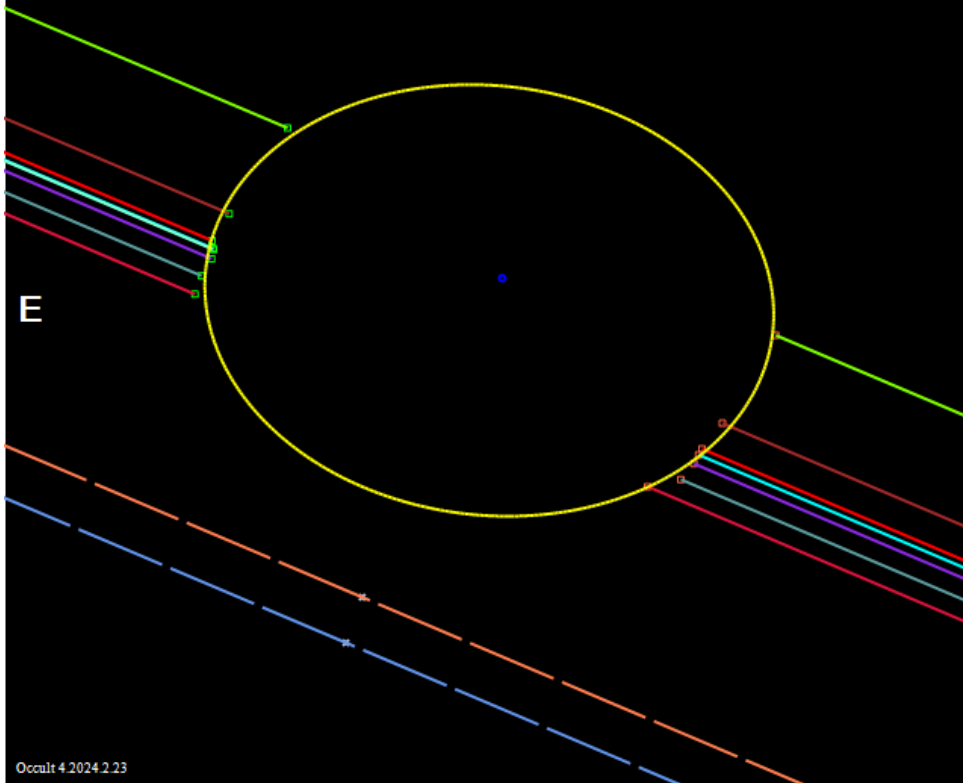
39_Laetitia_2020Oct15

(39) Laetitia 2020 Oct 15 331.3 ± 85.4 x 130.8 ± 3.9 km, PA 42.7° ± 2.2°
Geocentric X -4555.4 ± 7.2 Y 3181.9 ± 8.4 km **N**



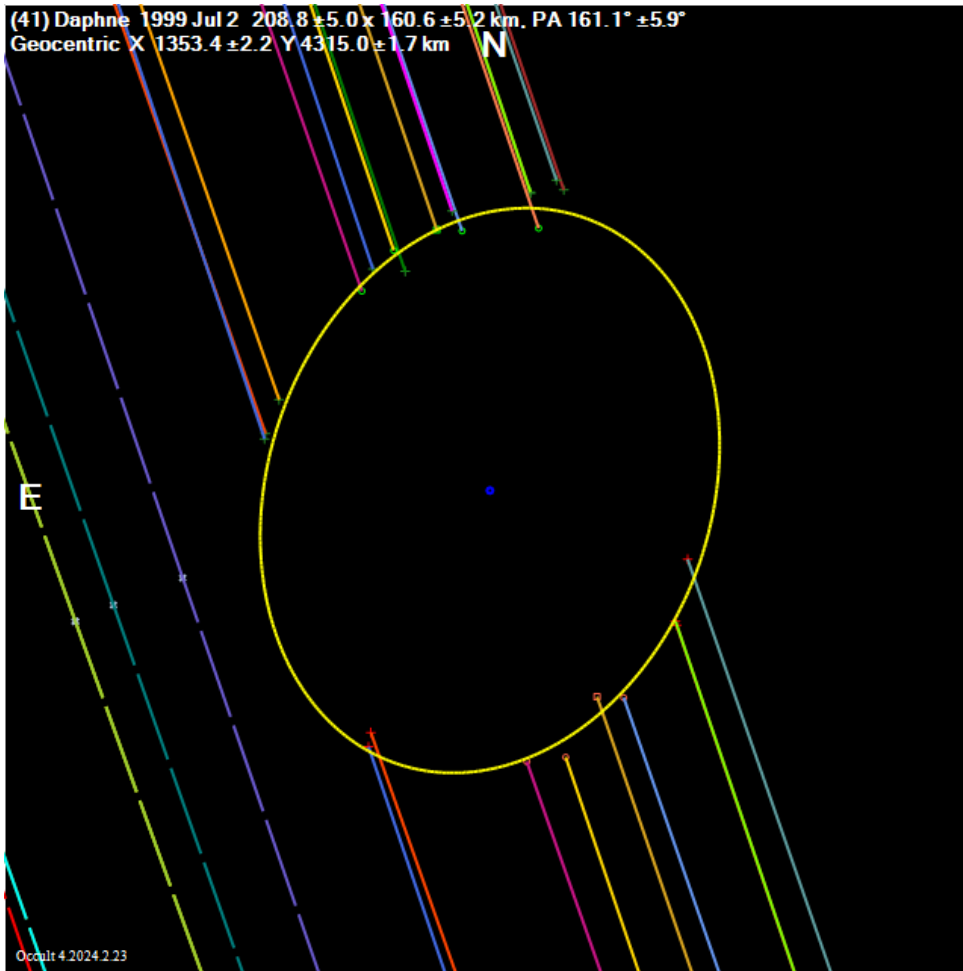
40_Harmonia_2021Sep27

(40) Harmonia 2021 Sep 27 $133.0 \pm 1.4 \times 100.0$ km. PA $83.4^\circ \pm 2.5^\circ$
Geocentric X -2654.1 ± 0.7 Y 3936.0 ± 1.0 km **N**



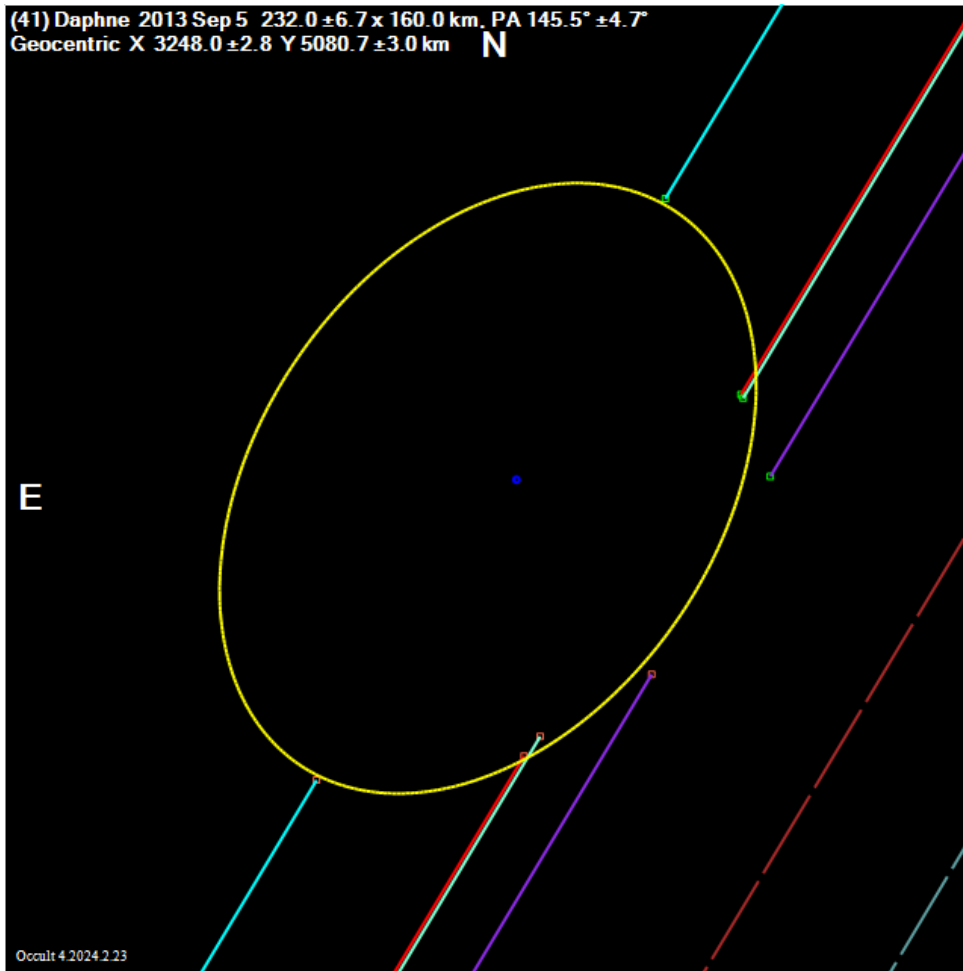
41_Daphne_1999Jul02

(41) Daphne 1999 Jul 2 208.8 ± 5.0 x 160.6 ± 5.2 km, PA 161.1° ± 5.9°
Geocentric X 1353.4 ± 2.2 Y 4315.0 ± 1.7 km

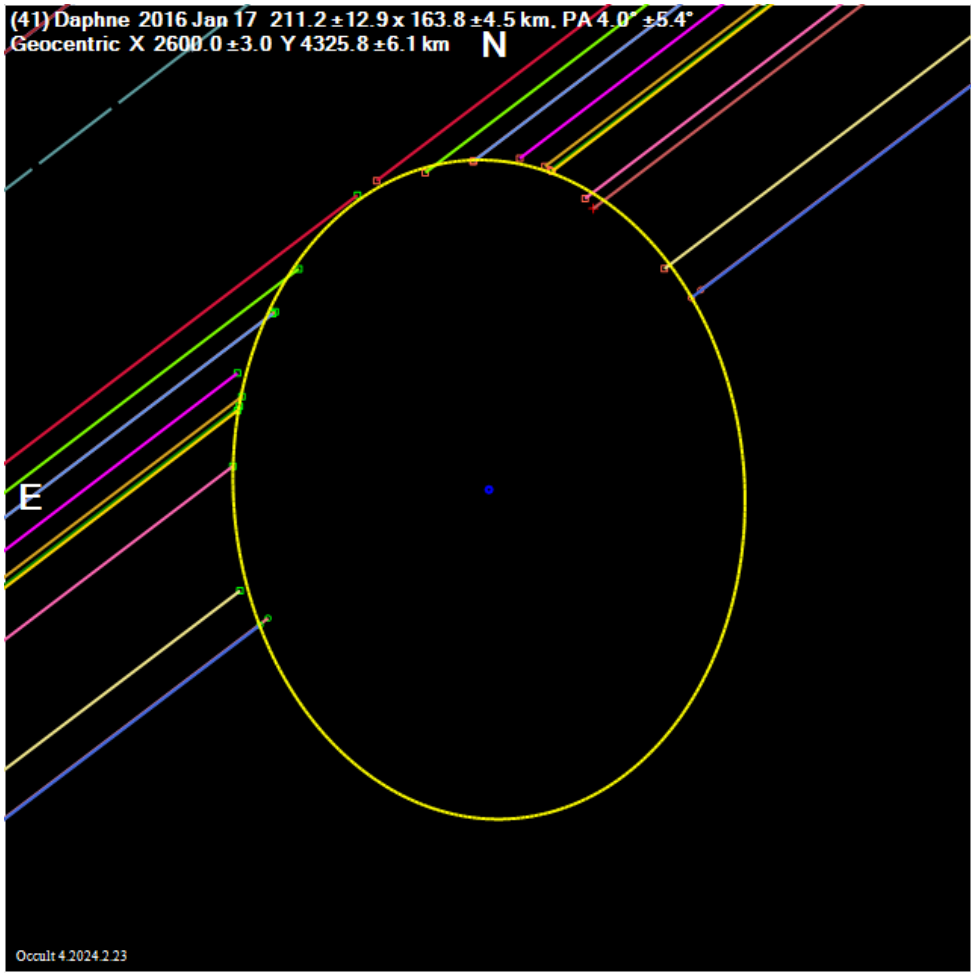


41_Daphne_2013Sep05

(41) Daphne 2013 Sep 5 $232.0 \pm 6.7 \times 160.0$ km, PA $145.5^\circ \pm 4.7^\circ$
Geocentric X 3248.0 ± 2.8 Y 5080.7 ± 3.0 km N

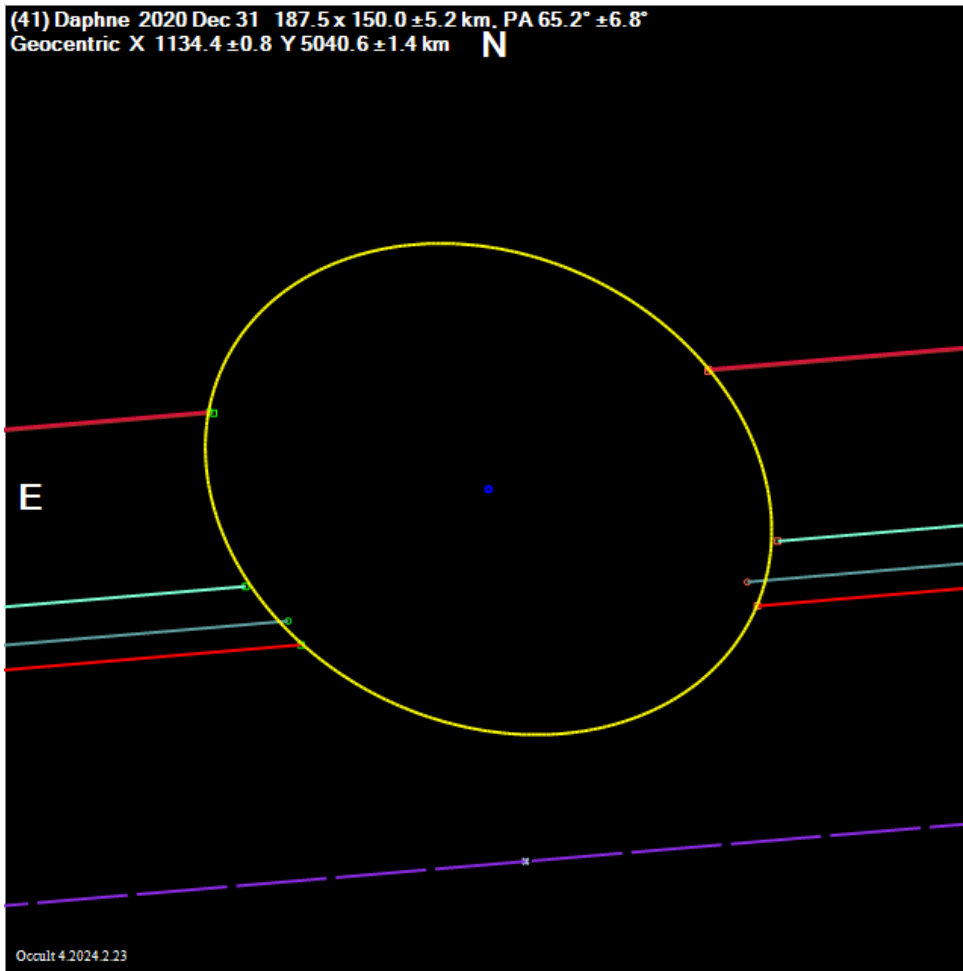


41_Daphne_2016Jan17



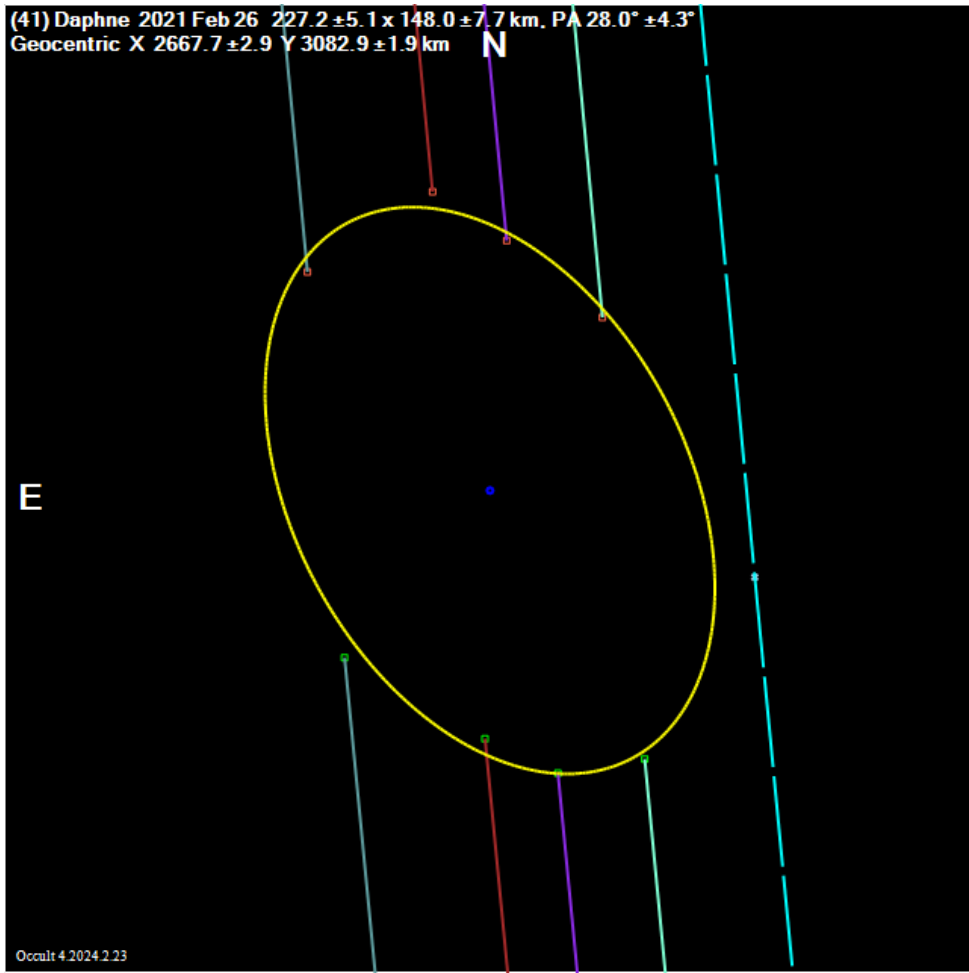
41_Daphne_2020Dec31

(41) Daphne 2020 Dec 31 187.5 x 150.0 ± 5.2 km, PA 65.2° ± 6.8°
Geocentric X 1134.4 ± 0.8 Y 5040.6 ± 1.4 km N



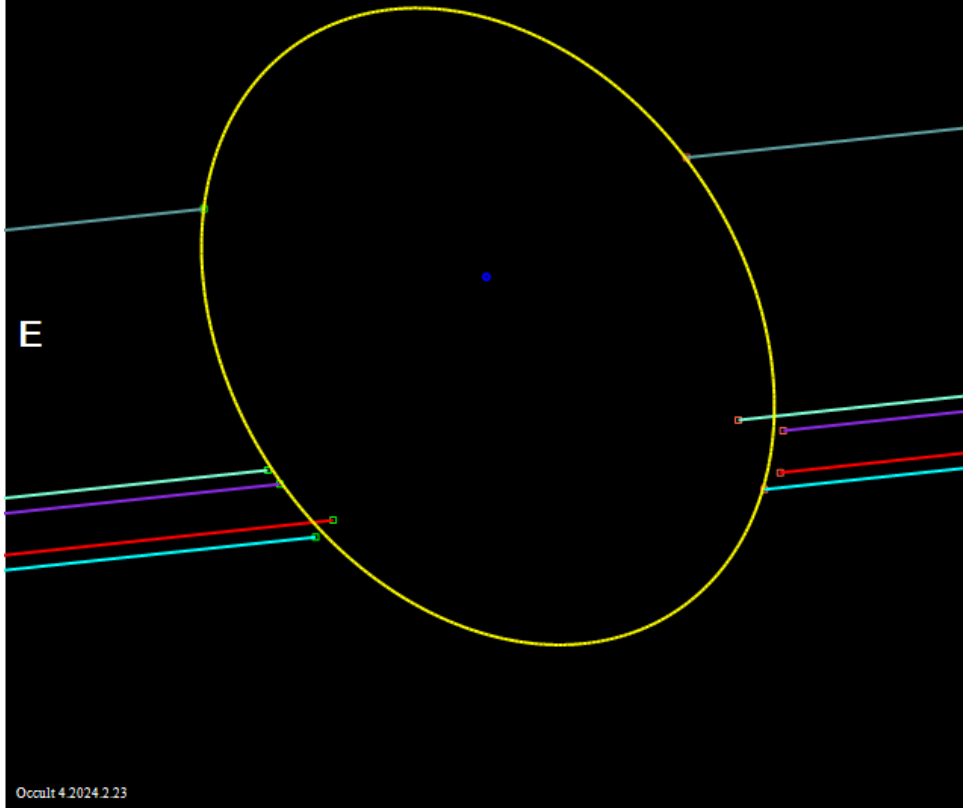
41_Daphne_2021Feb26

(41) Daphne 2021 Feb 26 $227.2 \pm 5.1 \times 148.0 \pm 7.7$ km, PA $28.0^\circ \pm 4.3^\circ$
Geocentric X 2667.7 ± 2.9 Y 3082.9 ± 1.9 km



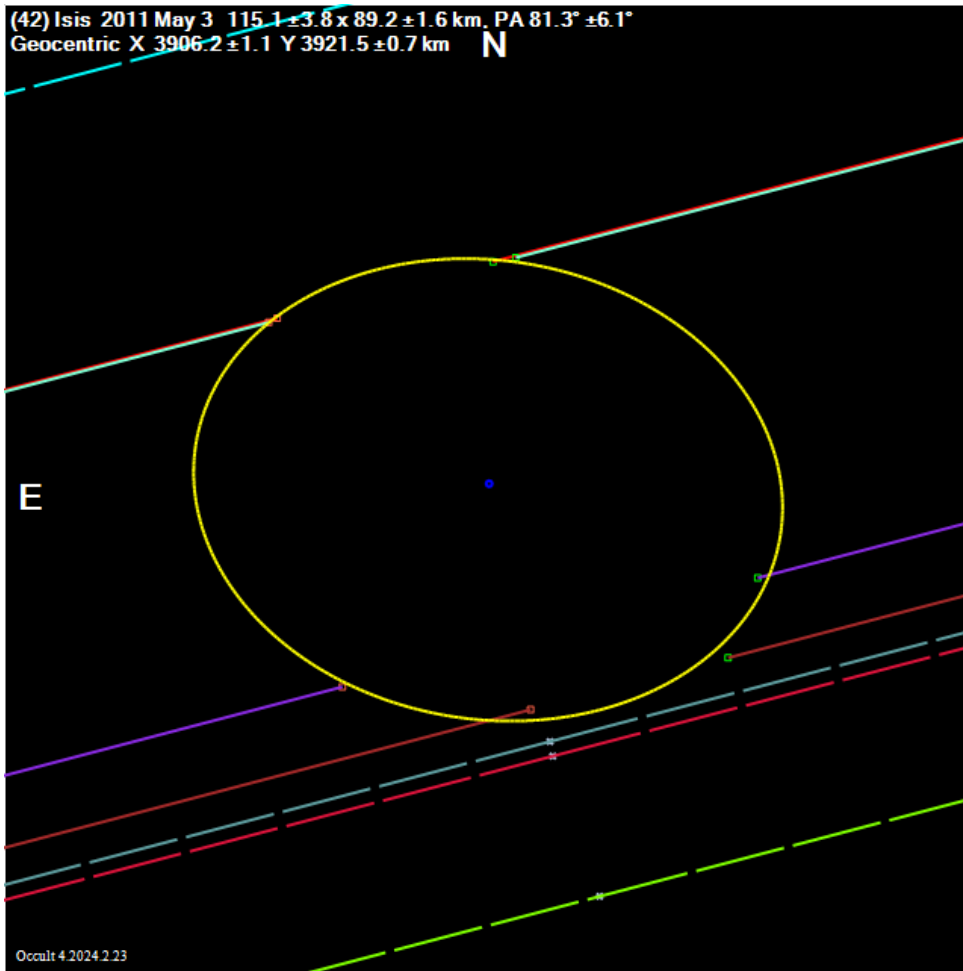
41_Daphne_2021Jan01

(41) Daphne 2021 Jan 1 218.5 ± 36.3 x 165.8 ± 5.0 km, PA 213.6° ± 18.0°
Geocentric X 2049.6 ± 1.9 Y 3639.8 ± 3.9 km N



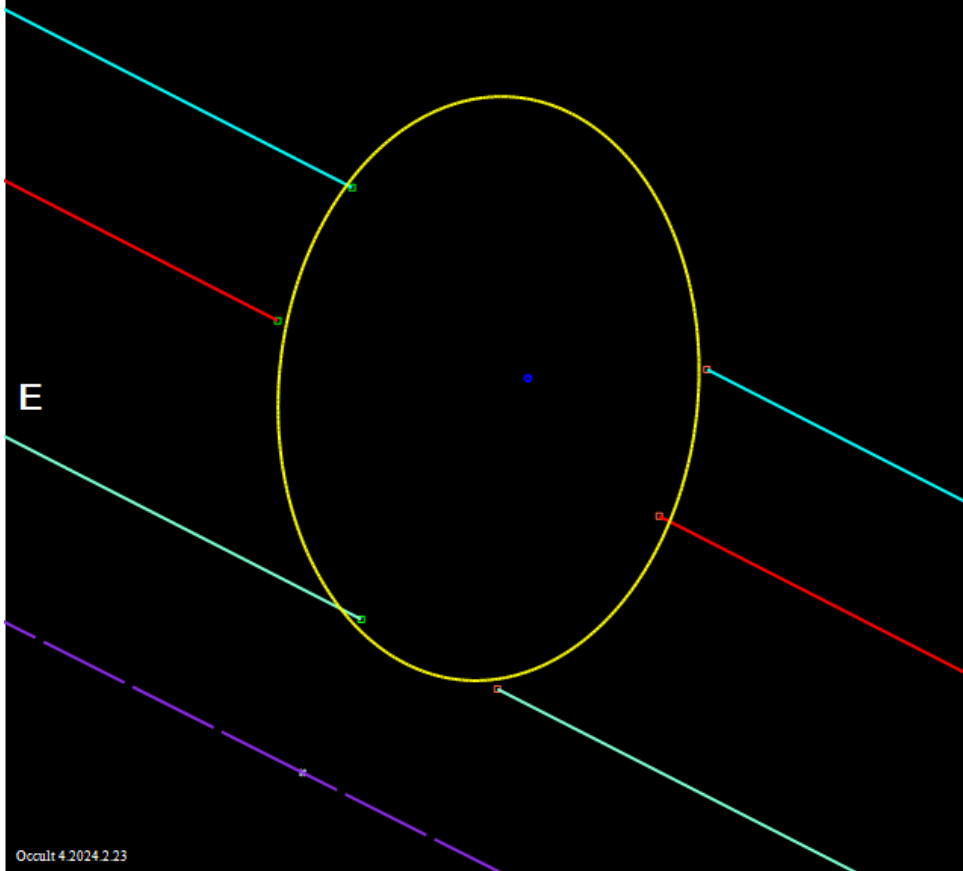
42_Isis_2011May03

(42) Isis 2011 May 3 $115.1 \pm 3.8 \times 89.2 \pm 1.6$ km, PA $81.3^\circ \pm 6.1^\circ$
Geocentric X 3906.2 ± 1.1 Y 3921.5 ± 0.7 km N



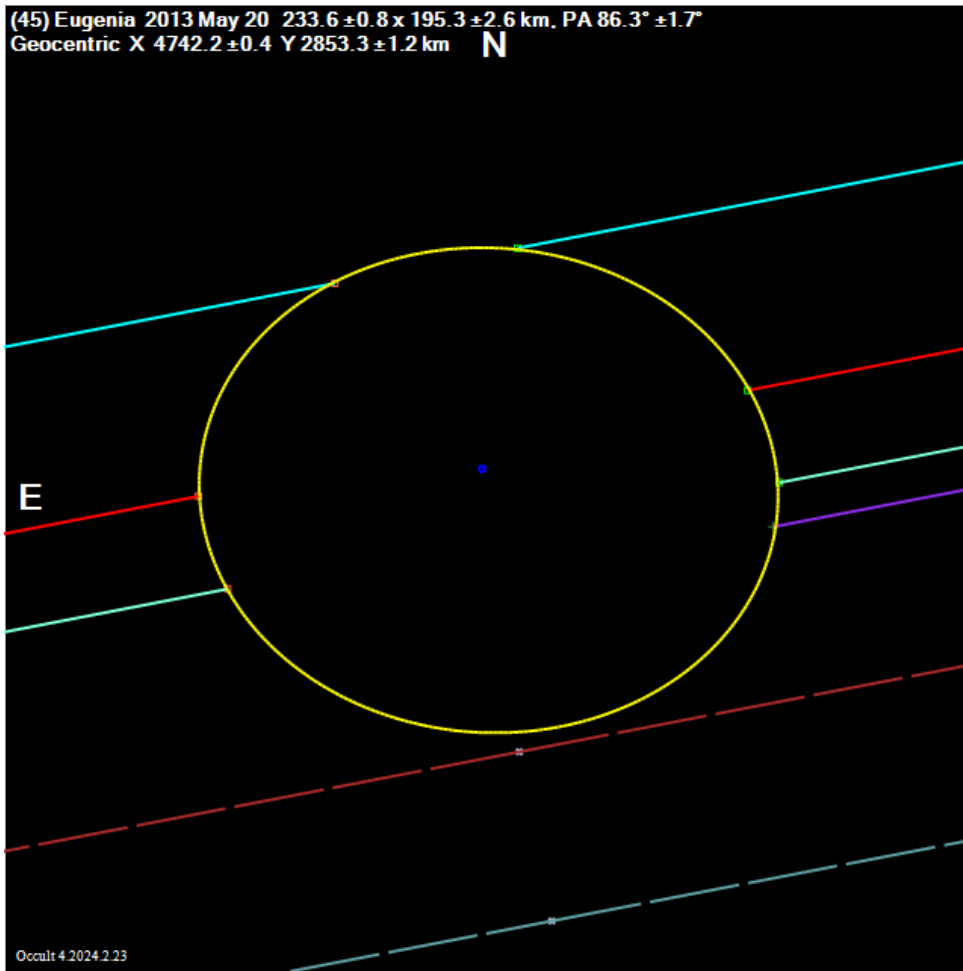
43_Ariadne_2008Sep20

(43) Ariadne 2008 Sep 20 $61.2 \pm 3.7 \times 43.9 \pm 1.2$ km, PA $354.7^\circ \pm 5.3^\circ$
Geocentric X 2769.3 ± 0.7 Y 4045.6 ± 1.6 km N



45_Eugenia_2013May20

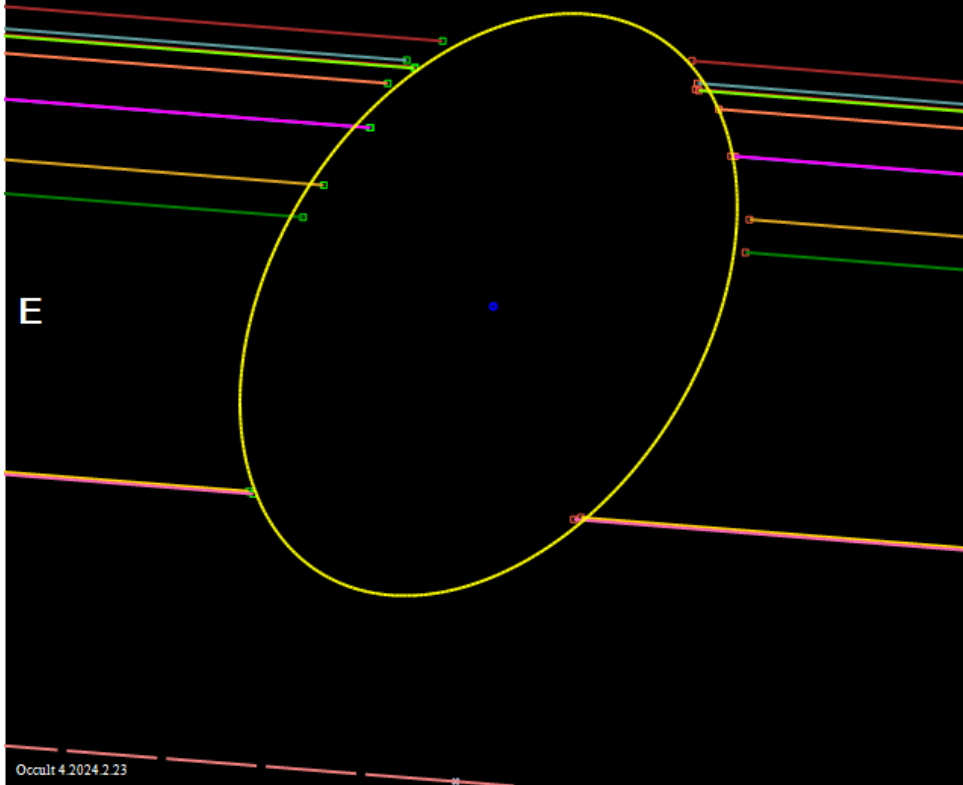
(45) Eugenia 2013 May 20 233.6 ± 0.8 x 195.3 ± 2.6 km, PA 86.3° ± 1.7°
Geocentric X 4742.2 ± 0.4 Y 2853.3 ± 1.2 km N



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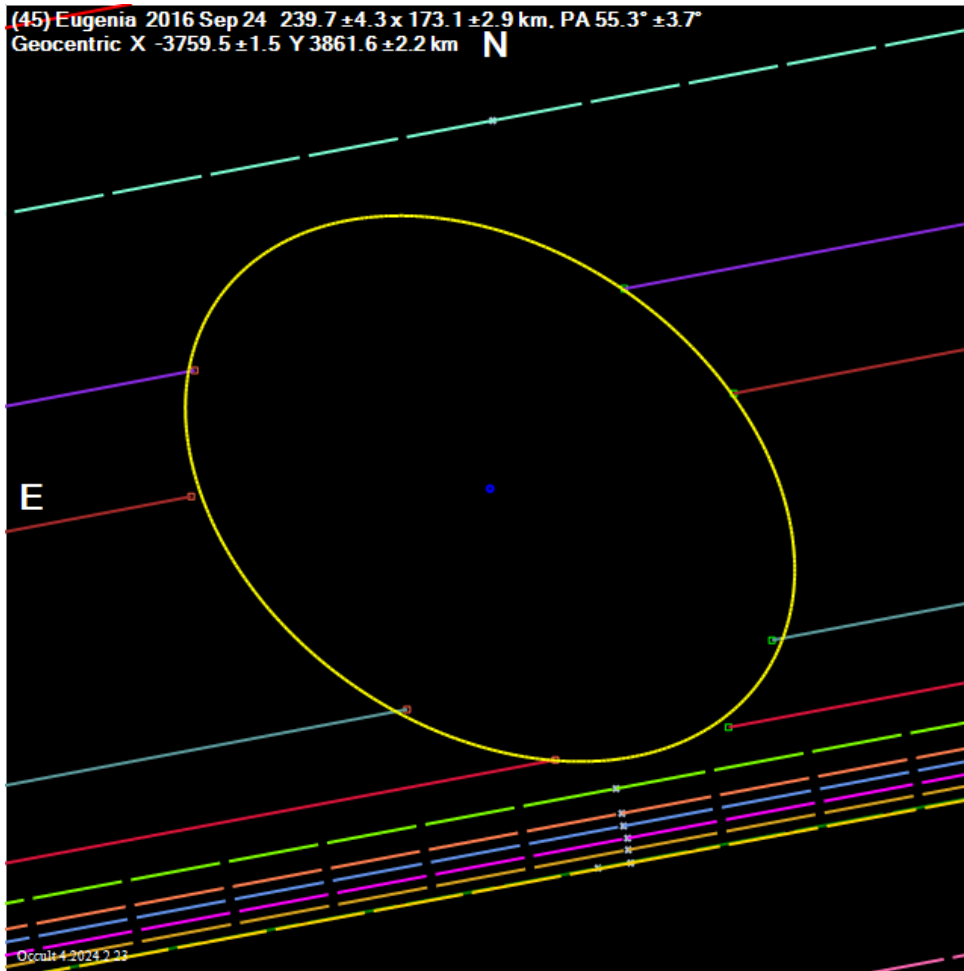
45_Eugenia_2014Jun13

(45) Eugenia 2014 Jun 13 218.1 ±4.3 x 148.3 ±2.4 km. PA 147.5° ±2.2°
Geocentric X -722.1 ±1.0 Y 4941.4 ±1.4 km N



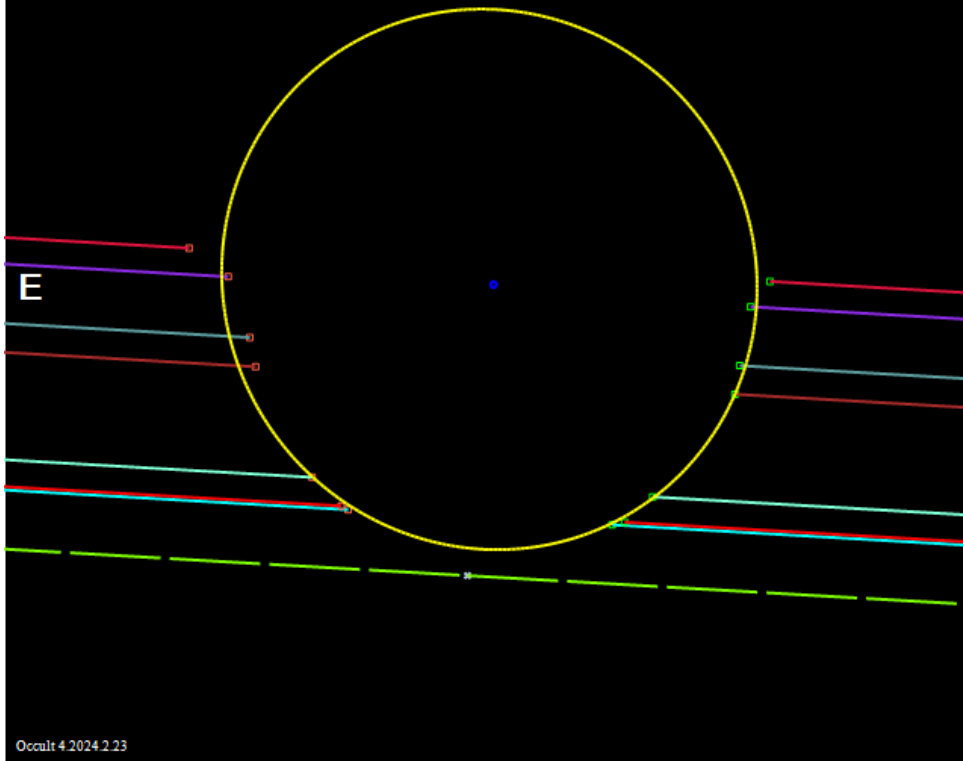
45_Eugenia_2016Sep24

(45) Eugenia 2016 Sep 24 239.7 ± 4.3 x 173.1 ± 2.9 km, PA 55.3° ± 3.7°
Geocentric X -3759.5 ± 1.5 Y 3861.6 ± 2.2 km N



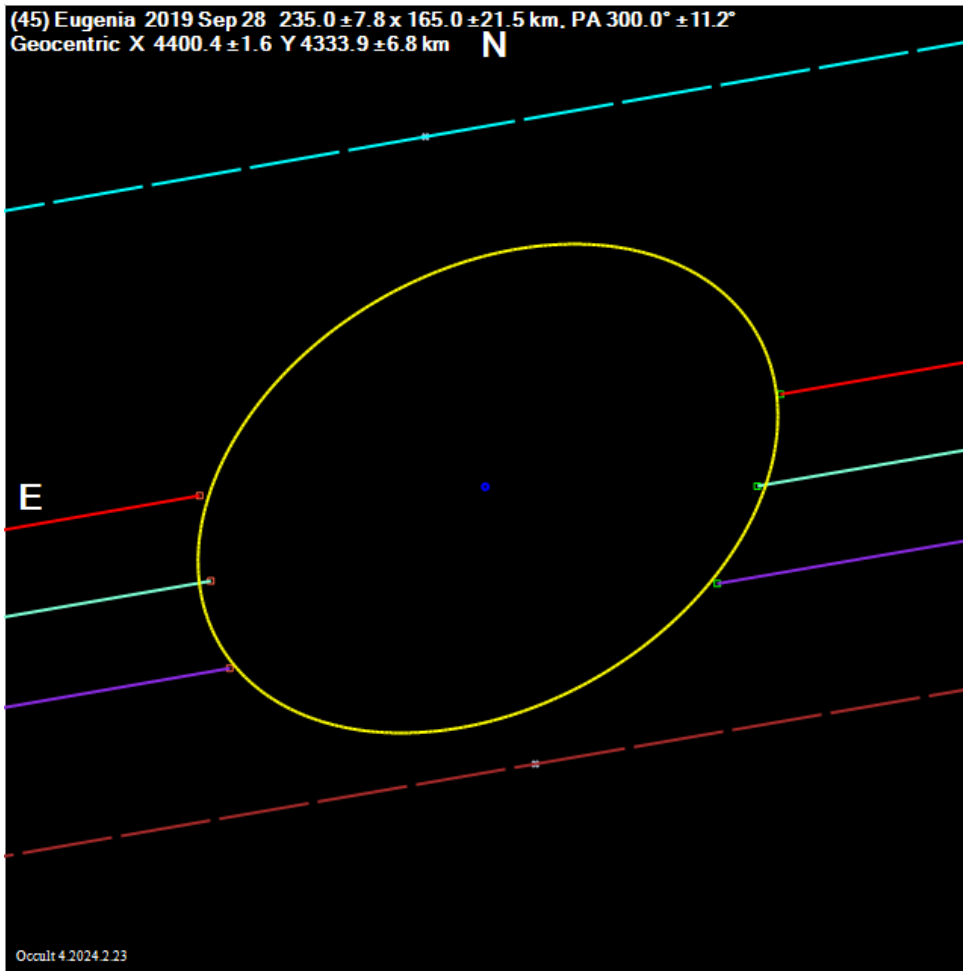
45_Eugenia_2017May02

(45) Eugenia 2017 May 2 200.0 x 194.0 ± 7.6 km, PA 36.9° ± 48.1°
Geocentric X 4088.4 ± 2.0 Y 4508.9 ± 3.5 km N



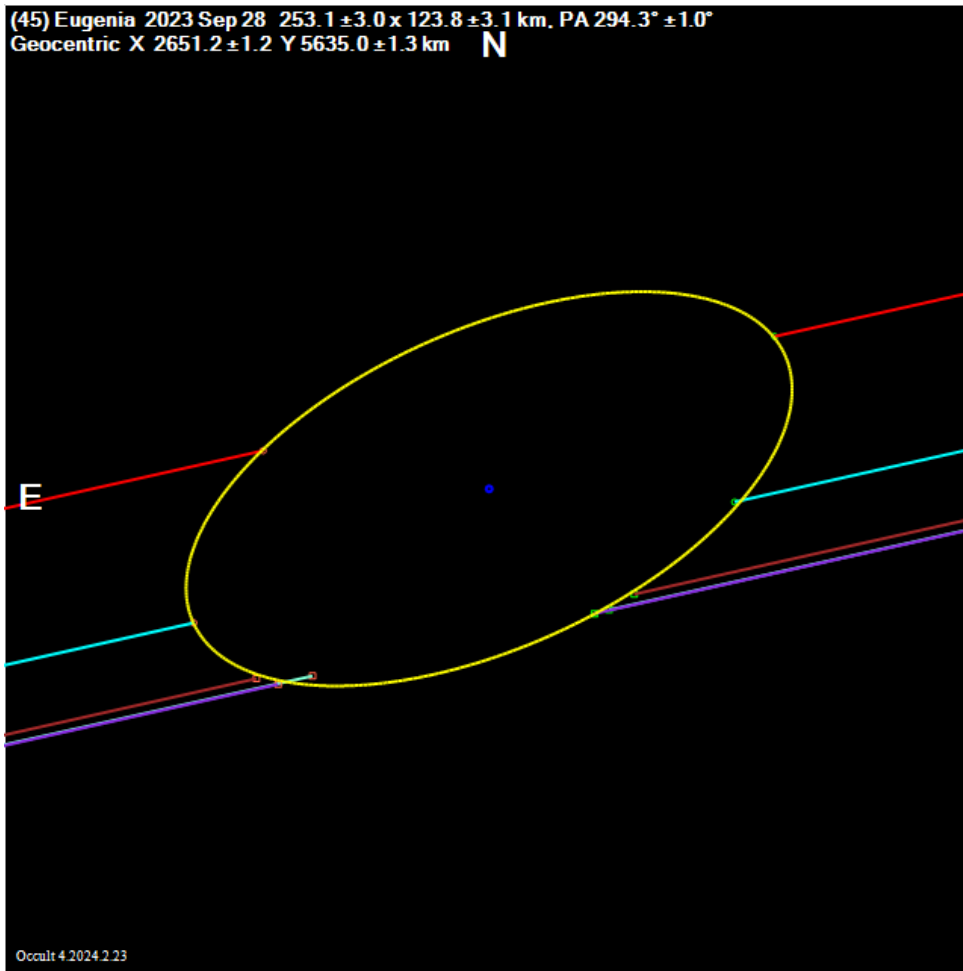
45_Eugenia_2019Sep28

(45) Eugenia 2019 Sep 28 235.0 ± 7.8 x 165.0 ± 21.5 km. PA 300.0° ± 11.2°
Geocentric X 4400.4 ± 1.6 Y 4333.9 ± 6.8 km N



45_Eugenia_2023Sep28

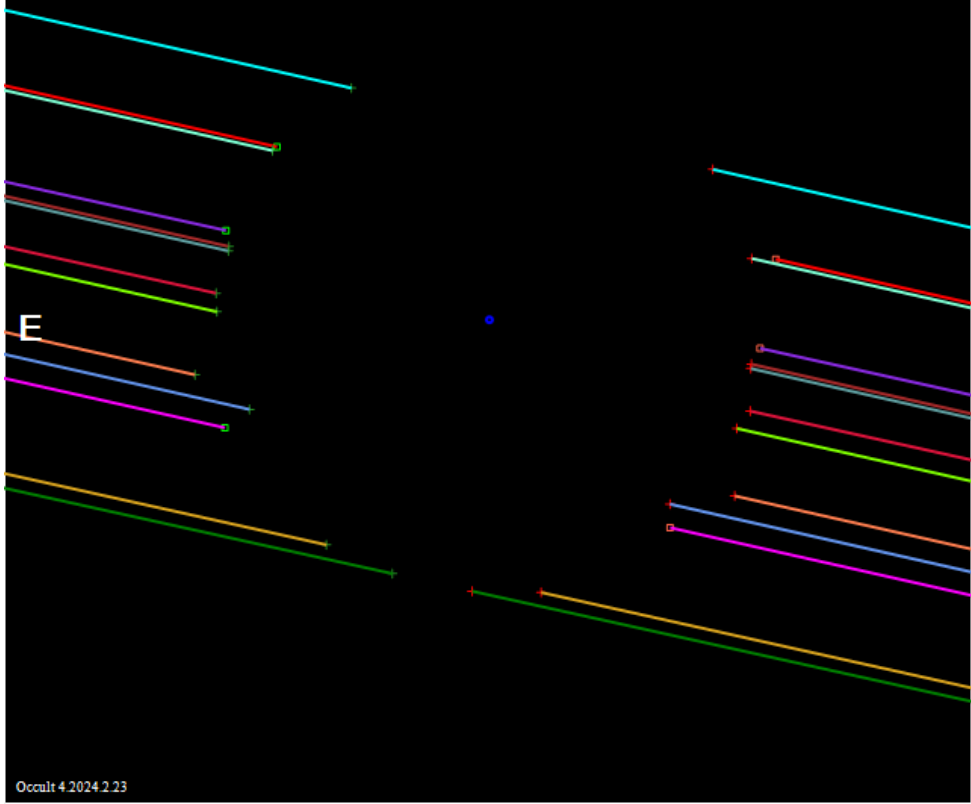
(45) Eugenia 2023 Sep 28 253.1 ± 3.0 x 123.8 ± 3.1 km, PA 294.3° ± 1.0°
Geocentric X 2651.2 ± 1.2 Y 5635.0 ± 1.3 km N



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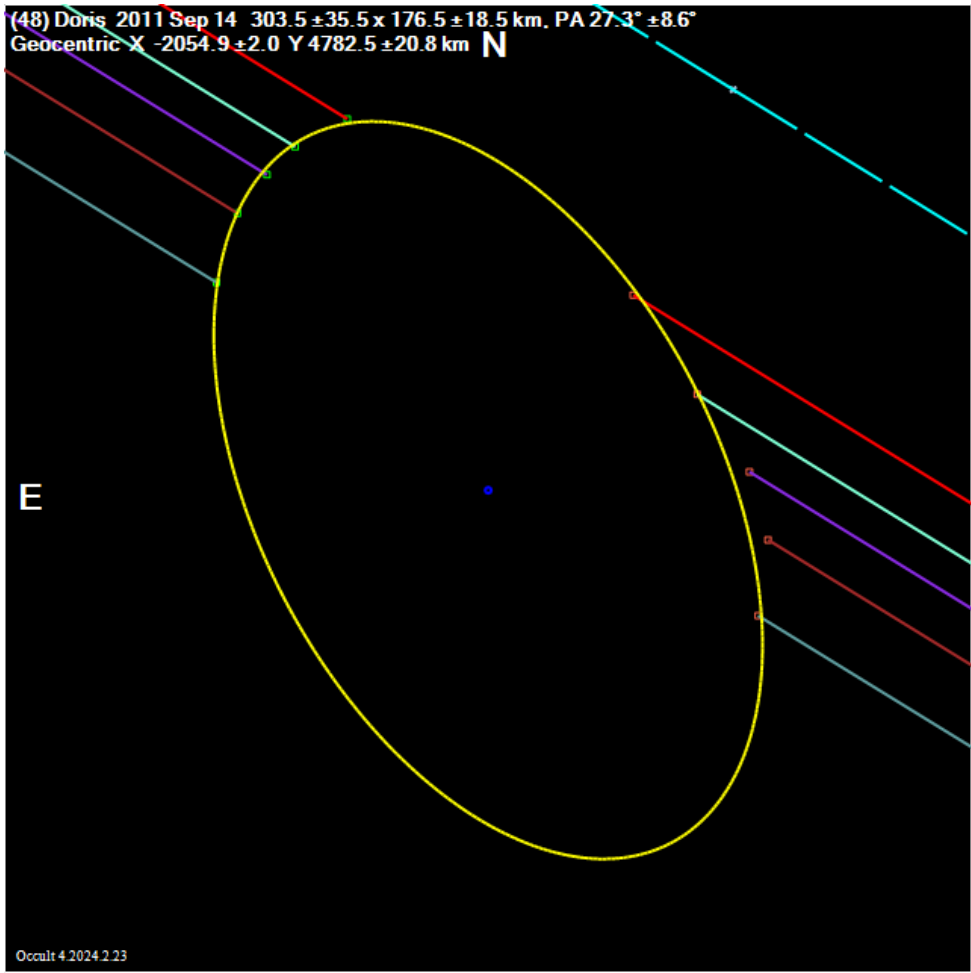
47_Aglaja_1984Sep16

(47) Aglaja 1984 Sep 16 $139.7 \pm 2.1 \times 135.6 \pm 2.5$ km. PA $117.2^\circ \pm 32.8^\circ$
Geocentric X -4545.4 ± 0.6 Y 3748.2 ± 1.2 km **N**



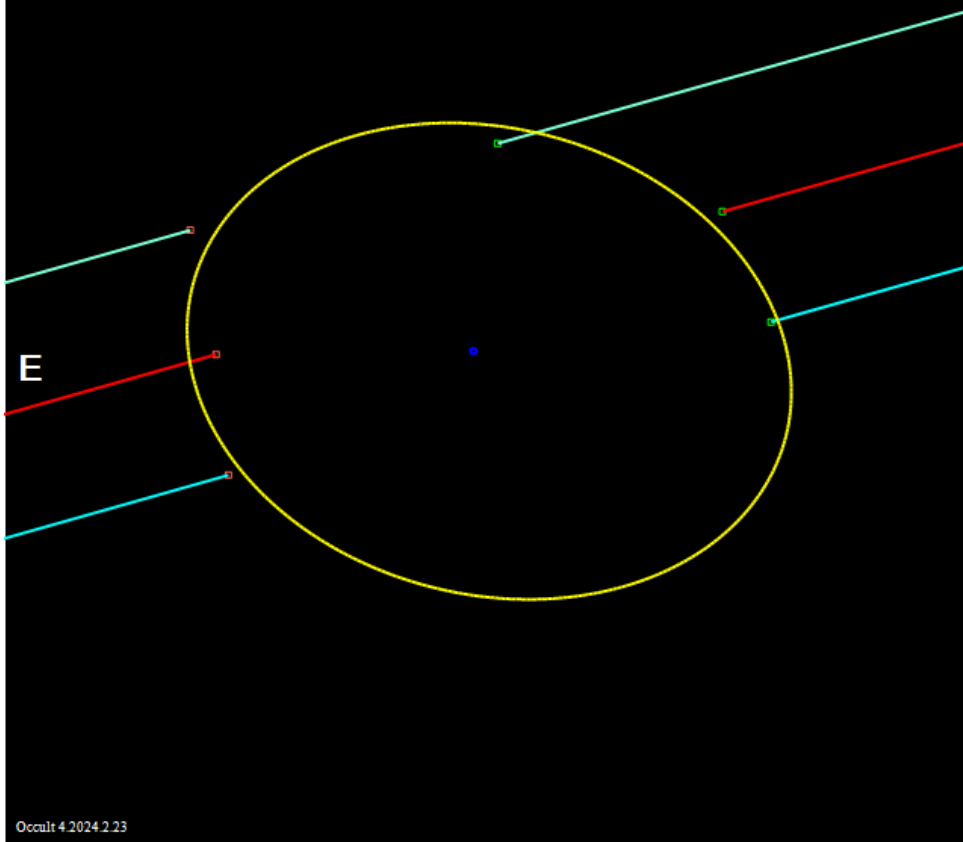
48_Doris_2011Sep14

(48) Doris 2011 Sep 14 $303.5 \pm 35.5 \times 176.5 \pm 18.5$ km. PA $27.3^\circ \pm 8.6^\circ$
Geocentric X -2054.9 ± 2.0 Y 4782.5 ± 20.8 km **N**



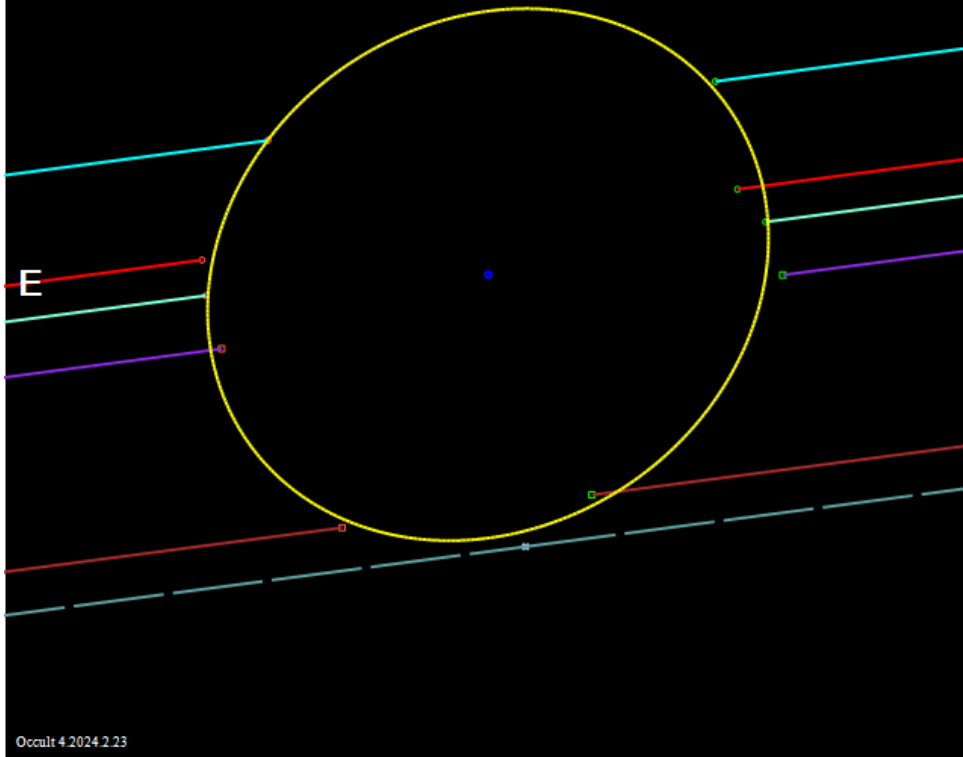
48_Doris_2021Sep22

(48) Doris 2021 Sep 22 260.0 x 197.9 ± 21.5 km, PA 75.8° ± 12.1°
Geocentric X 4415.4 ± 5.0 Y -1660.7 ± 9.4 km **N**

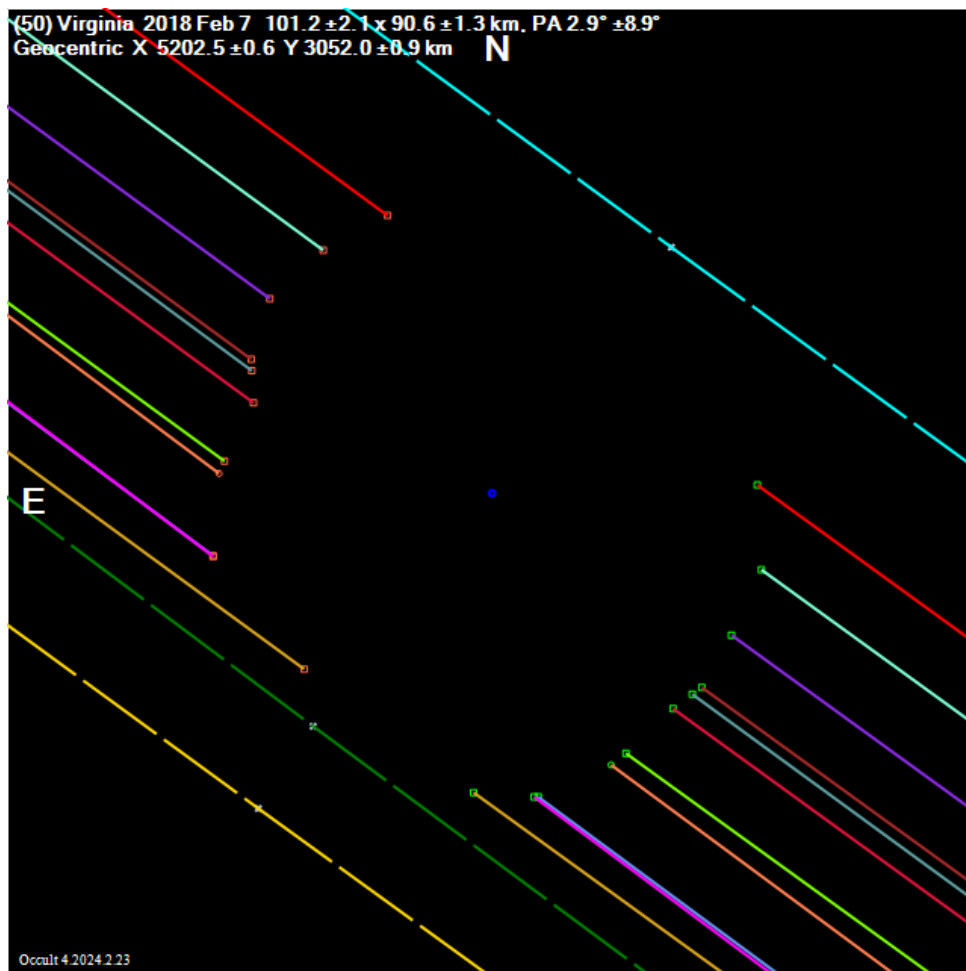


49_Pales_2021Aug22

(49) Pales 2021 Aug 22 174.1 ±4.0 x 150.1 ±5.8 km, PA 124.3° ±9.9°
Geocentric X -4299.4 ±1.3 Y 4051.8 ±2.7 km N

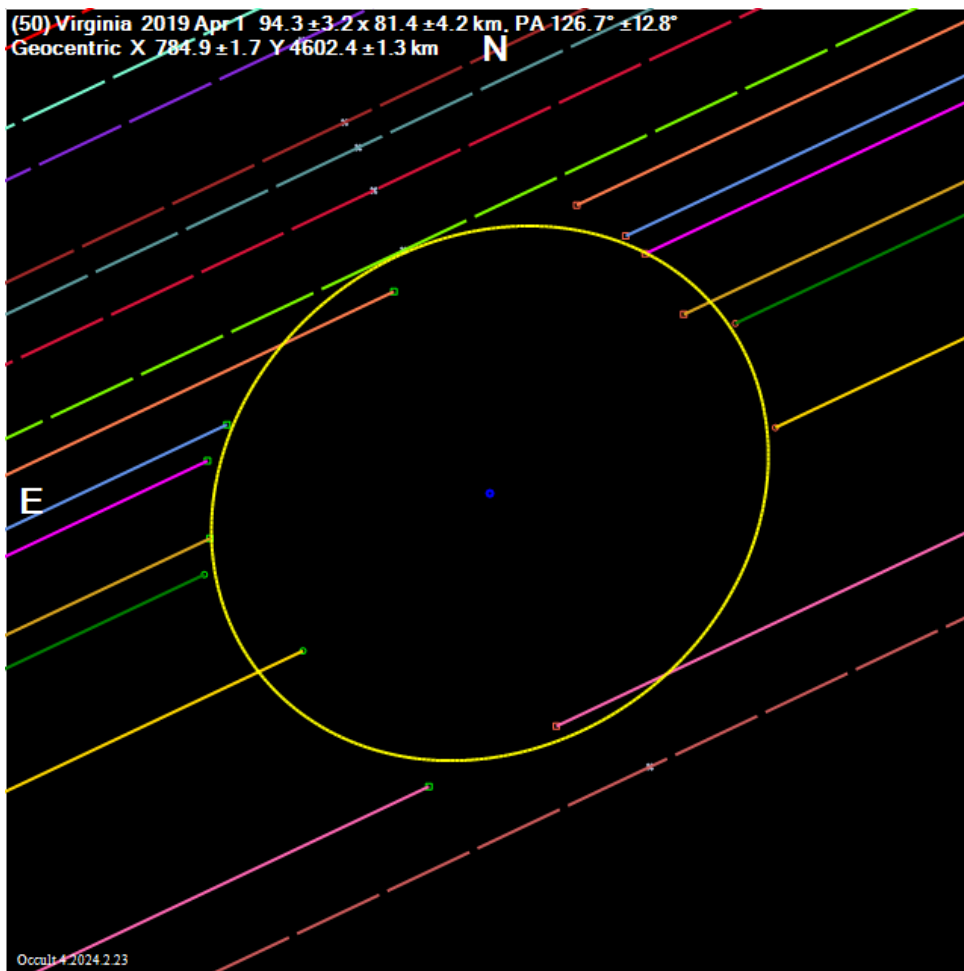


50_Virginia_2018Feb07



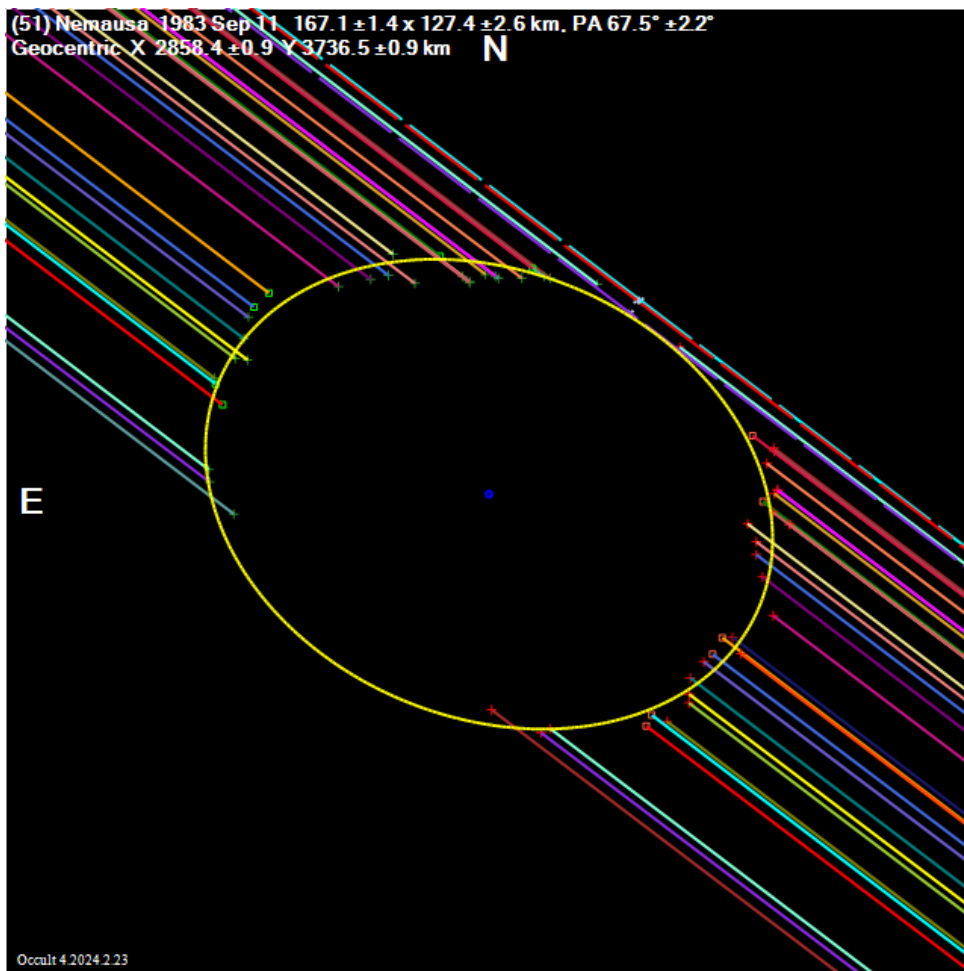
50_Virginia_2019Apr01

(50) Virginia 2019 Apr 1 $94.3 \pm 3.2 \times 81.4 \pm 4.2$ km, PA $126.7^\circ \pm 12.8^\circ$
Geocentric X 784.9 ± 1.7 Y 4602.4 ± 1.3 km



51_Nemausa_1983Sep11

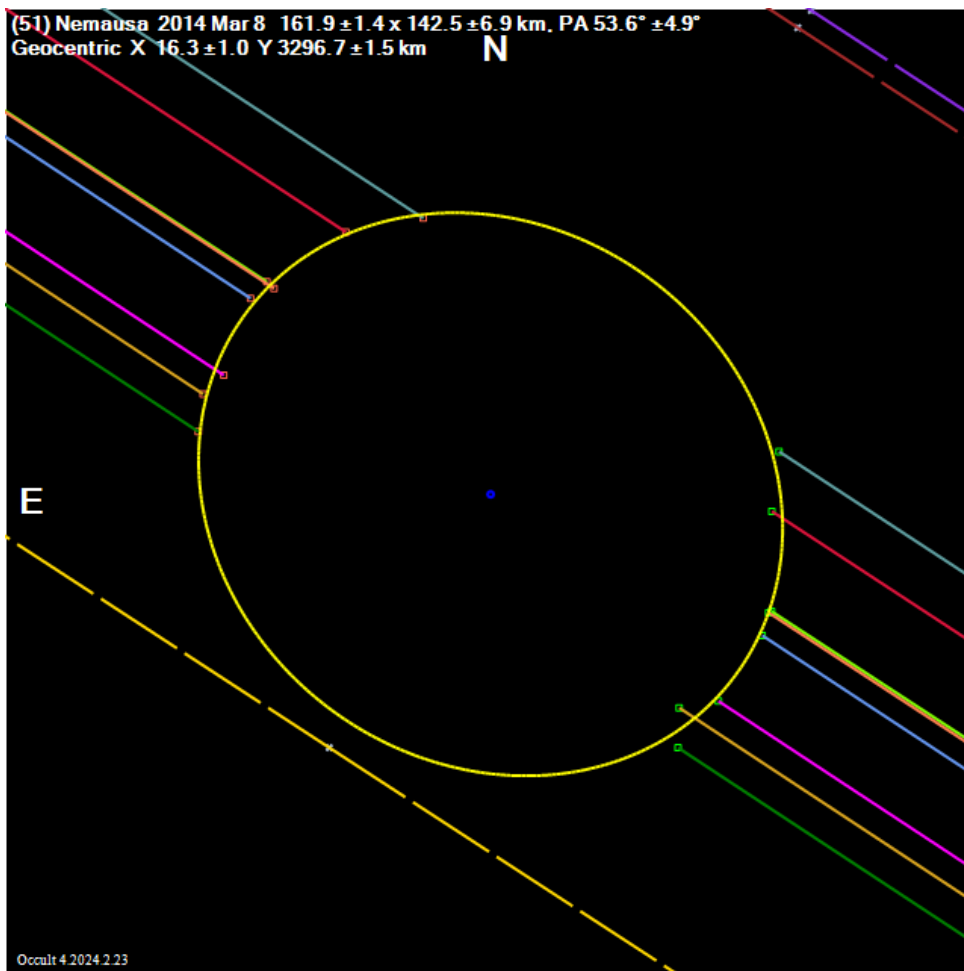
(51) Nemausa 1983 Sep 11 167.1 ± 1.4 x 127.4 ± 2.6 km. PA 67.5° ± 2.2°
Geocentric X 2858.4 ± 0.9 Y 3736.5 ± 0.9 km N



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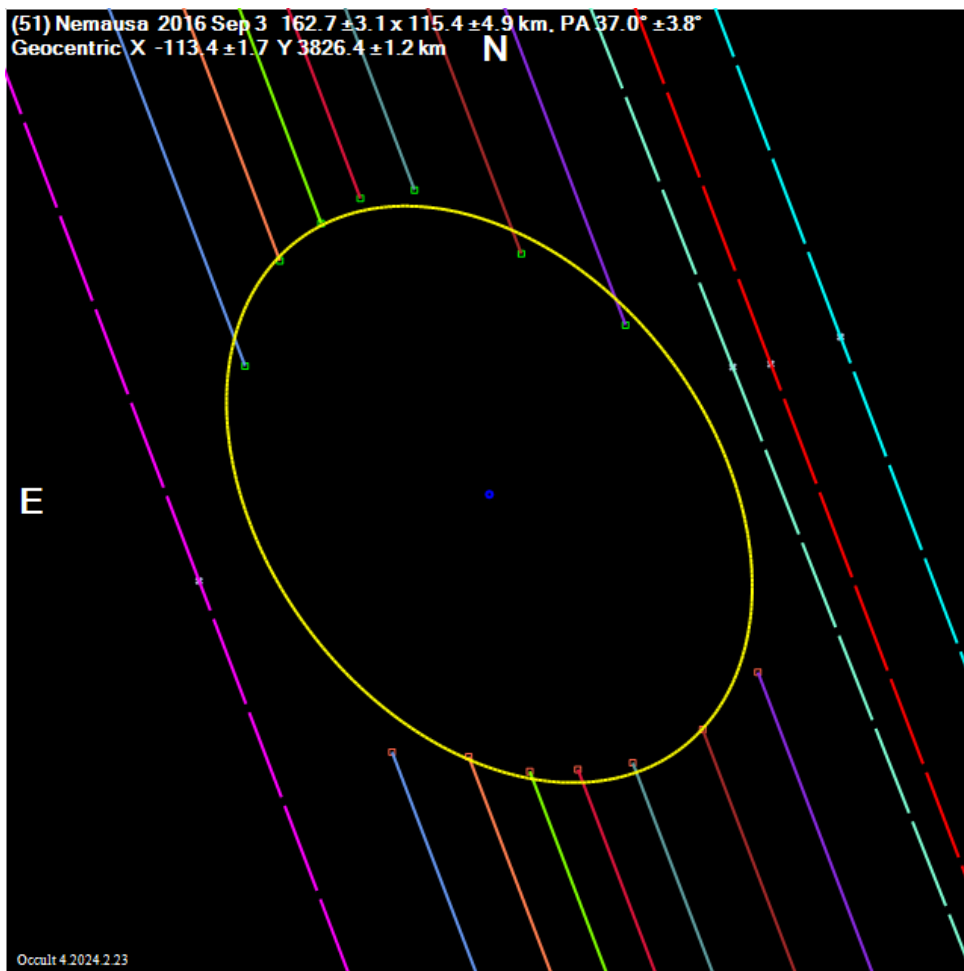
51_Nemausa_2014Mar08

(51) Nemausa 2014 Mar 8 161.9 ± 1.4 x 142.5 ± 6.9 km. PA 53.6° ± 4.9°
Geocentric X 16.3 ± 1.0 Y 3296.7 ± 1.5 km N

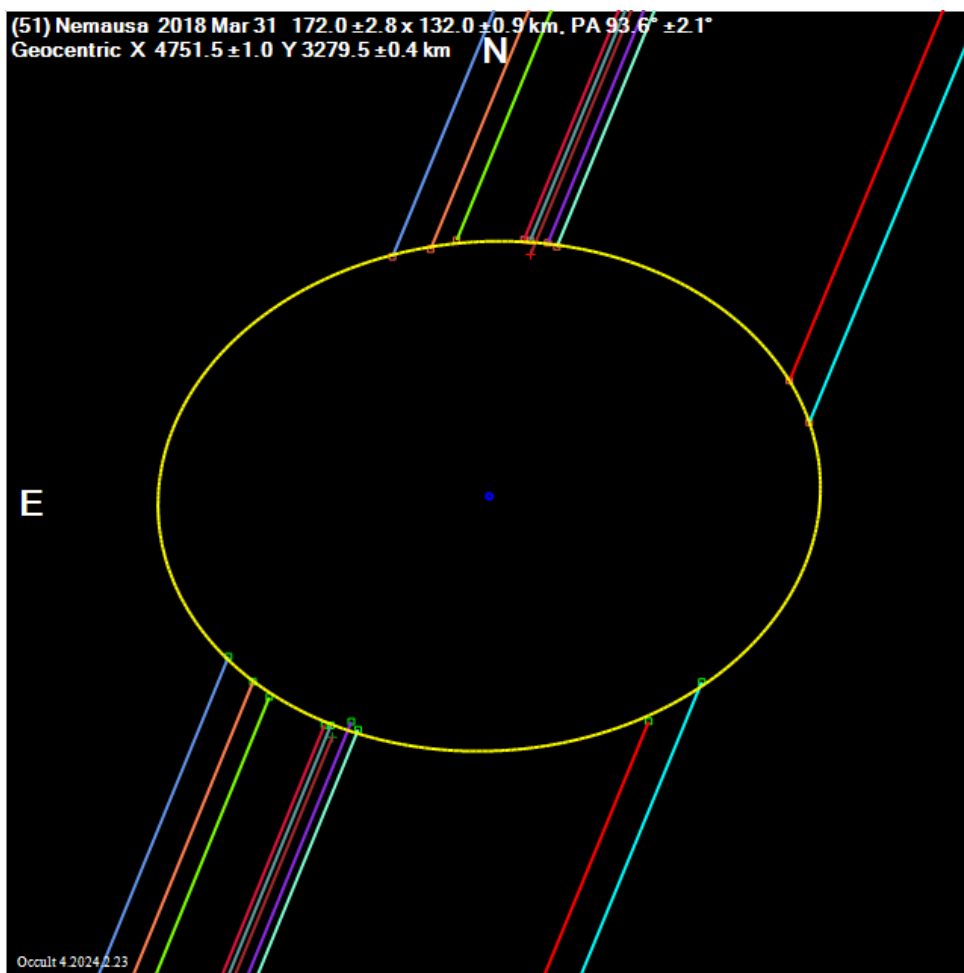


Occult 4.2024.2.23

51_Nemausa_2016Sep03

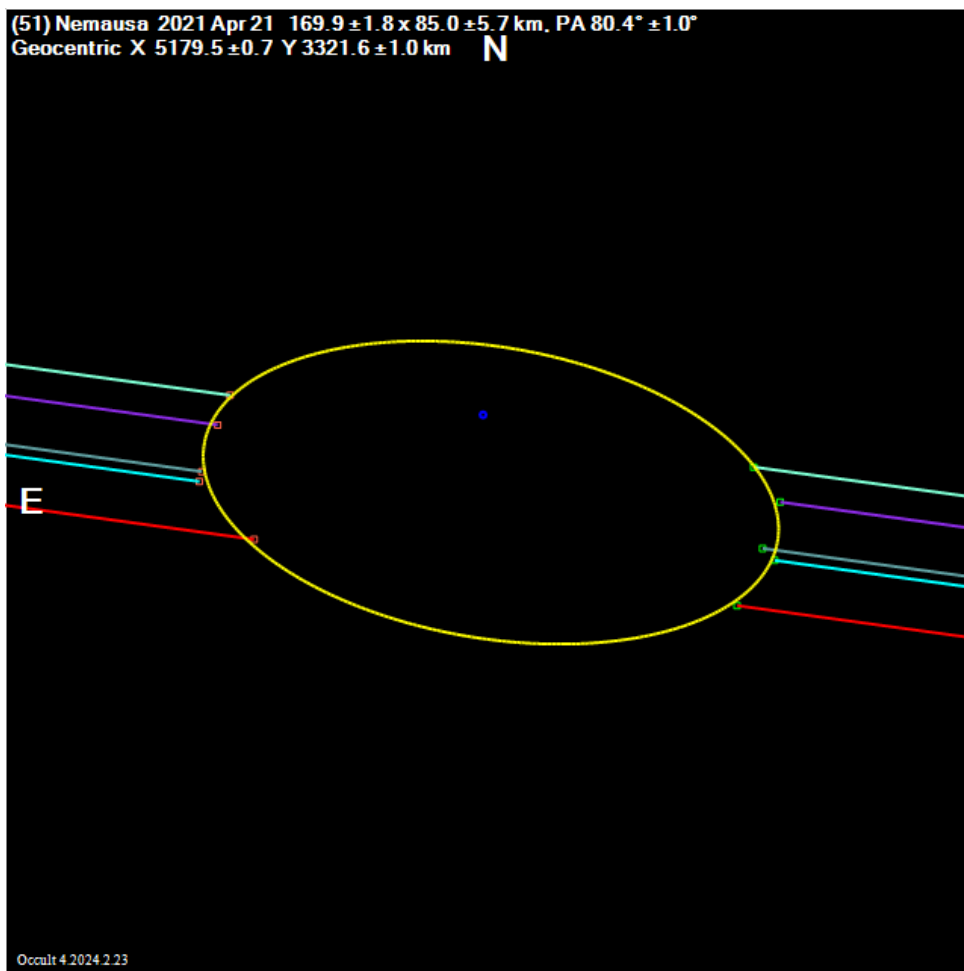


51_Nemausa_2018Mar31



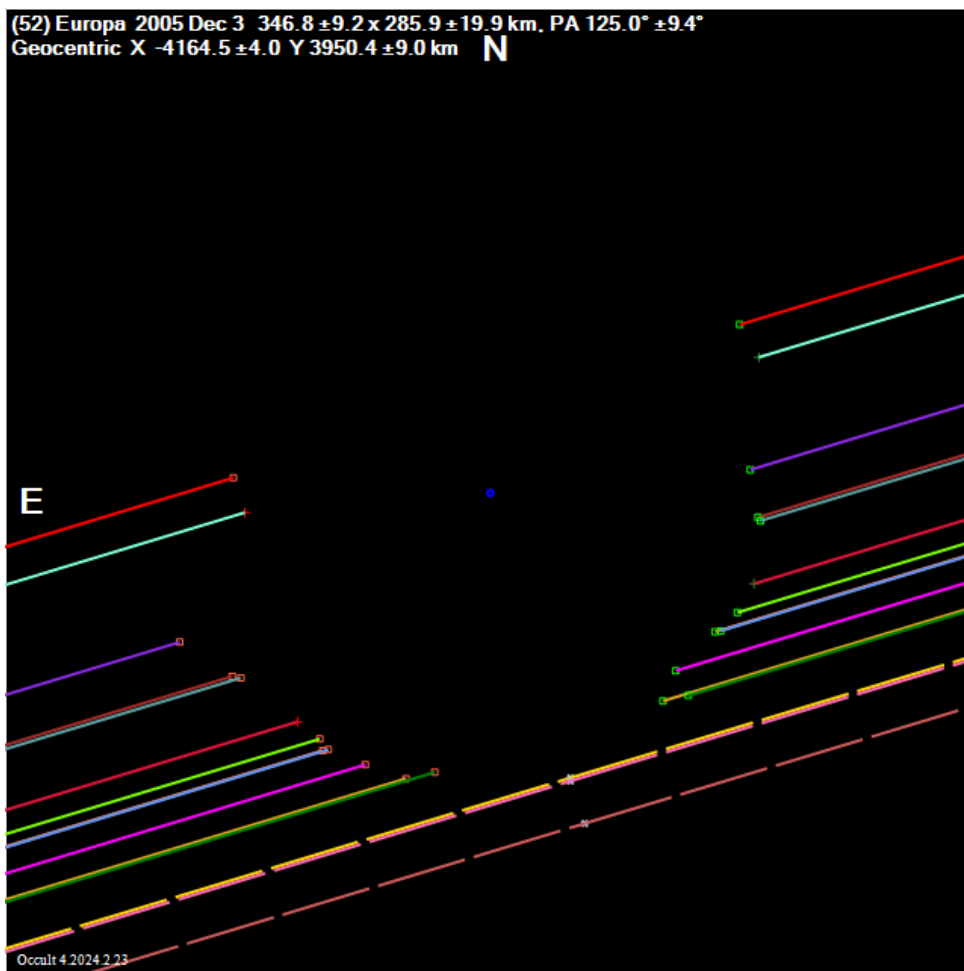
51_Nemausa_2021Apr21

(51) Nemausa 2021 Apr 21 169.9 ± 1.8 x 85.0 ± 5.7 km. PA 80.4° ± 1.0°
Geocentric X 5179.5 ± 0.7 Y 3321.6 ± 1.0 km N



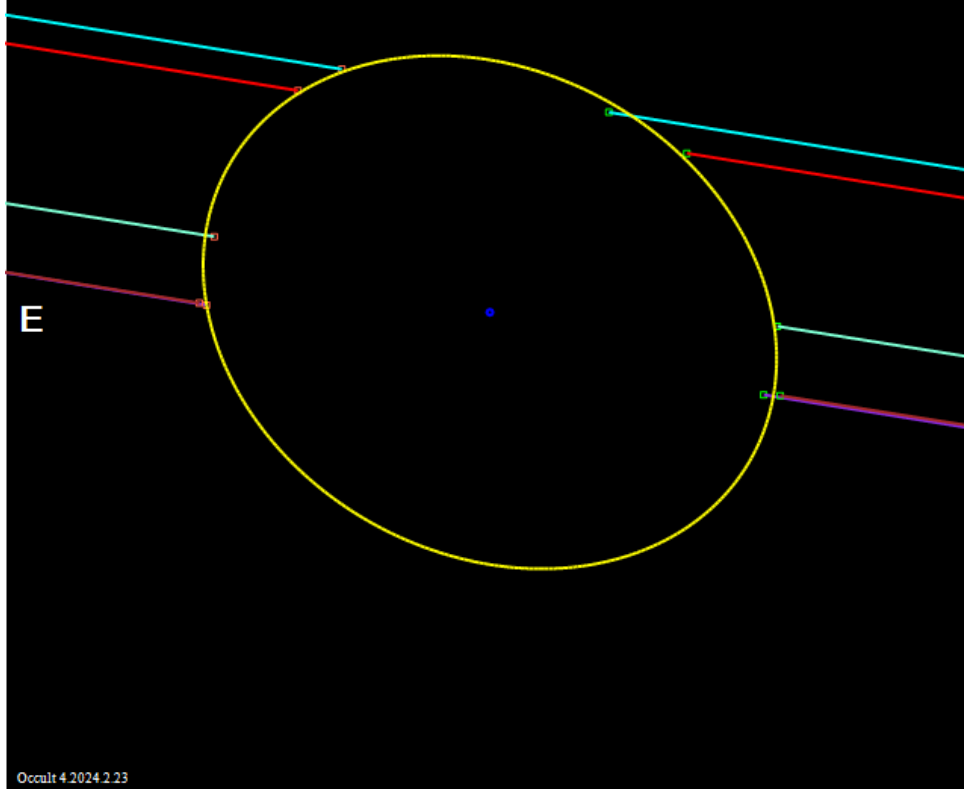
52_Europa_2005Dec03

(52) Europa 2005 Dec 3 346.8 ± 9.2 x 285.9 ± 19.9 km, PA 125.0° ± 9.4°
Geocentric X -4164.5 ± 4.0 Y 3950.4 ± 9.0 km N



52_Europa_2010Mar29

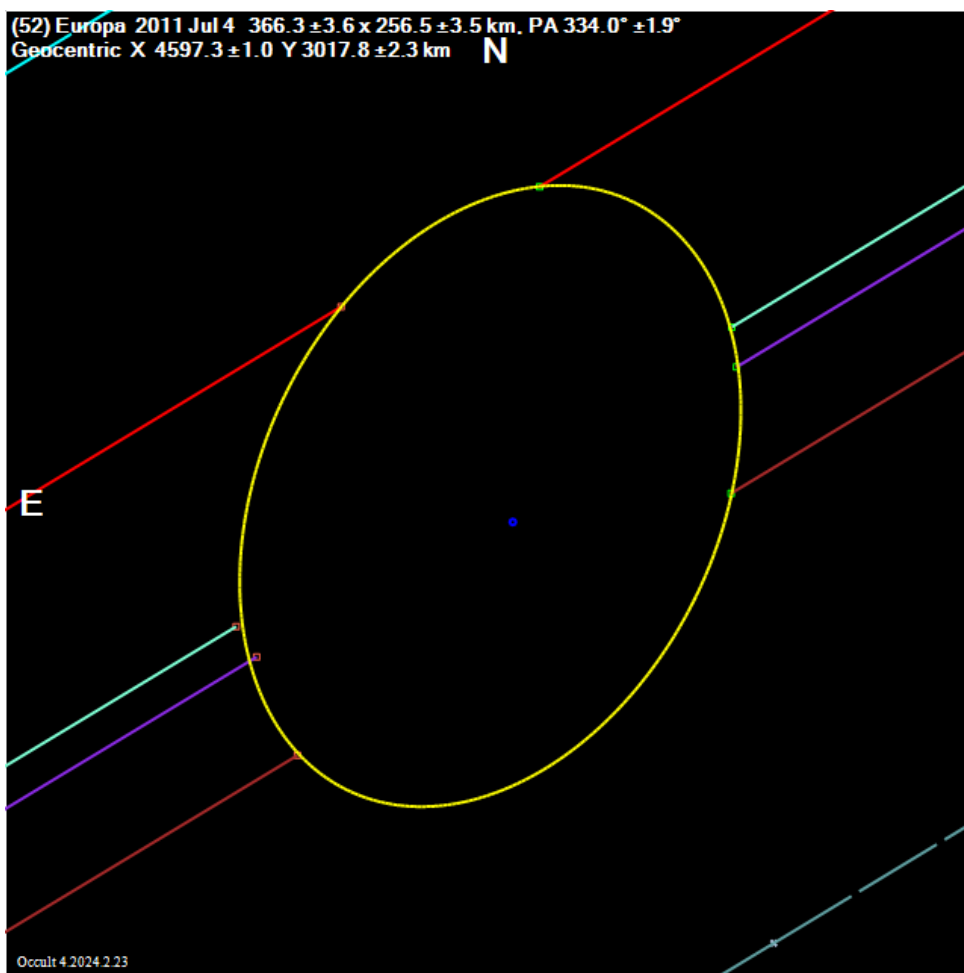
(52) Europa 2010 Mar 29 352.8 ±5.2 x 284.5 ±18.6 km, PA 60.9° ±8.7°
Geocentric X 4047.6 ±1.4 Y 1804.5 ±9.2 km N



Occult 4.2024.2.23

52_Europa_2011Jul04

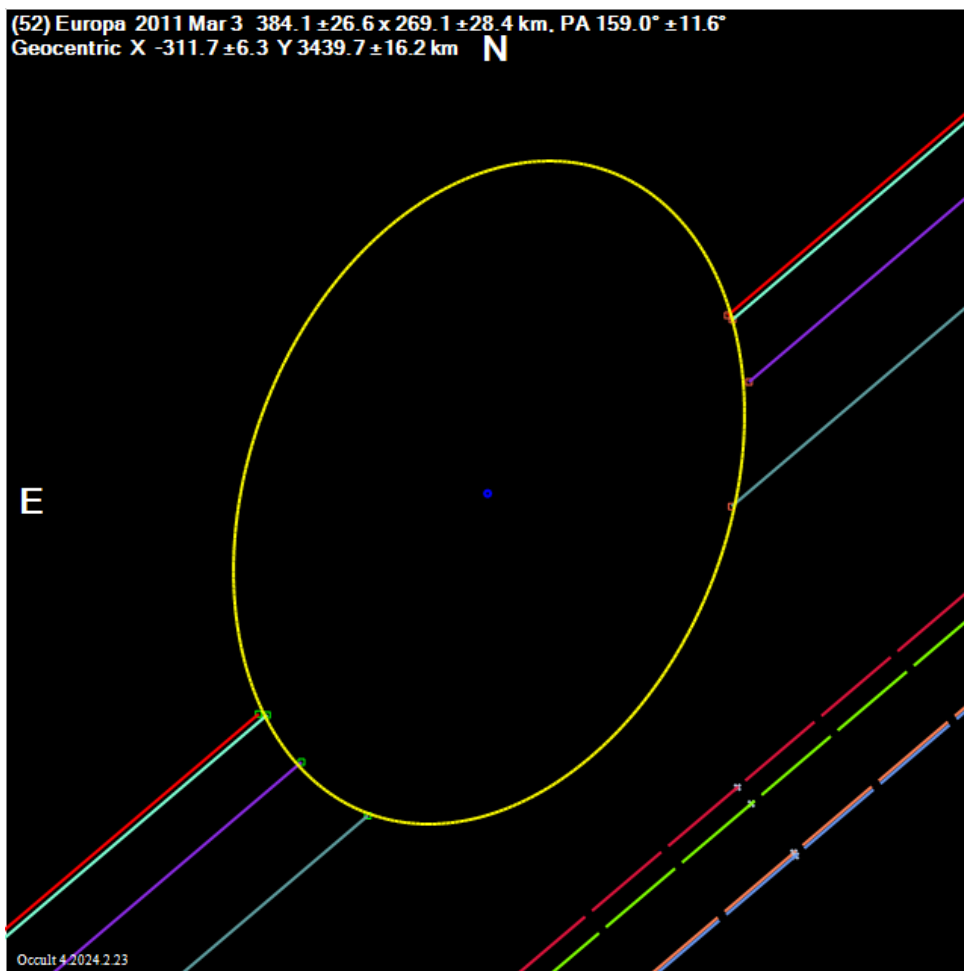
(52) Europa 2011 Jul 4 366.3 ± 3.6 x 256.5 ± 3.5 km, PA 334.0° ± 1.9°
Geocentric X 4597.3 ± 1.0 Y 3017.8 ± 2.3 km N



Occult 4.2024.2.23

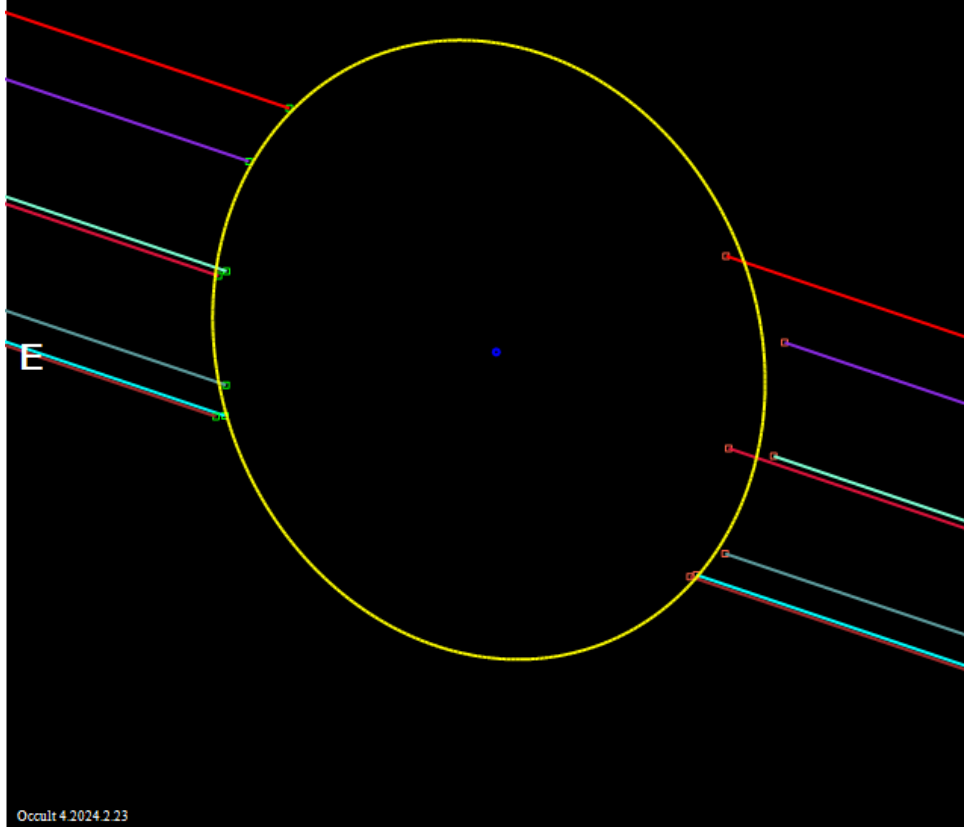
52_Europa_2011Mar03

(52) Europa 2011 Mar 3 384.1 ± 26.6 x 269.1 ± 28.4 km, PA 159.0° ± 11.6°
Geocentric X -311.7 ± 6.3 Y 3439.7 ± 16.2 km N

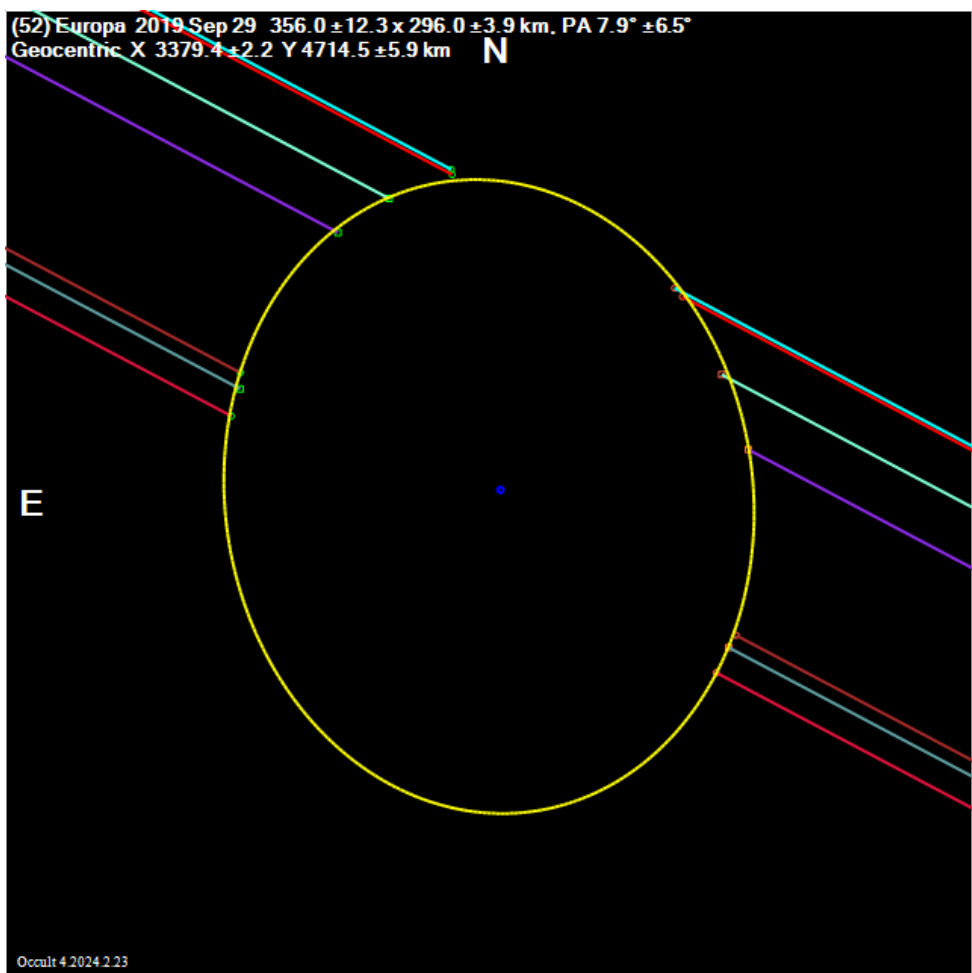


52_Europa_2018Jul05

(52) Europa 2018 Jul 5 353.1 ± 19.1 x 302.5 ± 8.7 km. PA 21.4° ± 18.3°
Geocentric X 2247.2 ± 2.3 Y 5317.8 ± 4.9 km N

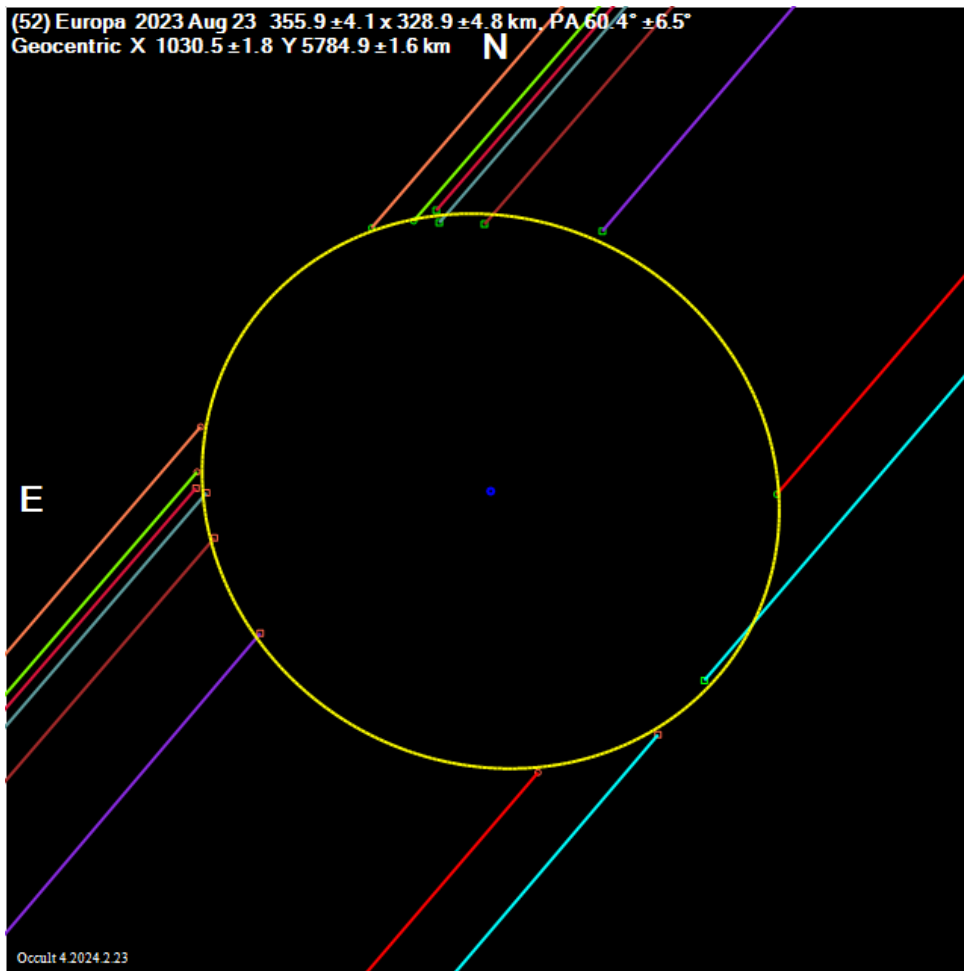


52_Europa_2019Sep29



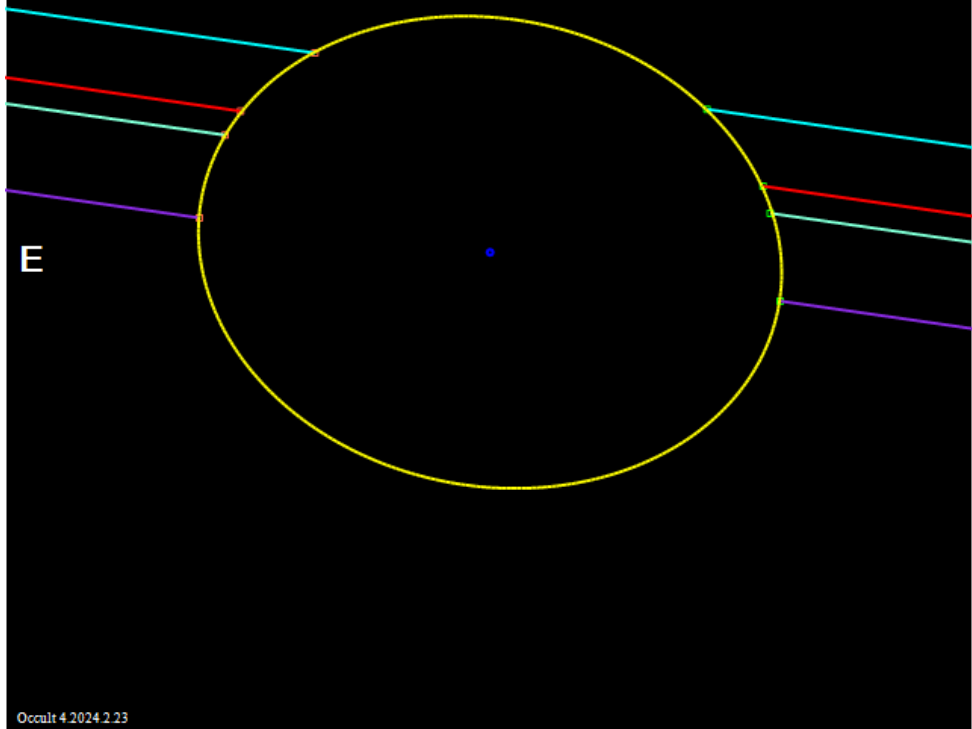
52_Europa_2023Aug23

(52) Europa 2023 Aug 23 355.9 ± 4.1 x 328.9 ± 4.8 km PA 60.4° ± 6.5°
Geocentric X 1030.5 ± 1.8 Y 5784.9 ± 1.6 km N



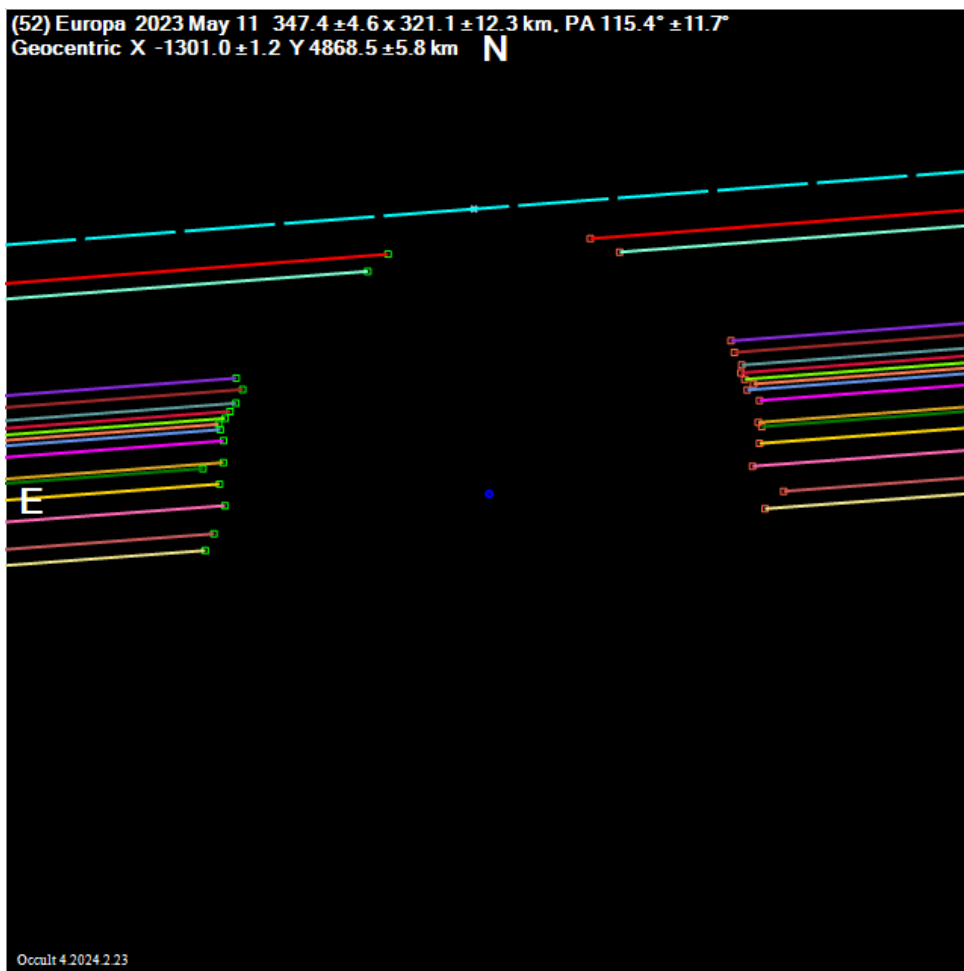
52_Europa_2023Mar28

(52) Europa 2023 Mar 28 335.1 ± 0.8 x 266.4 ± 5.3 km, PA 79.0° ± 0.8°
Geocentric X -4388.1 ± 0.4 Y 4276.5 ± 1.8 km N



52_Europa_2023May11

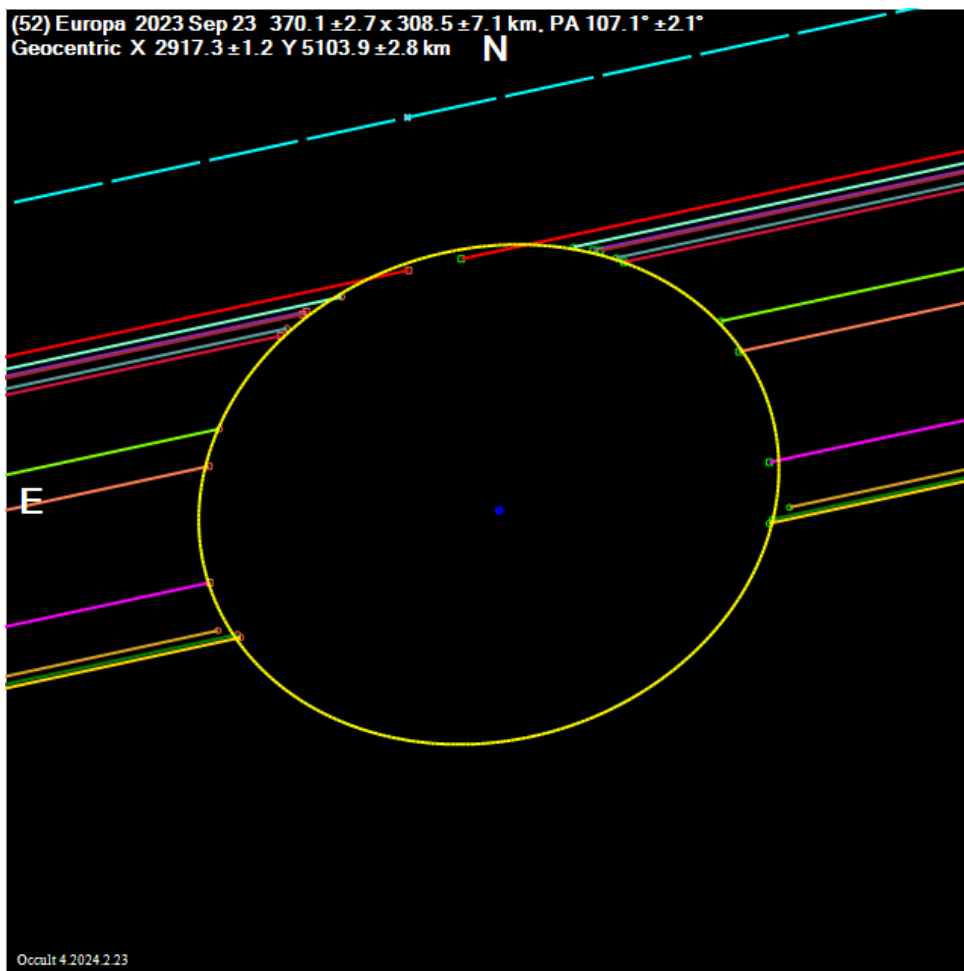
(52) Europa 2023 May 11 347.4 ± 4.6 x 321.1 ± 12.3 km, PA 115.4° ± 11.7°
Geocentric X -1301.0 ± 1.2 Y 4868.5 ± 5.8 km N



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52_Europa_2023Sep23

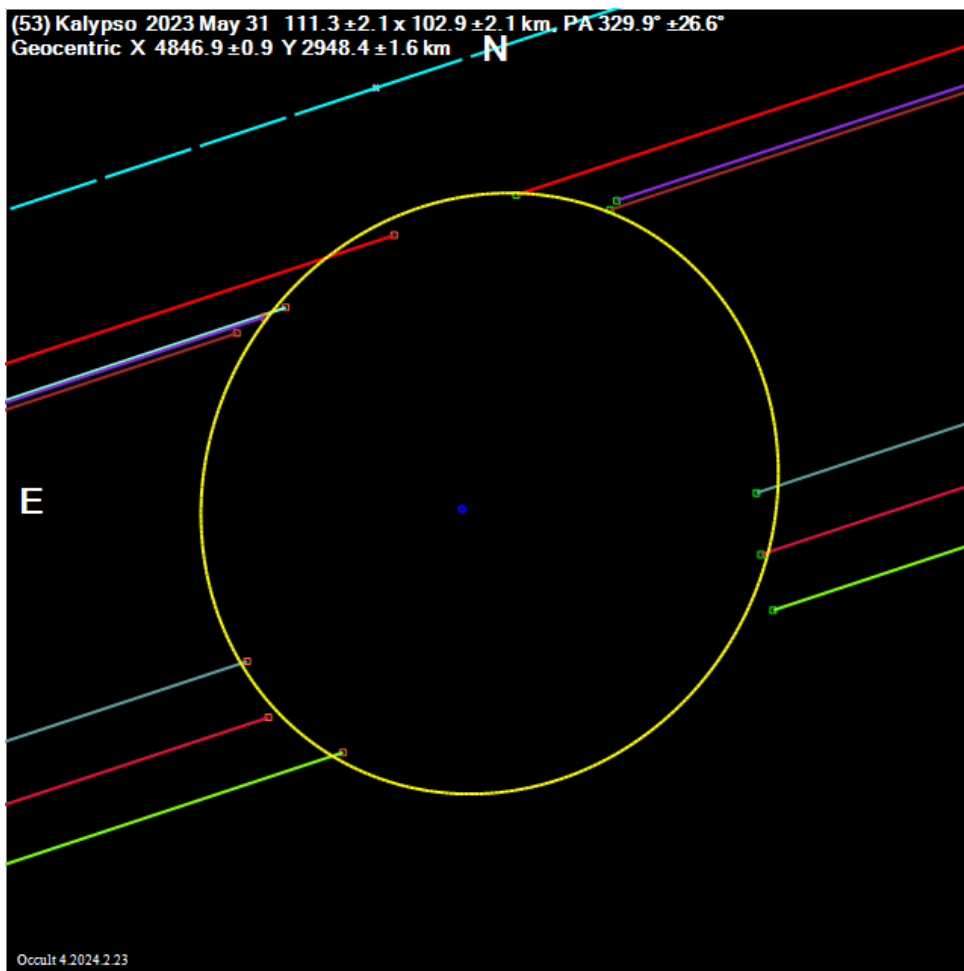
(52) Europa 2023 Sep 23 370.1 ± 2.7 x 308.5 ± 7.1 km, PA 107.1° ± 2.1°
Geocentric X 2917.3 ± 1.2 Y 5103.9 ± 2.8 km N



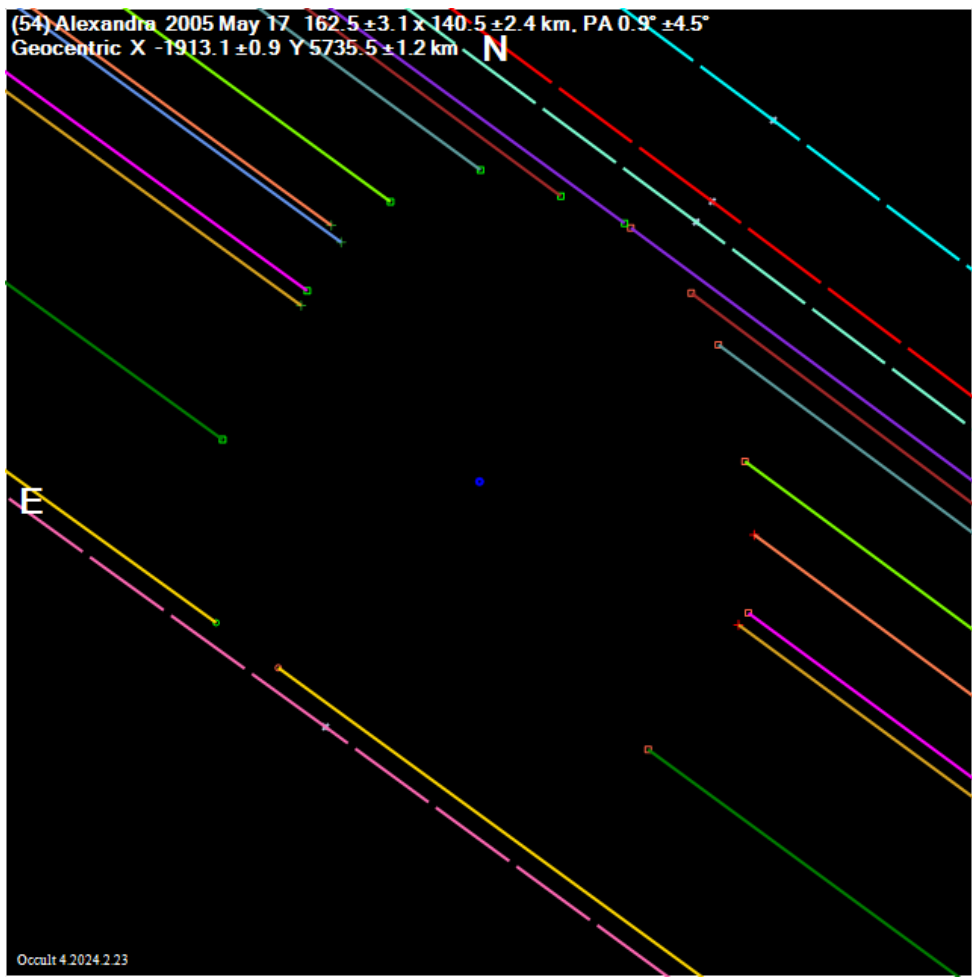
Occult 4.2024.2.23

53_Kalypso_2023May31

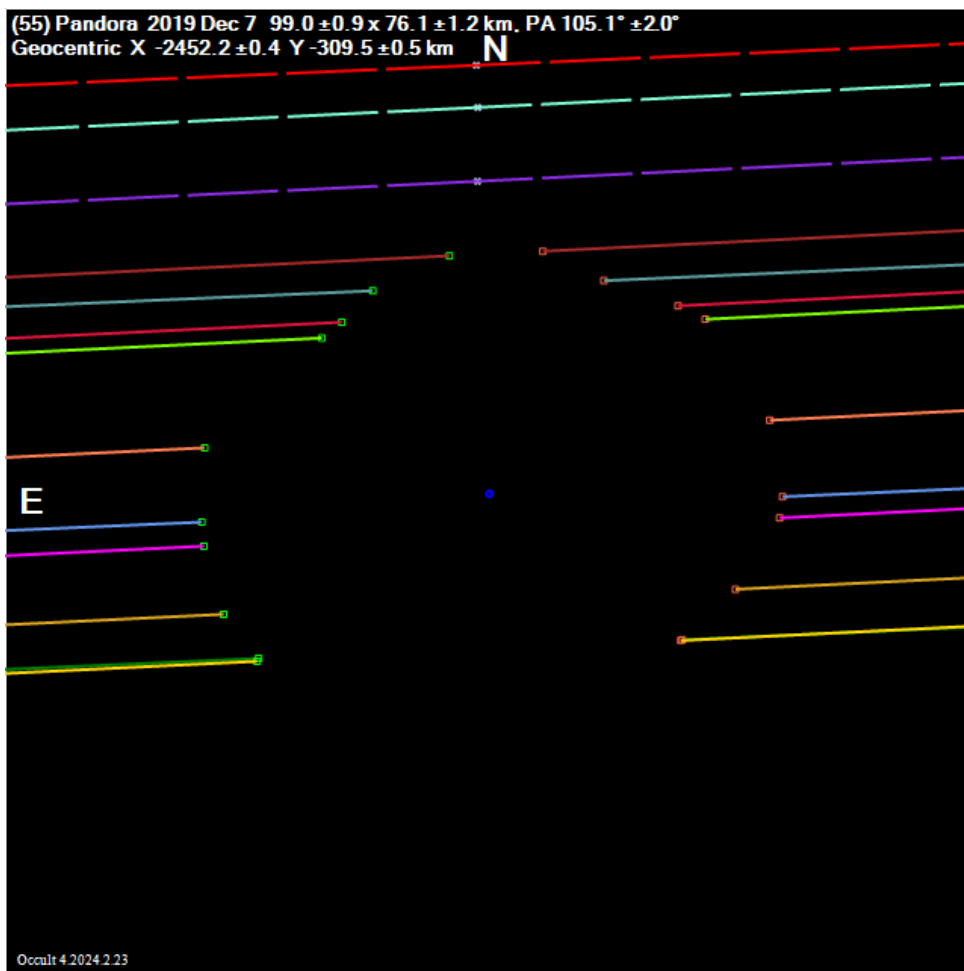
(53) Kalypso 2023 May 31 $111.3 \pm 2.1 \times 102.9 \pm 2.1$ km. PA $329.9^\circ \pm 26.6^\circ$
Geocentric X 4846.9 ± 0.9 Y 2948.4 ± 1.6 km



54_Alexandra_2005May17

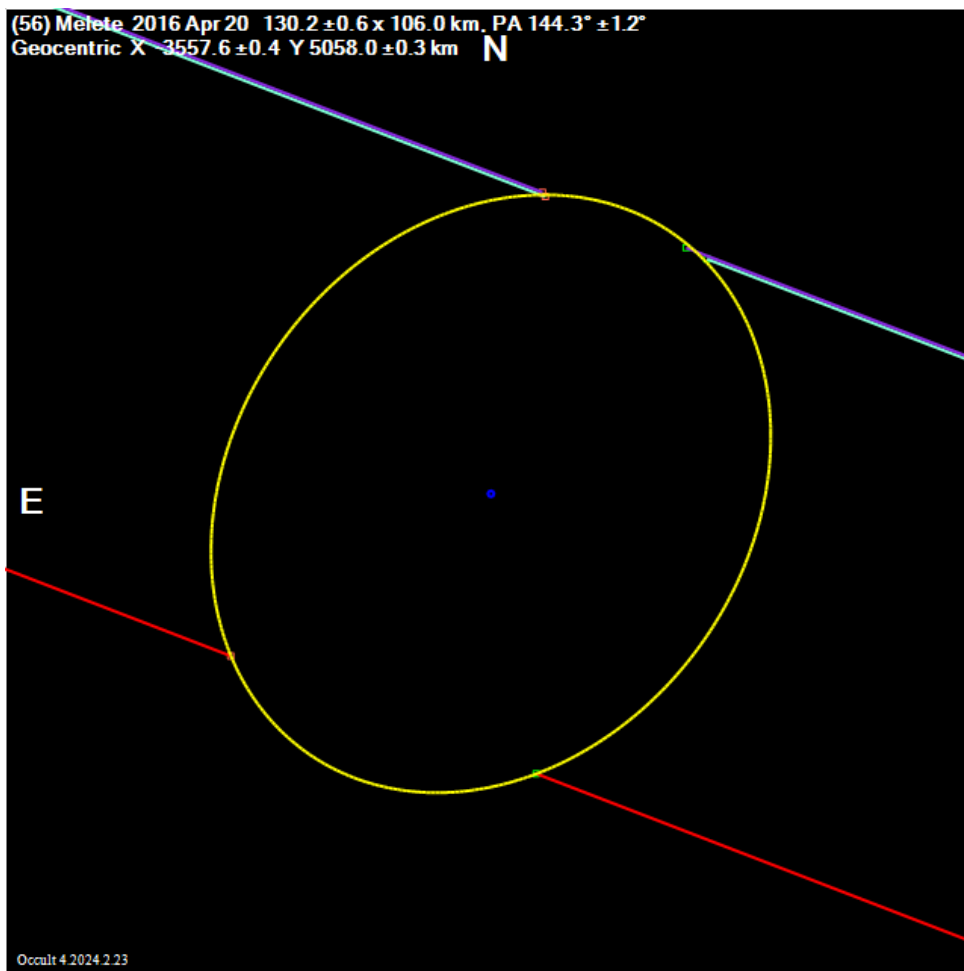


55_Pandora_2019Dec07



56_Melete_2016Apr20

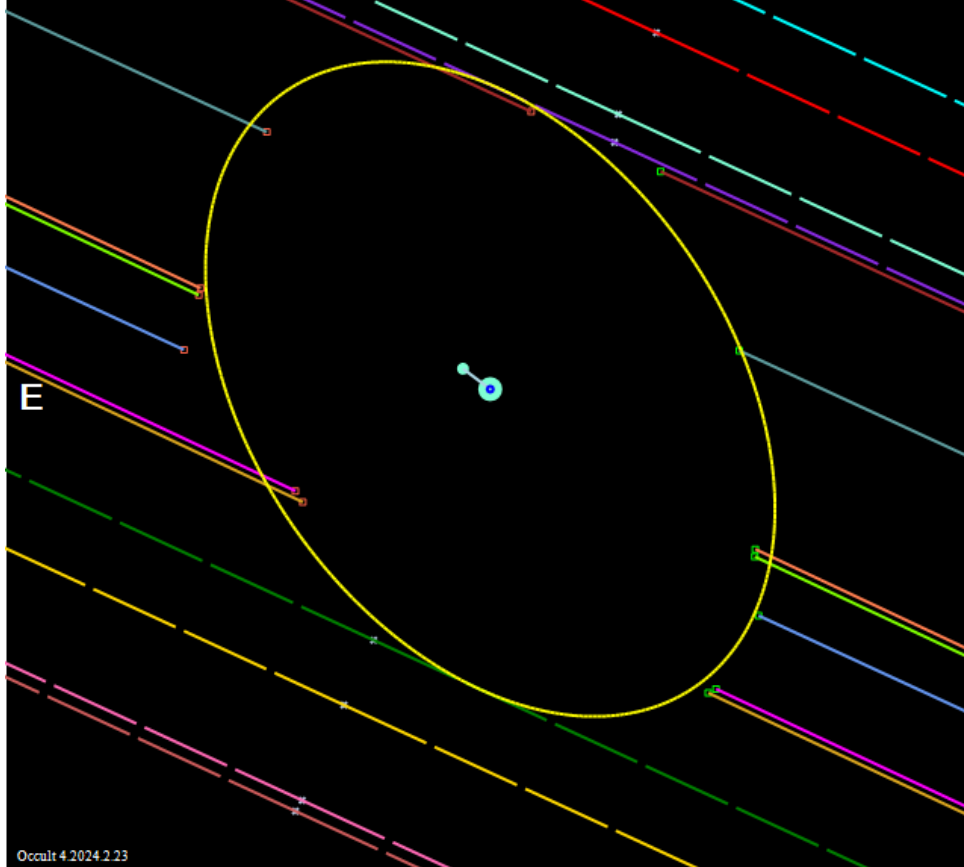
(56) Melete 2016 Apr 20 130.2 ± 0.6 x 106.0 km, PA 144.3° ± 1.2°
Geocentric X -3557.6 ± 0.4 Y 5058.0 ± 0.3 km **N**



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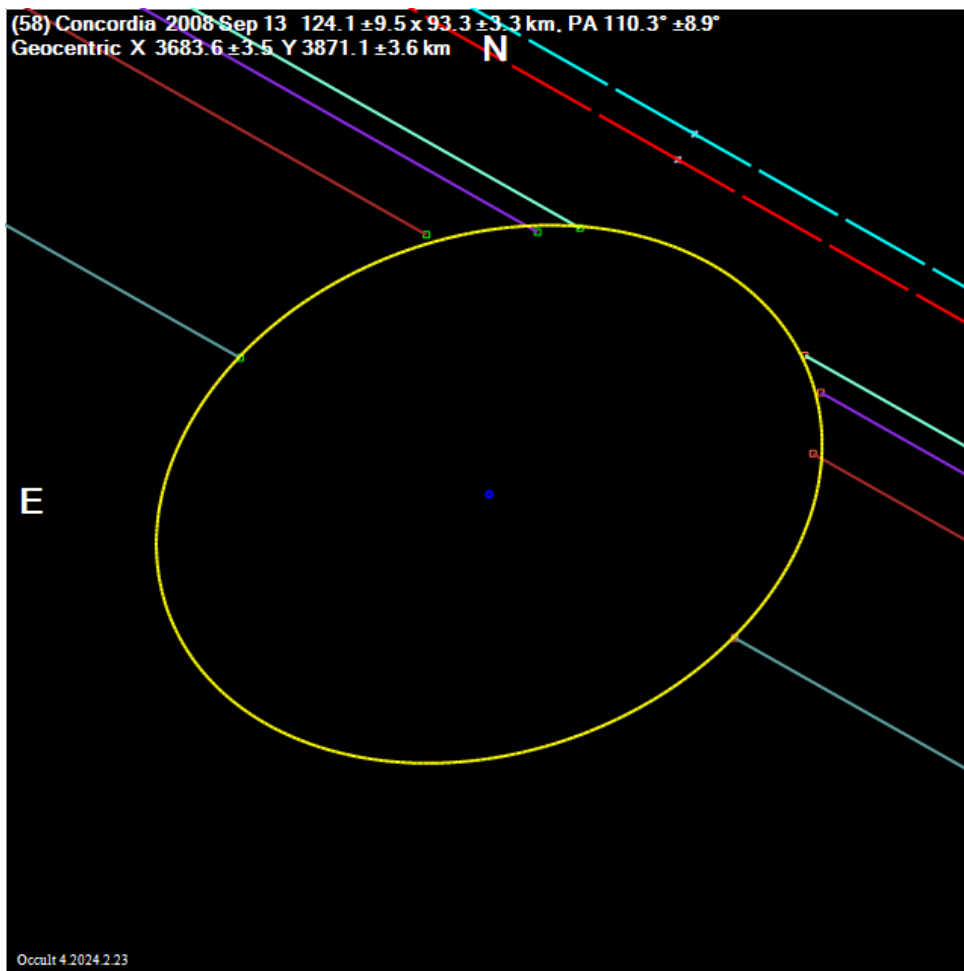
57_Mnemosyne_2012Mar11

(57) Mnemosyne 2012 Mar 11 $148.8 \pm 4.0 \times 98.9 \pm 2.8$ km, PA $34.6^\circ \pm 2.9^\circ$
Geocentric X 3726.8 ± 1.3 Y 3287.0 ± 1.8 km N
Double : Sep $0.0036 \pm 0.0014''$, PA $53.1^\circ \pm 21.9^\circ$

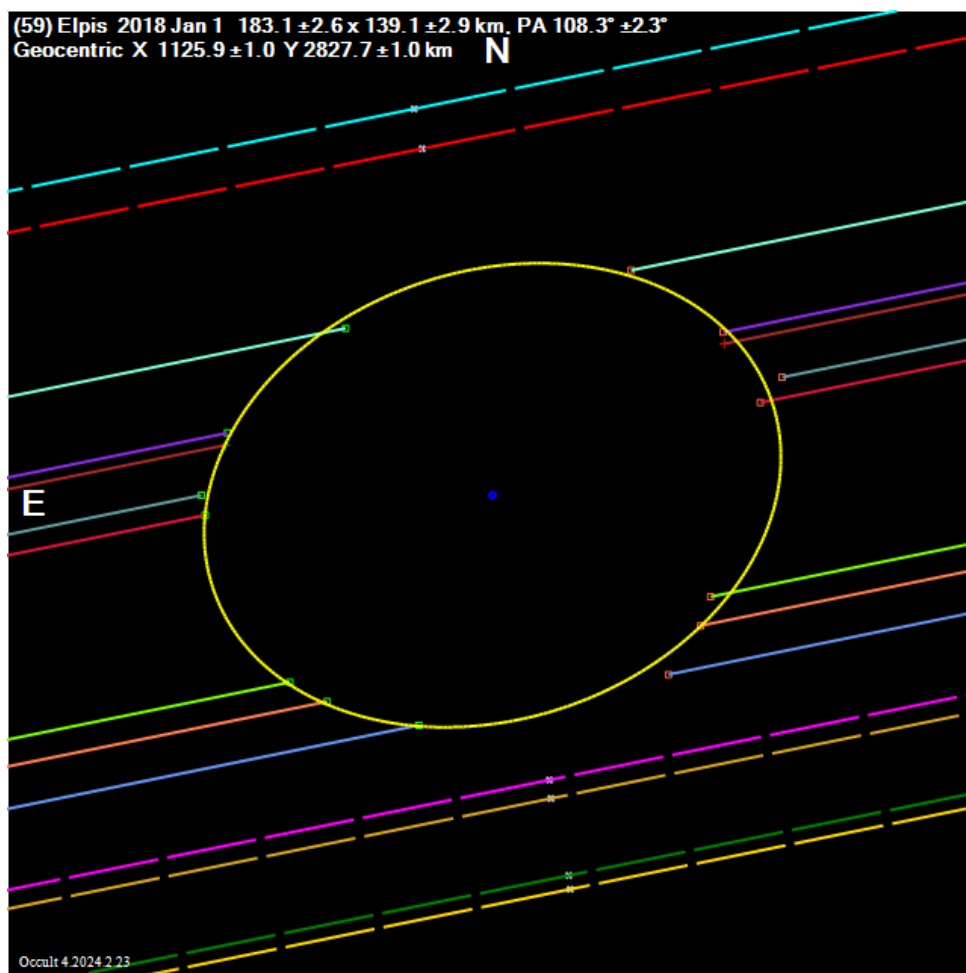


58_Concordia_2008Sep13

(58) Concordia 2008 Sep 13 $124.1 \pm 9.5 \times 93.3 \pm 3.3$ km, PA $110.3^\circ \pm 8.9^\circ$
Geocentric X 3683.6 ± 3.5 Y 3871.1 ± 3.6 km

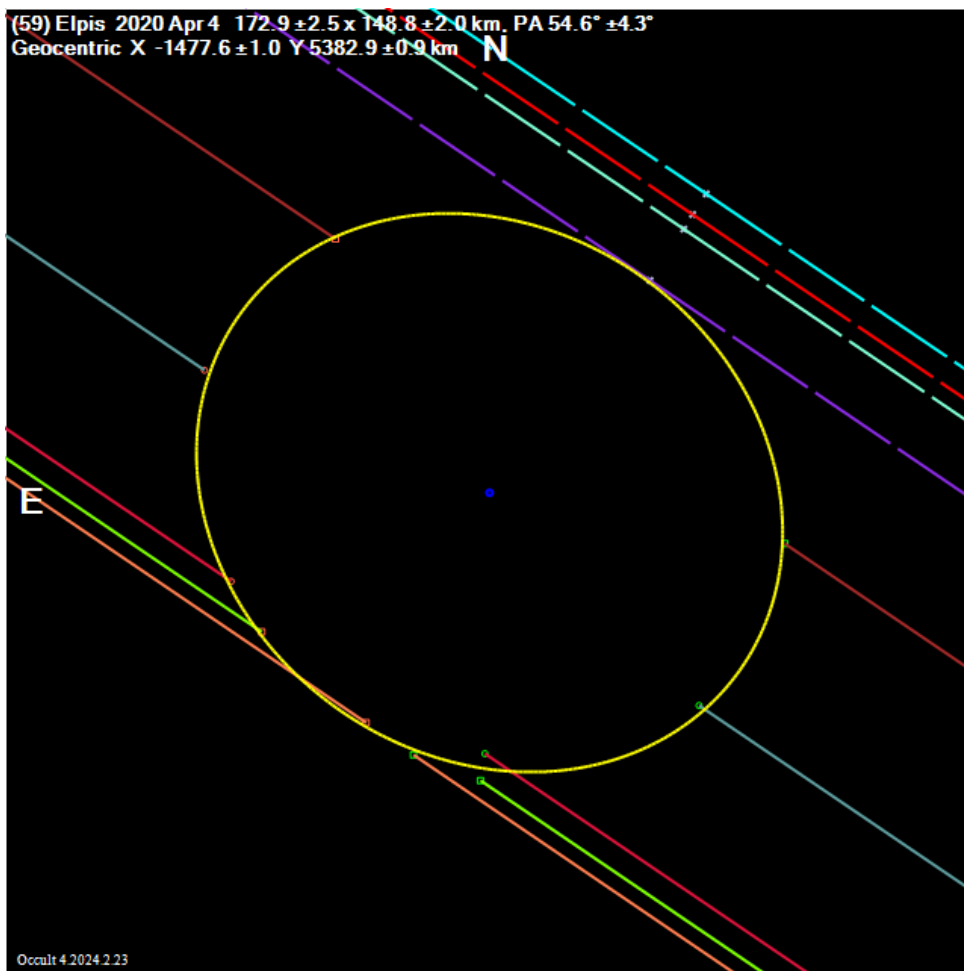


59_Elpis_2018Jan01



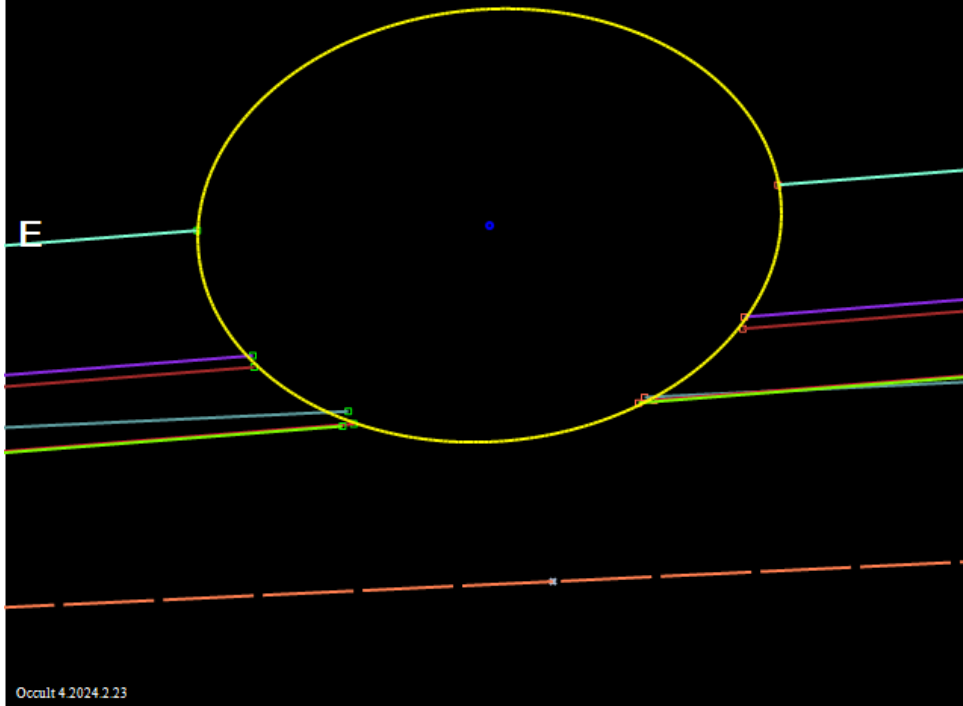
59_Elpis_2020Apr04

(59) Elpis 2020 Apr 4 $172.9 \pm 2.5 \times 148.8 \pm 2.0$ km, PA $54.6^\circ \pm 4.3^\circ$
Geocentric X -1477.6 ± 1.0 Y 5382.9 ± 0.9 km



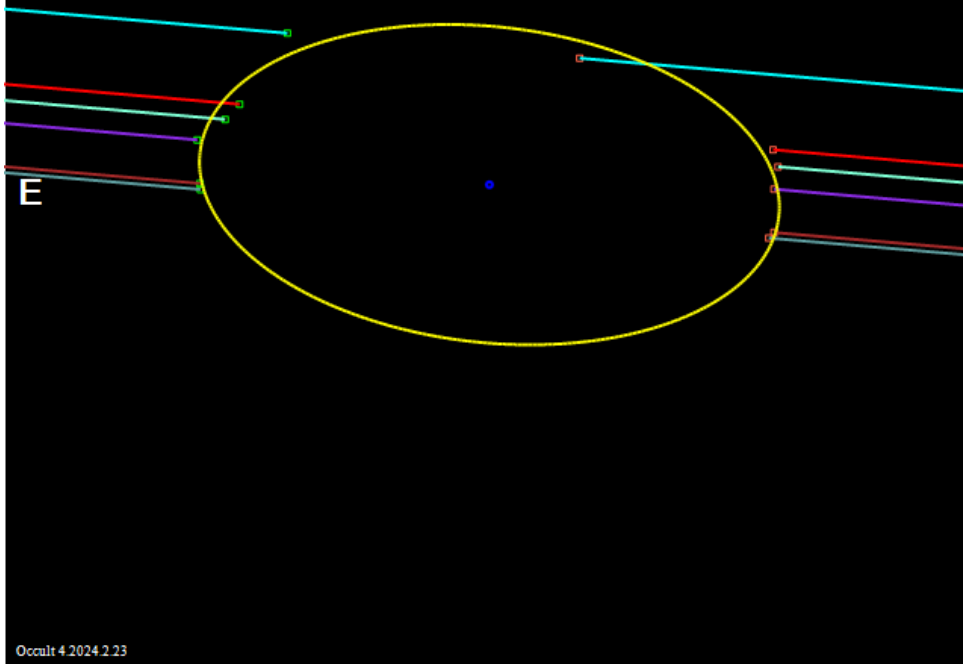
61_Danae_2010Oct18

(61) Danae 2010 Oct 18 $94.3 \pm 0.8 \times 69.6 \pm 3.5$ km, PA $95.2^\circ \pm 1.6^\circ$
Geocentric X -1543.9 ± 0.4 Y 2182.0 ± 1.4 km **N**



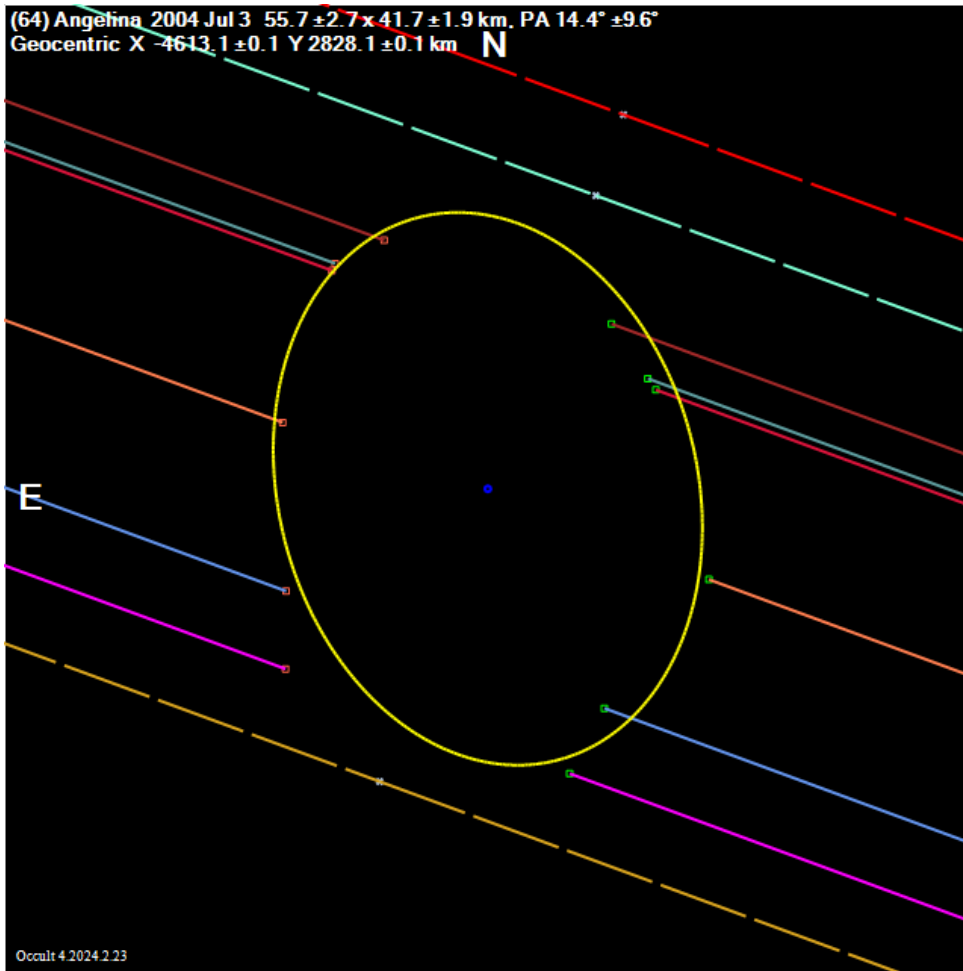
63_Ausonia_2015Dec25

(63) Ausonia 2015 Dec 25 $139.2 \pm 2.0 \times 75.4 \pm 7.7$ km, PA $83.7^\circ \pm 2.3^\circ$
Geocentric X 3607.8 ± 0.9 Y 1929.5 ± 2.6 km N



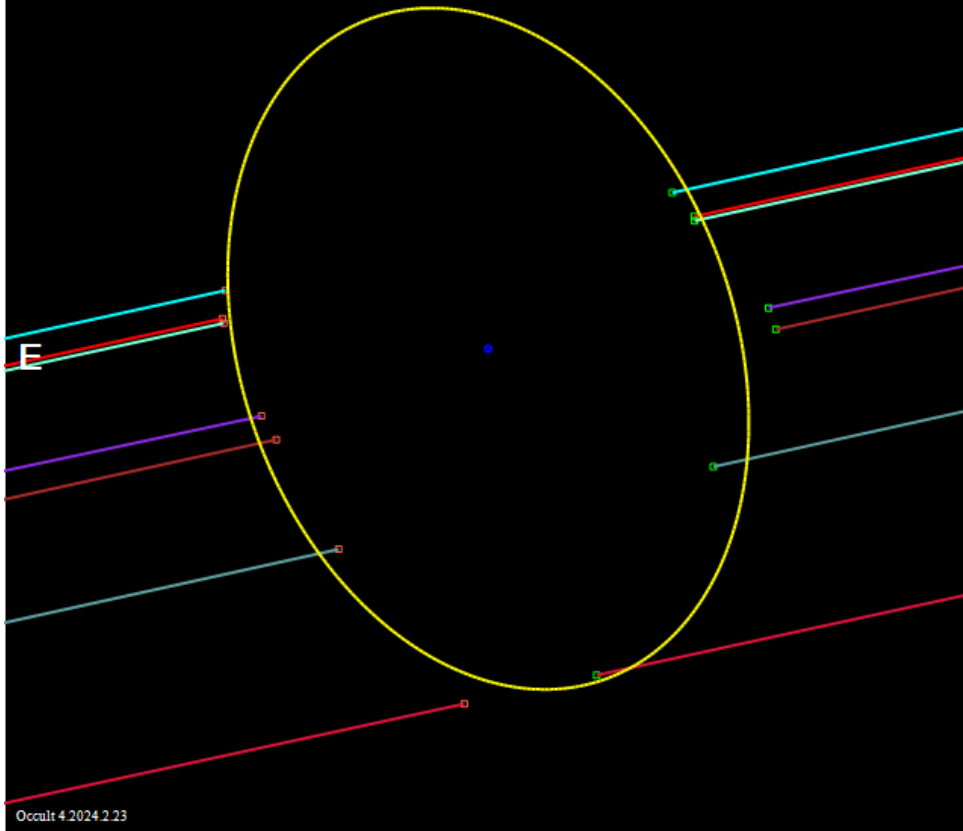
64_Angelina_2004Jul03

(64) Angelina 2004 Jul 3 $55.7 \pm 2.7 \times 41.7 \pm 1.9$ km, PA $14.4^\circ \pm 9.6^\circ$
Geocentric X -4613.1 ± 0.1 Y 2828.1 ± 0.1 km **N**



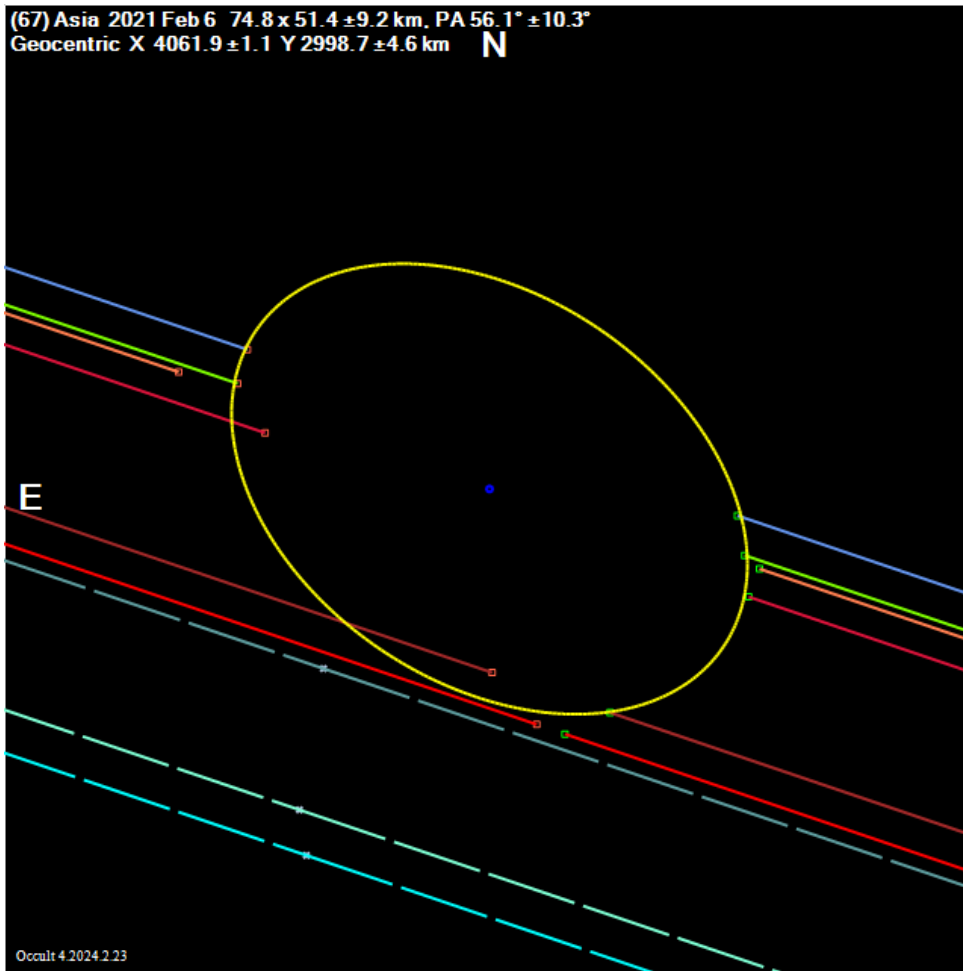
64_Angelina_2023Feb26

(64) Angelina 2023 Feb 26 $69.7 \pm 7.7 \times 49.2 \pm 1.4$ km. PA $19.4^\circ \pm 6.1^\circ$
Geocentric X 1255.5 ± 1.0 Y 3032.7 ± 3.0 km N



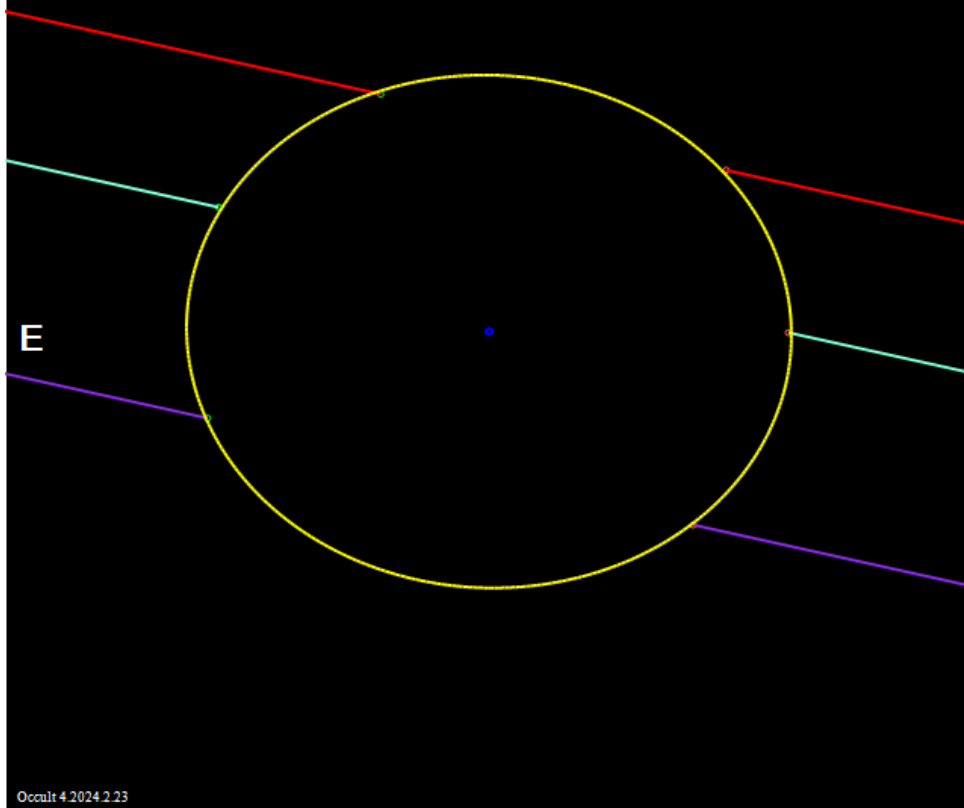
67_Asia_2021Feb06

(67) Asia 2021 Feb 6 74.8 x 51.4 ± 9.2 km, PA 56.1° ± 10.3°
Geocentric X 4061.9 ± 1.1 Y 2998.7 ± 4.6 km N



69_Hesperia_2022Jul20

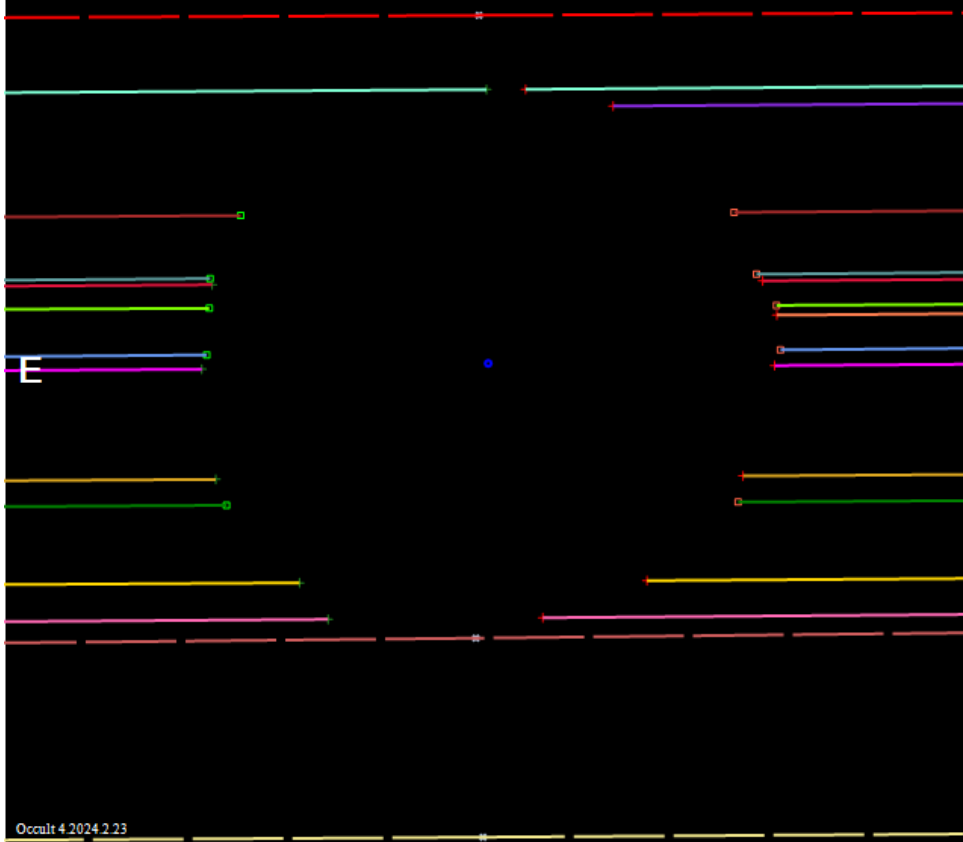
(69) Hesperia 2022 Jul 20 140.8 ±0.9 x 119.2 ±1.6 km. PA 87.6° ±2.0°
Geocentric X 1650.9 ±0.4 Y 5517.8 ±0.5 km N



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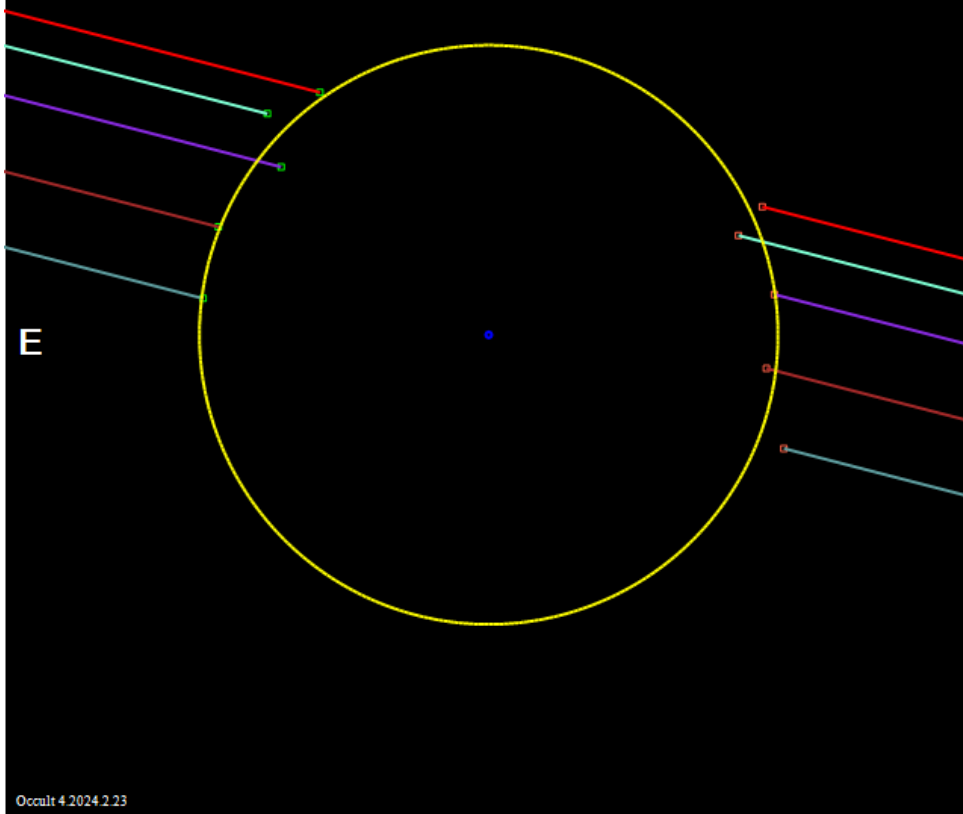
70_Panopaea_2006Dec14

(70) Panopaea 2006 Dec 14 $136.3 \pm 0.9 \times 126.9 \pm 1.5$ km, PA $108.7^\circ \pm 5.7^\circ$
Geocentric X -1004.0 ± 0.3 Y 1084.4 ± 0.6 km **N**



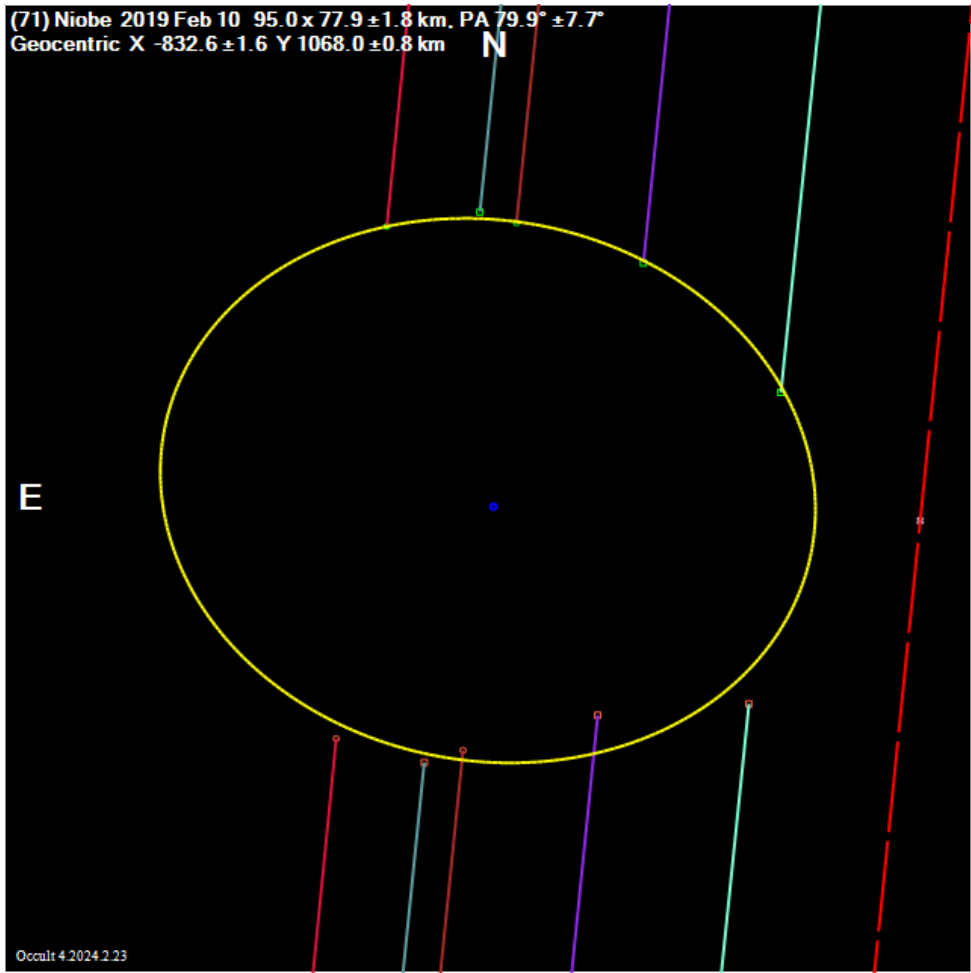
71_Niobe_2015Feb18

(71) Niobe 2015 Feb 18 83.8 km
Geocentric X 5371.7 ± 0.9 Y 2538.7 ± 1.6 km N



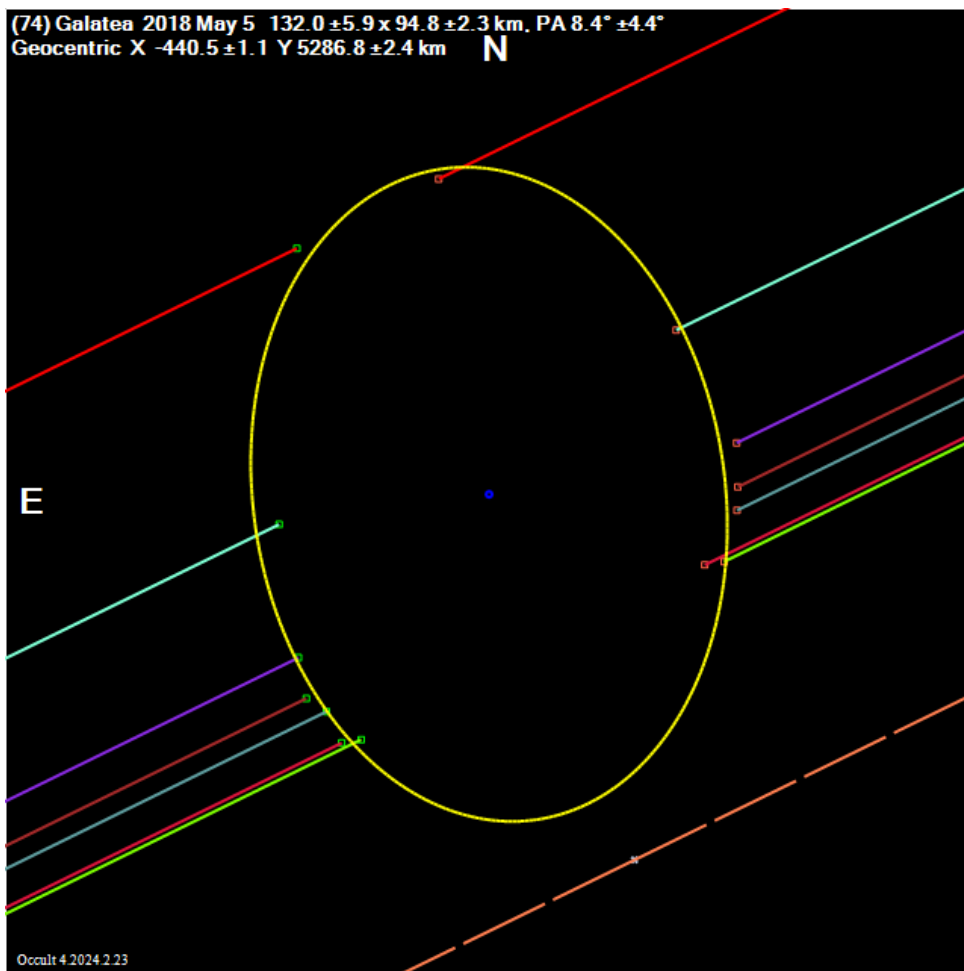
71_Niobe_2019Feb10

(71) Niobe 2019 Feb 10 95.0 x 77.9 ± 1.8 km. PA 79.9° ± 7.7°
Geocentric X -832.6 ± 1.6 Y 1068.0 ± 0.8 km

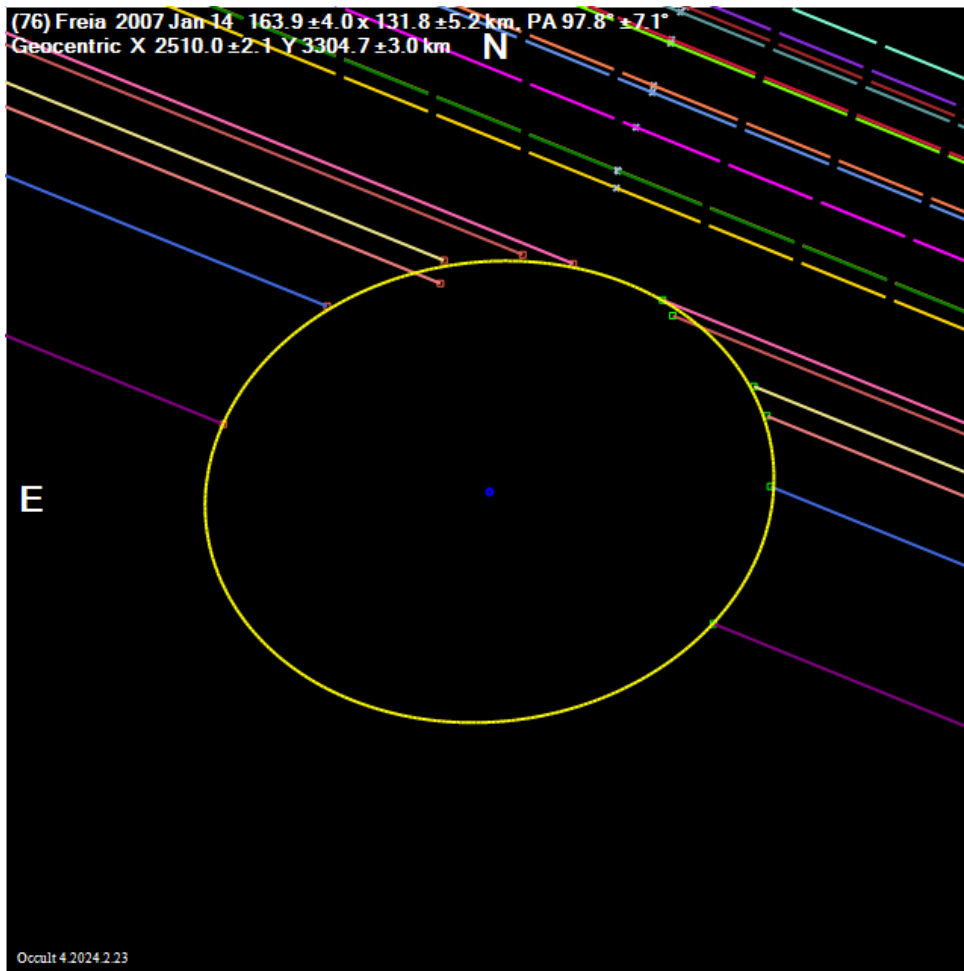


74_Galatea_2018May05

(74) Galatea 2018 May 5 $132.0 \pm 5.9 \times 94.8 \pm 2.3$ km, PA $8.4^\circ \pm 4.4^\circ$
Geocentric X -440.5 ± 1.1 Y 5286.8 ± 2.4 km N

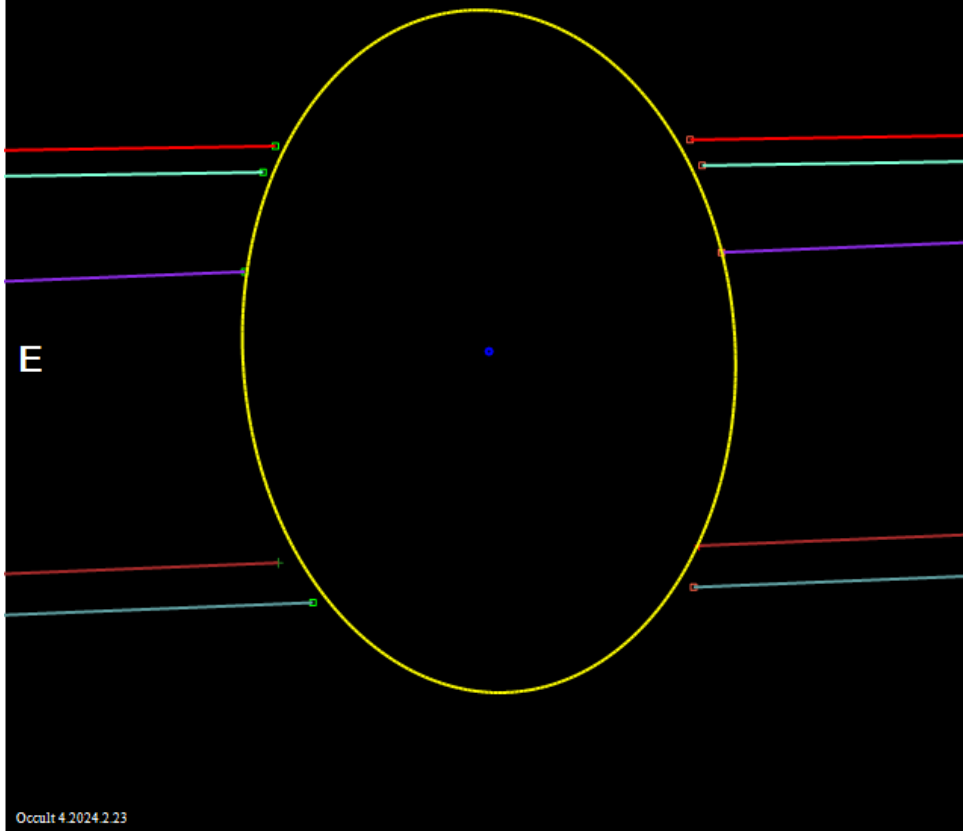


76_Freia_2007Jan14



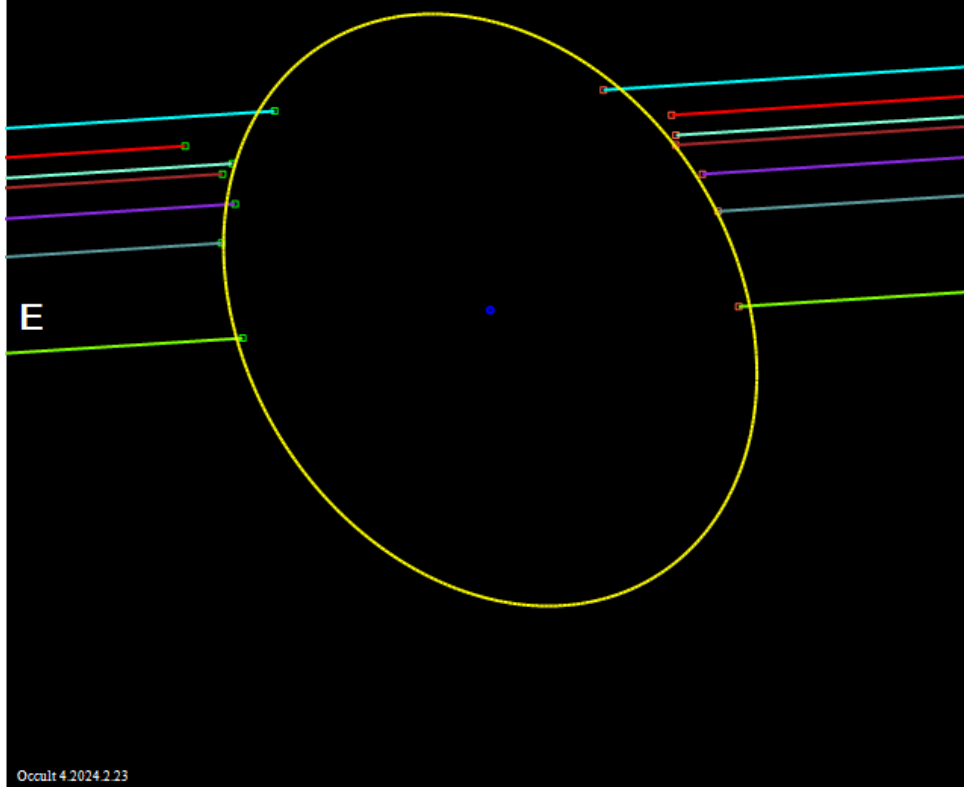
76_Freia_2008Jan17

(76) Freia 2008 Jan 17 196.0 x 141.4 ± 1.6 km. PA 3.6° ± 1.5°
Geocentric X -611.6 ± 0.7 Y 3220.5 ± 1.4 km N



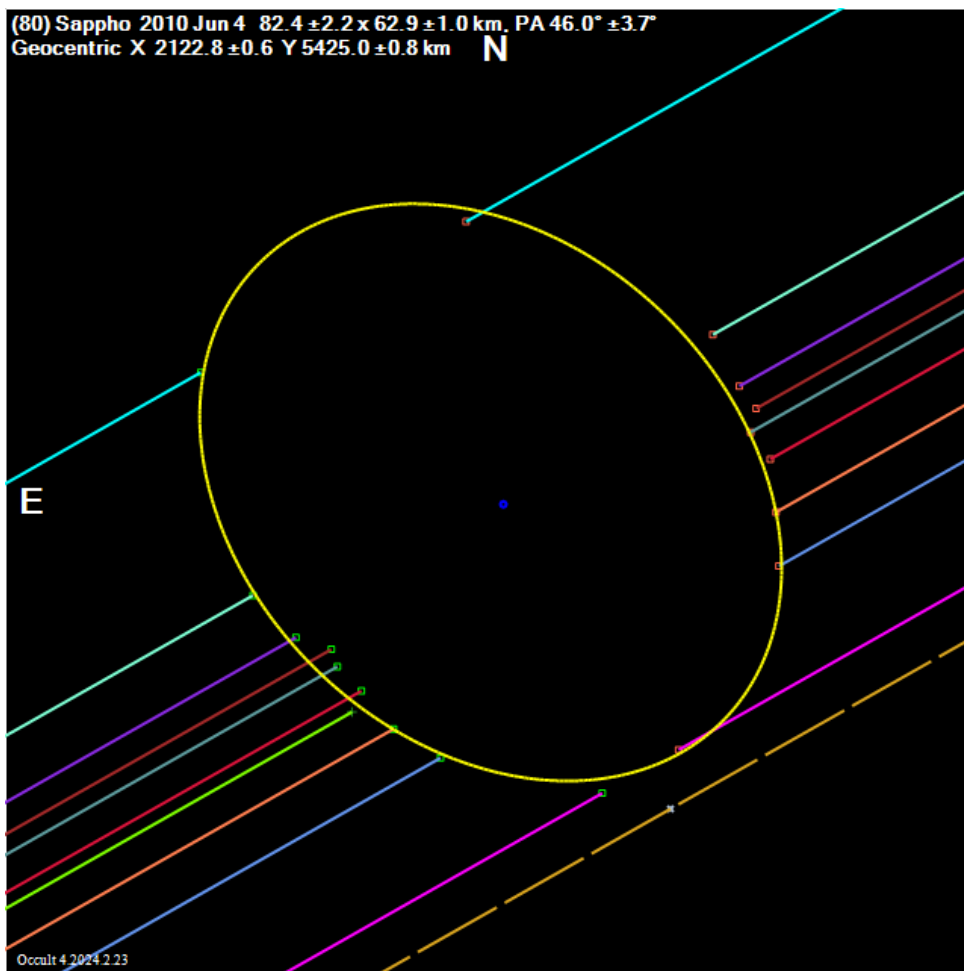
76_Freia_2023Jul03

(76) Freia 2023 Jul 3 180.0 x 141.1 ± 6.1 km. PA 32.2° ± 9.5°
Geocentric X -2414.0 ± 2.4 Y 5005.9 ± 4.4 km N



80_Sappho_2010Jun04

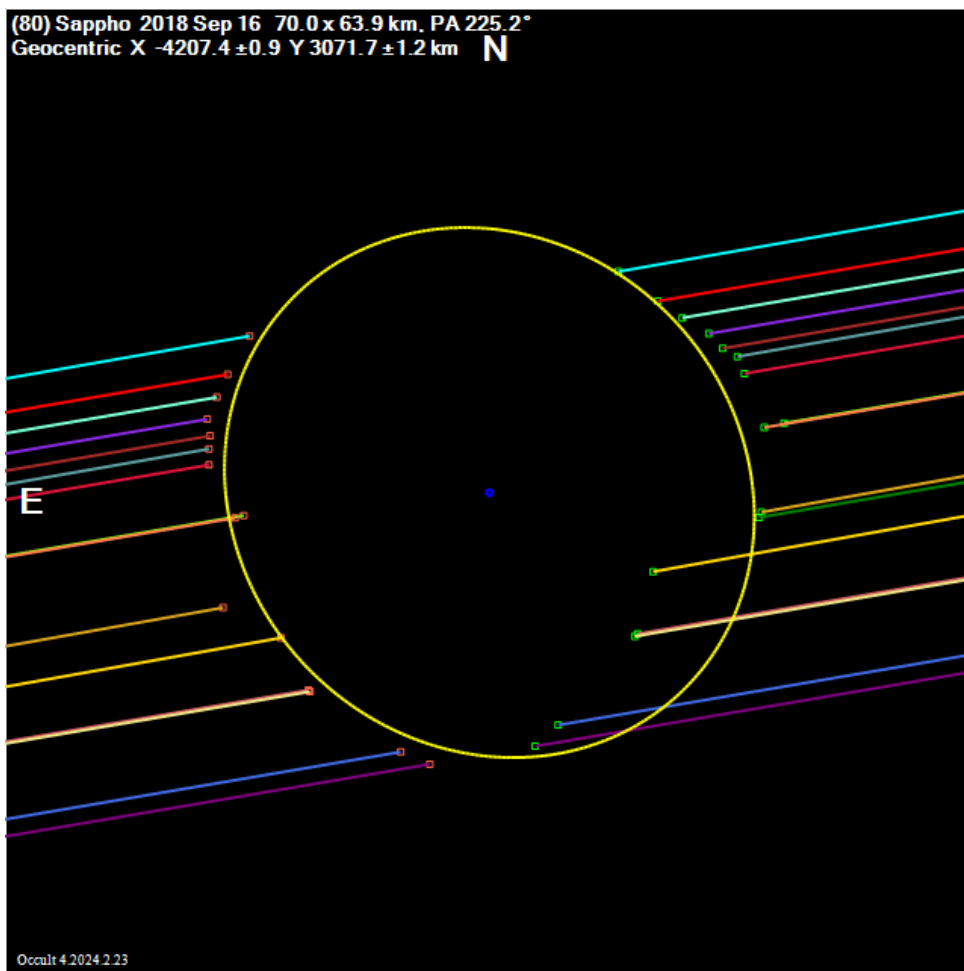
(80) Sappho 2010 Jun 4 $82.4 \pm 2.2 \times 62.9 \pm 1.0$ km, PA $46.0^\circ \pm 3.7^\circ$
Geocentric X 2122.8 ± 0.6 Y 5425.0 ± 0.8 km N



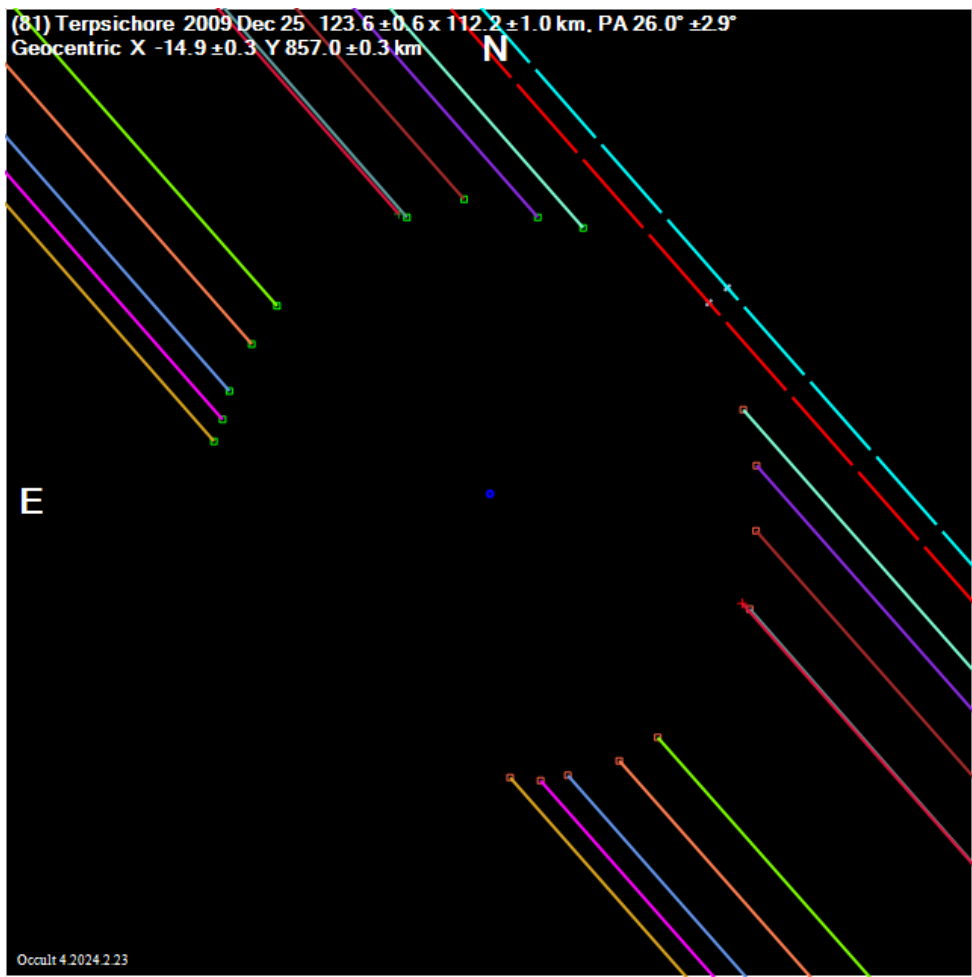
Occult 4 2024.2.23

80_Sappho_2018Sep16

(80) Sappho 2018 Sep 16 70.0 x 63.9 km, PA 225.2°
Geocentric X -4207.4 ± 0.9 Y 3071.7 ± 1.2 km N

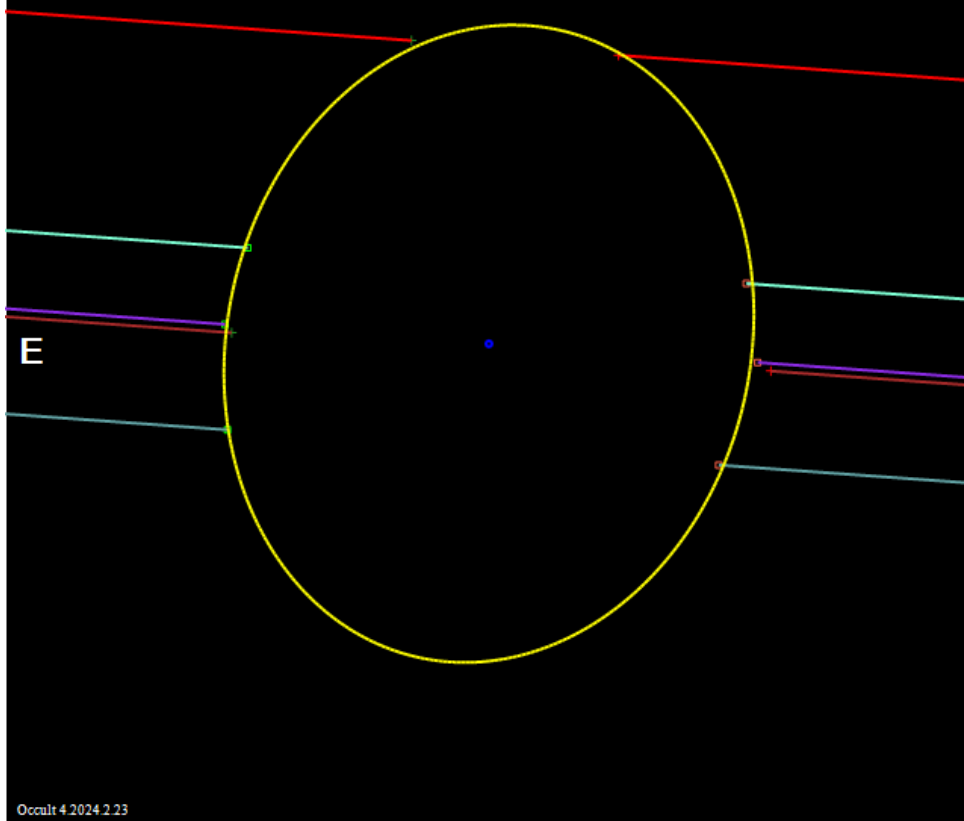


81_Terpsichore_2009Dec25



81_Terpsichore_2009Nov19

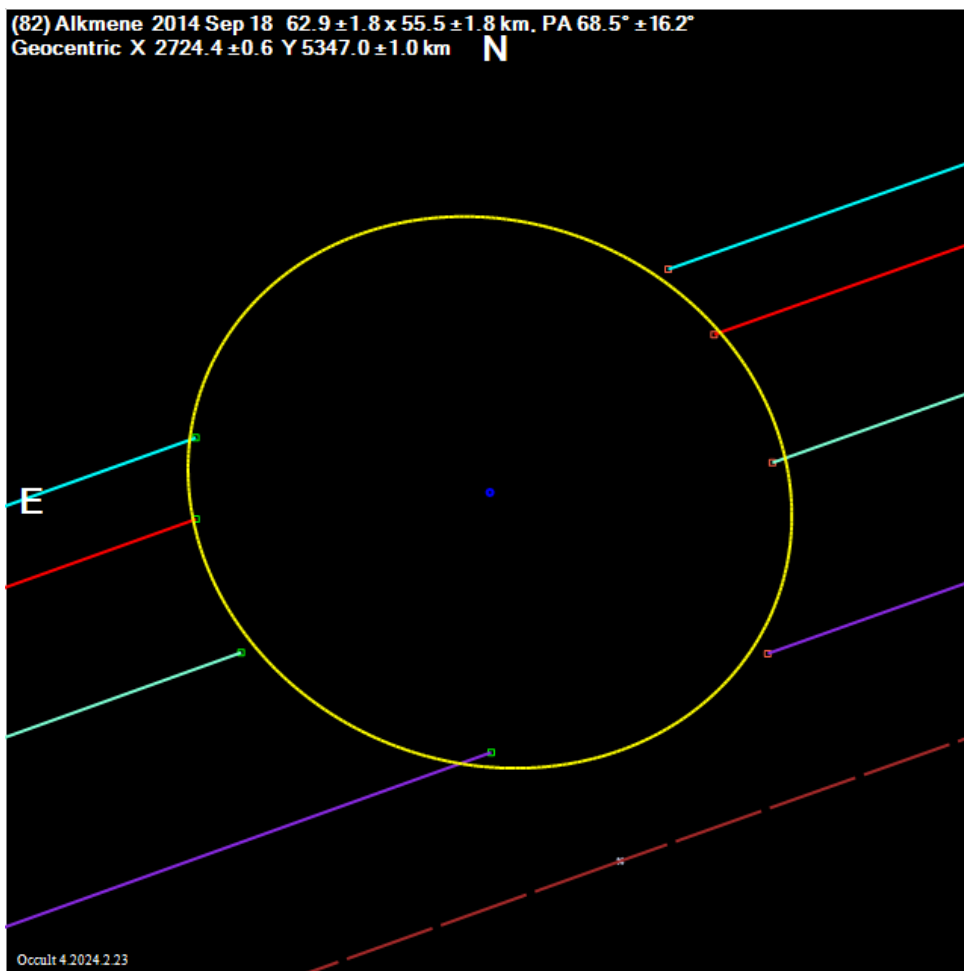
(81) Terpsichore 2009 Nov 19 133.6 ± 7.1 \times 108.8 ± 1.3 km, PA $346.9^\circ \pm 5.7^\circ$
Geocentric X 4618.3 ± 0.6 Y 3791.7 ± 2.5 km **N**



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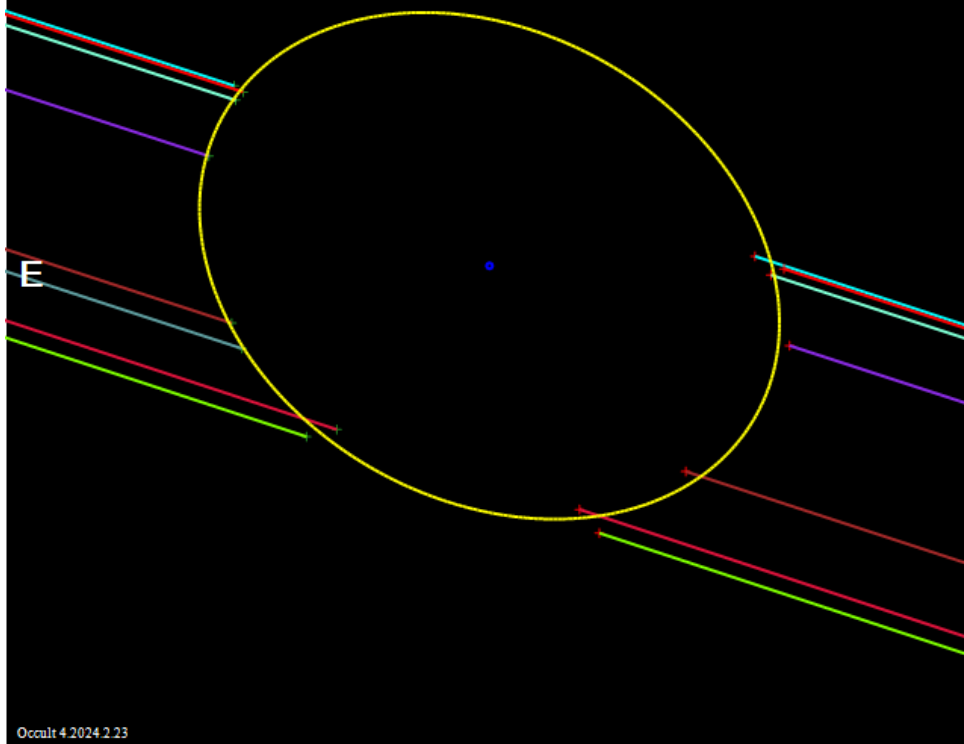
82_Alkmene_2014Sep18

(82) Alkmene 2014 Sep 18 $62.9 \pm 1.8 \times 55.5 \pm 1.8$ km. PA $68.5^\circ \pm 16.2^\circ$
Geocentric X 2724.4 ± 0.6 Y 5347.0 ± 1.0 km N



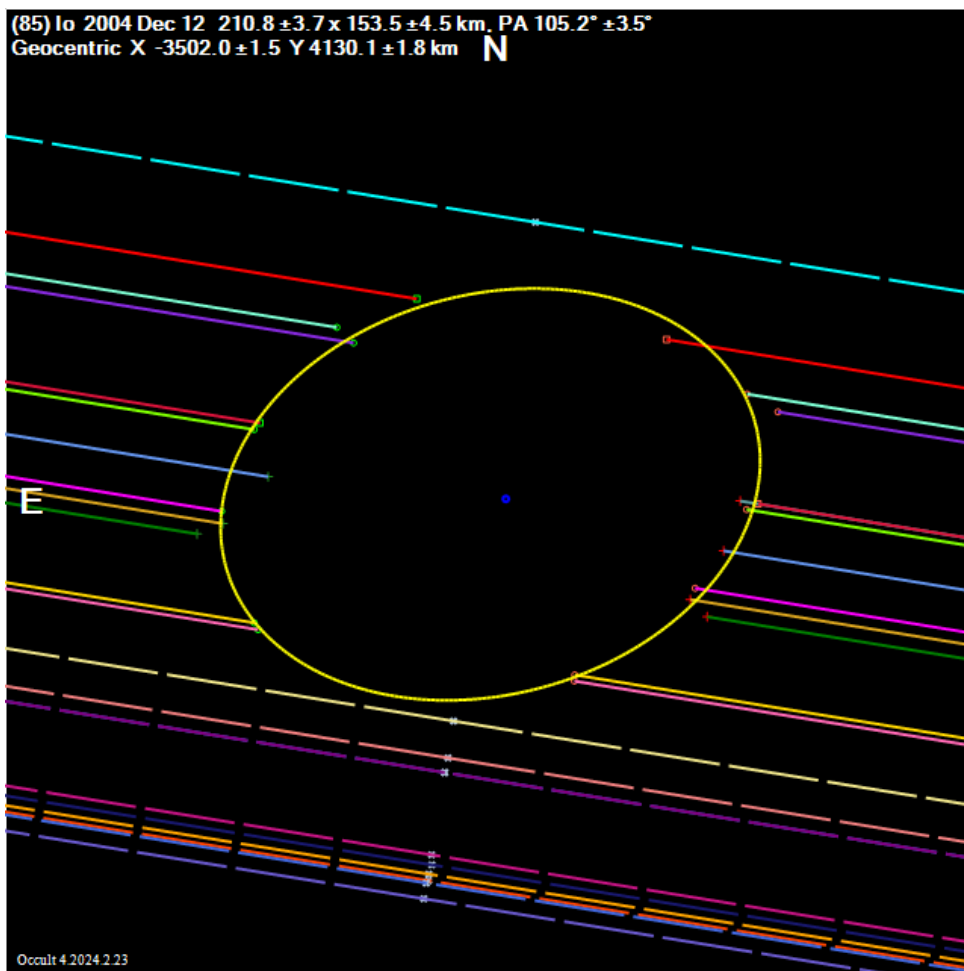
85_Io_1995Dec10

(85) Io 1995 Dec 10 $189.1 \pm 3.1 \times 144.7 \pm 7.2$ km, PA $60.6^\circ \pm 4.1^\circ$
Geocentric X -4189.4 ± 1.1 Y 3593.0 ± 2.6 km **N**



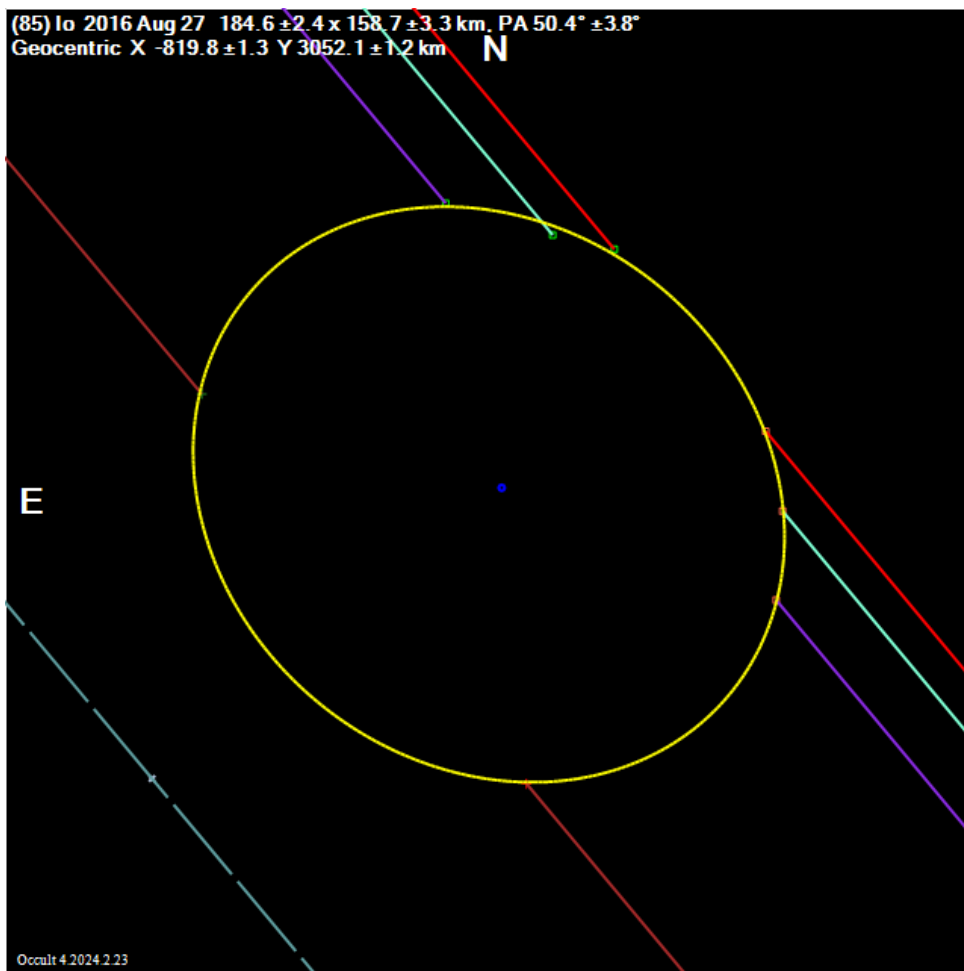
85_Io_2004Dec12

(85) Io 2004 Dec 12 $210.8 \pm 3.7 \times 153.5 \pm 4.5$ km, PA $105.2^\circ \pm 3.5^\circ$
Geocentric X -3502.0 ± 1.5 Y 4130.1 ± 1.8 km **N**



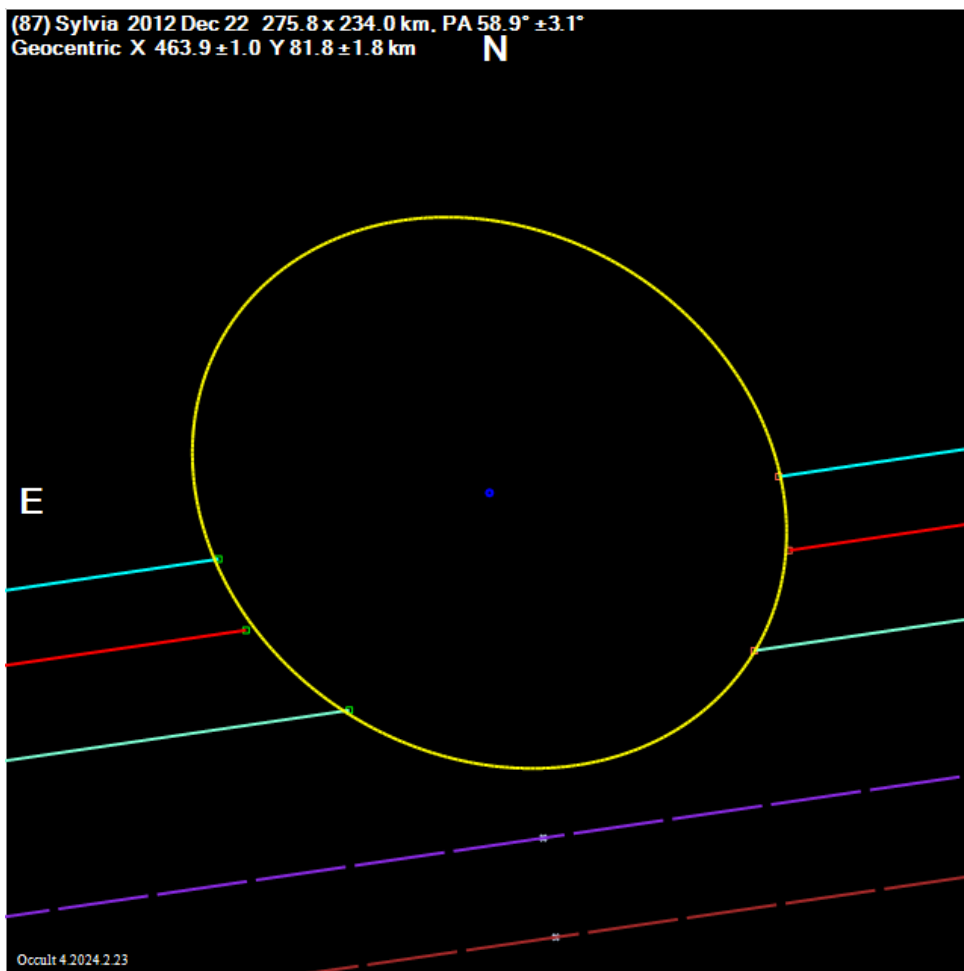
85_Io_2016Aug27

(85) Io 2016 Aug 27 184.6 ± 2.4 x 158.7 ± 3.3 km, PA 50.4° ± 3.8°
Geocentric X -819.8 ± 1.3 Y 3052.1 ± 1.2 km N



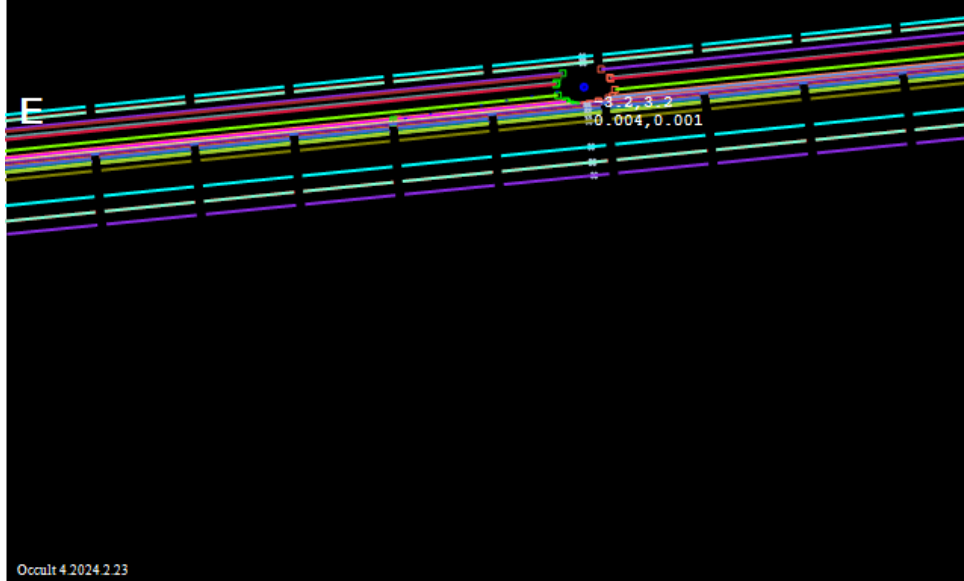
87_Sylvia_2012Dec22

(87) Sylvia 2012 Dec 22 275.8 x 234.0 km, PA 58.9° ± 3.1°
Geocentric X 463.9 ± 1.0 Y 81.8 ± 1.8 km N



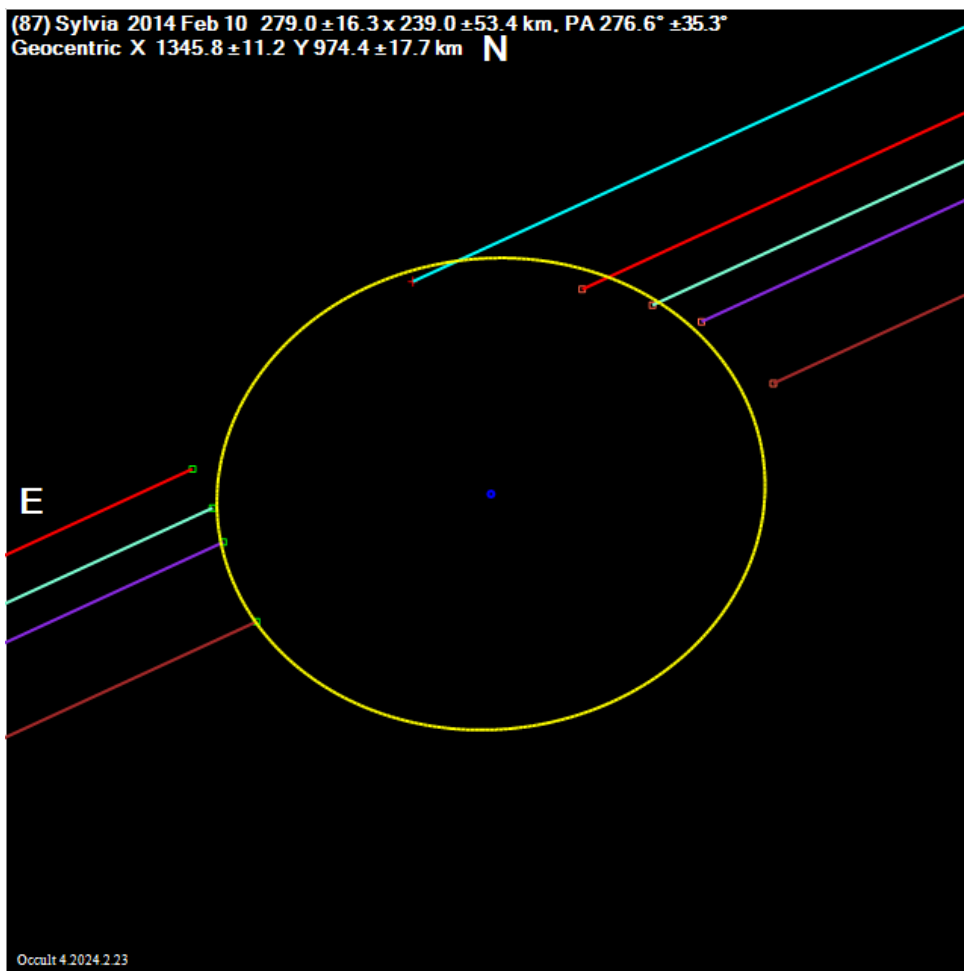
87_Sylvia_2013Jan06

(87) Sylvia 2013 Jan 6 $353.4 \pm 6.6 \times 229.5 \pm 6.4$ km. PA $92.9^\circ \pm 1.7^\circ$
Geocentric X 2608.3 ± 2.4 Y 2867.6 ± 2.5 km N
Sat: (87) 1 = Romulus 33.0×18.0 km. PA 122.0° ; Sep $0.6030''$ at PA 100.2°



87_Sylvia_2014Feb10

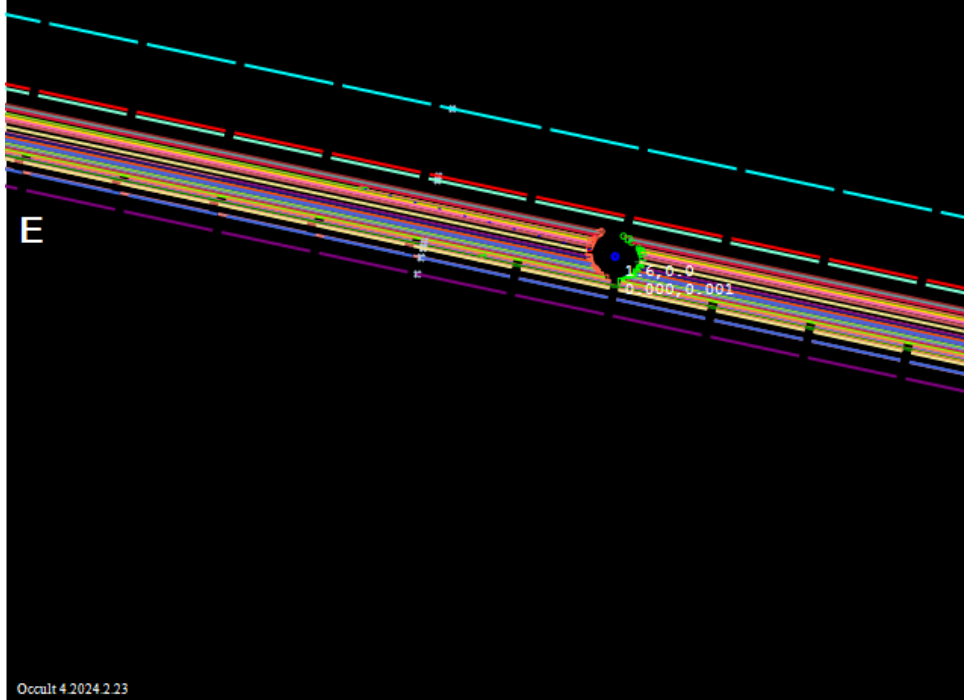
(87) Sylvia 2014 Feb 10 279.0 ± 16.3 x 239.0 ± 53.4 km, PA 276.6° ± 35.3°
Geocentric X 1345.8 ± 11.2 Y 974.4 ± 17.7 km **N**



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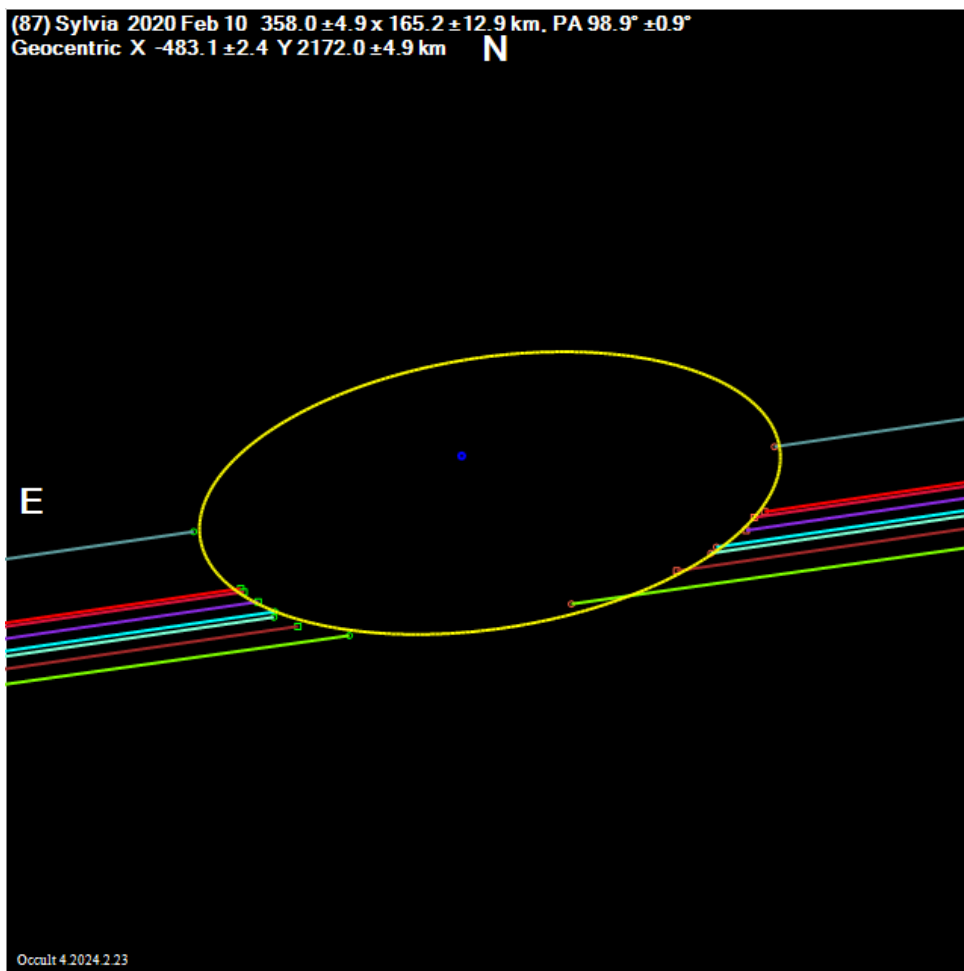
87_Sylvia_2019Oct29

(87) Sylvia 2019 Oct 29 277.6 x 233.9 km, PA 59.1°
Geocentric X -5209.5 ± 0.6 Y 3880.8 ± 0.7 km **N**
Sat: (87) 1 = Romulus 36.0 x 20.0 km, PA 291.0°; Sep 0.5130" at PA 74.9°



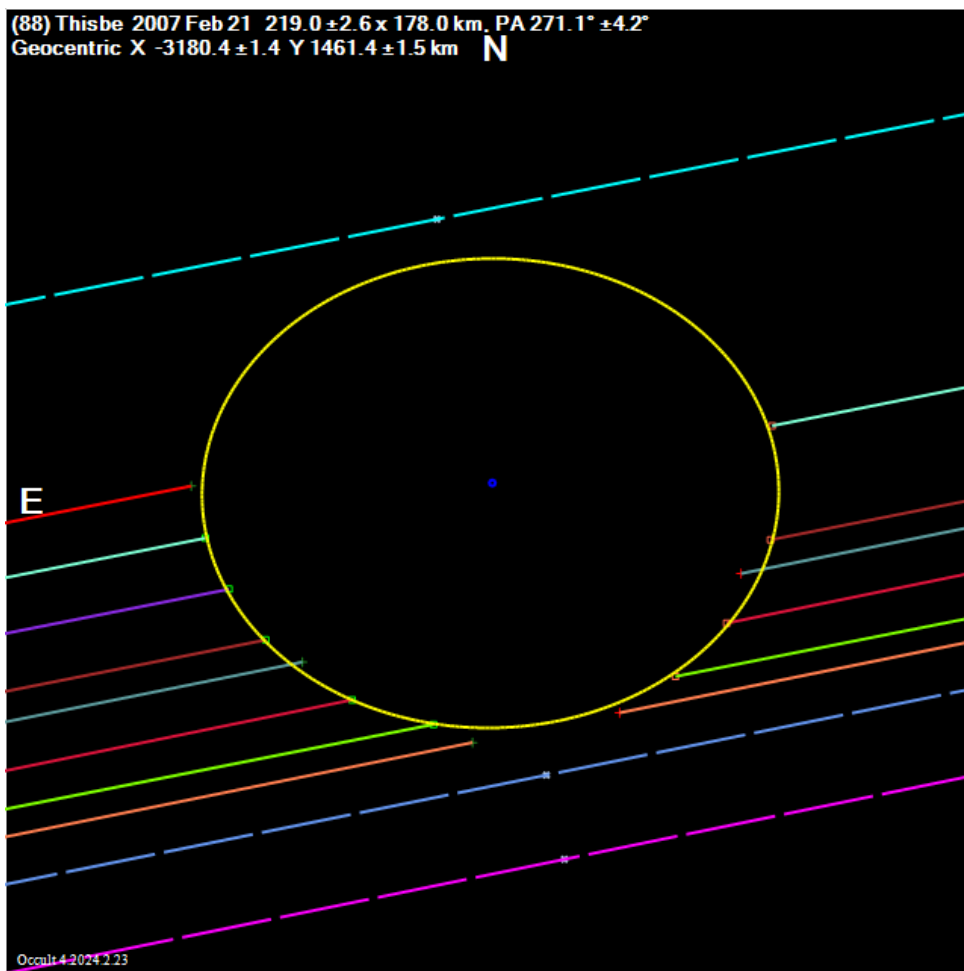
87_Sylvia_2020Feb10

(87) Sylvia 2020 Feb 10 $358.0 \pm 4.9 \times 165.2 \pm 12.9$ km, PA $98.9^\circ \pm 0.9^\circ$
Geocentric X -483.1 ± 2.4 Y 2172.0 ± 4.9 km **N**



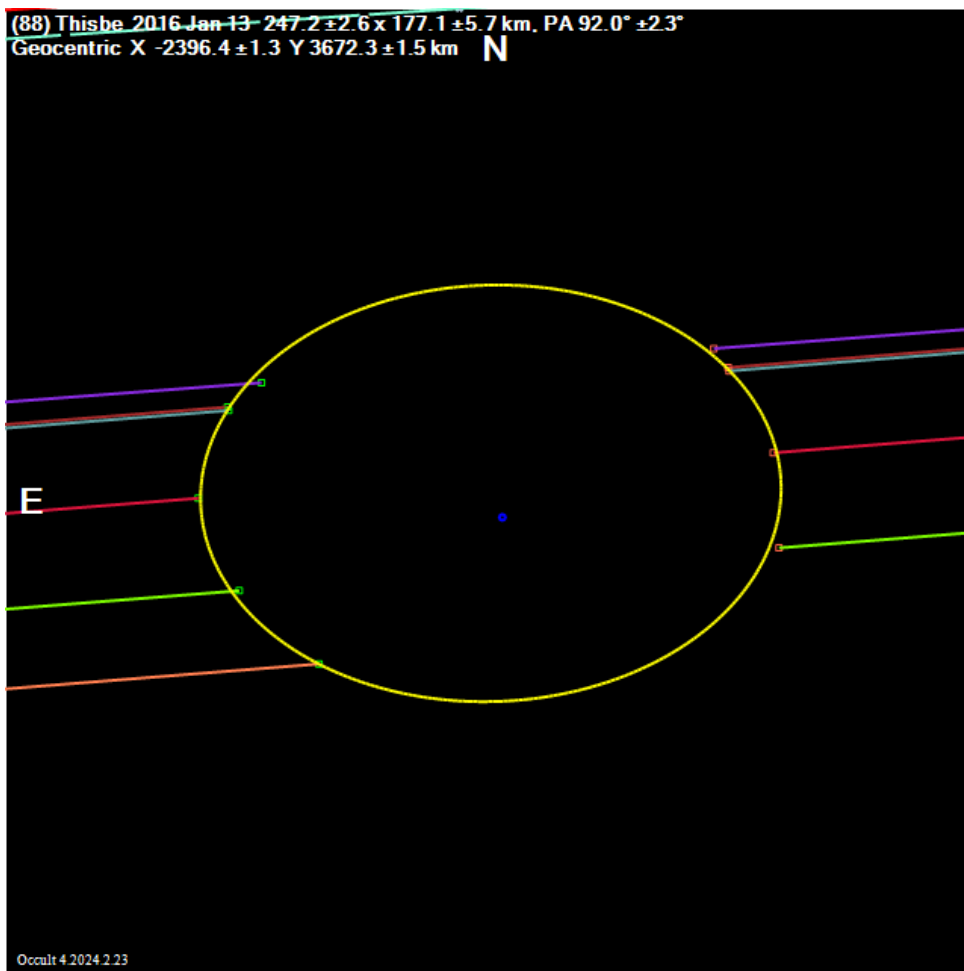
88_Thisbe_2007Feb21

(88) Thisbe 2007 Feb 21 219.0 ± 2.6 x 178.0 km PA 271.1° ± 4.2°
Geocentric X -3180.4 ± 1.4 Y 1461.4 ± 1.5 km N



88_Thisbe_2016Jan13

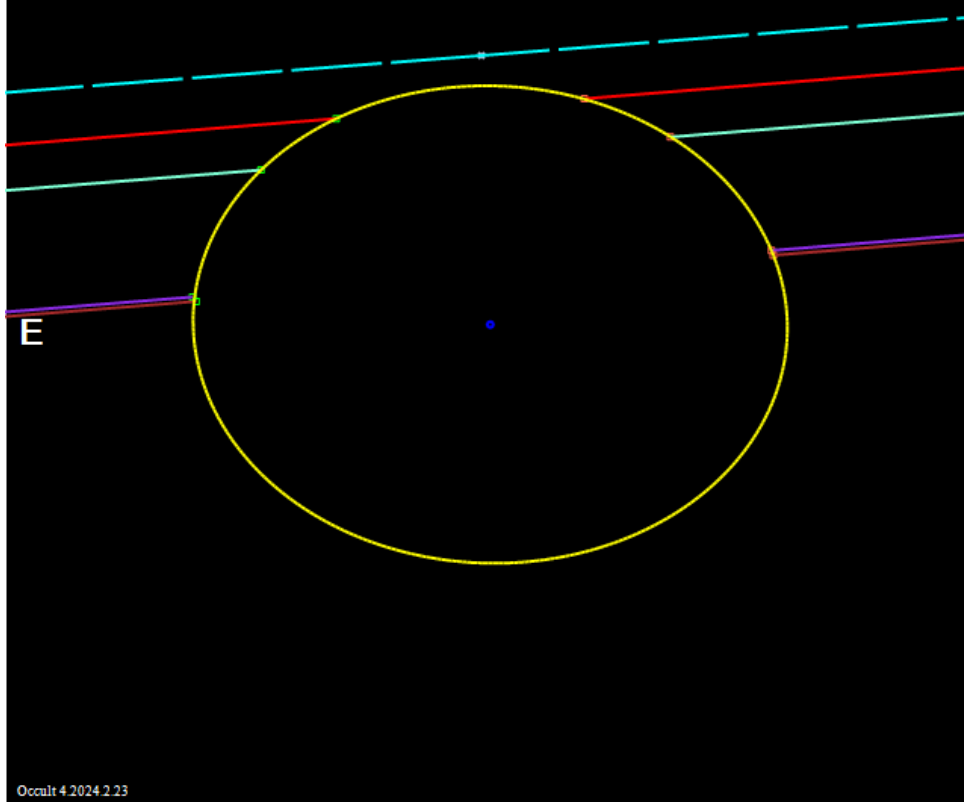
(88) Thisbe 2016 Jan 13 - $247.2 \pm 2.6 \times 177.1 \pm 5.7$ km, PA $92.0^\circ \pm 2.3^\circ$
Geocentric X -2396.4 ± 1.3 Y 3672.3 ± 1.5 km **N**



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88_Thisbe_2016Jan14

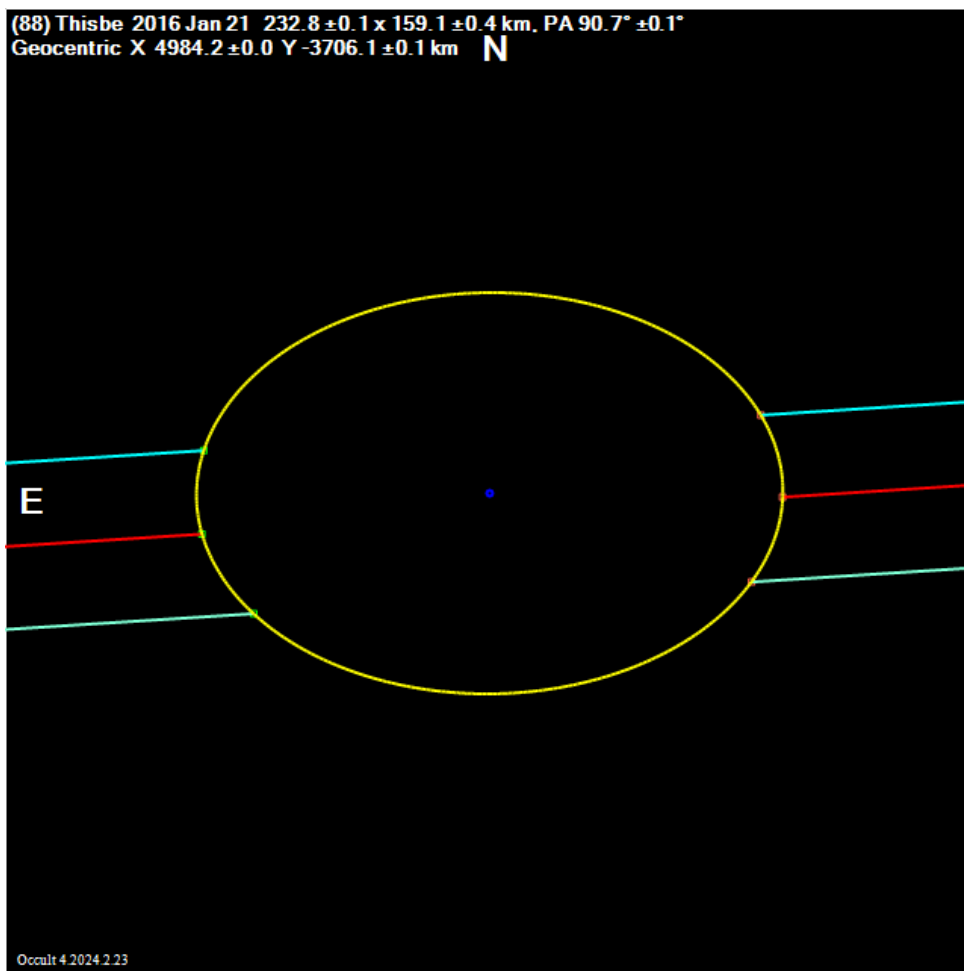
(88) Thisbe 2016 Jan 14 $226.6 \pm 1.8 \times 181.8 \pm 8.2$ km, PA $88.2^\circ \pm 1.6^\circ$
Geocentric X -3471.5 ± 0.6 Y 3708.1 ± 3.7 km **N**



Occult 4.2024.2.23

88_Thisbe_2016Jan21

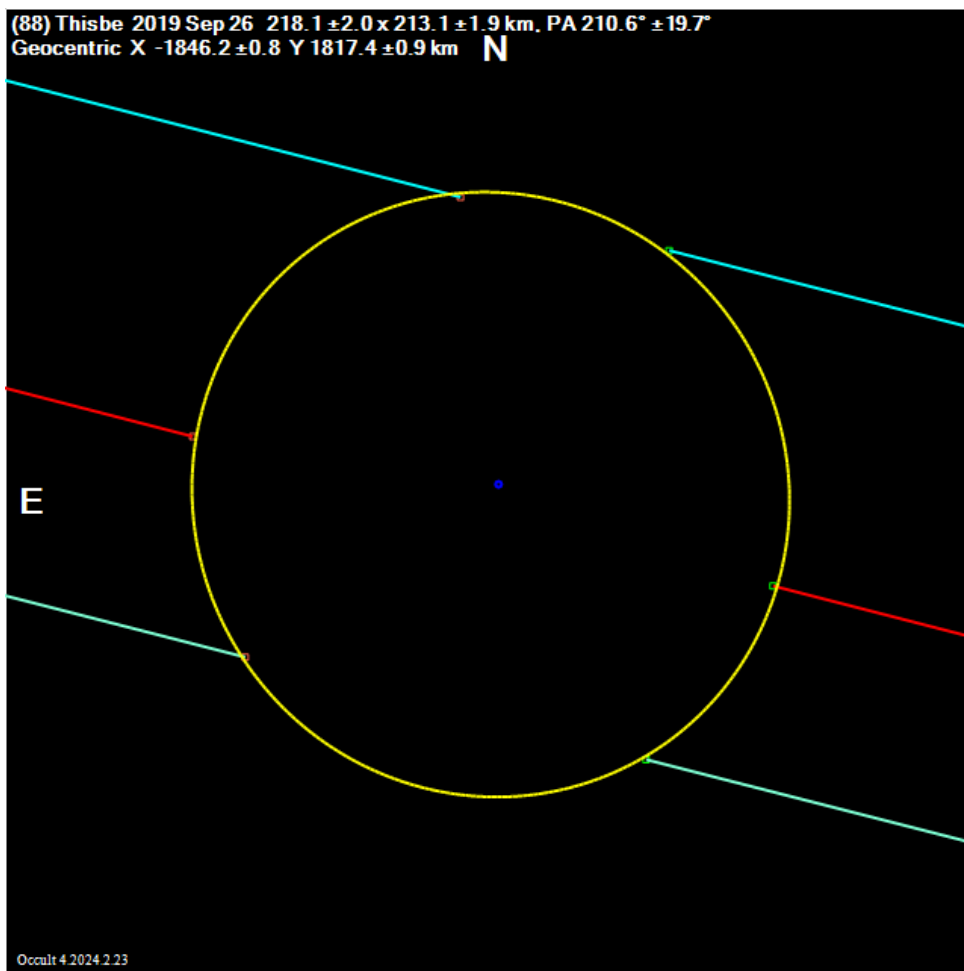
(88) Thisbe 2016 Jan 21 $232.8 \pm 0.1 \times 159.1 \pm 0.4$ km, PA $90.7^\circ \pm 0.1^\circ$
Geocentric X 4984.2 ± 0.0 Y -3706.1 ± 0.1 km **N**



Occult 4.2024.2.23

88_Thisbe_2019Sep26

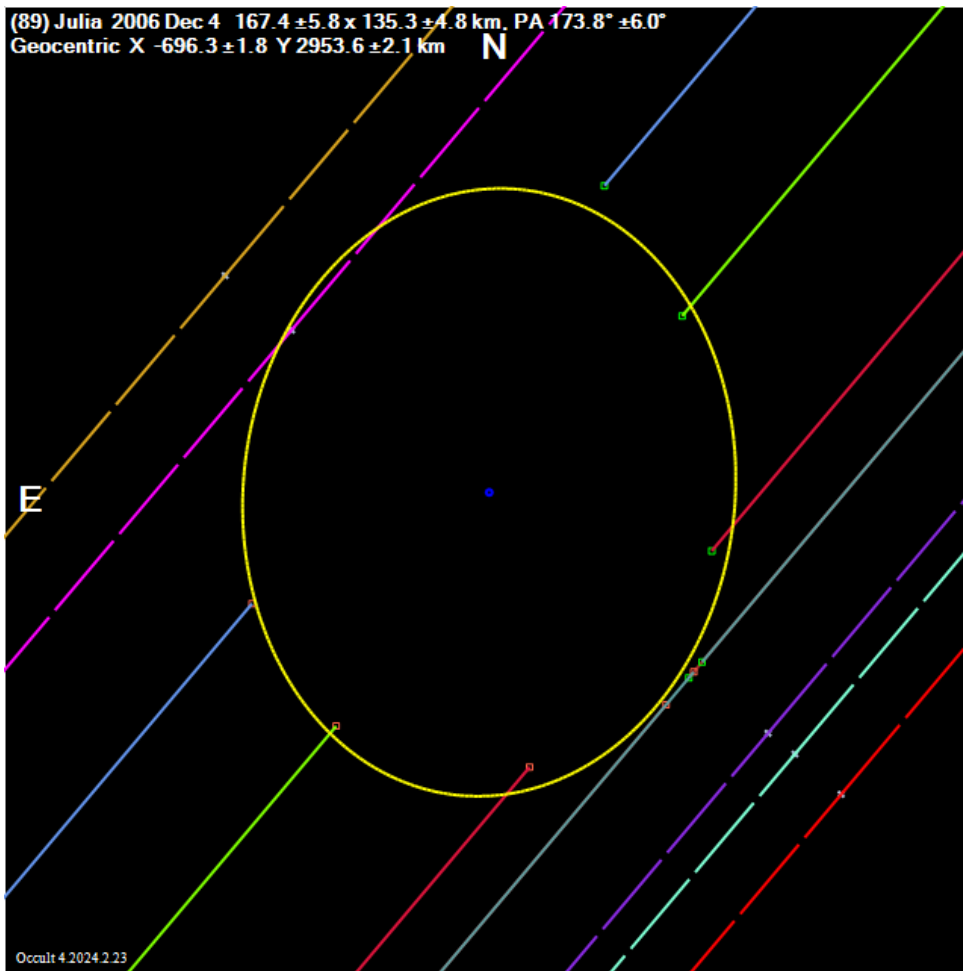
(88) Thisbe 2019 Sep 26 $218.1 \pm 2.0 \times 213.1 \pm 1.9$ km, PA $210.6^\circ \pm 19.7^\circ$
Geocentric X -1846.2 ± 0.8 Y 1817.4 ± 0.9 km **N**



Occult 4.2024.2.23

89_Julia_2006Dec04

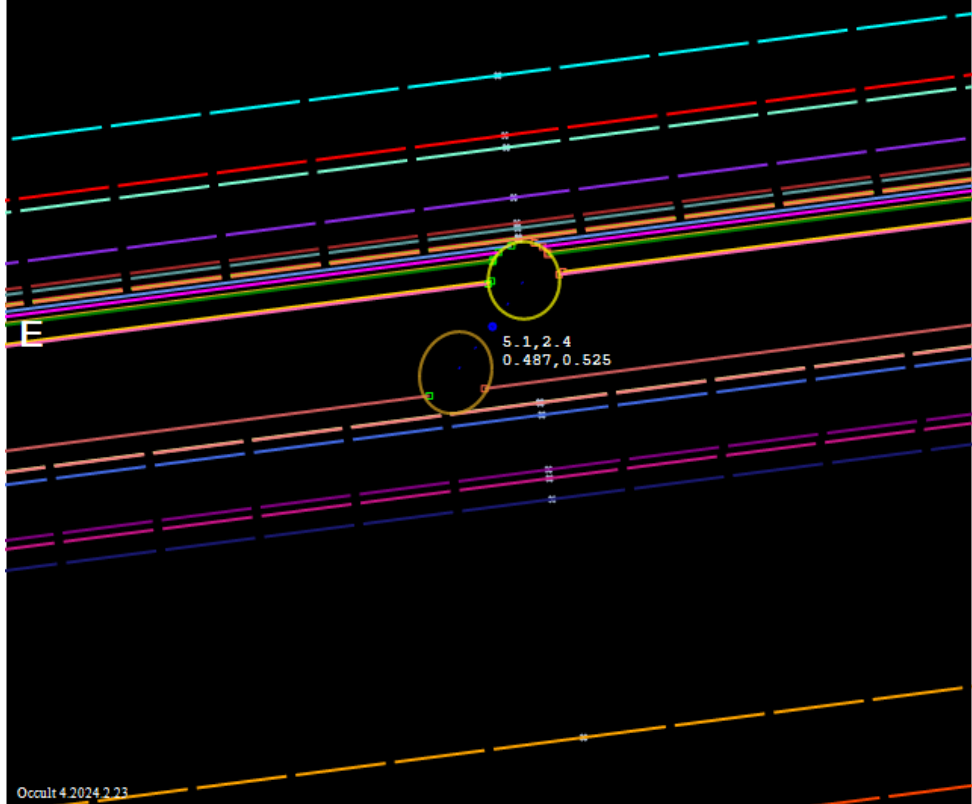
(89) Julia 2006 Dec 4 $167.4 \pm 5.8 \times 135.3 \pm 4.8$ km, PA $173.8^\circ \pm 6.0^\circ$
Geocentric X -696.3 ± 1.8 Y 2953.6 ± 2.1 km N



Occult 4.2024.2.23

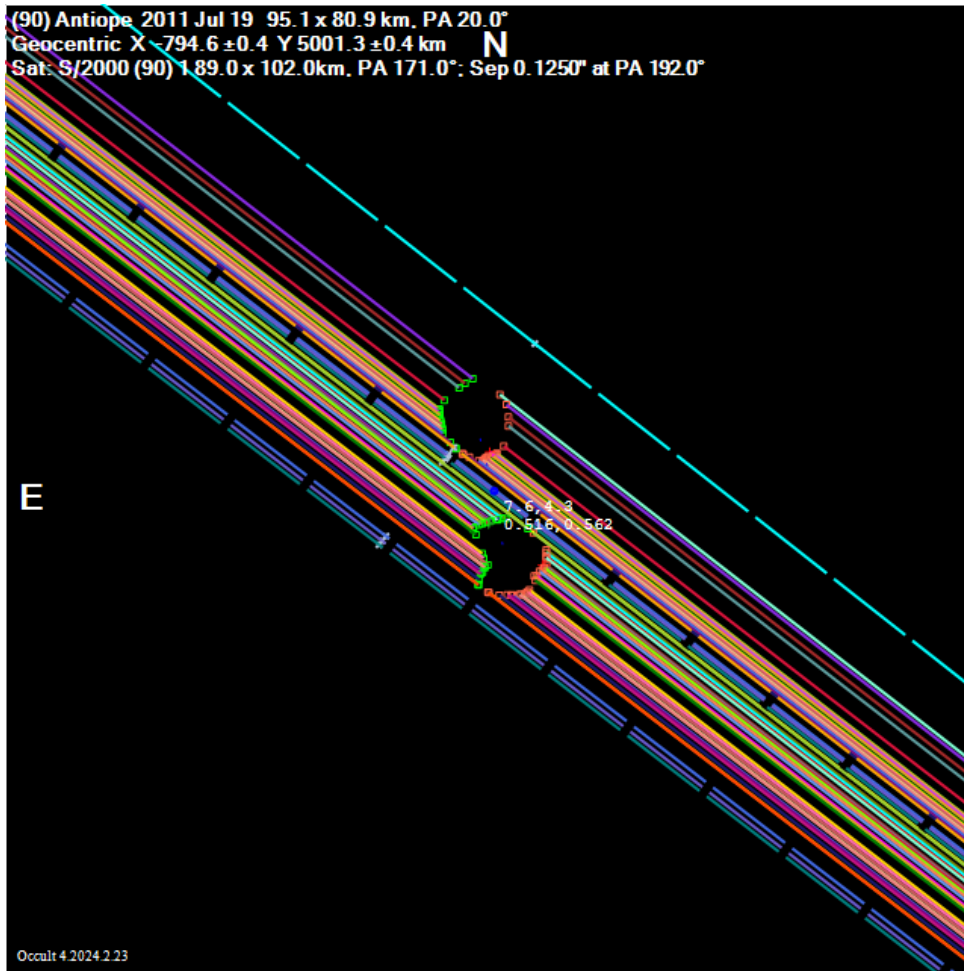
90_Antiope_2008Jan02

(90) Antiope 2008 Jan 2 88.2 x 81.8 km, PA 180.2°
Geocentric X 3260.5 ± 0.7 Y 1745.7 ± 1.0 km **N**
Sat: S/2000 (90) 1 95.0 x 81.0 km, PA 340.0°: Sep 0.0700" at PA 143.5°



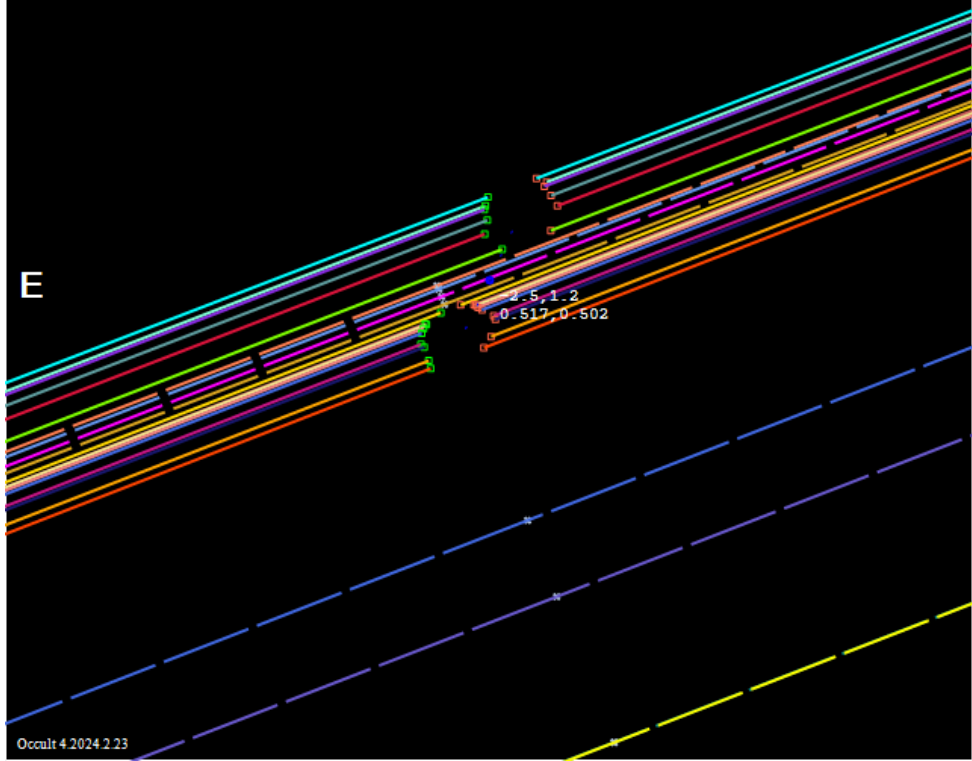
90_Antiope_2011Jul19

(90) Antiope 2011 Jul 19 95.1 x 80.9 km, PA 20.0°
Geocentric X -794.6 ± 0.4 Y 5001.3 ± 0.4 km N
Sat: S/2000 (90) 1.89.0 x 102.0km, PA 171.0°; Sep 0.1250" at PA 192.0°



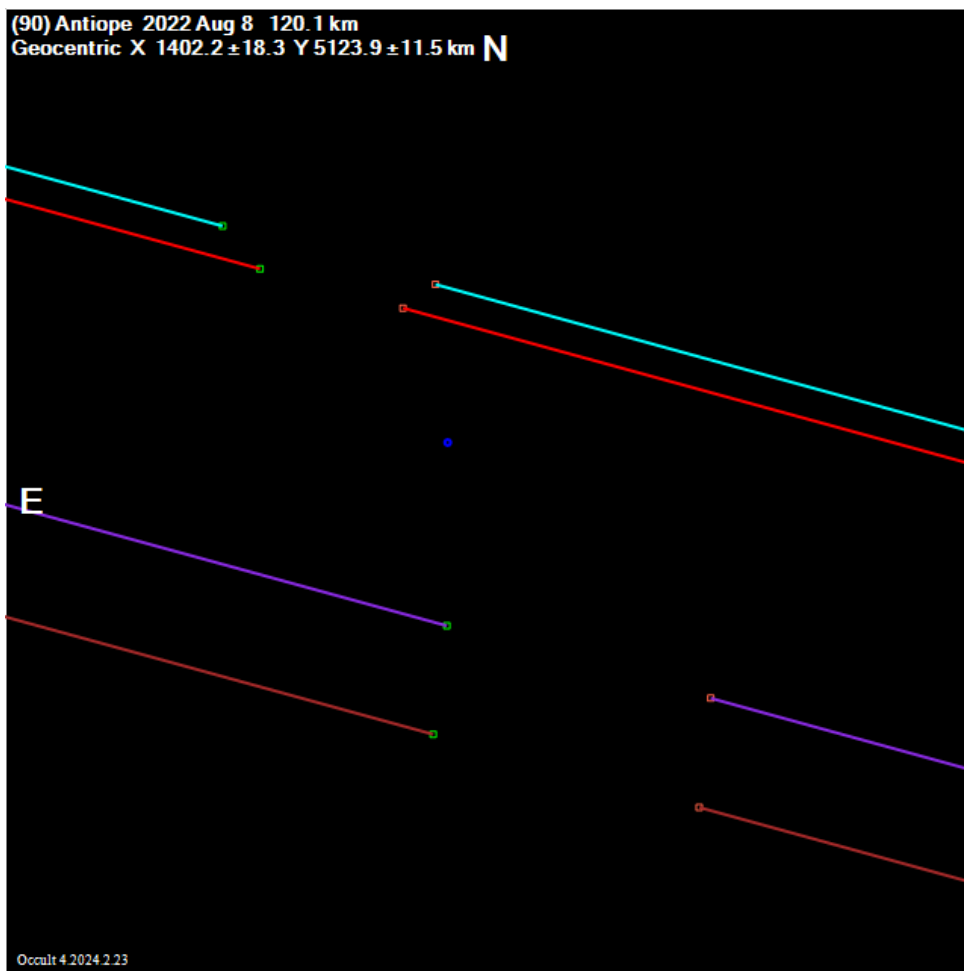
90_Antiope_2015Apr02

(90) Antiope 2015 Apr 2 87.8 ± 5.0 x 86.2 ± 2.4 km, PA 12.4° ± 79.8°
Geocentric X -2595.7 ± 1.1 Y 3790.6 ± 1.7 km N
Sat: S/2000 (90) 1 93.7 x 81.0 km, PA 316.3°; Sep 0.0920" at PA 154.5°

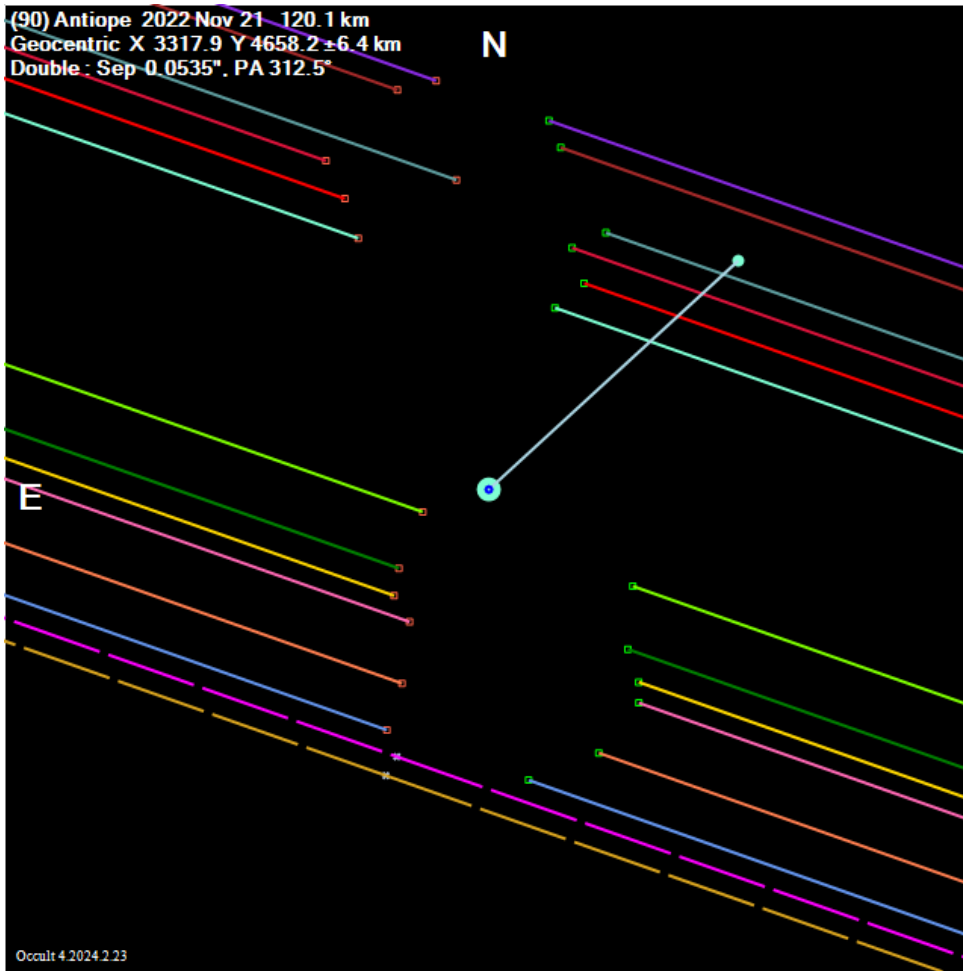


90_Antiope_2022Aug08

(90) Antiope 2022 Aug 8 120.1 km
Geocentric X 1402.2 ± 18.3 Y 5123.9 ± 11.5 km **N**

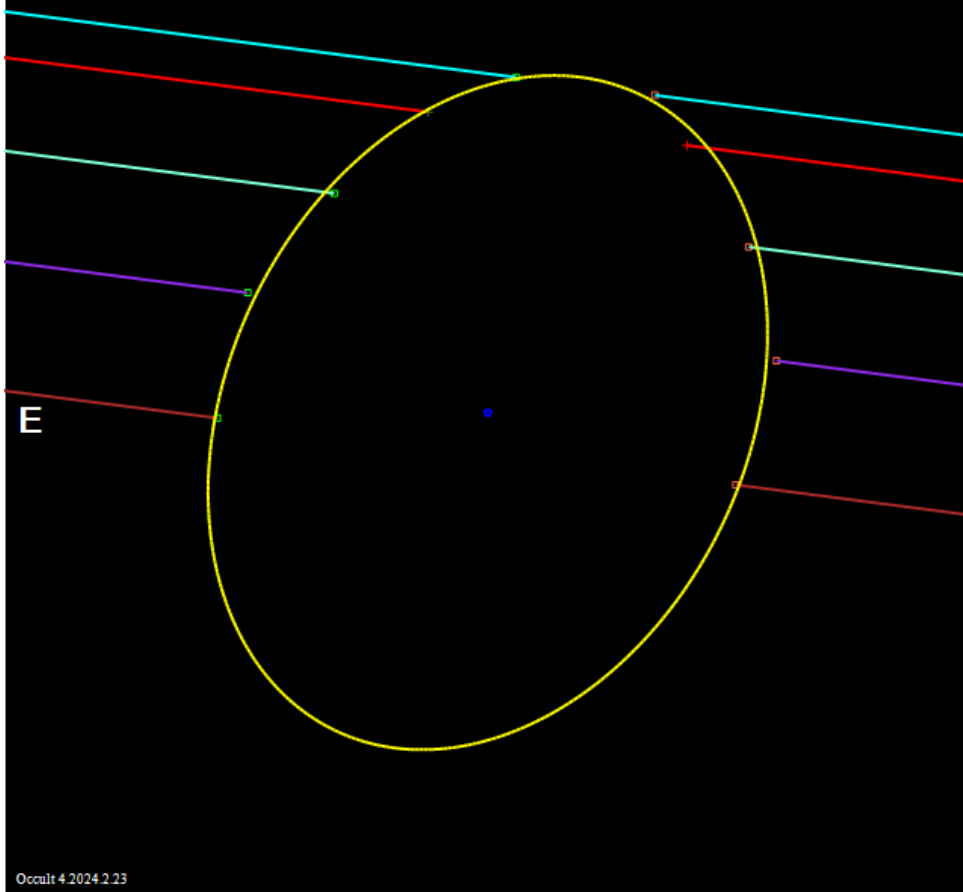


90_Antiope_2022Nov21



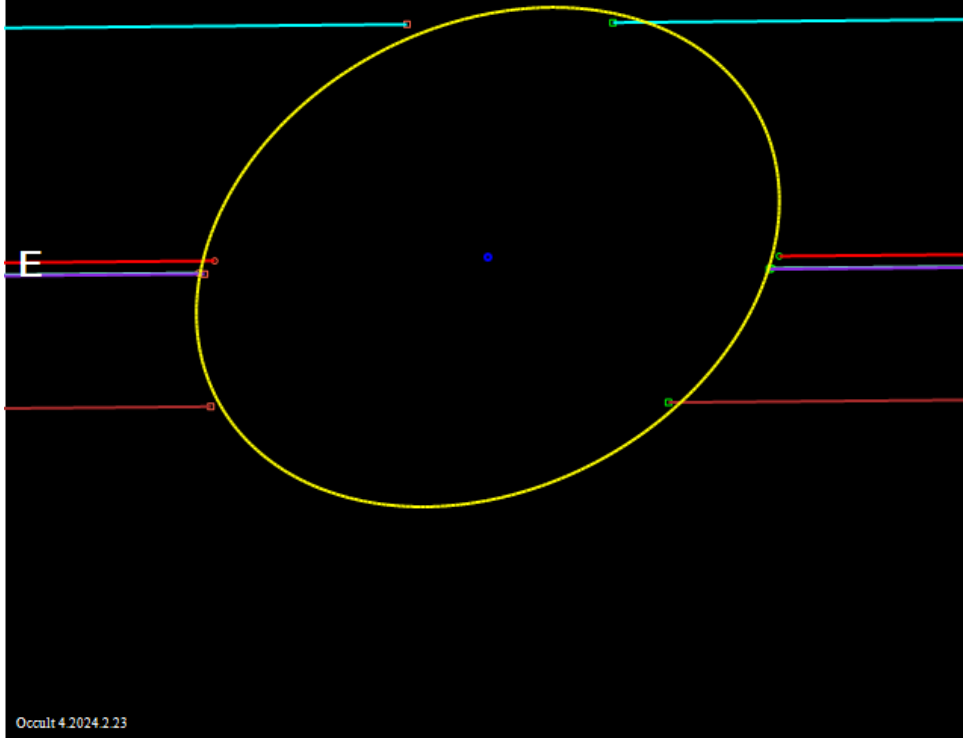
91_Aegina_2011Jul27

(91) Aegina 2011 Jul 27 $130.3 \pm 8.2 \times 96.1 \pm 1.5$ km, PA $154.2^\circ \pm 3.8^\circ$
Geocentric X -3910.8 ± 1.2 Y -985.3 ± 3.7 km **N**



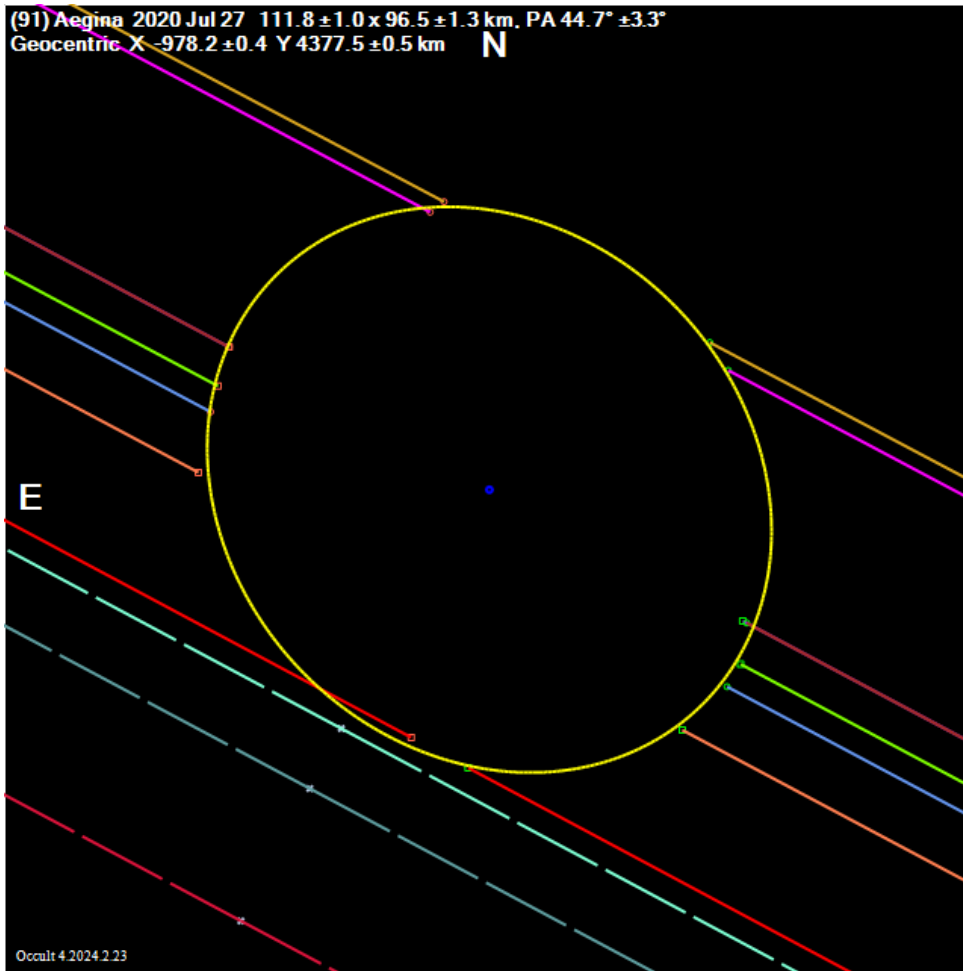
91_Aegina_2019Sep11

(91) Aegina 2019 Sep 11 $122.5 \pm 2.3 \times 92.8 \pm 2.4$ km, PA $117.6^\circ \pm 3.5^\circ$
Geocentric X 3136.4 ± 0.7 Y 5401.0 ± 1.2 km N



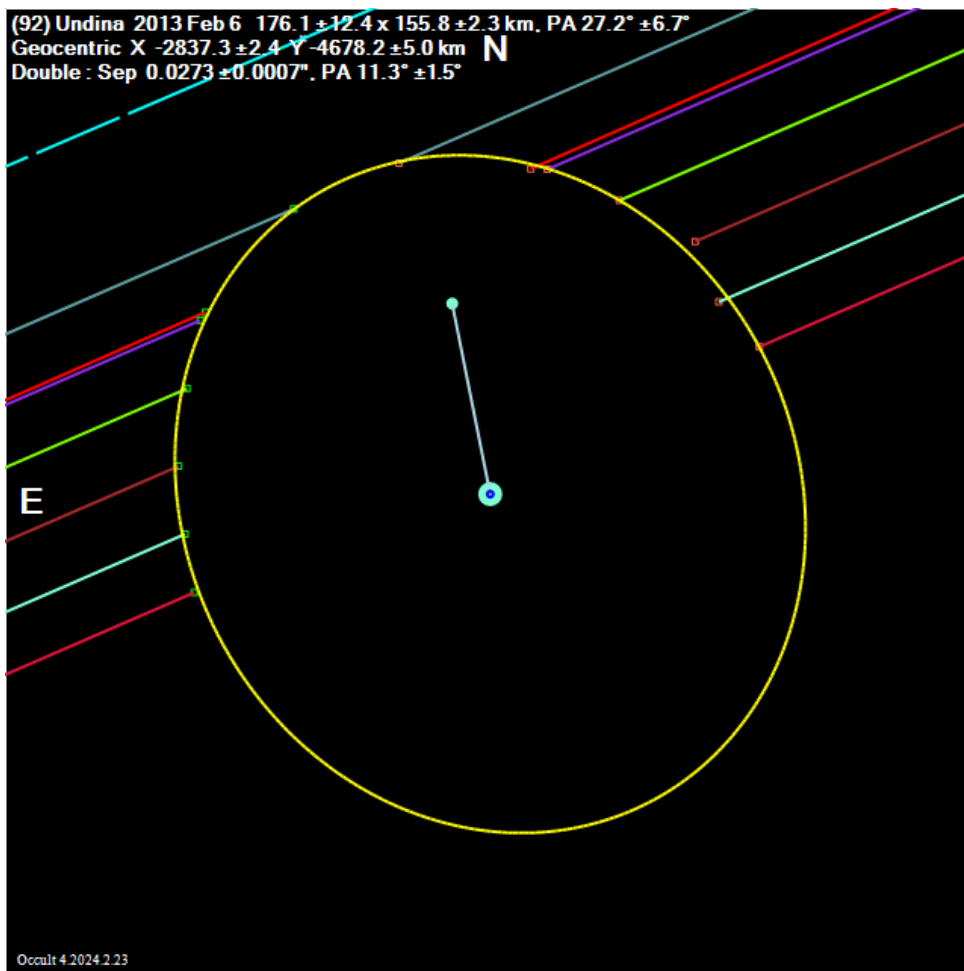
91_Aegina_2020Jul27

(91) Aegina 2020 Jul 27 111.8 ± 1.0 × 96.5 ± 1.3 km, PA 44.7° ± 3.3°
Geocentric X -978.2 ± 0.4 Y 4377.5 ± 0.5 km N



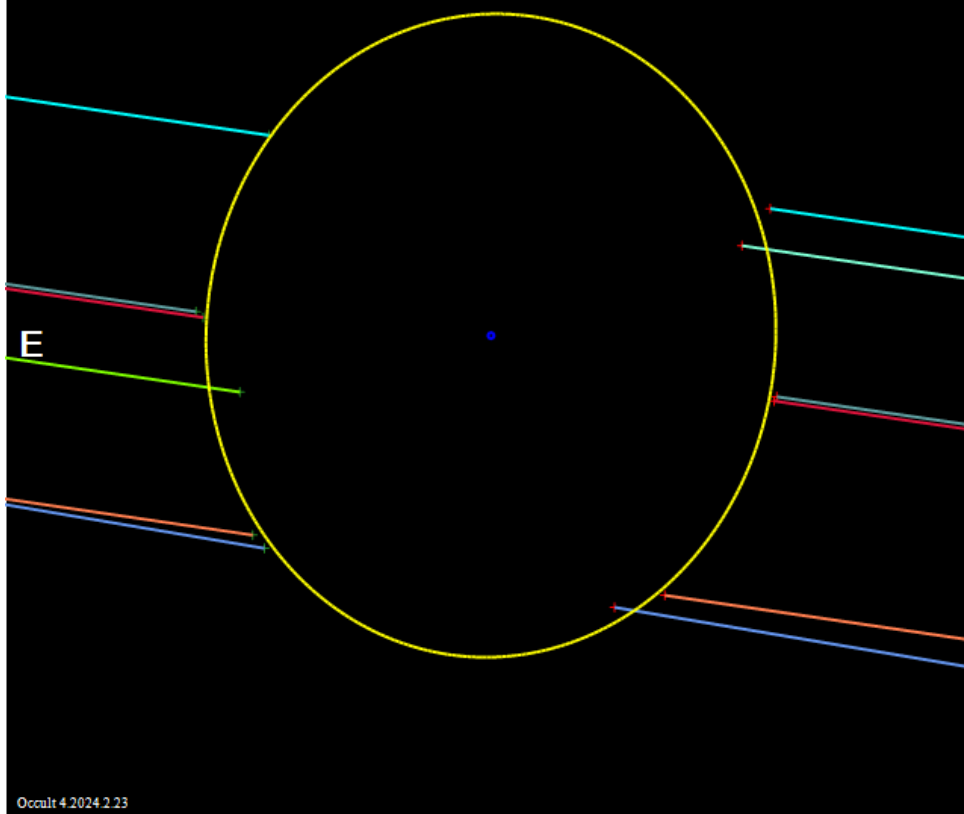
92_Undina_2013Feb06

(92) Undina 2013 Feb 6 $176.1 \pm 12.4 \times 155.8 \pm 2.3$ km, PA $27.2^\circ \pm 6.7^\circ$
Geocentric X -2837.3 ± 2.4 Y -4678.2 ± 5.0 km **N**
Double : Sep $0.0273 \pm 0.0007''$, PA $11.3^\circ \pm 1.5^\circ$



93_Minerva_1982Nov22

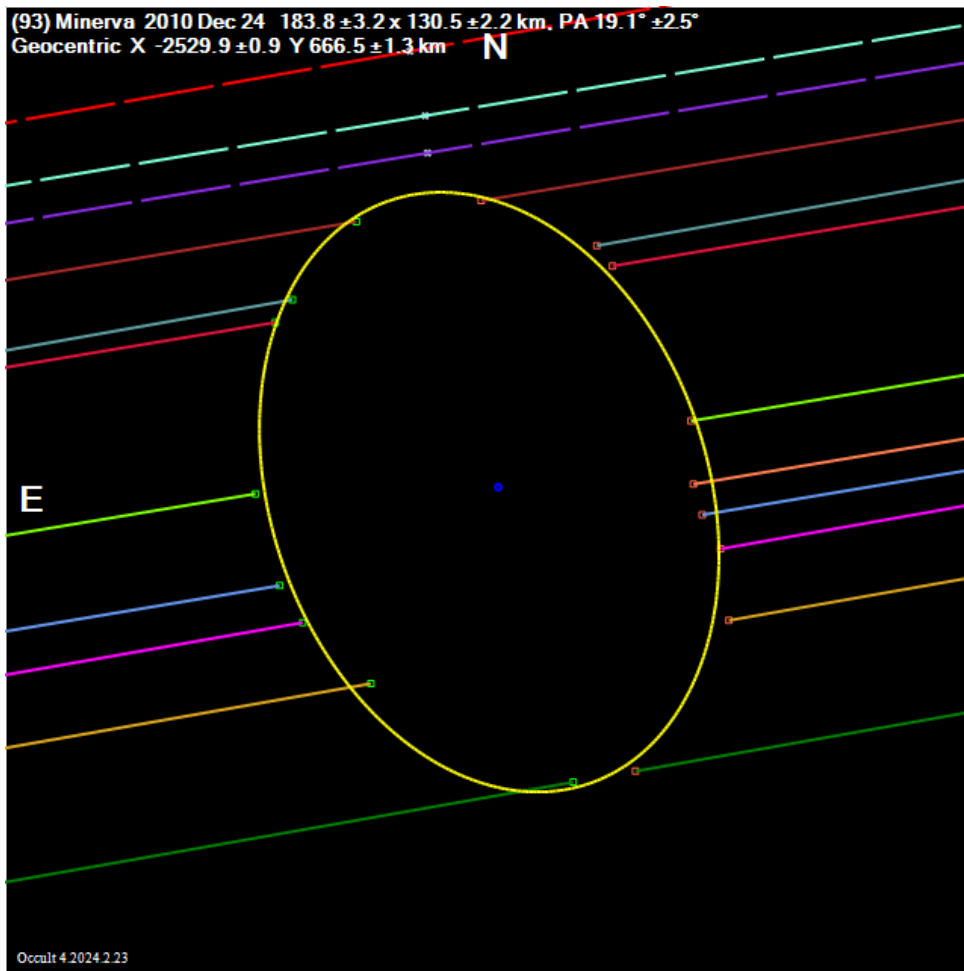
(93) Minerva 1982 Nov 22 183.4 ± 11.4 x 162.4 ± 3.4 km. PA 355.7° ± 9.2°
Geocentric X -2673.2 ± 1.3 Y 1486.9 ± 3.5 km N



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93_Minerva_2010Dec24

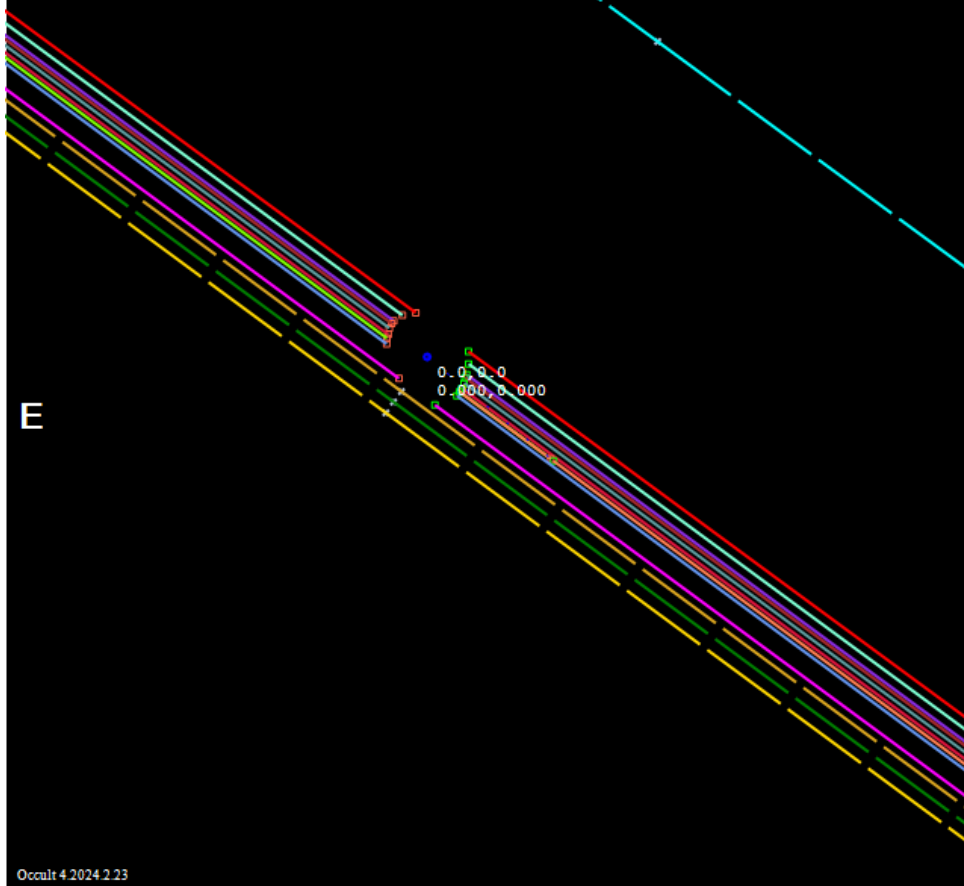
(93) Minerva 2010 Dec 24 $183.8 \pm 3.2 \times 130.5 \pm 2.2$ km, PA $19.1^\circ \pm 2.5^\circ$
Geocentric X -2529.9 ± 0.9 Y 666.5 ± 1.3 km **N**



Occult 4.2024.2.23

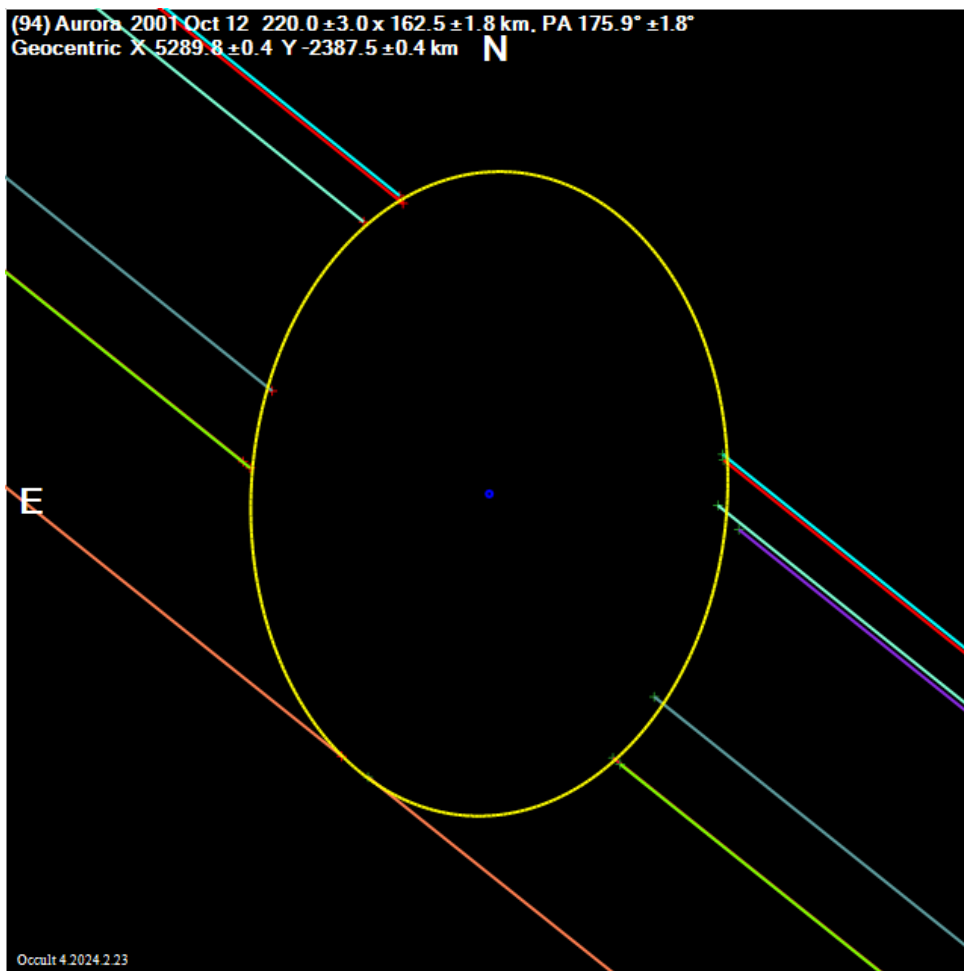
93_Minerva_2014Sep06

(93) Minerva 2014 Sep 6 $189.4 \pm 2.1 \times 146.3 \pm 3.2$ km, PA $31.0^\circ \pm 2.8^\circ$
Geocentric X -3254.0 ± 0.8 Y 2929.1 ± 1.2 km N
Sat: (93) 2 = Gorgoneion 6.5×6.5 km, PA 0.0° : Sep 0.1662^h at PA 230.5°



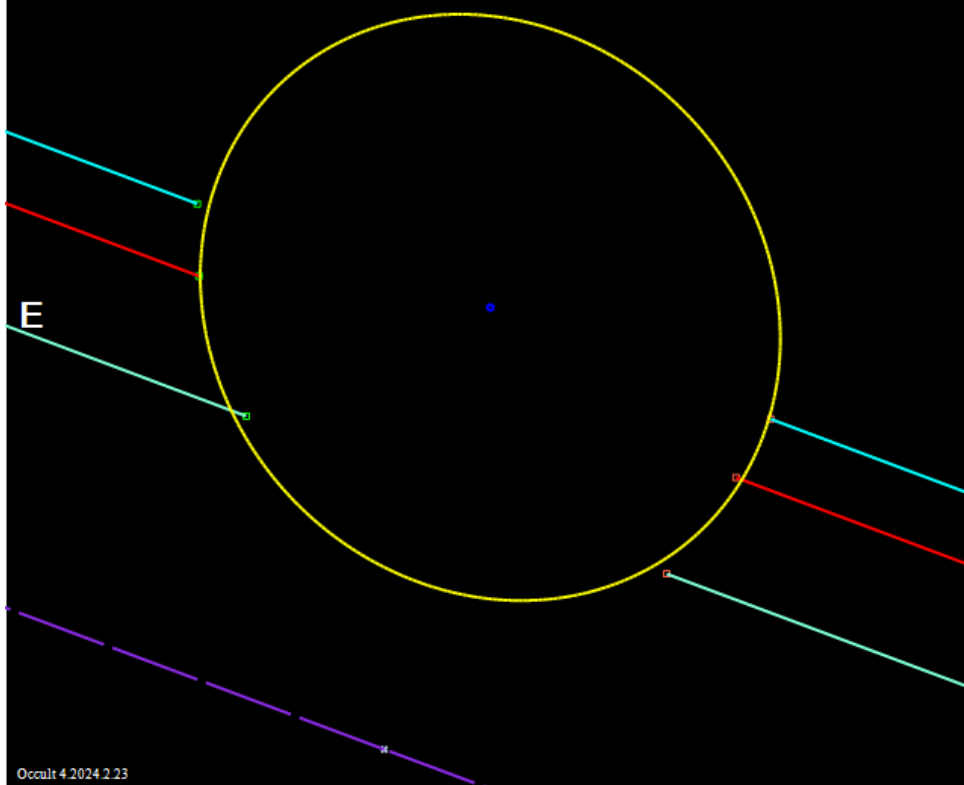
94_Aurora_2001Oct12

(94) Aurora_2001 Oct 12 220.0 ±3.0 x 162.5 ±1.8 km. PA 175.9° ±1.8°
Geocentric X 5289.8 ±0.4 Y -2387.5 ±0.4 km **N**



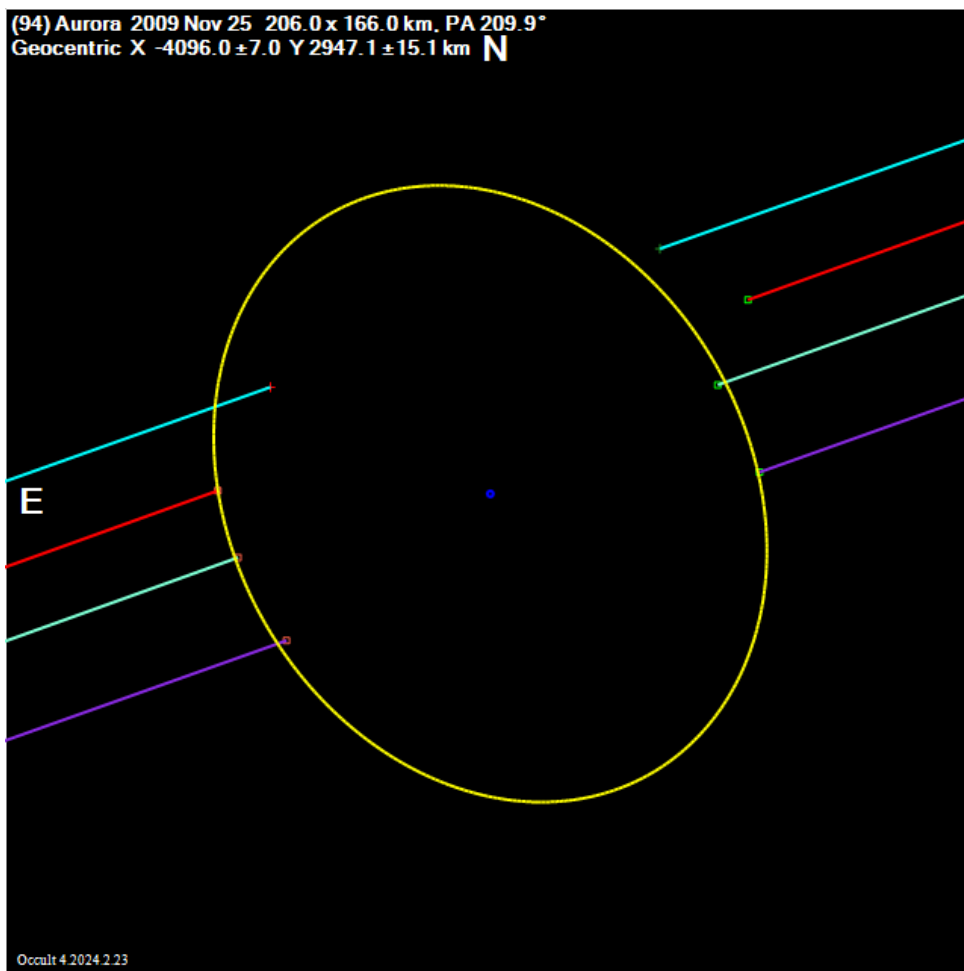
94_Aurora_2004Feb26

(94) Aurora 2004 Feb 26 $196.0 \pm 17.2 \times 176.0 \pm 37.7$ km, PA $42.4^\circ \pm 62.3^\circ$
Geocentric X 4295.9 ± 4.9 Y 1832.4 ± 16.9 km **N**



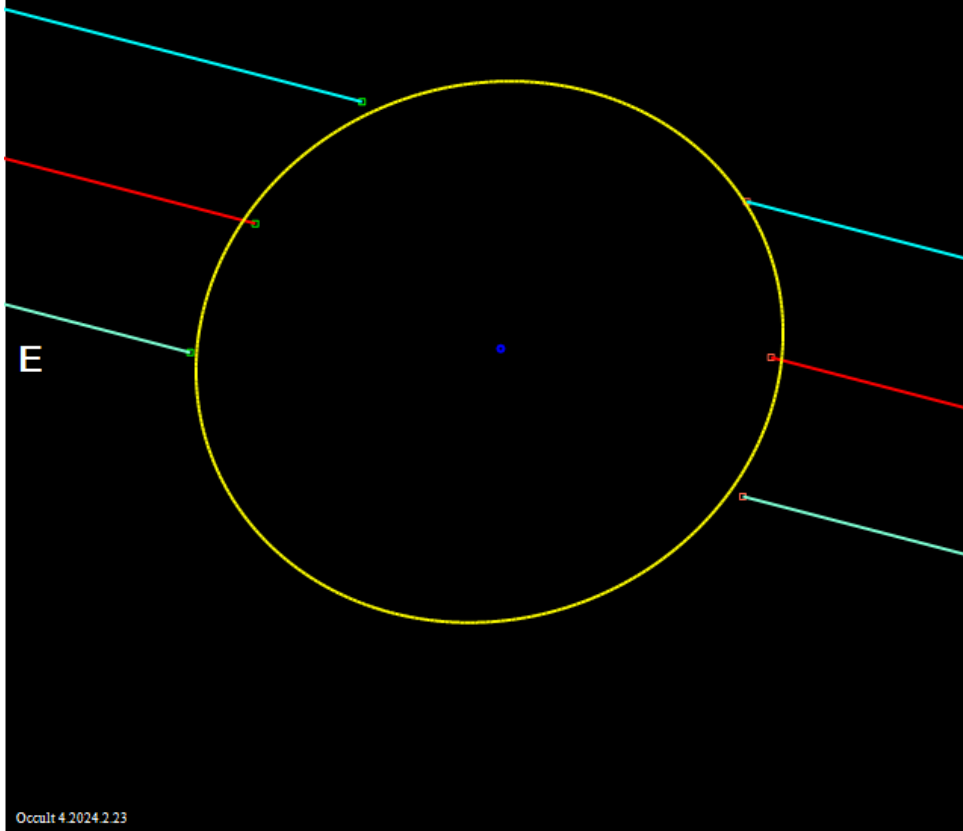
94_Aurora_2009Nov25

(94) Aurora 2009 Nov 25 206.0 x 166.0 km. PA 209.9°
Geocentric X -4096.0 ± 7.0 Y 2947.1 ± 15.1 km **N**



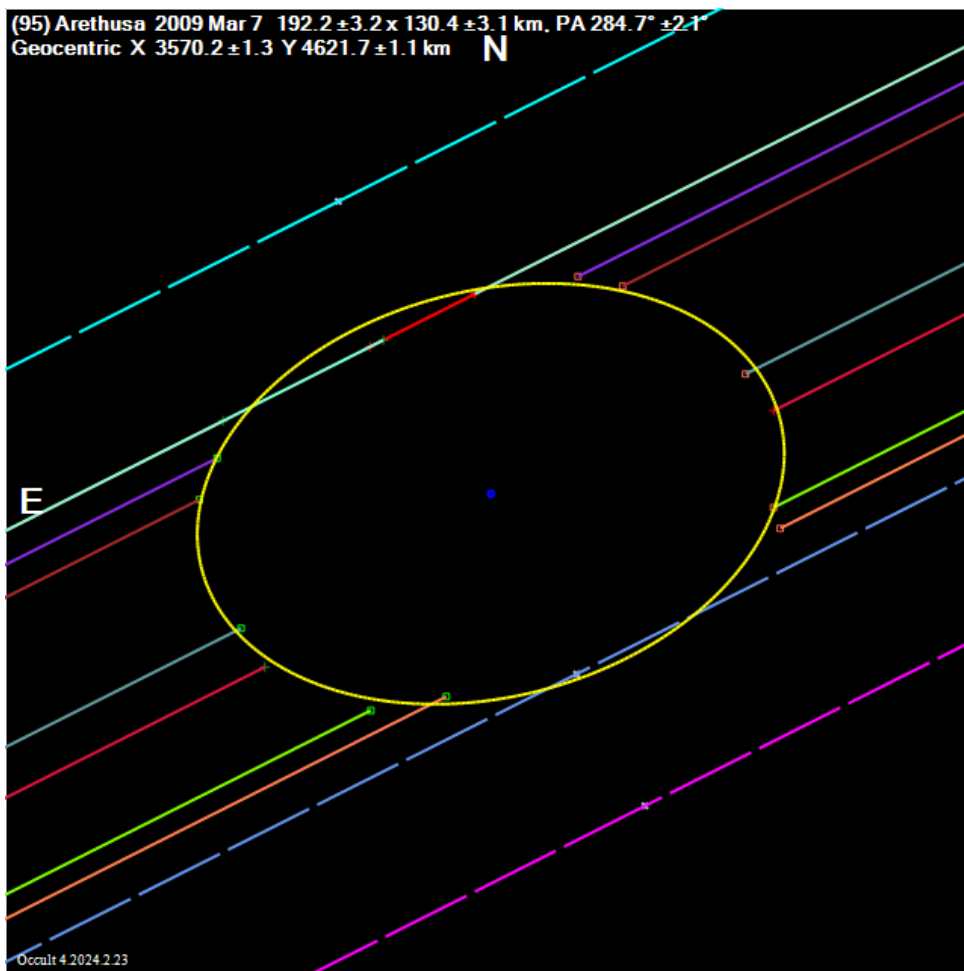
94_Aurora_2012Jun23

(94) Aurora 2012 Jun 23 $196.0 \pm 7.9 \times 176.0 \pm 12.7$ km, PA $110.1^\circ \pm 31.6^\circ$
Geocentric X 3906.4 ± 2.7 Y -507.8 ± 5.9 km N



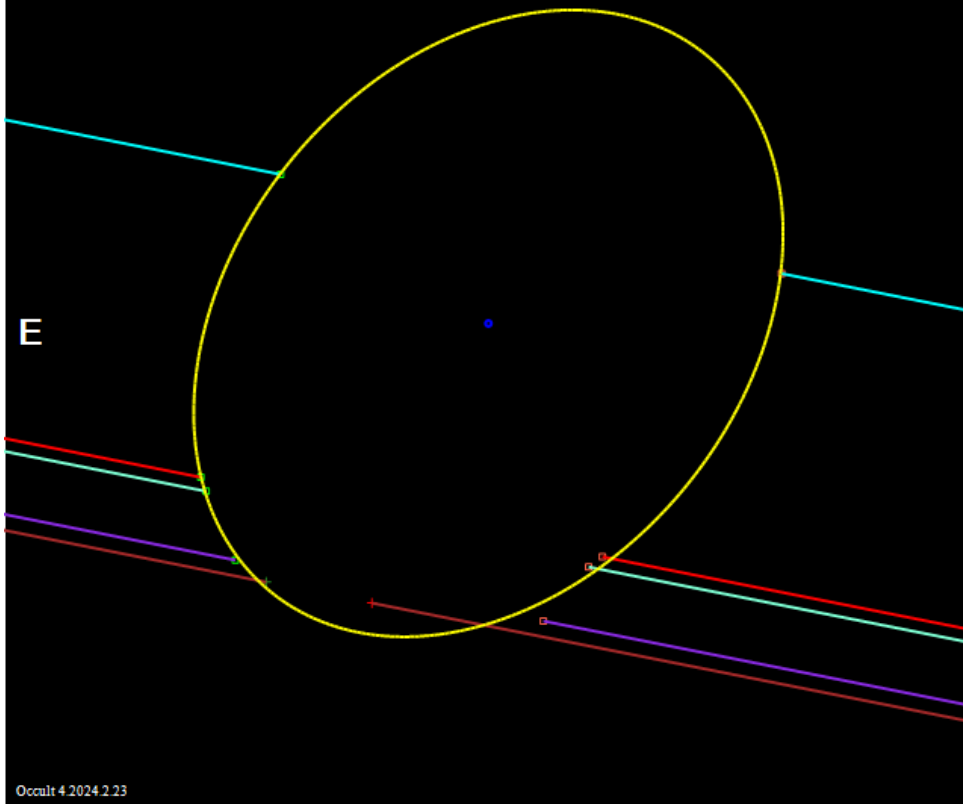
95_Arethusa_2009Mar07

(95) Arethusa 2009 Mar 7 $192.2 \pm 3.2 \times 130.4 \pm 3.1$ km. PA $284.7^\circ \pm 2.1^\circ$
Geocentric X 3570.2 ± 1.3 Y 4621.7 ± 1.1 km N



95_Arethusa_2018Dec28

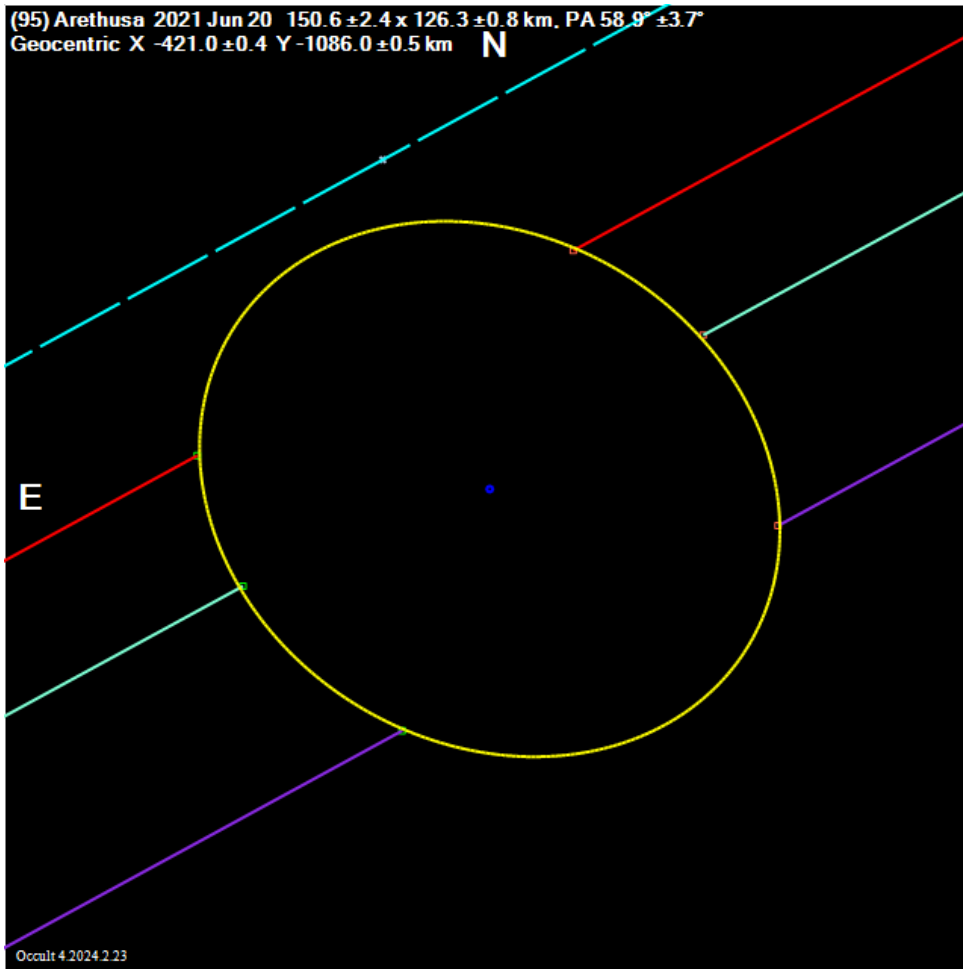
(95) Arethusa 2018 Dec 28 $173.0 \pm 14.2 \times 128.2 \pm 3.3$ km, PA $141.0^\circ \pm 8.3^\circ$
Geocentric X -212.2 ± 2.4 Y 3846.3 ± 5.1 km **N**



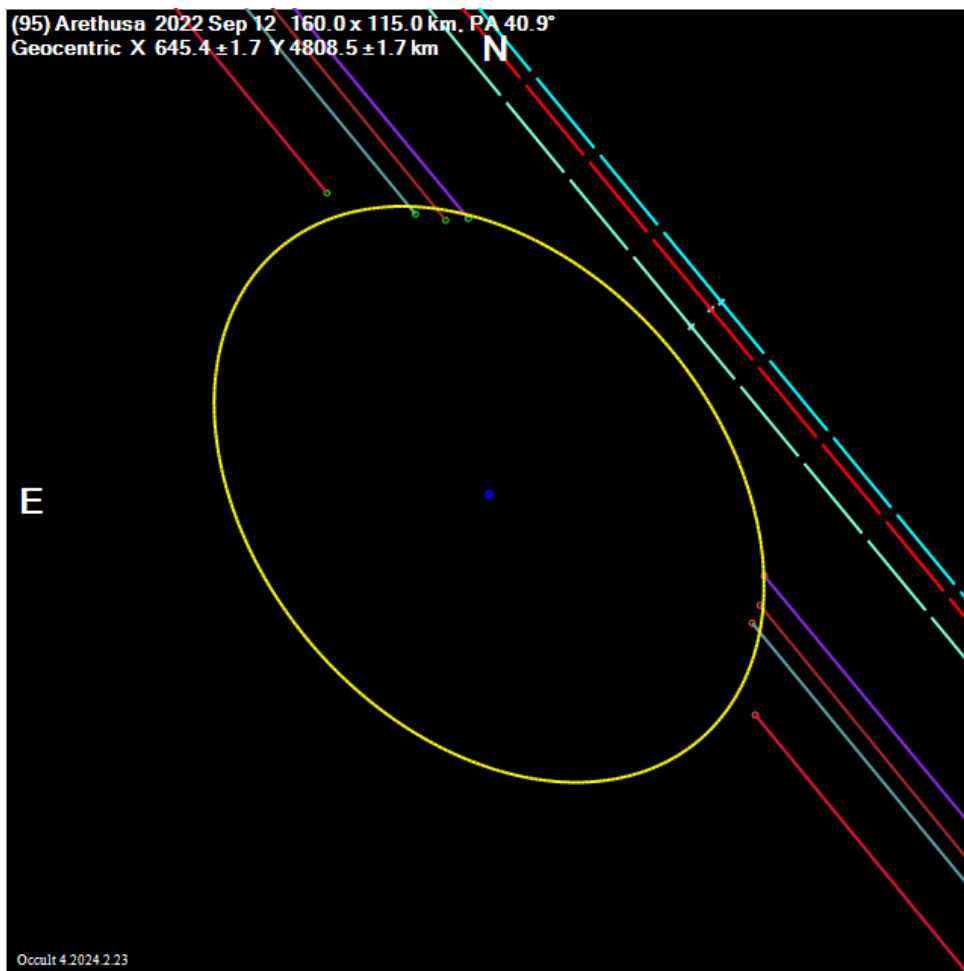
Occult 4.2024.2.23

95_Arethusa_2021Jun20

(95) Arethusa 2021 Jun 20 150.6 ±2.4 x 126.3 ±0.8 km, PA 58.9° ±3.7°
Geocentric X -421.0 ±0.4 Y -1086.0 ±0.5 km N

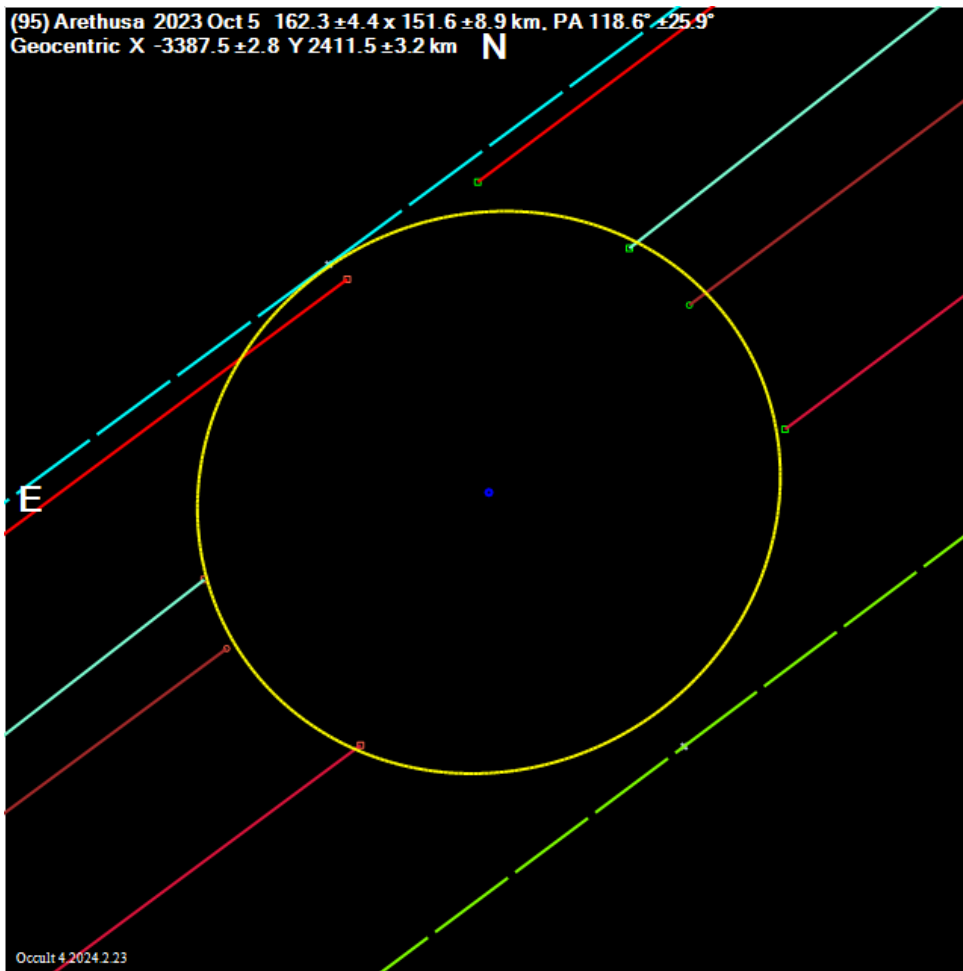


95_Arethusa_2022Sep12



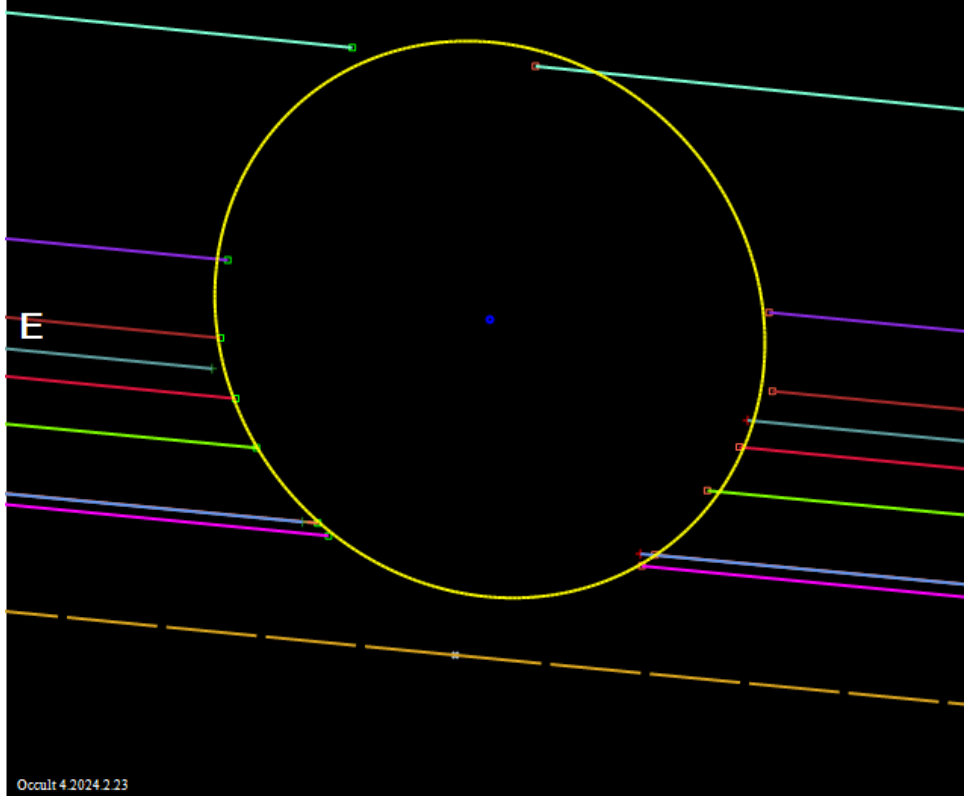
95_Arethusa_2023Oct05

(95) Arethusa 2023 Oct 5 $162.3 \pm 4.4 \times 151.6 \pm 8.9$ km, PA $118.6^\circ \pm 25.9^\circ$
Geocentric X -3387.5 ± 2.8 Y 2411.5 ± 3.2 km **N**



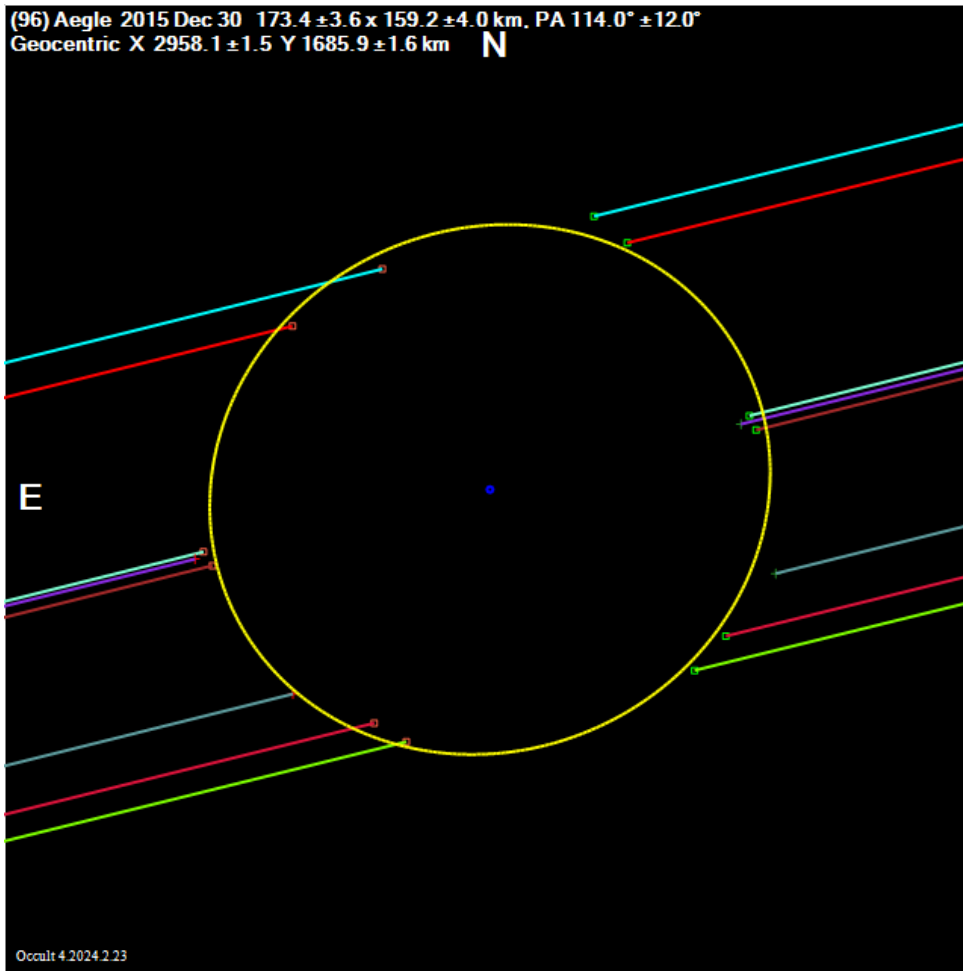
96_Aegle_2010Oct29

(96) Aegle 2010 Oct 29 $173.0 \pm 2.5 \times 158.9 \pm 2.7$ km, PA $41.2^\circ \pm 8.0^\circ$
Geocentric X 2823.4 ± 1.0 Y -189.5 ± 1.1 km N



96_Aegle_2015Dec30

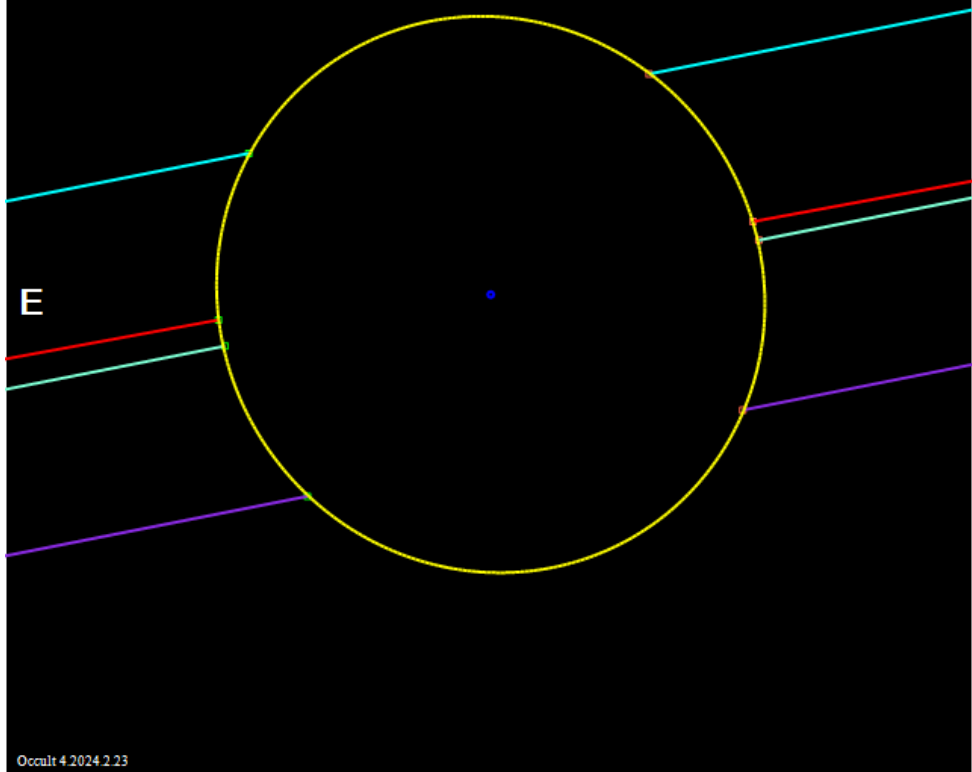
(96) Aegle 2015 Dec 30 173.4 ± 3.6 x 159.2 ± 4.0 km, PA 114.0° ± 12.0°
Geocentric X 2958.1 ± 1.5 Y 1685.9 ± 1.6 km N



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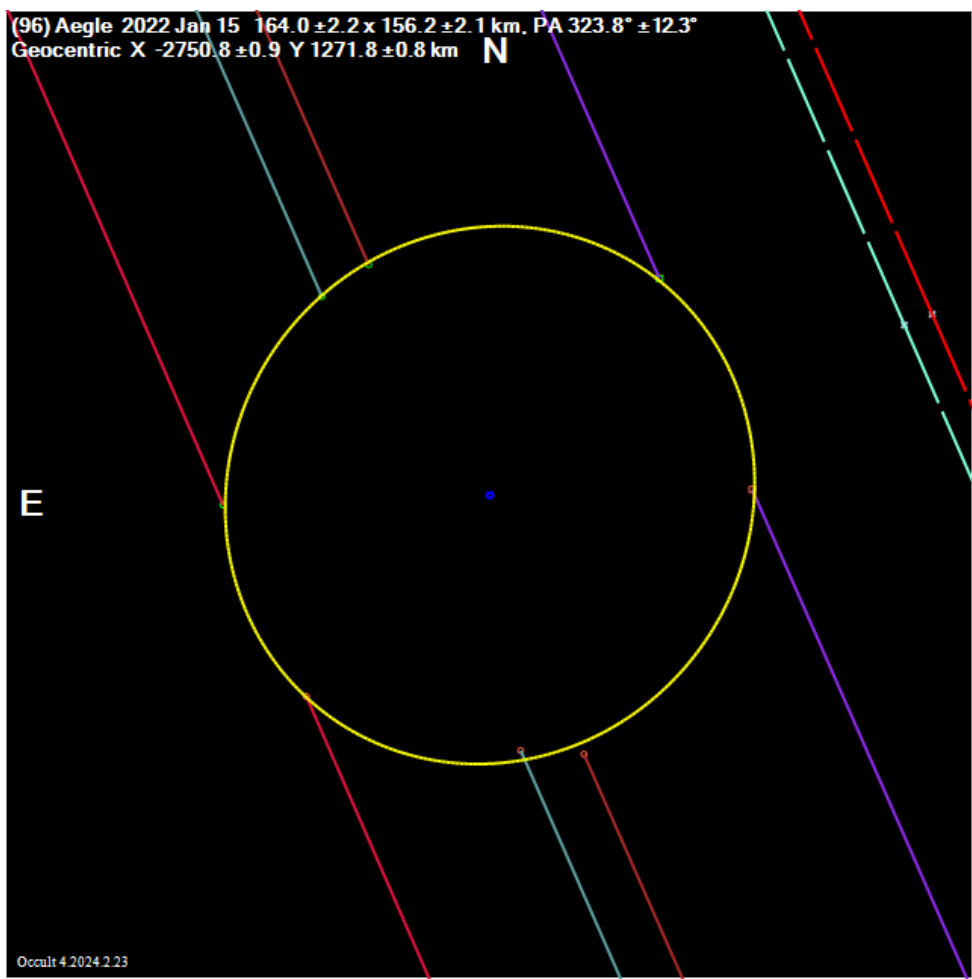
96_Aegle_2021Nov15

(96) Aegle 2021 Nov 15 168.8 ± 0.8 x 162.7 ± 0.3 km, PA 214.1° ± 4.2°
Geocentric X -3482.5 ± 0.1 Y -188.9 ± 0.2 km N



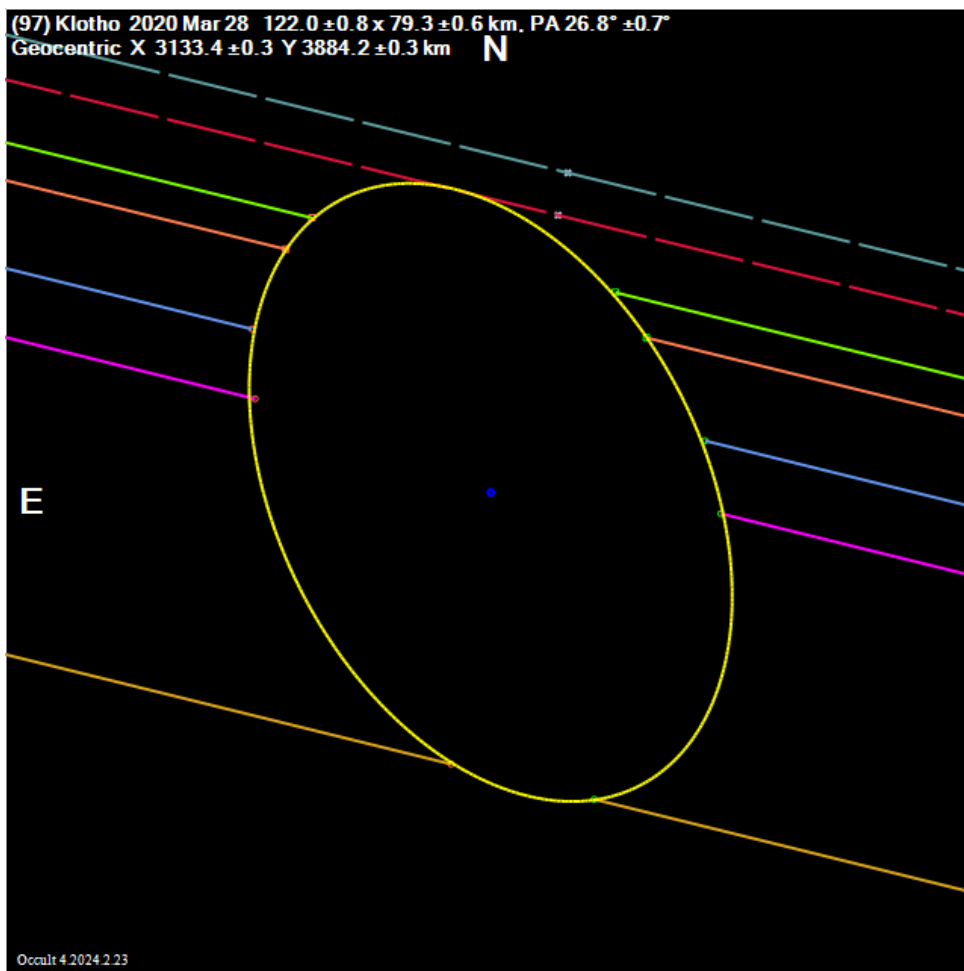
Occult 4.2024.2.23

96_Aegle_2022Jan15



97_Klotho_2020Mar28

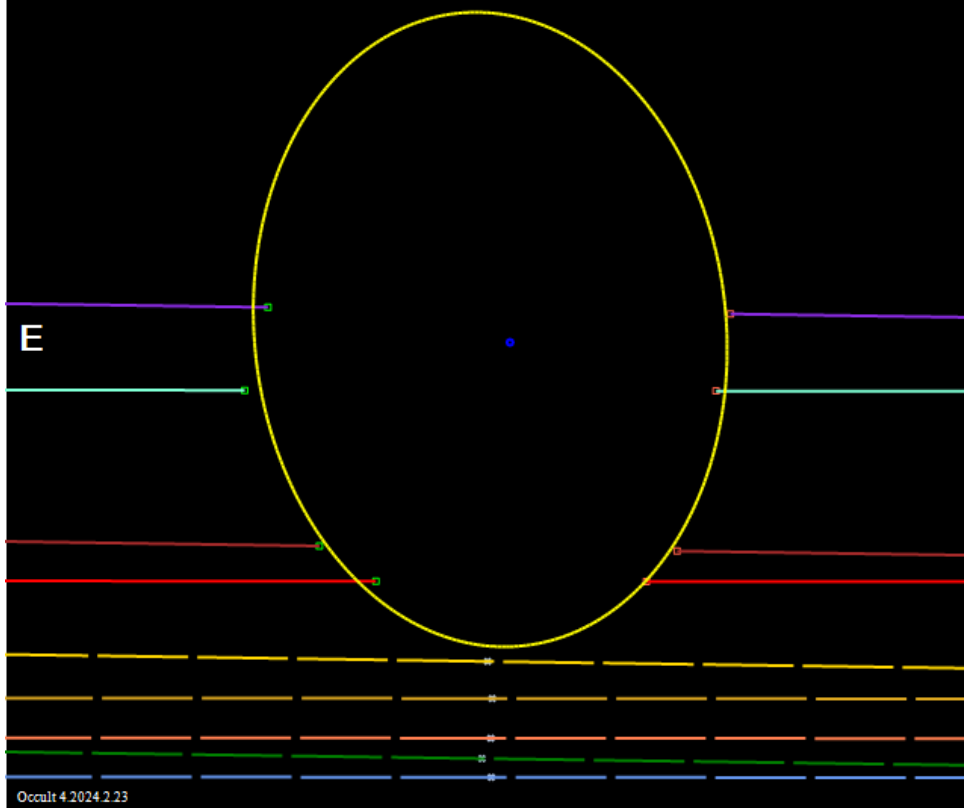
(97) Klotho 2020 Mar 28 $122.0 \pm 0.8 \times 79.3 \pm 0.6$ km. PA $26.8^\circ \pm 0.7^\circ$
Geocentric X 3133.4 ± 0.3 Y 3884.2 ± 0.3 km N



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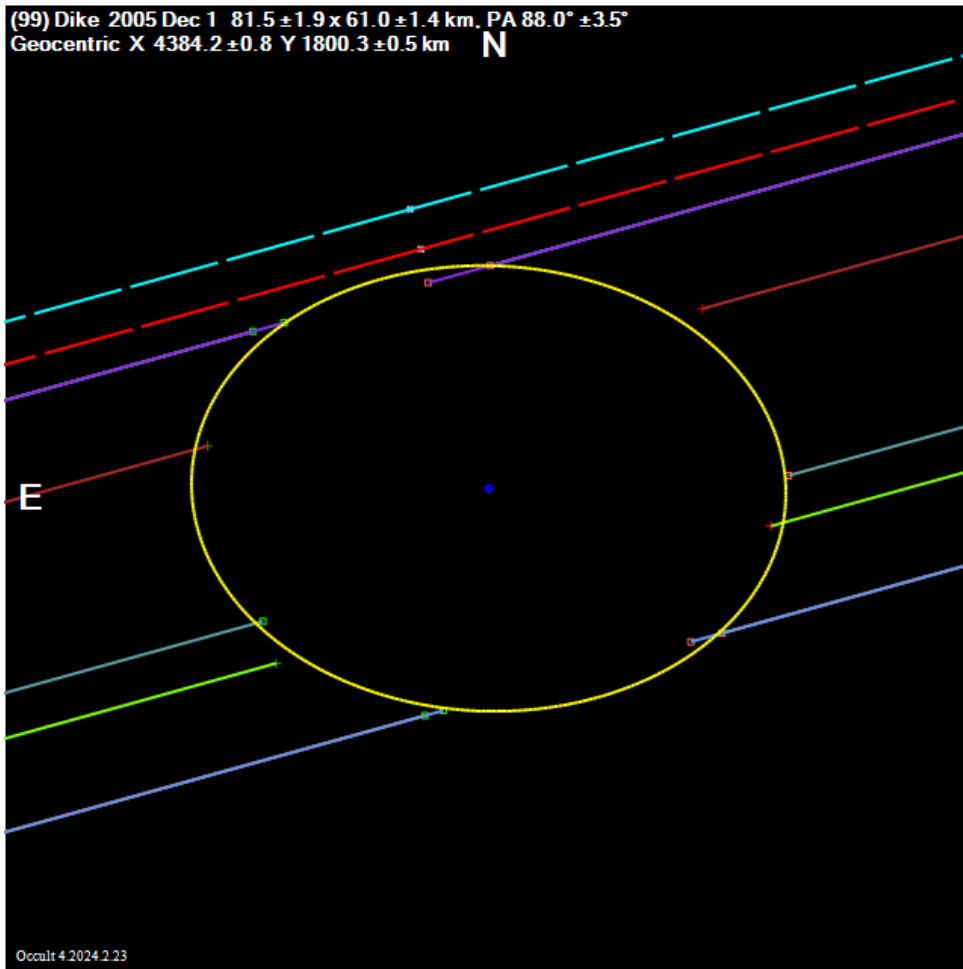
98_Ianthe_2020Sep28

(98) Ianthe 2020 Sep 28 119.0 x 88.4 ± 2.0 km, PA 5.8° ± 4.7°
Geocentric X 547.1 ± 1.0 Y 2588.8 ± 1.6 km N



99_Dike_2005Dec01

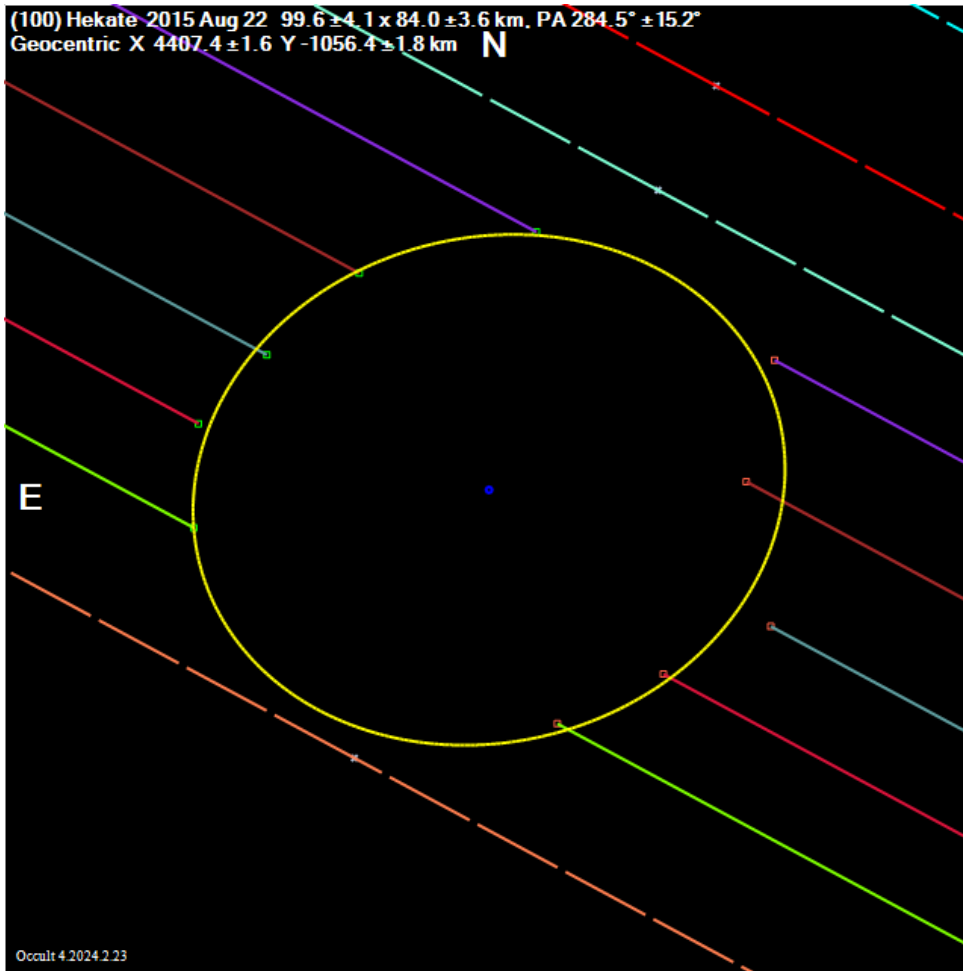
(99) Dike 2005 Dec 1 $81.5 \pm 1.9 \times 61.0 \pm 1.4$ km, PA $88.0^\circ \pm 3.5^\circ$
Geocentric X 4384.2 ± 0.8 Y 1800.3 ± 0.5 km N



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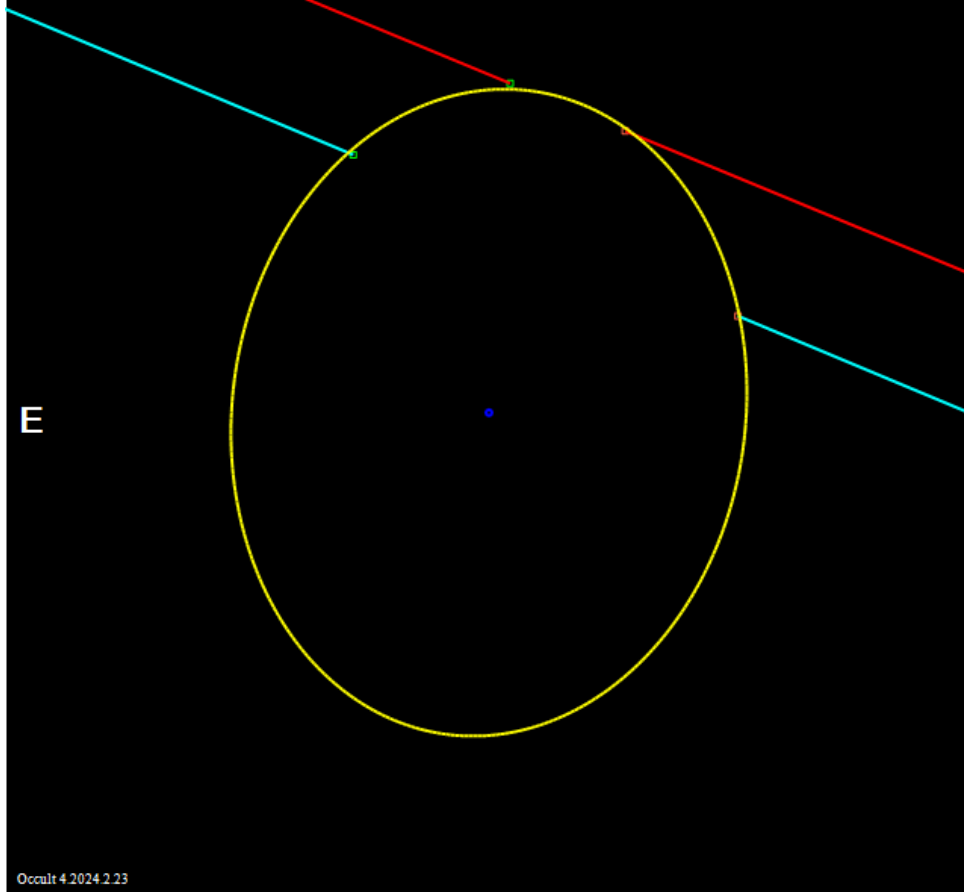
100_Hekate_2015Aug22

(100) Hekate 2015 Aug 22 $99.6 \pm 4.1 \times 84.0 \pm 3.6$ km, PA $284.5^\circ \pm 15.2^\circ$
Geocentric X 4407.4 ± 1.6 Y -1056.4 ± 1.8 km N



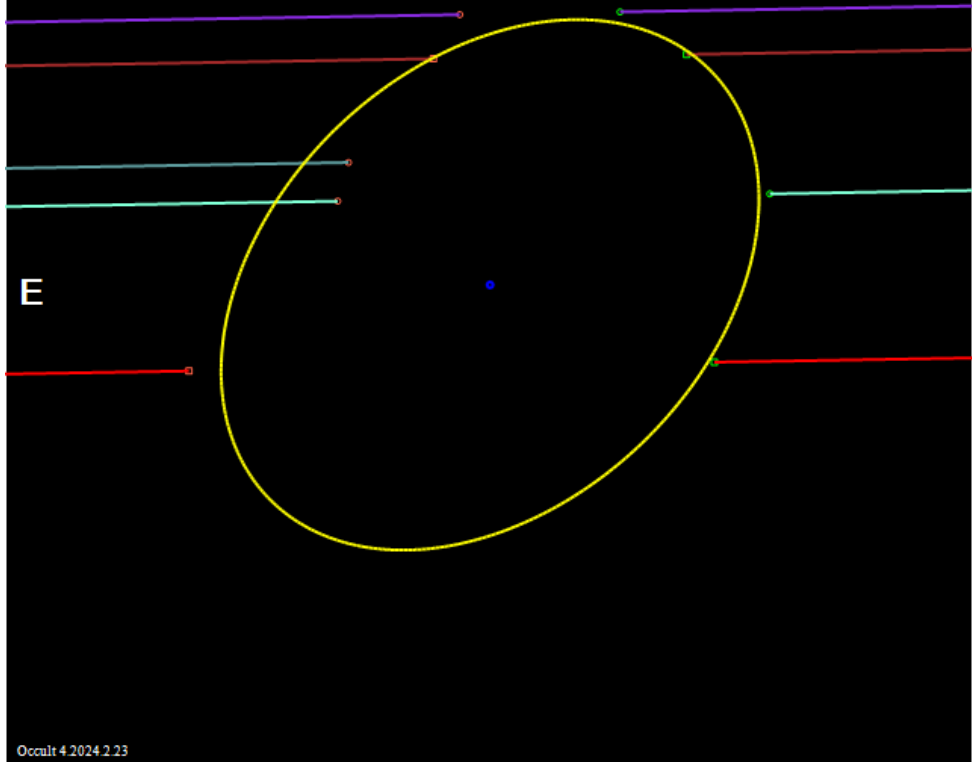
103_Hera_2019Oct14

(103) Hera 2019 Oct 14 96.0 x 76.0 km. PA 172.4° ± 7.0°
Geocentric X 4315.6 ± 1.4 Y 3982.8 ± 0.4 km N



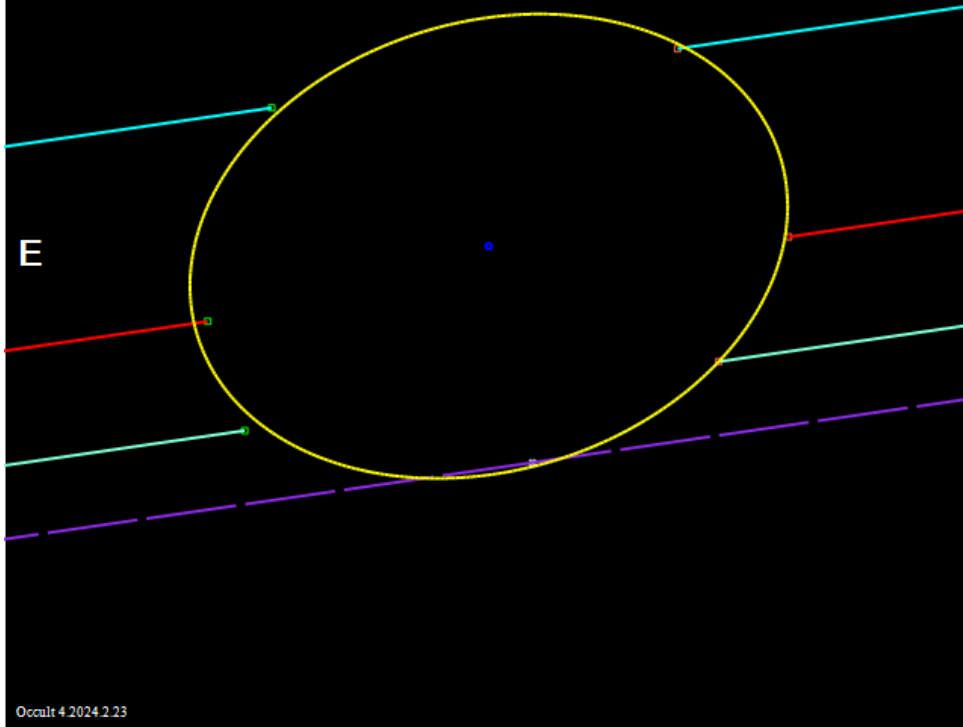
103_Hera_2021Apr16

(103) Hera 2021 Apr 16 110.0 x 78.5 ± 5.9 km, PA 313.7° ± 11.1°
Geocentric X 3959.7 ± 2.2 Y 4484.1 ± 3.8 km N



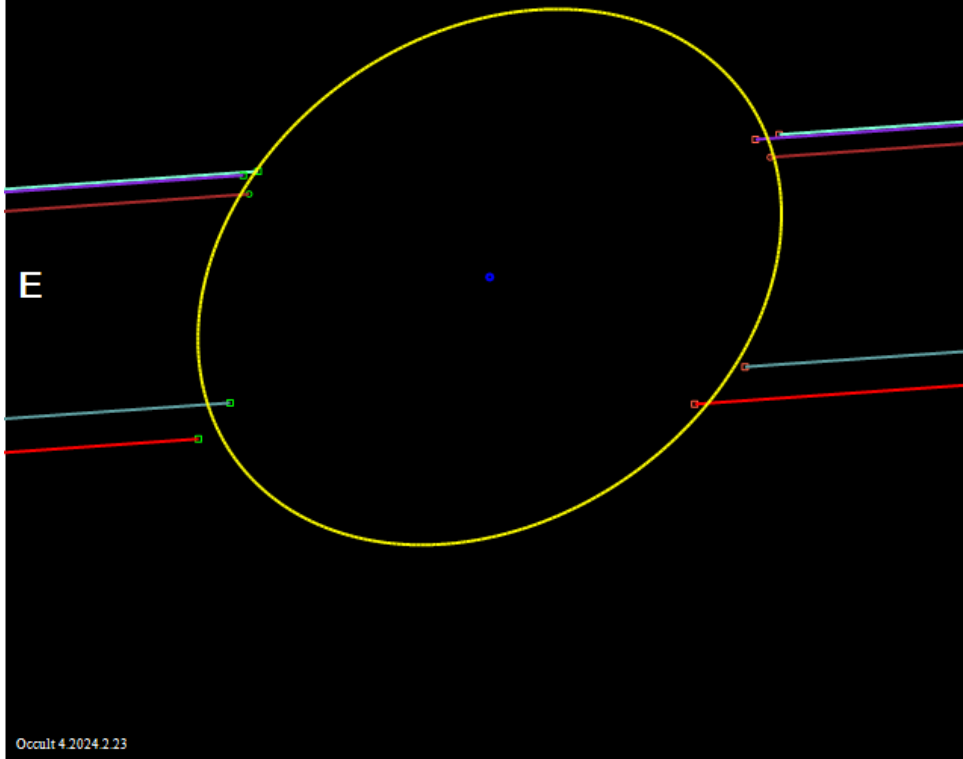
104_Klymene_2021Jan25

(104) Klymene 2021 Jan 25 $149.4 \pm 2.9 \times 109.8 \pm 3.3$ km, PA $106.9^\circ \pm 3.3^\circ$
Geocentric X -2232.9 ± 1.2 Y -4932.1 ± 1.2 km **N**



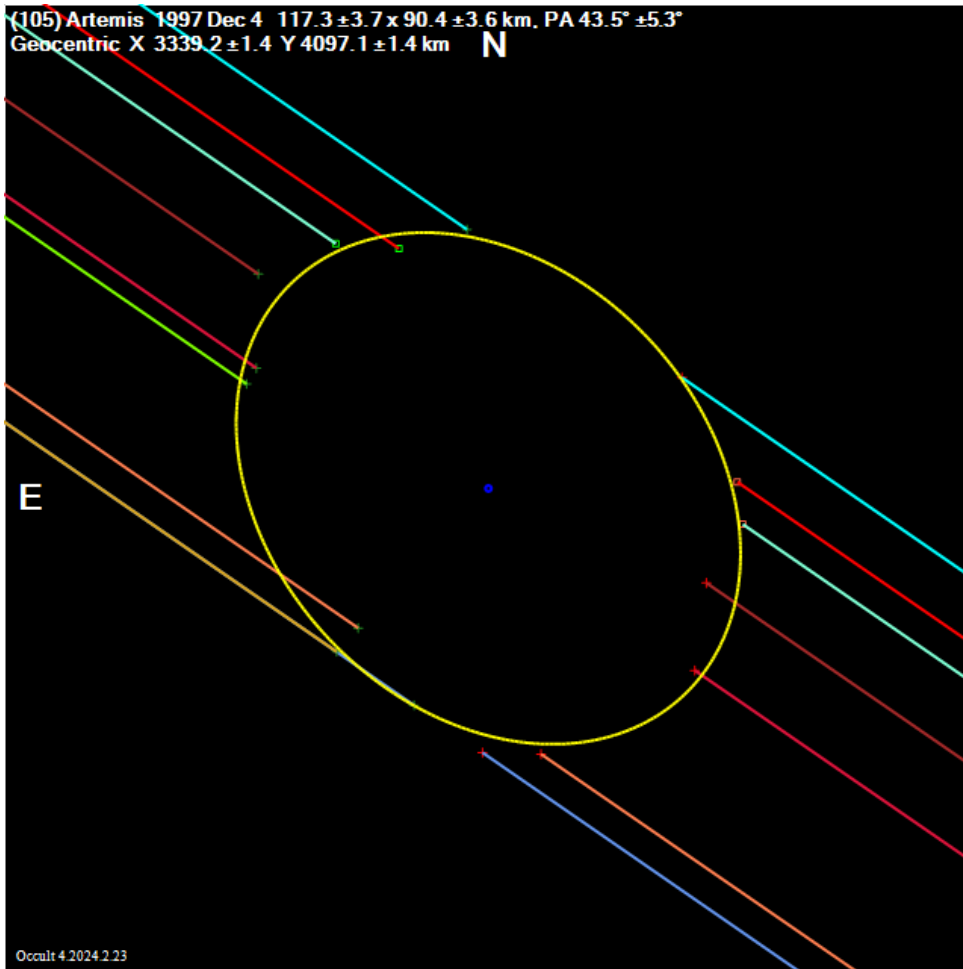
104_Klymene_2023Jun10

(104) Klymene 2023 Jun 10 154.1 ± 9.2 x 119.7 ± 17.4 km. PA 124.8° ± 37.2°
Geocentric X -1478.0 ± 1.1 Y 5968.0 ± 2.2 km **N**



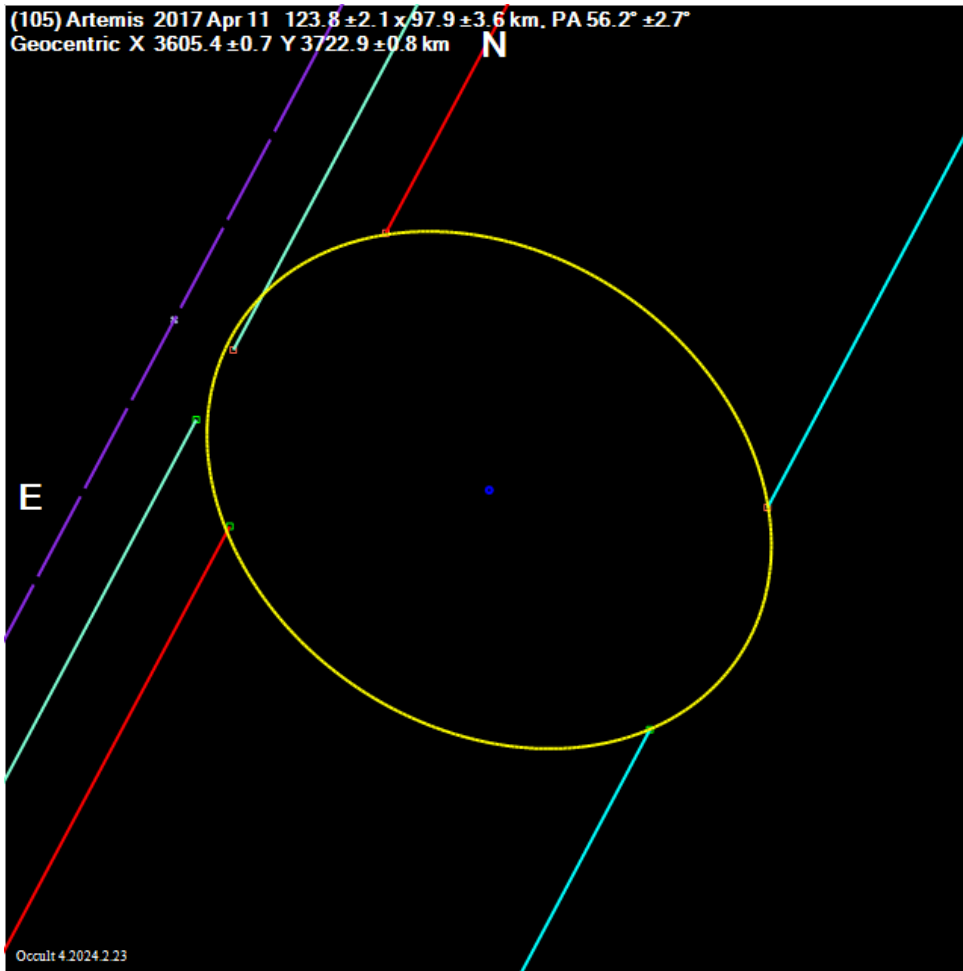
105_Artemis_1997Dec04

(105) Artemis 1997 Dec 4 $117.3 \pm 3.7 \times 90.4 \pm 3.6$ km, PA $43.5^\circ \pm 5.3^\circ$
Geocentric X 3339.2 ± 1.4 Y 4097.1 ± 1.4 km N



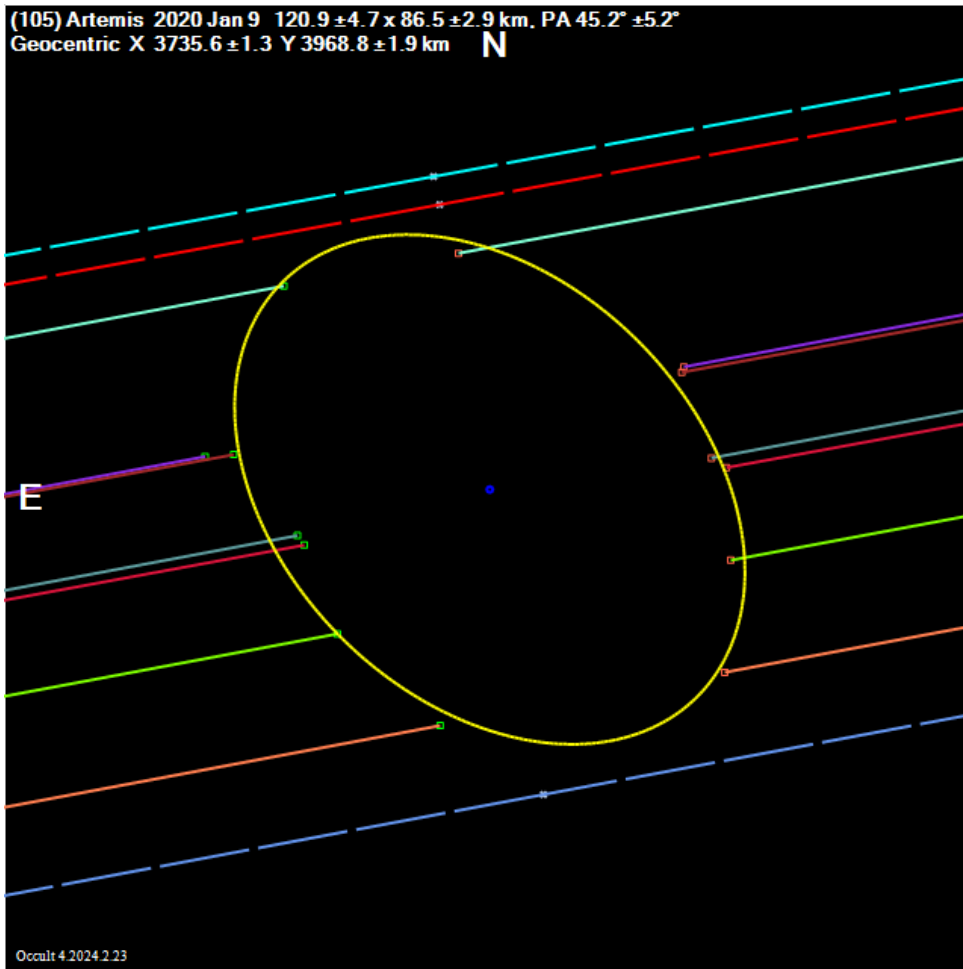
105_Artemis_2017Apr11

(105) Artemis 2017 Apr 11 $123.8 \pm 2.1 \times 97.9 \pm 3.6$ km, PA $56.2^\circ \pm 2.7^\circ$
Geocentric X 3605.4 ± 0.7 Y 3722.9 ± 0.8 km



105_Artemis_2020Jan09

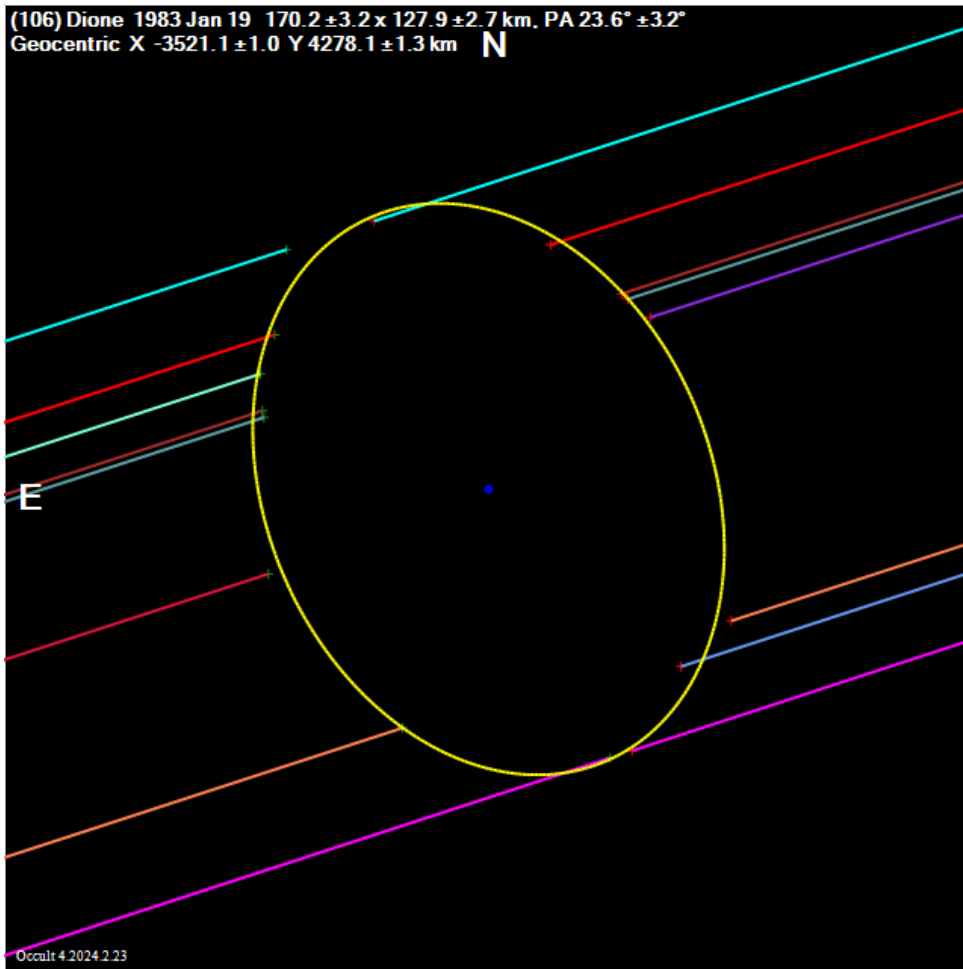
(105) Artemis 2020 Jan 9 $120.9 \pm 4.7 \times 86.5 \pm 2.9$ km. PA $45.2^\circ \pm 5.2^\circ$
Geocentric X 3735.6 ± 1.3 Y 3968.8 ± 1.9 km N



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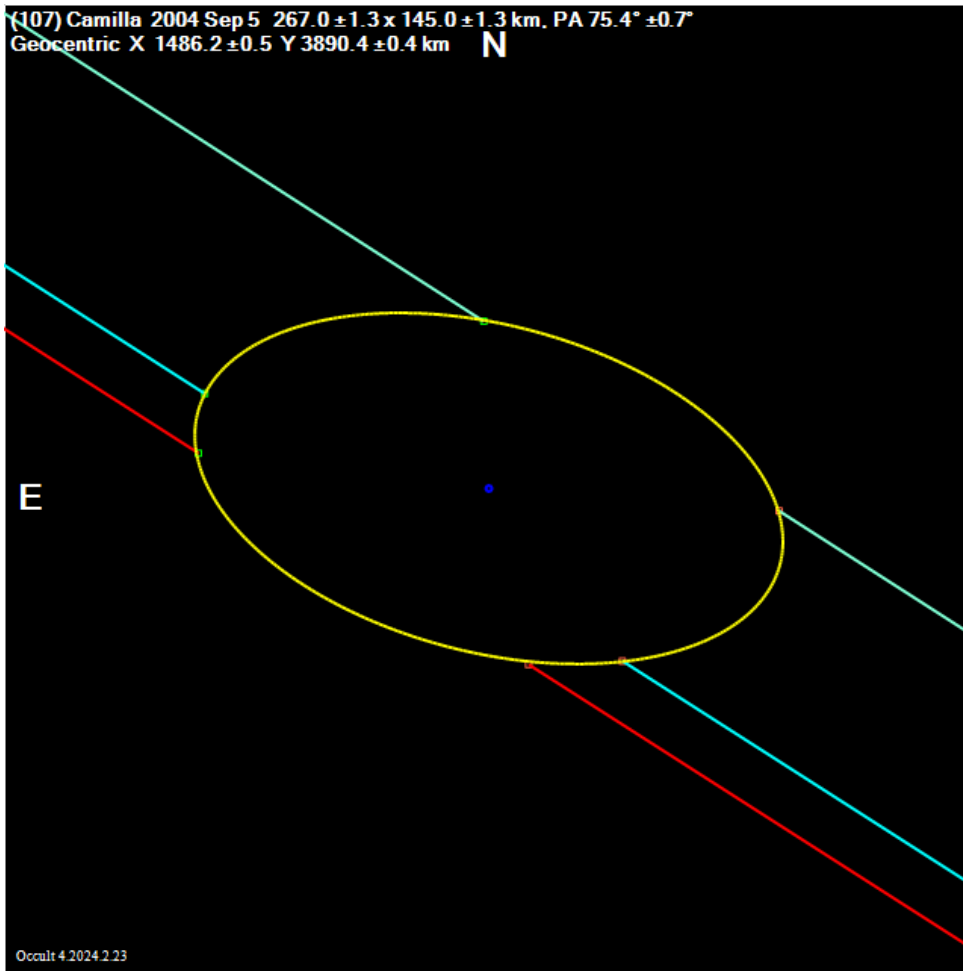
106_Dione_1983Jan19

(106) Dione 1983 Jan 19 $170.2 \pm 3.2 \times 127.9 \pm 2.7$ km, PA $23.6^\circ \pm 3.2^\circ$
Geocentric X -3521.1 ± 1.0 Y 4278.1 ± 1.3 km N



107_Camilla_2004Sep05

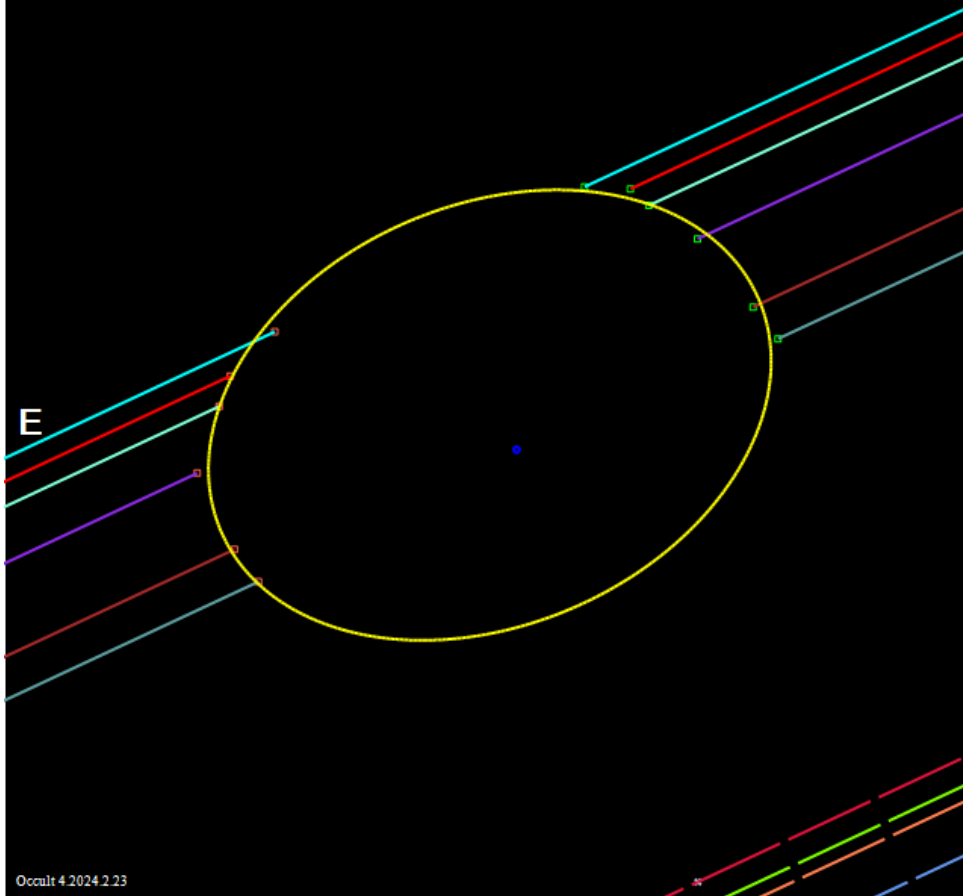
(107) Camilla 2004 Sep 5 267.0 ± 1.3 x 145.0 ± 1.3 km, PA 75.4° ± 0.7°
Geocentric X 1486.2 ± 0.5 Y 3890.4 ± 0.4 km N



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107_Camilla_2015Aug23

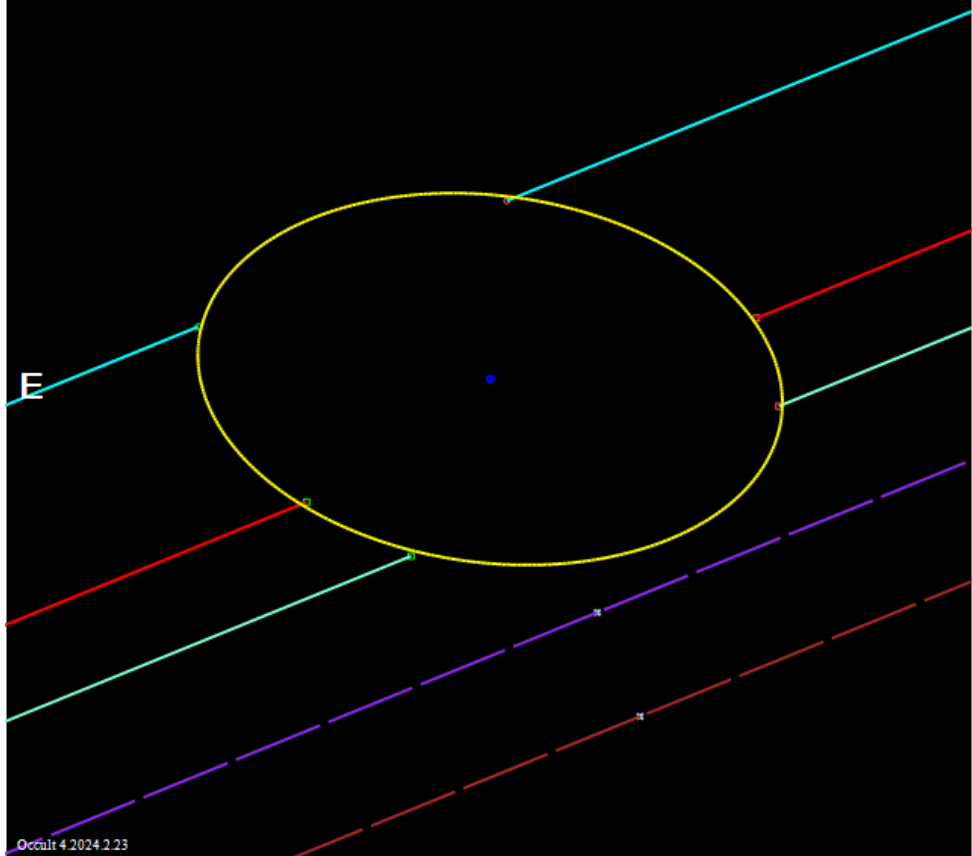
(107) Camilla 2015 Aug 23 254.4 ± 3.1 x 182.3 ± 13.8 km, PA 113.4° ± 2.2°
Geocentric X 3113.6 ± 2.3 Y 4925.3 ± 3.9 km N



Occult 4.2024.2.23

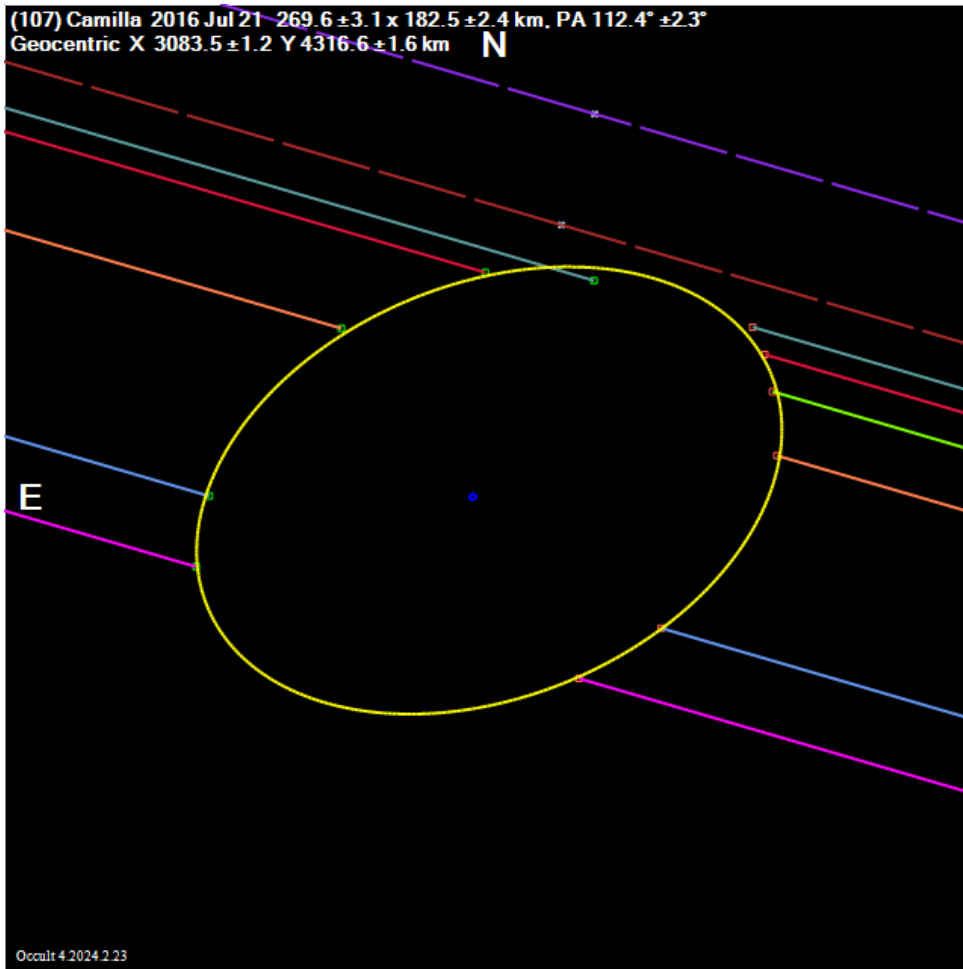
107_Camilla_2015May06

(107) Camilla 2015 May 6 296.4 ± 3.4 x 184.8 ± 3.8 km. PA 82.4° ± 2.3°
Geocentric X -1483.6 ± 1.6 Y 4403.3 ± 1.5 km **N**



107_Camilla_2016Jul21

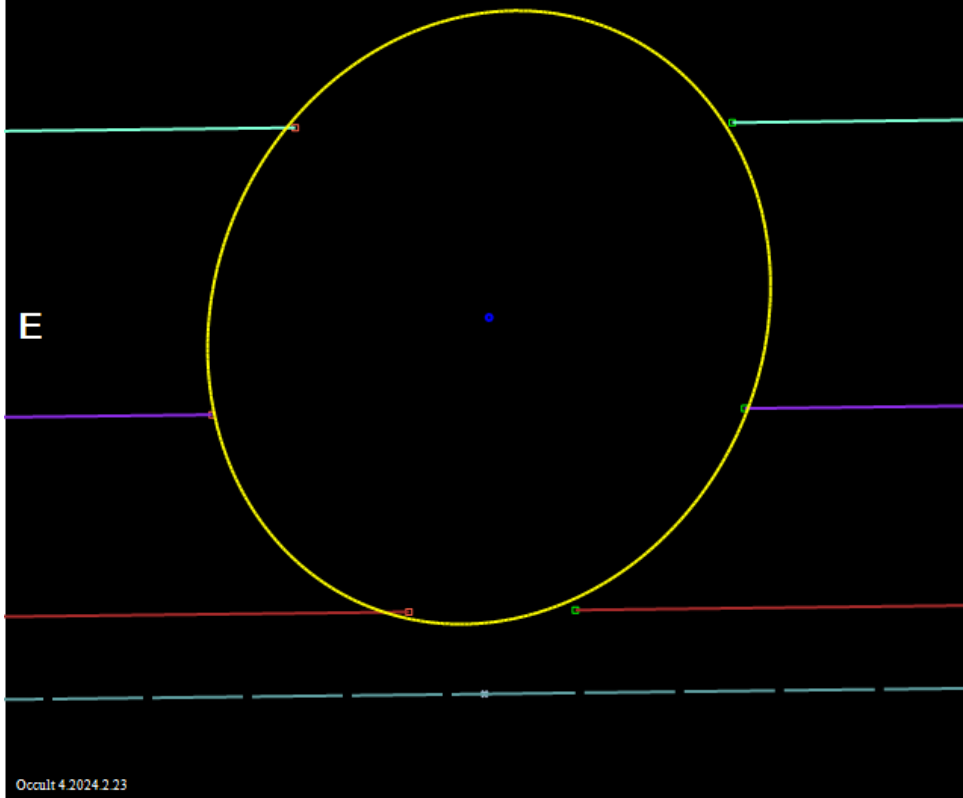
(107) Camilla 2016 Jul 21 - $269.6 \pm 3.1 \times 182.5 \pm 2.4$ km. PA $112.4^\circ \pm 2.3^\circ$
Geocentric X 3083.5 ± 1.2 Y 4316.6 ± 1.6 km N



Occult 4.2024.2.23

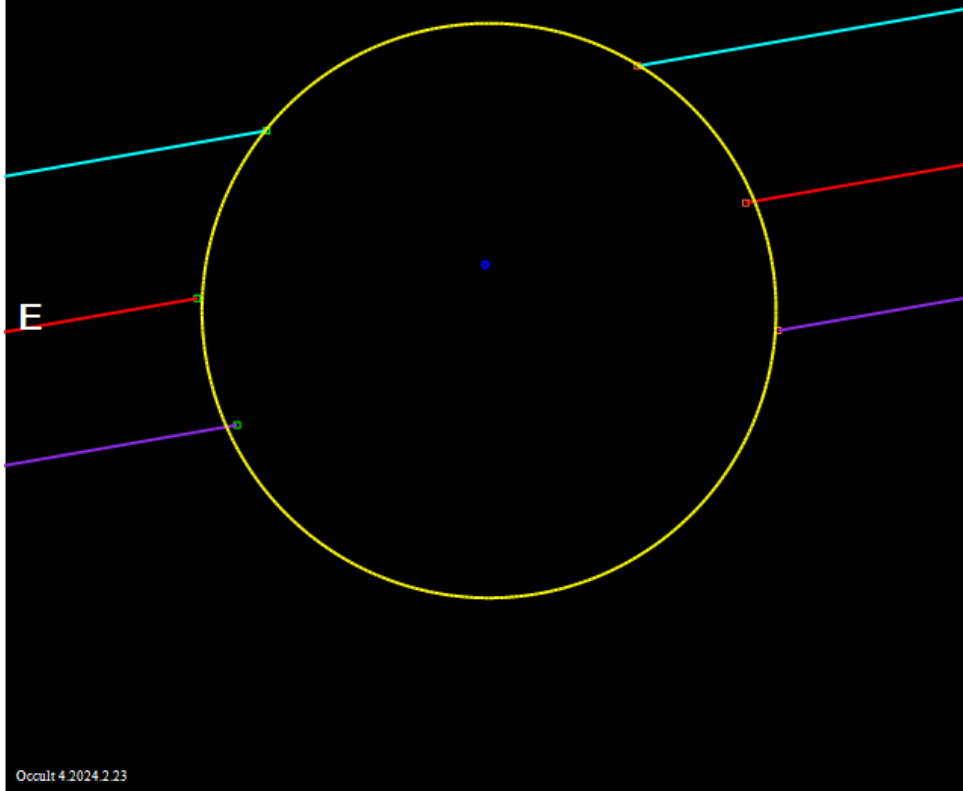
109_Felicitas_2003Mar29

(109) Felicitas 2003 Mar 29 $94.2 \pm 1.9 \times 82.5 \pm 1.3$ km, PA $335.0^\circ \pm 6.3^\circ$
Geocentric X 4105.5 ± 0.5 Y 1556.2 ± 0.8 km N



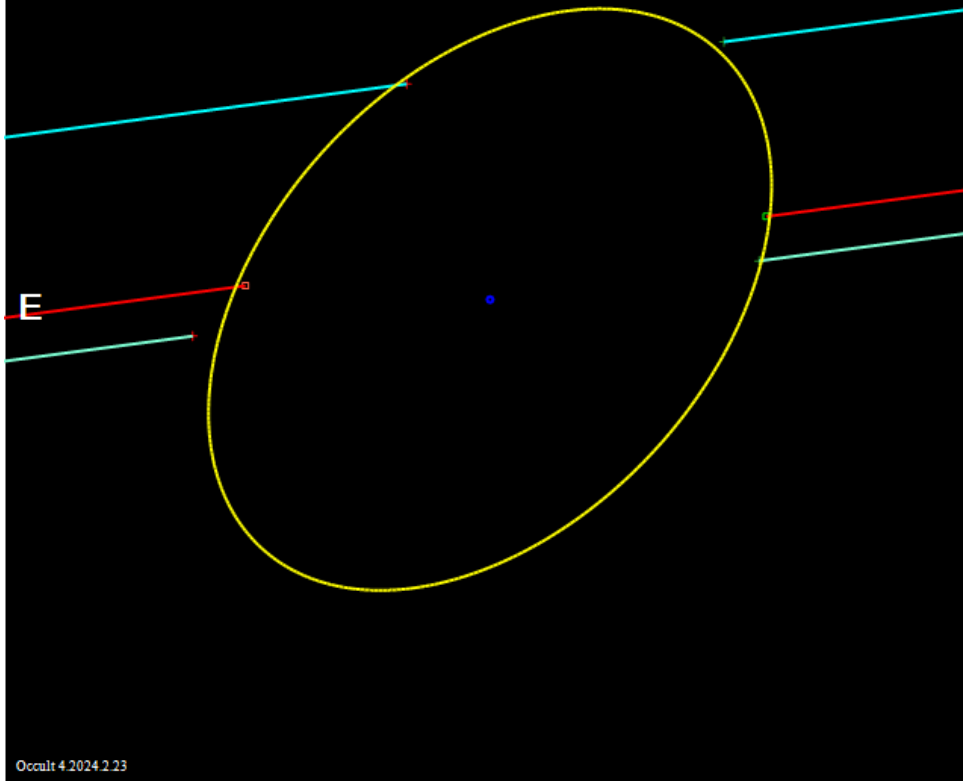
109_Felicitas_2022Apr10

(109) Felicitas 2022 Apr 10 87.4 km
Geocentric X -4248.1 ± 0.4 Y -3768.1 ± 0.7 km N



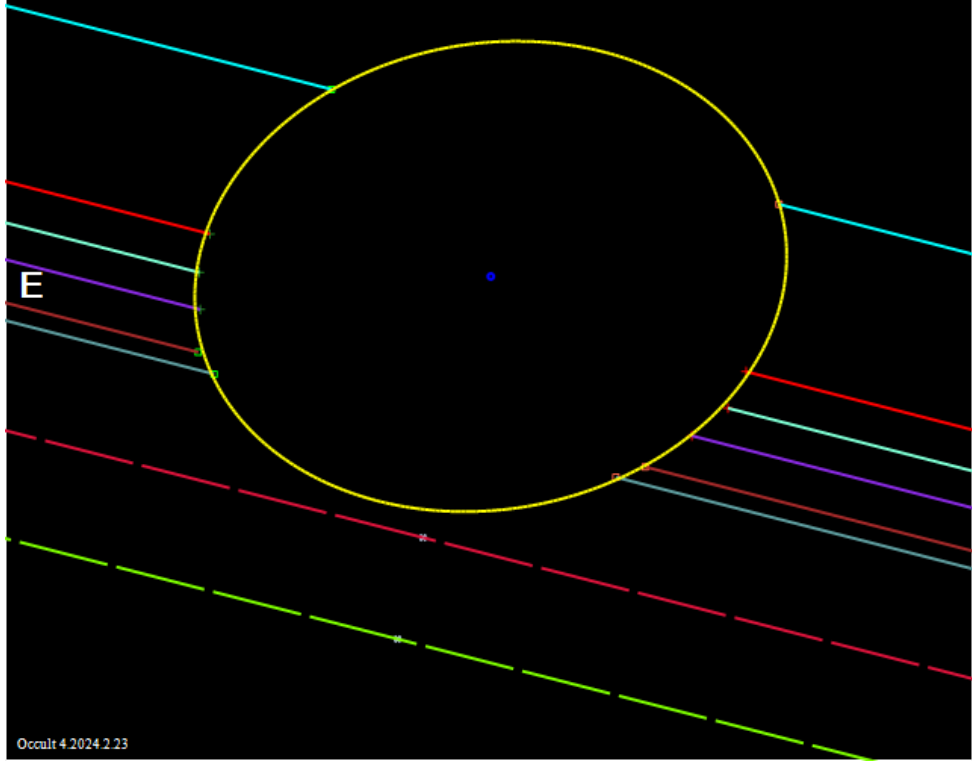
110_Lydia_2020Mar21

(110) Lydia 2020 Mar 21 103.3 x 68.3 km, PA 137.3° ± 3.0°
Geocentric X -2502.5 ± 1.0 Y 5223.0 ± 2.4 km **N**



111_Ate_2008Aug24

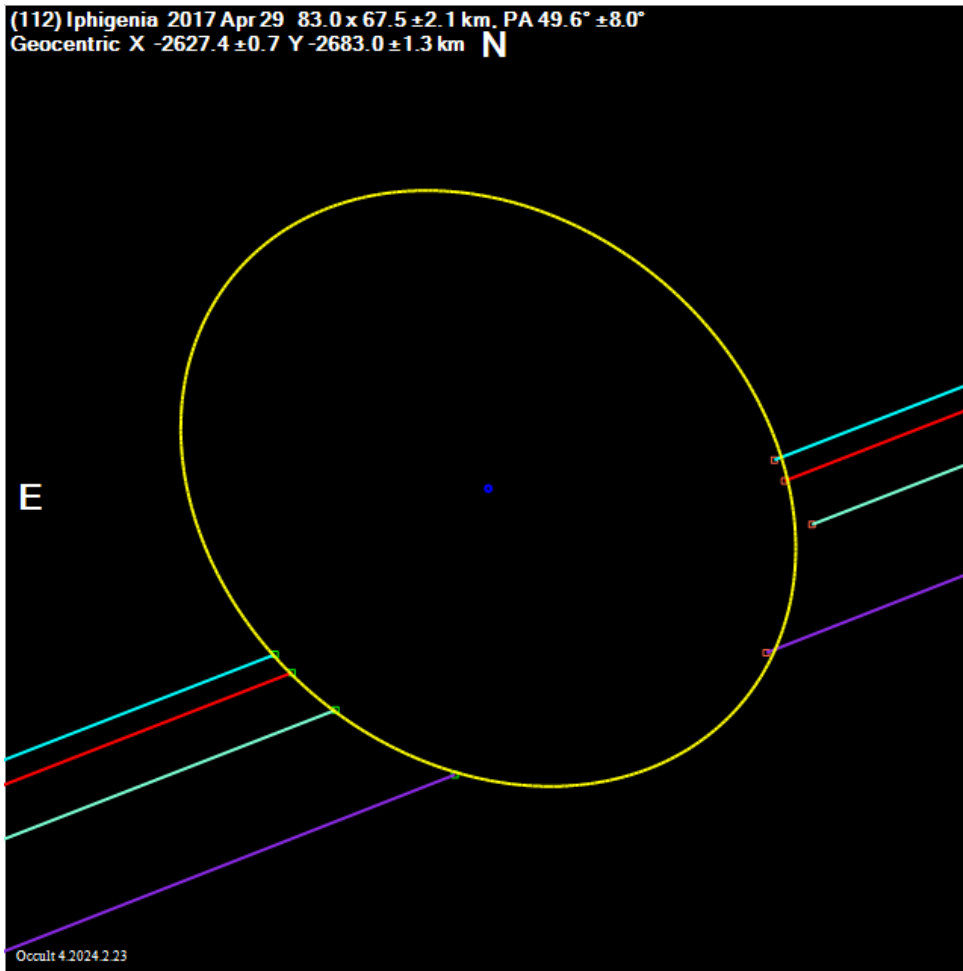
(111) Ate 2008 Aug 24 $147.4 \pm 0.8 \times 115.1 \pm 1.6$ km. PA $100.4^\circ \pm 3.0^\circ$
Geocentric X -2436.7 ± 0.3 Y 5505.2 ± 0.4 km **N**



Occult 4.2024.2.23

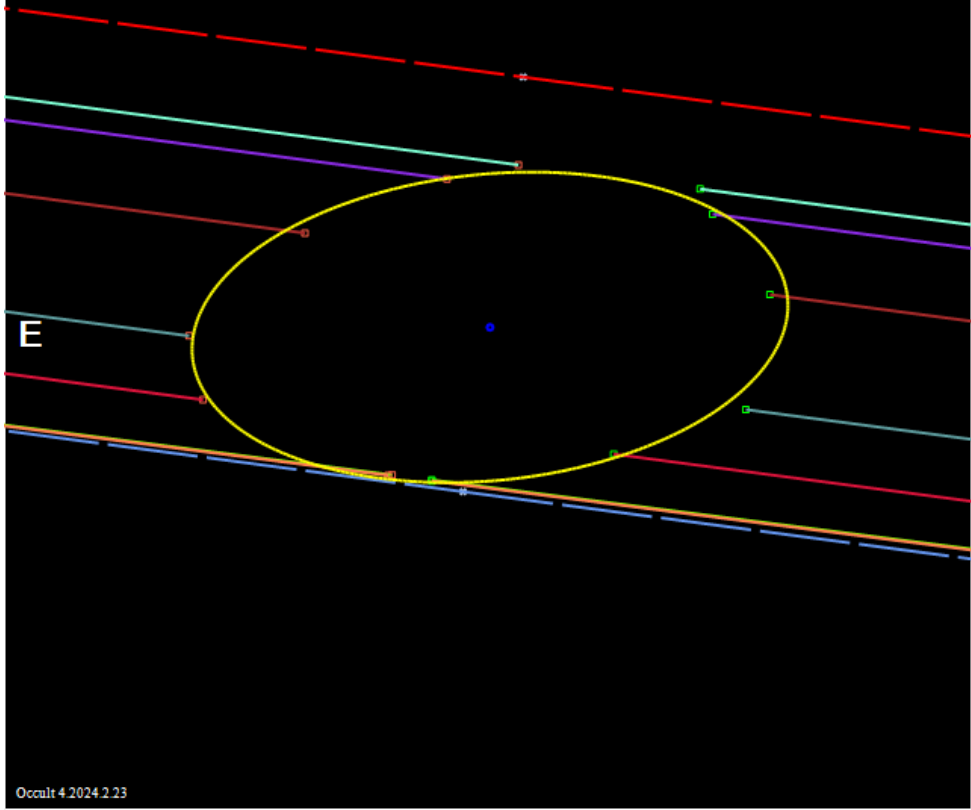
112_Iphigenia_2017Apr29

(112) Iphigenia 2017 Apr 29 83.0 x 67.5 ± 2.1 km, PA 49.6° ± 8.0°
Geocentric X -2627.4 ± 0.7 Y -2683.0 ± 1.3 km **N**



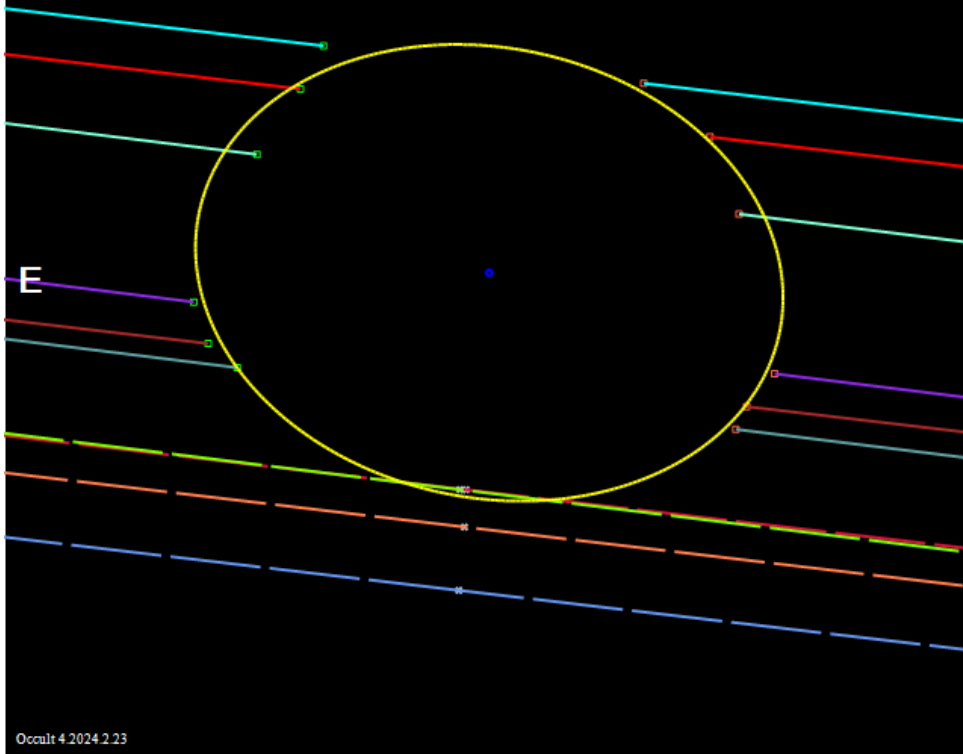
113_Amalthea_2017Mar14

(113) Amalthea 2017 Mar 14 $69.0 \pm 1.2 \times 35.3 \pm 0.7$ km, PA $95.7^\circ \pm 1.3^\circ$
Geocentric X 2548.2 ± 0.5 Y 1317.5 ± 0.3 km N



115_Thyra_2016Jan22

(115) Thyra 2016 Jan 22 $94.4 \pm 2.1 \times 71.6 \pm 2.3$ km, PA $258.4^\circ \pm 3.7^\circ$
Geocentric X -1204.1 ± 0.8 Y 1850.4 ± 0.8 km **N**



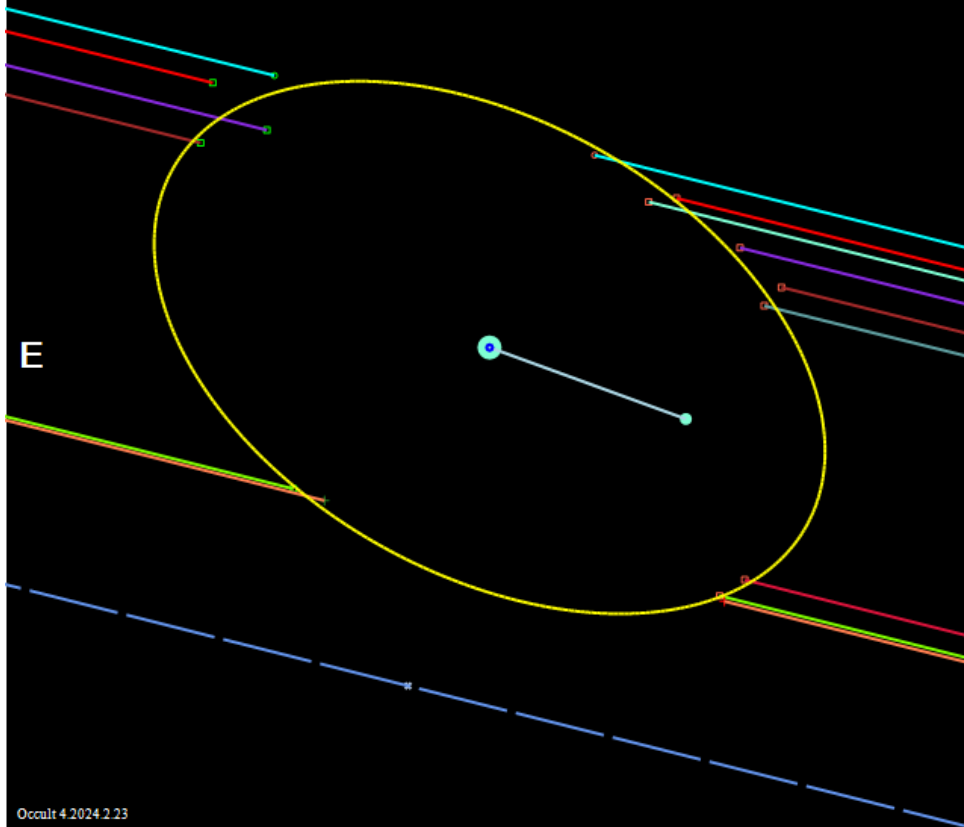
115_Thyra_2020Feb18

(115) Thyra 2020 Feb 18 87.2 ± 3.1 x 78.6 ± 2.0 km. PA 155.8° ± 14.6°
Geocentric X 1941.1 ± 0.8 Y 4060.9 ± 1.3 km N



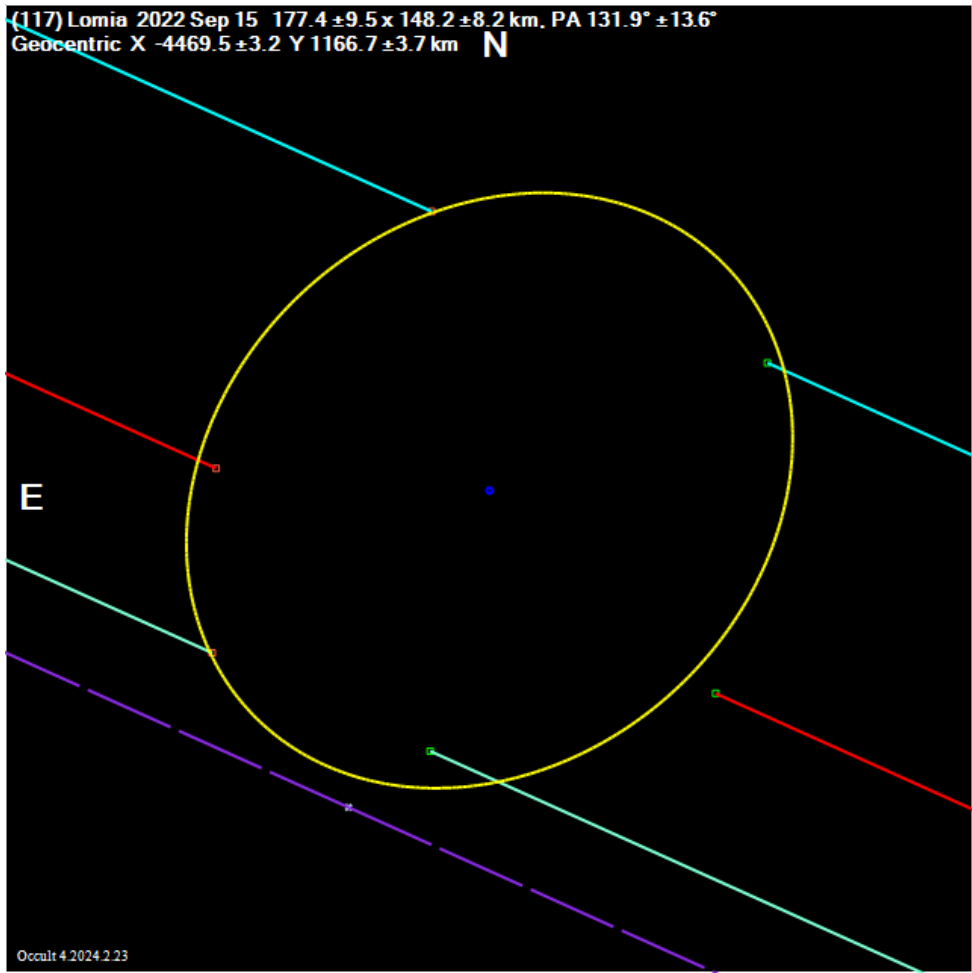
116_Sirona_2005Nov11

(116) Sirona 2005 Nov 11 $99.4 \pm 15.8 \times 61.8 \pm 10.1$ km. PA $60.5^\circ \pm 17.0^\circ$
Geocentric X -62.7 ± 6.5 Y 2709.6 ± 6.5 km **N**
Double : Sep $0.0198 \pm 0.0056''$. PA $250.0^\circ \pm 0.1^\circ$



117_Lomia_2022Sep15

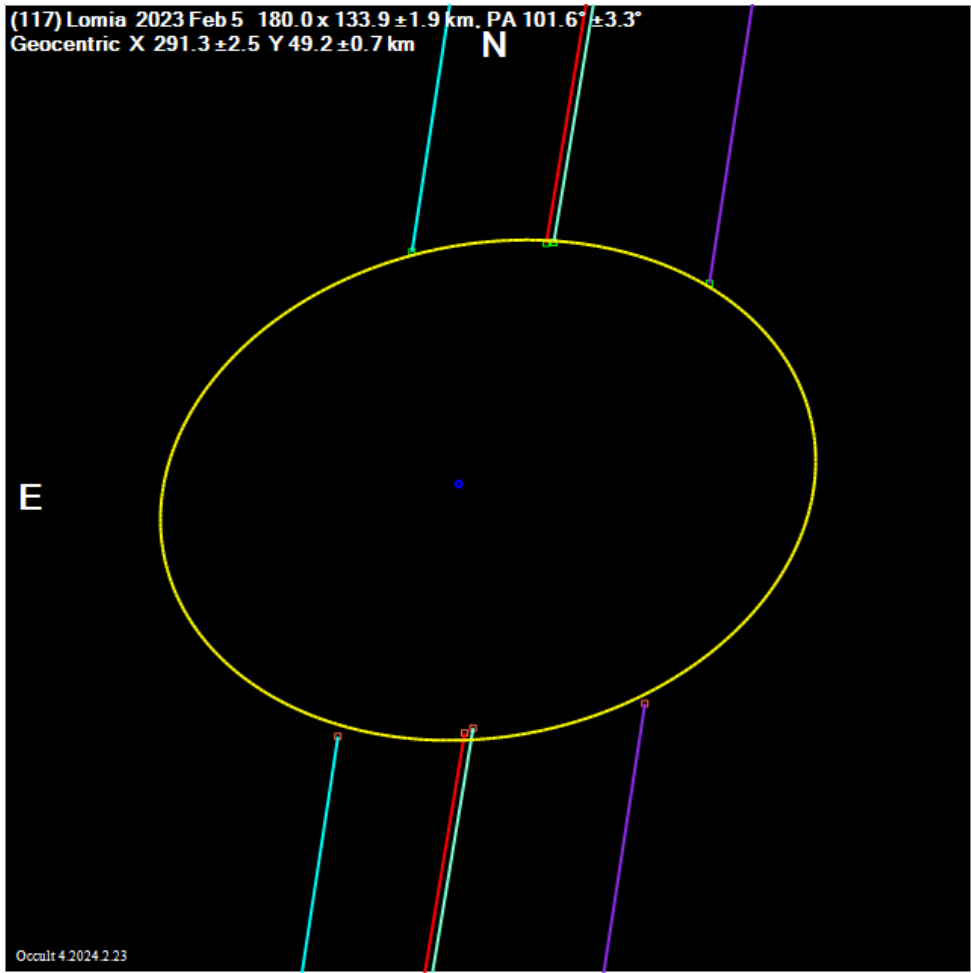
(117) Lomia 2022 Sep 15 $177.4 \pm 9.5 \times 148.2 \pm 8.2$ km, PA $131.9^\circ \pm 13.6^\circ$
Geocentric X -4469.5 ± 3.2 Y 1166.7 ± 3.7 km **N**



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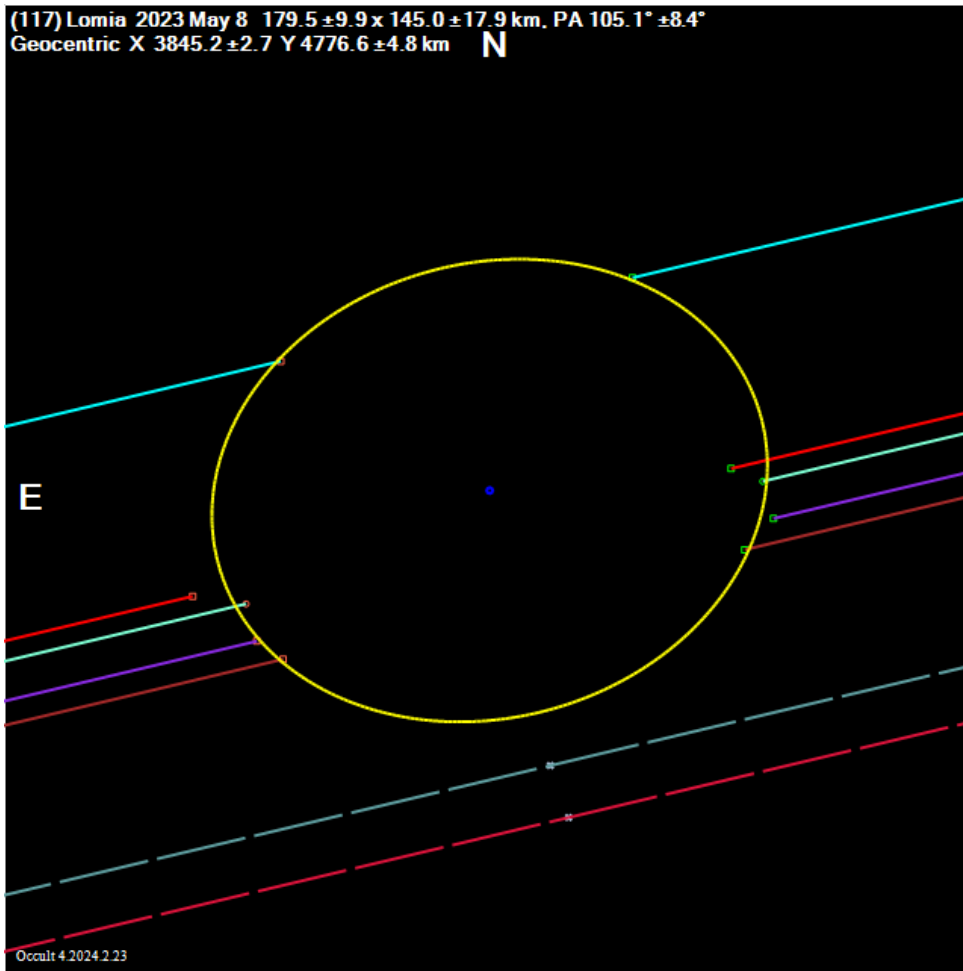
117_Lomia_2023Feb05

(117) Lomia 2023 Feb 5 180.0 x 133.9 ± 1.9 km, PA 101.6° ± 3.3°
Geocentric X 291.3 ± 2.5 Y 49.2 ± 0.7 km

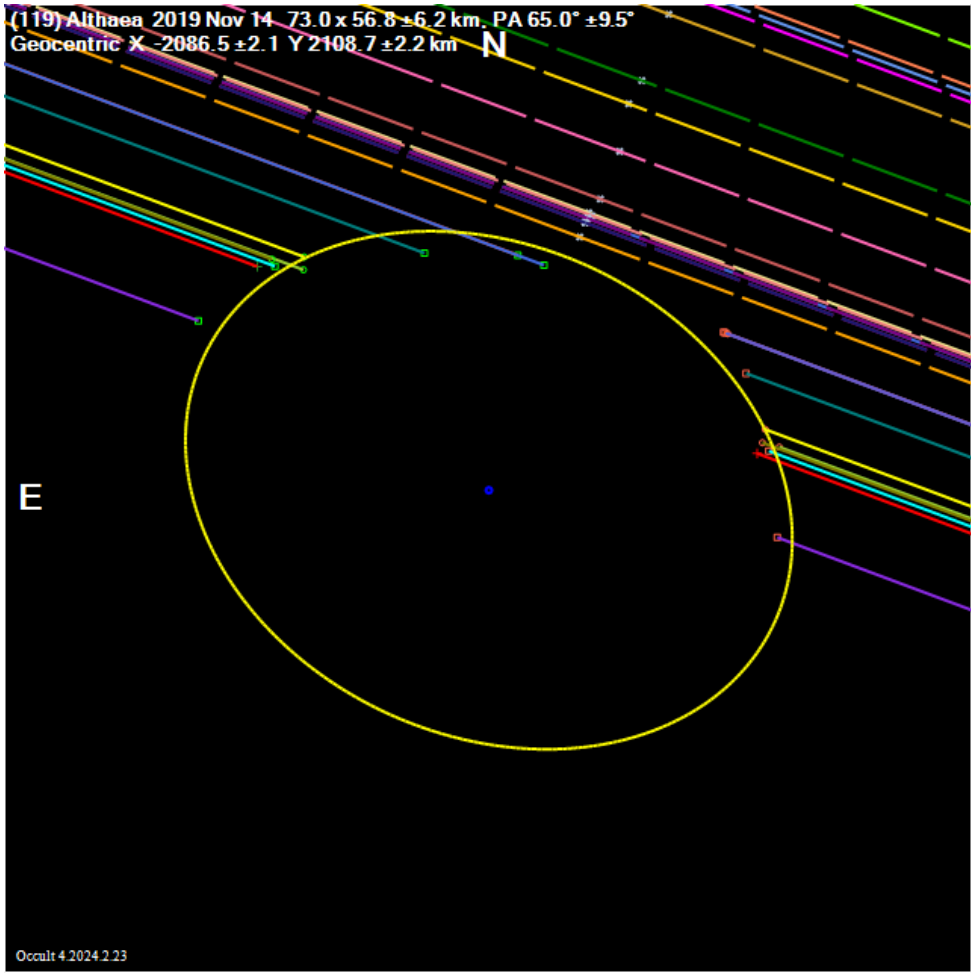


117_Lomia_2023May08

(117) Lomia 2023 May 8 $179.5 \pm 9.9 \times 145.0 \pm 17.9$ km, PA $105.1^\circ \pm 8.4^\circ$
Geocentric X 3845.2 ± 2.7 Y 4776.6 ± 4.8 km N

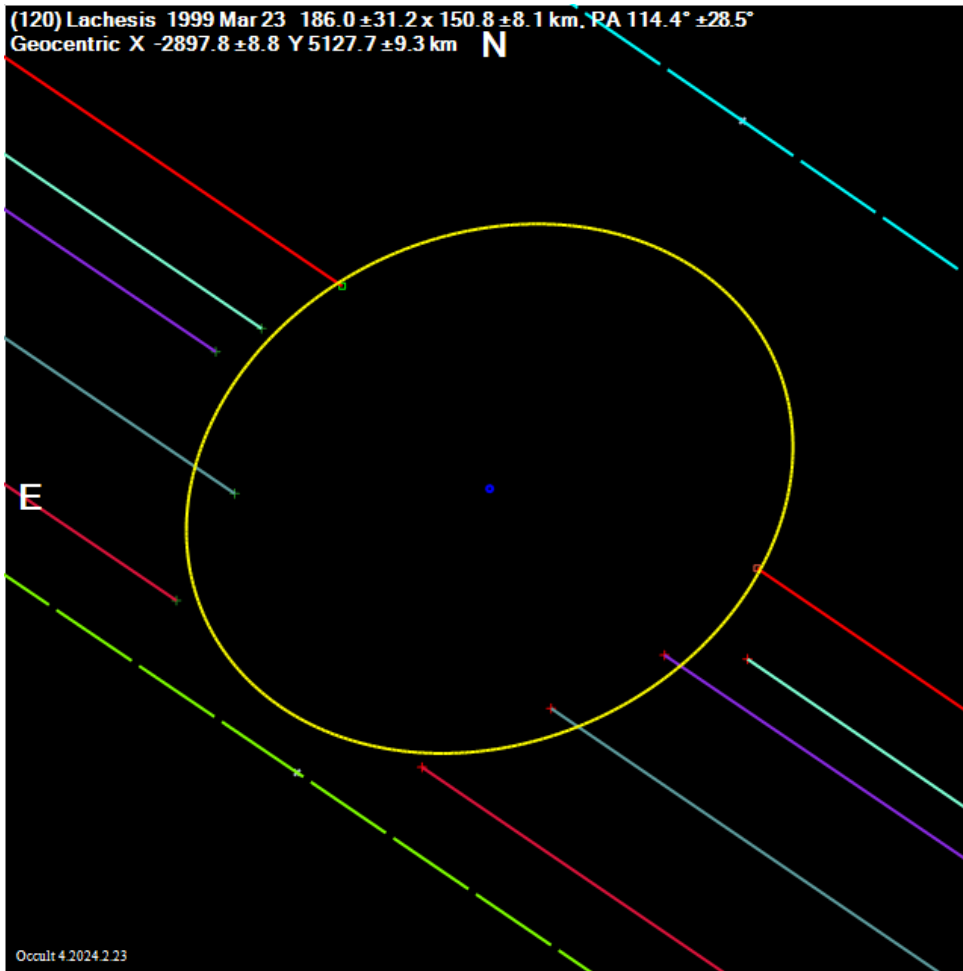


119_Althaea_2019Nov14



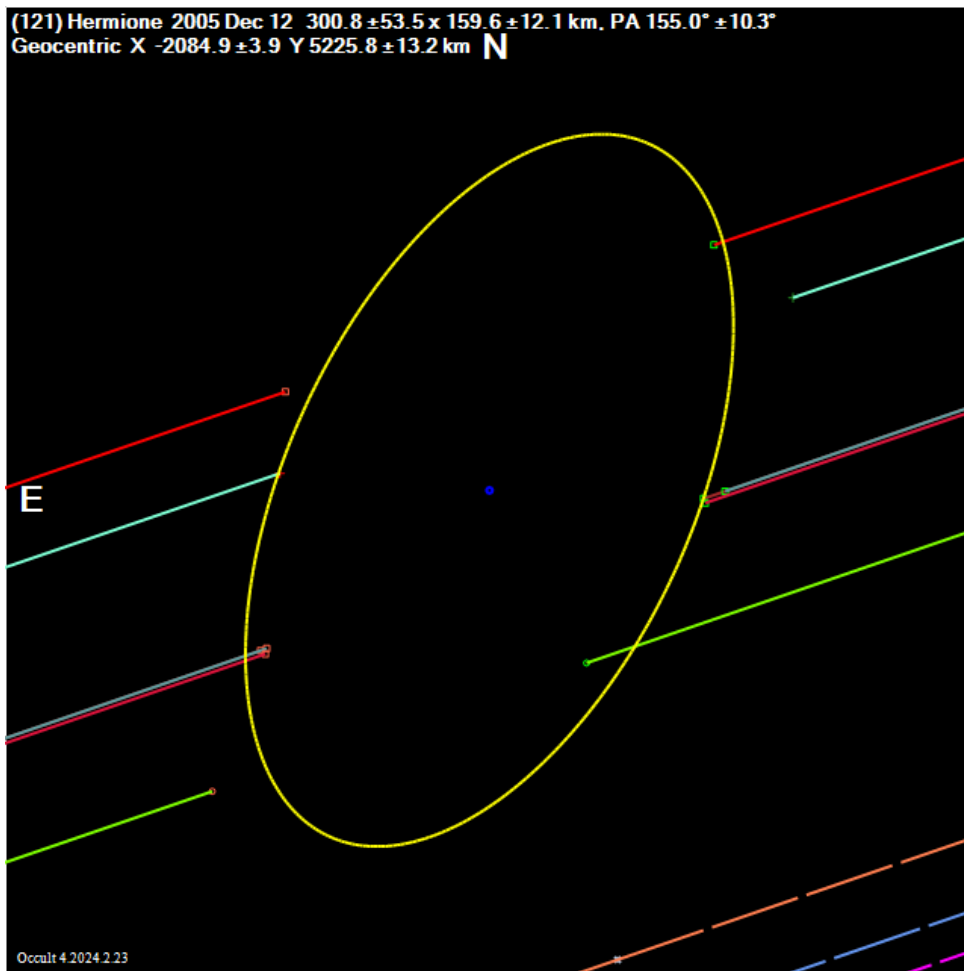
120_Lachesis_1999Mar23

(120) Lachesis 1999 Mar 23 $186.0 \pm 31.2 \times 150.8 \pm 8.1$ km, PA $114.4^\circ \pm 28.5^\circ$
Geocentric X -2897.8 ± 8.8 Y 5127.7 ± 9.3 km N



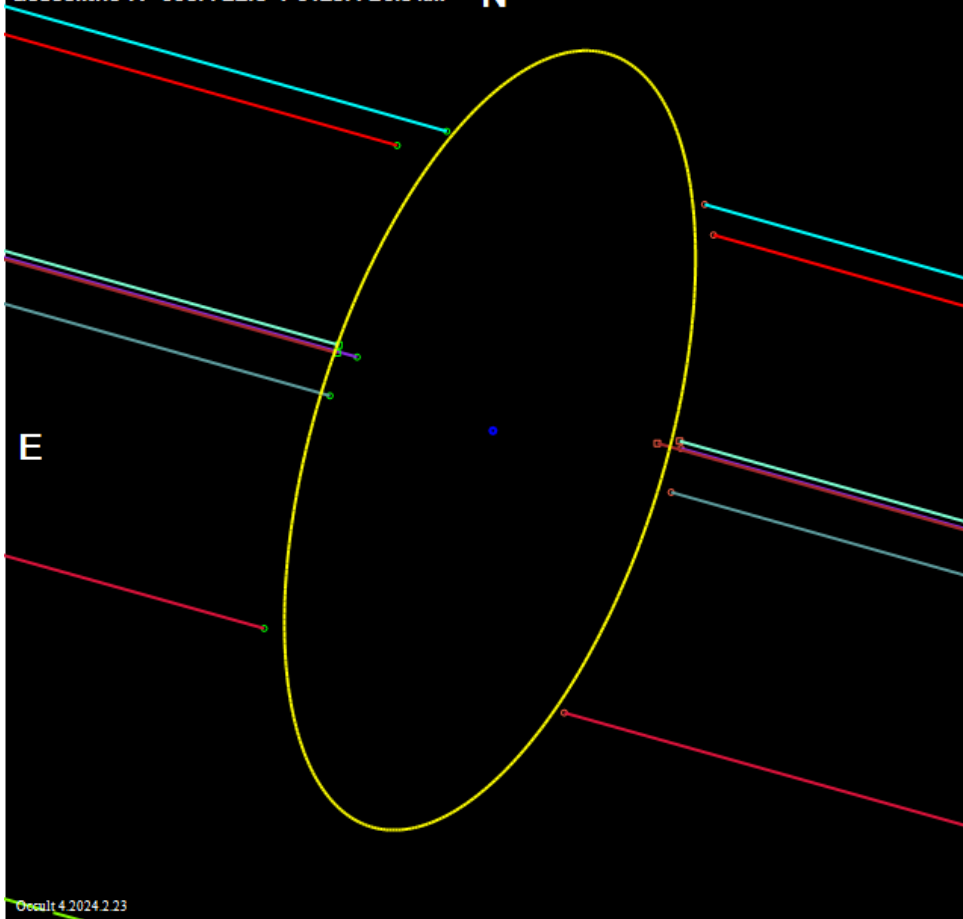
121_Hermione_2005Dec12

(121) Hermione 2005 Dec 12 300.8 ± 53.5 x 159.6 ± 12.1 km, PA 155.0° ± 10.3°
Geocentric X -2084.9 ± 3.9 Y 5225.8 ± 13.2 km **N**



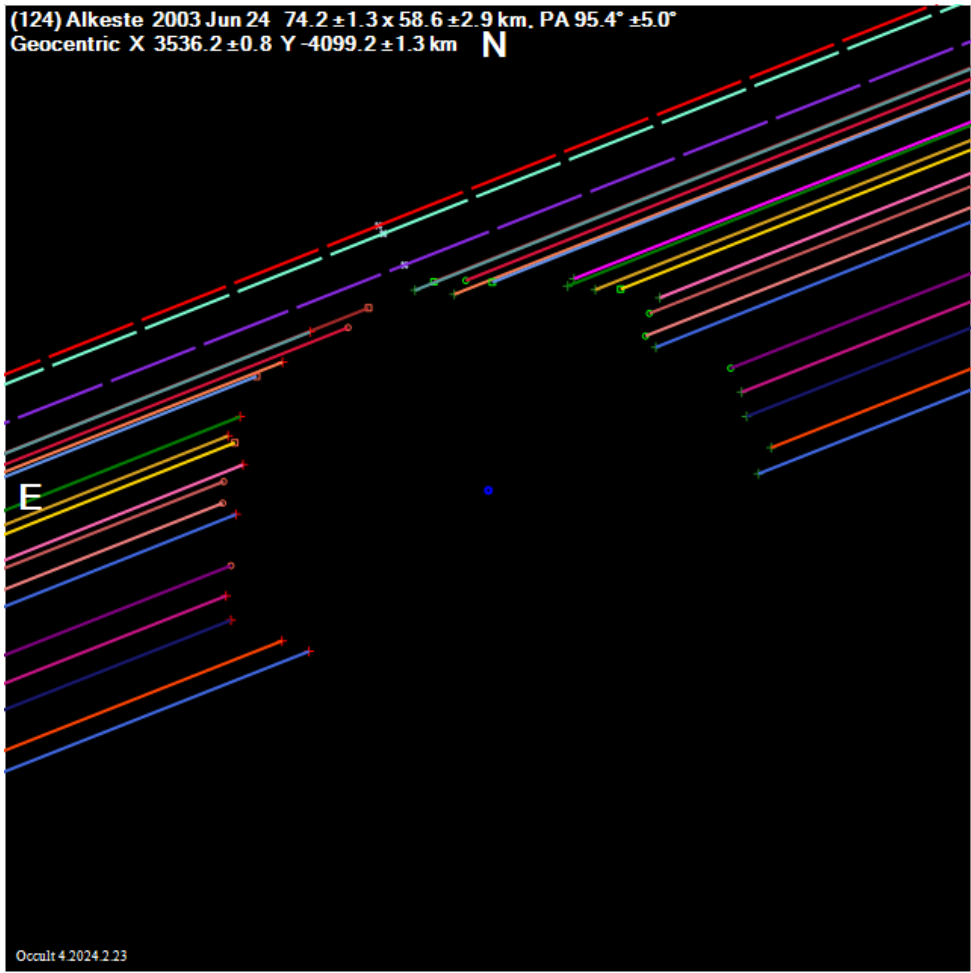
121_Hermione_2020Jun24

(121) Hermione 2020 Jun 24 300.0 x 130.1 ± 3.6 km, PA 342.8° ± 1.9°
Geocentric X -998.4 ± 2.5 Y 6125.1 ± 6.3 km N



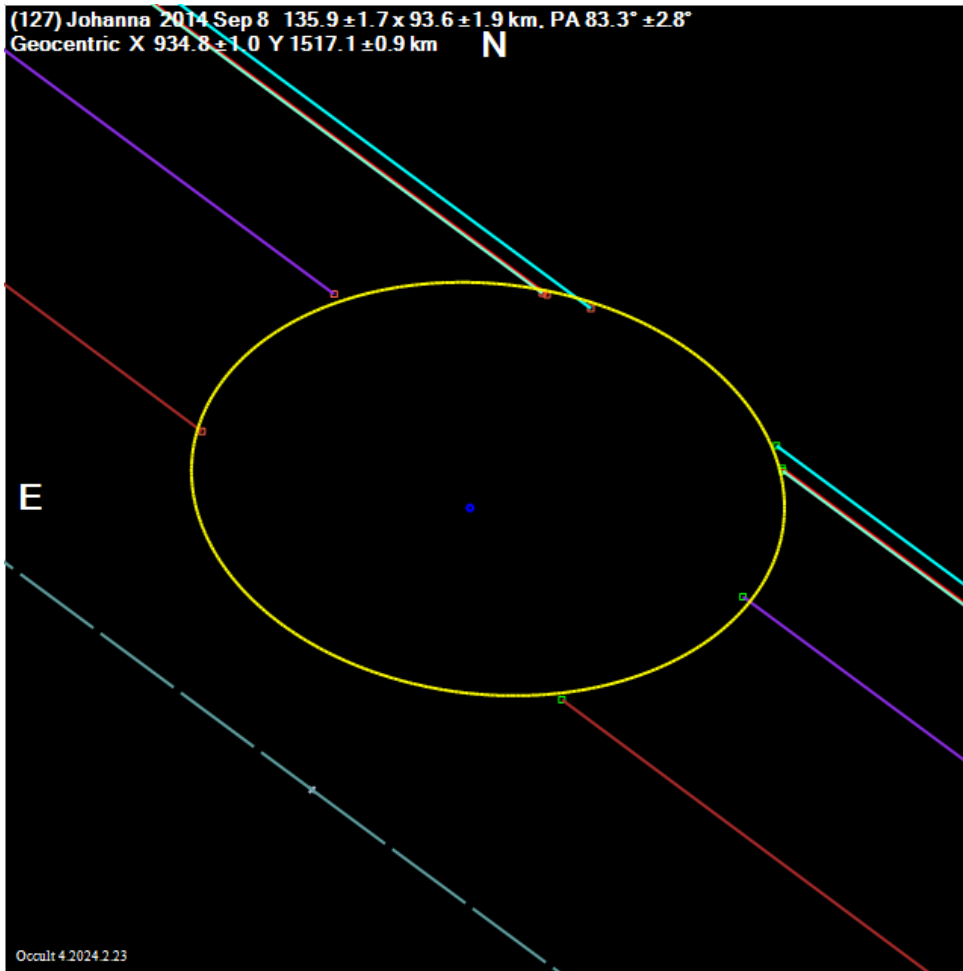
124_Alkeste_2003Jun24

(124) Alkeste 2003 Jun 24 $74.2 \pm 1.3 \times 58.6 \pm 2.9$ km. PA $95.4^\circ \pm 5.0^\circ$
Geocentric X 3536.2 ± 0.8 Y -4099.2 ± 1.3 km **N**



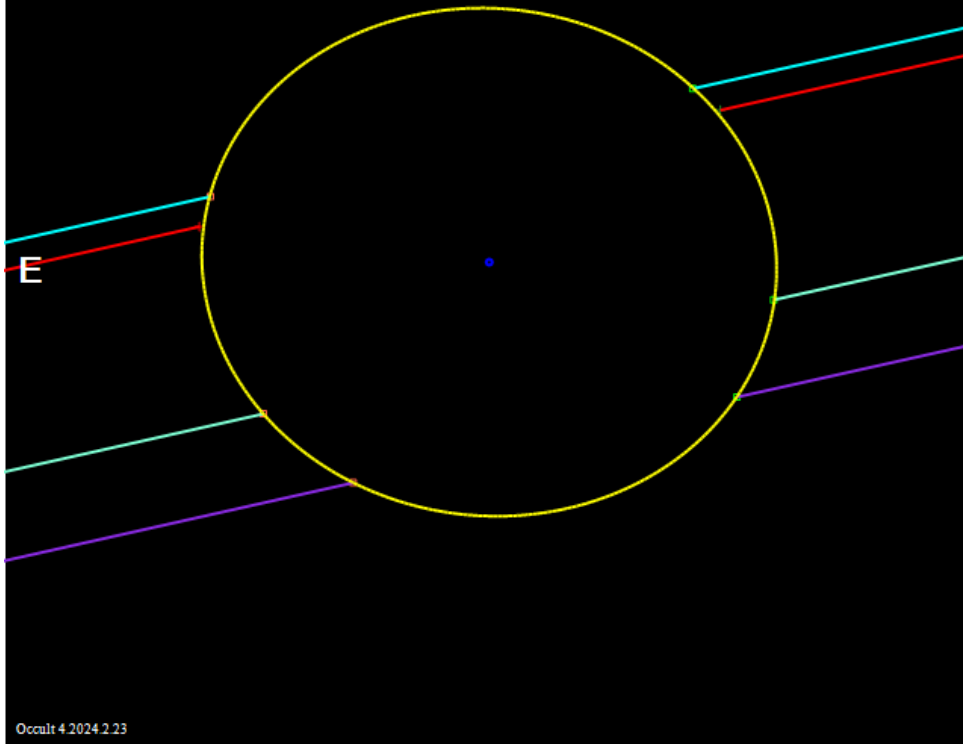
127_Johanna_2014Sep08

(127) Johanna 2014 Sep 8 $135.9 \pm 1.7 \times 93.6 \pm 1.9$ km, PA $83.3^\circ \pm 2.8^\circ$
Geocentric X 934.8 ± 1.0 Y 1517.1 ± 0.9 km **N**



128_Nemesis_2012Mar30

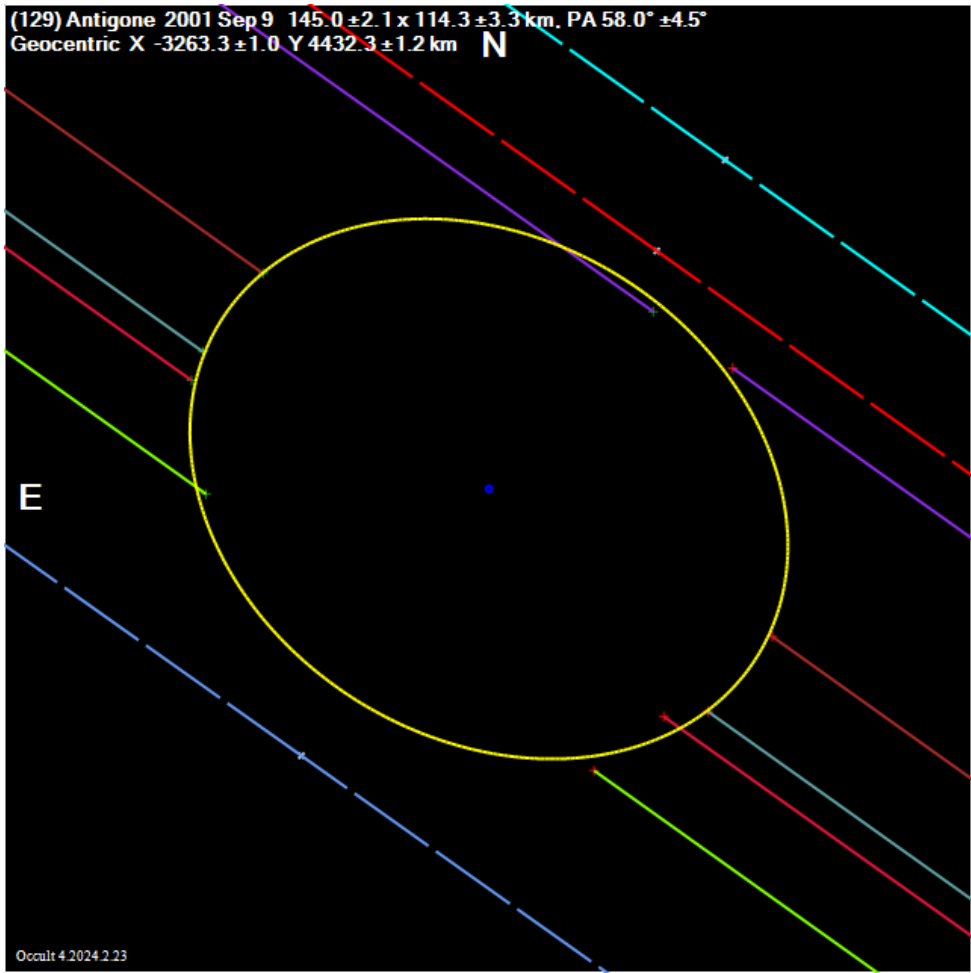
(128) Nemesis 2012 Mar 30 $173.4 \pm 0.7 \times 152.7 \pm 1.9$ km, PA $84.0^\circ \pm 3.1^\circ$
Geocentric X -71.9 ± 0.3 Y -677.2 ± 0.5 km **N**



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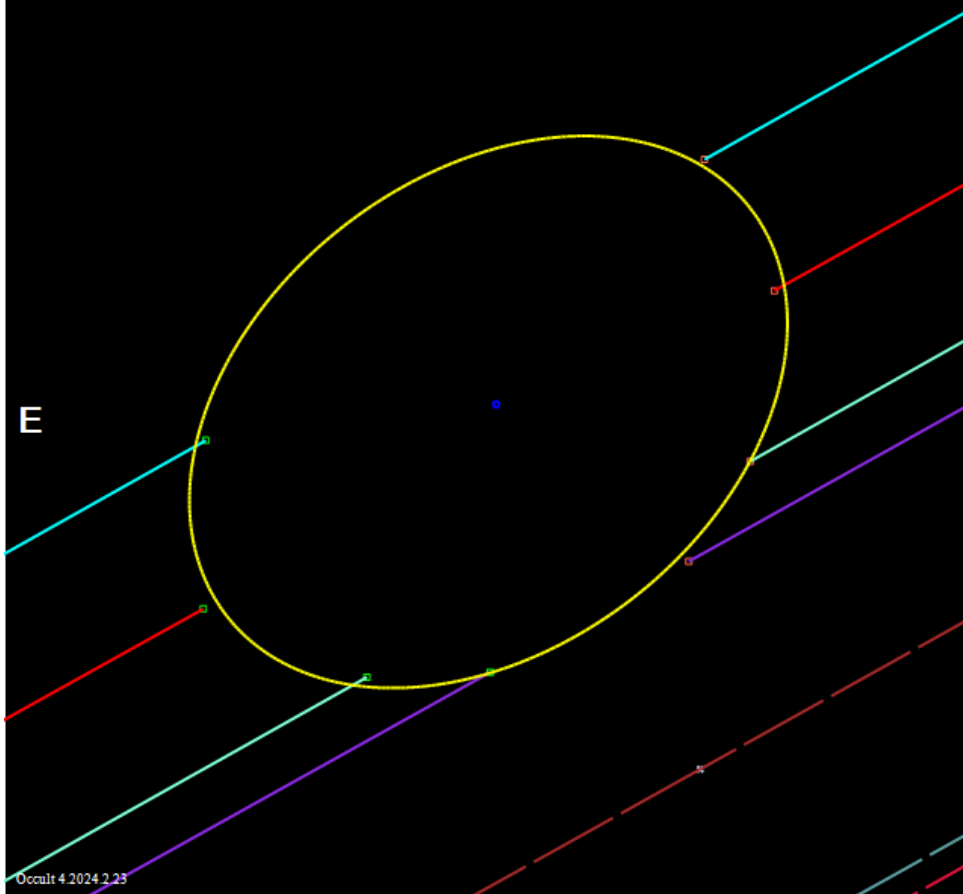
129_Antigone_2001Sep09

(129) Antigone 2001 Sep 9 $145.0 \pm 2.1 \times 114.3 \pm 3.3$ km, PA $58.0^\circ \pm 4.5^\circ$
Geocentric X -3263.3 ± 1.0 Y 4432.3 ± 1.2 km **N**



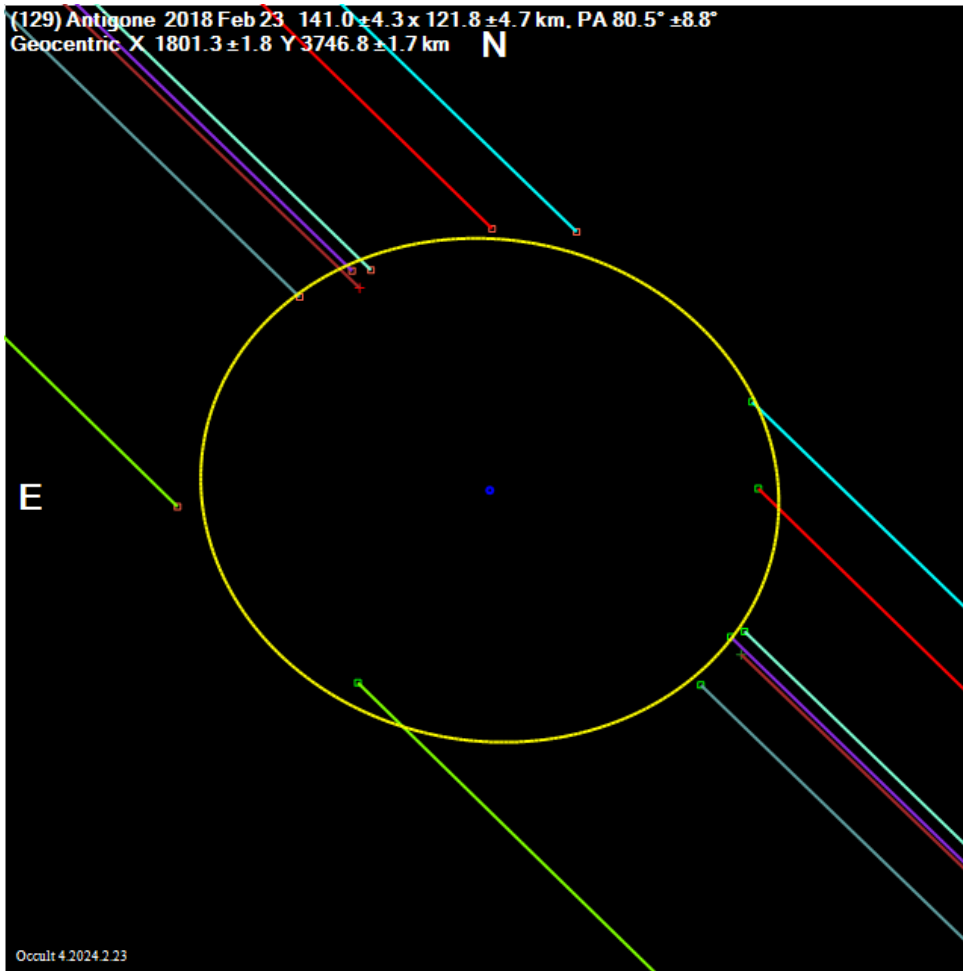
129_Antigone_2009Feb13

(129) Antigone 2009 Feb 13 $147.9 \pm 2.7 \times 105.0 \pm 4.3$ km, PA $127.9^\circ \pm 2.9^\circ$
Geocentric X -3685.3 ± 1.1 Y 3039.1 ± 1.6 km **N**



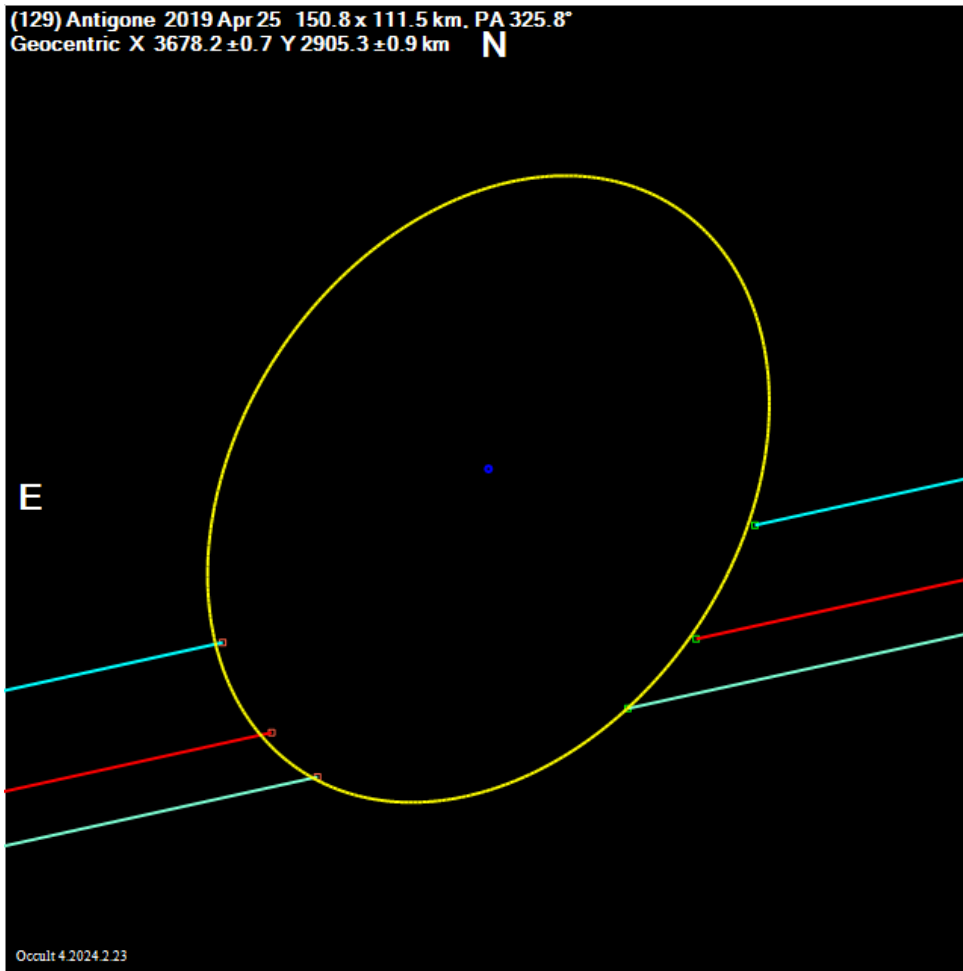
129_Antigone_2018Feb23

(129) Antigone 2018 Feb 23 141.0 \pm 4.3 x 121.8 \pm 4.7 km, PA 80.5 \pm 8.8 $^\circ$
Geocentric X 1801.3 \pm 1.8 Y 3746.8 \pm 1.7 km N



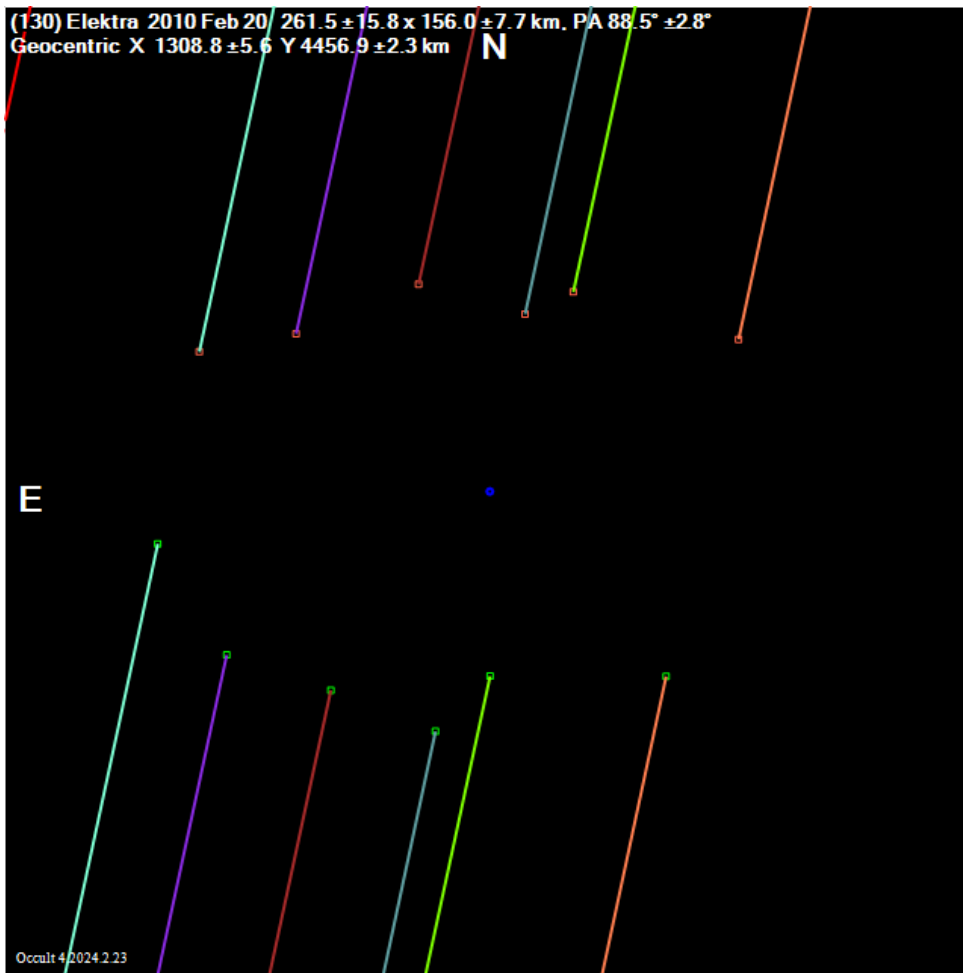
129_Antigone_2019Apr25

(129) Antigone 2019 Apr 25 150.8 x 111.5 km. PA 325.8°
Geocentric X 3678.2 ± 0.7 Y 2905.3 ± 0.9 km N

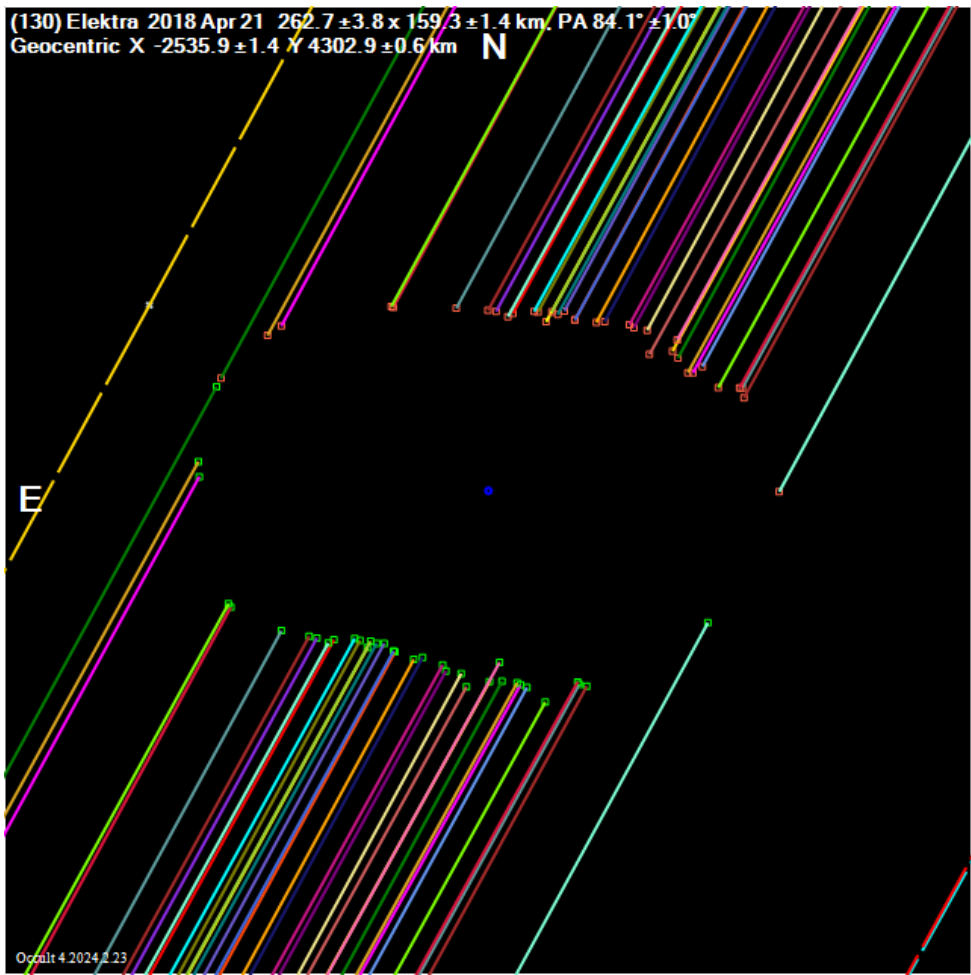


130_Elektra_2010Feb20

(130) Elektra 2010 Feb 20 / 261.5 ± 15.8 x 156.0 ± 7.7 km. PA 88.5° ± 2.8°
Geocentric X 1308.8 ± 5.6 Y 4456.9 ± 2.3 km

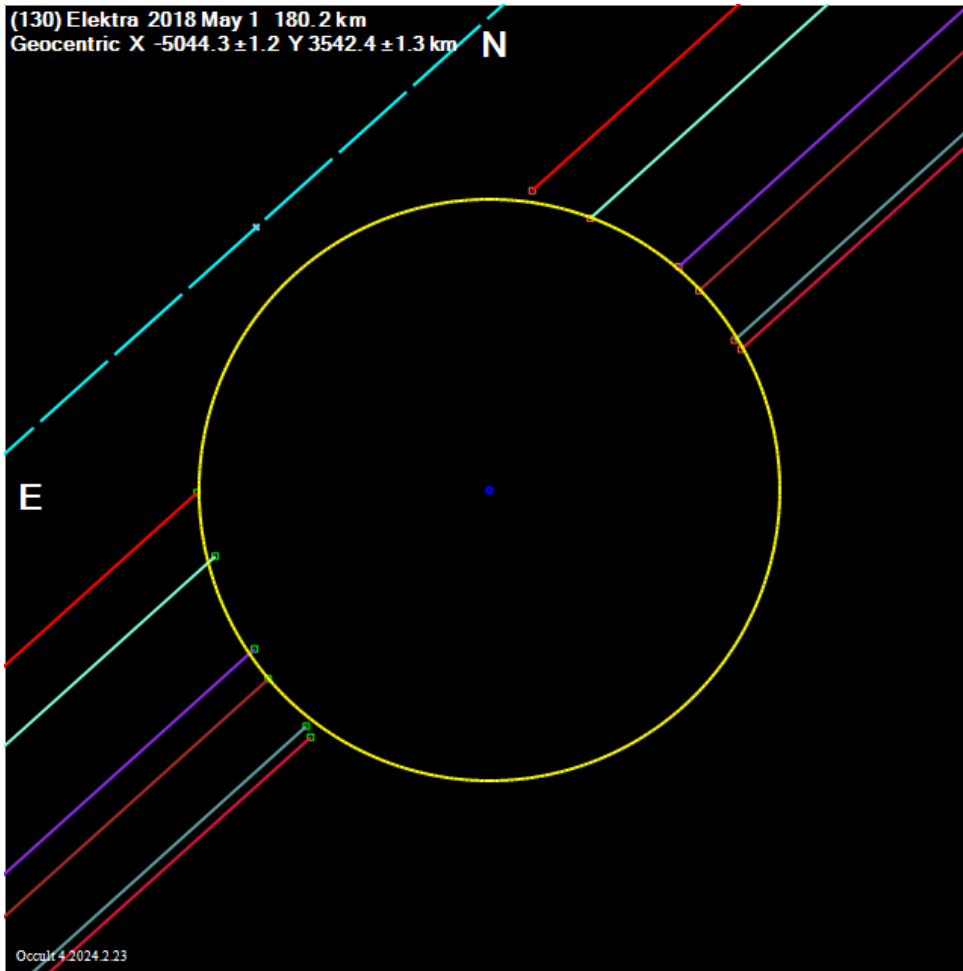


130_Elektra_2018Apr21



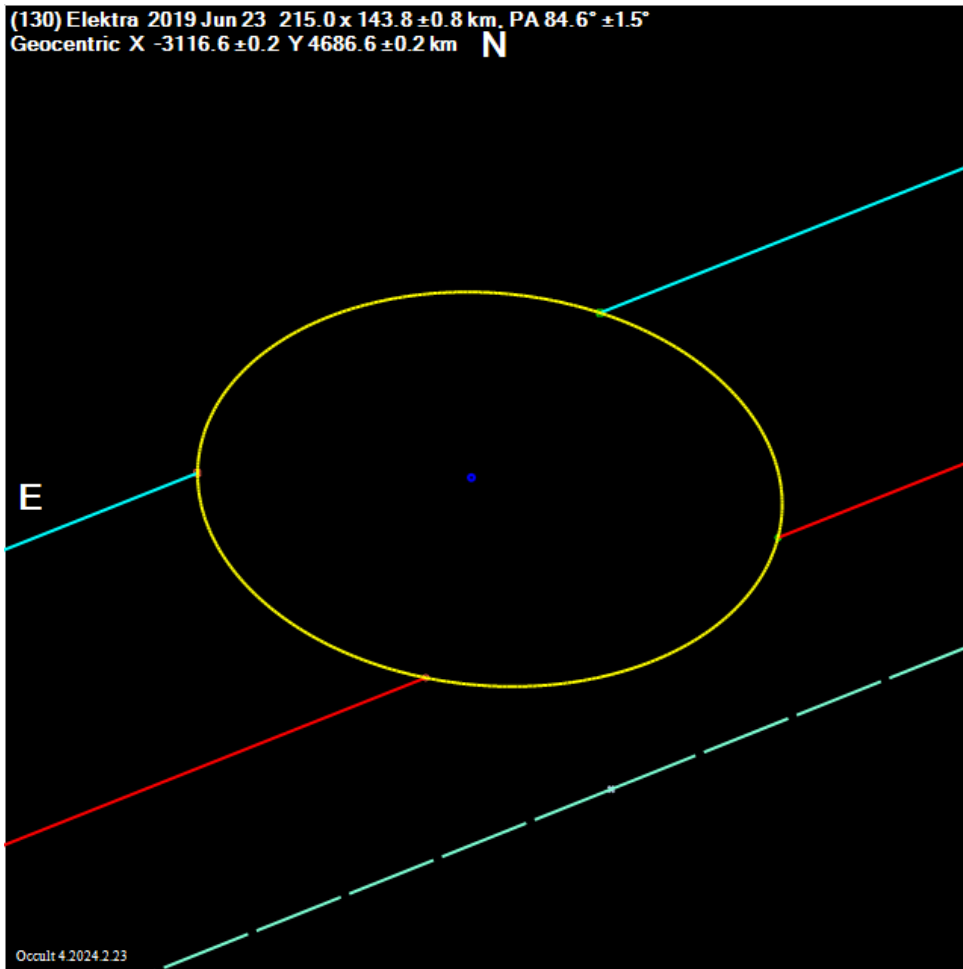
130_Elektra_2018May01

(130) Elektra 2018 May 1 180.2 km
Geocentric X -5044.3 ± 1.2 Y 3542.4 ± 1.3 km N



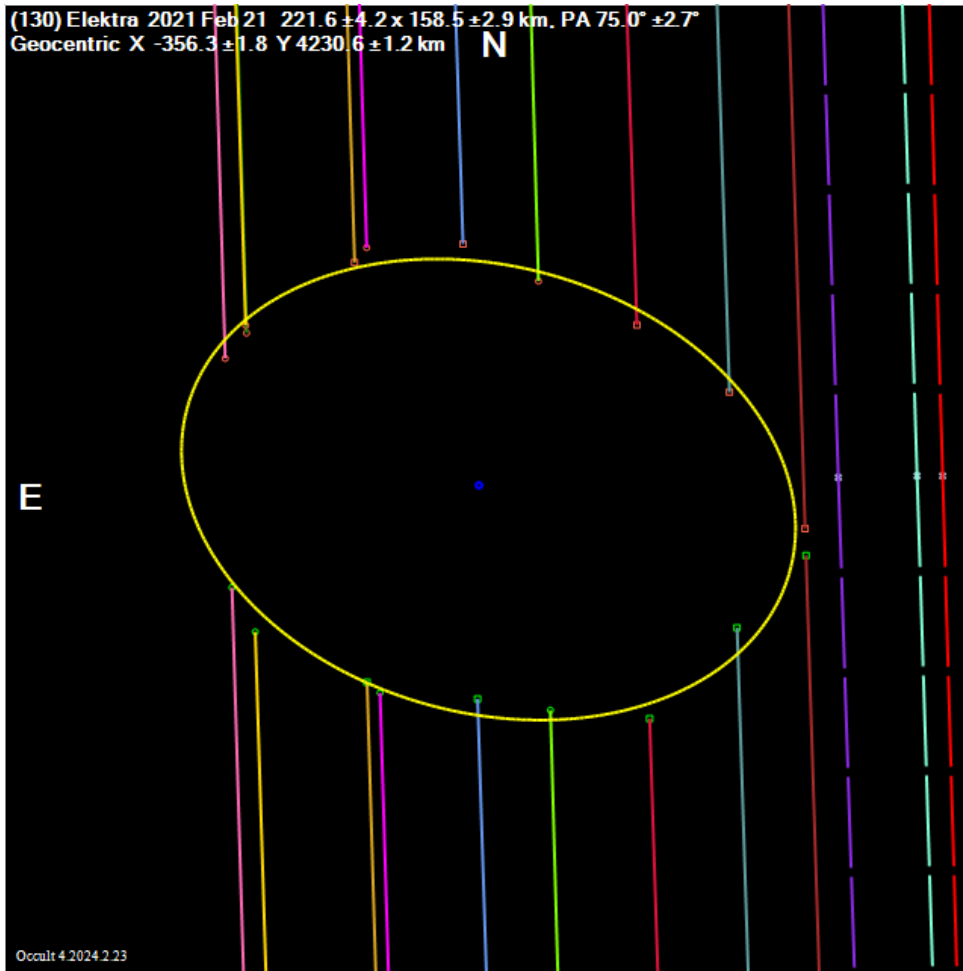
130_Elektra_2019Jun23

(130) Elektra 2019 Jun 23 215.0 x 143.8 ± 0.8 km, PA 84.6° ± 1.5°
Geocentric X -3116.6 ± 0.2 Y 4686.6 ± 0.2 km **N**



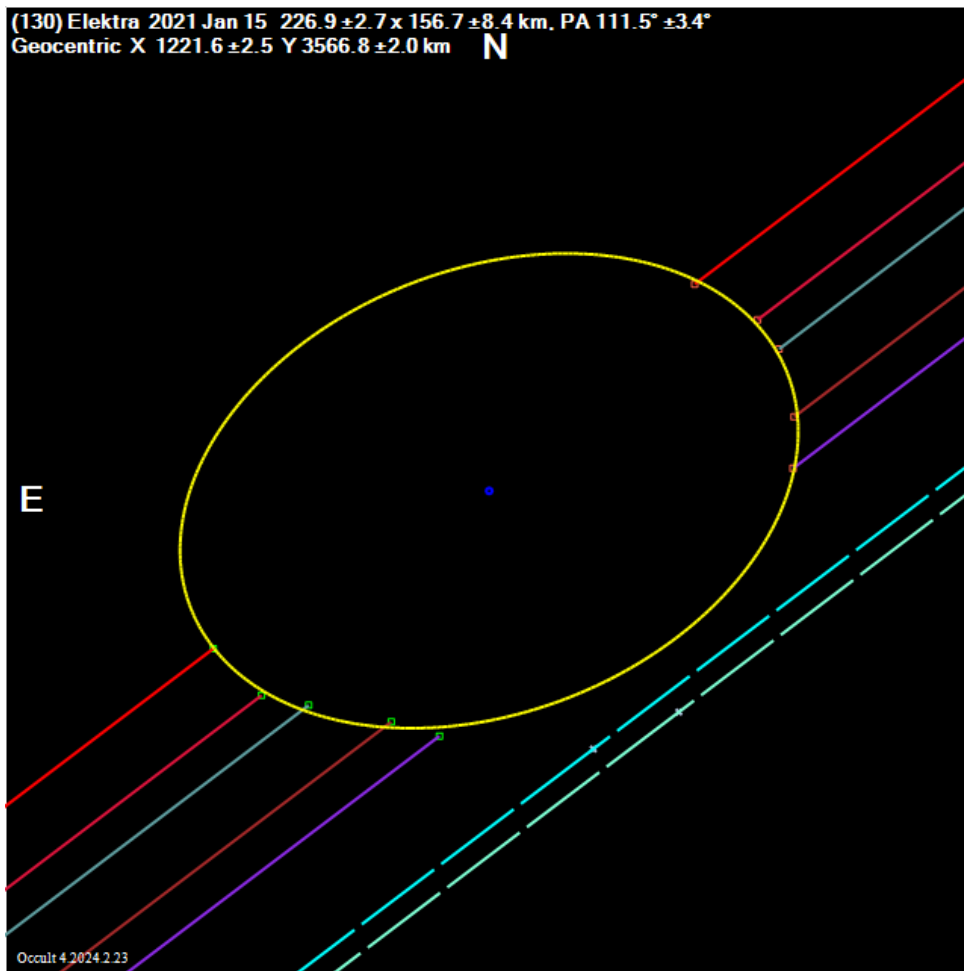
130_Elektra_2021Feb21

(130) Elektra 2021 Feb 21 $221.6 \pm 4.2 \times 158.5 \pm 2.9$ km. PA $75.0^\circ \pm 2.7^\circ$
Geocentric X -356.3 ± 1.8 Y 4230.6 ± 1.2 km



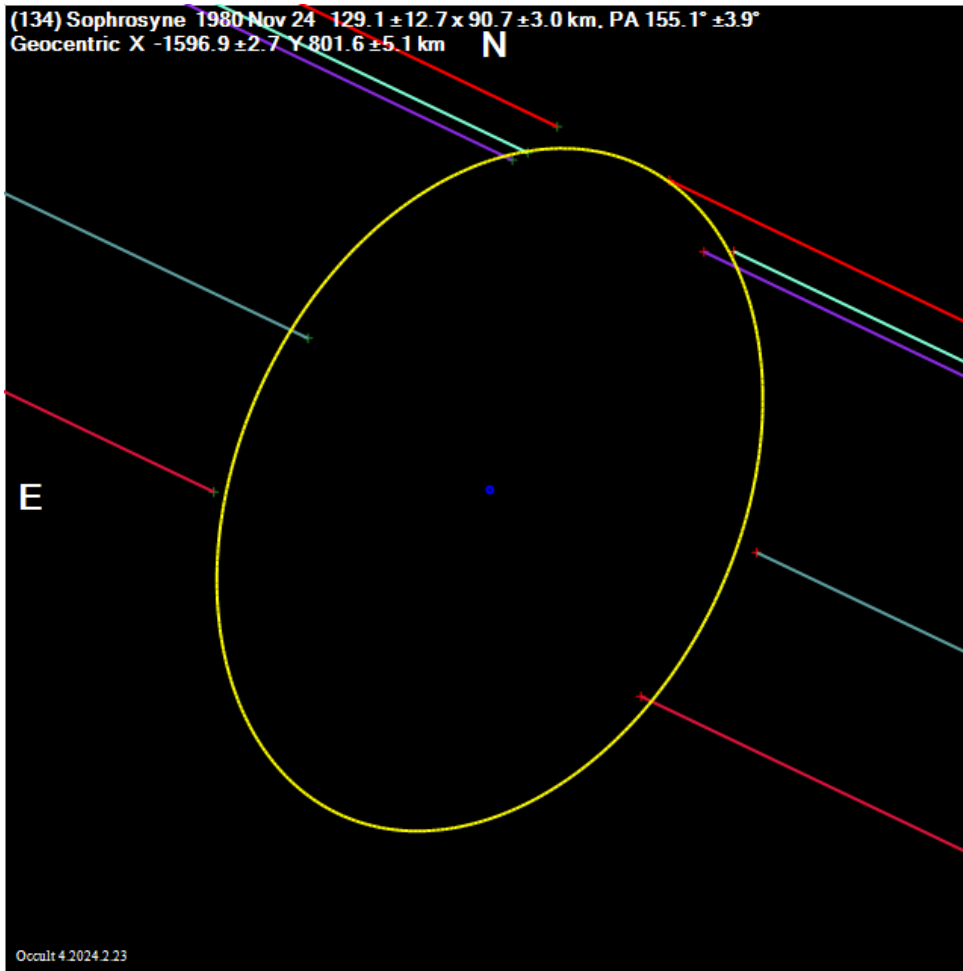
130_Elektra_2021Jan15

(130) Elektra 2021 Jan 15 $226.9 \pm 2.7 \times 156.7 \pm 8.4$ km, PA $111.5^\circ \pm 3.4^\circ$
Geocentric X 1221.6 ± 2.5 Y 3566.8 ± 2.0 km **N**



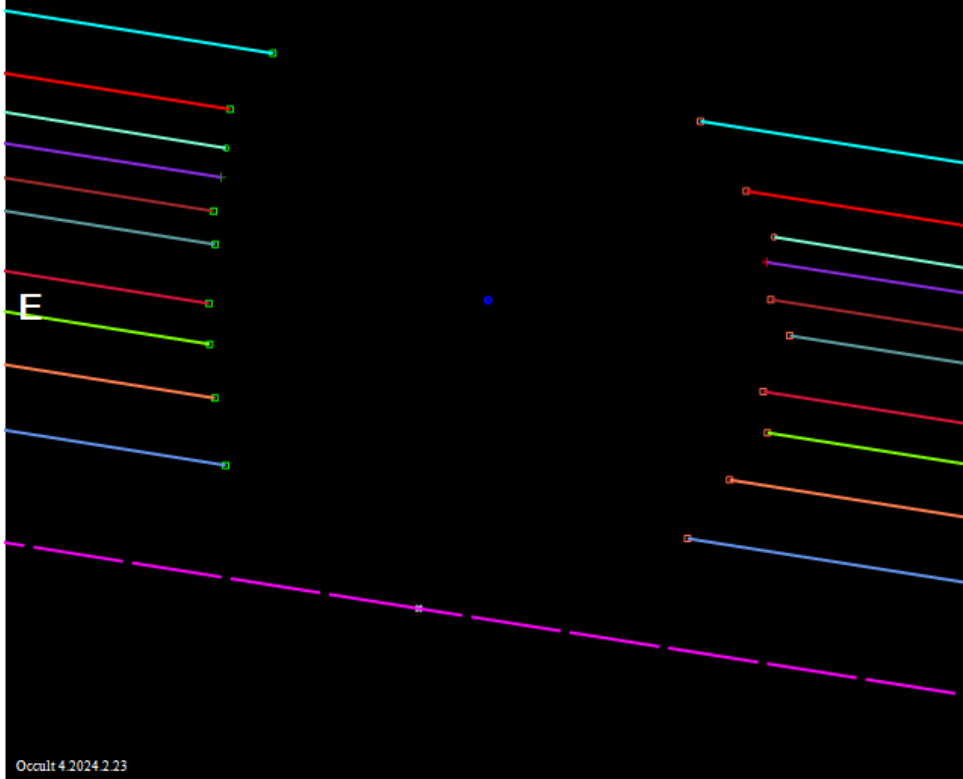
134_Sophrosyne_1980Nov24

(134) Sophrosyne 1980 Nov 24 $129.1 \pm 12.7 \times 90.7 \pm 3.0$ km. PA $155.1^\circ \pm 3.9^\circ$
Geocentric X -1596.9 ± 2.7 Y 801.6 ± 5.1 km **N**



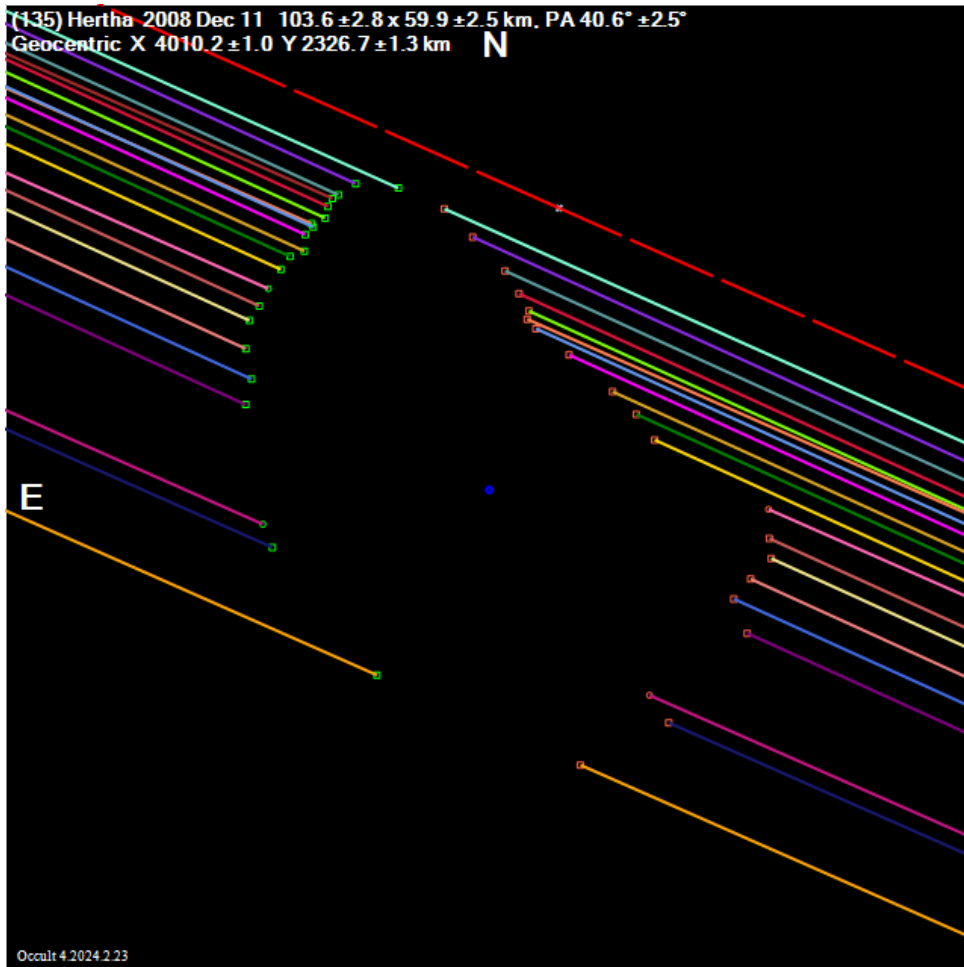
134_Sophrosyne_2013Nov26

(134) Sophrosyne 2013 Nov 26 $124.5 \pm 2.6 \times 109.2 \pm 1.2$ km, PA $16.9^\circ \pm 5.6^\circ$
Geocentric X 3659.4 ± 0.4 Y 545.5 ± 1.0 km **N**



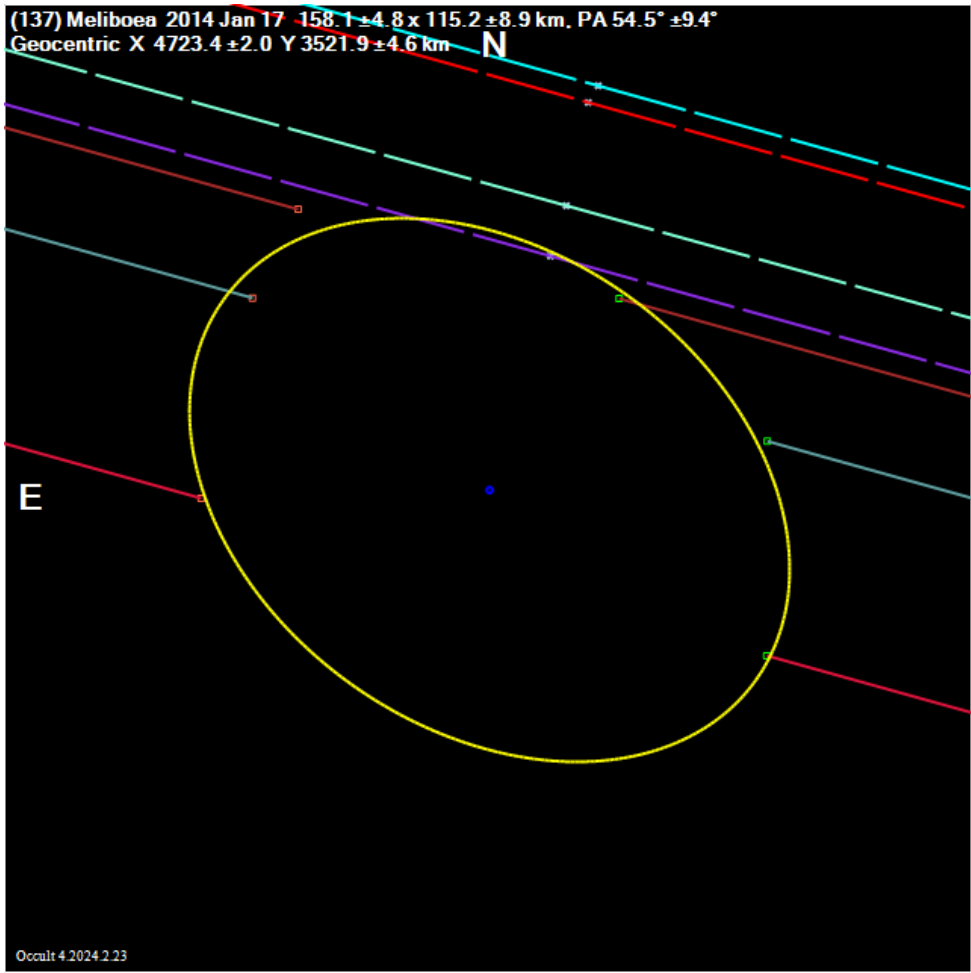
135_Hertha_2008Dec11

(135) Hertha 2008 Dec 11 $103.6 \pm 2.8 \times 59.9 \pm 2.5$ km, PA $40.6^\circ \pm 2.5^\circ$
Geocentric X 4010.2 ± 1.0 Y 2326.7 ± 1.3 km N



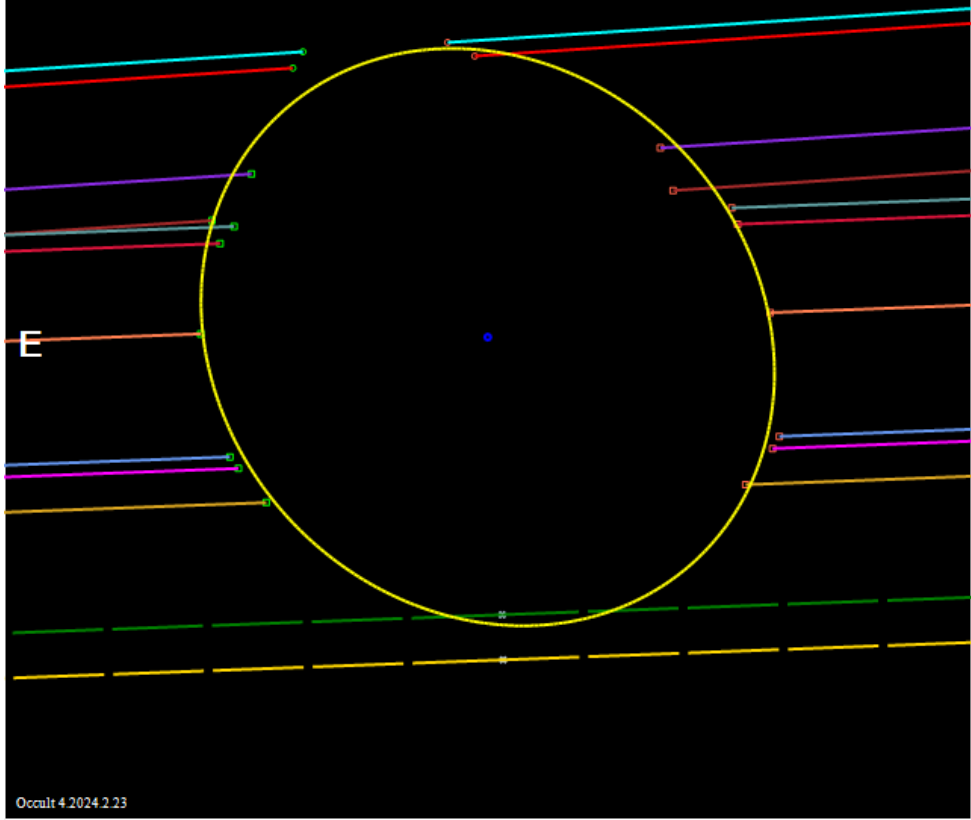
137_Meliboea_2014Jan17

(137) Meliboea 2014 Jan 17 $158.1 \pm 4.8 \times 115.2 \pm 8.9$ km. PA $54.5^\circ \pm 9.4^\circ$
Geocentric X 4723.4 ± 2.0 Y 3521.9 ± 4.6 km



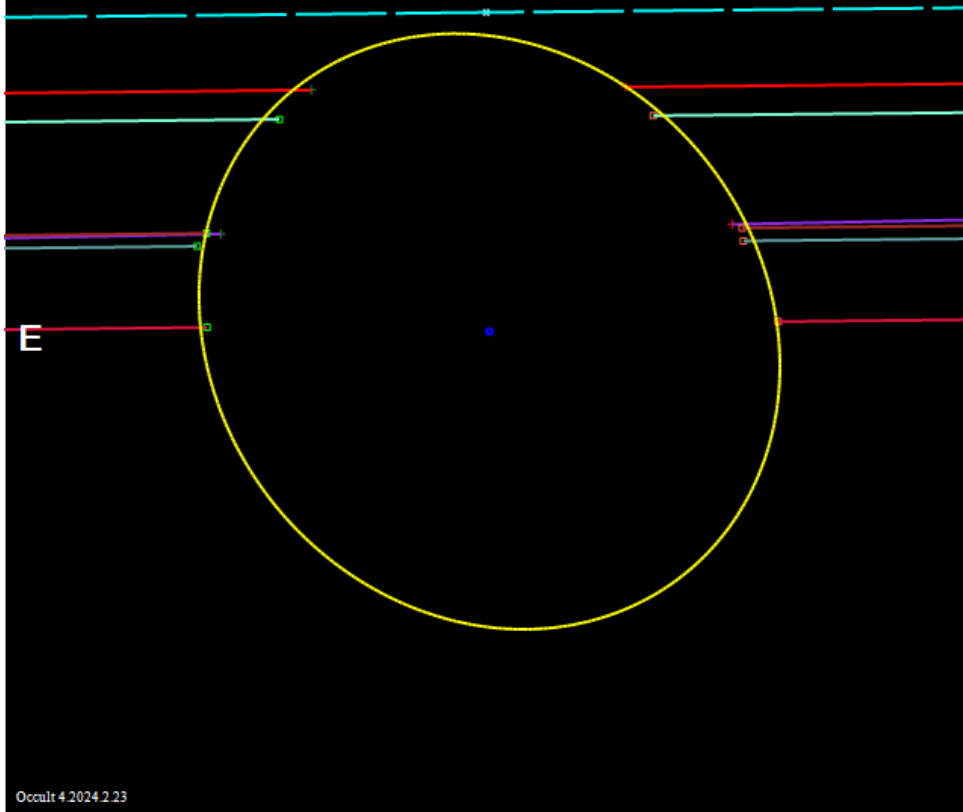
138_Tolosa_2022Jan27

(138) Tolosa 2022 Jan 27 $52.9 \pm 1.2 \times 46.7 \pm 1.0$ km, PA $223.7^\circ \pm 9.1^\circ$
Geocentric X 1342.3 ± 0.4 Y 2629.5 ± 0.6 km **N**



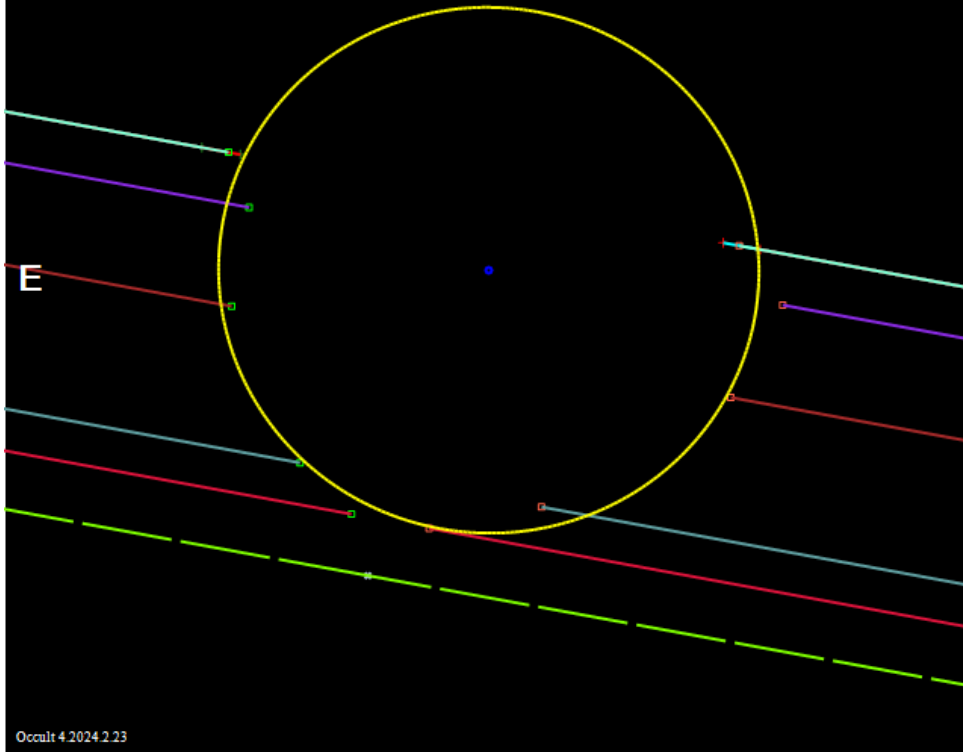
139_Juewa_2002Apr20

(139) Juewa 2002 Apr 20 $176.9 \pm 12.8 \times 156.9 \pm 7.0$ km, PA $39.2^\circ \pm 21.0^\circ$
Geocentric X 223.3 ± 1.2 Y 5382.1 ± 6.8 km **N**



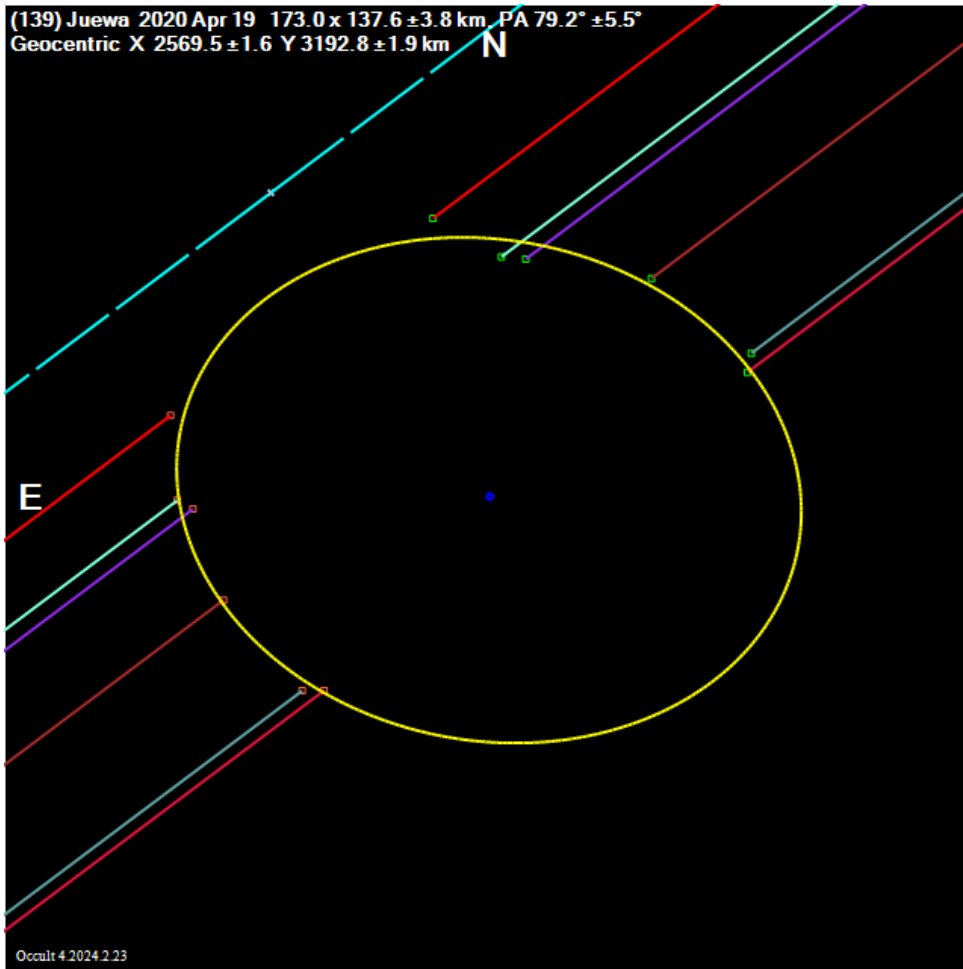
139_Juewa_2013Aug31

(139) Juewa 2013 Aug 31 $147.9 \pm 4.3 \times 143.7 \pm 17.5$ km, PA $84.4^\circ \pm 76.5^\circ$
Geocentric X -1725.0 ± 2.2 Y -3663.3 ± 7.6 km **N**



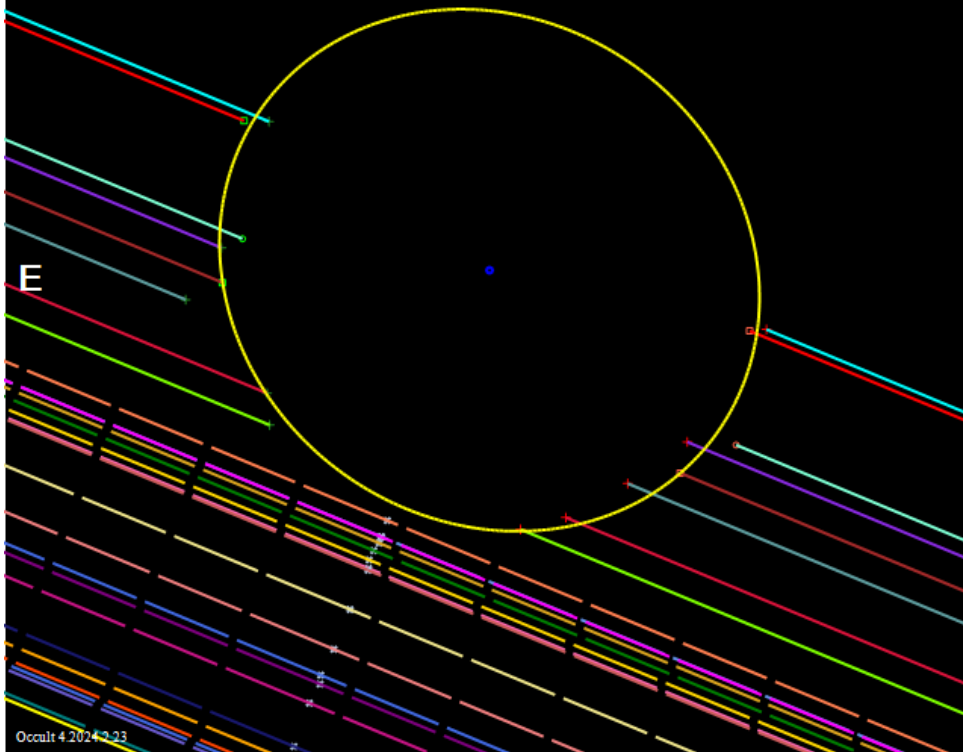
139_Juewa_2020Apr19

(139) Juewa 2020 Apr 19 173.0 x 137.6 ± 3.8 km PA 79.2° ± 5.5°
Geocentric X 2569.5 ± 1.6 Y 3192.8 ± 1.9 km



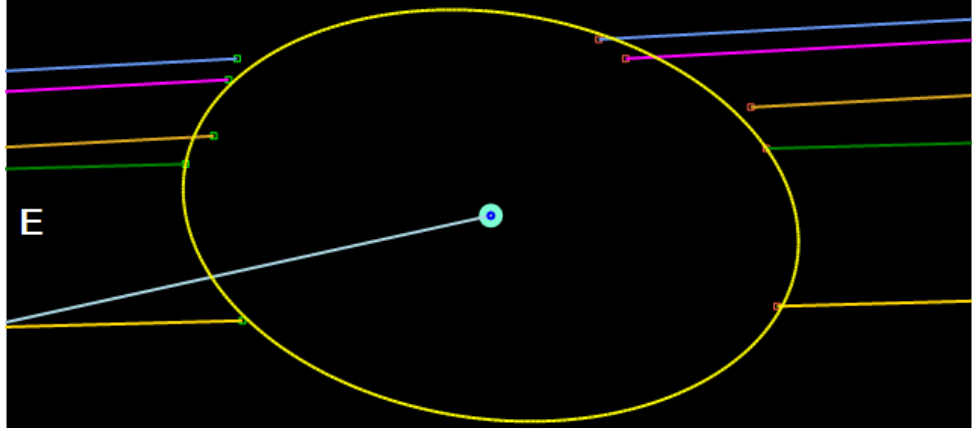
141_Lumen_2005Jan05

(141) Lumen 2005 Jan 5 $145.8 \pm 3.2 \times 130.6 \pm 15.3$ km, PA $54.2^\circ \pm 19.9^\circ$
Geocentric X -1485.9 ± 2.1 Y 57.5 ± 4.8 km **N**



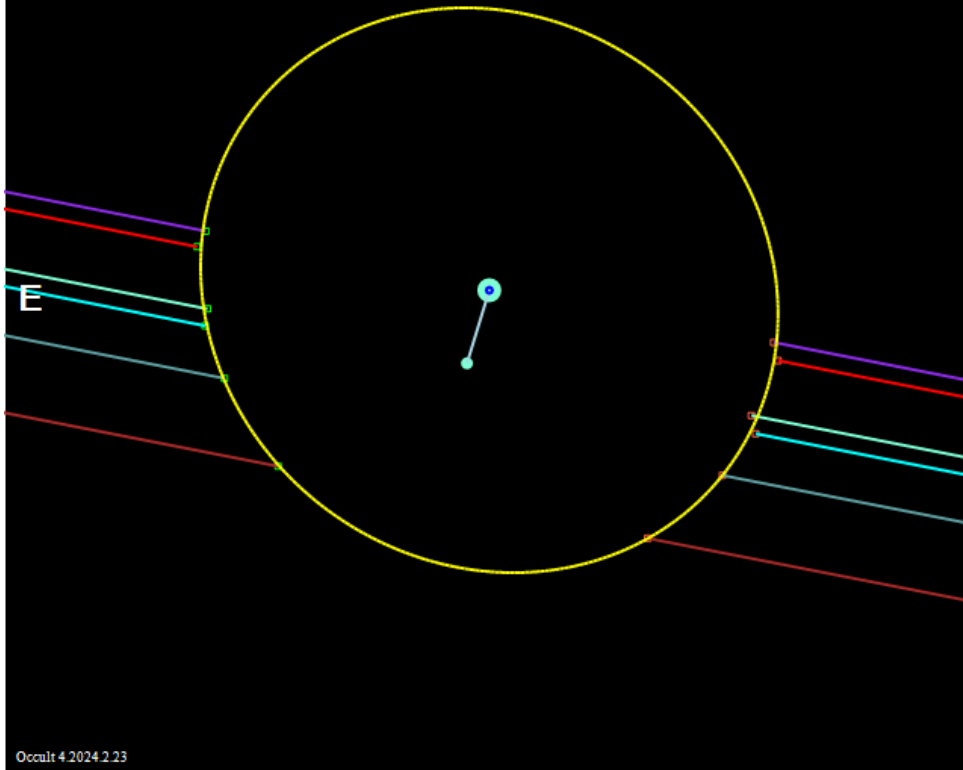
141_Lumen_2013Dec28

(141) Lumen 2013 Dec 28 149.6 ± 368.1 x 97.9 ± 1821.7 km. PA 81.4° ± 950.2°
Geocentric X -987.6 ± 190.4 Y 2074.8 ± 498.9 km
Double : Sep 0.1541 ± 0.3101", PA 102.4° ± 0.7°



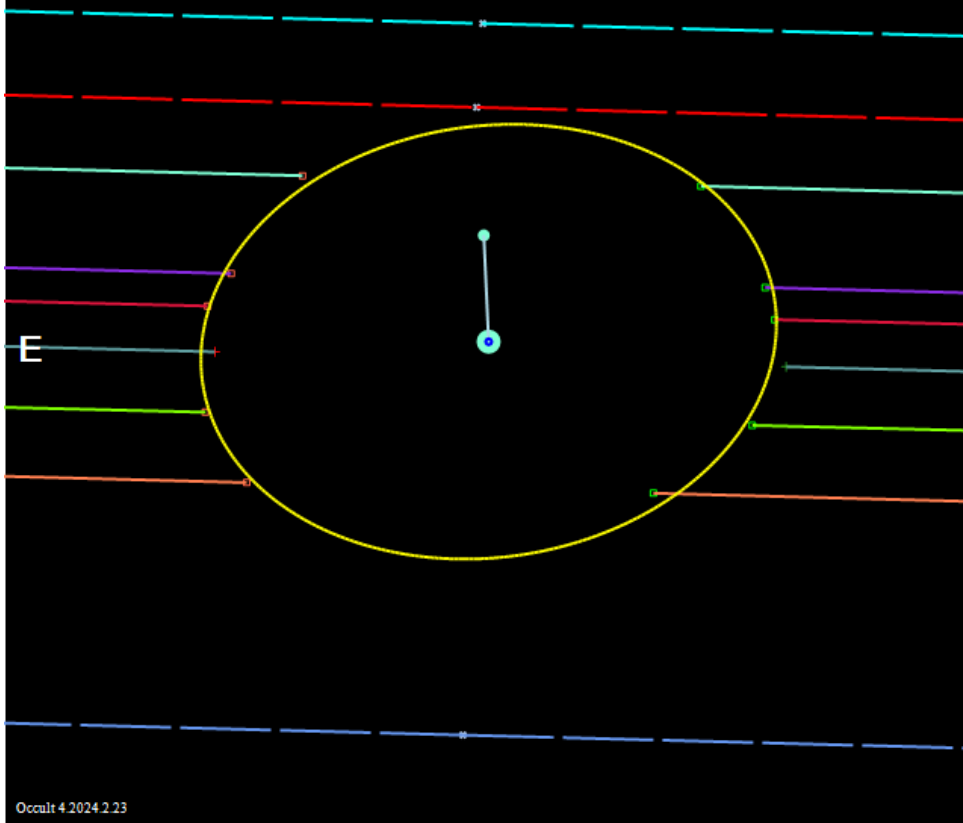
143_Adria_2020Nov29

(143) Adria 2020 Nov 29 $112.5 \pm 1.9 \times 103.1 \pm 4.5$ km, PA $52.7^\circ \pm 14.3^\circ$
Geocentric X 222.8 ± 0.4 Y -6118.7 ± 2.1 km **N**
Double : Sep $0.0100''$, PA 163.0°



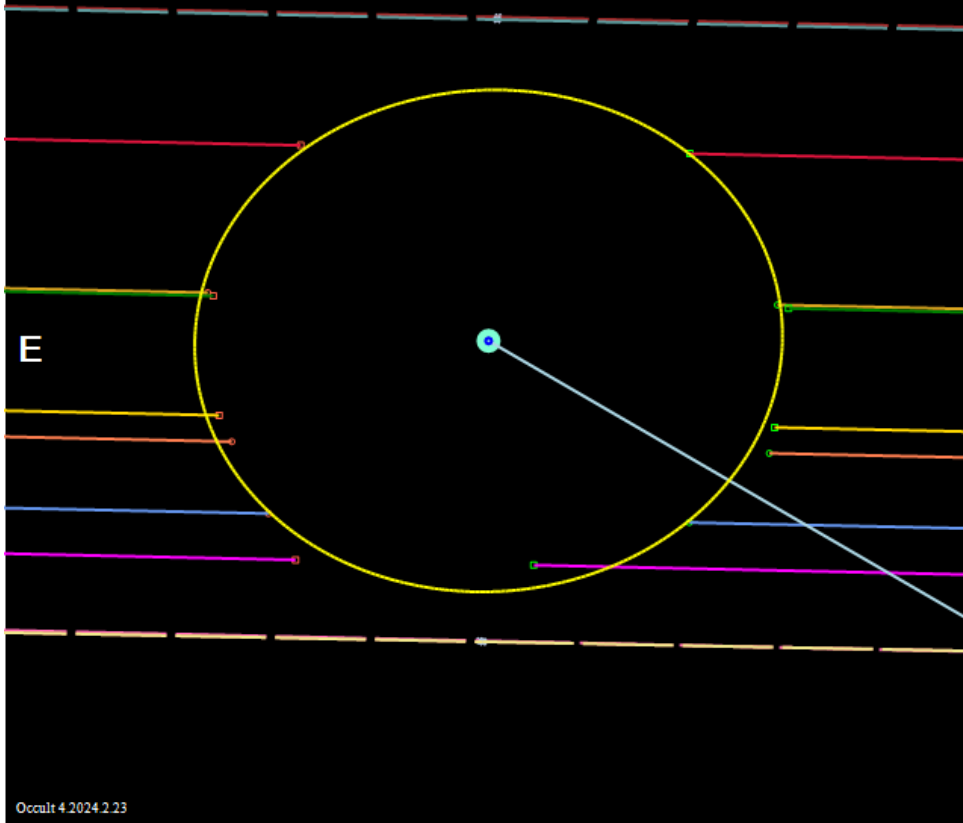
144_Vibilia_2006Sep15

(144) Vibilia 2006 Sep 15 161.0 ± 2.6 x 120.0 ± 4.7 km, PA 98.1° ± 3.2°
Geocentric X -4067.2 ± 1.0 Y 2713.9 ± 1.3 km N
Double : Sep 0.0181 ± 0.0071", PA 2.6° ± 5.7°



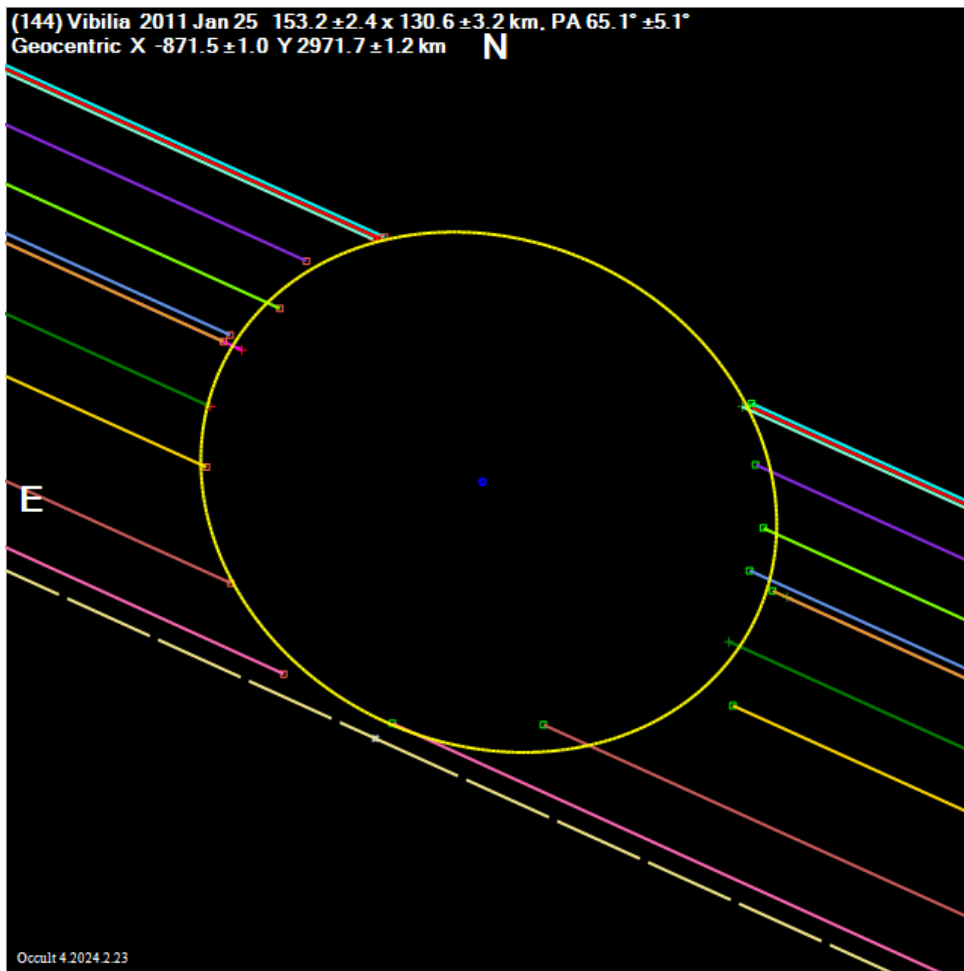
144_Vibilia_2006Sep19

(144) Vibilia 2006 Sep 19 159.3 ± 2.7 x 135.7 ± 4.3 km, PA 93.9° ± 6.1°
Geocentric X -4640.9 ± 1.4 Y 3422.1 ± 4.8 km N
Double : Sep 0.2575 ± 0.0020", PA 239.9° ± 0.6°



144_Vibilia_2011Jan25

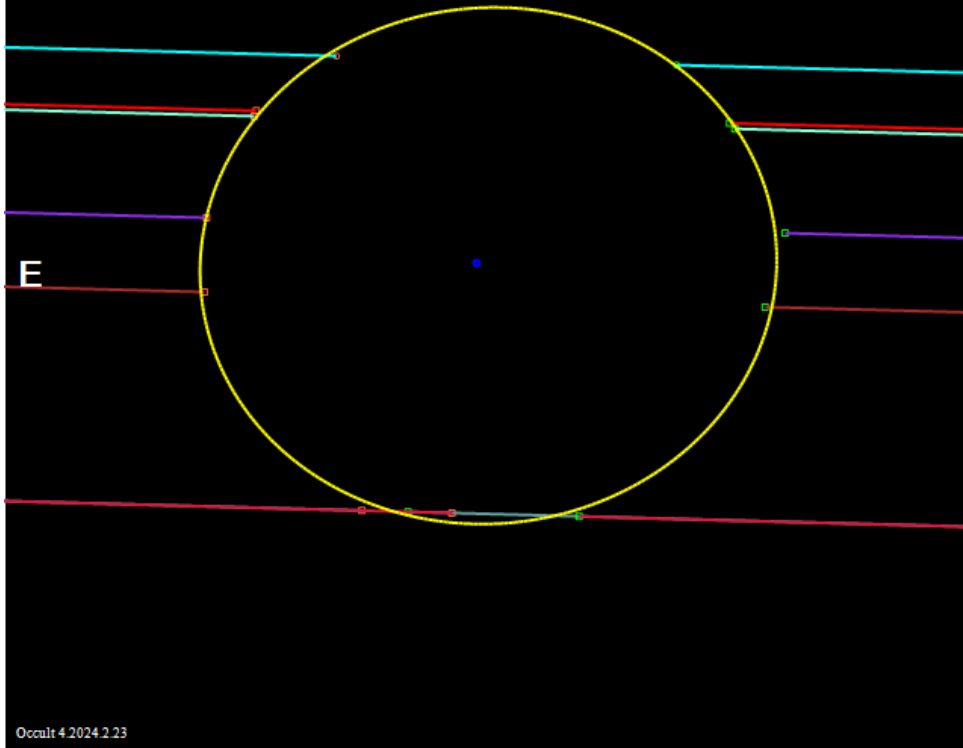
(144) Vibia 2011 Jan 25 $153.2 \pm 2.4 \times 130.6 \pm 3.2$ km, PA $65.1^\circ \pm 5.1^\circ$
Geocentric X -871.5 ± 1.0 Y 2971.7 ± 1.2 km **N**



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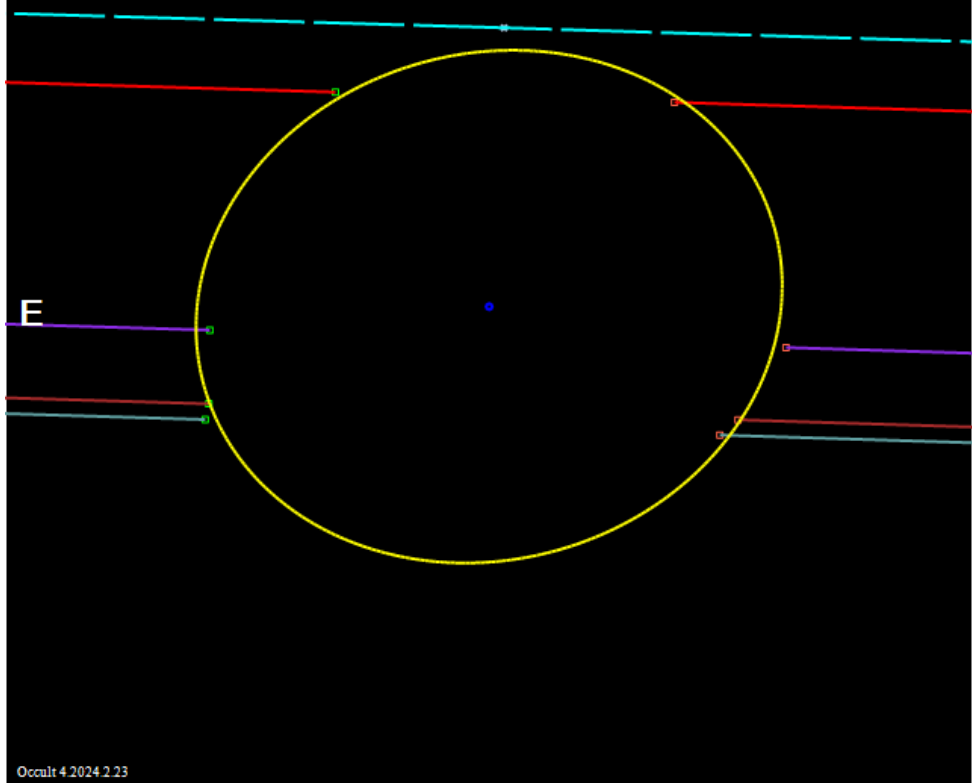
144_Vibilia_2019Oct15

(144) Vibia 2019 Oct 15 $146.6 \pm 1.4 \times 130.9 \pm 1.7$ km, PA $95.6^\circ \pm 4.7^\circ$
Geocentric X -4351.9 ± 0.6 Y 2870.2 ± 0.7 km **N**



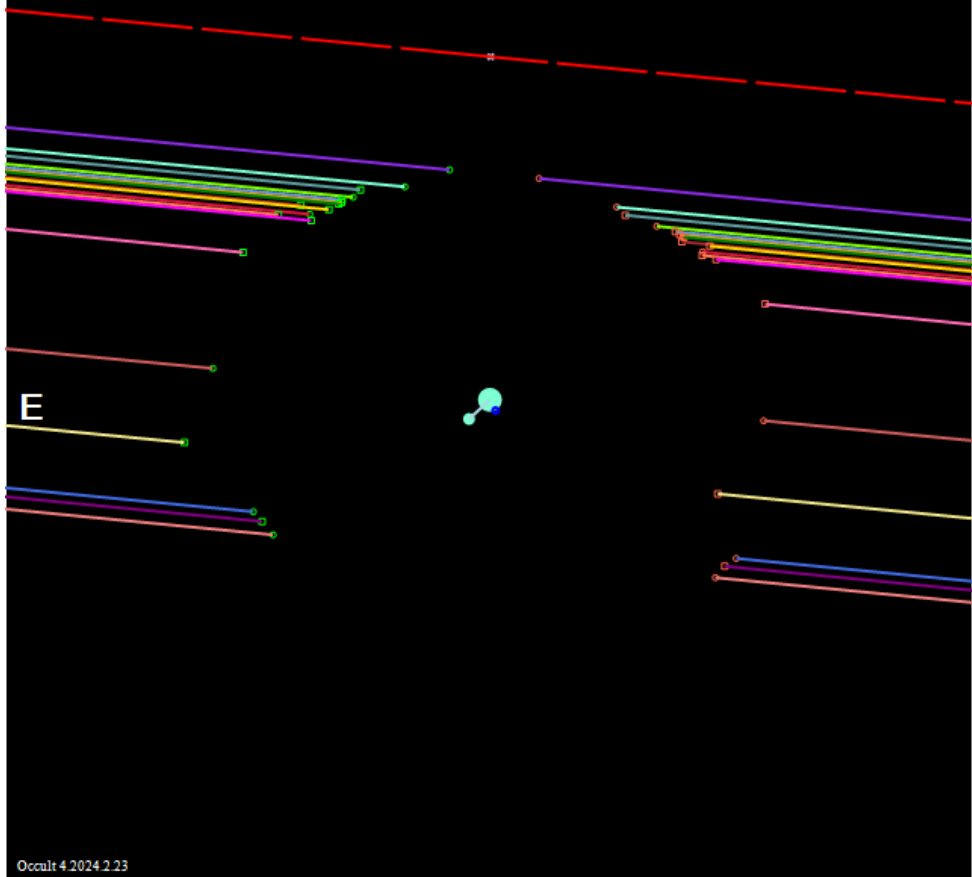
144_Vibilia_2022May02

(144) Vibilia 2022 May 2 162.6 ± 3.3 x 138.9 ± 7.1 km, PA 105.5° ± 10.1°
Geocentric X -451.1 ± 1.2 Y 5439.6 ± 2.6 km **N**



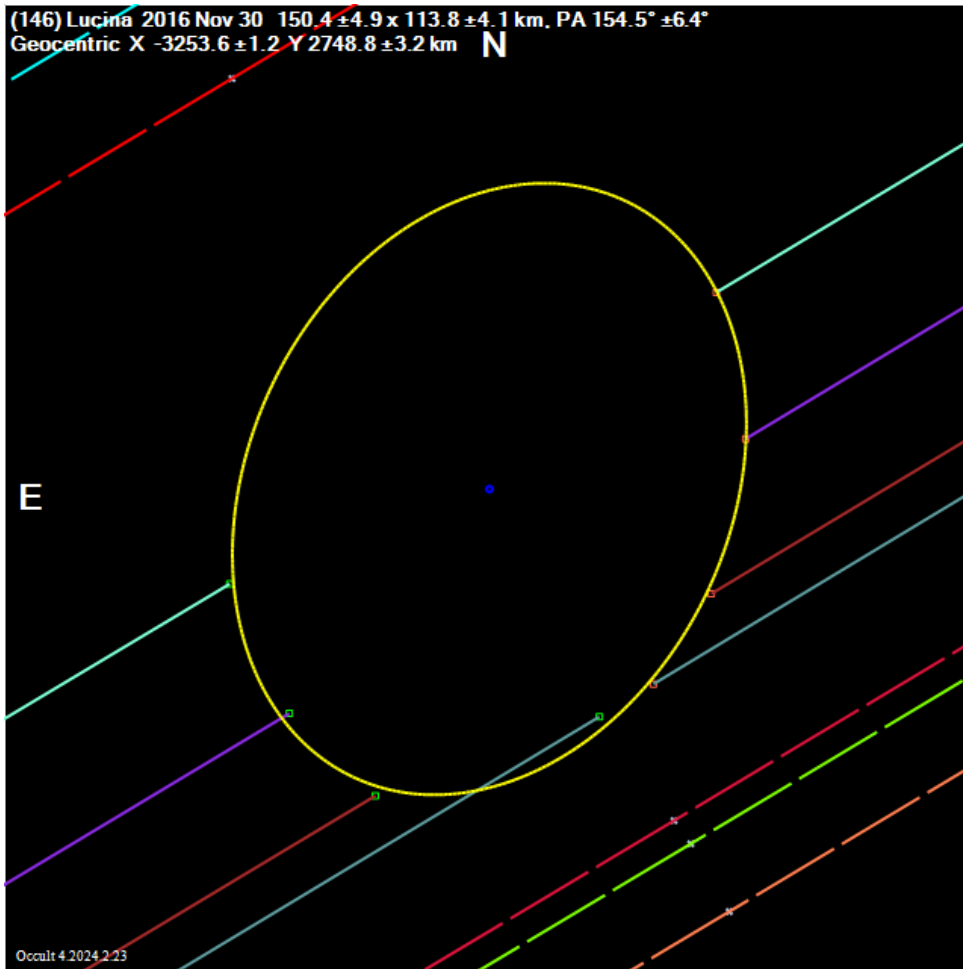
145_Adeona_2019Apr22

(145) Adeona 2019 Apr 22 155.9 ± 4.4 x 119.4 ± 4.9 km, PA 263.3° ± 2.8°
Geocentric X -430.1 ± 1.3 Y 5685.0 ± 1.7 km N
Double : Sep 0.0054 ± 0.0013", PA 132.6° ± 0.0°



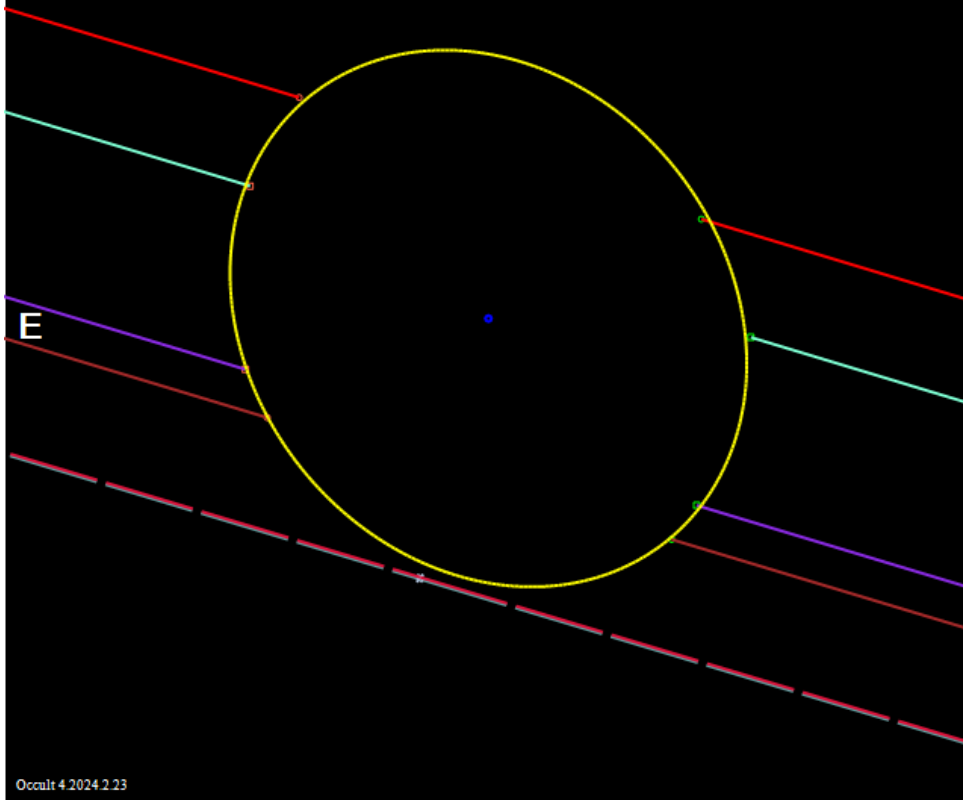
146_Lucina_2016Nov30

(146) Lucina 2016 Nov 30 150.4 ± 4.9 x 113.8 ± 4.1 km. PA 154.5° ± 6.4°
Geocentric X -3253.6 ± 1.2 Y 2748.8 ± 3.2 km N



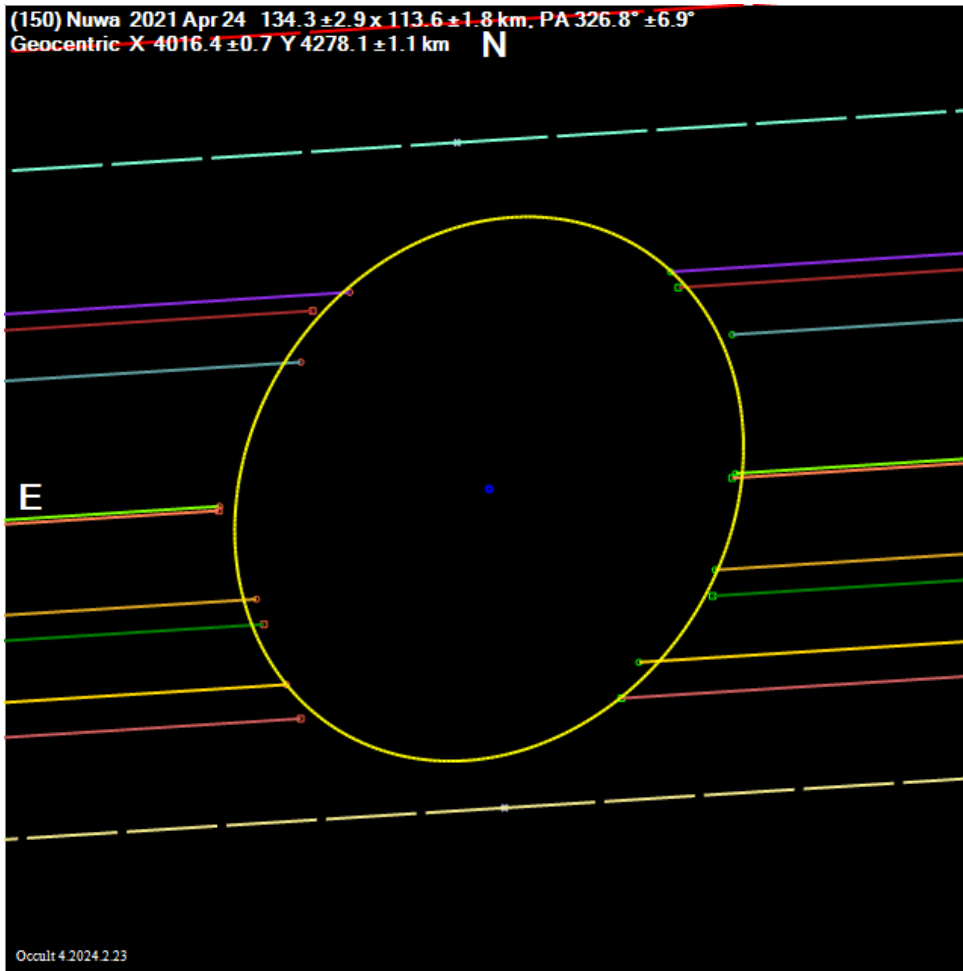
147_Protogeneia_2020Nov22

(147) Protogeneia 2020 Nov 22 $110.9 \pm 1.3 \times 93.2 \pm 1.8$ km, PA $38.8^\circ \pm 6.8^\circ$
Geocentric X 4099.0 ± 0.3 Y 4524.3 ± 0.6 km N

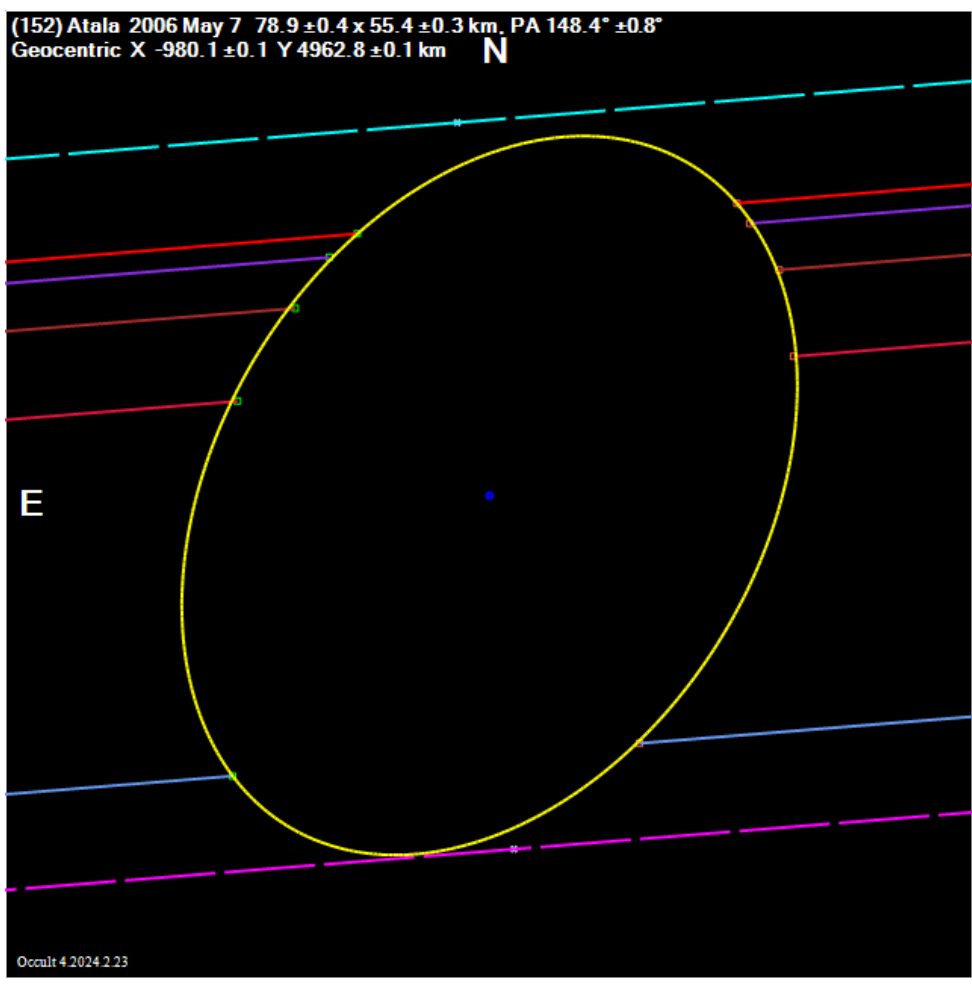


150_Nuwa_2021Apr24

(150) Nuwa 2021 Apr 24 134.3 ± 2.9 x 113.6 ± 1.8 km PA 326.8° ± 6.9°
Geocentric X 4016.4 ± 0.7 Y 4278.1 ± 1.1 km N



152_Atala_2006May07



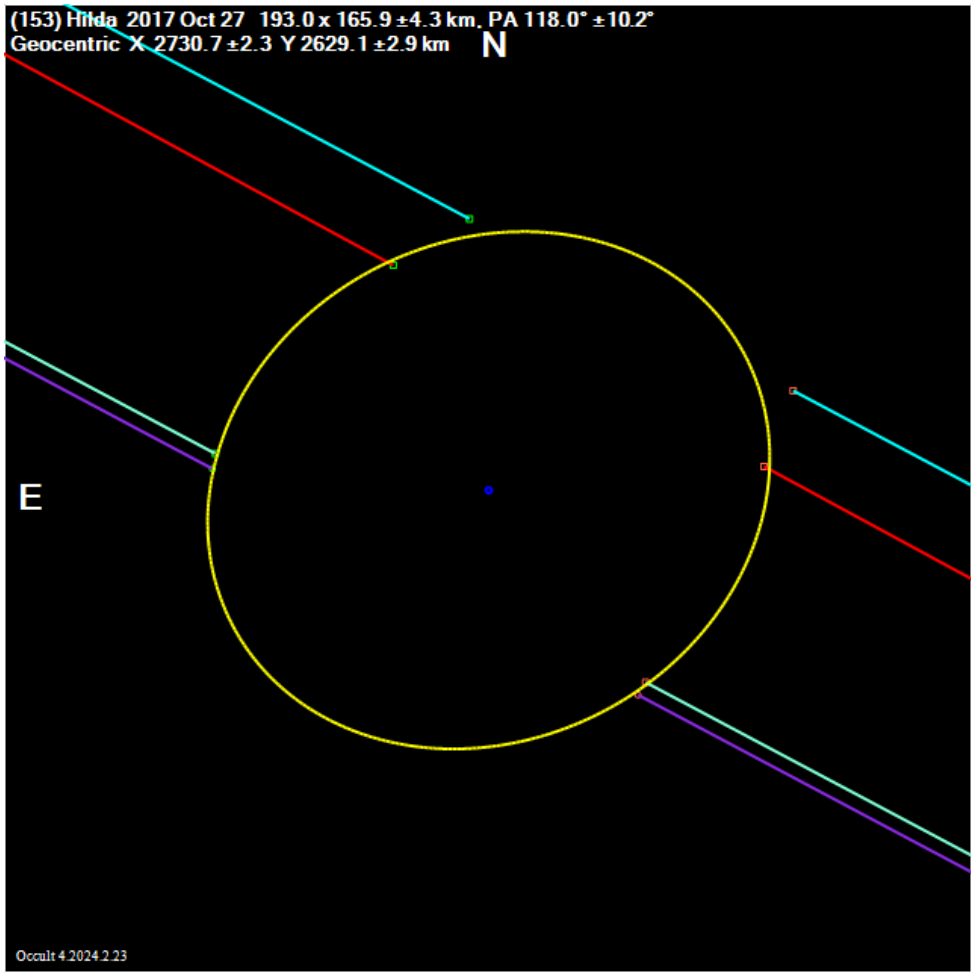
153_Hilda_2007Jul20

(153) Hilda 2007 Jul 20 $189.9 \pm 14.5 \times 146.3 \pm 3.5$ km, PA $11.6^\circ \pm 4.6^\circ$
Geocentric X 2151.4 ± 1.5 Y 5458.4 ± 4.1 km **N**



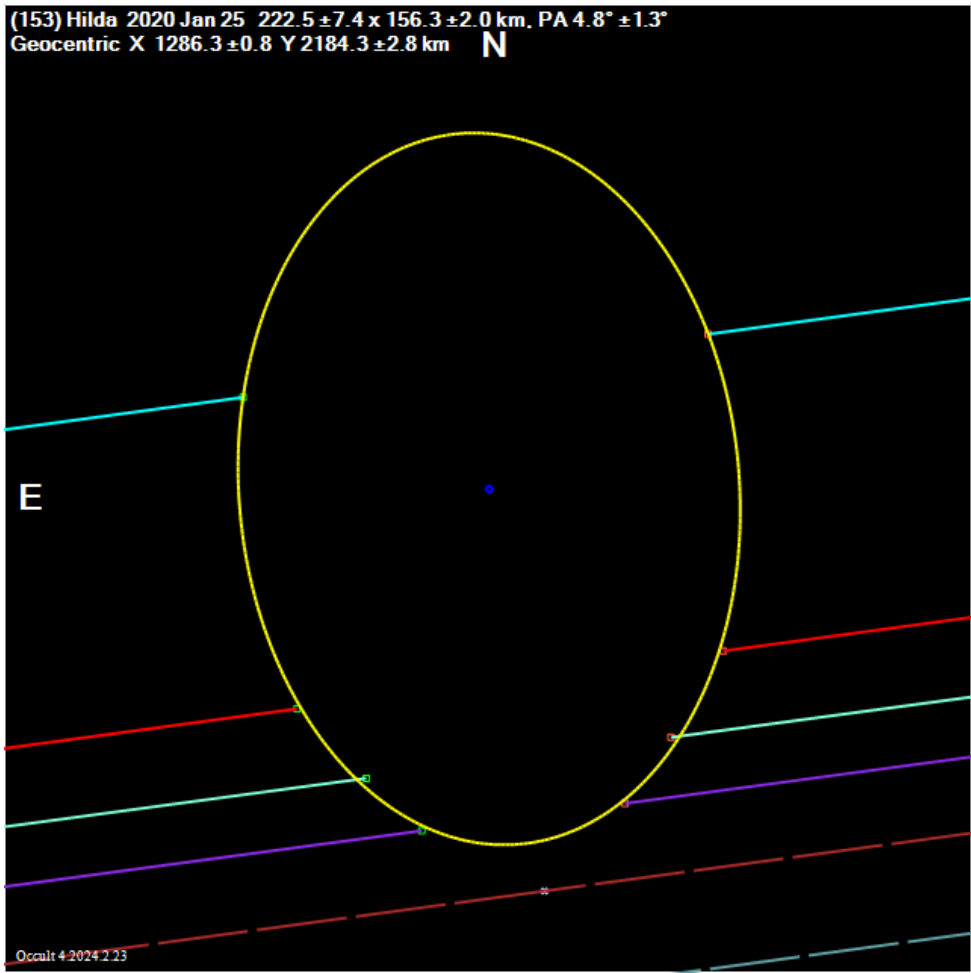
153_Hilda_2017Oct27

(153) Hilda 2017 Oct 27 193.0 x 165.9 ± 4.3 km, PA 118.0° ± 10.2°
Geocentric X 2730.7 ± 2.3 Y 2629.1 ± 2.9 km N



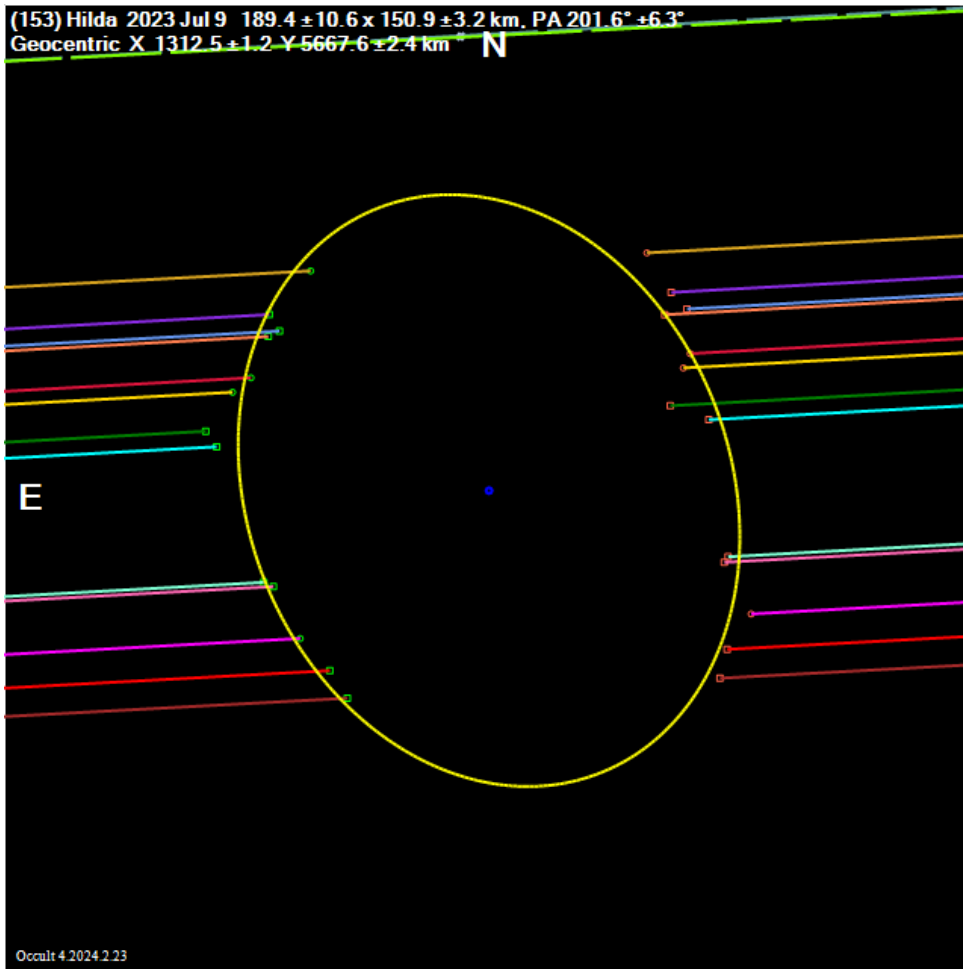
153_Hilda_2020Jan25

(153) Hilda 2020 Jan 25 222.5 ± 7.4 x 156.3 ± 2.0 km. PA 4.8° ± 1.3°
Geocentric X 1286.3 ± 0.8 Y 2184.3 ± 2.8 km N



153_Hilda_2023Jul09

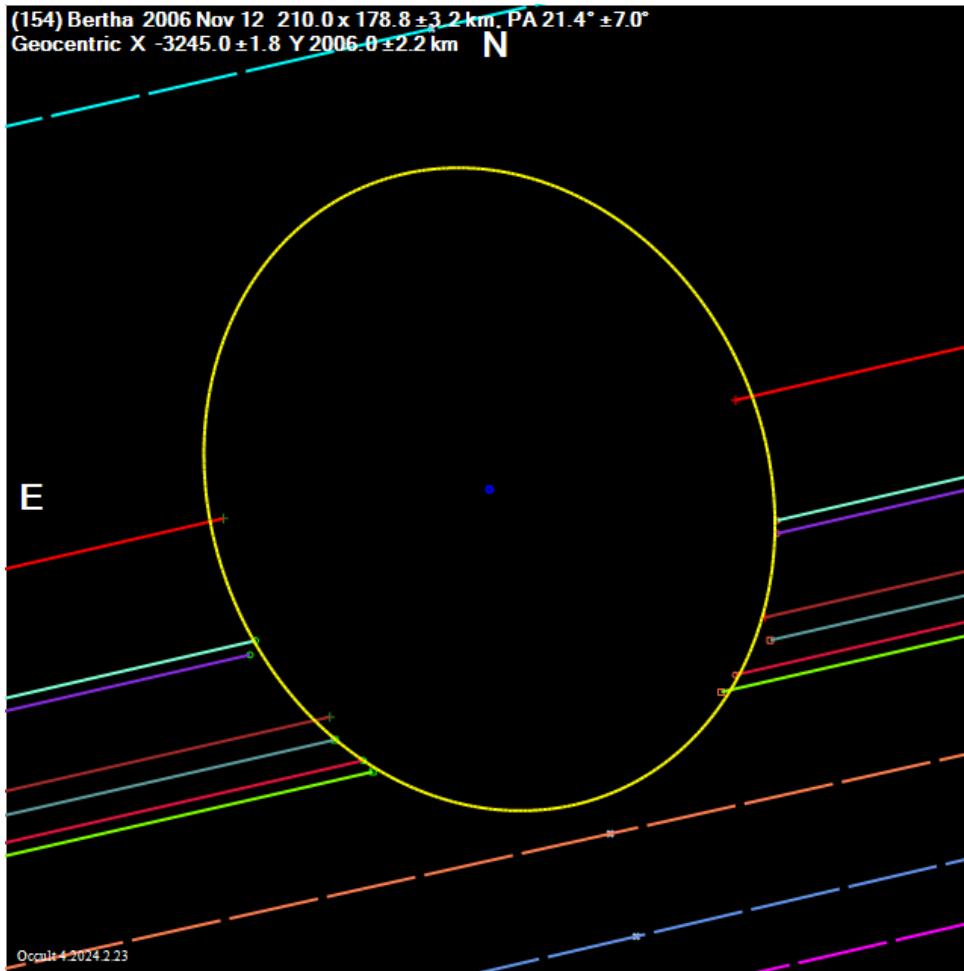
(153) Hilda 2023 Jul 9 189.4 ± 10.6 x 150.9 ± 3.2 km, PA 201.6° ± 6.3°
Geocentric X 1312.5 ± 1.2 Y 5667.6 ± 2.4 km N



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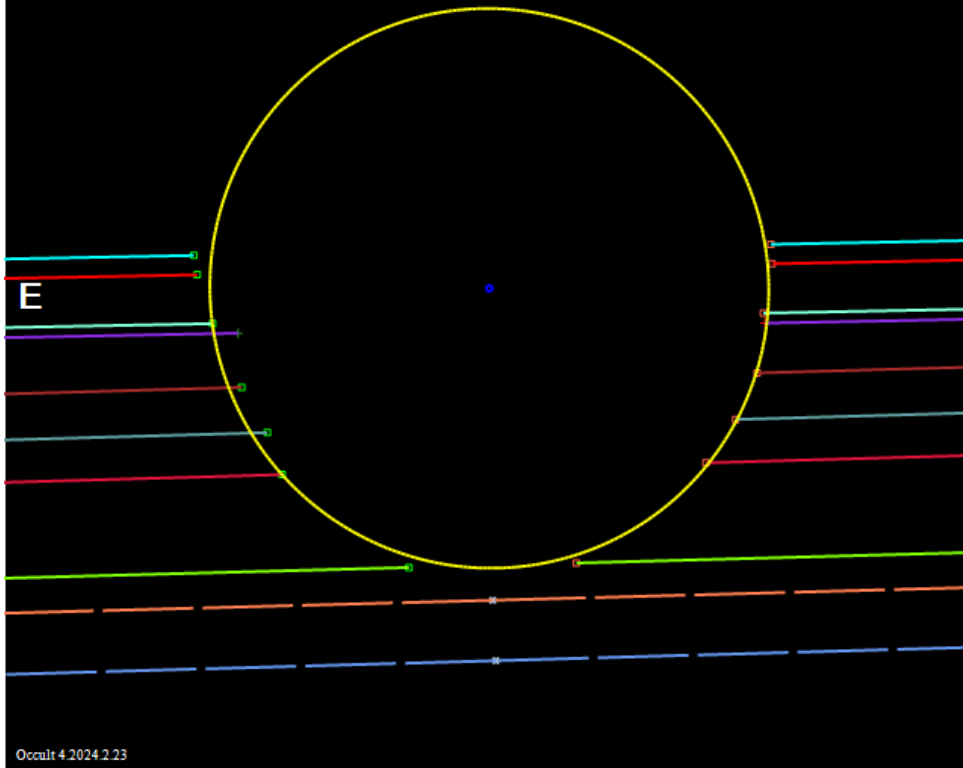
154_Bertha_2006Nov12

(154) Bertha 2006 Nov 12 210.0 x 178.8 ± 3.2 km, PA 21.4° ± 7.0°
Geocentric X -3245.0 ± 1.8 Y 2006.0 ± 2.2 km N

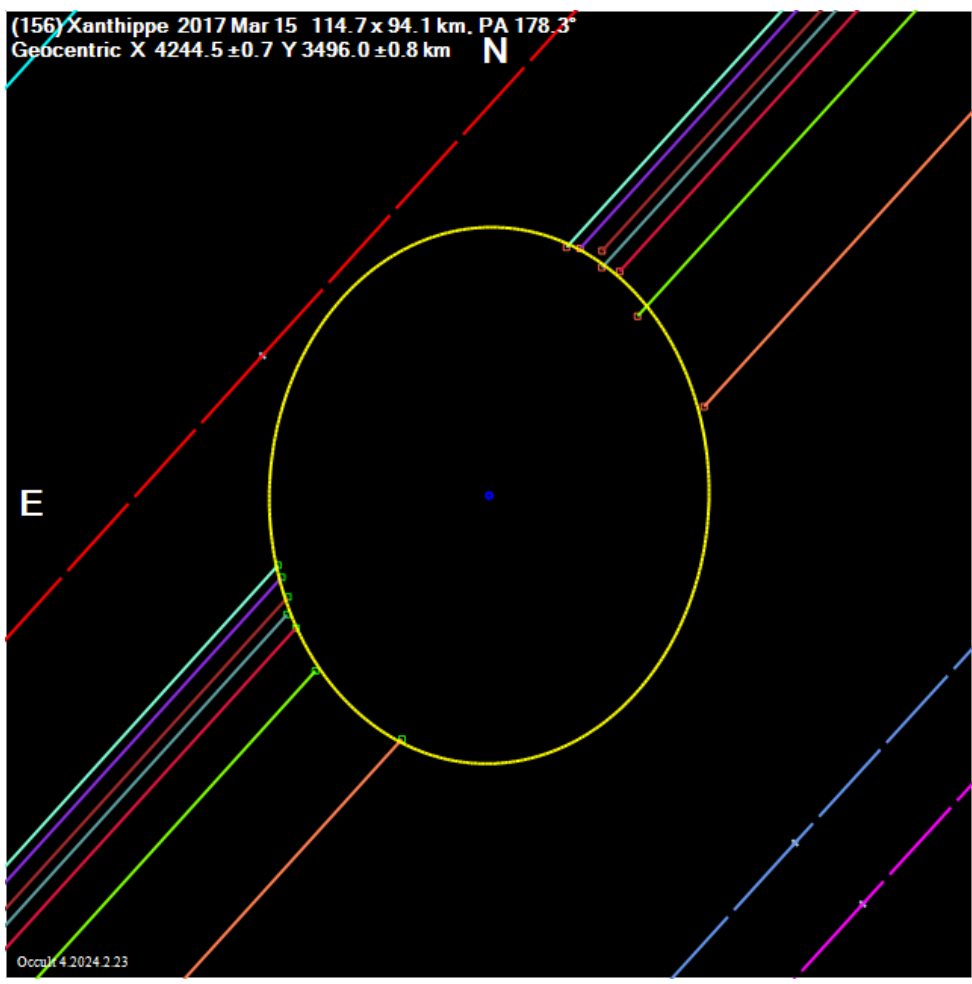


154_Bertha_2017Oct23

(154) Bertha 2017 Oct 23 180.0 x 178.8 ± 5.6 km, PA 43.4° ± 160.5°
Geocentric X -876.2 ± 1.1 Y 3725.5 ± 2.7 km N

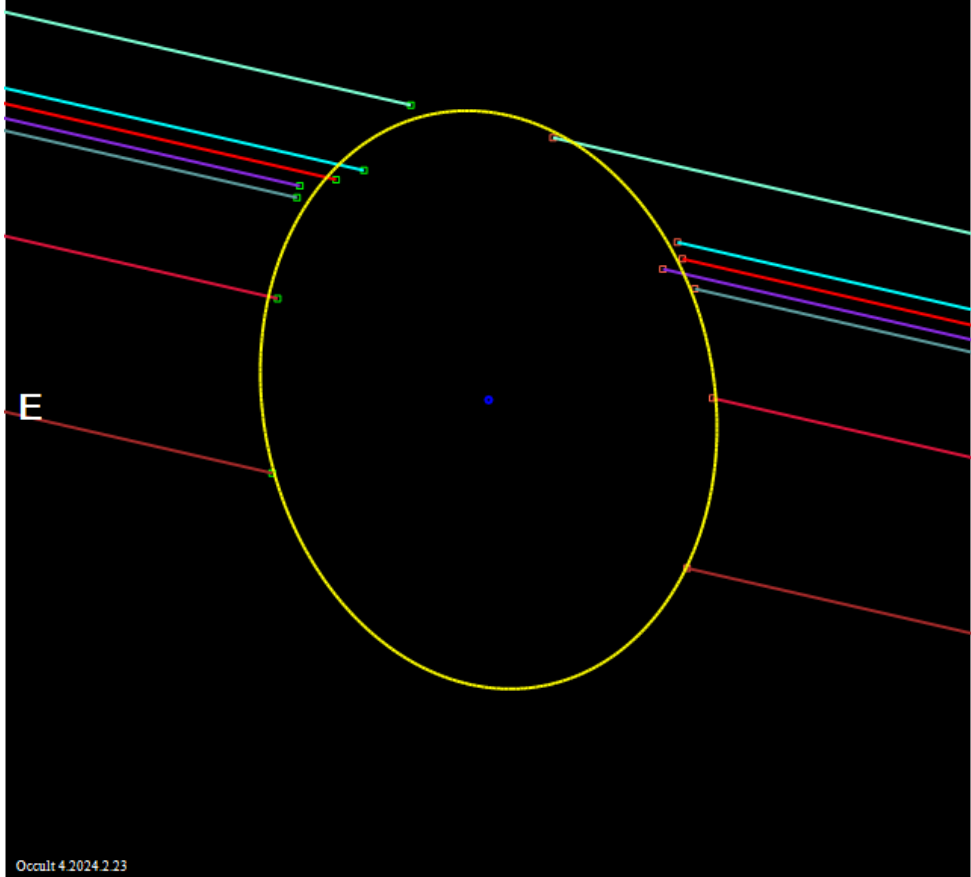


156_Xanthippe_2017Mar15



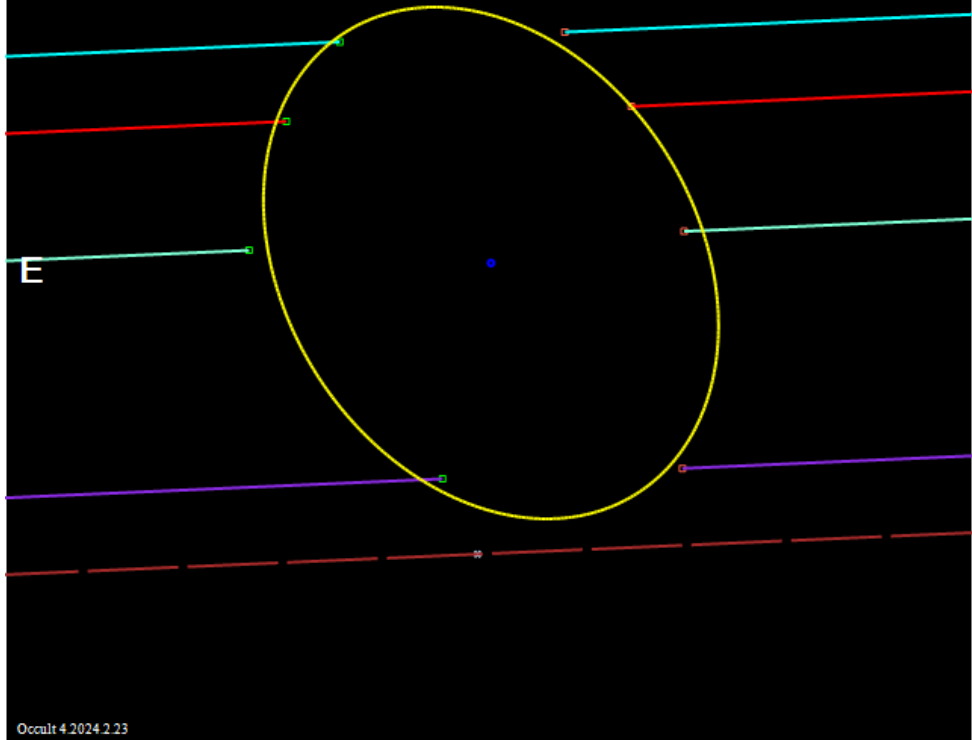
156_Xanthippe_2018Aug05

(156) Xanthippe 2018 Aug 5 $124.5 \pm 6.2 \times 96.6 \pm 2.1$ km, PA $10.9^\circ \pm 5.6^\circ$
Geocentric X 4357.6 ± 1.0 Y 3808.4 ± 2.5 km **N**



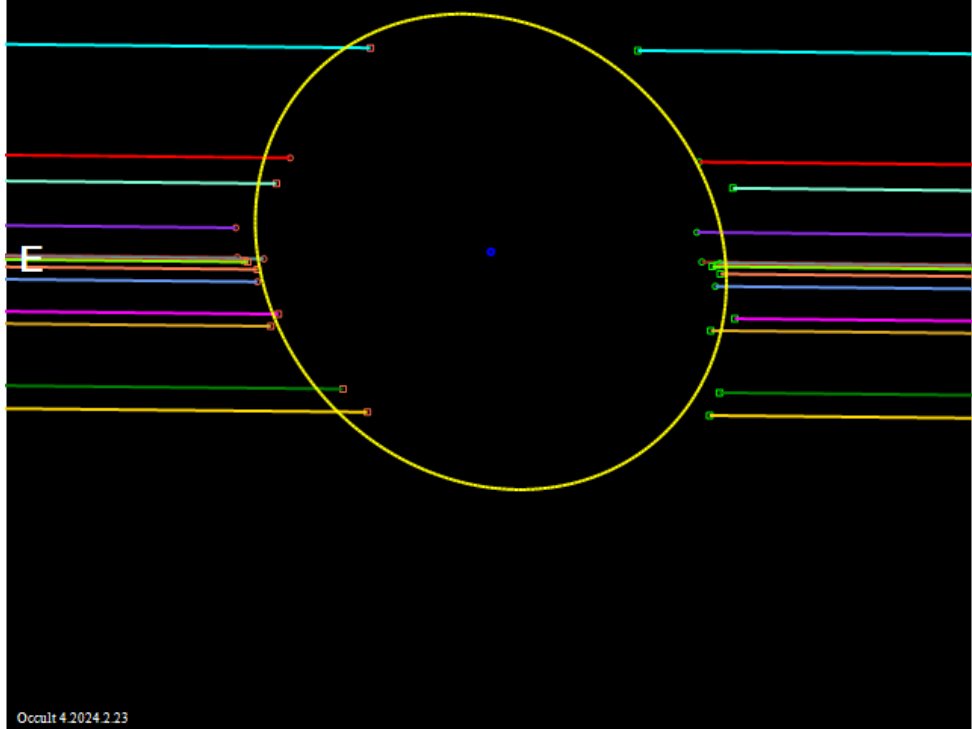
156_Xanthippe_2018Jul13

(156) Xanthippe 2018 Jul 13 $116.7 \pm 3.9 \times 88.5 \pm 3.1$ km. PA $32.3^\circ \pm 6.1^\circ$
Geocentric X 2753.7 ± 1.3 Y -2730.5 ± 1.5 km **N**



156_Xanthippe_2018Oct29

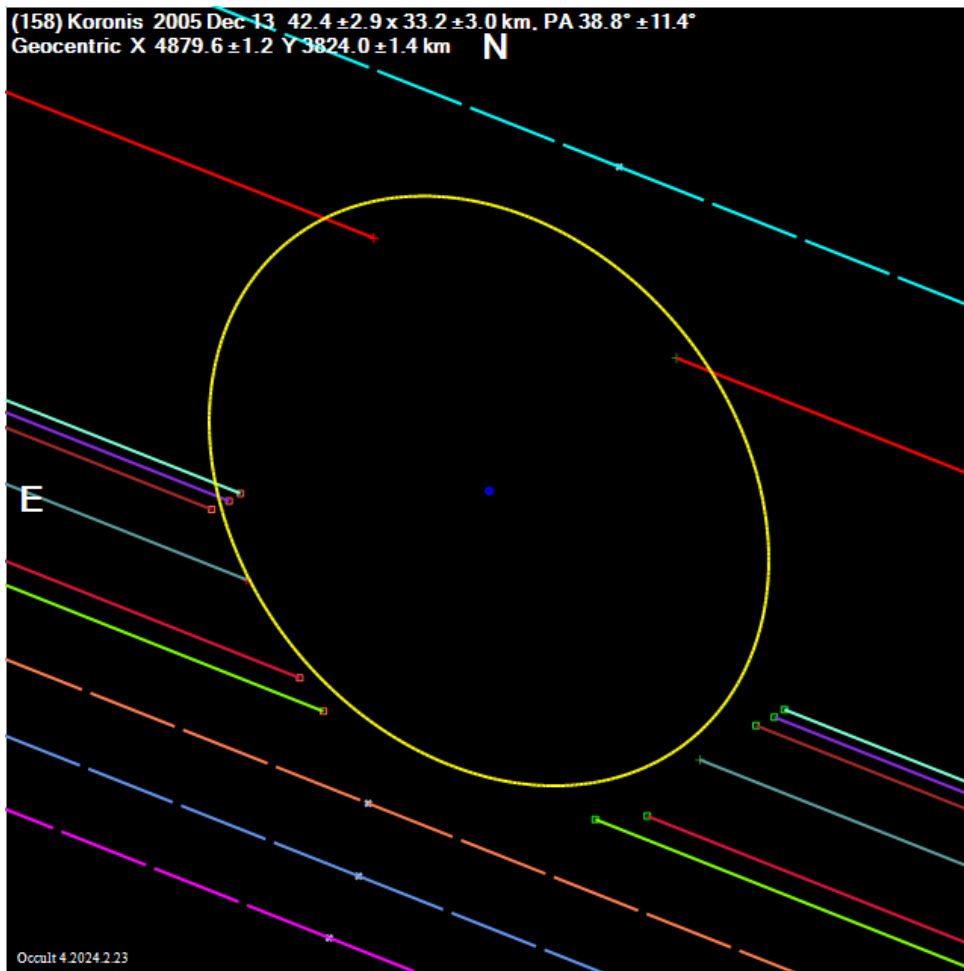
(156) Xanthippe 2018 Oct 29 107.4 ± 3.8 x 94.7 ± 2.9 km, PA 43.1° ± 13.2°
Geocentric X 1352.7 ± 0.7 Y 5452.5 ± 1.7 km N



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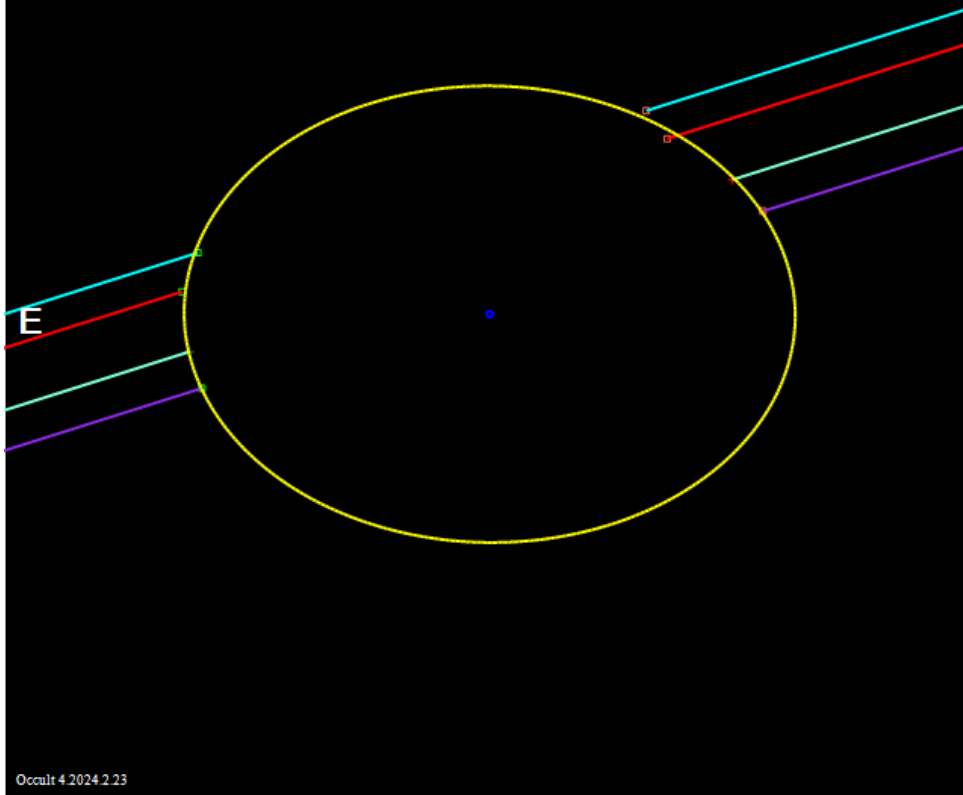
158_Koronis_2005Dec13

(158) Koronis 2005 Dec 13 $42.4 \pm 2.9 \times 33.2 \pm 3.0$ km, PA $38.8^\circ \pm 11.4^\circ$
Geocentric X 4879.6 ± 1.2 Y 3824.0 ± 1.4 km N



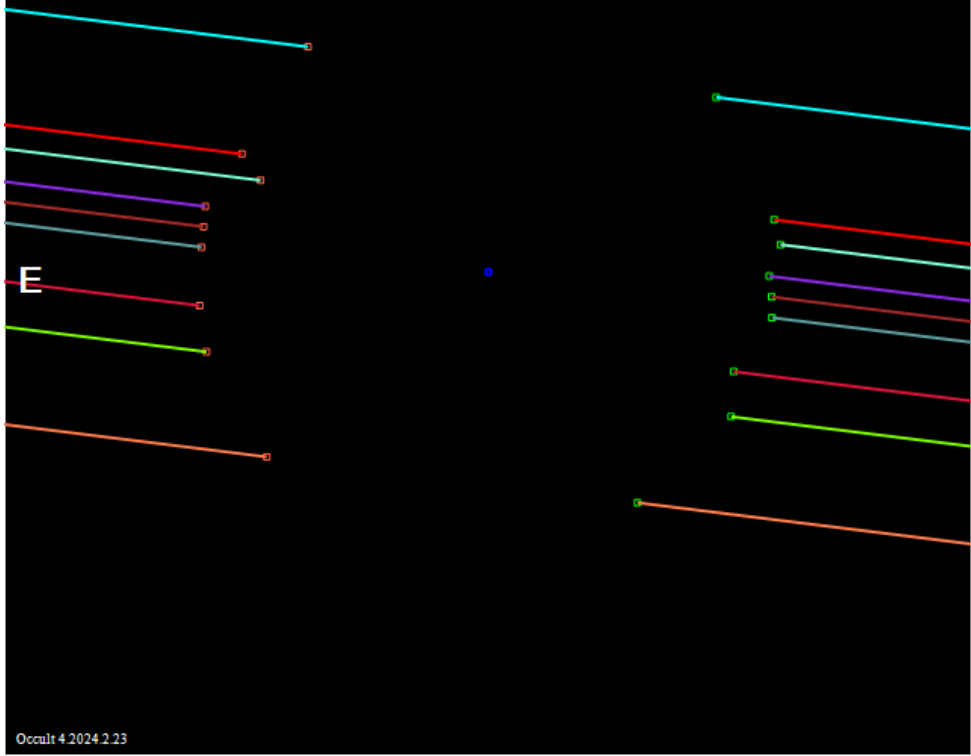
159_Aemilia_2009May02

(159) Aemilia 2009 May 2 $154.1 \pm 2.3 \times 115.0$ km, PA $89.3^\circ \pm 2.6^\circ$
Geocentric X -1936.6 ± 1.1 Y 4534.9 ± 1.0 km **N**



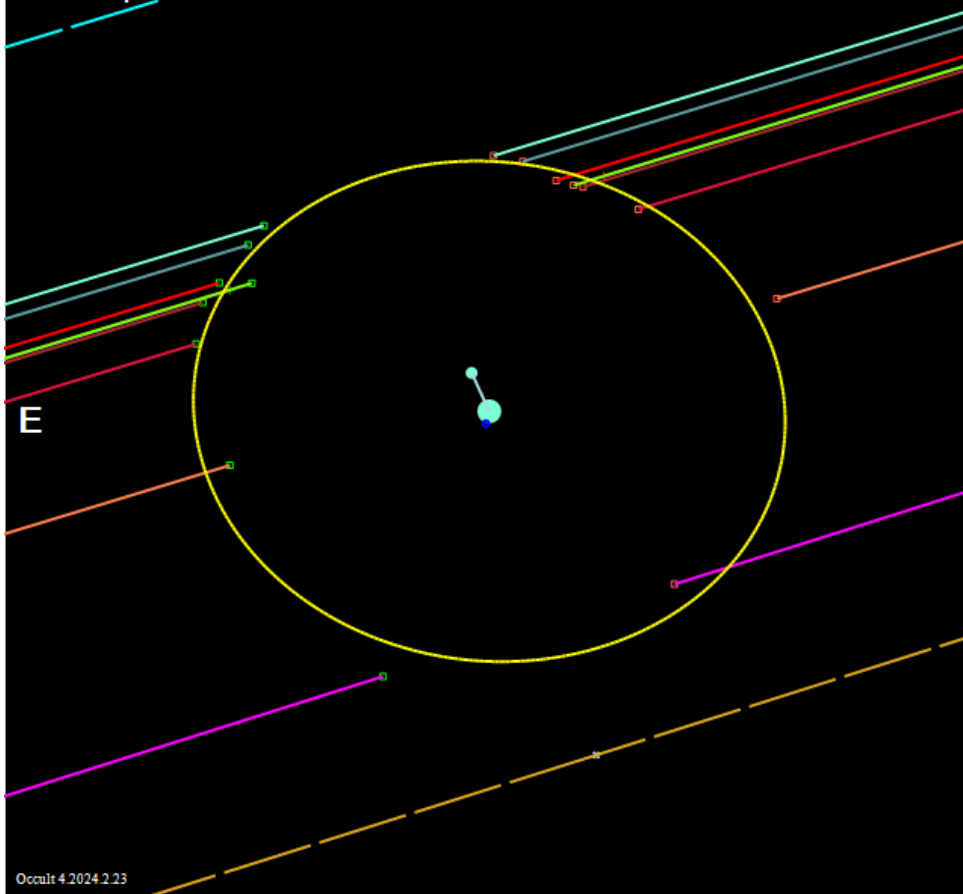
159_Aemilia_2021Nov23

(159) Aemilia 2021 Nov 23 141.4 ± 3.1 x 132.3 ± 2.8 km, PA 128.5° ± 18.2°
Geocentric X 3718.1 ± 0.7 Y 4727.7 ± 1.4 km N



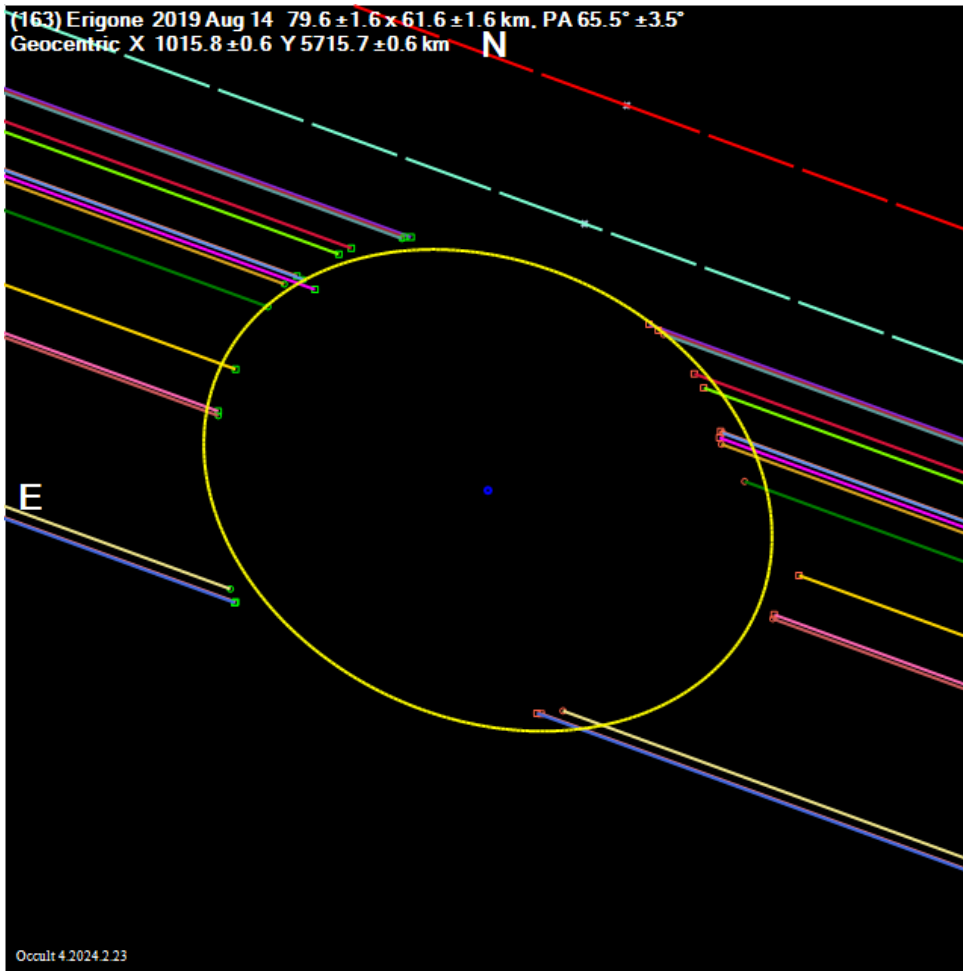
160_Una_2011Jan24

(160) Una 2011 Jan 24 $86.5 \pm 4.1 \times 72.7 \pm 4.0$ km, PA $82.9^\circ \pm 13.4^\circ$
Geocentric X -2397.1 ± 1.9 Y 2602.6 ± 1.6 km N
Double : Sep $0.0050 \pm 0.0020''$, PA $24.7^\circ \pm 0.0^\circ$



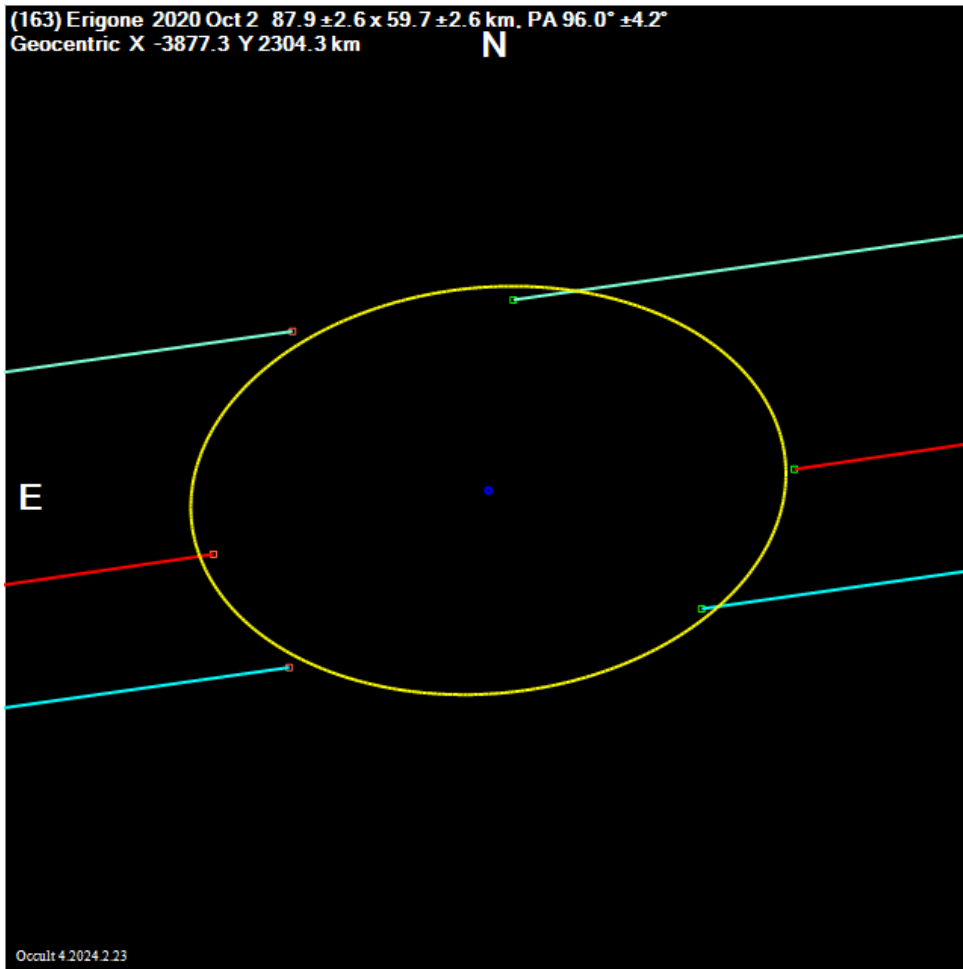
163_Erigone_2019Aug14

(163) Erigone 2019 Aug 14 $79.6 \pm 1.6 \times 61.6 \pm 1.6$ km. PA $65.5^\circ \pm 3.5^\circ$
Geocentric X 1015.8 ± 0.6 Y 5715.7 ± 0.6 km



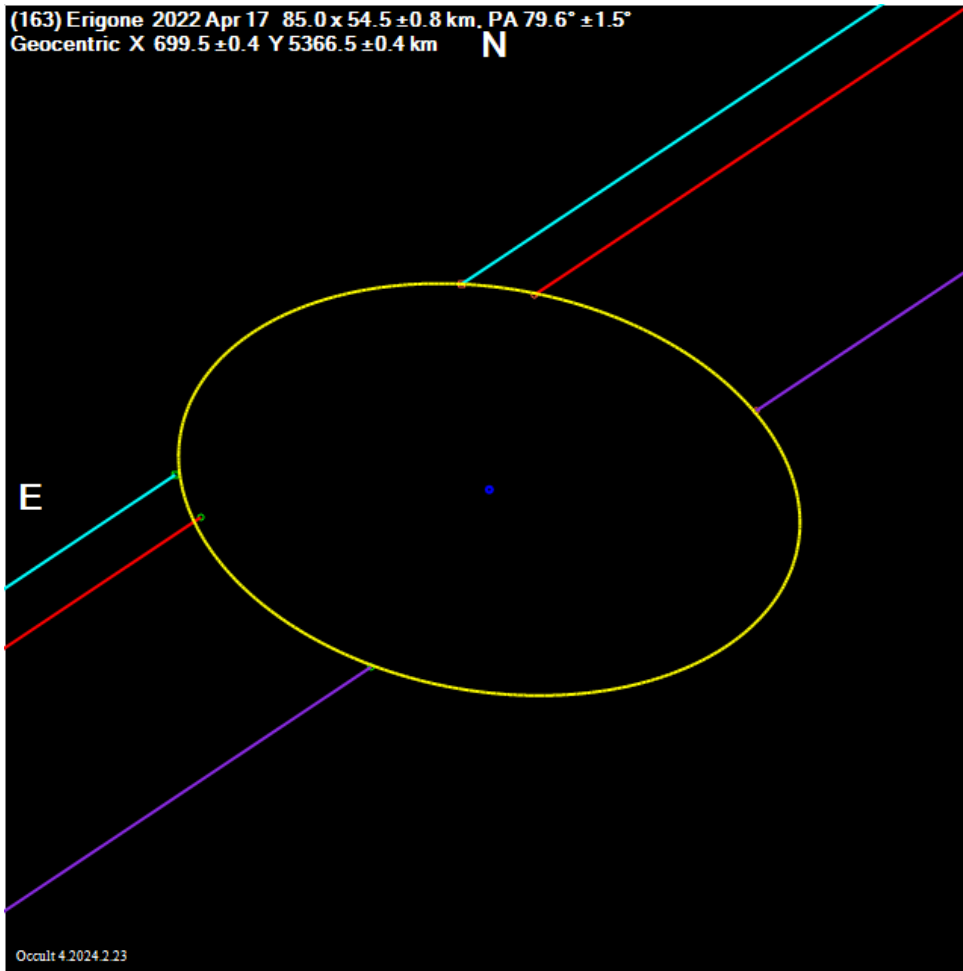
163_Erigone_2020Oct02

(163) Erigone 2020 Oct 2 $87.9 \pm 2.6 \times 59.7 \pm 2.6$ km, PA $96.0^\circ \pm 4.2^\circ$
Geocentric X -3877.3 Y 2304.3 km **N**



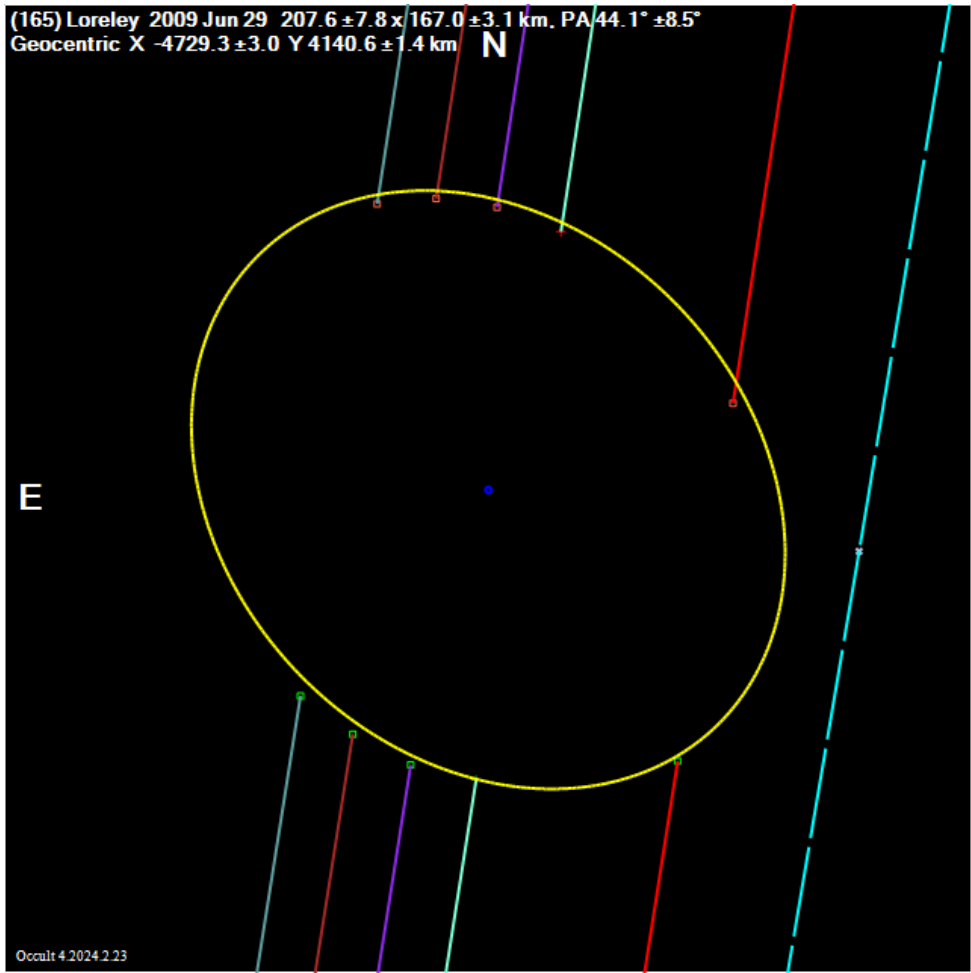
163_Erigone_2022Apr17

(163) Erigone 2022 Apr 17 85.0 x 54.5 ± 0.8 km, PA 79.6° ± 1.5°
Geocentric X 699.5 ± 0.4 Y 5366.5 ± 0.4 km N



165_Loreley_2009Jun29

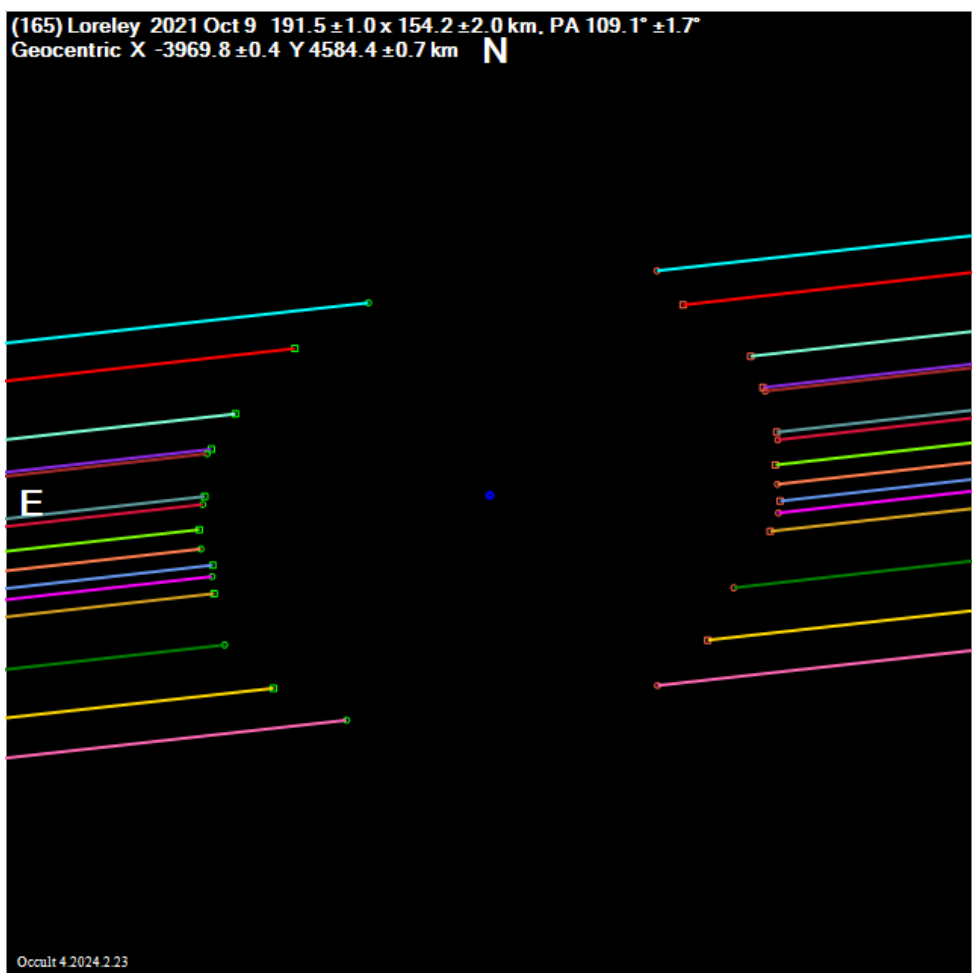
(165) Loreley 2009 Jun 29 207.6 ± 7.8 x 167.0 ± 3.1 km, PA 44.1° ± 8.5°
Geocentric X -4729.3 ± 3.0 Y 4140.6 ± 1.4 km



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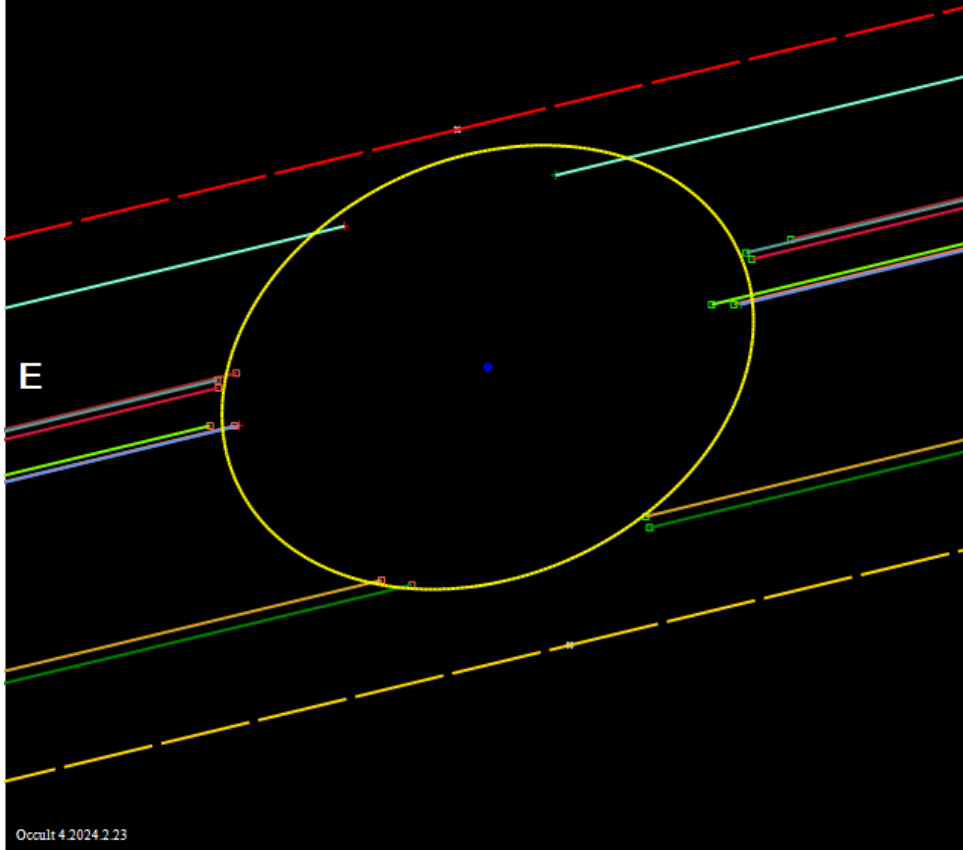
165_Loreley_2021Oct09

(165) Loreley 2021 Oct 9 $191.5 \pm 1.0 \times 154.2 \pm 2.0$ km, PA $109.1^\circ \pm 1.7^\circ$
Geocentric X -3969.8 ± 0.4 Y 4584.4 ± 0.7 km **N**



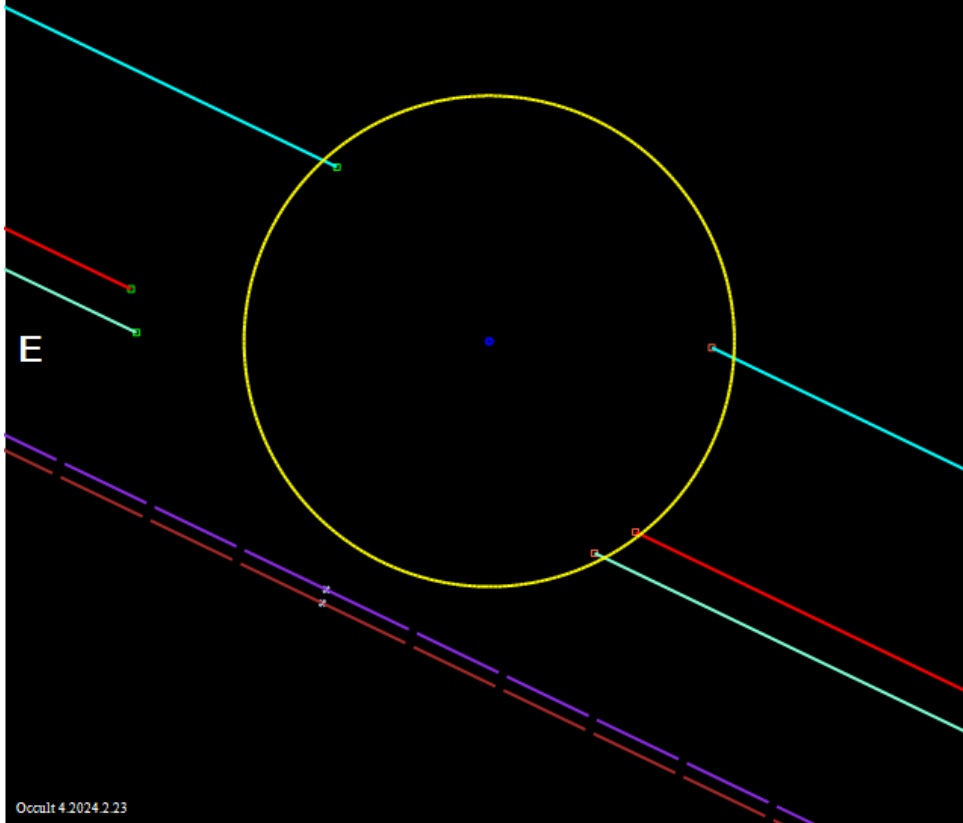
166_Rhodope_2005Oct19

(166) Rhodope 2005 Oct 19 $64.9 \pm 1.8 \times 49.0 \pm 3.6$ km, PA $114.6^\circ \pm 7.9^\circ$
Geocentric X -4279.6 ± 0.7 Y 3340.2 ± 1.6 km N



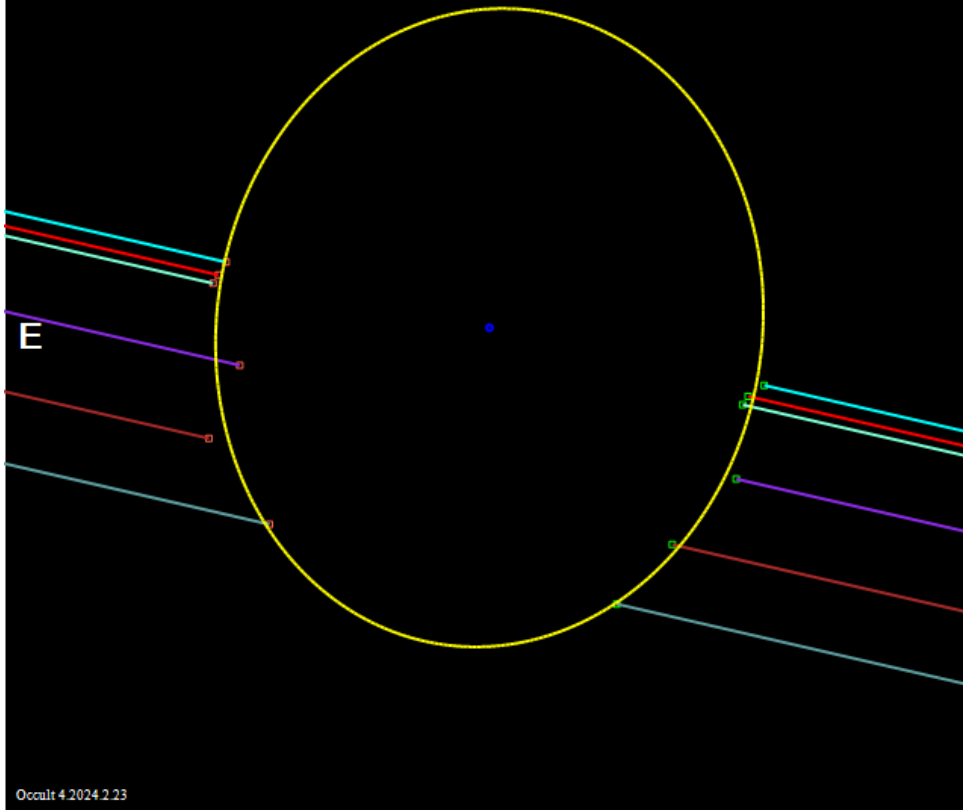
171_Ophelia_2019Sep09

(171) Ophelia 2019 Sep 9 114.4 km
Geocentric X -2209.0 ± 8.3 Y 4962.2 ± 11.7 km N



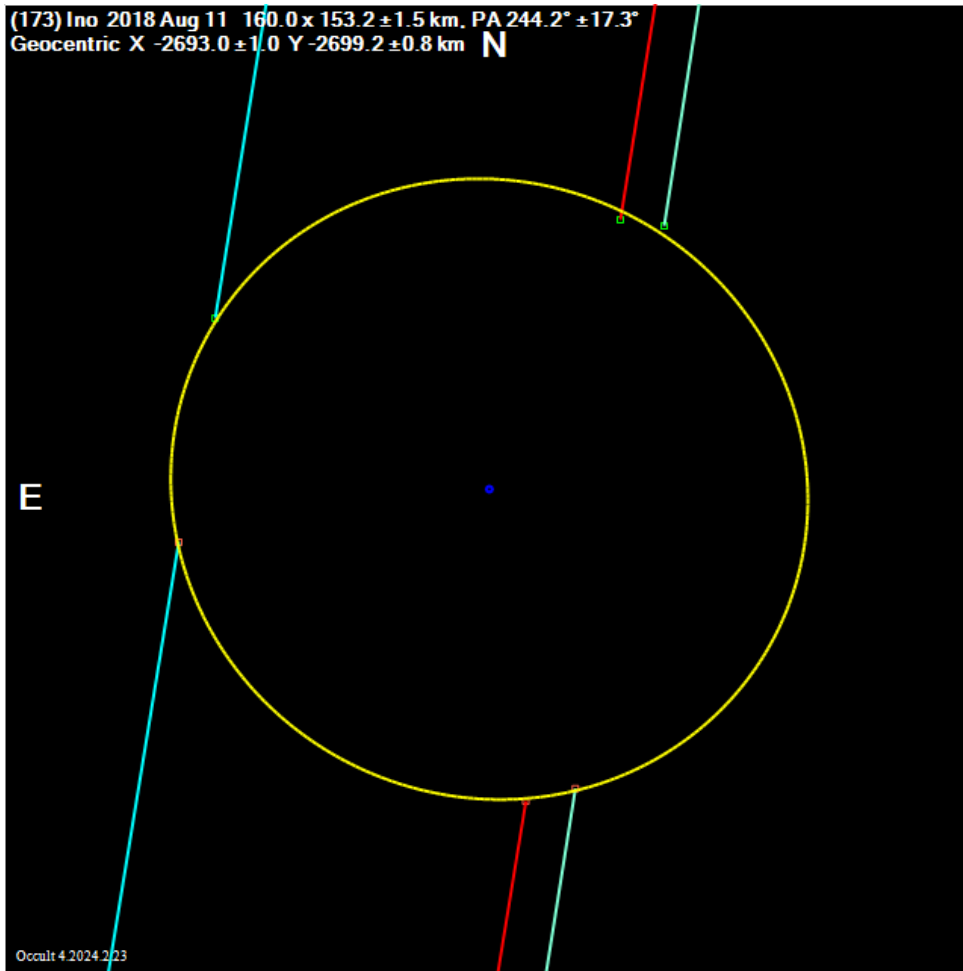
173_Ino_2015Apr09

(173) Ino 2015 Apr 9 154.9 ± 30.6 x 132.0 ± 2.3 km, PA 170.9° ± 9.1°
Geocentric X 3073.8 ± 2.5 Y 3548.2 ± 10.7 km **N**



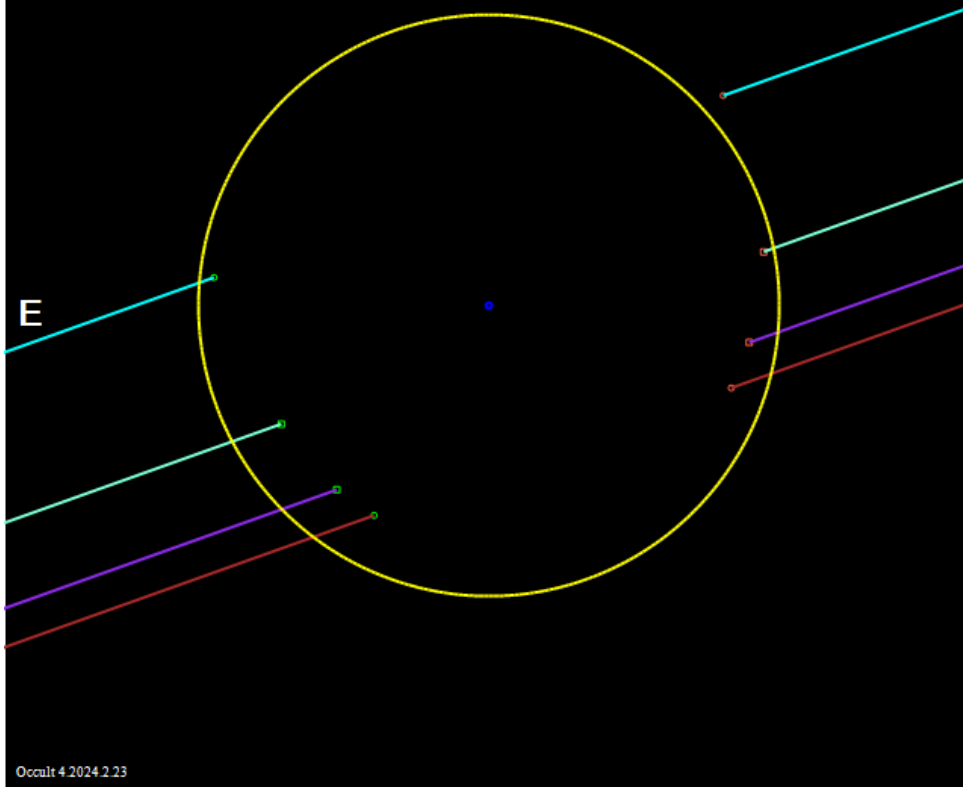
173_Ino_2018Aug11

(173) Ino 2018 Aug 11 160.0 x 153.2 ± 1.5 km, PA 244.2° ± 17.3°
Geocentric X -2693.0 ± 1.0 Y -2699.2 ± 0.8 km **N**



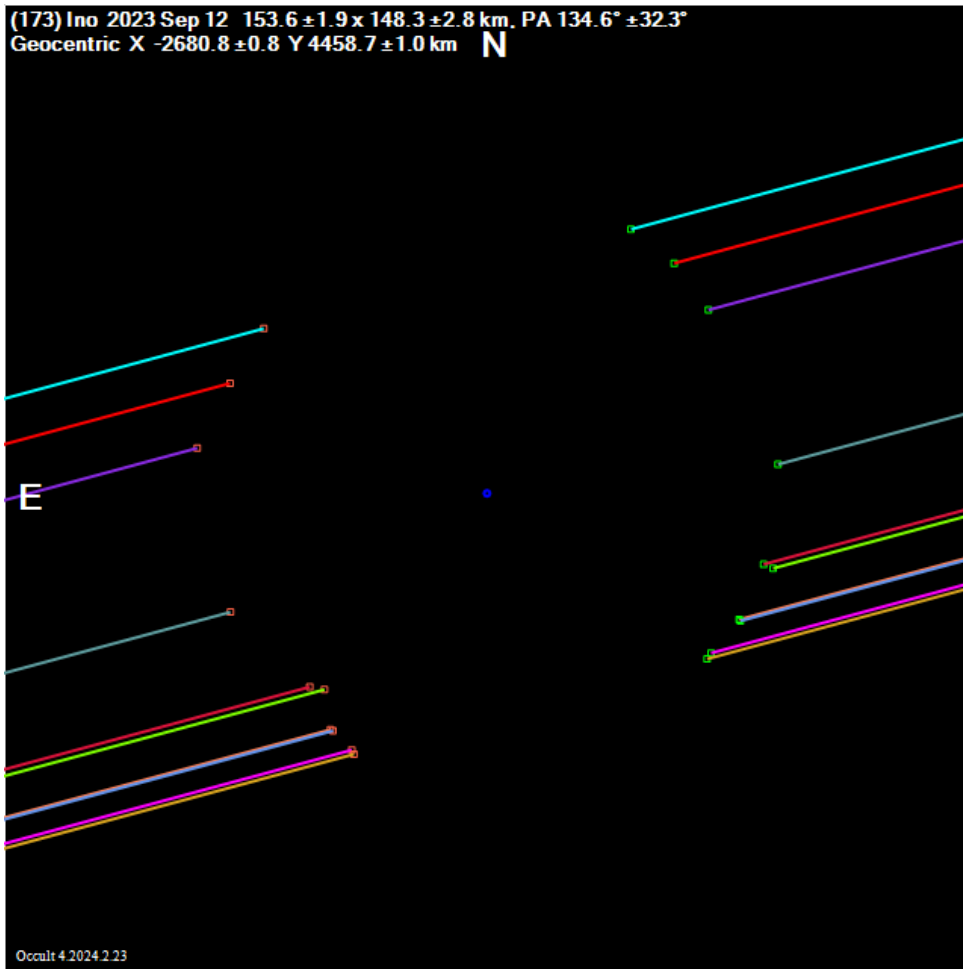
173_Ino_2022May27

(173) Ino 2022 May 27 140.6 km
Geocentric X 10.0 ± 2.8 Y 4697.0 ± 4.6 km N



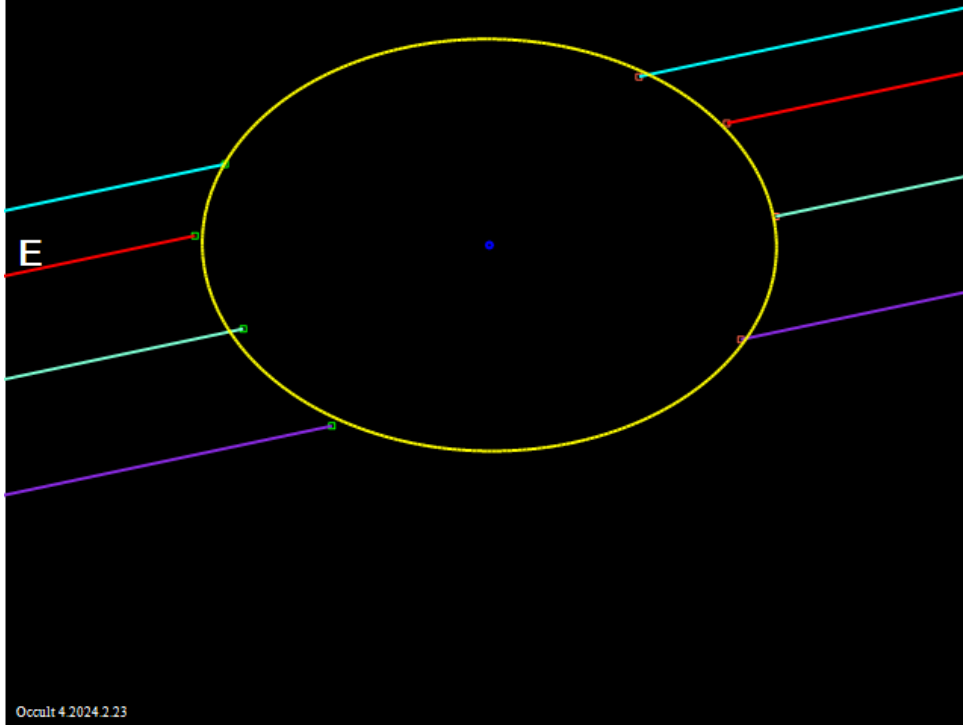
173_Ino_2023Sep12

(173) Ino 2023 Sep 12 $153.6 \pm 1.9 \times 148.3 \pm 2.8$ km, PA $134.6^\circ \pm 32.3^\circ$
Geocentric X -2680.8 ± 0.8 Y 4458.7 ± 1.0 km **N**



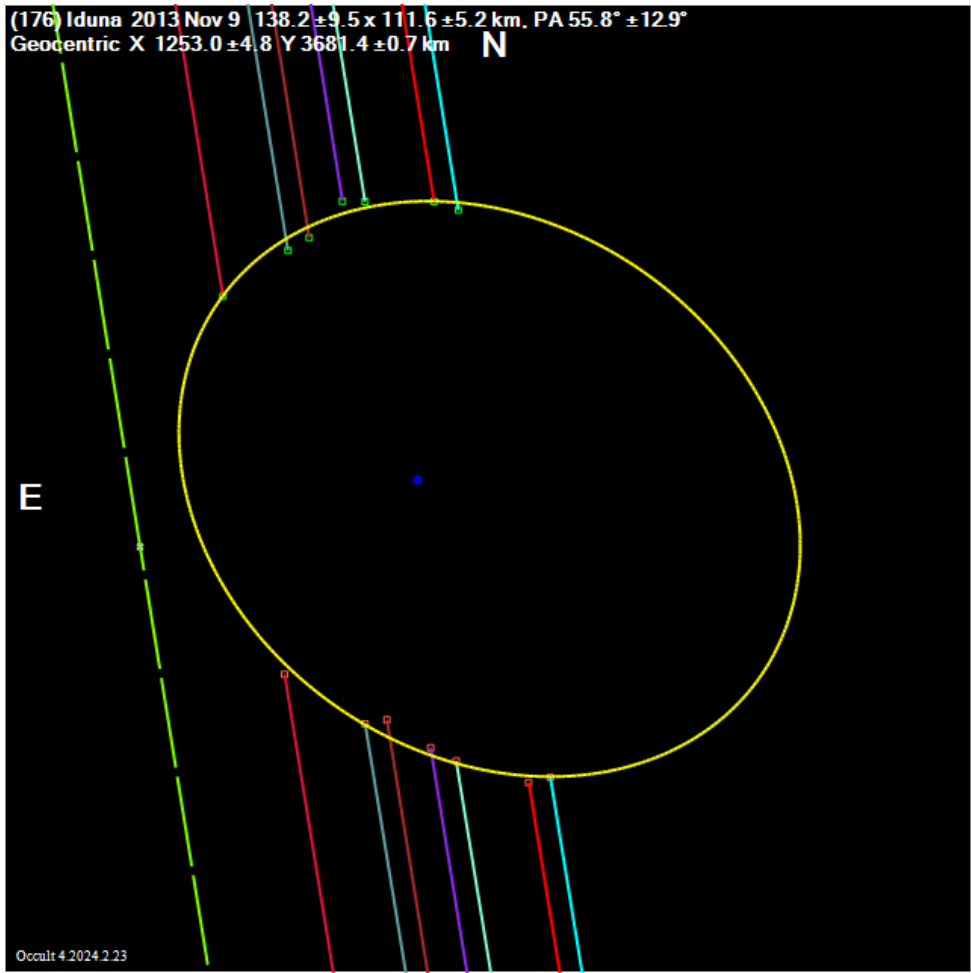
175_Andromache_2018Feb09

(175) Andromache 2018 Feb 9 $129.6 \pm 1.8 \times 92.9 \pm 3.4$ km, PA $89.3^\circ \pm 2.8^\circ$
Geocentric X 5117.3 ± 0.7 Y 2955.8 ± 0.9 km **N**



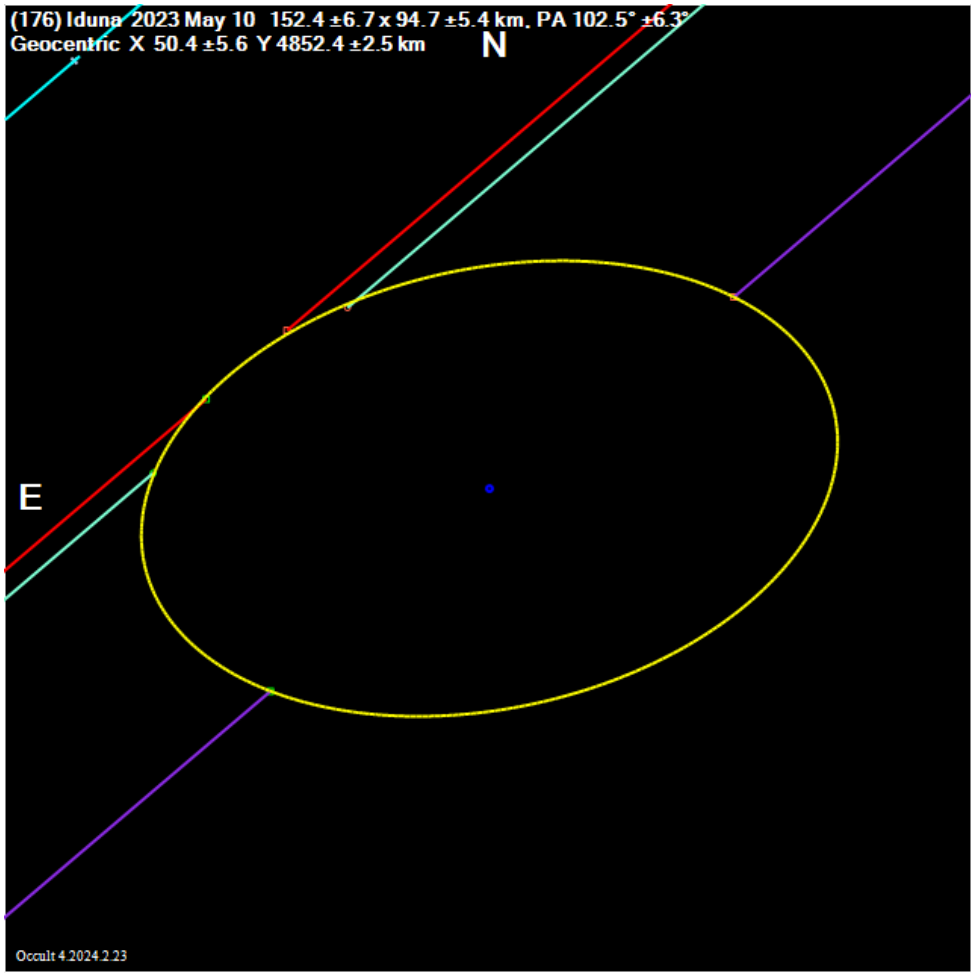
176_Iduna_2013Nov09

(176) Iduna 2013 Nov 9 138.2 ± 9.5 x 111.6 ± 5.2 km, PA 55.8° ± 12.9°
Geocentric X 1253.0 ± 4.8 Y 3681.4 ± 0.7 km N



176_Iduna_2023May10

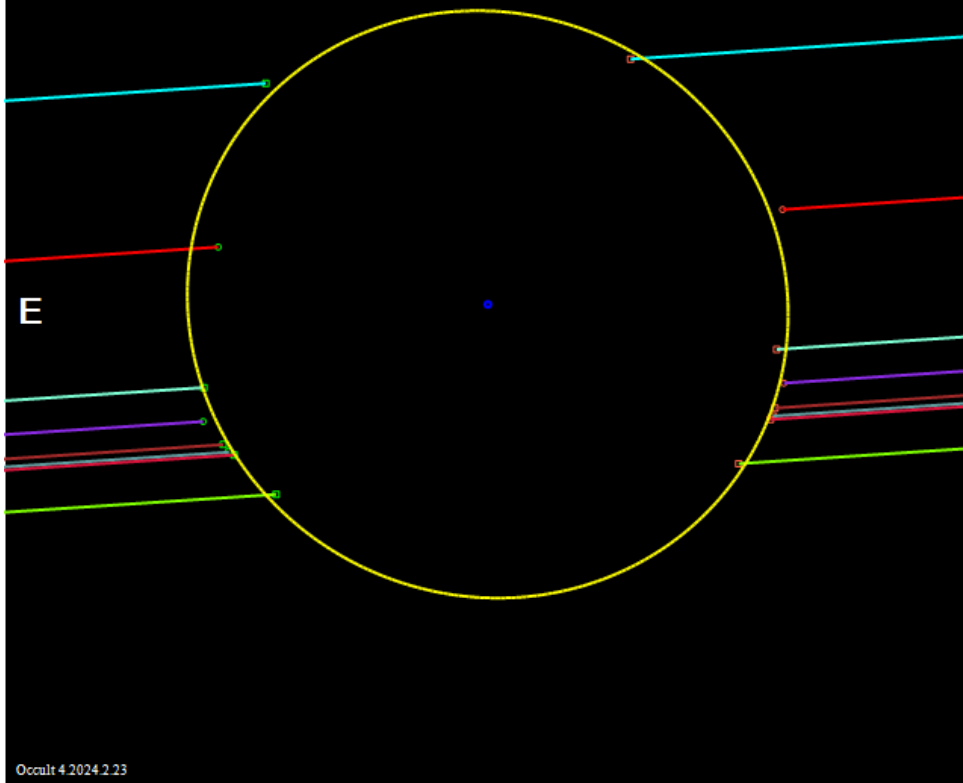
(176) Iduna 2023 May 10 $152.4 \pm 6.7 \times 94.7 \pm 5.4$ km, PA $102.5^\circ \pm 6.3^\circ$
Geocentric X 50.4 ± 5.6 Y 4852.4 ± 2.5 km **N**



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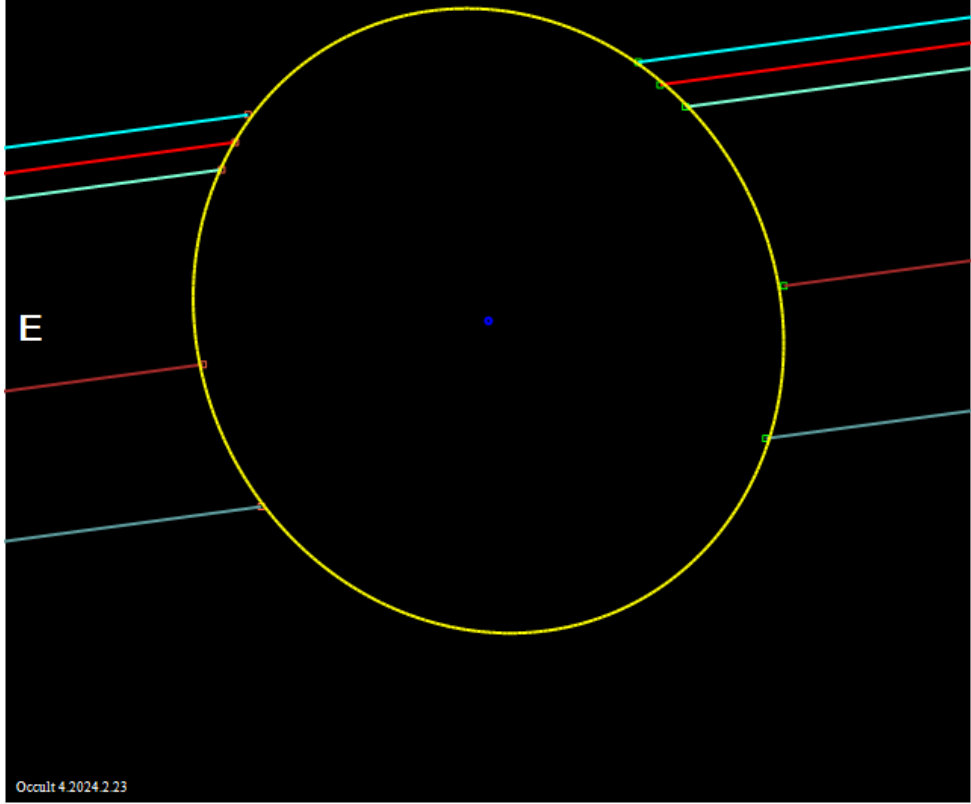
185_Eunike_2020Jun11

(185) Eunike 2020 Jun 11 $177.7 \pm 2.5 \times 170.5 \pm 4.5$ km. PA $62.5^\circ \pm 34.1^\circ$
Geocentric X -3734.3 ± 1.0 Y 4651.6 ± 1.9 km **N**



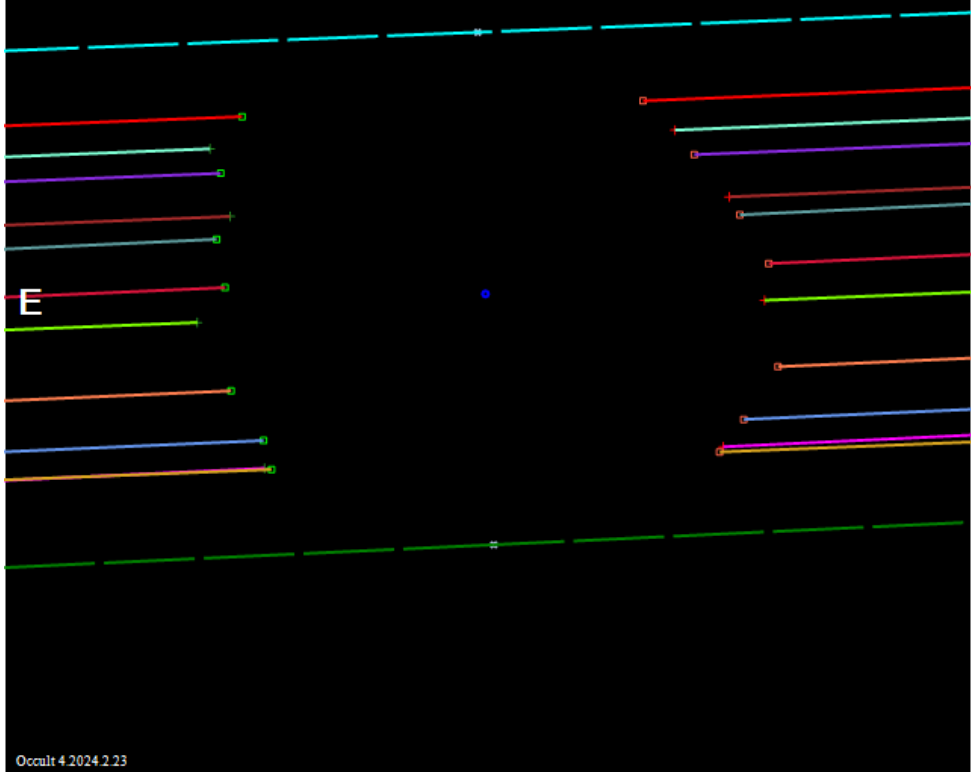
185_Eunike_2020Nov14

(185) Eunike 2020 Nov 14 $186.8 \pm 3.1 \times 170.4 \pm 1.0$ km, PA $206.5^\circ \pm 4.7^\circ$
Geocentric X 3413.5 ± 0.4 Y 4350.7 ± 0.9 km **N**



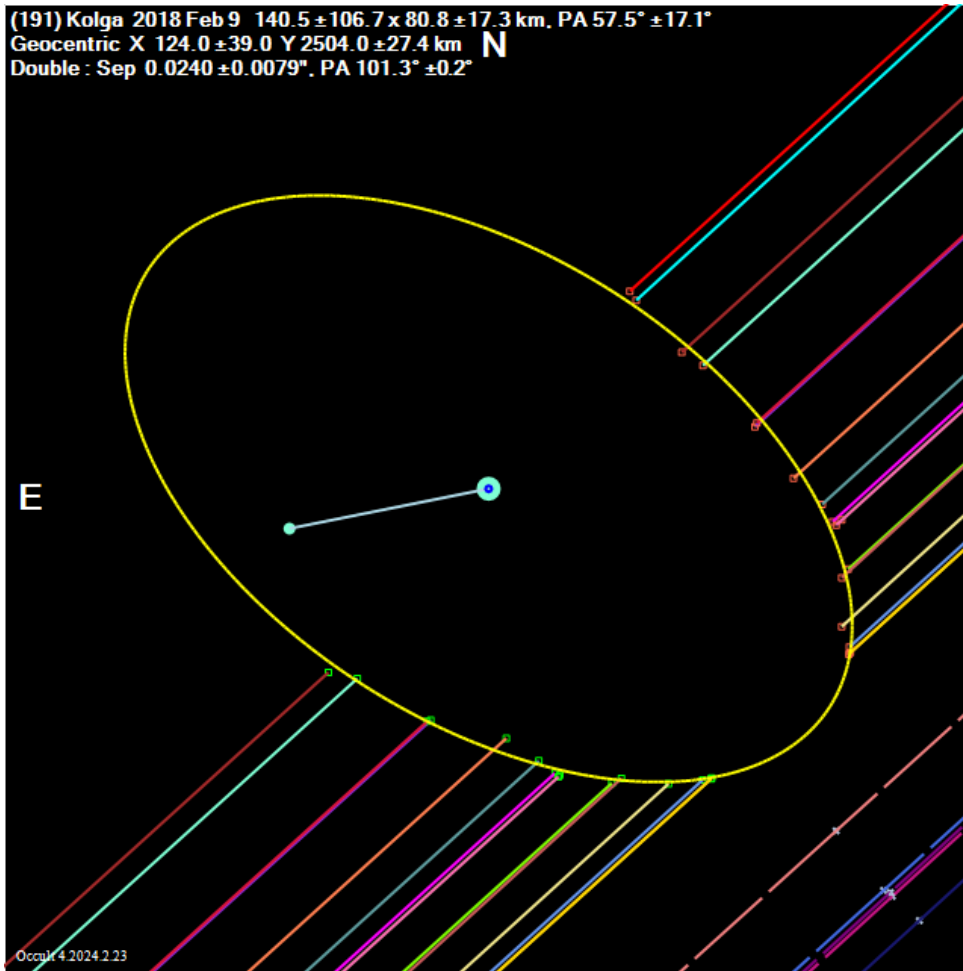
187_Lamberta_2007Dec20

(187) Lamberta 2007 Dec 20 $152.9 \pm 2.2 \times 132.7 \pm 3.8$ km, PA $68.9^\circ \pm 7.9^\circ$
Geocentric X -514.7 ± 0.9 Y -24.5 ± 1.4 km N



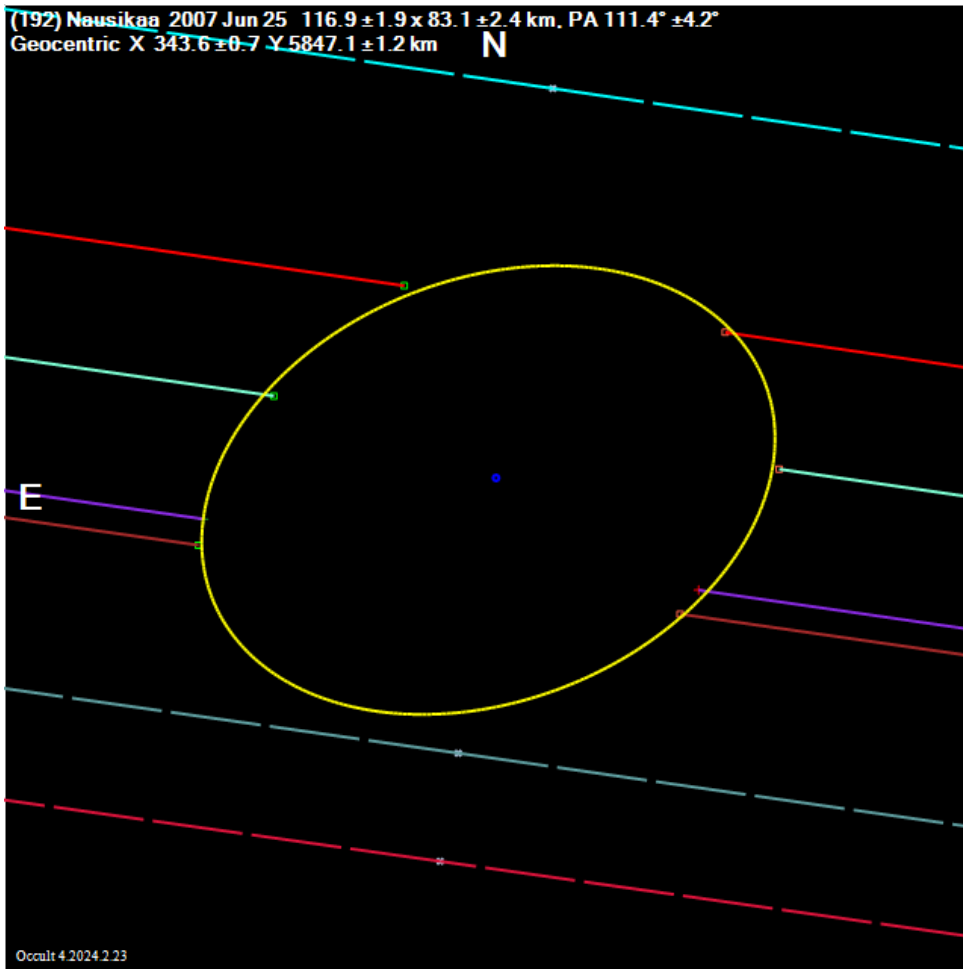
191_Kolga_2018Feb09

(191) Kolga 2018 Feb 9 $140.5 \pm 106.7 \times 80.8 \pm 17.3$ km, PA $57.5^\circ \pm 17.1^\circ$
Geocentric X 124.0 ± 39.0 Y 2504.0 ± 27.4 km N
Double : Sep $0.0240 \pm 0.0079''$, PA $101.3^\circ \pm 0.2^\circ$



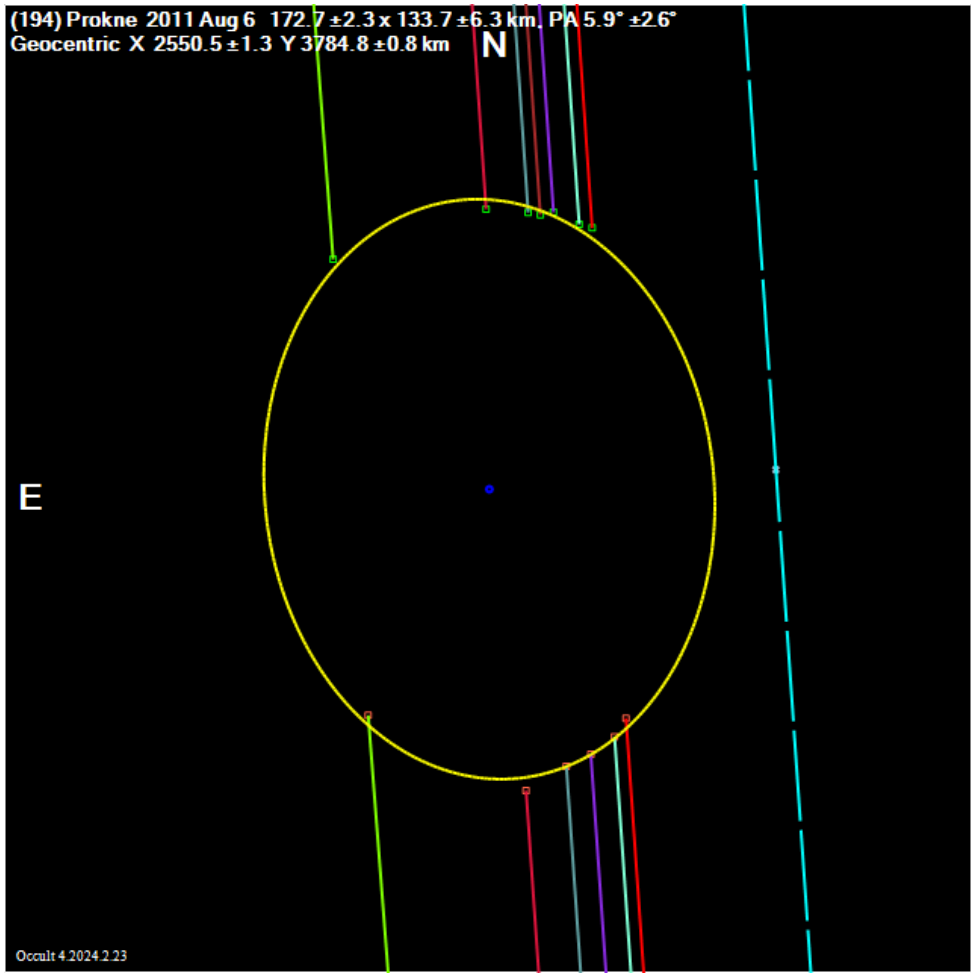
192_Nausikaa_2007Jun25

(192) Nausikaa 2007 Jun 25 $116.9 \pm 1.9 \times 83.1 \pm 2.4$ km, PA $111.4^\circ \pm 4.2^\circ$
Geocentric X 343.6 ± 0.7 Y 5847.1 ± 1.2 km N



194_Prokne_2011Aug06

(194) Prokne 2011 Aug 6 $172.7 \pm 2.3 \times 133.7 \pm 6.3$ km, PA $5.9^\circ \pm 2.6^\circ$
Geocentric X 2550.5 ± 1.3 Y 3784.8 ± 0.8 km

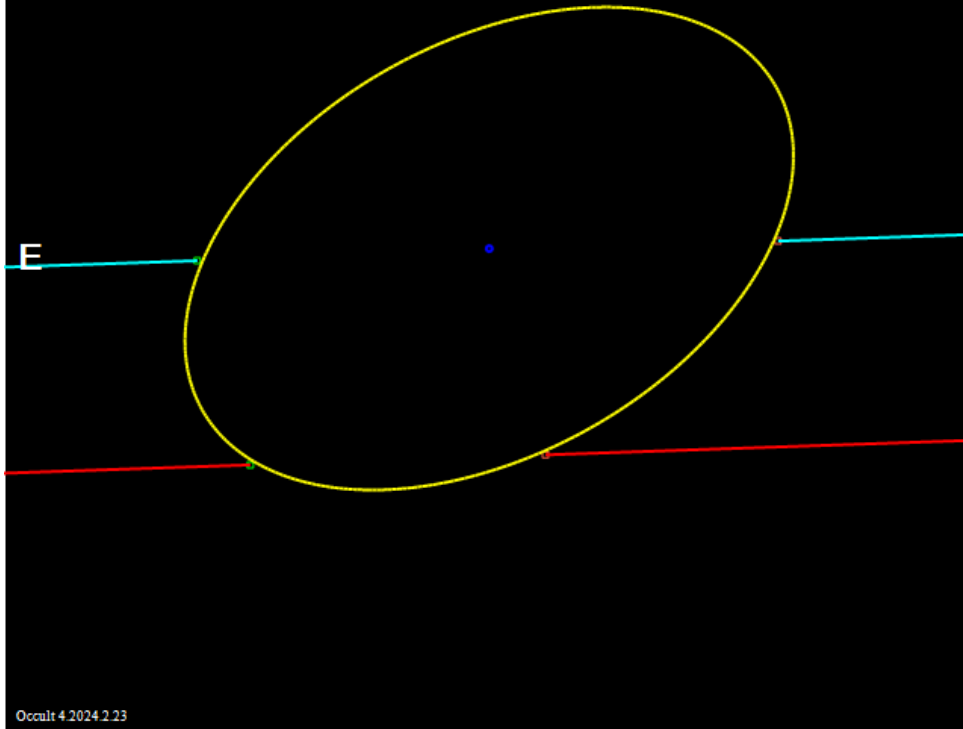


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196_Philomela_2014Dec18

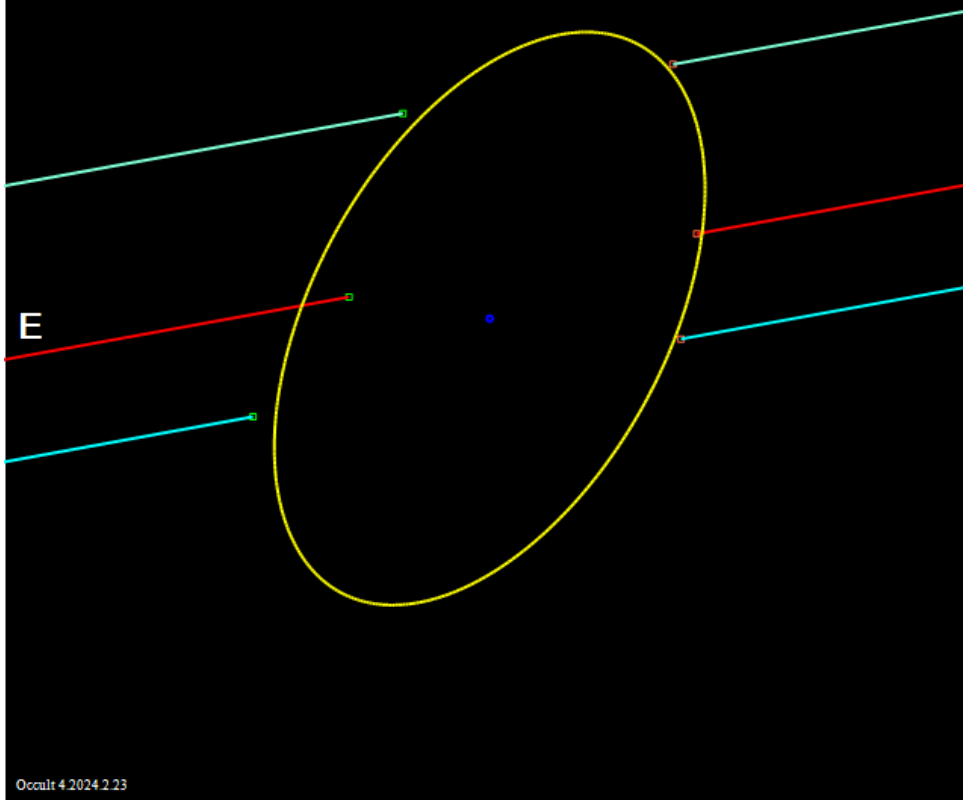
(196) Philomela 2014 Dec 18 176.1 x 110.1 km, PA 119.3°
Geocentric X 4065.7 Y -4642.5 km

N



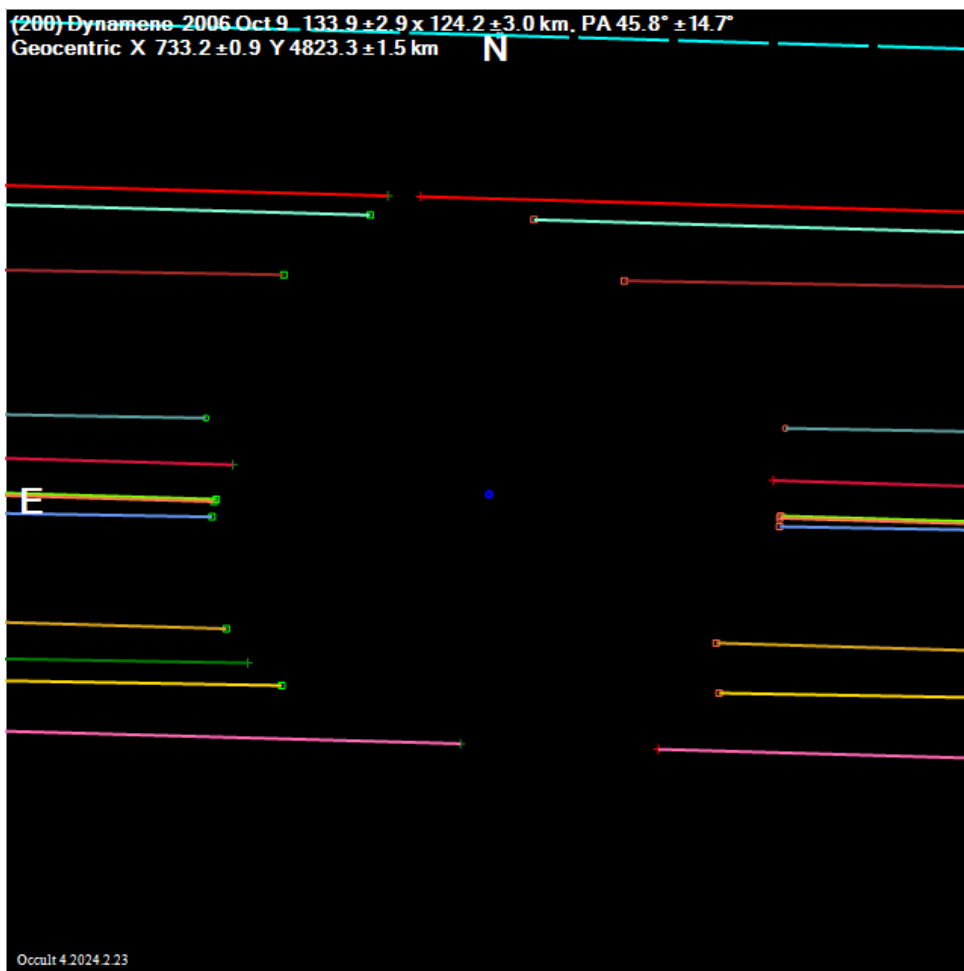
199_Byblis_2018Jan02

(199) Byblis 2018 Jan 2 $72.0 \pm 18.8 \times 40.8 \pm 3.8$ km, PA $331.3^\circ \pm 14.9^\circ$
Geocentric X 4542.5 ± 2.1 Y 3310.7 ± 7.6 km **N**



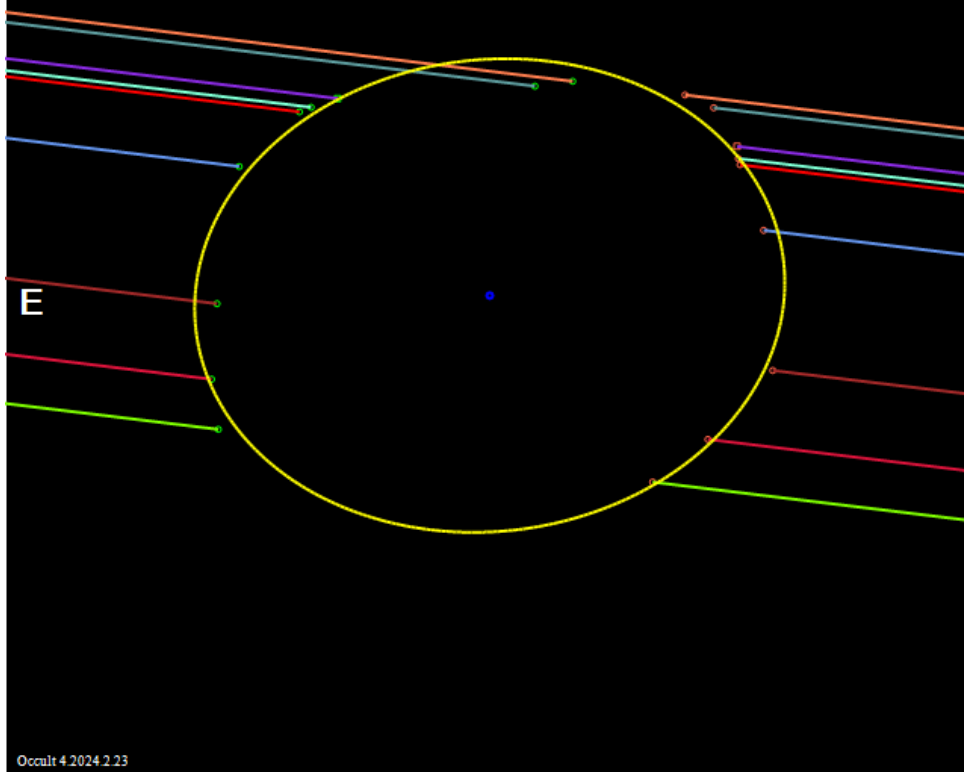
200_Dynamene_2006Oct09

(200) Dynamene-2006 Oct 9 133.9 ± 2.9 x 124.2 ± 3.0 km, PA 45.8° ± 14.7°
Geocentric X 733.2 ± 0.9 Y 4823.3 ± 1.5 km



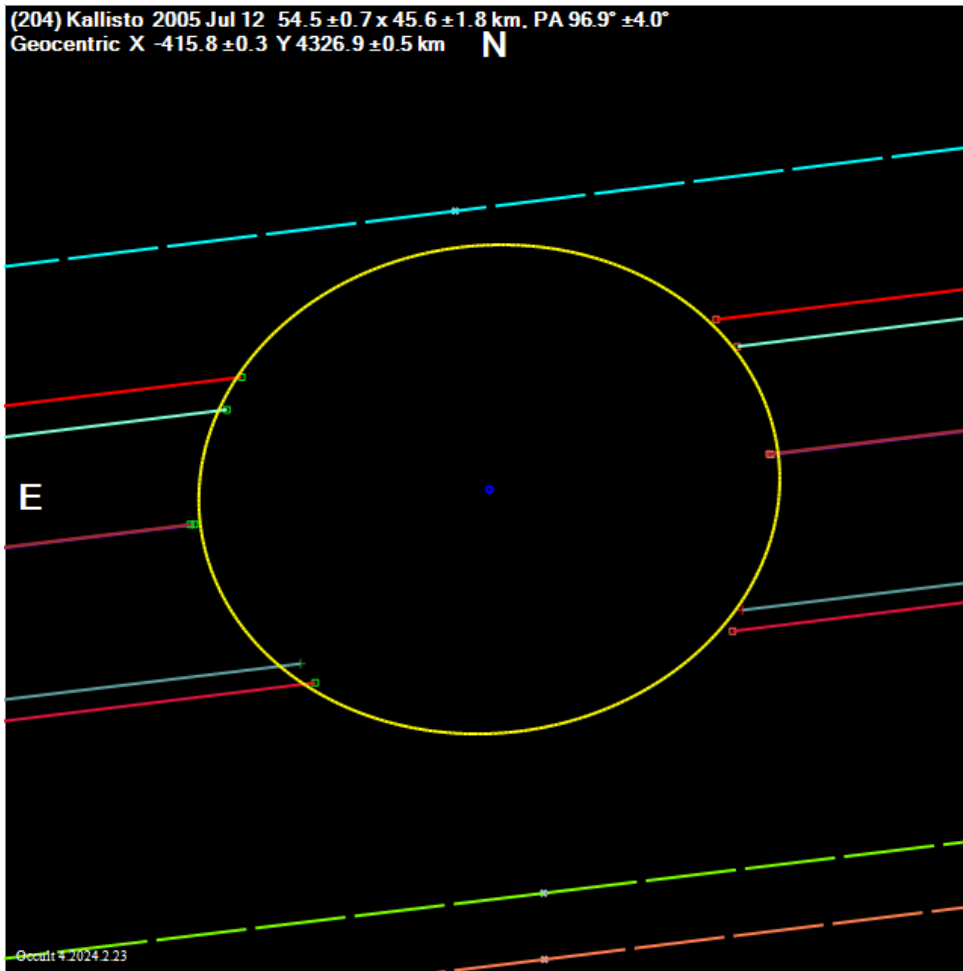
203_Pompeja_2020Dec26

(203) Pompeja 2020 Dec 26 $119.8 \pm 2.3 \times 95.4 \pm 3.4$ km, PA $96.9^\circ \pm 4.6^\circ$
Geocentric X 260.2 ± 0.9 Y 2308.6 ± 1.1 km **N**



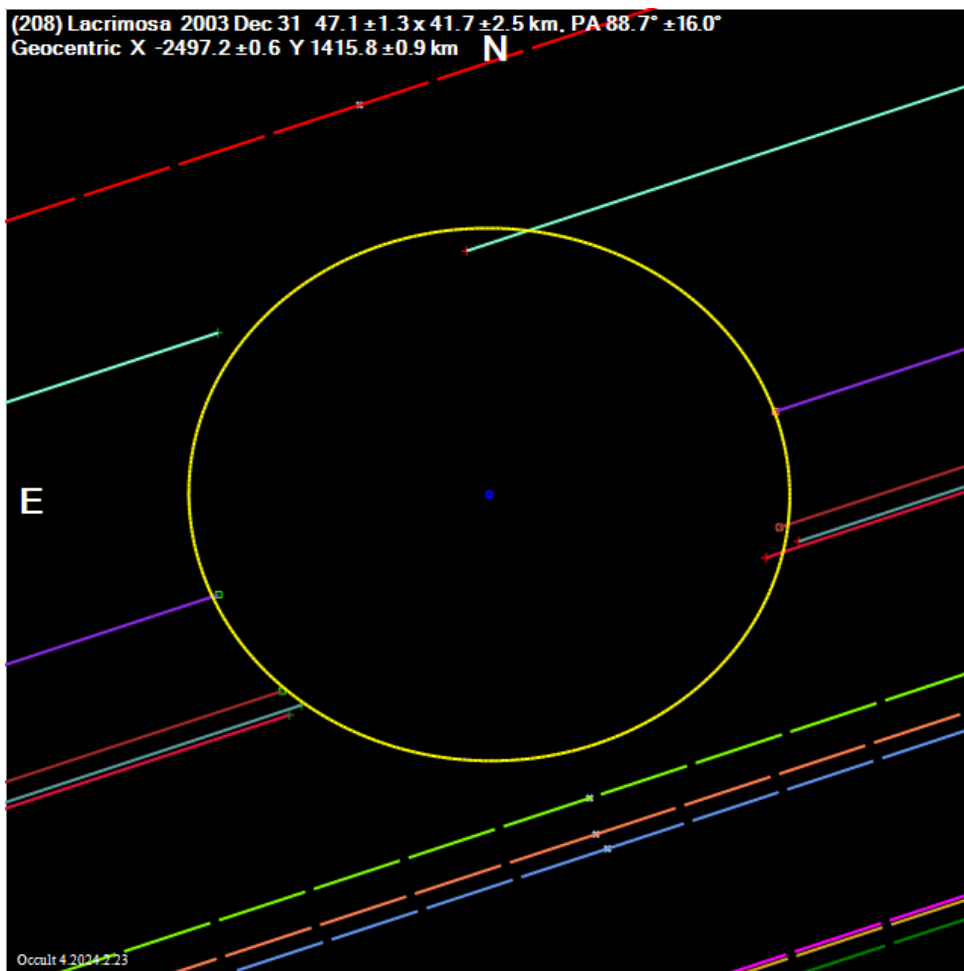
204_Kallisto_2005Jul12

(204) Kallisto 2005 Jul 12 $54.5 \pm 0.7 \times 45.6 \pm 1.8$ km, PA $96.9^\circ \pm 4.0^\circ$
Geocentric X -415.8 ± 0.3 Y 4326.9 ± 0.5 km **N**



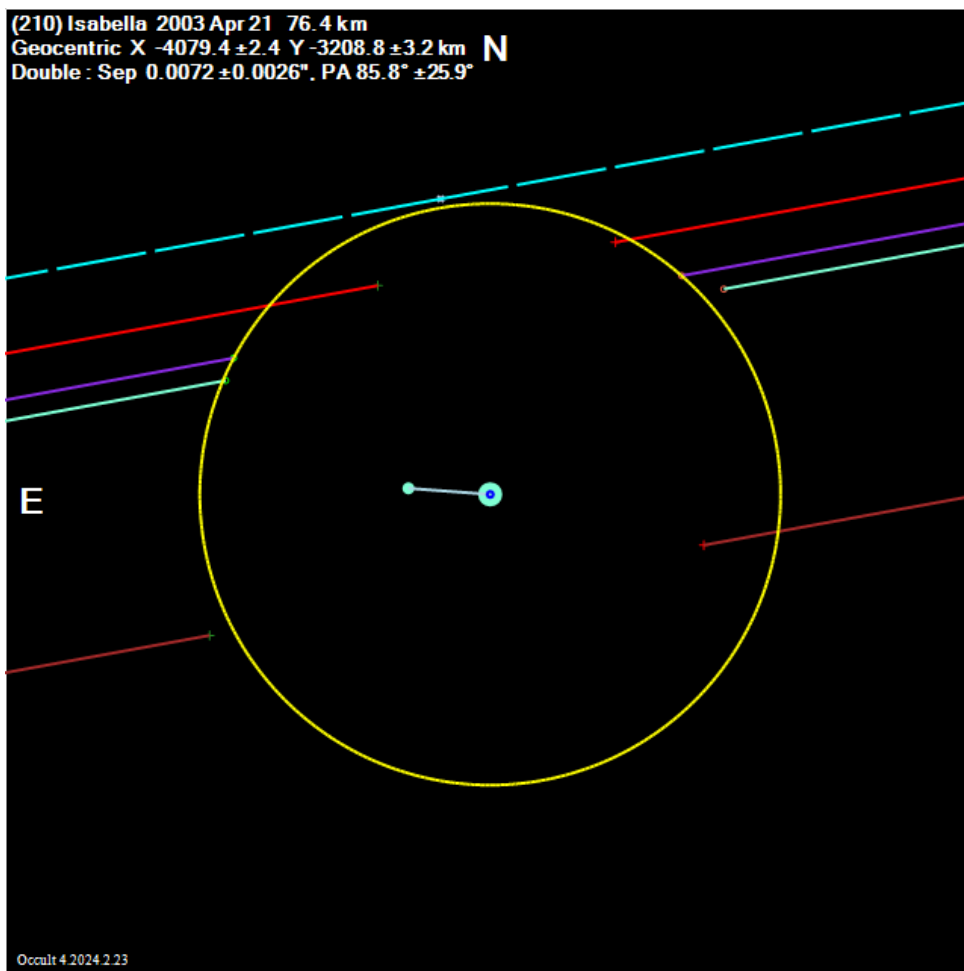
208_Lacrimosa_2003Dec31

(208) Lacrimosa 2003 Dec 31 $47.1 \pm 1.3 \times 41.7 \pm 2.5$ km, PA $88.7^\circ \pm 16.0^\circ$
Geocentric X -2497.2 ± 0.6 Y 1415.8 ± 0.9 km



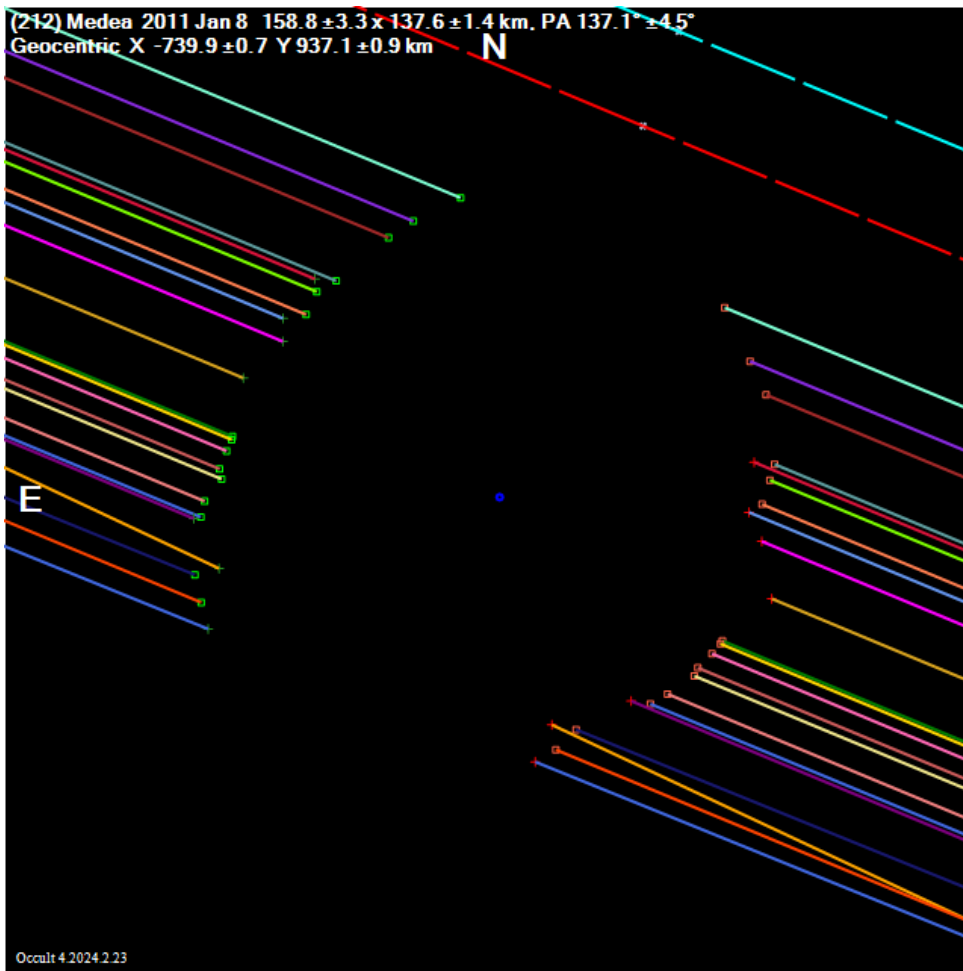
210_Isabella_2003Apr21

(210) Isabella 2003 Apr 21 76.4 km
Geocentric X -4079.4 ± 2.4 Y -3208.8 ± 3.2 km **N**
Double : Sep $0.0072 \pm 0.0026''$, PA $85.8^\circ \pm 25.9^\circ$



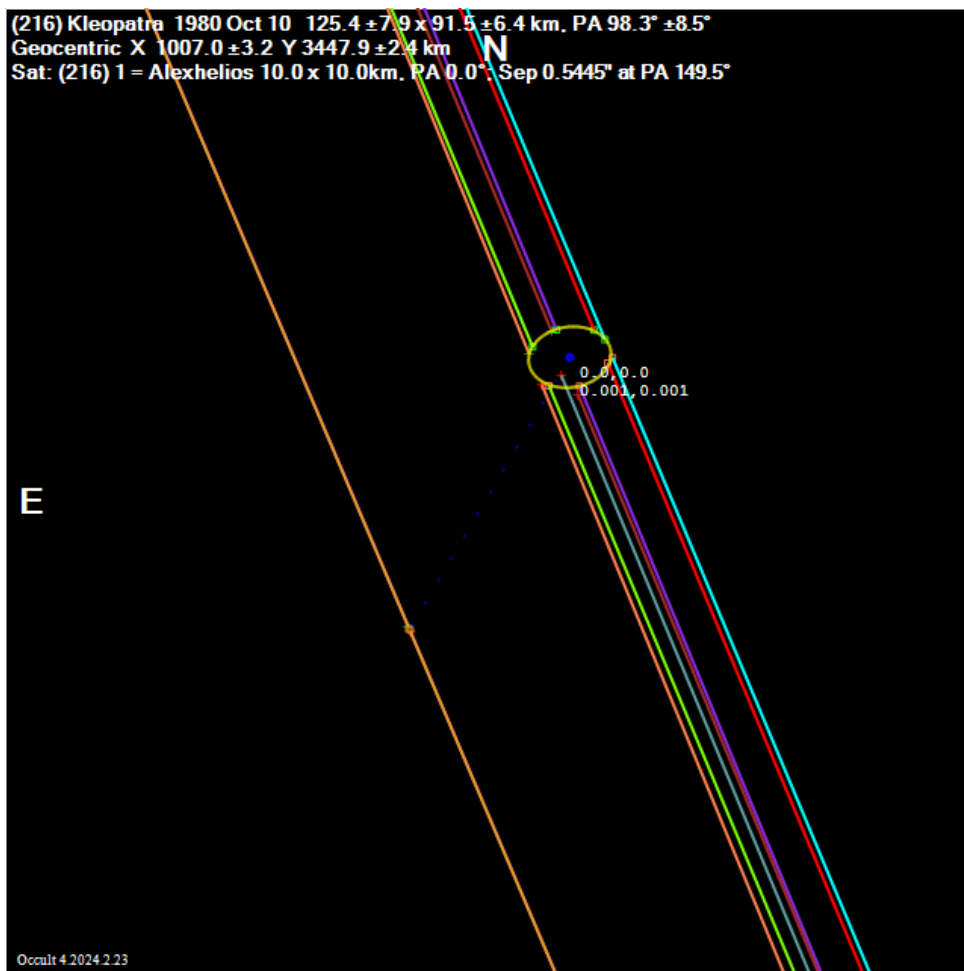
212_Medea_2011Jan08

(212) Medea 2011 Jan 8 158.8 ± 3.3 x 137.6 ± 1.4 km. PA 137.1° ± 4.5°
Geocentric X -739.9 ± 0.7 Y 937.1 ± 0.9 km



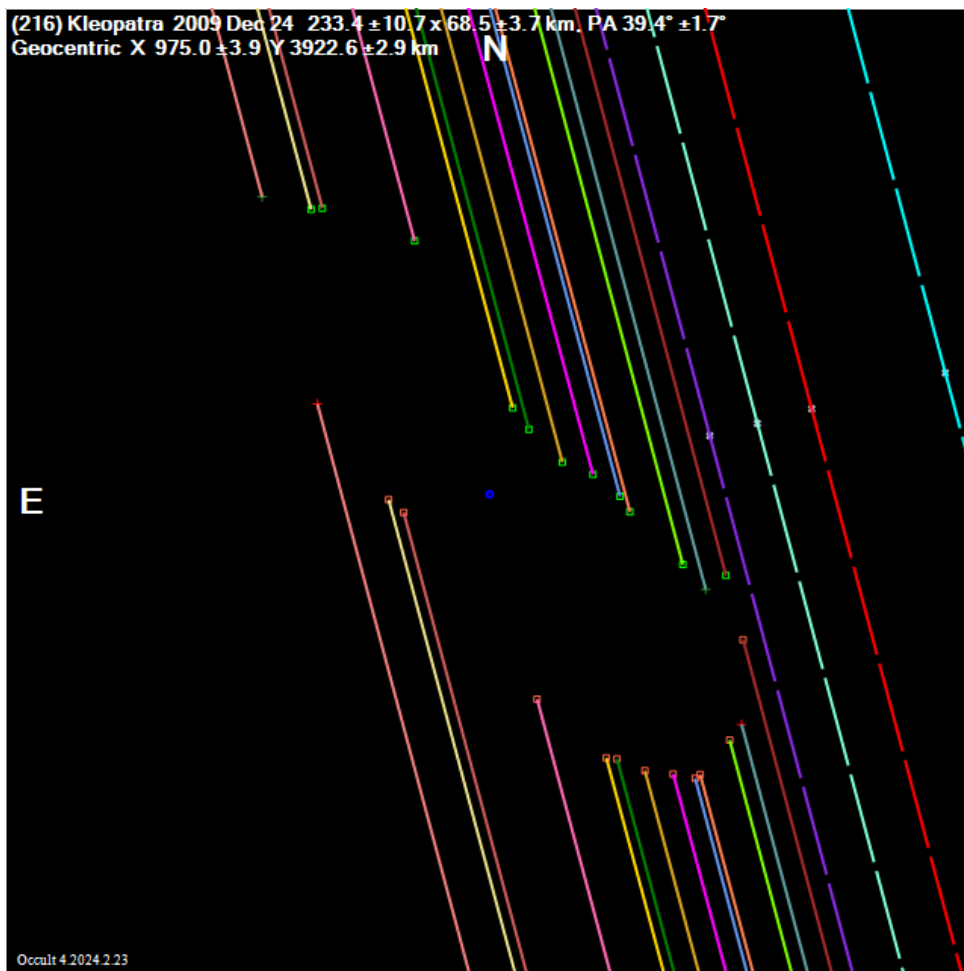
216_Kleopatra_1980Oct10

(216) Kleopatra 1980 Oct 10 125.4 ± 7.9 x 91.5 ± 6.4 km. PA 98.3° ± 8.5°
Geocentric X 1007.0 ± 3.2 Y 3447.9 ± 2.4 km
Sat: (216) 1 = Alexhelios 10.0 x 10.0 km. PA 0.0°. Sep 0.5445" at PA 149.5°



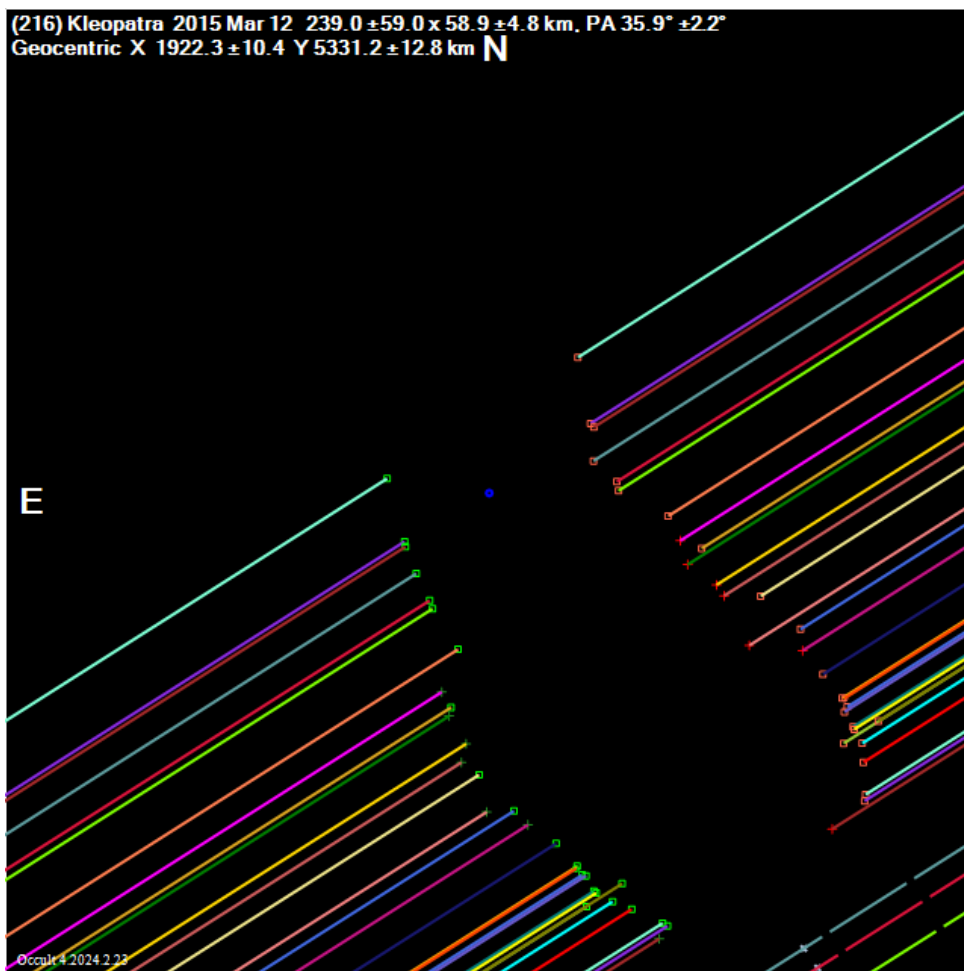
216_Kleopatra_2009Dec24

(216) Kleopatra 2009 Dec 24 233.4 ± 10.7 × 68.5 ± 3.7 km, PA 39.4° ± 1.7°
Geocentric X 975.0 ± 3.9 Y 3922.6 ± 2.9 km



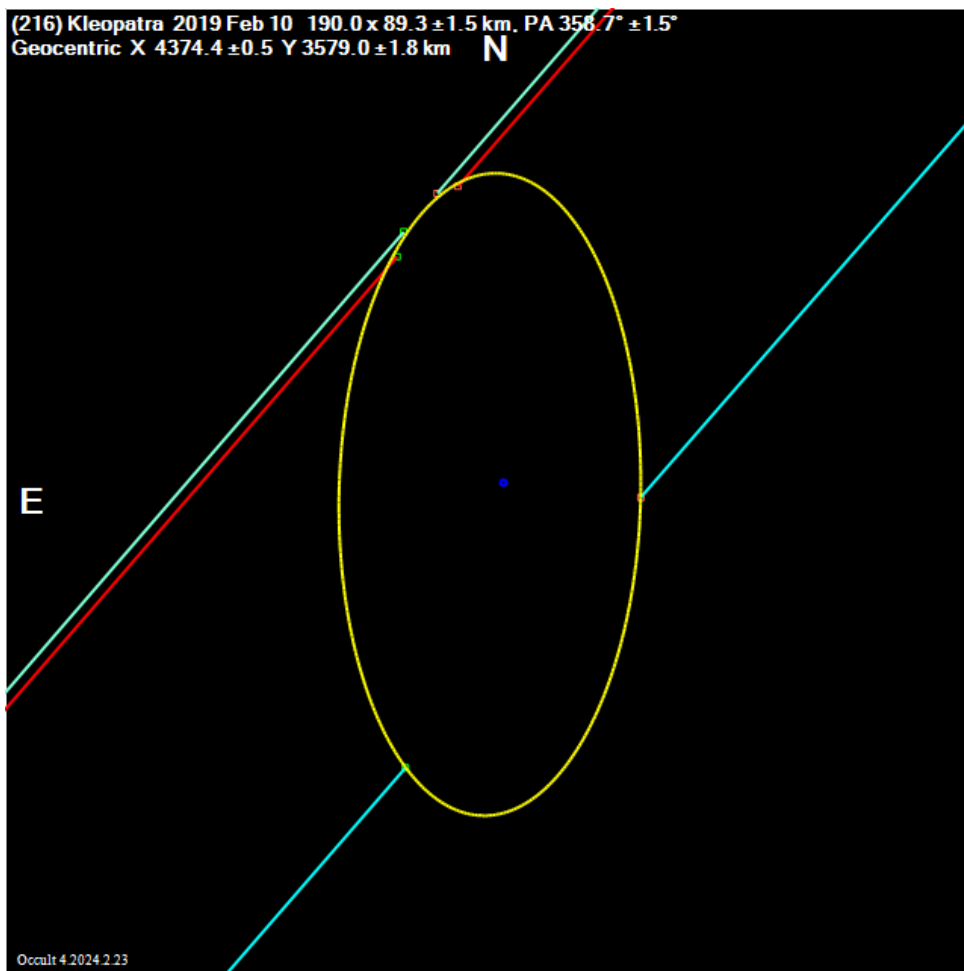
216_Kleopatra_2015Mar12

(216) Kleopatra 2015 Mar 12 239.0 ±59.0 x 58.9 ±4.8 km, PA 35.9° ±2.2°
Geocentric X 1922.3 ±10.4 Y 5331.2 ±12.8 km **N**



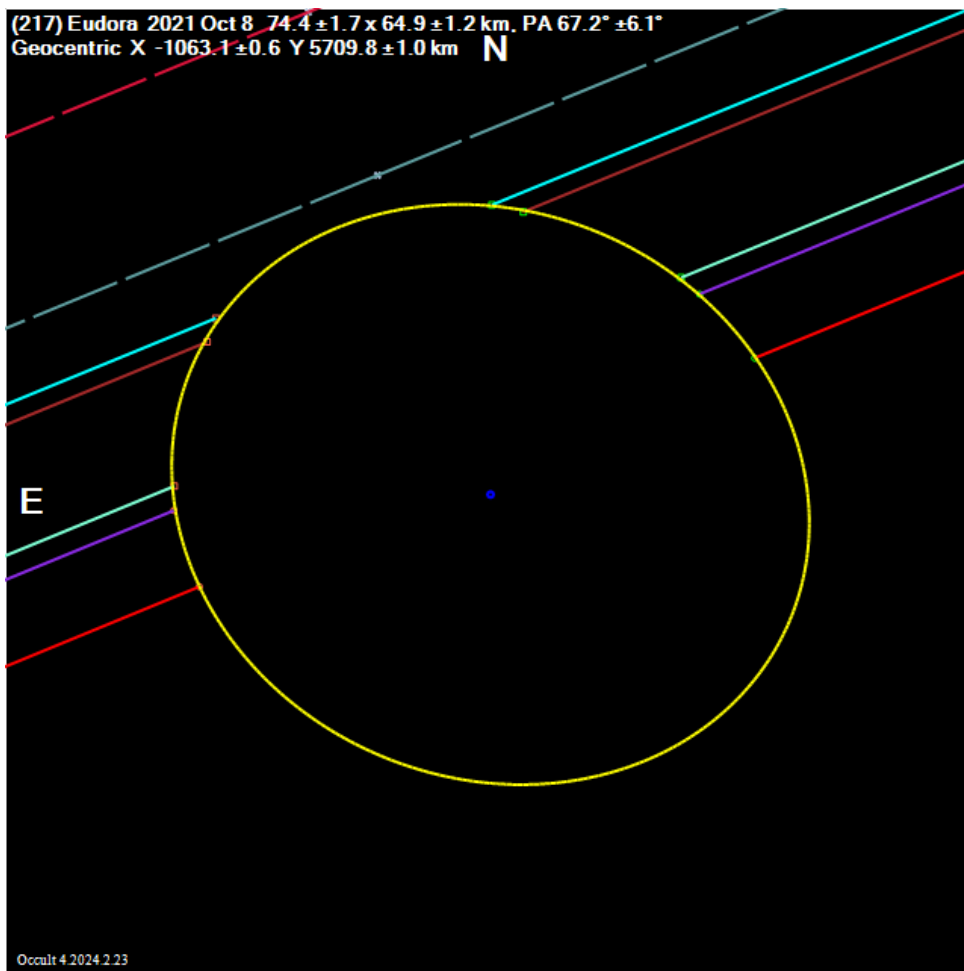
216_Kleopatra_2019Feb10

(216) Kleopatra 2019 Feb 10 190.0 x 89.3 ± 1.5 km. PA 356.7° ± 1.5°
Geocentric X 4374.4 ± 0.5 Y 3579.0 ± 1.8 km N



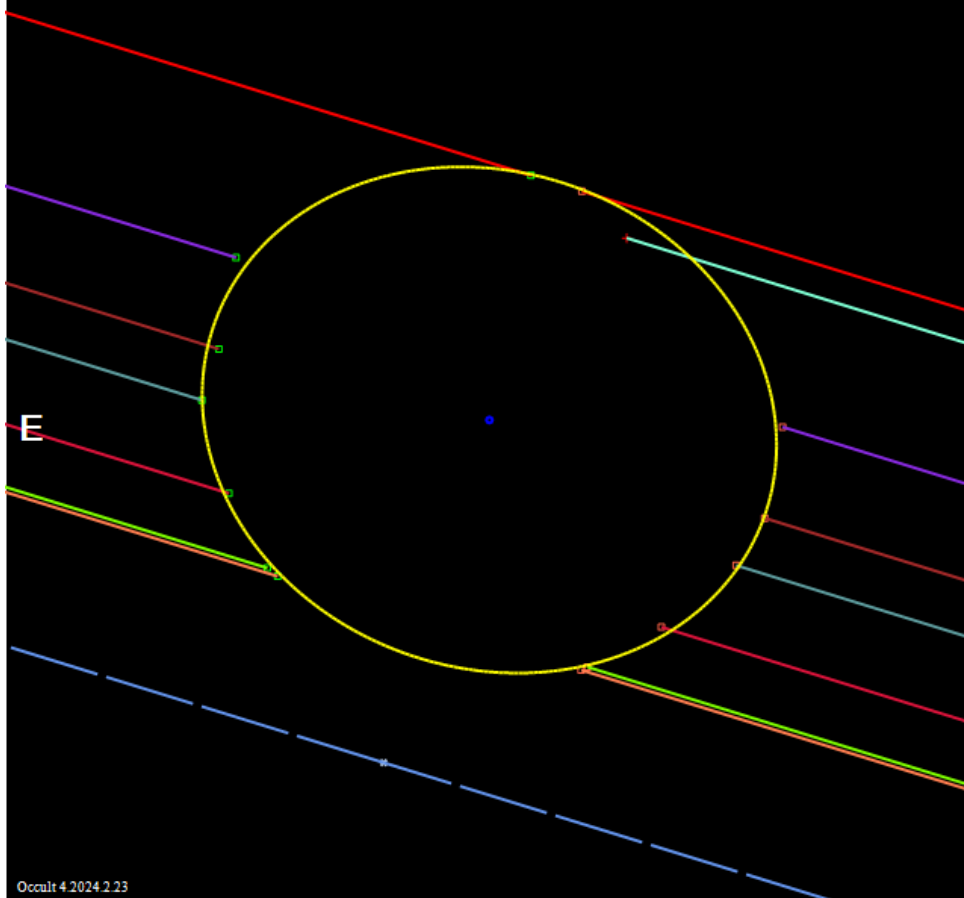
217_Eudora_2021Oct08

(217) Eudora 2021 Oct 8 $74.4 \pm 1.7 \times 64.9 \pm 1.2$ km, PA $67.2^\circ \pm 6.1^\circ$
Geocentric X -1063.1 ± 0.6 Y 5709.8 ± 1.0 km **N**



223_Rosa_2021Nov10

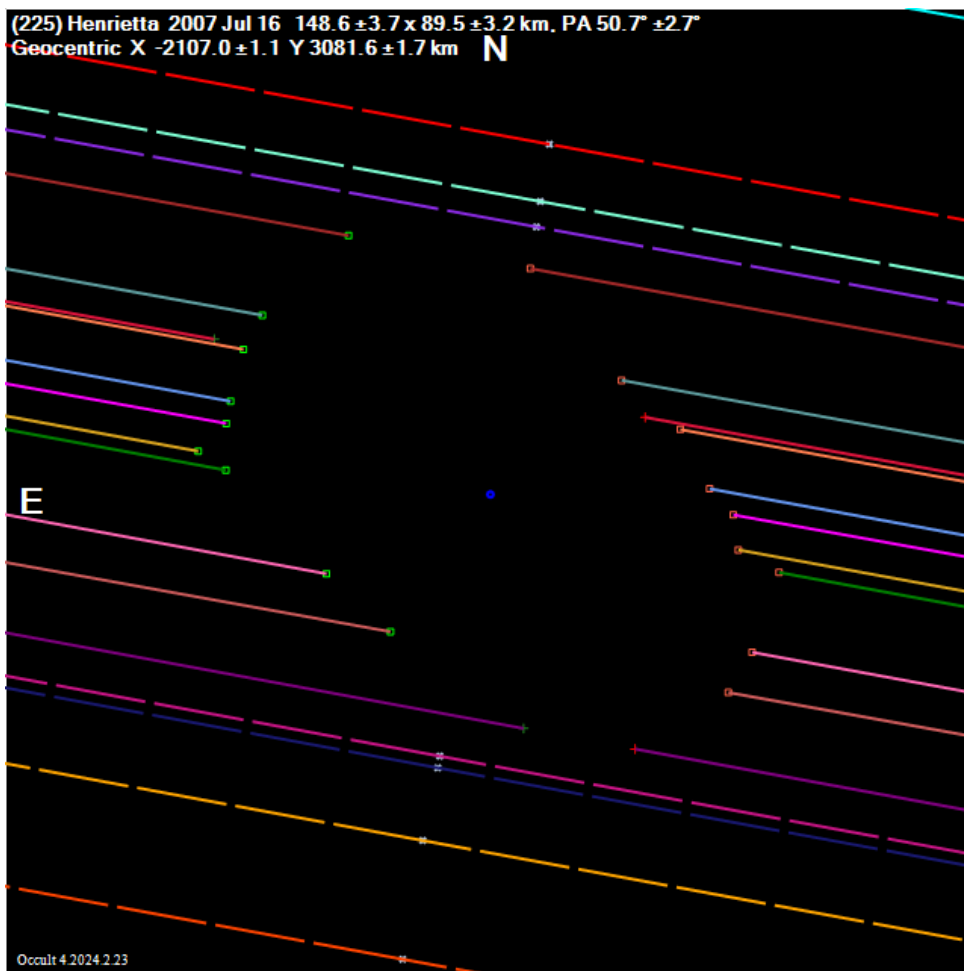
(223) Rosa 2021 Nov 10 $82.6 \pm 1.0 \times 70.3 \pm 1.1$ km, PA $71.2^\circ \pm 4.6^\circ$
Geocentric X 3446.0 ± 0.5 Y 2935.9 ± 0.5 km N



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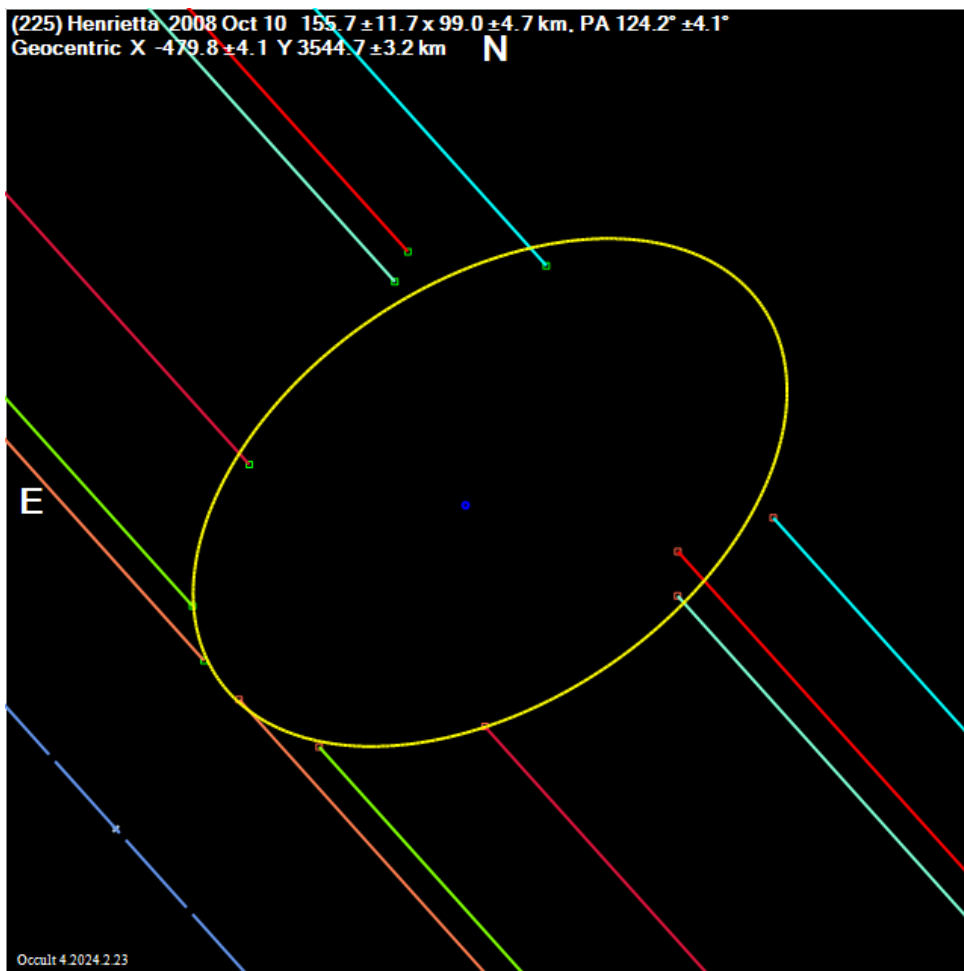
225_Henrietta_2007Jul16

(225) Henrietta 2007 Jul 16 $148.6 \pm 3.7 \times 89.5 \pm 3.2$ km, PA $50.7^\circ \pm 2.7^\circ$
Geocentric X -2107.0 ± 1.1 Y 3081.6 ± 1.7 km **N**



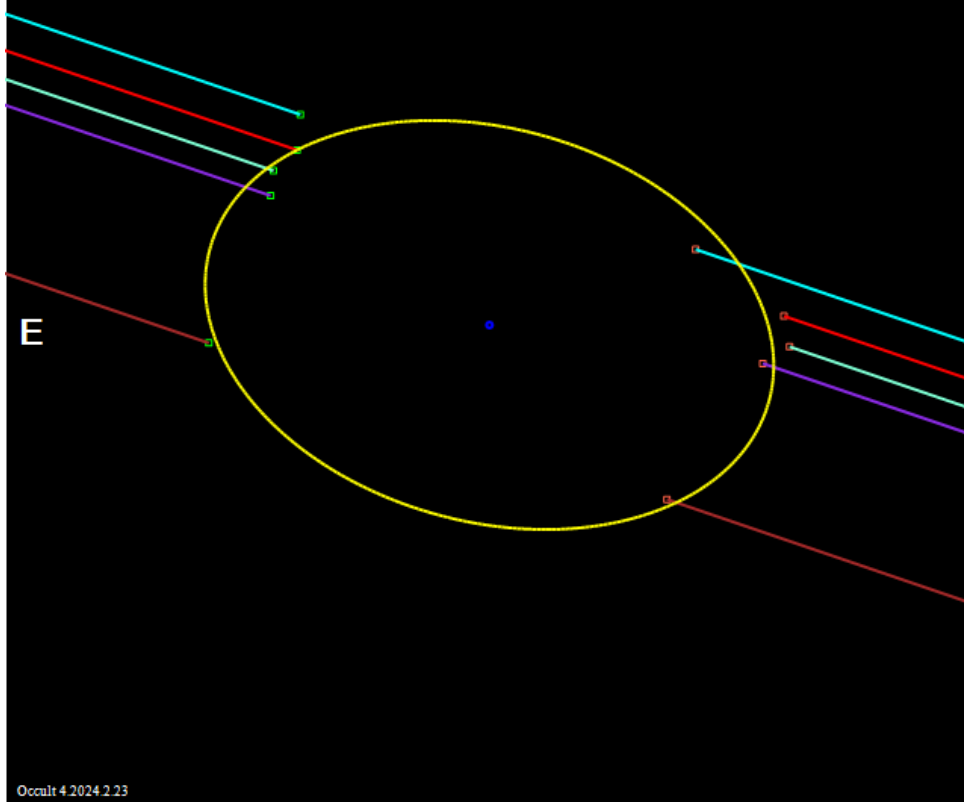
225_Henrietta_2008Oct10

(225) Henrietta 2008 Oct 10 $155.7 \pm 11.7 \times 99.0 \pm 4.7$ km, PA $124.2^\circ \pm 4.1^\circ$
Geocentric X -479.8 ± 4.1 Y 3544.7 ± 3.2 km **N**



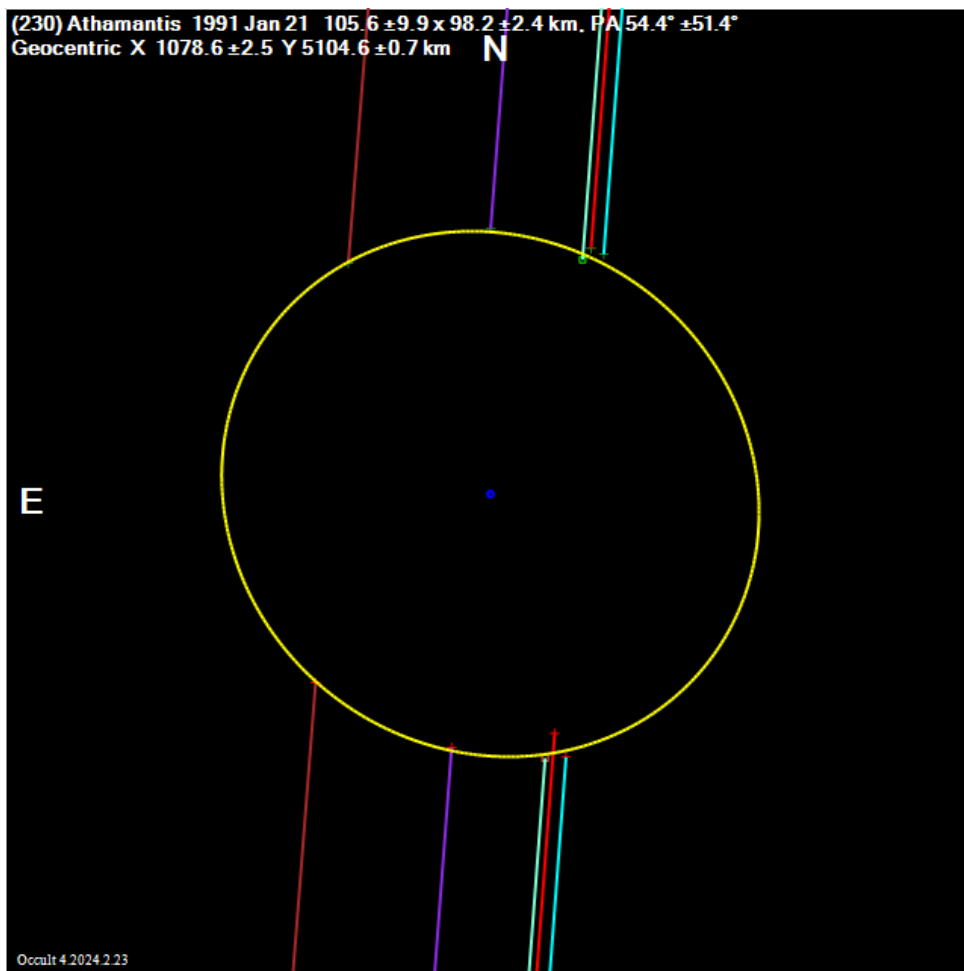
229_Adelinda_2015Oct21

(229) Adelinda 2015 Oct 21 113.2 ± 4.6 x 76.8 ± 8.6 km, PA 74.8° ± 4.6°
Geocentric X 5101.3 ± 1.7 Y 3432.6 ± 1.9 km N



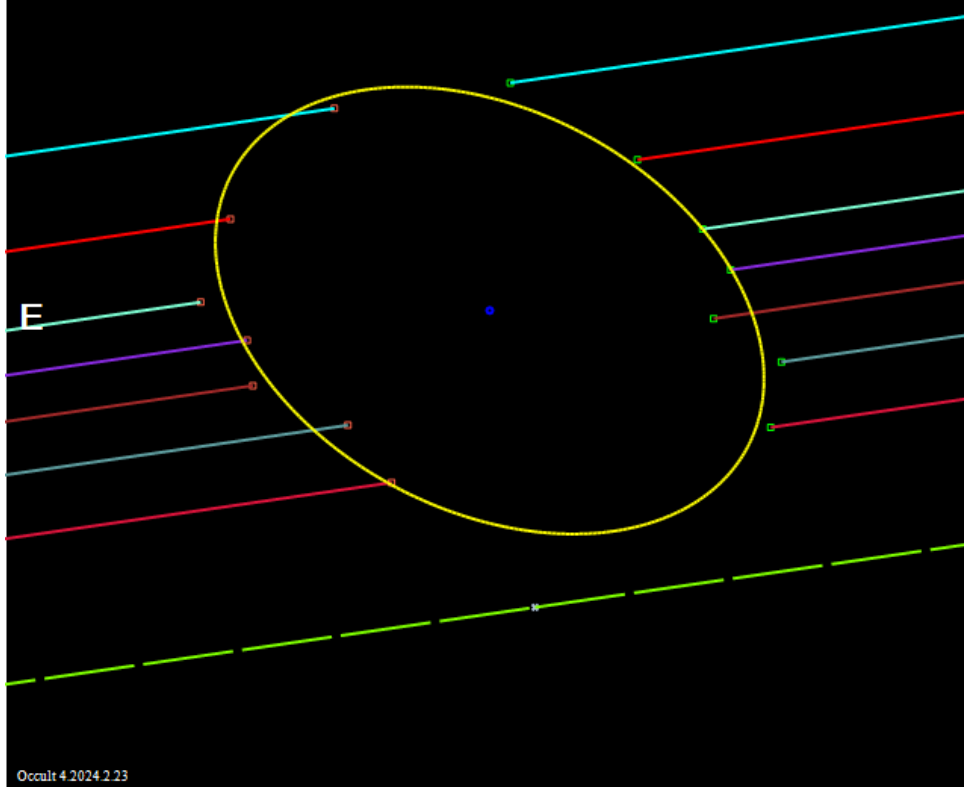
230_Athamantis_1991Jan21

(230) Athamantis 1991 Jan 21 105.6 ± 9.9 × 98.2 ± 2.4 km. PA 54.4° ± 51.4°
Geocentric X 1078.6 ± 2.5 Y 5104.6 ± 0.7 km



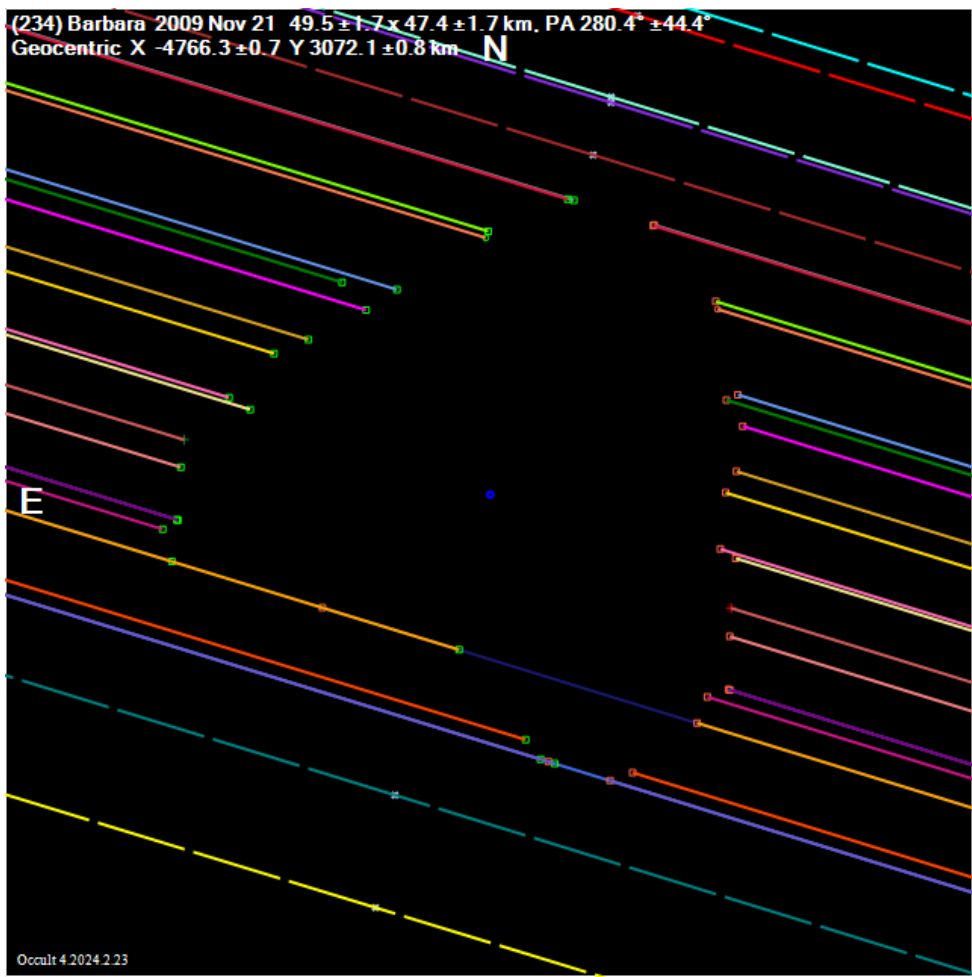
233_Asterope_2015Sep11

(233) Asterope 2015 Sep 11 $130.6 \pm 5.2 \times 89.5 \pm 3.9$ km, PA $62.1^\circ \pm 5.8^\circ$
Geocentric X -2211.0 ± 1.6 Y -3941.7 ± 2.3 km **N**



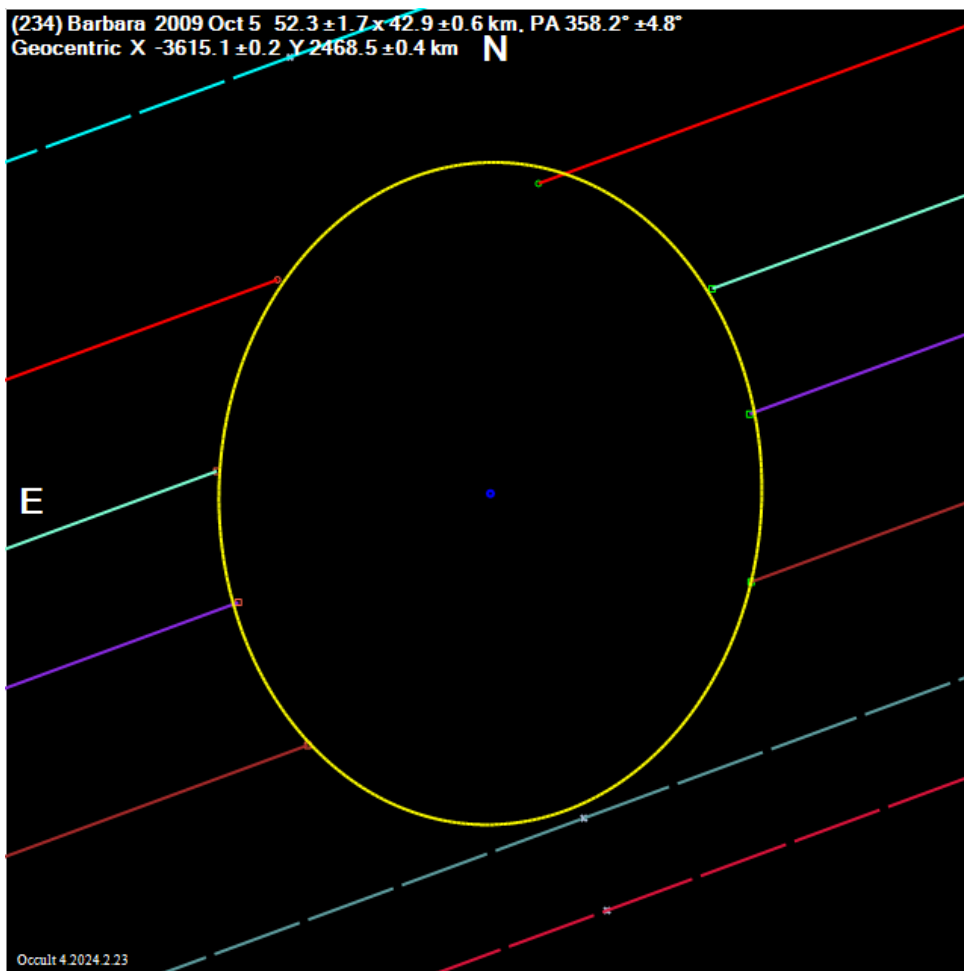
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234_Barbara_2009Nov21



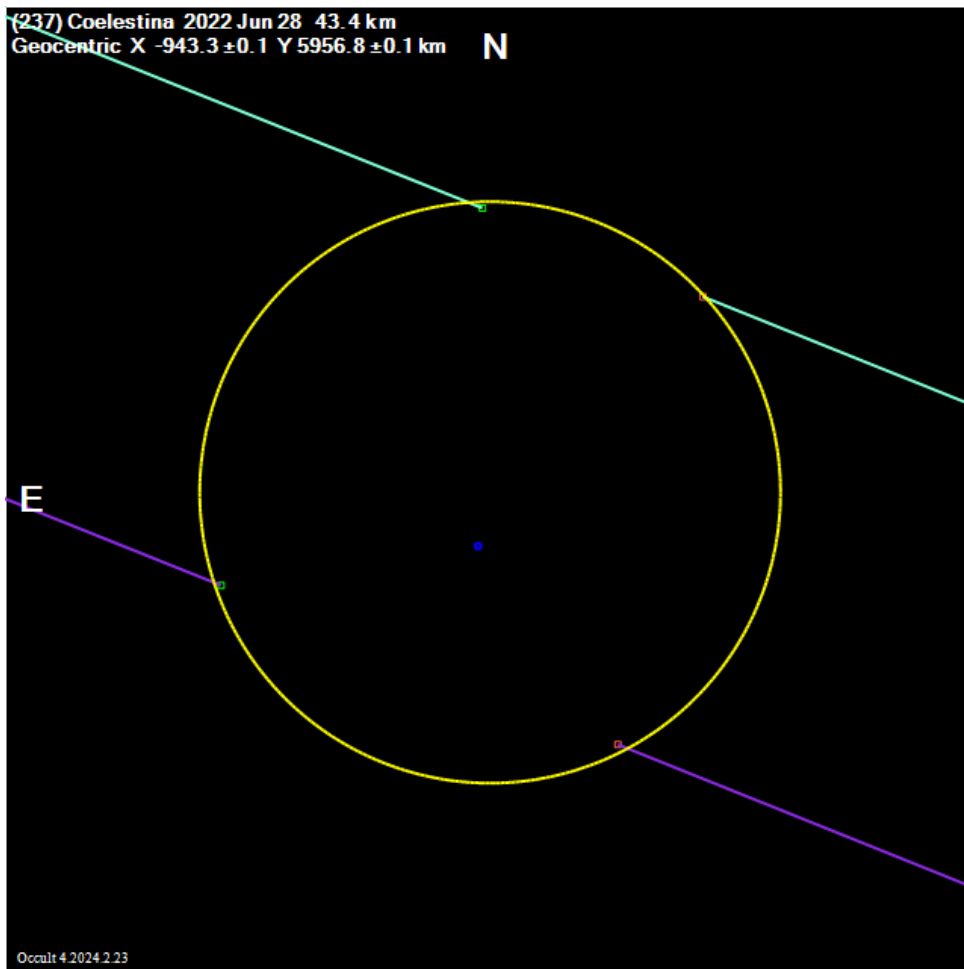
234_Barbara_2009Oct05

(234) Barbara 2009 Oct 5 $52.3 \pm 1.7 \times 42.9 \pm 0.6$ km. PA $358.2^\circ \pm 4.8^\circ$
Geocentric X -3615.1 ± 0.2 Y 2468.5 ± 0.4 km **N**



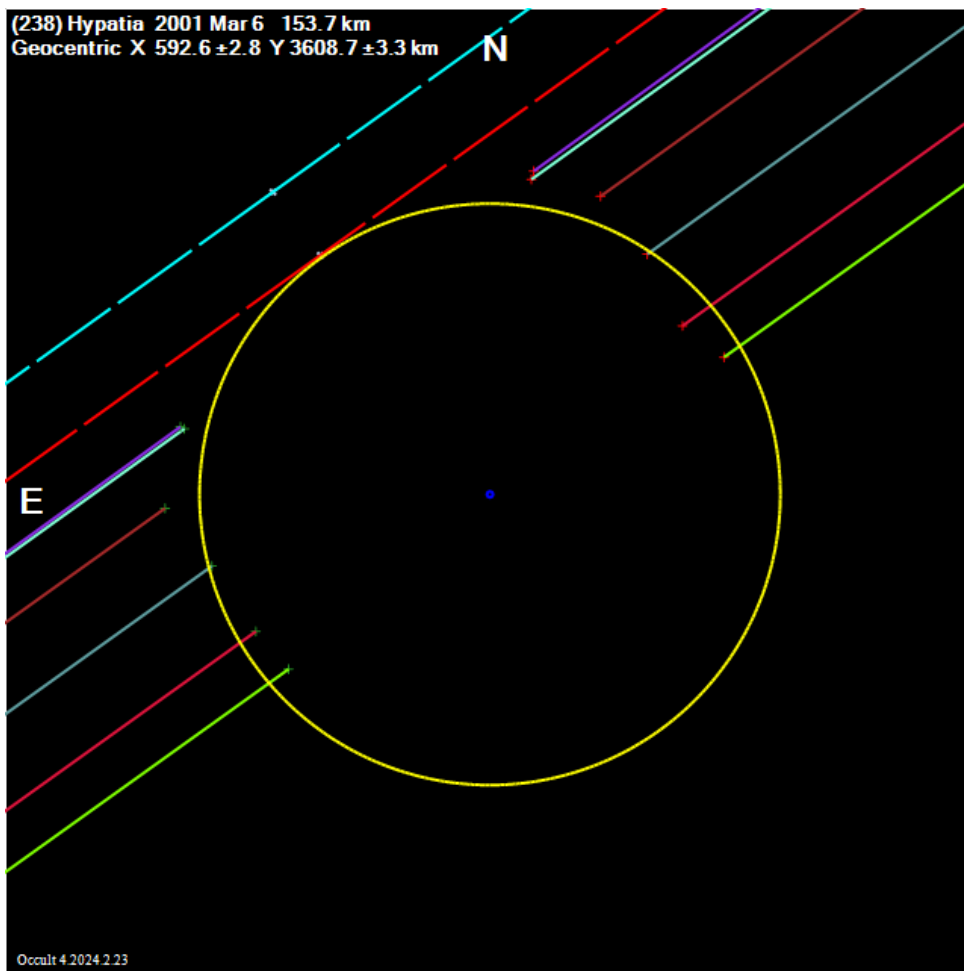
237_Coelestina_2022Jun28

(237) Coelestina 2022 Jun 28 43.4 km
Geocentric X -943.3 ± 0.1 Y 5956.8 ± 0.1 km N



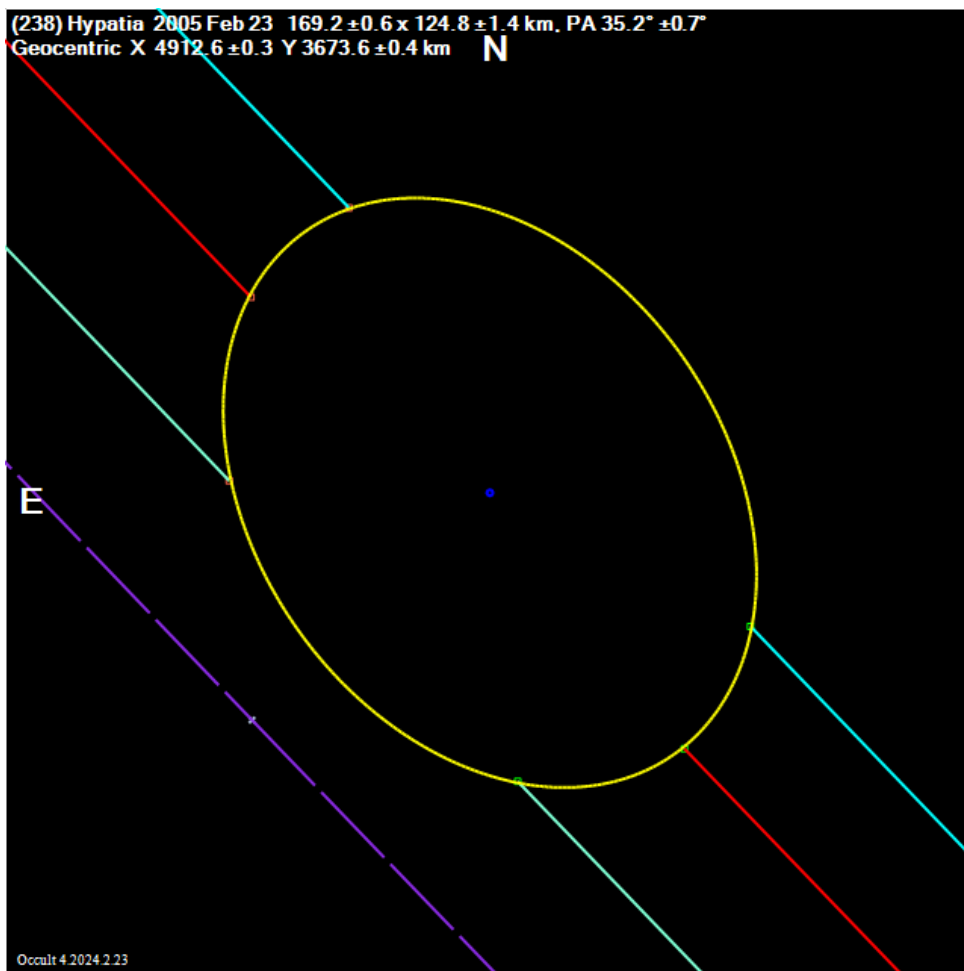
238_Hypatia_2001Mar06

(238) Hypatia 2001 Mar 6 153.7 km
Geocentric X 592.6 ± 2.8 Y 3608.7 ± 3.3 km



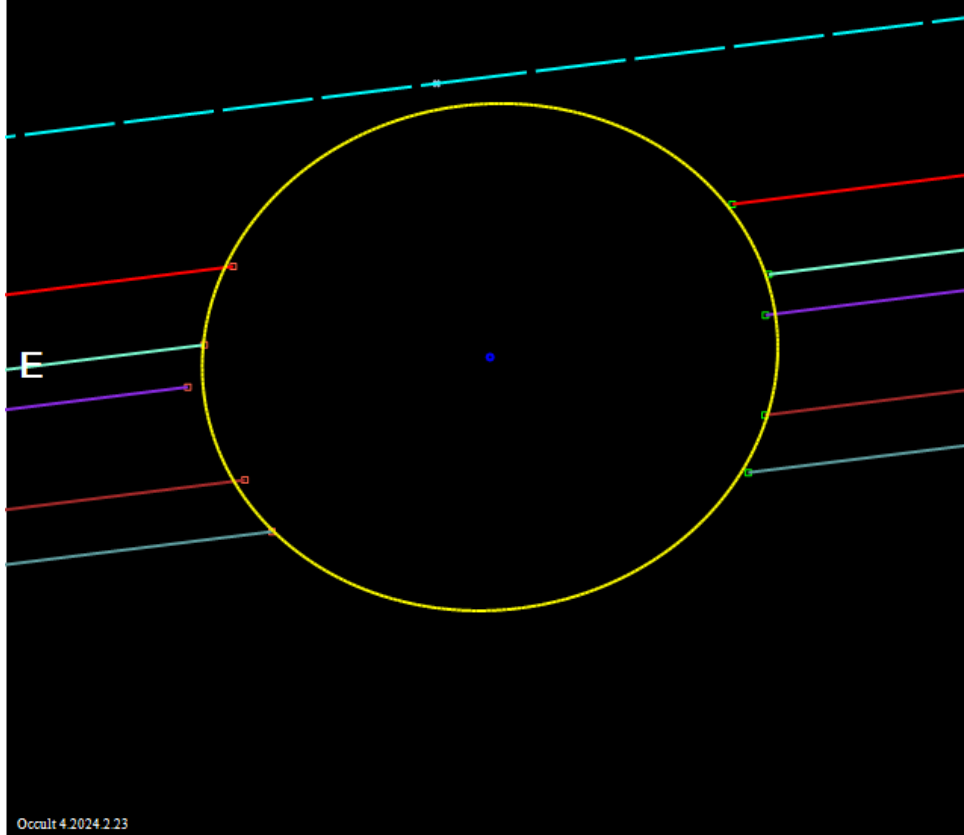
238_Hypatia_2005Feb23

(238) Hypatia 2005 Feb 23 169.2 ± 0.6 x 124.8 ± 1.4 km, PA 35.2° ± 0.7°
Geocentric X 4912.6 ± 0.3 Y 3673.6 ± 0.4 km N



241_Germania_2014Apr18

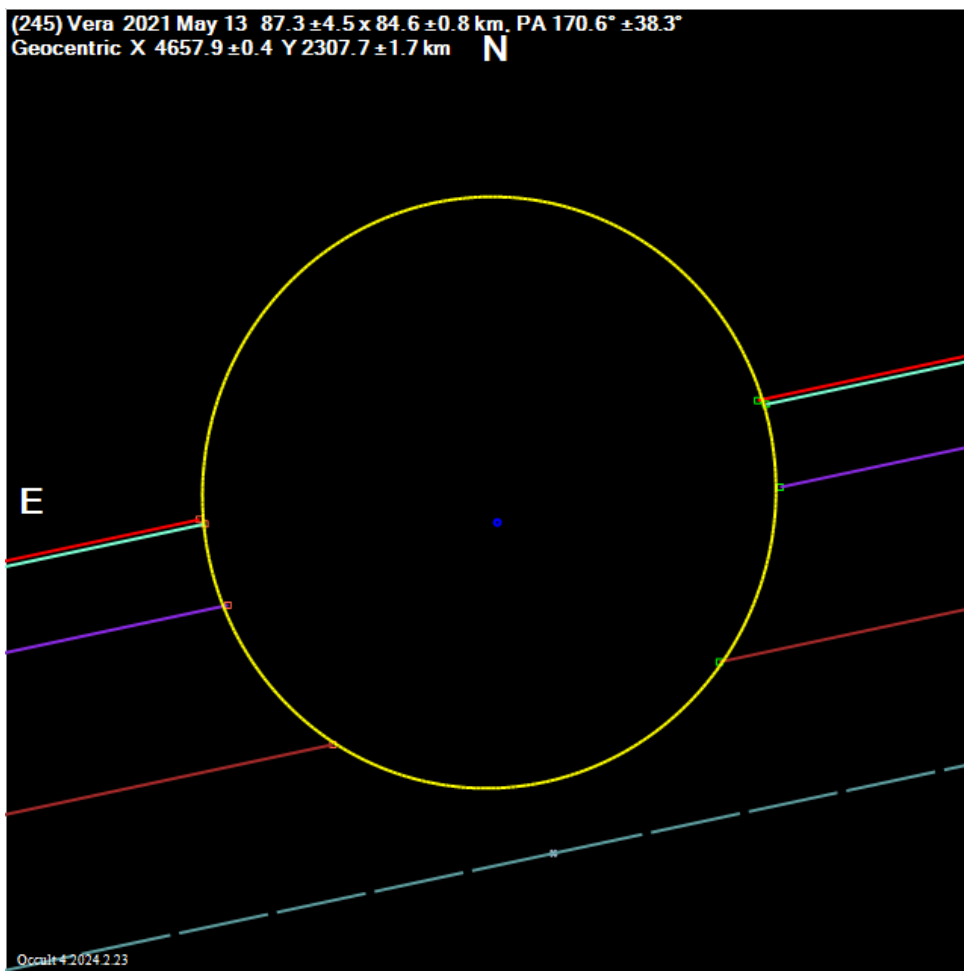
(241) Germania 2014 Apr 18 $181.5 \pm 2.4 \times 158.9 \pm 10.2$ km, PA $98.3^\circ \pm 5.5^\circ$
Geocentric X 3551.7 ± 0.8 Y 4055.3 ± 1.9 km N



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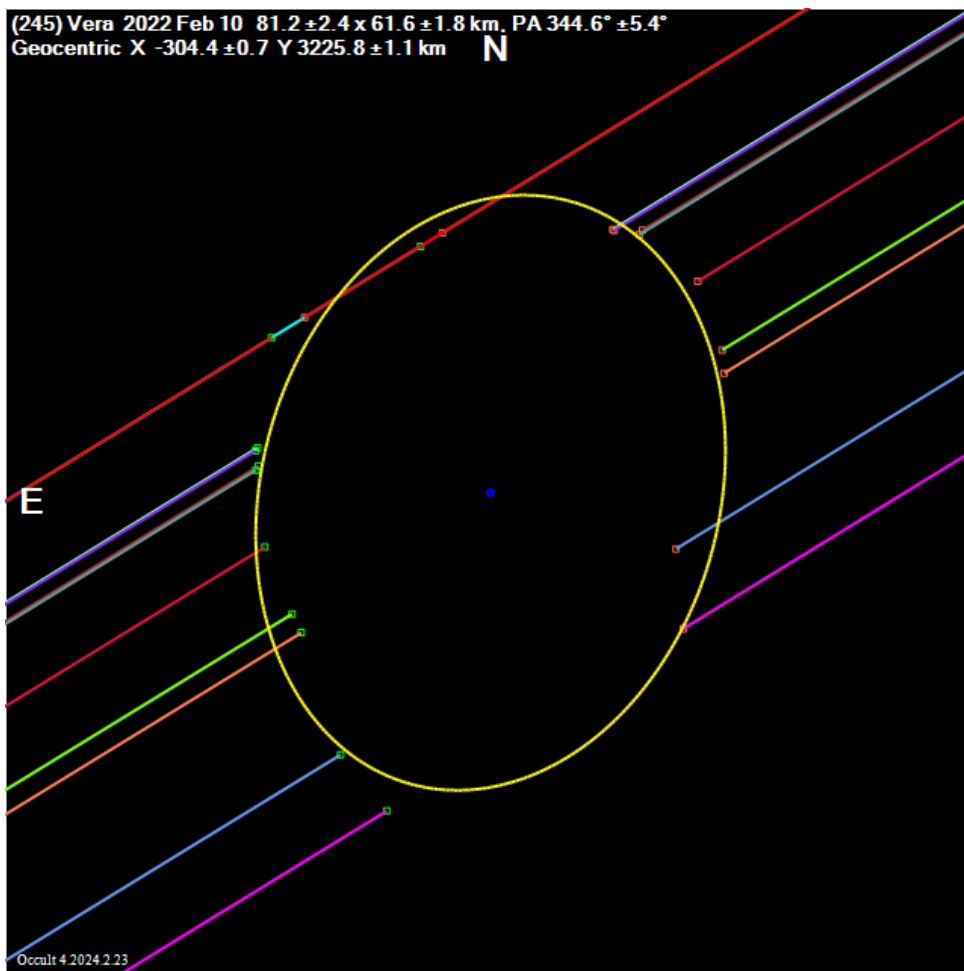
245_Vera_2021May13

(245) Vera 2021 May 13 $87.3 \pm 4.5 \times 84.6 \pm 0.8$ km, PA $170.6^\circ \pm 38.3^\circ$
Geocentric X 4657.9 ± 0.4 Y 2307.7 ± 1.7 km N



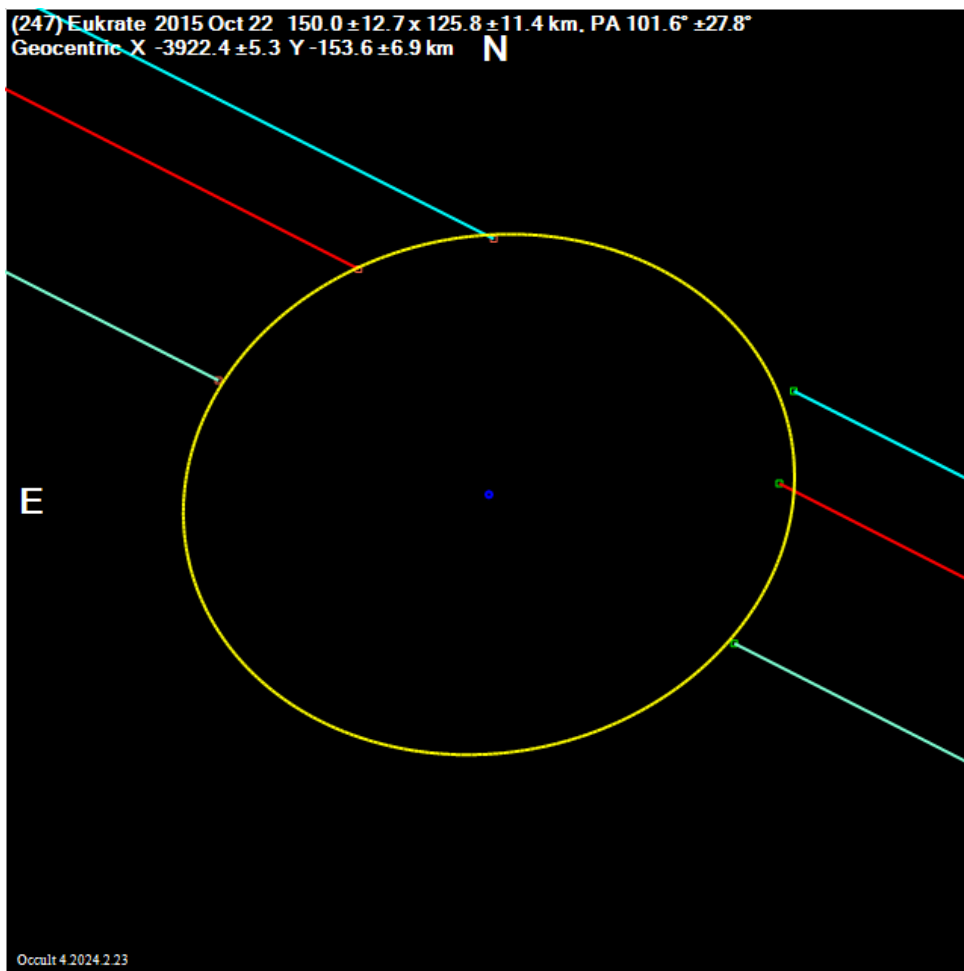
245_Vera_2022Feb10

(245) Vera 2022 Feb 10 $81.2 \pm 2.4 \times 61.6 \pm 1.8$ km, PA $344.6^\circ \pm 5.4^\circ$
Geocentric X -304.4 ± 0.7 Y 3225.8 ± 1.1 km **N**



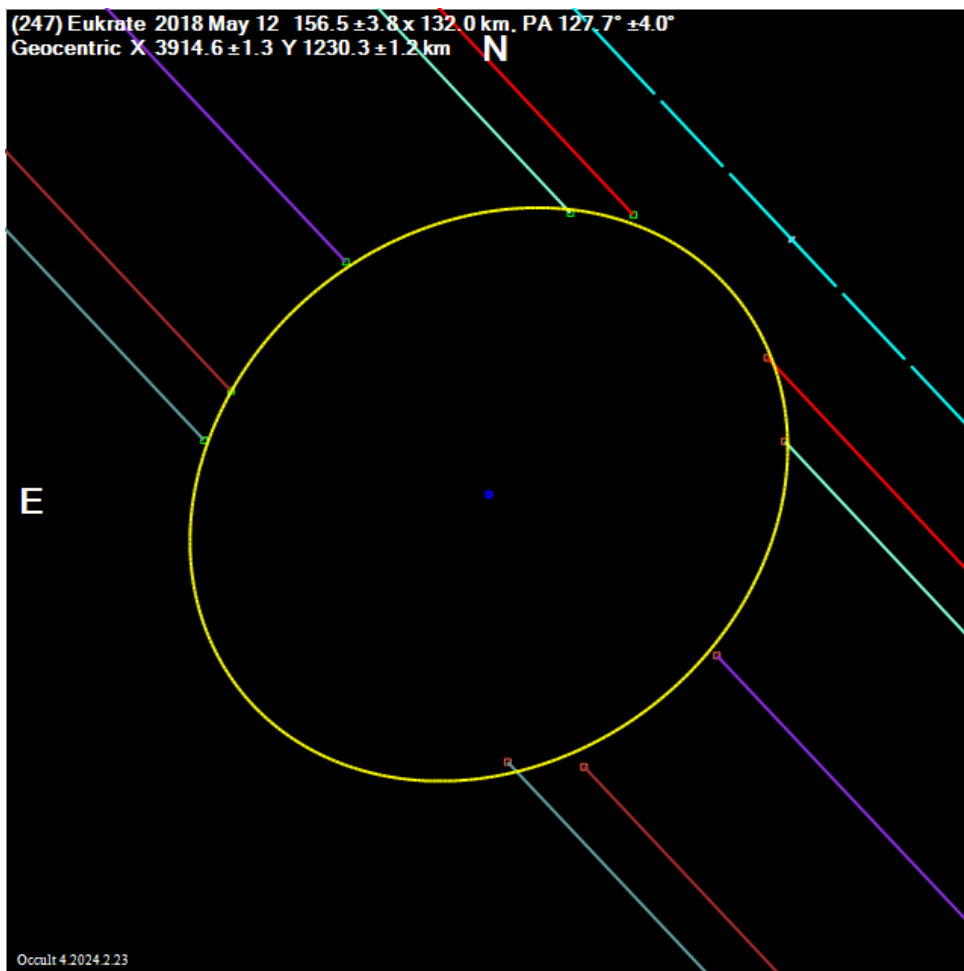
247_Eukrate_2015Oct22

(247) Eukrate 2015 Oct 22 $150.0 \pm 12.7 \times 125.8 \pm 11.4$ km, PA $101.6^\circ \pm 27.8^\circ$
Geocentric X -3922.4 ± 5.3 Y -153.6 ± 6.9 km **N**



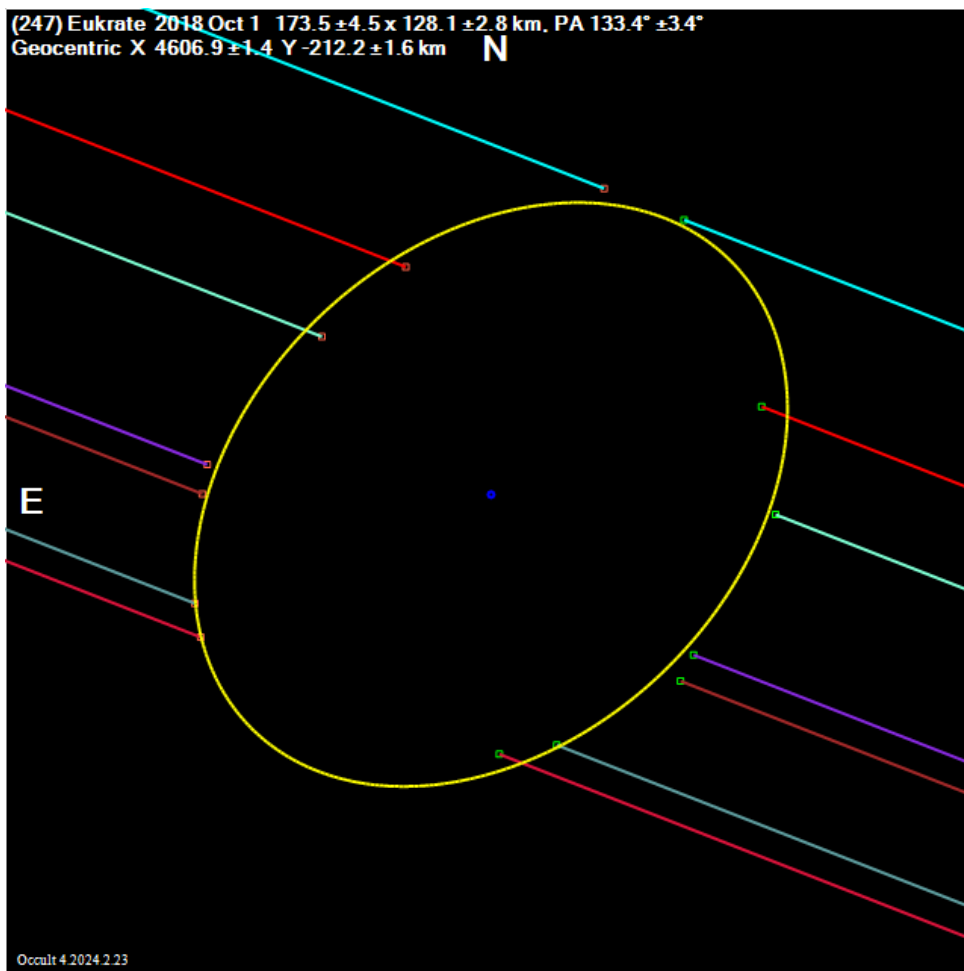
247_Eukrate_2018May12

(247) Eukrate 2018 May 12 156.5 ± 3.8 x 132.0 km. PA 127.7° ± 4.0°
Geocentric X 3914.6 ± 1.3 Y 1230.3 ± 1.2 km



247_Eukrate_2018Oct01

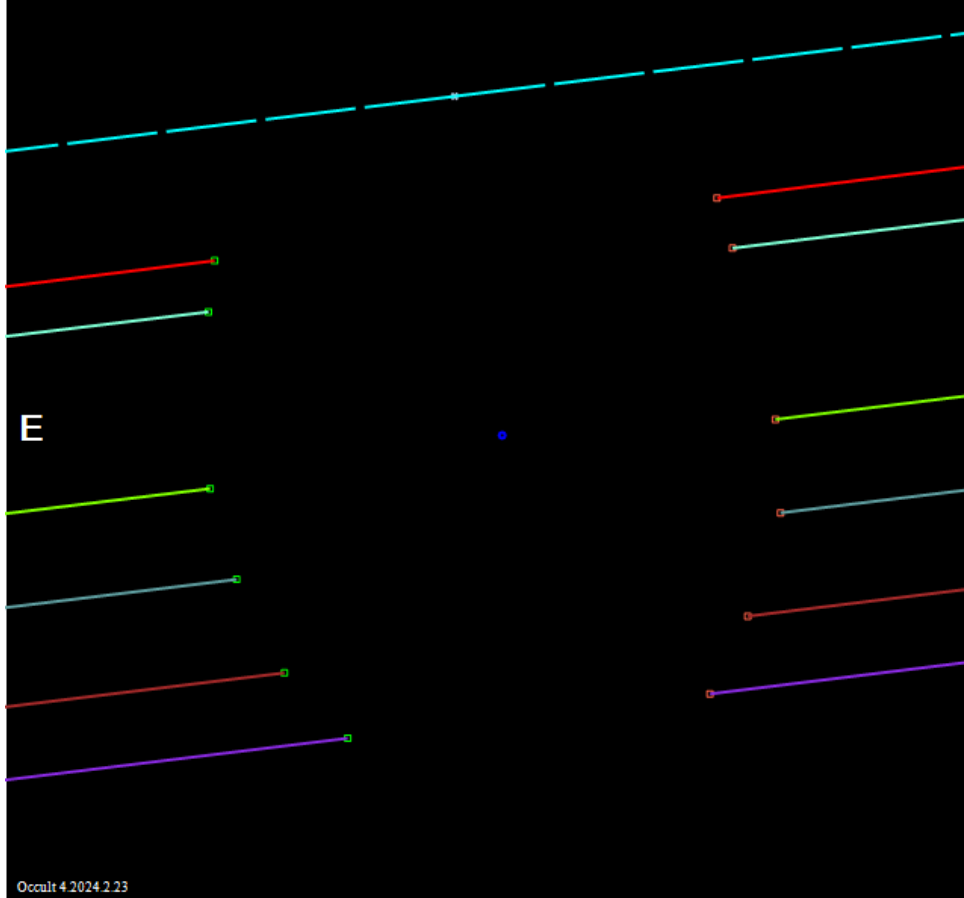
(247) Eukrate 2018 Oct 1 173.5 ± 4.5 x 128.1 ± 2.8 km, PA 133.4° ± 3.4°
Geocentric X 4606.9 ± 1.4 Y -212.2 ± 1.6 km N



250_Bettina_2020Nov28

(250) Bettina 2020 Nov 28 $132.6 \pm 1.8 \times 98.0 \pm 0.5$ km, PA $187.8^\circ \pm 0.7^\circ$
Geocentric X 906.0 ± 0.2 Y -10.5 ± 0.5 km

N

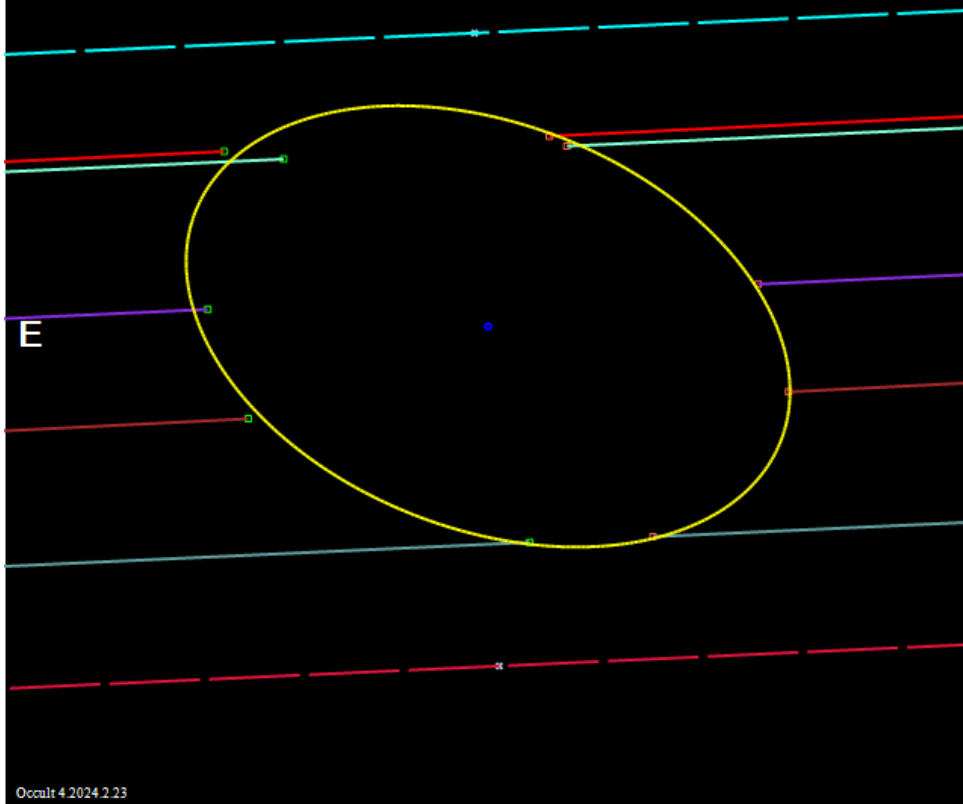


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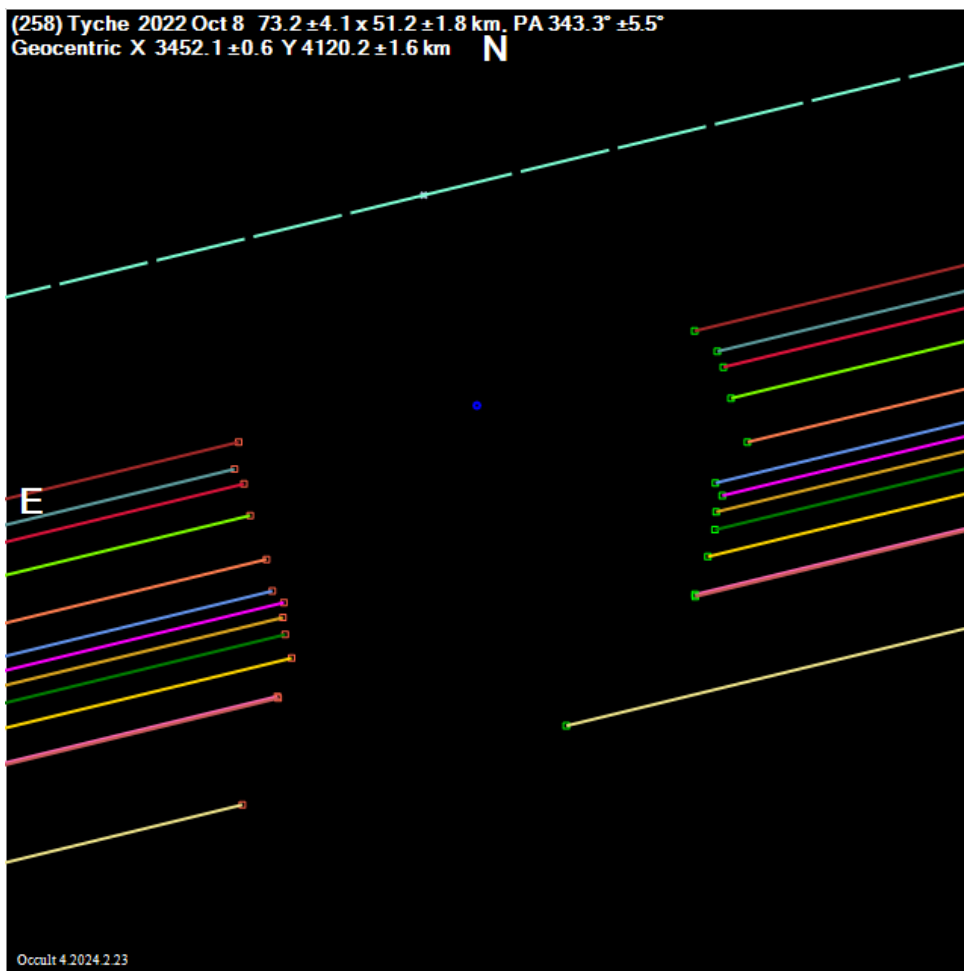
253_Mathilde_2019Dec19

(253) Mathilde 2019 Dec 19 $68.5 \pm 1.6 \times 44.1 \pm 1.4$ km, PA $68.7^\circ \pm 2.4^\circ$
Geocentric X -63.0 ± 0.6 Y 2364.8 ± 0.6 km **N**



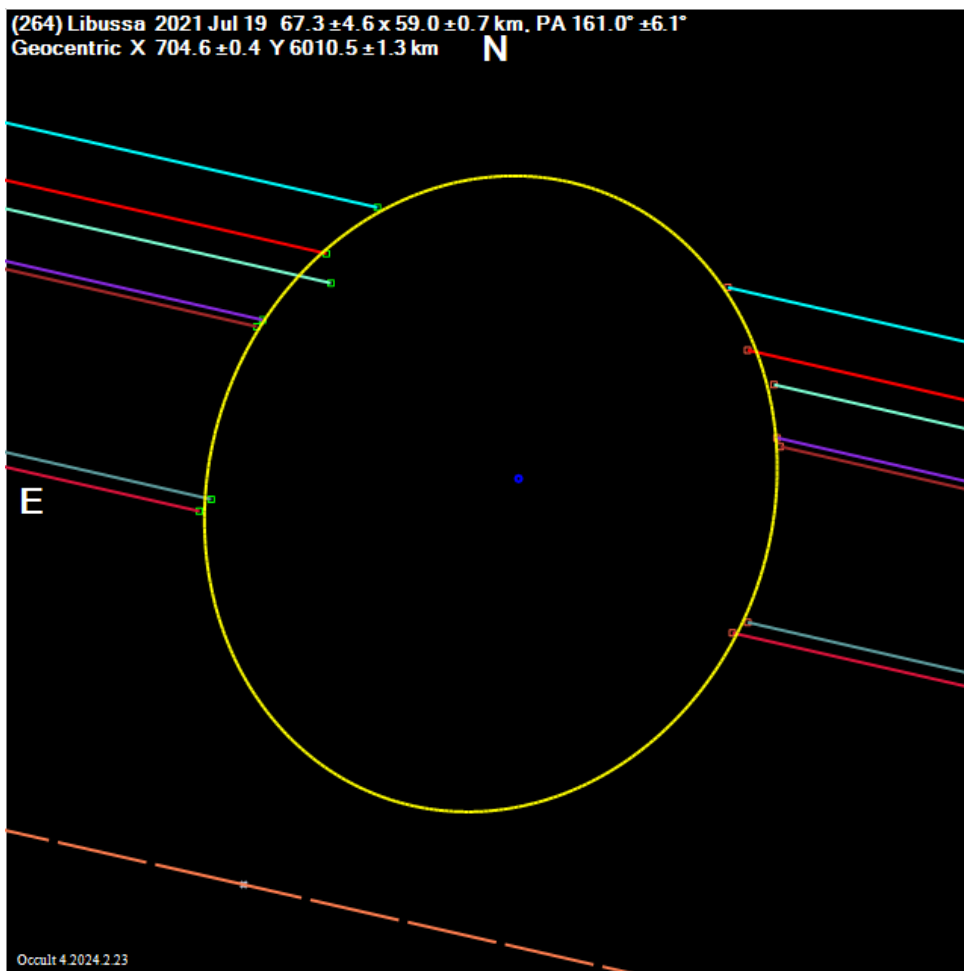
258_Tyche_2022Oct08

(258) Tyche 2022 Oct 8 $73.2 \pm 4.1 \times 51.2 \pm 1.8$ km, PA $343.3^\circ \pm 5.5^\circ$
Geocentric X 3452.1 ± 0.6 Y 4120.2 ± 1.6 km N



264_Libussa_2021Jul19

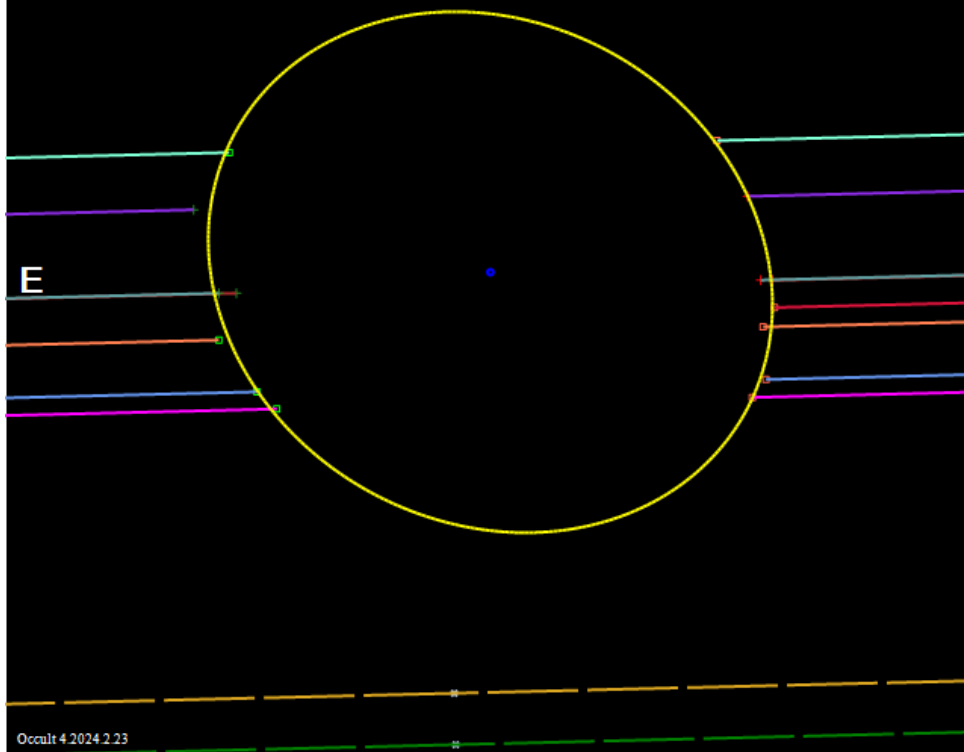
(264) Libussa 2021 Jul 19 $67.3 \pm 4.6 \times 59.0 \pm 0.7$ km, PA $161.0^\circ \pm 6.1^\circ$
Geocentric X 704.6 ± 0.4 Y 6010.5 ± 1.3 km **N**



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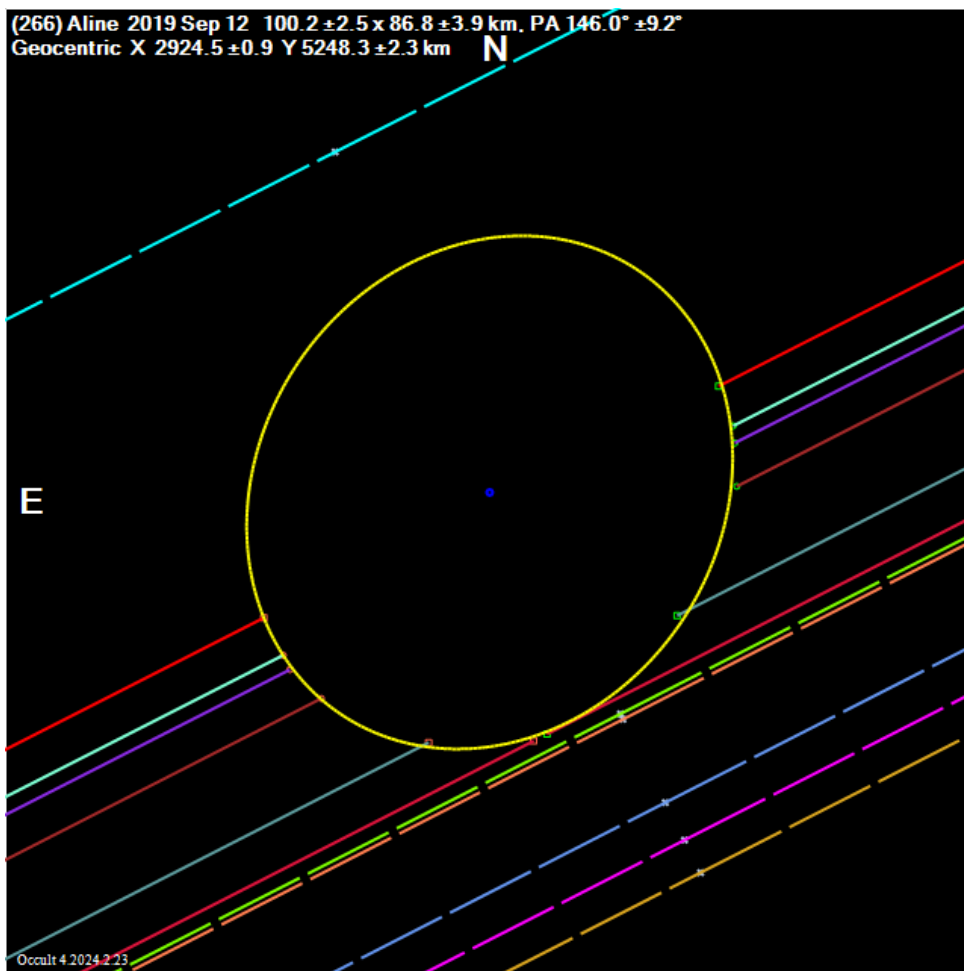
266_Aline_2012Jan17

(266) Aline 2012 Jan 17 $111.4 \pm 2.1 \times 95.9 \pm 4.6$ km, PA $61.4^\circ \pm 15.0^\circ$
Geocentric X 1307.5 ± 0.5 Y 3180.1 ± 1.1 km **N**



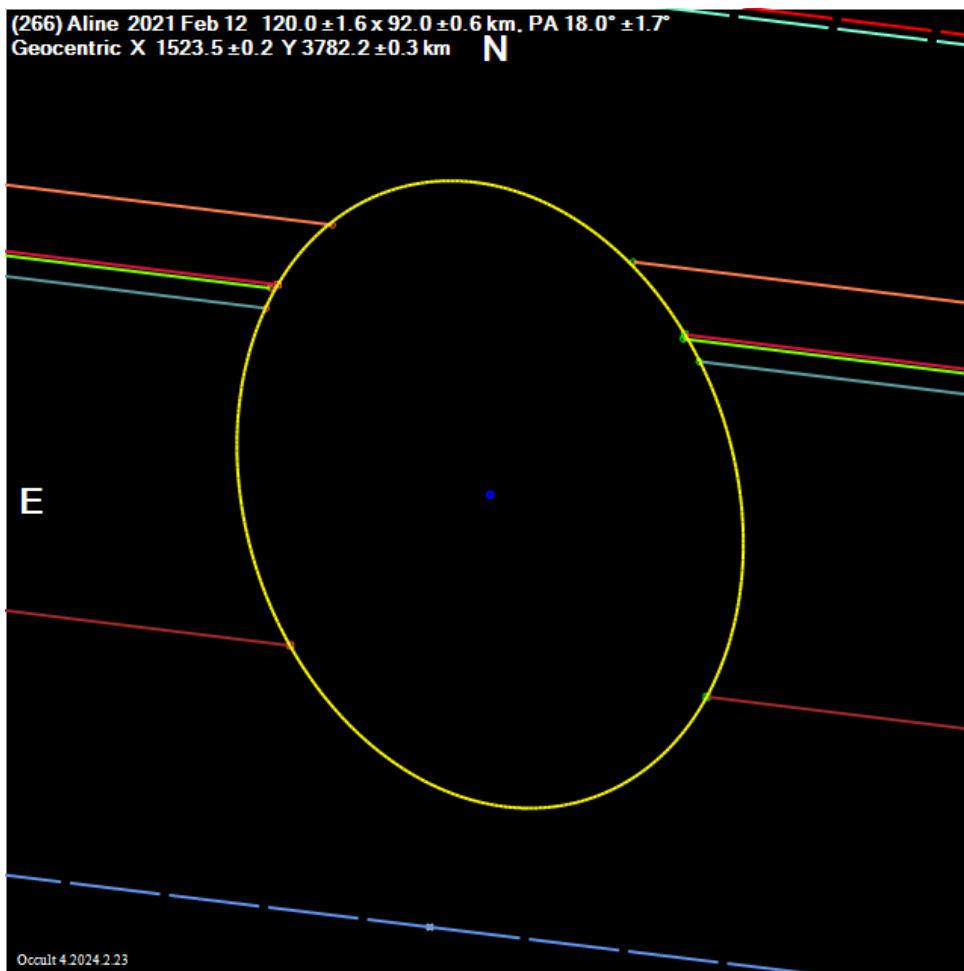
266_Aline_2019Sep12

(266) Aline 2019 Sep 12 100.2 ± 2.5 x 86.8 ± 3.9 km. PA 146.0° ± 9.2°
Geocentric X 2924.5 ± 0.9 Y 5248.3 ± 2.3 km N



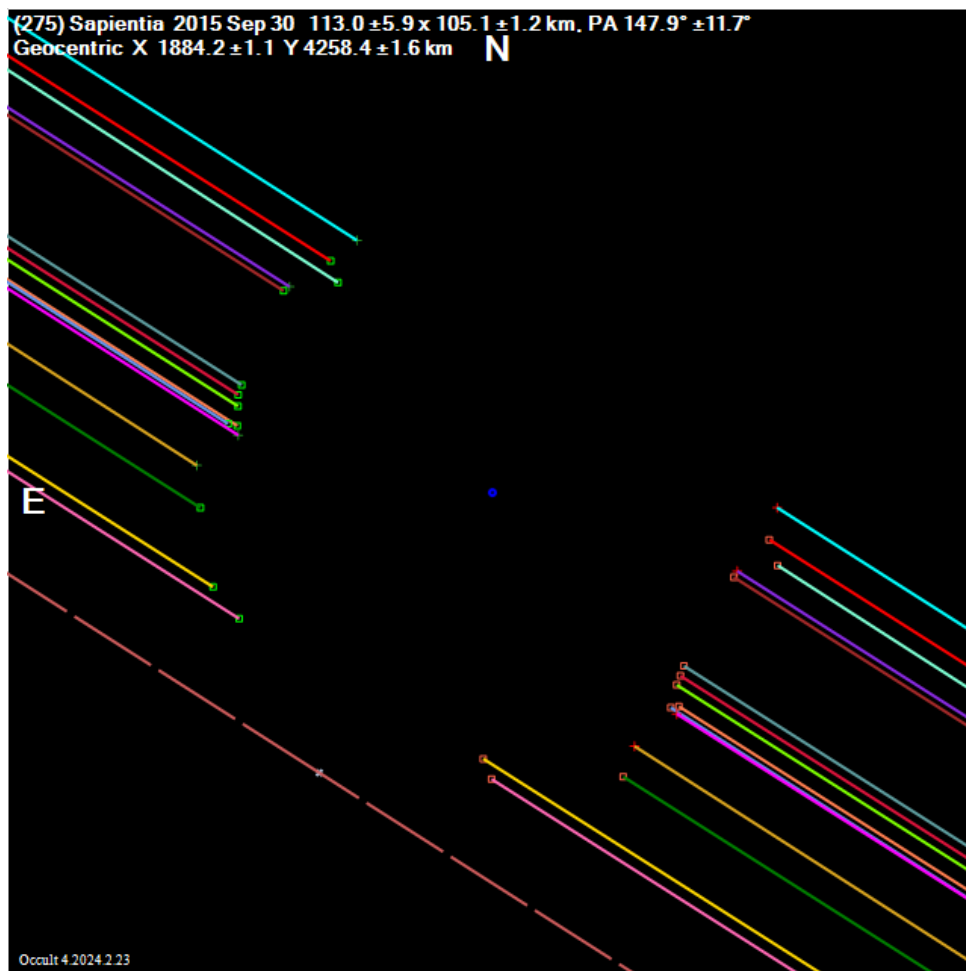
266_Aline_2021Feb12

(266) Aline 2021 Feb 12 $120.0 \pm 1.6 \times 92.0 \pm 0.6$ km, PA $18.0^\circ \pm 1.7^\circ$
Geocentric X 1523.5 ± 0.2 Y 3782.2 ± 0.3 km N



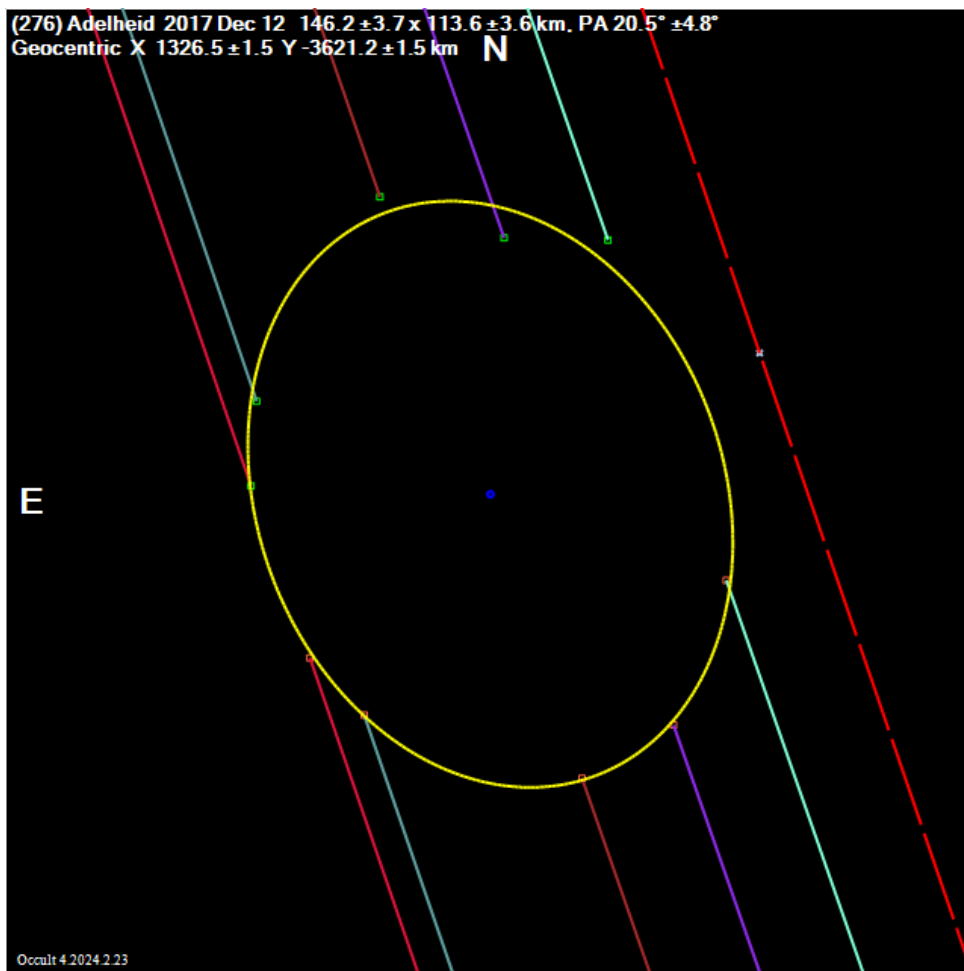
275_Sapientia_2015Sep30

(275) Sapientia 2015 Sep 30 $113.0 \pm 5.9 \times 105.1 \pm 1.2$ km, PA $147.9^\circ \pm 11.7^\circ$
Geocentric X 1884.2 ± 1.1 Y 4258.4 ± 1.6 km N



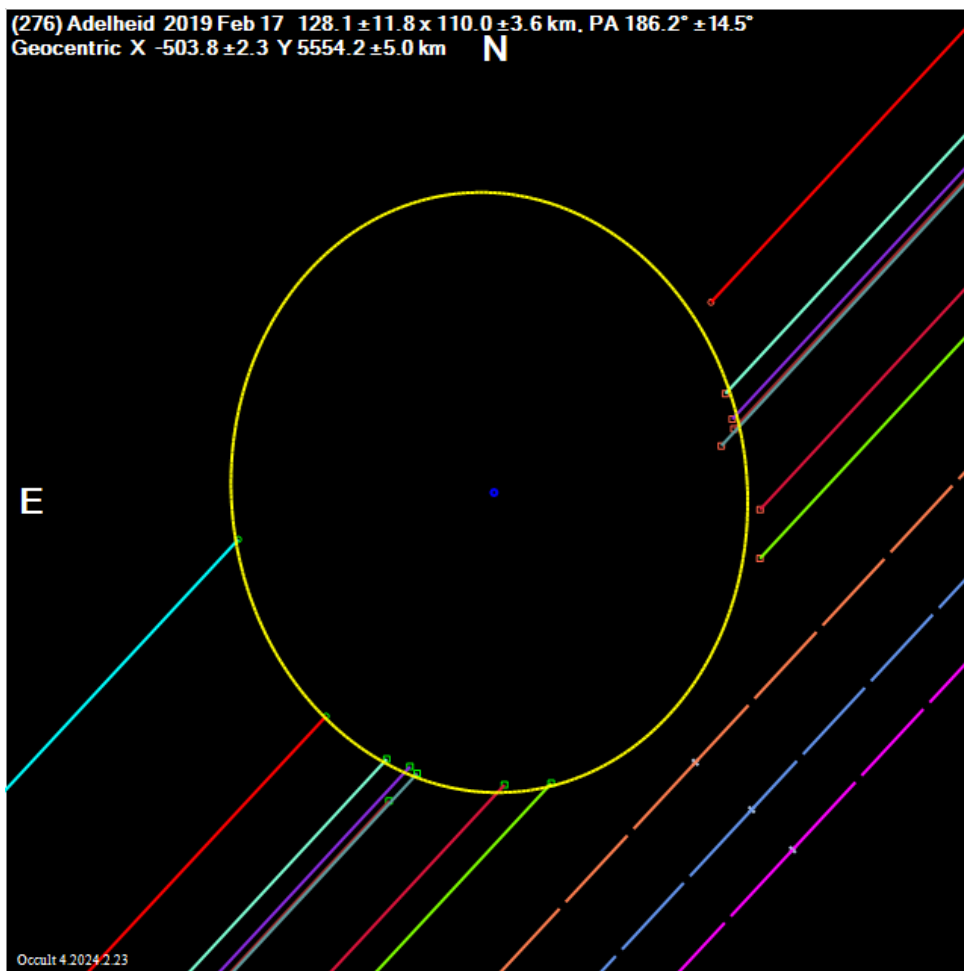
276_Adelheid_2017Dec12

(276) Adelheid 2017 Dec 12 $146.2 \pm 3.7 \times 113.6 \pm 3.6$ km, PA $20.5^\circ \pm 4.8^\circ$
Geocentric X 1326.5 ± 1.5 Y -3621.2 ± 1.5 km **N**

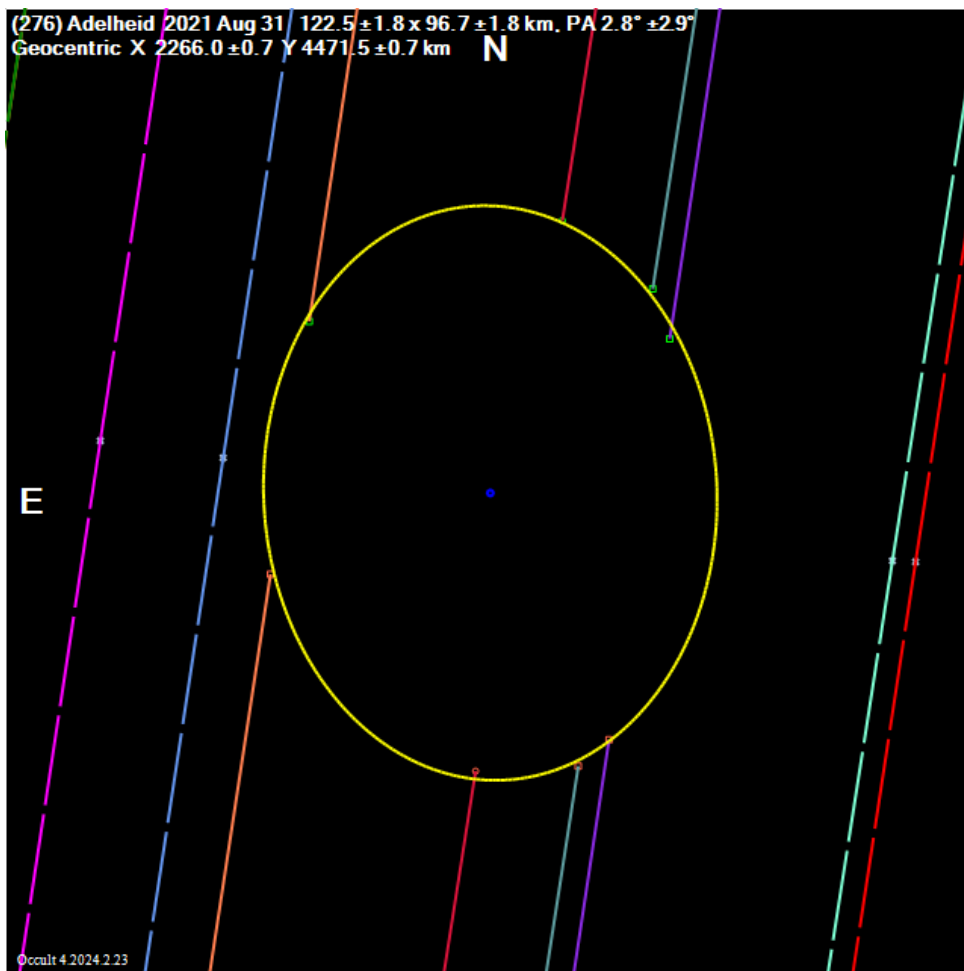


276_Adelheid_2019Feb17

(276) Adelheid 2019 Feb 17 $128.1 \pm 11.8 \times 110.0 \pm 3.6$ km. PA $186.2^\circ \pm 14.5^\circ$
Geocentric X -503.8 ± 2.3 Y 5554.2 ± 5.0 km N

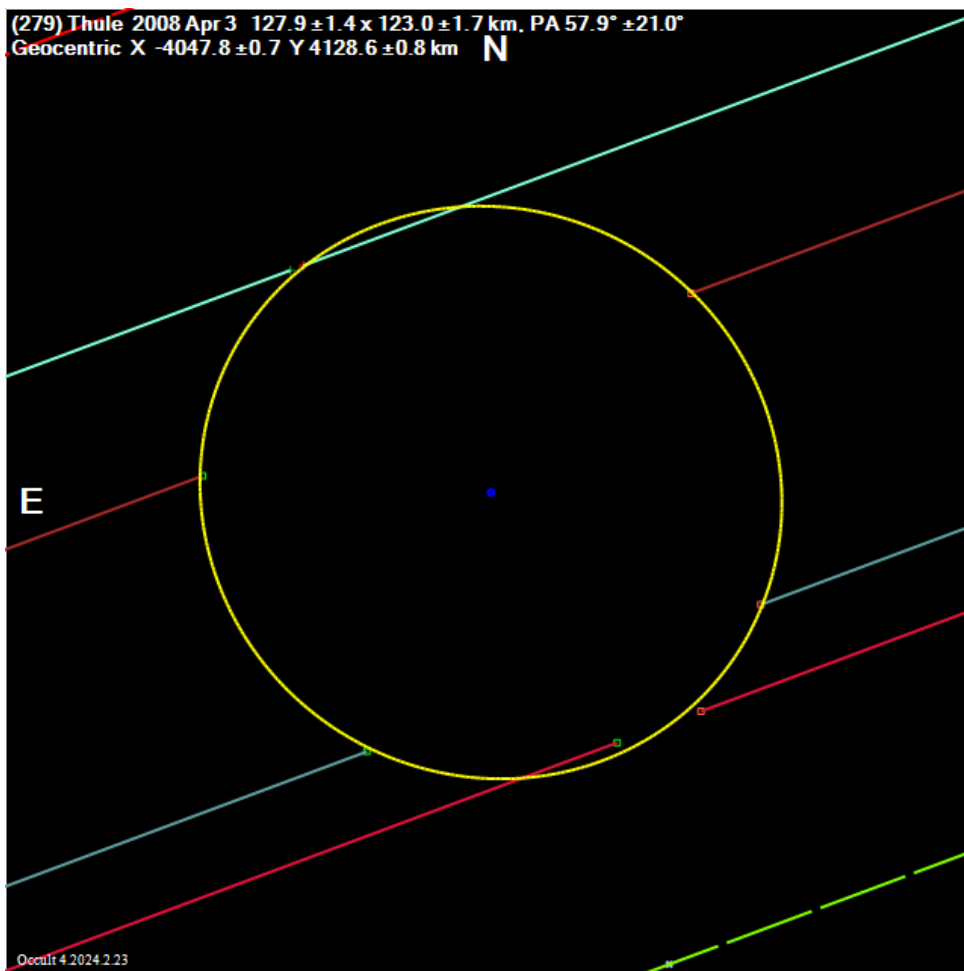


276_Adelheid_2021Aug31



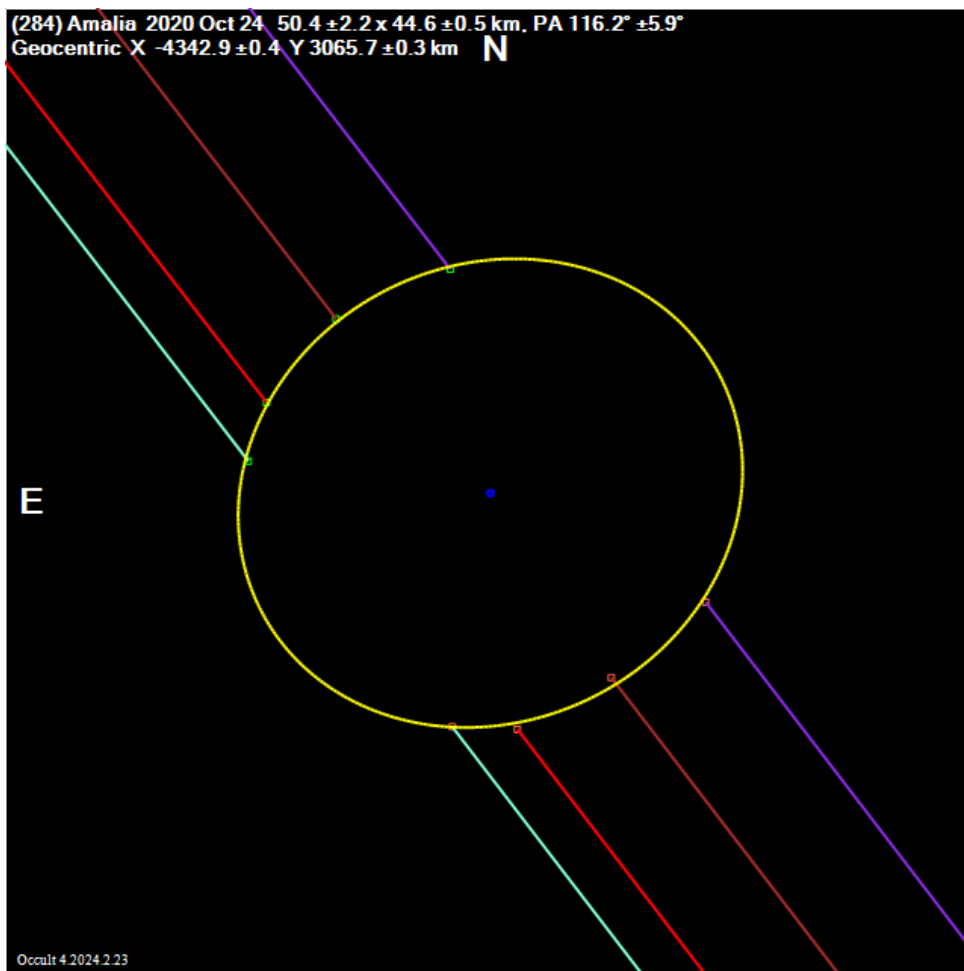
279_Thule_2008Apr03

(279) Thule 2008 Apr 3 $127.9 \pm 1.4 \times 123.0 \pm 1.7$ km. PA $57.9^\circ \pm 21.0^\circ$
Geocentric X -4047.8 ± 0.7 Y 4128.6 ± 0.8 km **N**



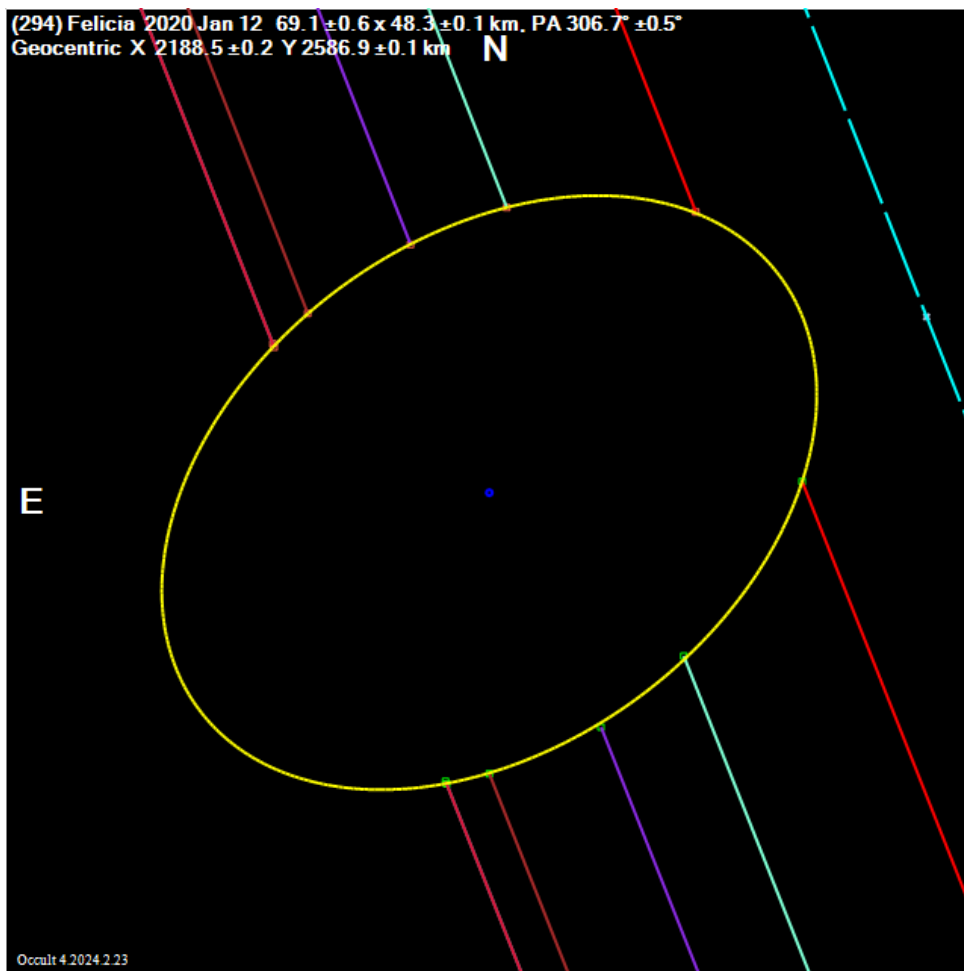
284_Amalia_2020Oct24

(284) Amalia 2020 Oct 24 $50.4 \pm 2.2 \times 44.6 \pm 0.5$ km, PA $116.2^\circ \pm 5.9^\circ$
Geocentric X -4342.9 ± 0.4 Y 3065.7 ± 0.3 km **N**



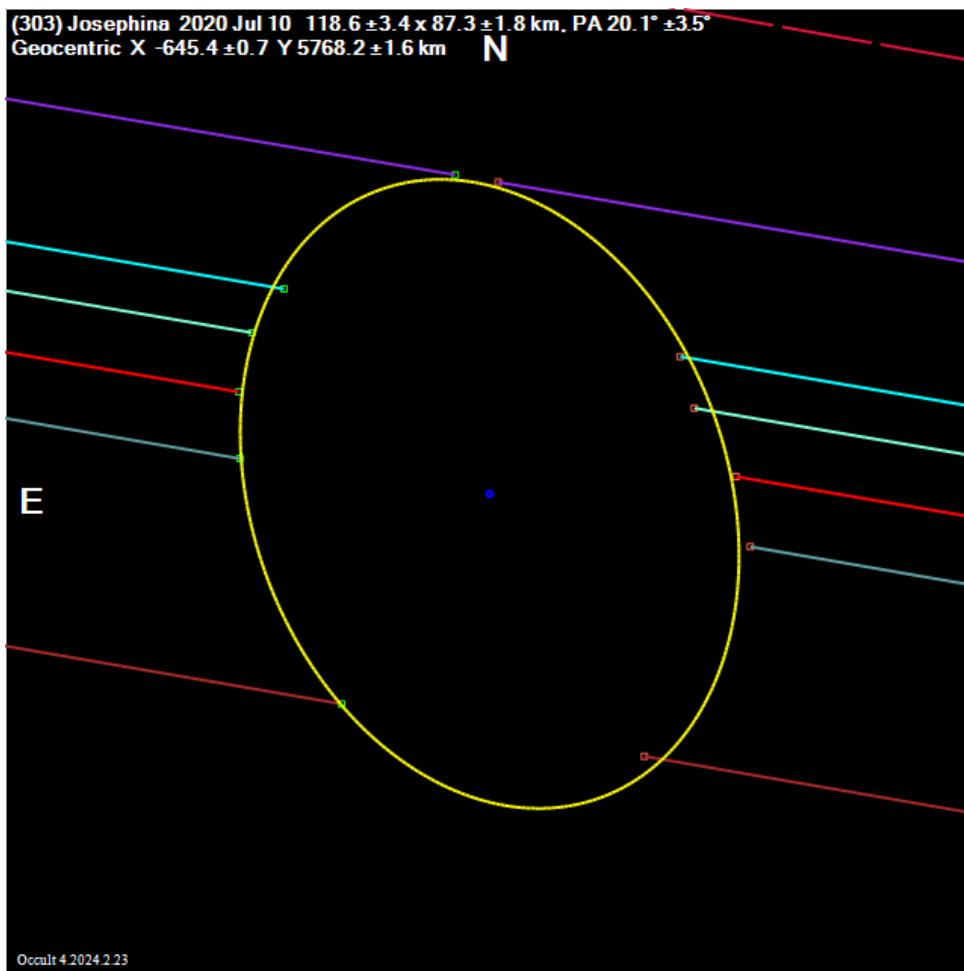
294_Felicia_2020Jan12

(294) Felicia 2020 Jan 12 $69.1 \pm 0.6 \times 48.3 \pm 0.1$ km. PA $306.7^\circ \pm 0.5^\circ$
Geocentric X 2188.5 ± 0.2 Y 2586.9 ± 0.1 km **N**



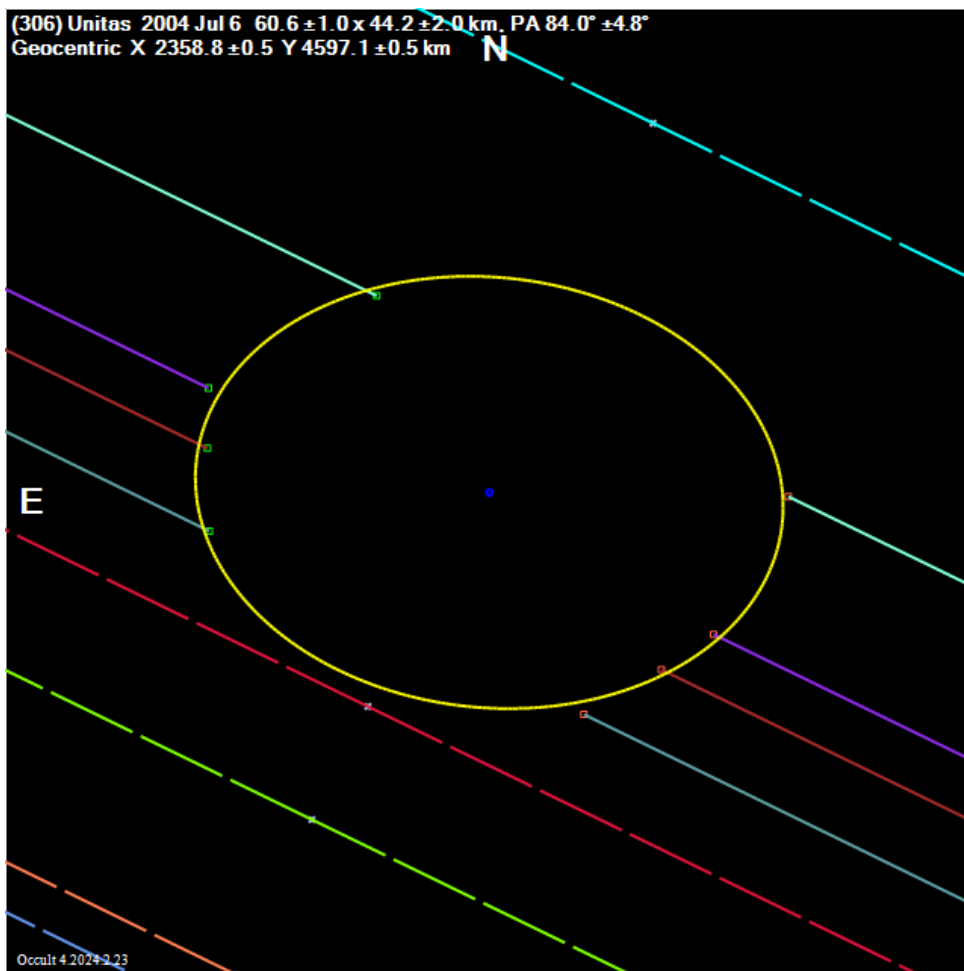
303_Josephina_2020Jul10

(303) Josephina 2020 Jul 10 $118.6 \pm 3.4 \times 87.3 \pm 1.8$ km. PA $20.1^\circ \pm 3.5^\circ$
Geocentric X -645.4 ± 0.7 Y 5768.2 ± 1.6 km N



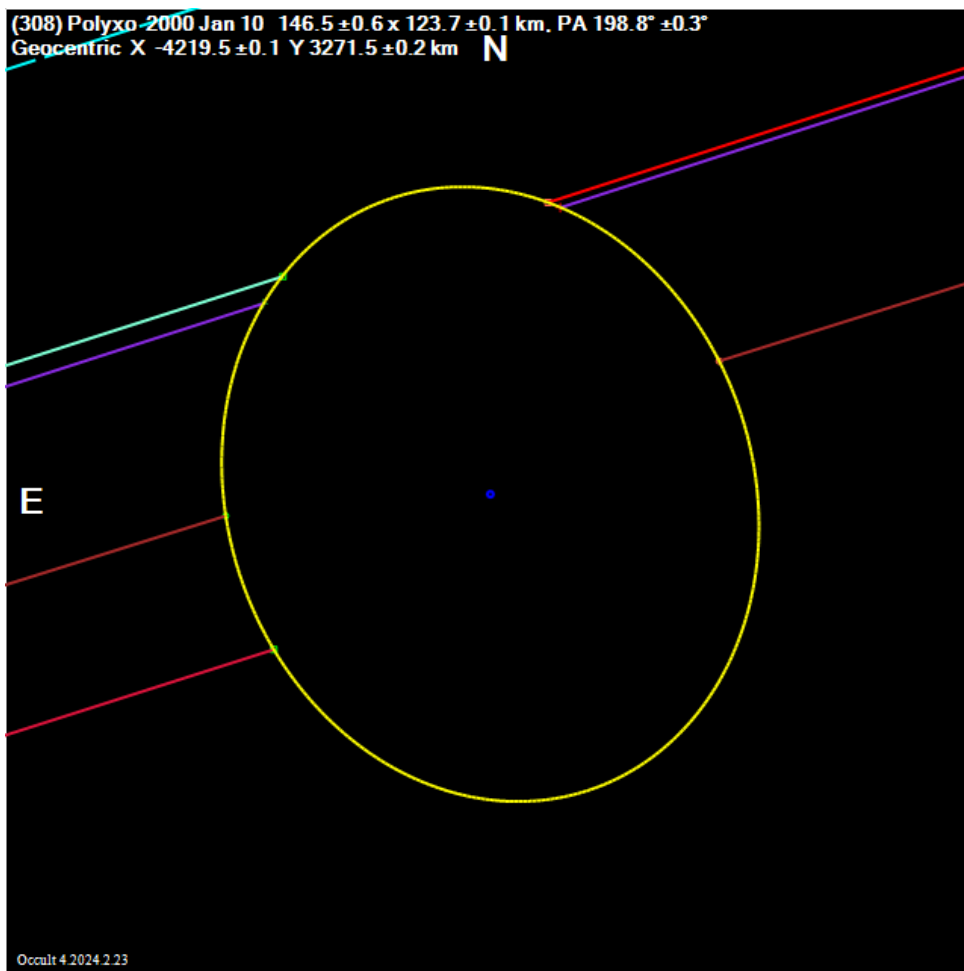
306_Unitas_2004Jul06

(306) Uitas 2004 Jul 6 $60.6 \pm 1.0 \times 44.2 \pm 2.0$ km. PA $84.0^\circ \pm 4.8^\circ$
Geocentric X 2358.8 ± 0.5 Y 4597.1 ± 0.5 km



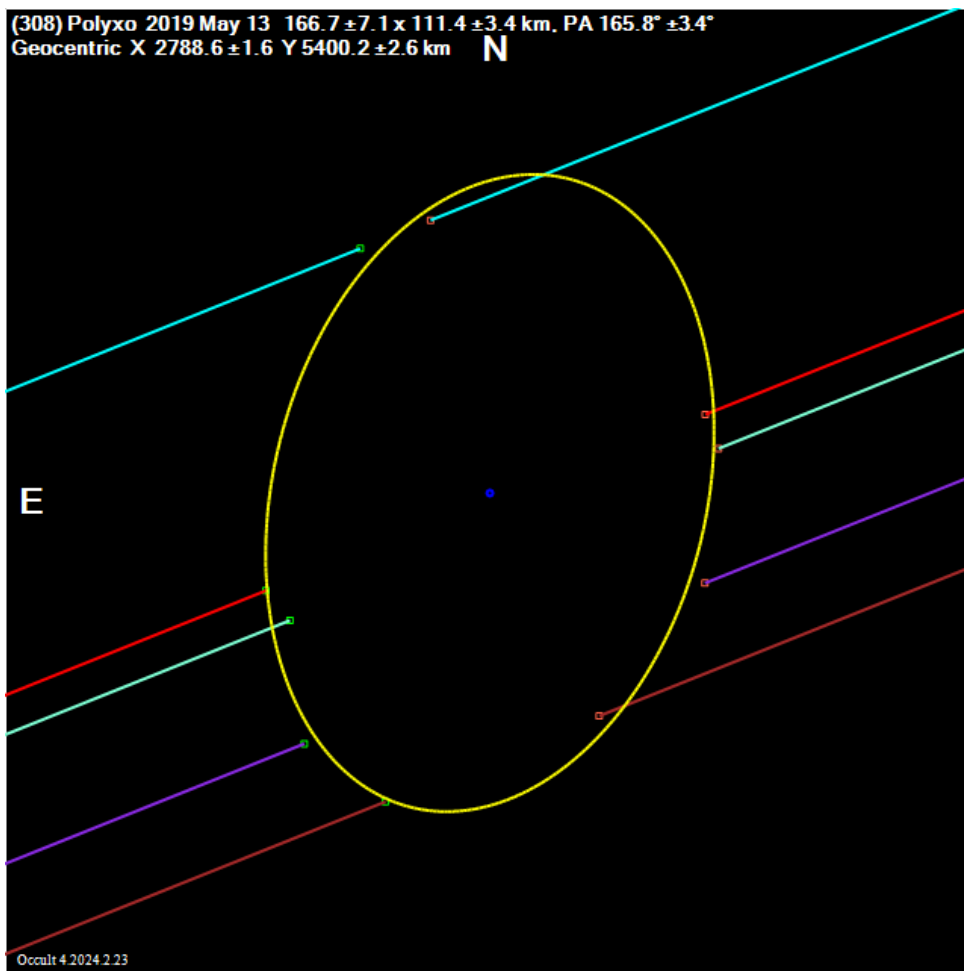
308_Polyxo_2000Jan10

(308) Polyxo 2000 Jan 10 146.5 ± 0.6 x 123.7 ± 0.1 km. PA 198.8° ± 0.3°
Geocentric X -4219.5 ± 0.1 Y 3271.5 ± 0.2 km N



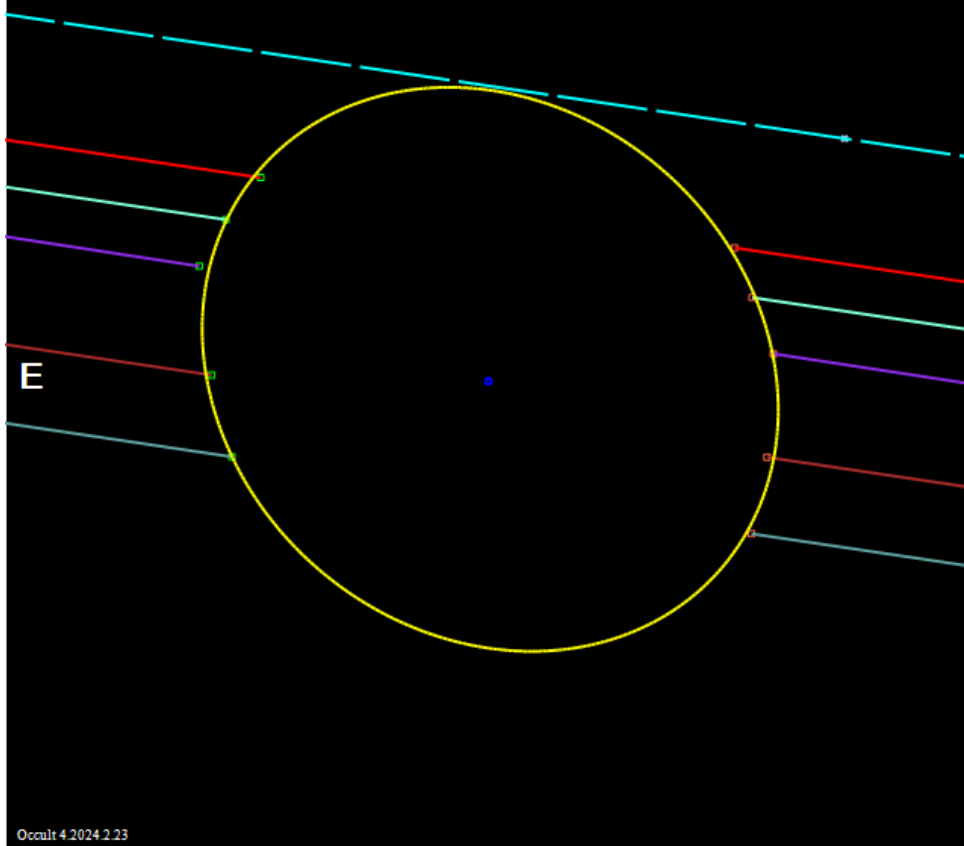
308_Polyxo_2019May13

(308) Polyxo 2019 May 13 $166.7 \pm 7.1 \times 111.4 \pm 3.4$ km, PA $165.8^\circ \pm 3.4^\circ$
Geocentric X 2788.6 ± 1.6 Y 5400.2 ± 2.6 km N



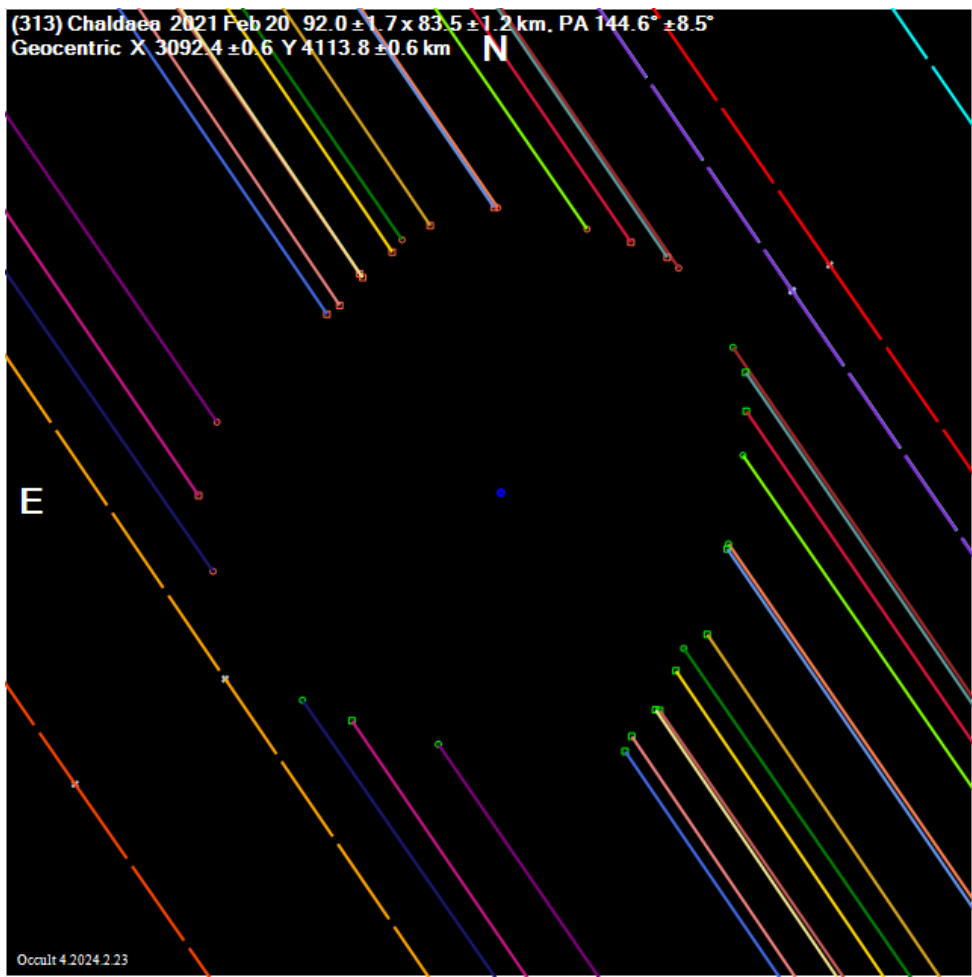
308_Polyxo_2021Dec05

(308) Polyxo 2021 Dec 5 $143.3 \pm 2.1 \times 123.8 \pm 3.9$ km, PA $49.4^\circ \pm 10.5^\circ$
Geocentric X 1726.3 ± 0.4 Y 1846.5 ± 1.1 km **N**



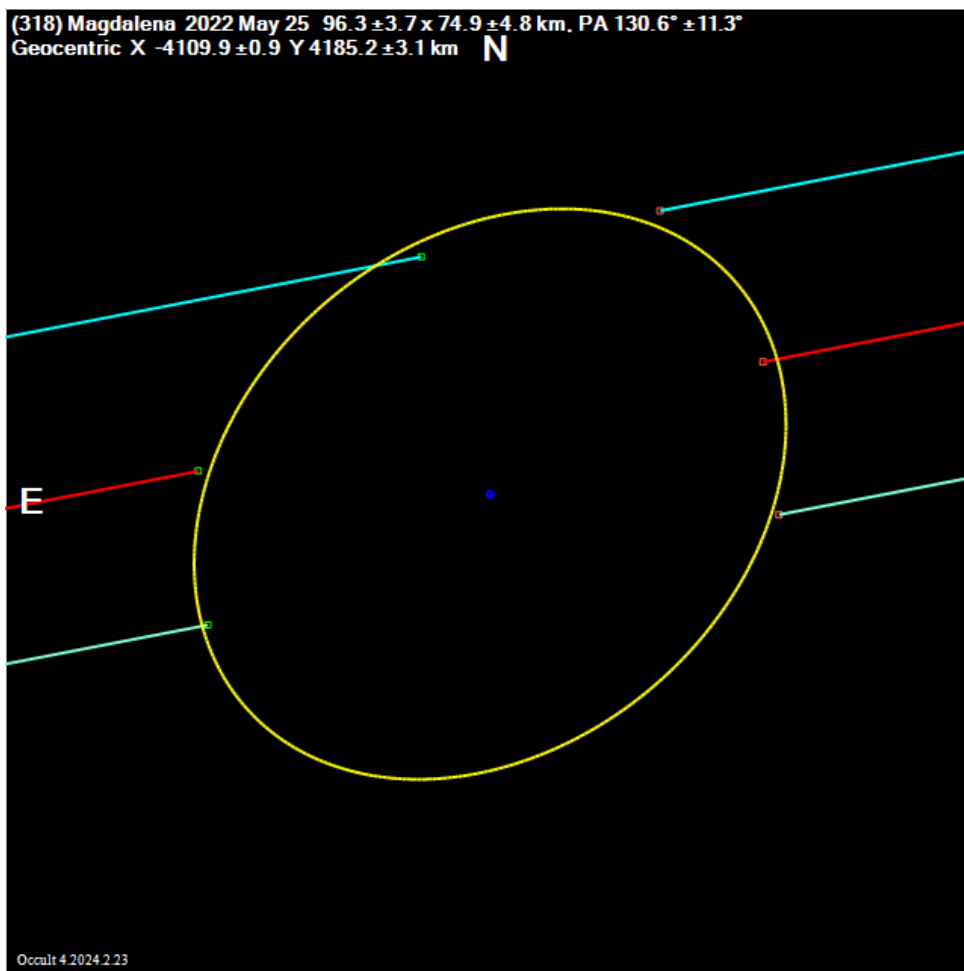
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313_Chaldaea_2021Feb20



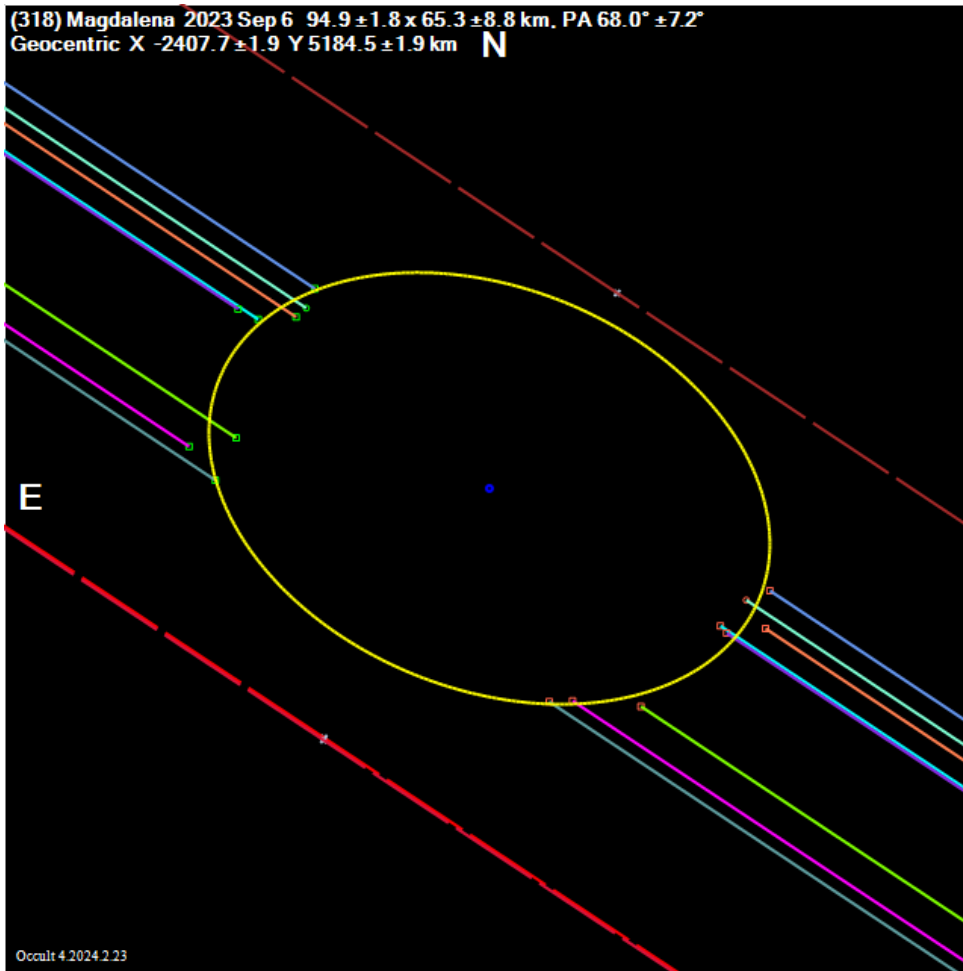
318_Magdalena_2022May25

(318) Magdalena 2022 May 25 96.3 ± 3.7 x 74.9 ± 4.8 km. PA 130.6° ± 11.3°
Geocentric X -4109.9 ± 0.9 Y 4185.2 ± 3.1 km N



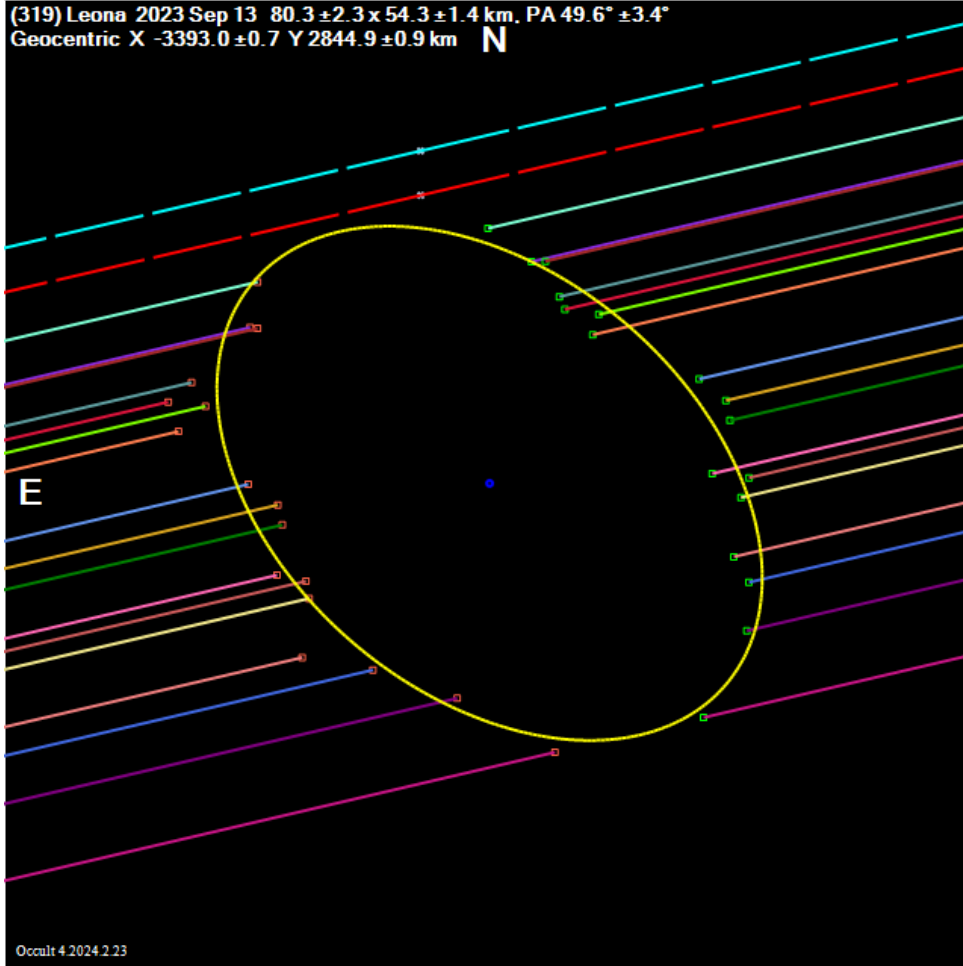
318_Magdalena_2023Sep06

(318) Magdalena 2023 Sep 6 $94.9 \pm 1.8 \times 65.3 \pm 8.8$ km, PA $68.0^\circ \pm 7.2^\circ$
Geocentric X -2407.7 ± 1.9 Y 5184.5 ± 1.9 km **N**



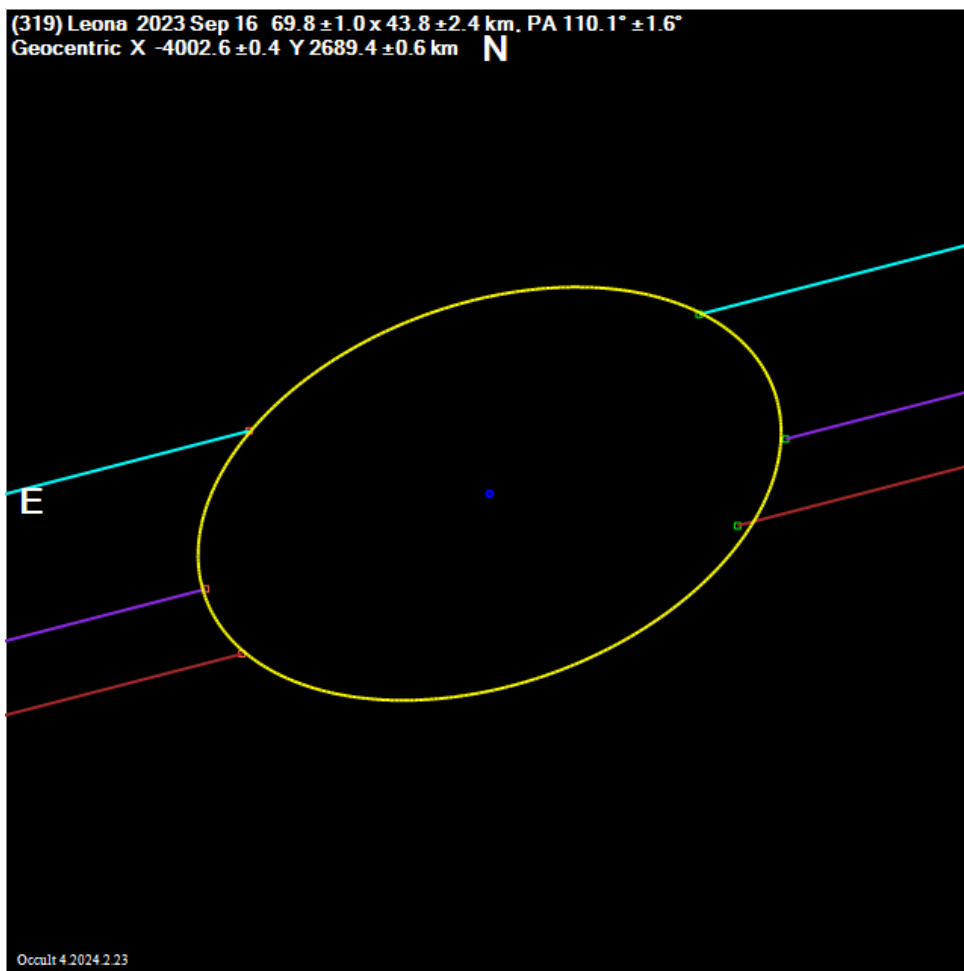
319_Leona_2023Sep13

(319) Leona 2023 Sep 13 80.3 ± 2.3 × 54.3 ± 1.4 km, PA 49.6° ± 3.4°
Geocentric X -3393.0 ± 0.7 Y 2844.9 ± 0.9 km **N**



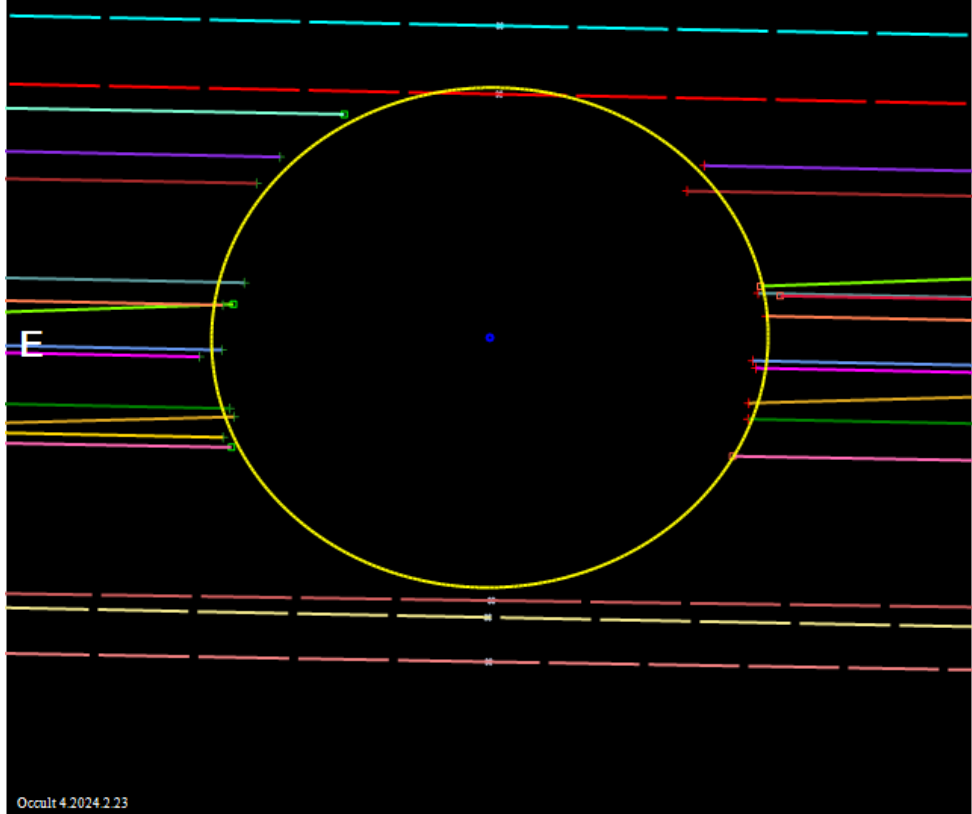
319_Leona_2023Sep16

(319) Leona 2023 Sep 16 $69.8 \pm 1.0 \times 43.8 \pm 2.4$ km, PA $110.1^\circ \pm 1.6^\circ$
Geocentric X -4002.6 ± 0.4 Y 2689.4 ± 0.6 km **N**



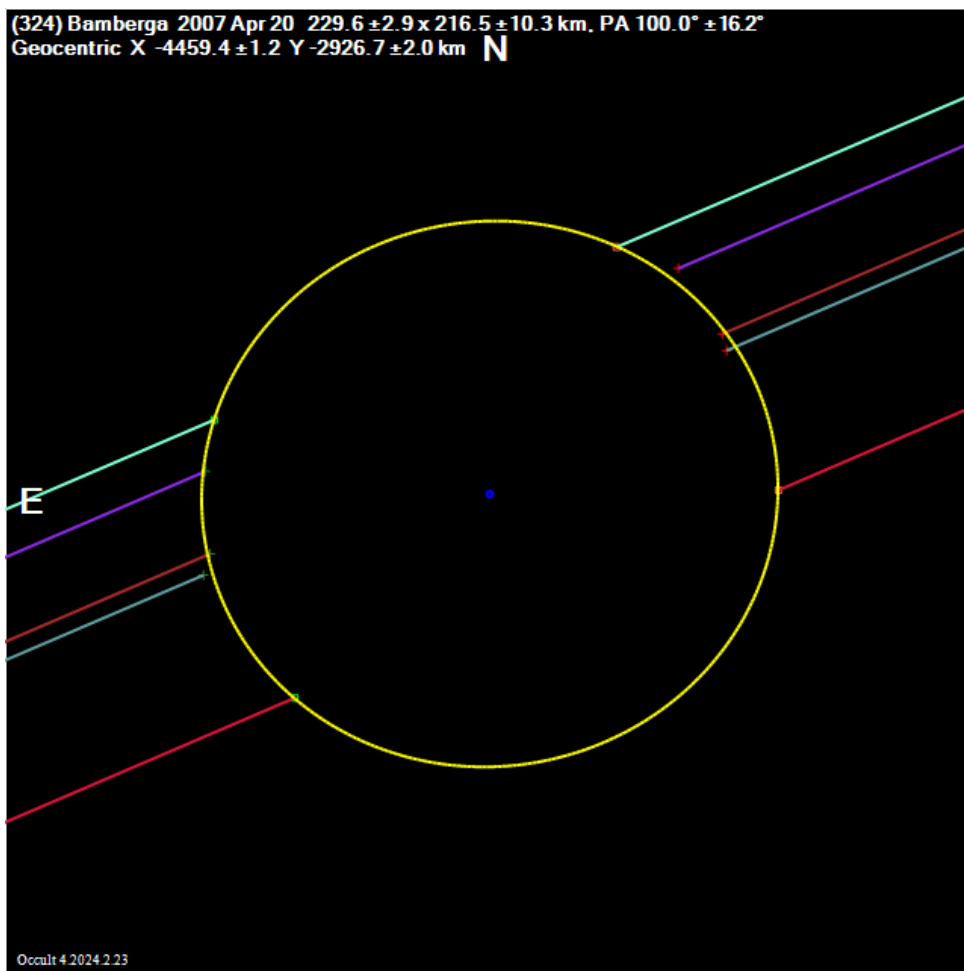
324_Bamberga_1987Dec08

(324) Bamberga 1987 Dec 8 $231.3 \pm 2.9 \times 207.5 \pm 7.2$ km, PA $92.1^\circ \pm 7.8^\circ$
Geocentric X 3422.3 ± 1.2 Y 1119.2 ± 2.8 km **N**



324_Bamberg_2007Apr20

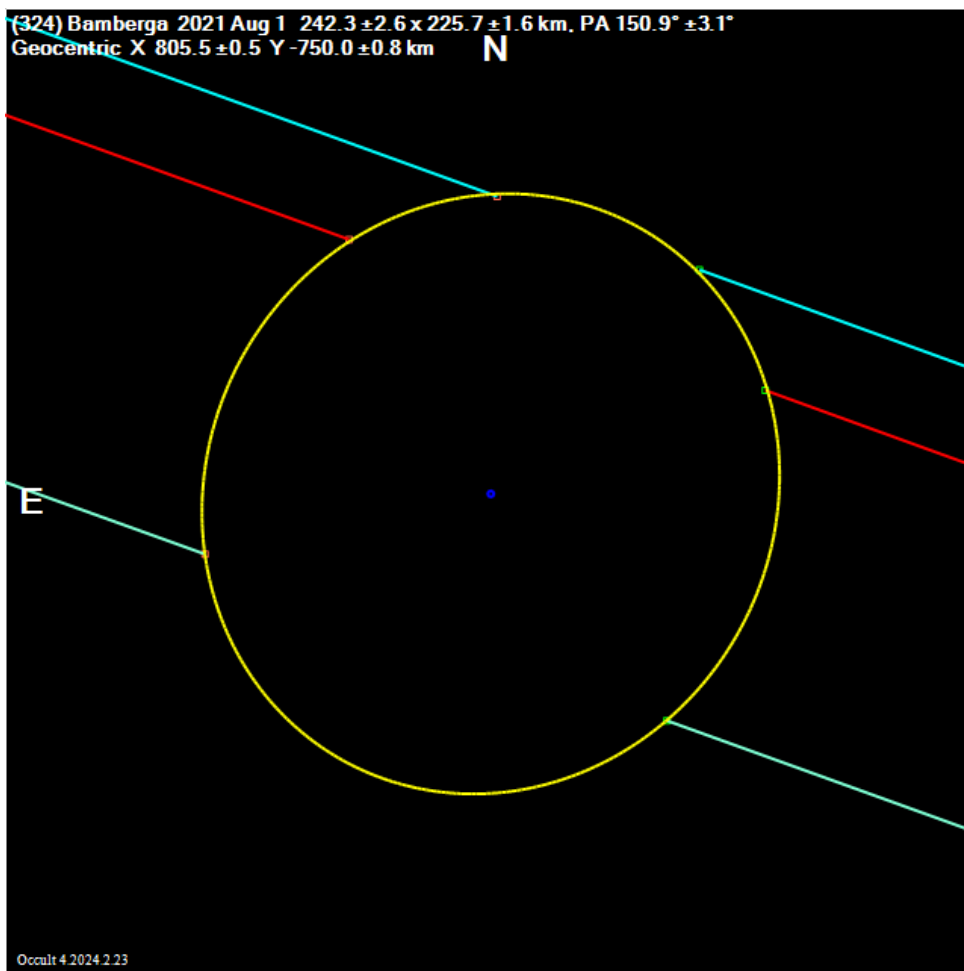
(324) Bamberg 2007 Apr 20 $229.6 \pm 2.9 \times 216.5 \pm 10.3$ km, PA $100.0^\circ \pm 16.2^\circ$
Geocentric X -4459.4 ± 1.2 Y -2926.7 ± 2.0 km **N**



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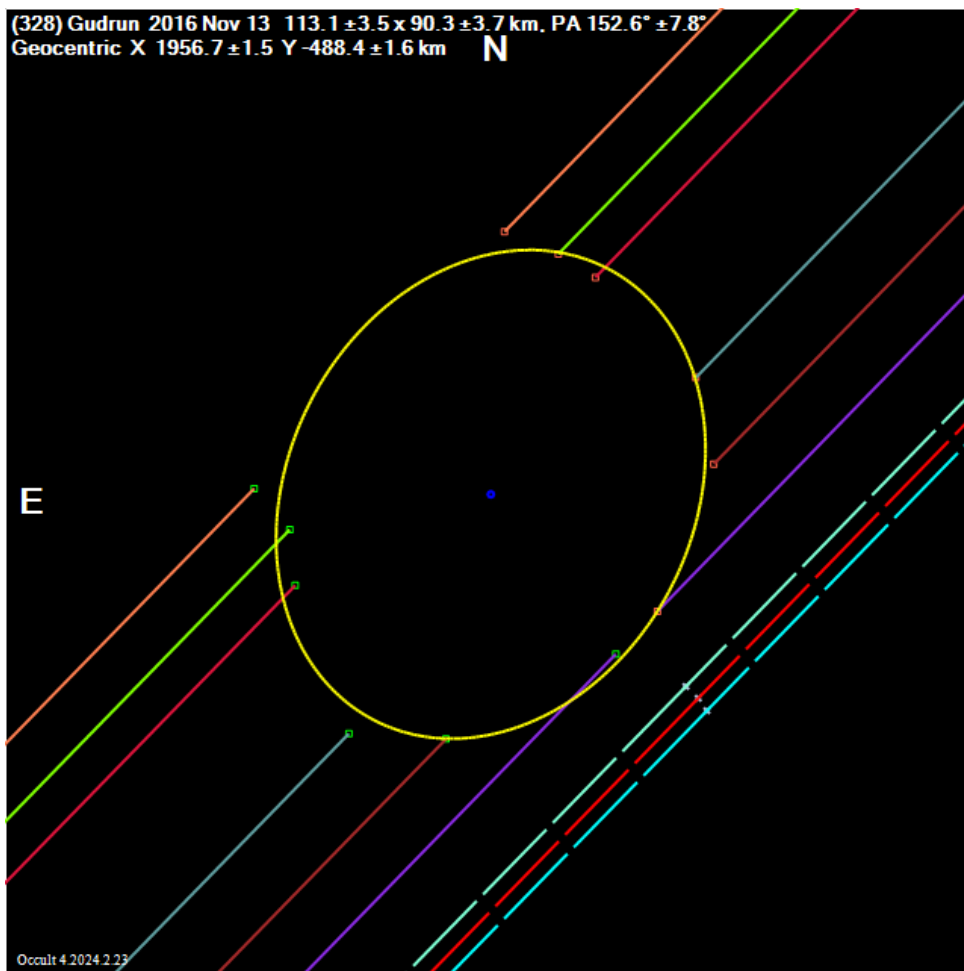
324_Bamberg_2021Aug01

(324) Bamberg 2021 Aug 1 $242.3 \pm 2.6 \times 225.7 \pm 1.6$ km, PA $150.9^\circ \pm 3.1^\circ$
Geocentric X 805.5 ± 0.5 Y -750.0 ± 0.8 km **N**



328_Gudrun_2016Nov13

(328) Gudrun 2016 Nov 13 113.1 ± 3.5 x 90.3 ± 3.7 km, PA 152.6° ± 7.8°
Geocentric X 1956.7 ± 1.5 Y -488.4 ± 1.6 km N



328_Gudrun_2020Aug22

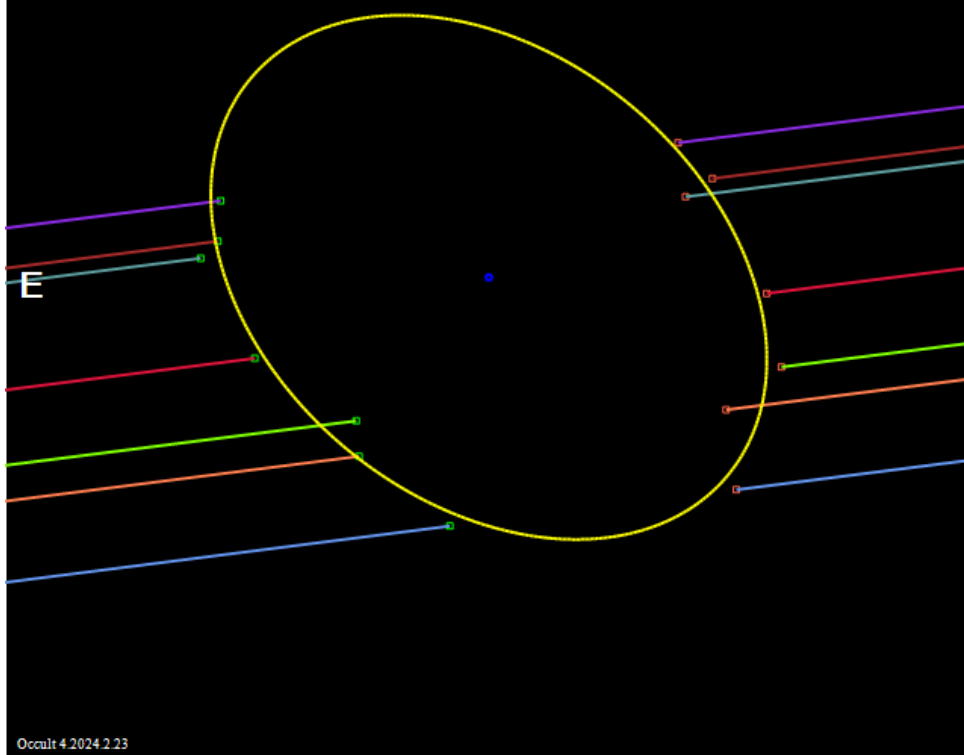
(328) Gudrun 2020 Aug 22 $108.6 \pm 1.3 \times 95.6 \pm 0.8$ km, PA $342.5^\circ \pm 3.4^\circ$
Geocentric X 234.9 ± 0.3 Y 6075.7 ± 0.5 km **N**



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329_Svea_2011Dec28

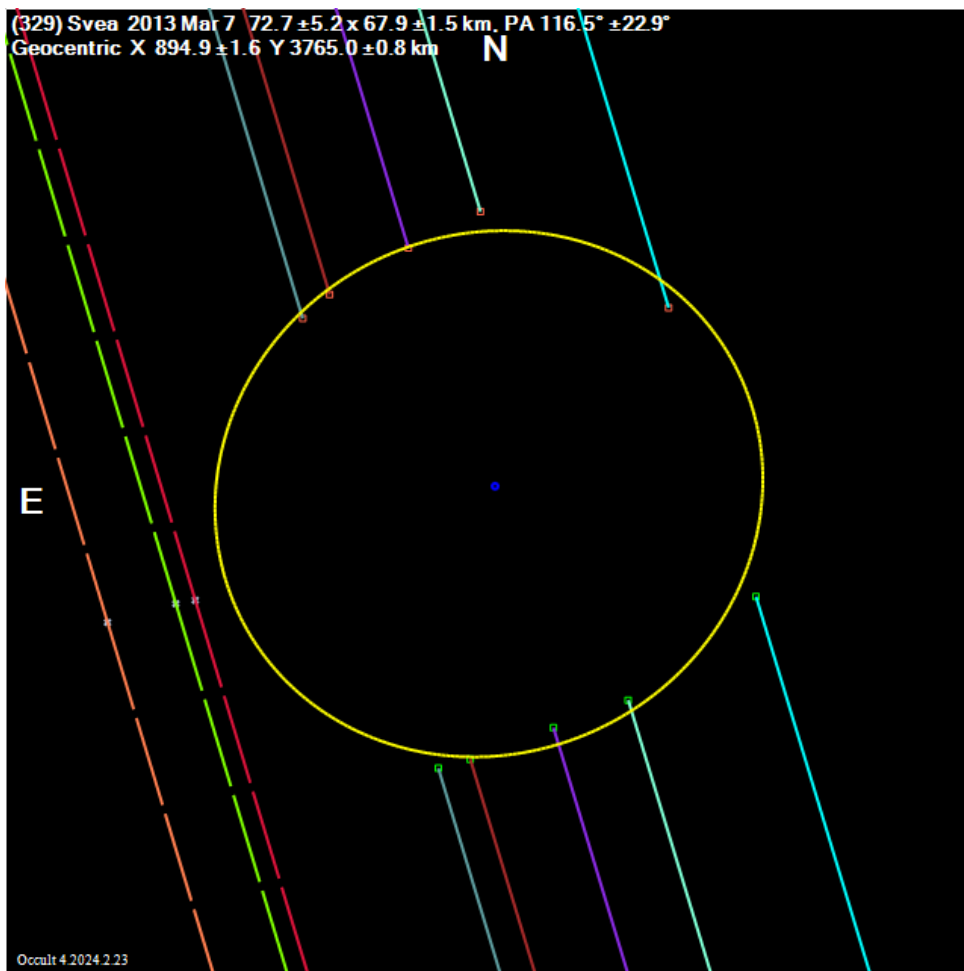
(329) Svea 2011 Dec 28 $84.8 \pm 6.1 \times 60.9 \pm 2.4$ km, PA $50.4^\circ \pm 10.6^\circ$
Geocentric X 469.0 ± 1.2 Y 3822.0 ± 2.4 km N



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329_Svea_2013Mar07

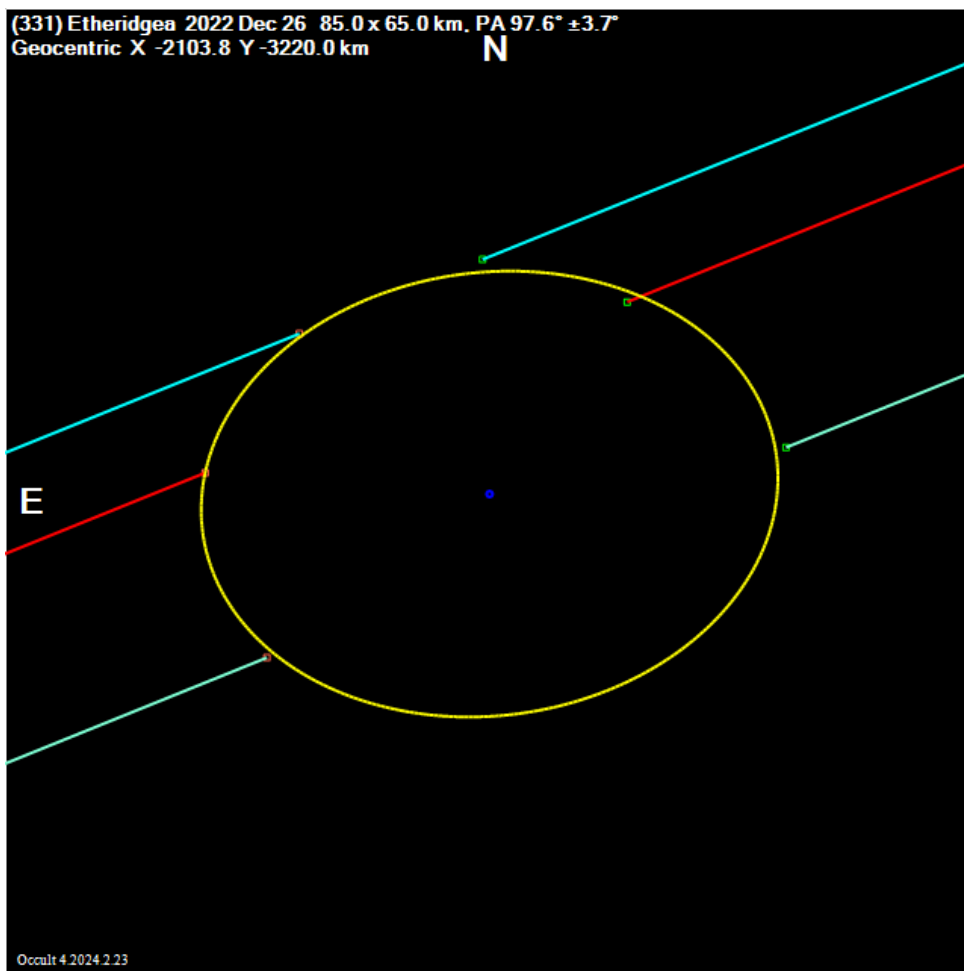
(329) Svea 2013 Mar 7 $72.7 \pm 5.2 \times 67.9 \pm 1.5$ km, PA $116.5^\circ \pm 22.9^\circ$
Geocentric X 894.9 ± 1.6 Y 3765.0 ± 0.8 km



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331_Etheridgea_2022Dec26

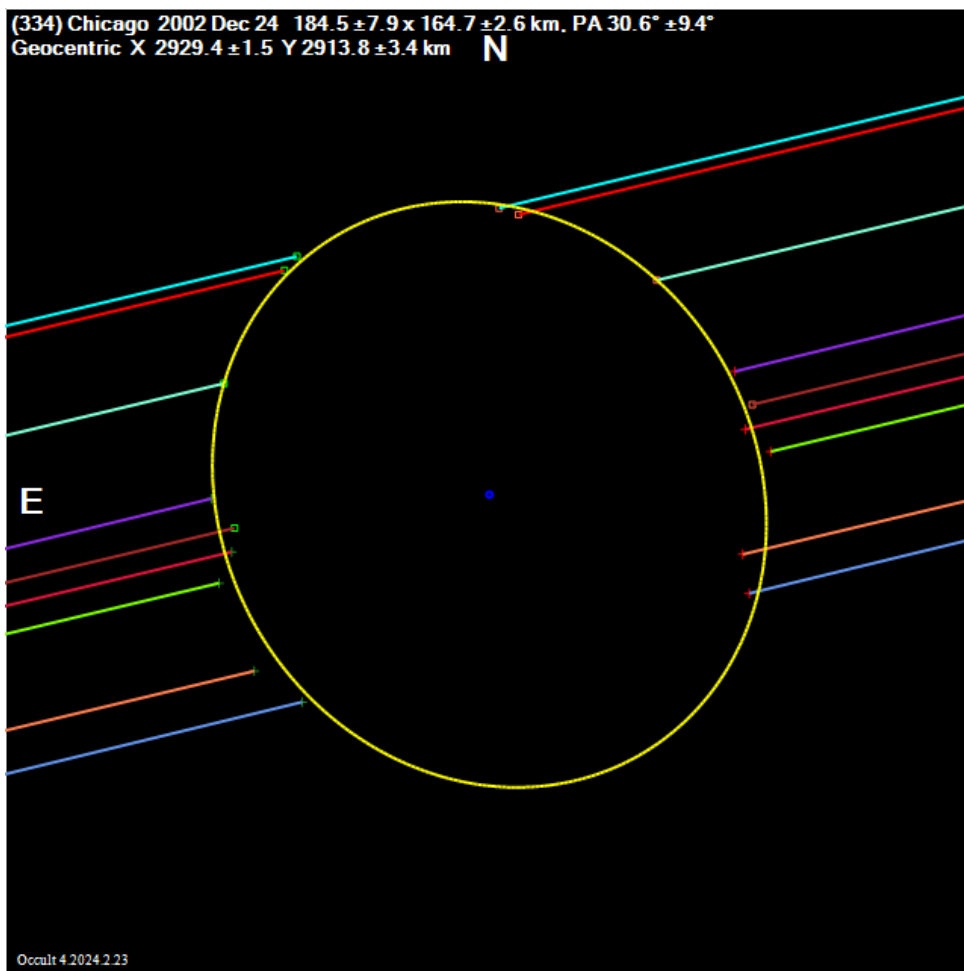
(331) Etheridgea 2022 Dec 26 85.0 x 65.0 km. PA 97.6° ± 3.7°
Geocentric X -2103.8 Y -3220.0 km



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334_Chicago_2002Dec24

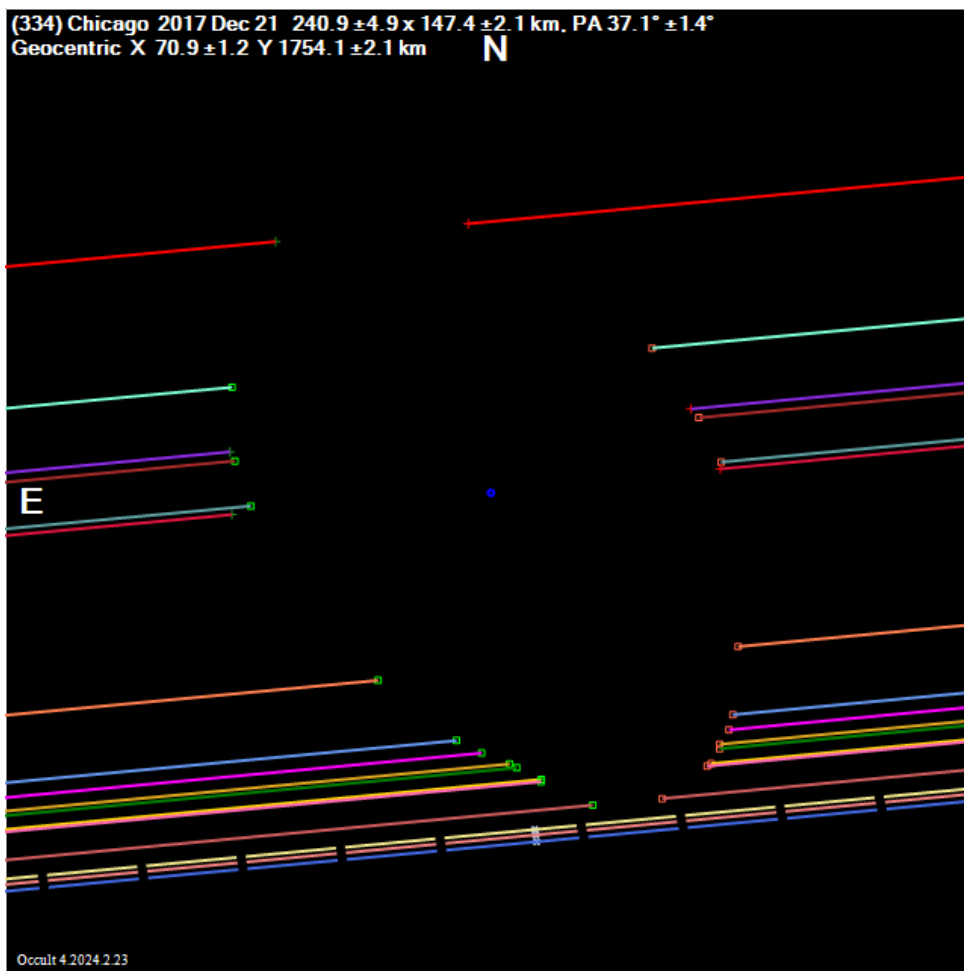
(334) Chicago 2002 Dec 24 $184.5 \pm 7.9 \times 164.7 \pm 2.6$ km. PA $30.6^\circ \pm 9.4^\circ$
Geocentric X 2929.4 ± 1.5 Y 2913.8 ± 3.4 km N



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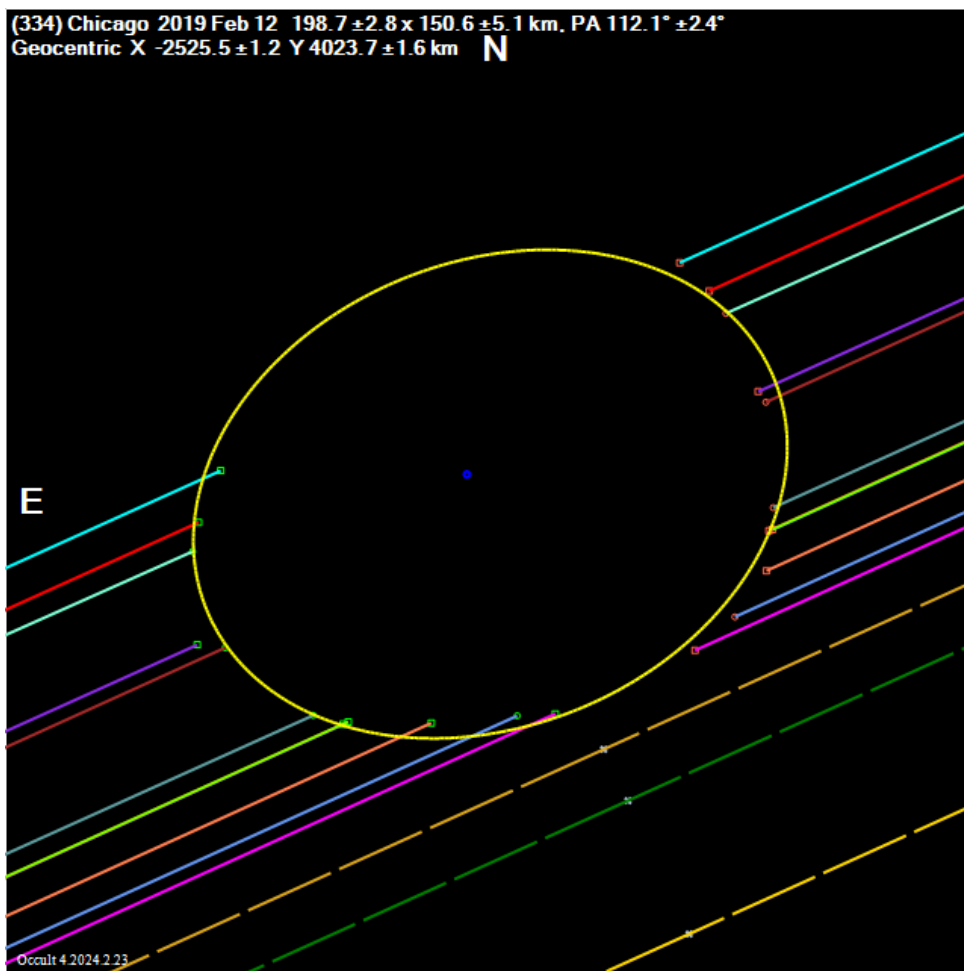
334_Chicago_2017Dec21

(334) Chicago 2017 Dec 21 240.9 ± 4.9 x 147.4 ± 2.1 km. PA 37.1° ± 1.4°
Geocentric X 70.9 ± 1.2 Y 1754.1 ± 2.1 km



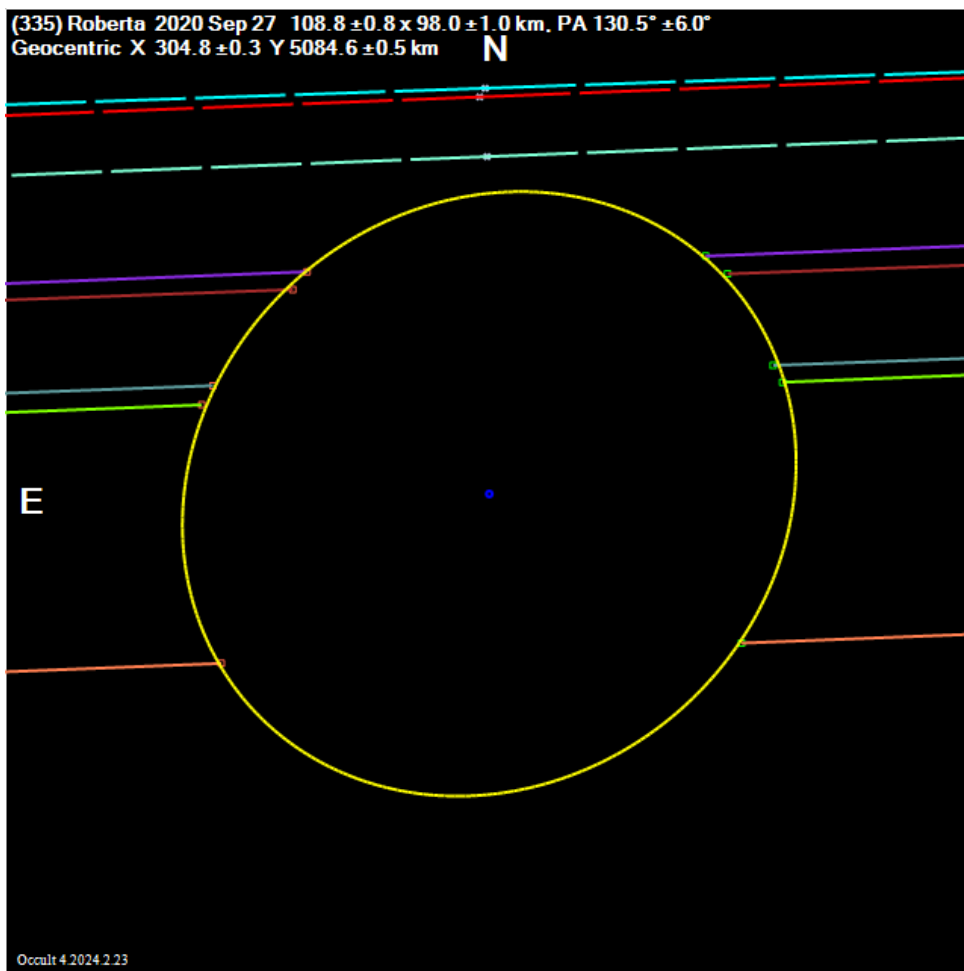
334_Chicago_2019Feb12

(334) Chicago 2019 Feb 12 $198.7 \pm 2.8 \times 150.6 \pm 5.1$ km. PA $112.1^\circ \pm 2.4^\circ$
Geocentric X -2525.5 ± 1.2 Y 4023.7 ± 1.6 km **N**



335_Roberta_2020Sep27

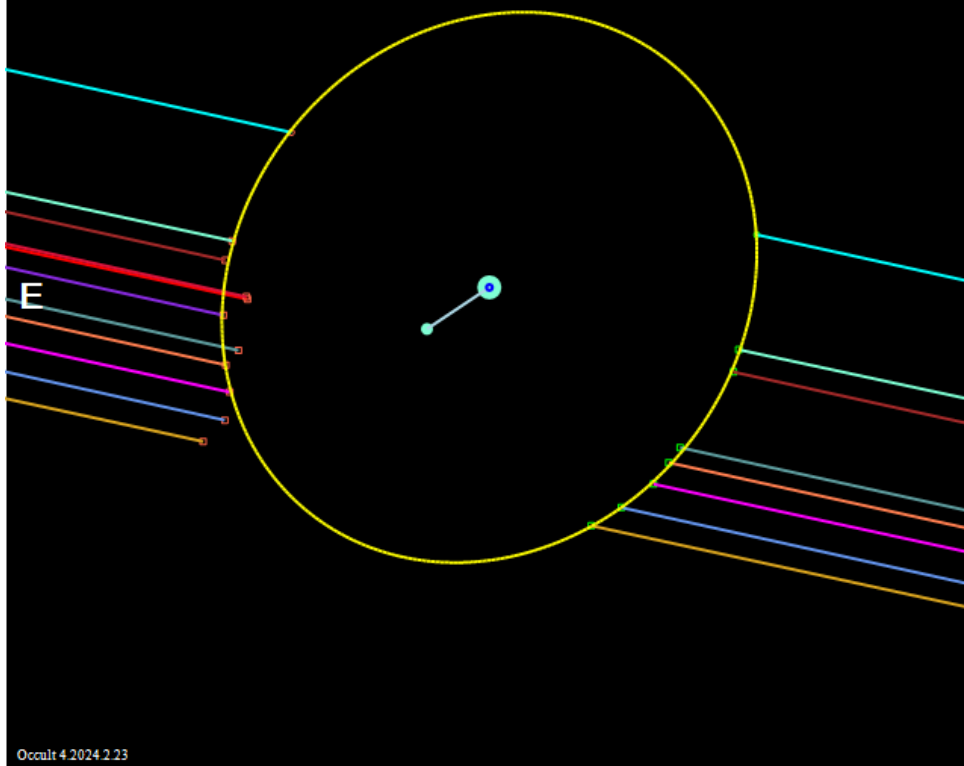
(335) Roberta 2020 Sep 27 $108.8 \pm 0.8 \times 98.0 \pm 1.0$ km. PA $130.5^\circ \pm 6.0^\circ$
Geocentric X 304.8 ± 0.3 Y 5084.6 ± 0.5 km N



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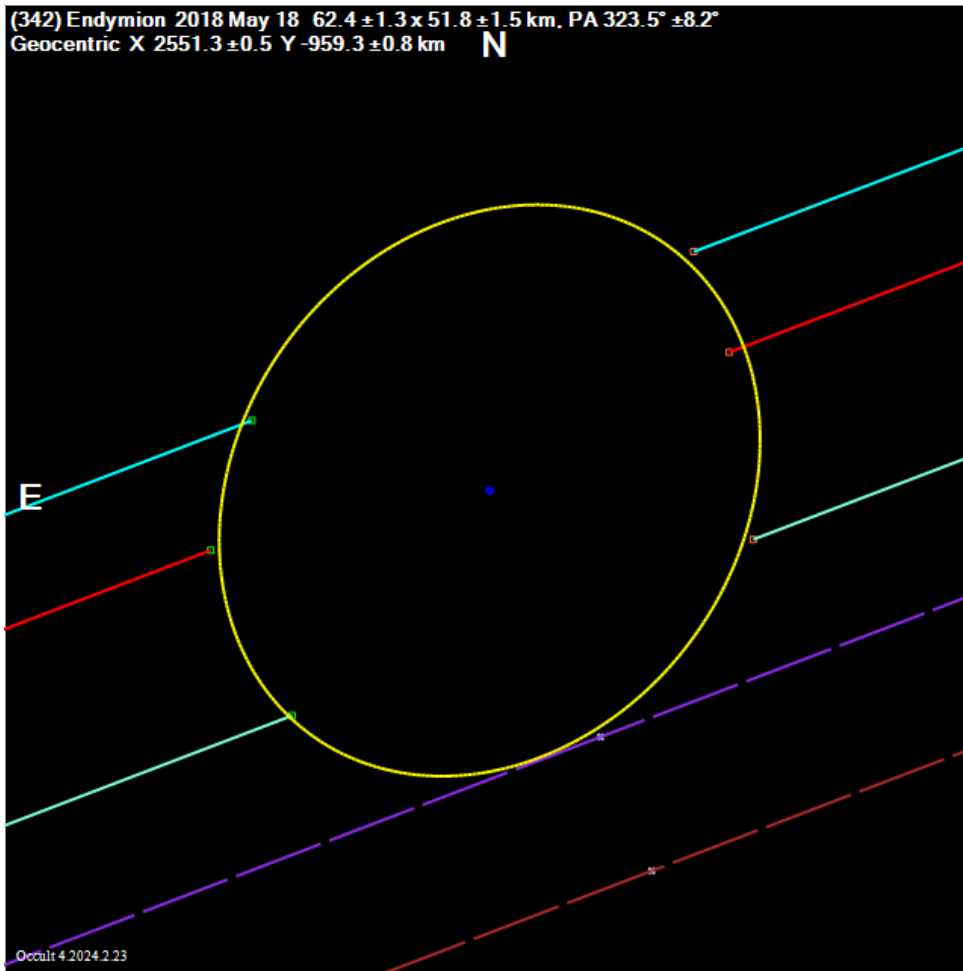
336_Lacadiera_2009Apr16

(336) Lacadiera 2009 Apr 16 $69.2 \pm 17.7 \times 60.7 \pm 4.3$ km. PA $141.1^\circ \pm 56.7^\circ$
Geocentric X 4124.7 ± 2.0 Y 3857.4 ± 5.2 km **N**
Double : Sep $0.0073 \pm 0.0032''$. PA $123.7^\circ \pm 0.0^\circ$



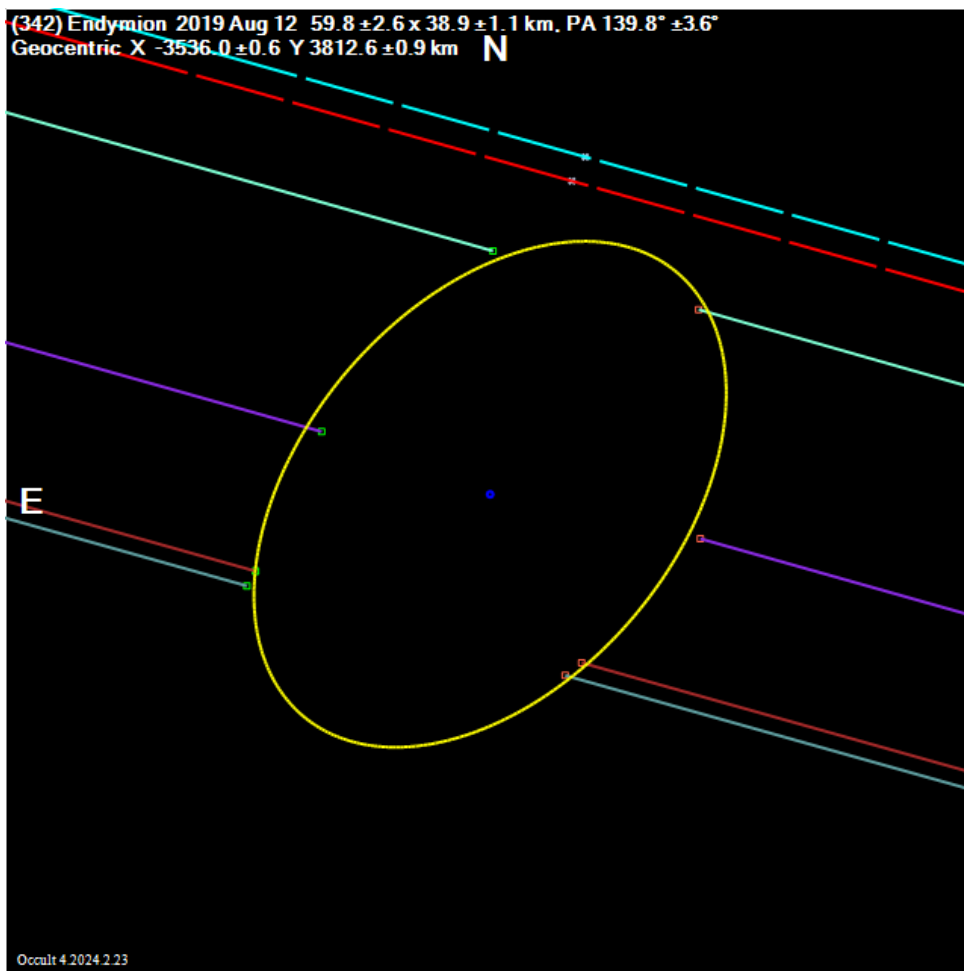
342_Endymion_2018May18

(342) Endymion 2018 May 18 $62.4 \pm 1.3 \times 51.8 \pm 1.5$ km, PA $323.5^\circ \pm 8.2^\circ$
Geocentric X 2551.3 ± 0.5 Y -959.3 ± 0.8 km N



342_Endymion_2019Aug12

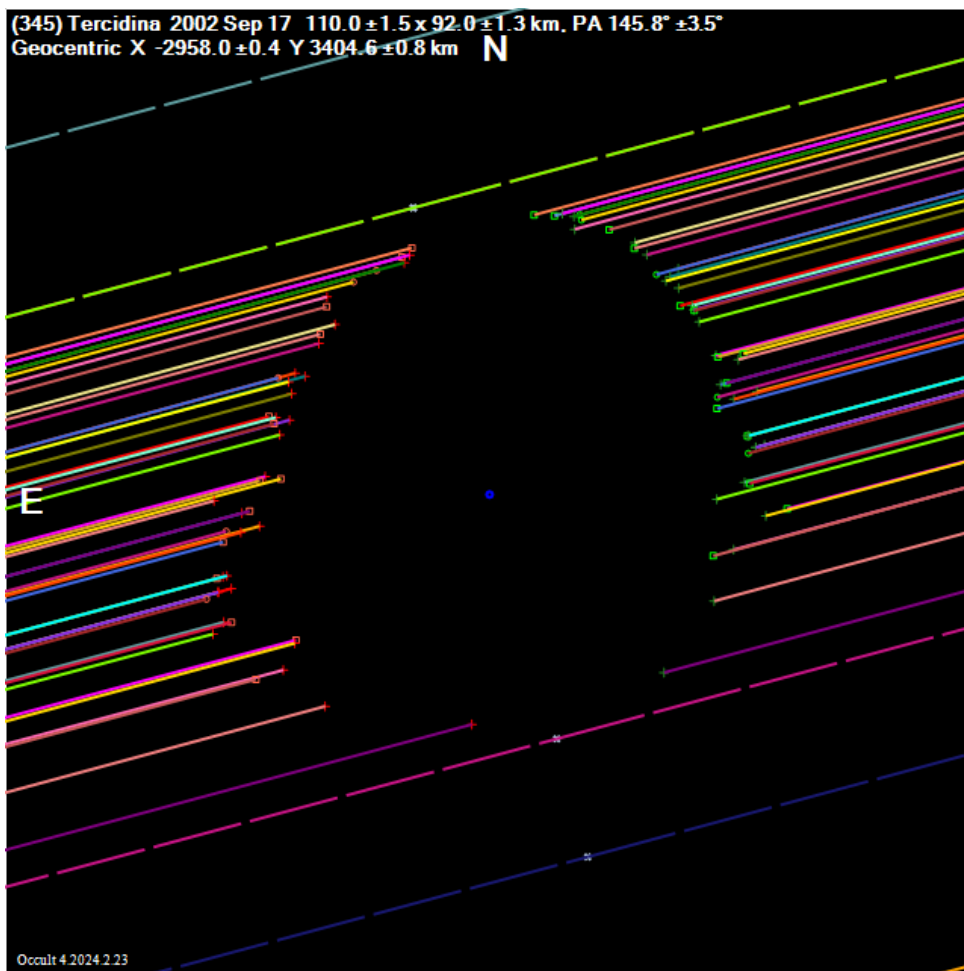
(342) Endymion 2019 Aug 12 $59.8 \pm 2.6 \times 38.9 \pm 1.1$ km, PA $139.8^\circ \pm 3.6^\circ$
Geocentric X -3536.0 ± 0.6 Y 3812.6 ± 0.9 km N



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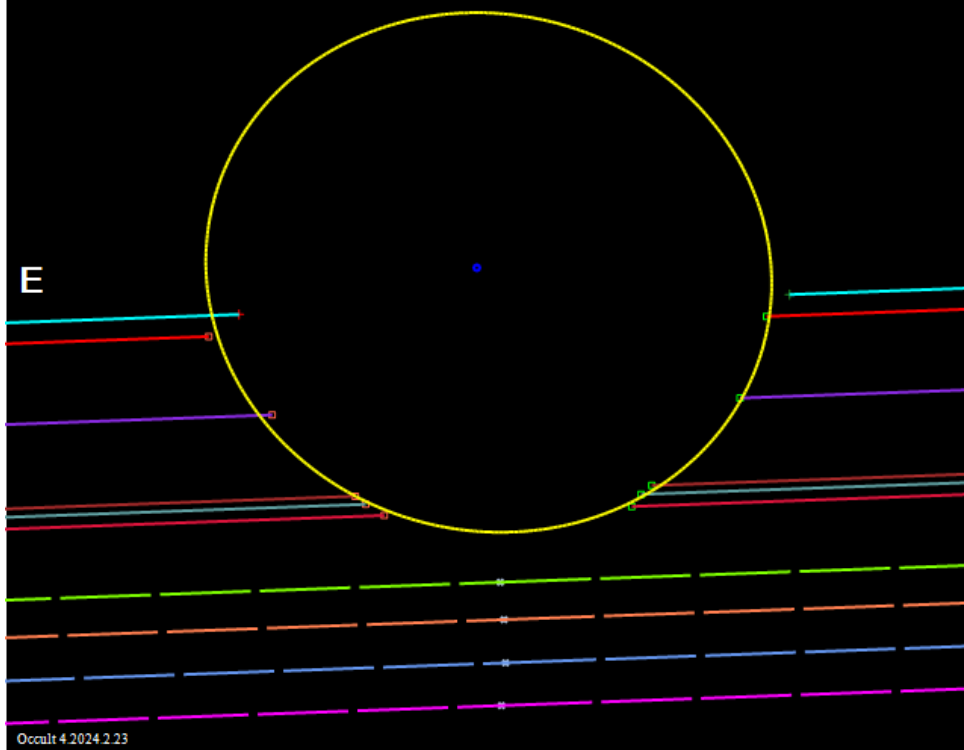
345_Tercidina_2002Sep17

(345) Tercidina 2002 Sep 17 $110.0 \pm 1.5 \times 92.0 \pm 1.3$ km. PA $145.8^\circ \pm 3.5^\circ$
Geocentric X -2958.0 ± 0.4 Y 3404.6 ± 0.8 km **N**



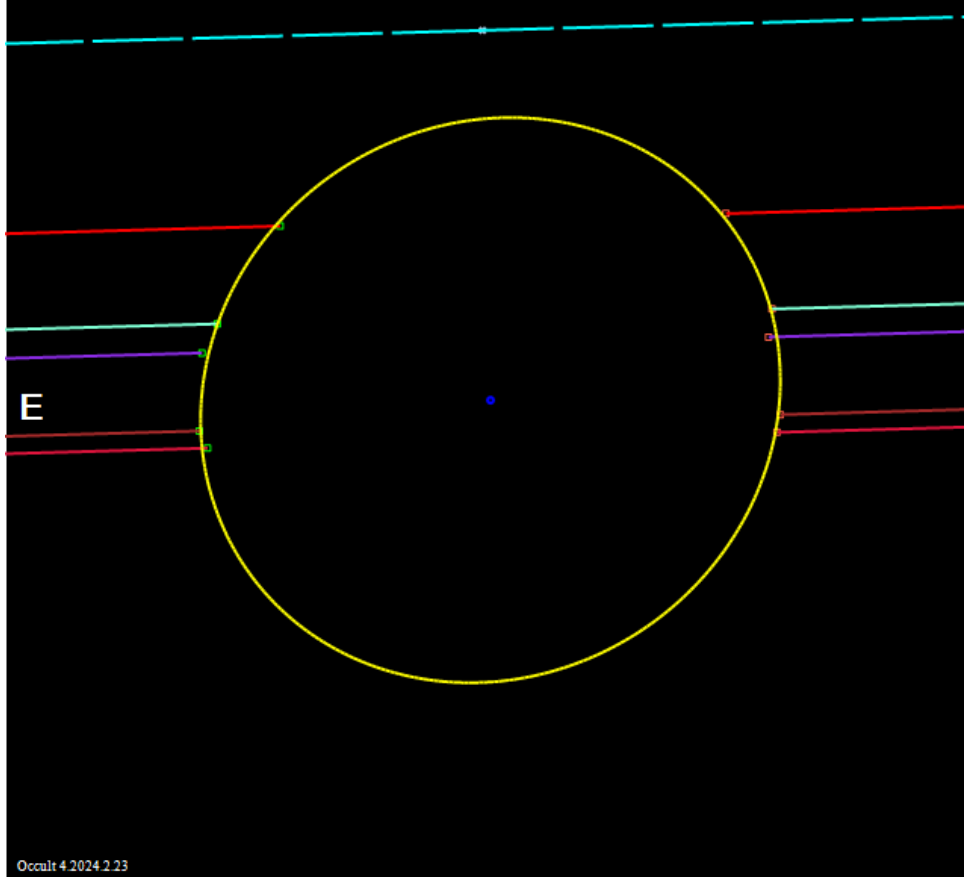
345_Tercidina_2005Nov15

(345) Tercidina 2005 Nov 15 109.0 x 99.0 km, PA 76.9° ± 13.7°
Geocentric X 3946.1 ± 1.3 Y 4227.0 ± 0.8 km N



345_Tercidina_2021Jan07

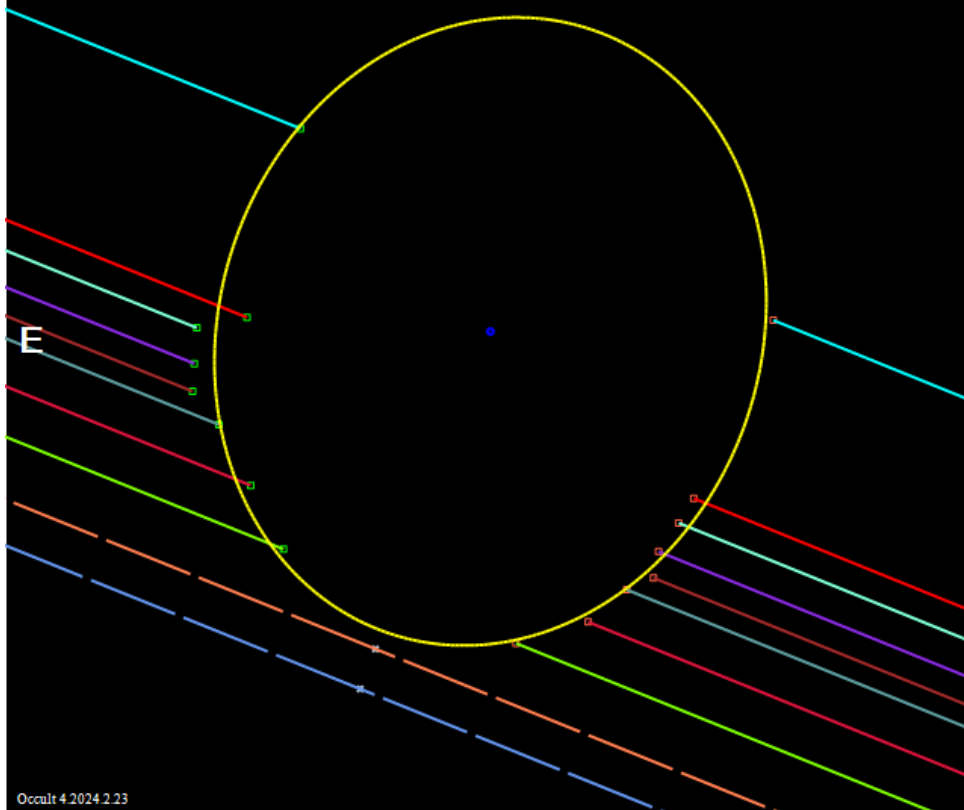
(345) Tercidina 2021 Jan 7 102.0 ±2.4 x 94.6 ±4.3 km. PA 304.7° ±24.8°
Geocentric X -1349.2 ±0.3 Y 2803.3 ±1.8 km **N**



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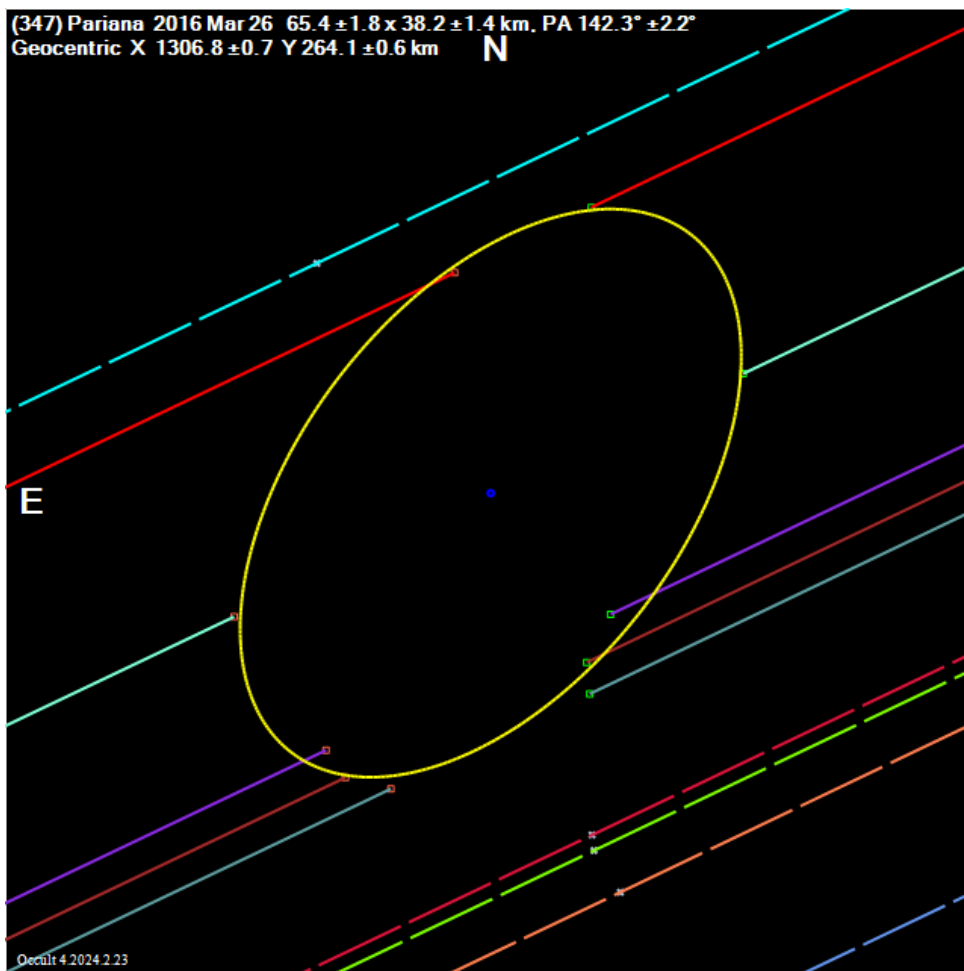
346_Hermentaria_2022Aug02

(346) Hermentaria 2022 Aug 2 119.2 ± 8.3 x 101.5 ± 2.0 km, PA 341.6° ± 7.2°
Geocentric X 16.4 ± 1.4 Y 5652.0 ± 2.8 km N



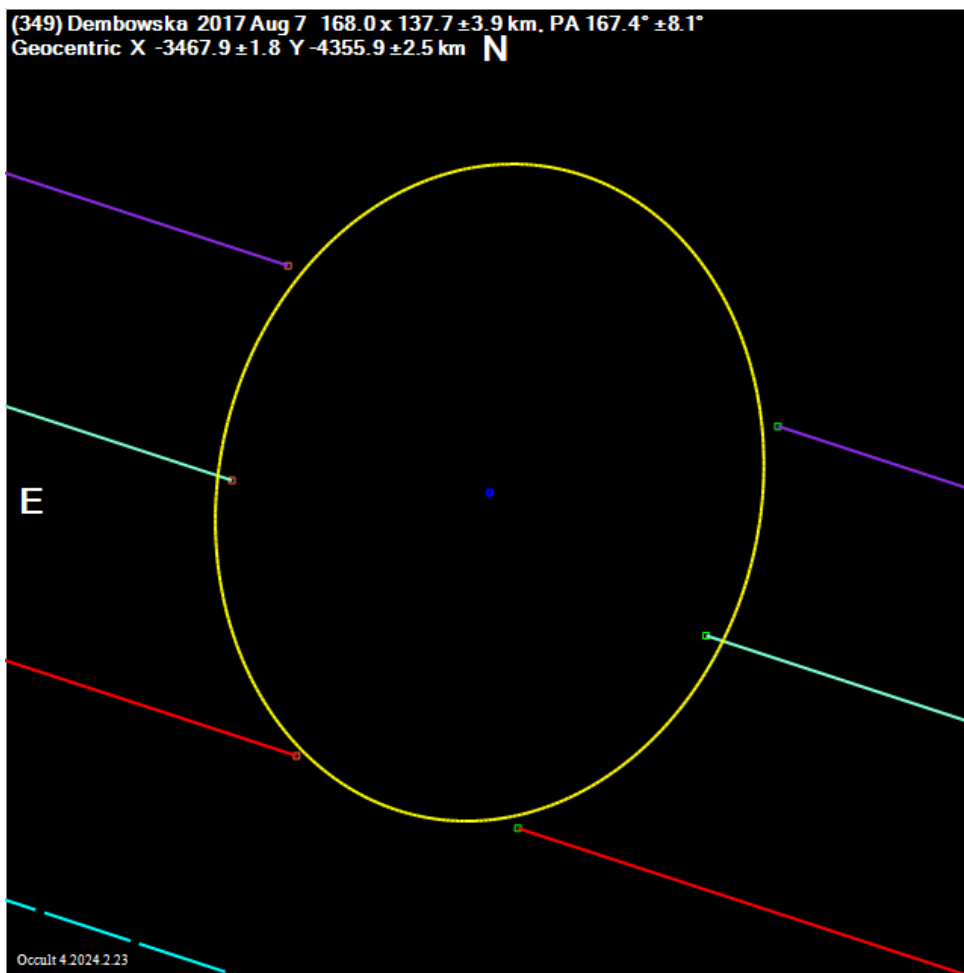
347_Pariana_2016Mar26

(347) Pariana 2016 Mar 26 $65.4 \pm 1.8 \times 38.2 \pm 1.4$ km. PA $142.3^\circ \pm 2.2^\circ$
Geocentric X 1306.8 ± 0.7 Y 264.1 ± 0.6 km N



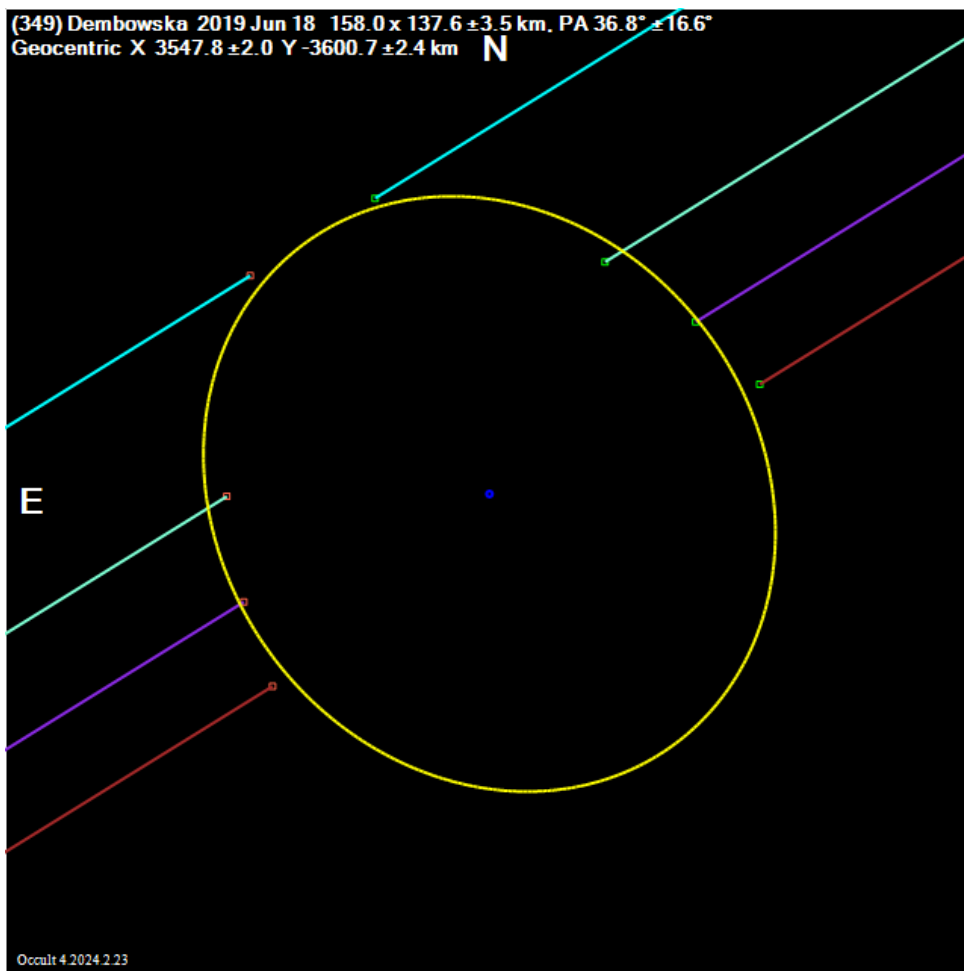
349_Dembowska_2017Aug07

(349) Dembowska 2017 Aug 7 168.0 x 137.7 ± 3.9 km, PA 167.4° ± 8.1°
Geocentric X -3467.9 ± 1.8 Y -4355.9 ± 2.5 km N



349_Dembowska_2019Jun18

(349) Dembowska 2019 Jun 18 158.0 x 137.6 ±3.5 km. PA 36.8° ±16.6°
Geocentric X 3547.8 ±2.0 Y -3600.7 ±2.4 km **N**



Occult 4.2024.2.23

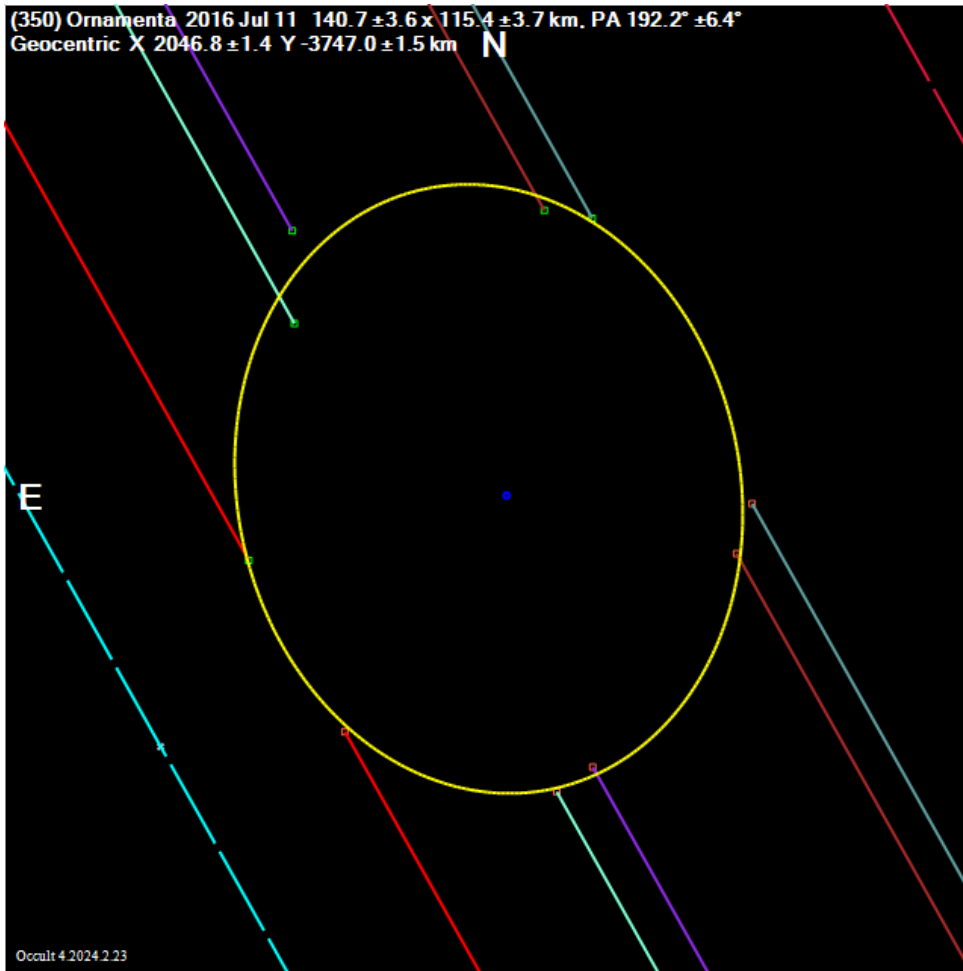
350_Ornamenta_2002Nov14

(350) Ornamenta 2002 Nov 14 108.0 ±2.2 x 91.9 ±2.7 km. PA 77.6° ±9.0°
Geocentric X -1958.0 ±0.9 Y 2833.3 ±1.2 km **N**



350_Ornamenta_2016Jul11

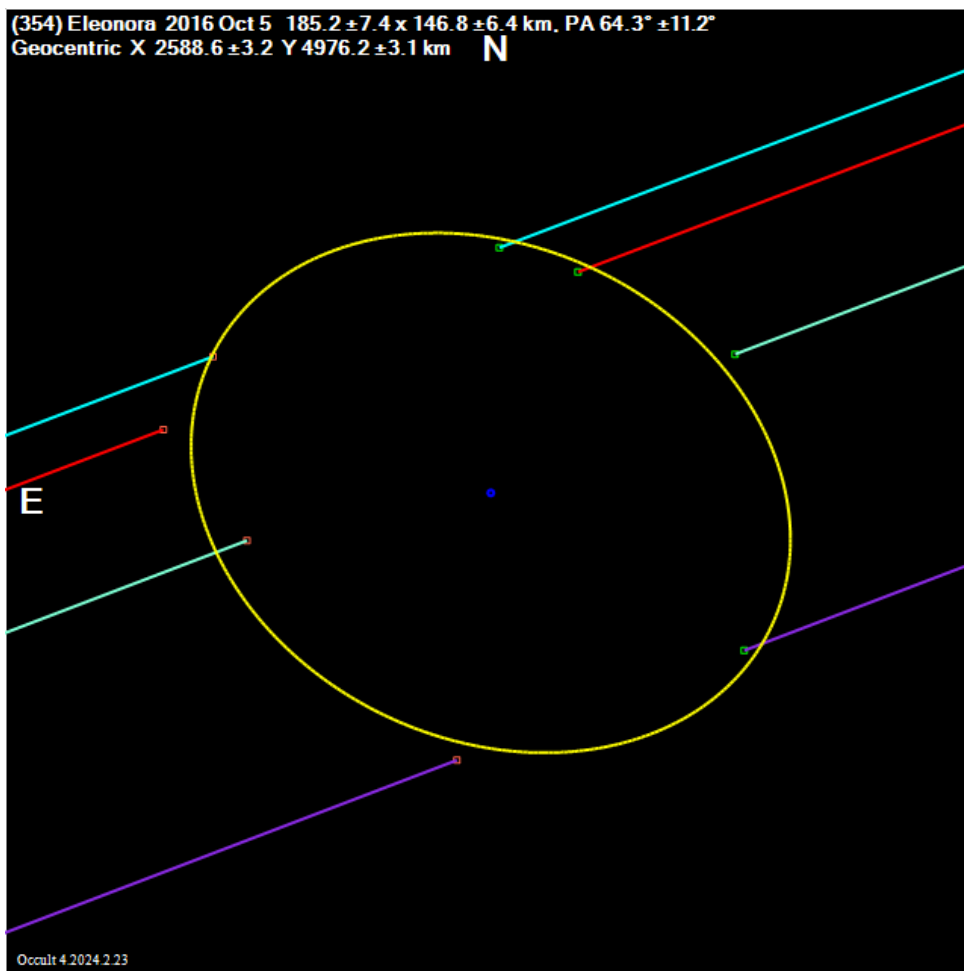
(350) Ornamenta 2016 Jul 11 140.7 ± 3.6 x 115.4 ± 3.7 km, PA 192.2° ± 6.4°
Geocentric X 2046.8 ± 1.4 Y -3747.0 ± 1.5 km



Occult 4.2024.2.23

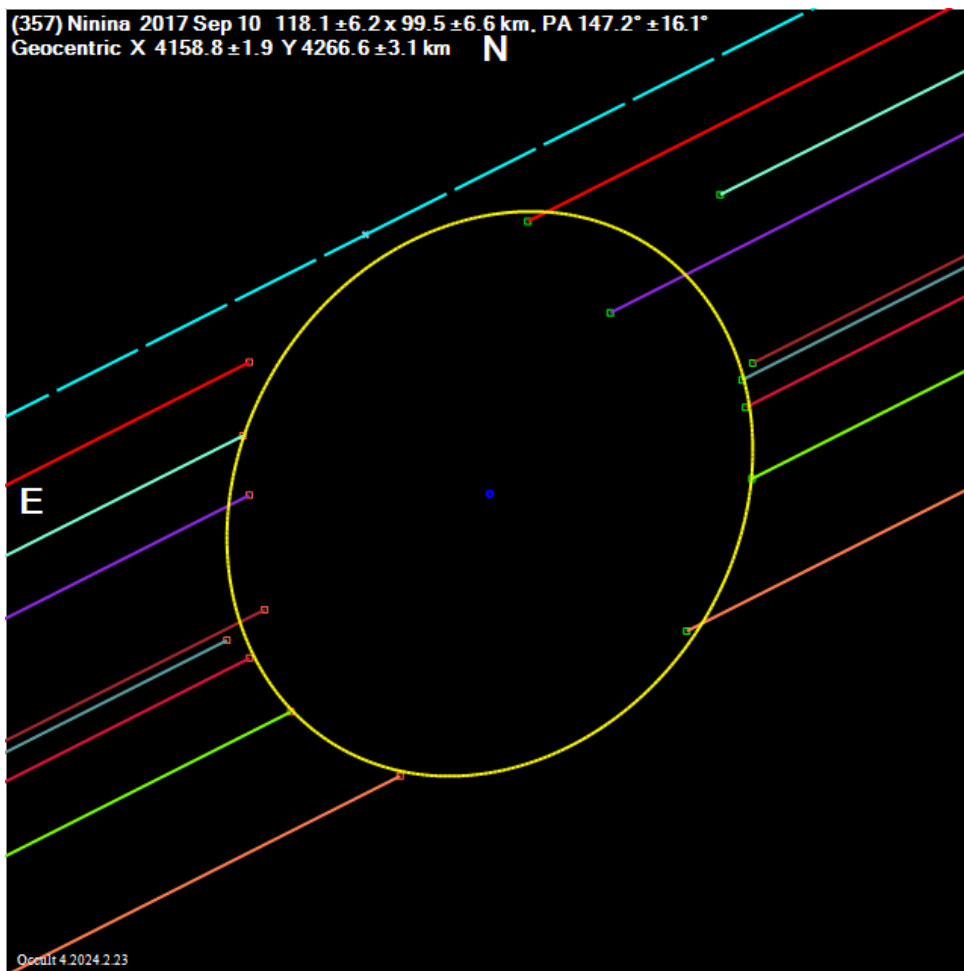
354_Eleonora_2016Oct05

(354) Eleonora 2016 Oct 5 $185.2 \pm 7.4 \times 146.8 \pm 6.4$ km, PA $64.3^\circ \pm 11.2^\circ$
Geocentric X 2588.6 ± 3.2 Y 4976.2 ± 3.1 km N



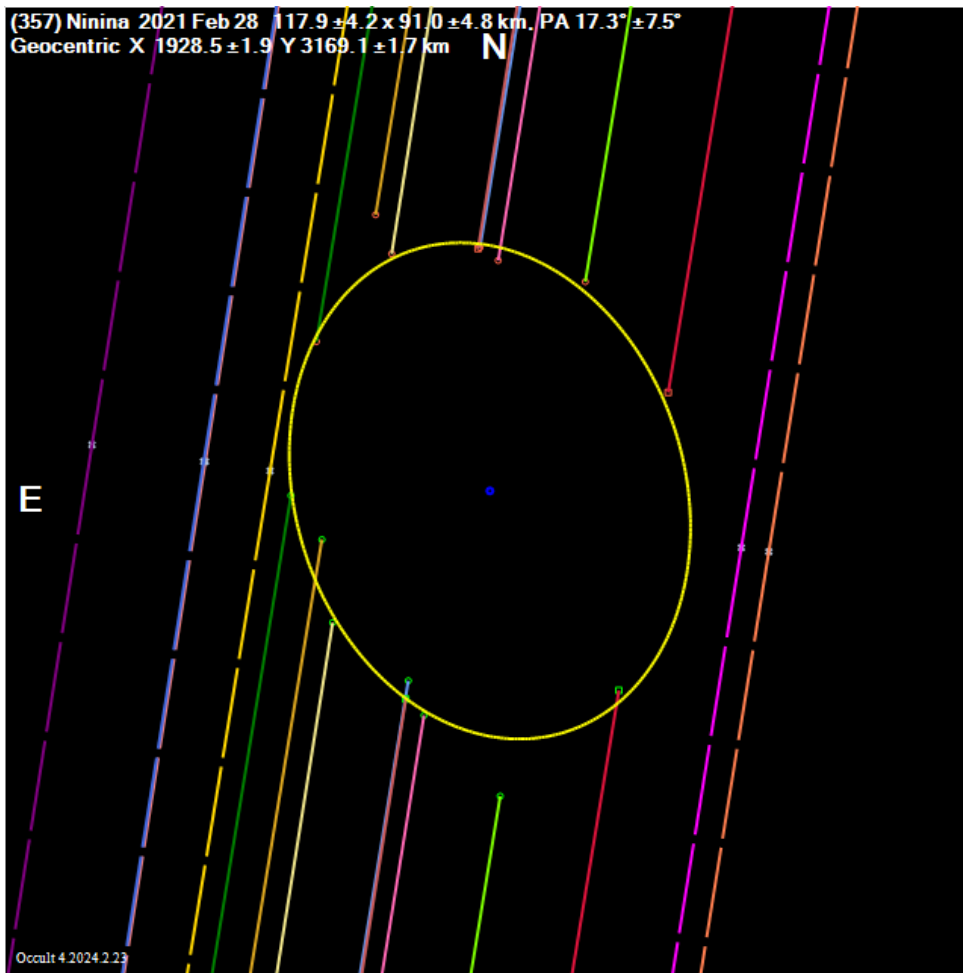
357_Ninina_2017Sep10

(357) Ninina 2017 Sep 10 118.1 ± 6.2 × 99.5 ± 6.6 km. PA 147.2° ± 16.1°
Geocentric X 4158.8 ± 1.9 Y 4266.6 ± 3.1 km N



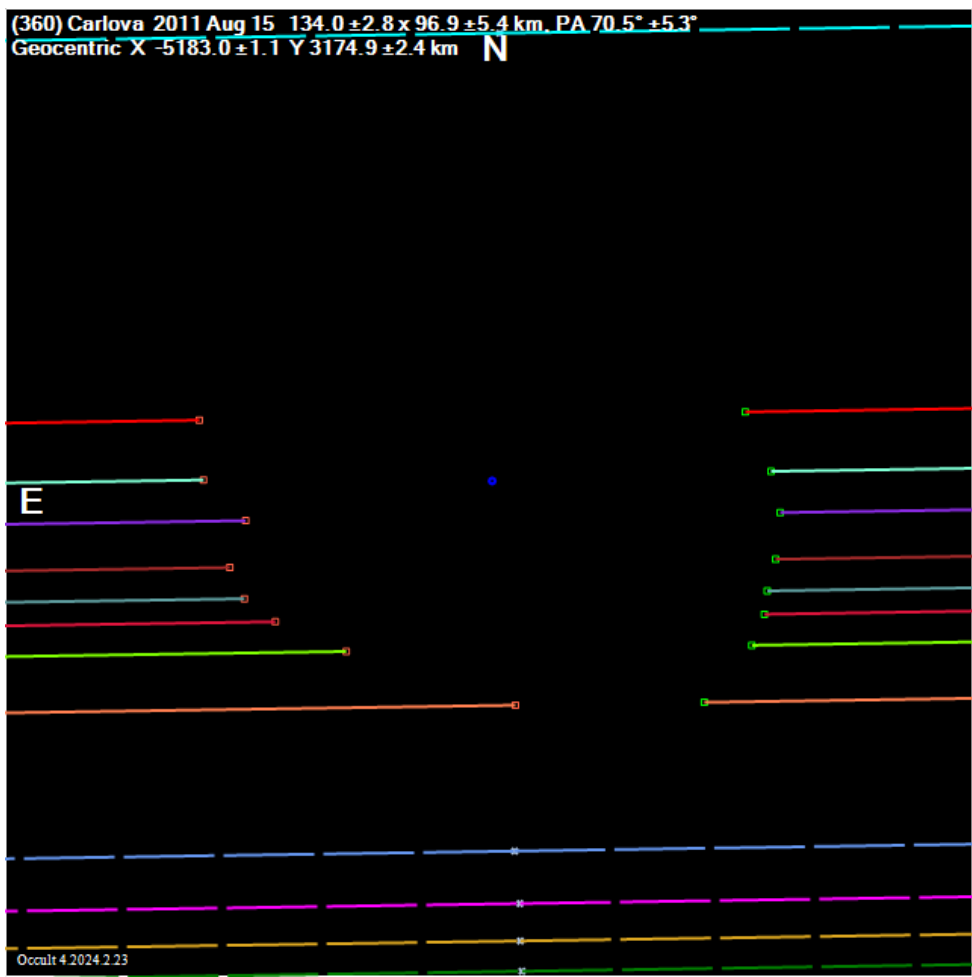
357_Ninina_2021Feb28

(357) Ninina 2021 Feb 28 $117.9 \pm 4.2 \times 91.0 \pm 4.8$ km. PA $17.3^\circ \pm 7.5^\circ$
Geocentric X 1928.5 ± 1.9 Y 3169.1 ± 1.7 km N



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360_Carlova_2011Aug15

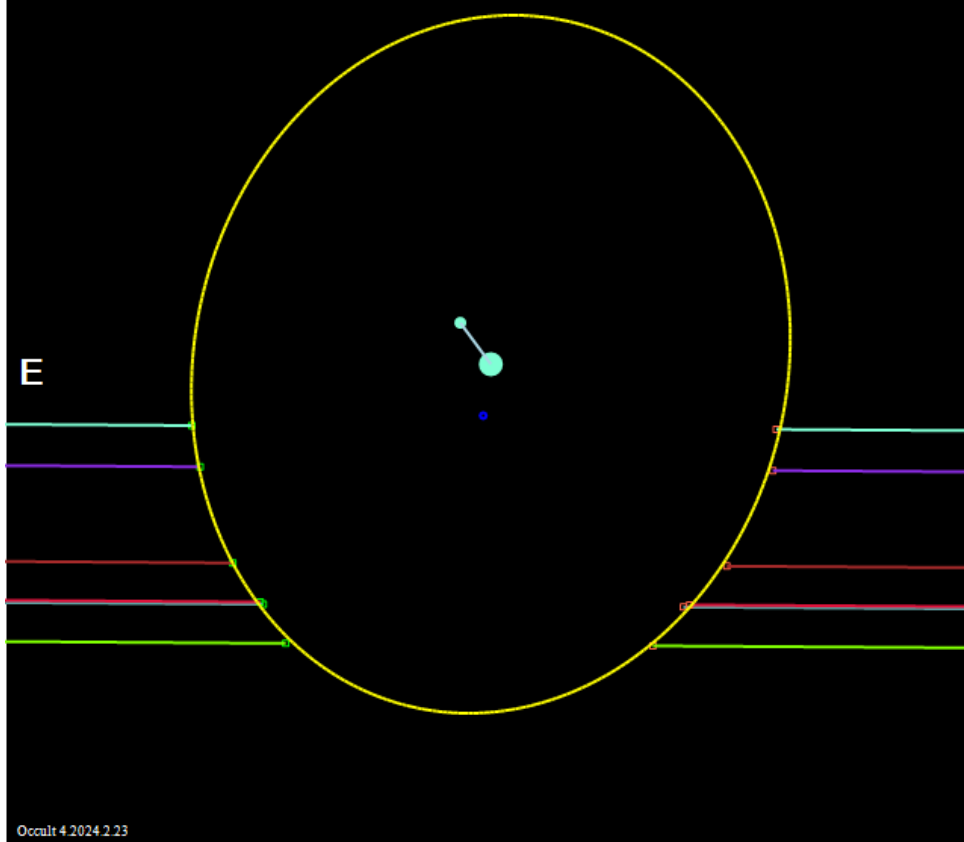


362_Havnia_2021Feb27

(362) Havnia 2021 Feb 27 110.9 ±134.9 x 93.6 ±26.5 km, PA 347.0° ±77.9°

Geocentric X -4777.1 ±4.4 Y 2296.6 ±59.1 km N

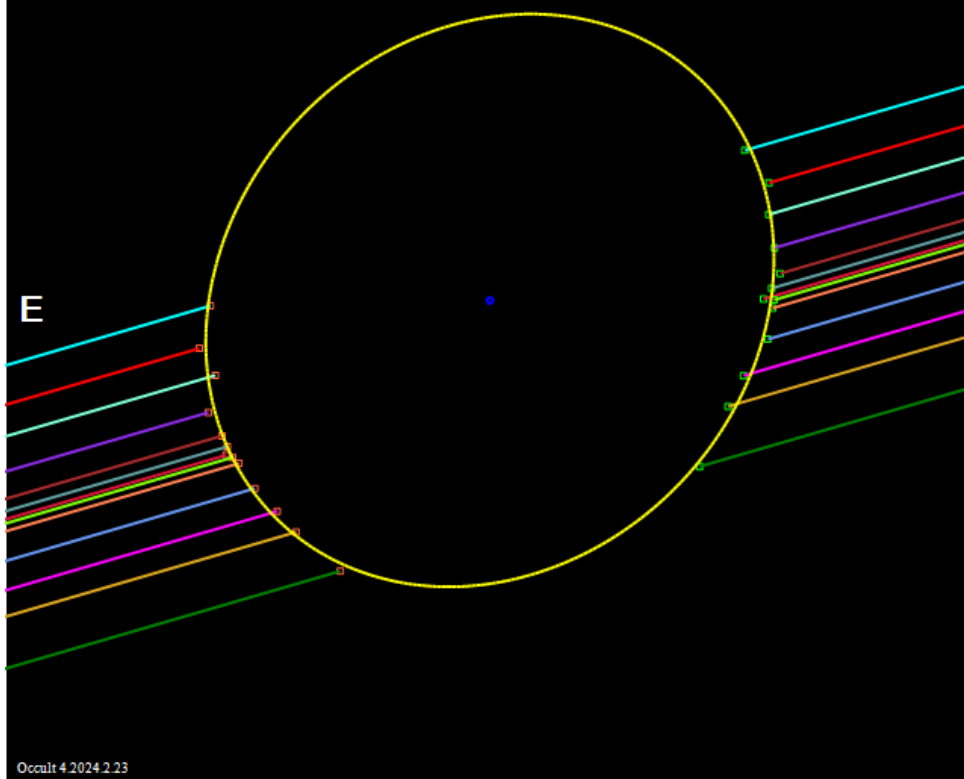
Double : Sep 0.0068 ±0.0033", PA 36.4° ±0.0°



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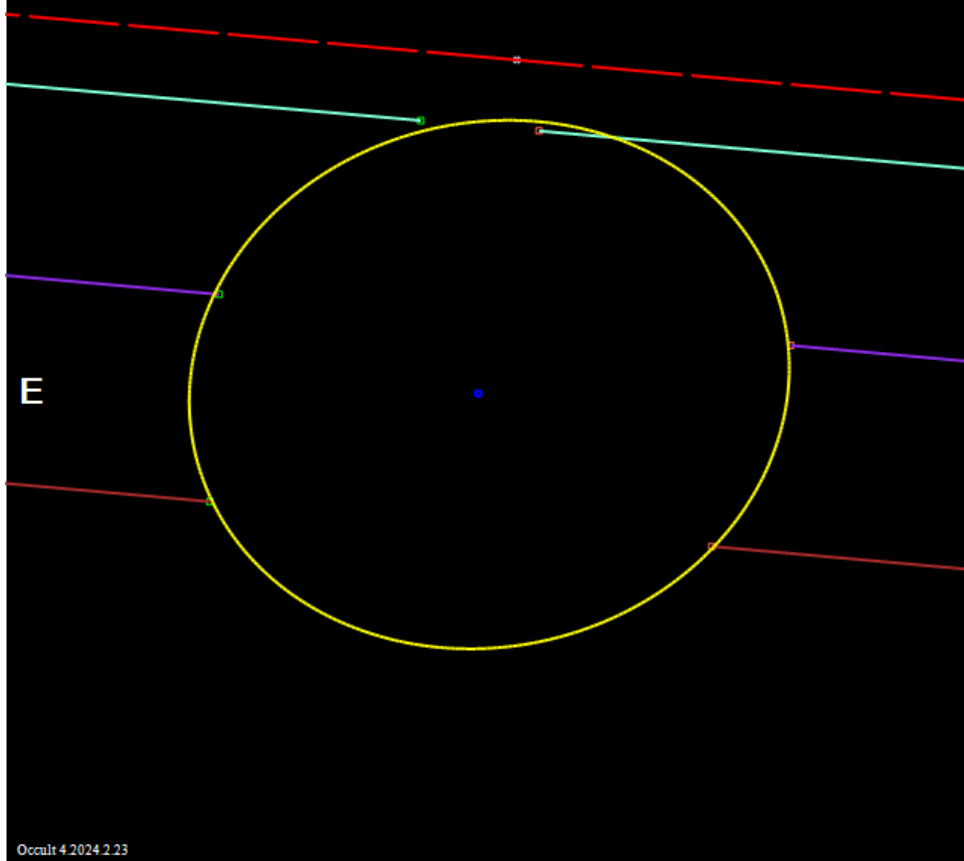
363_Padua_2020May11

(363) Padua 2020 May 11 $94.1 \pm 1.2 \times 81.3 \pm 2.0$ km, PA $316.4^\circ \pm 6.2^\circ$
Geocentric X 5002.2 ± 0.2 Y 2528.5 ± 0.9 km N



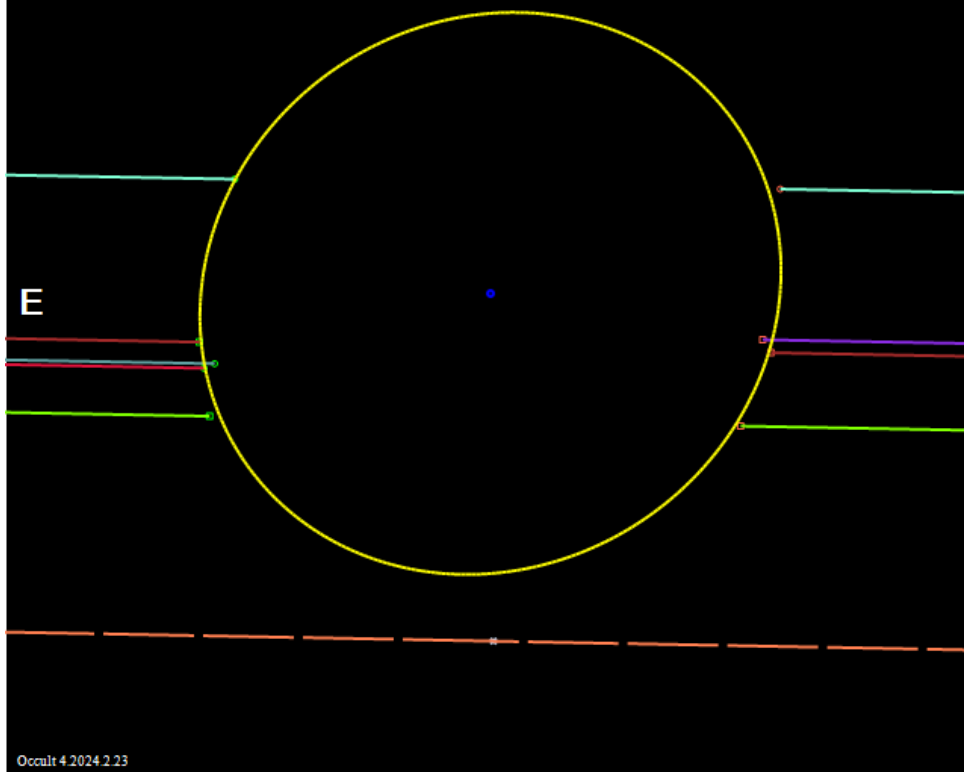
365_Corduba_2013Dec16

(365) Corduba 2013 Dec 16 $108.9 \pm 1.6 \times 94.4 \pm 2.1$ km, PA $103.2^\circ \pm 6.5^\circ$
Geocentric X 3648.1 ± 0.7 Y 3021.9 ± 1.0 km **N**

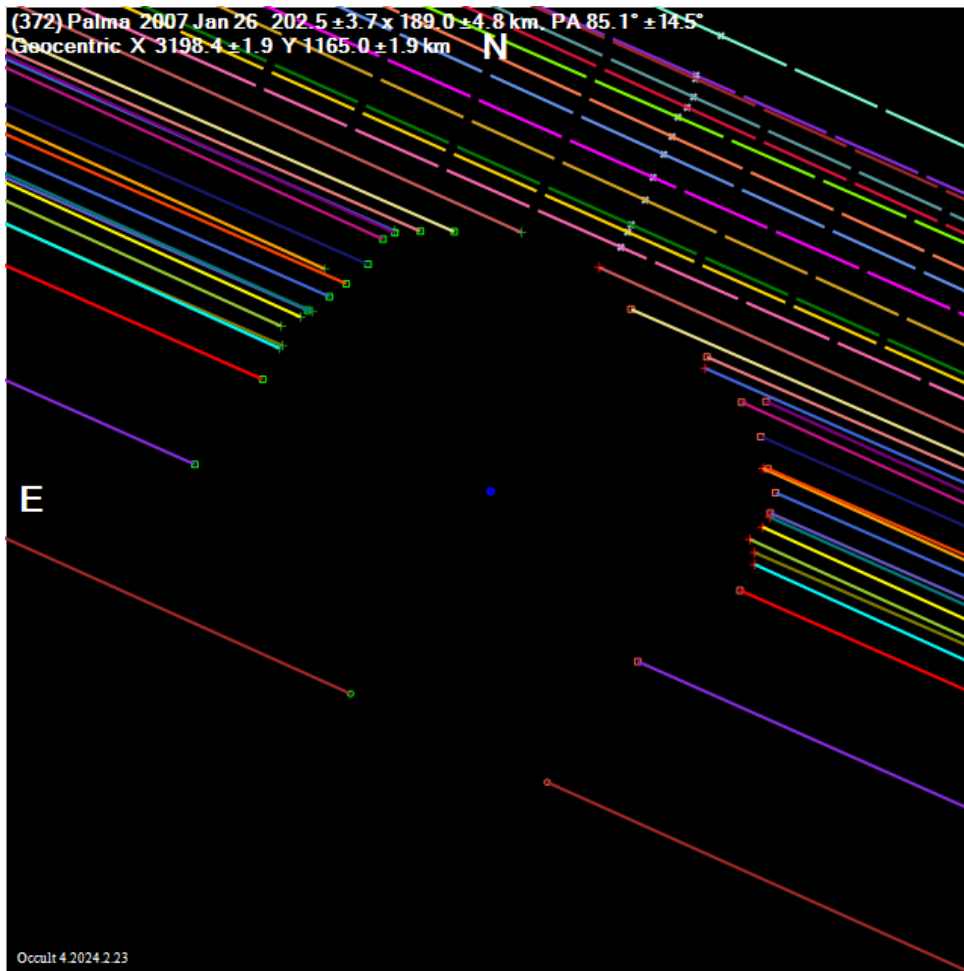


372_Palma_2005Oct12

(372) Palma 2005 Oct 12 195.0 x 178.7 ± 7.4 km, PA 303.4° ± 15.8°
Geocentric X 1539.5 ± 0.9 Y 4623.9 ± 2.7 km N

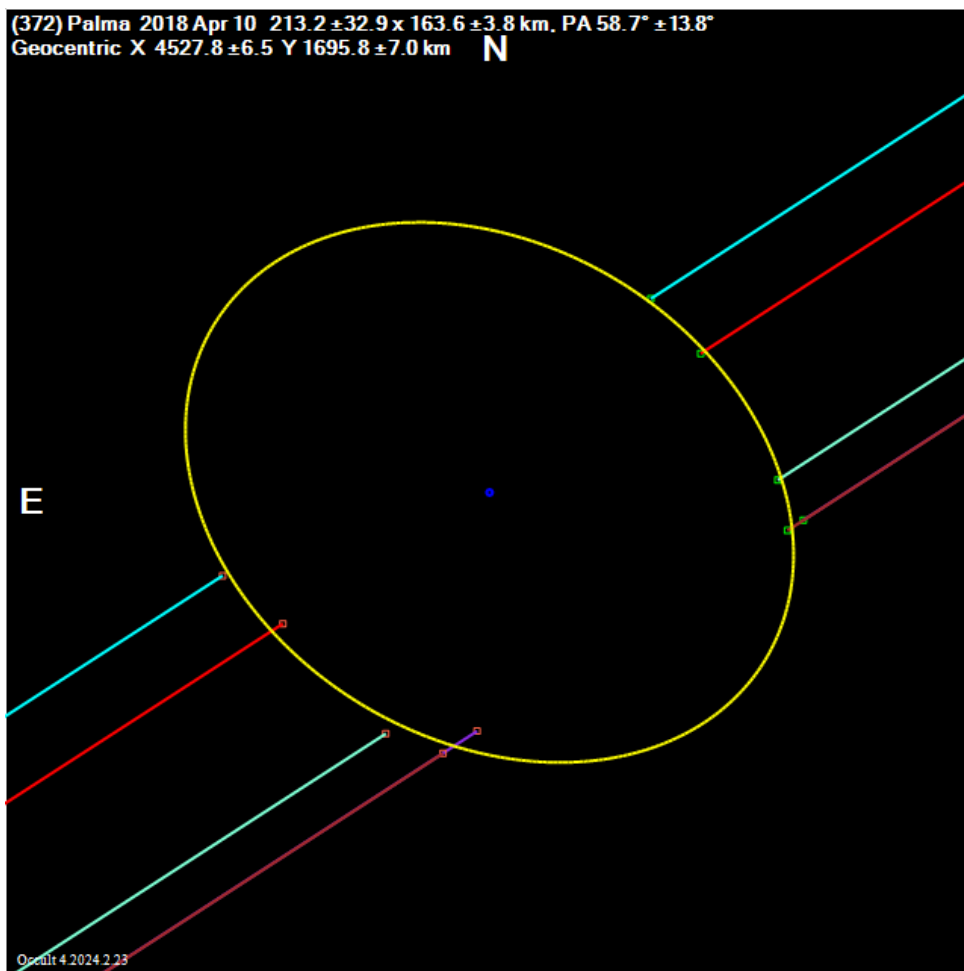


372_Palma_2007Jan26



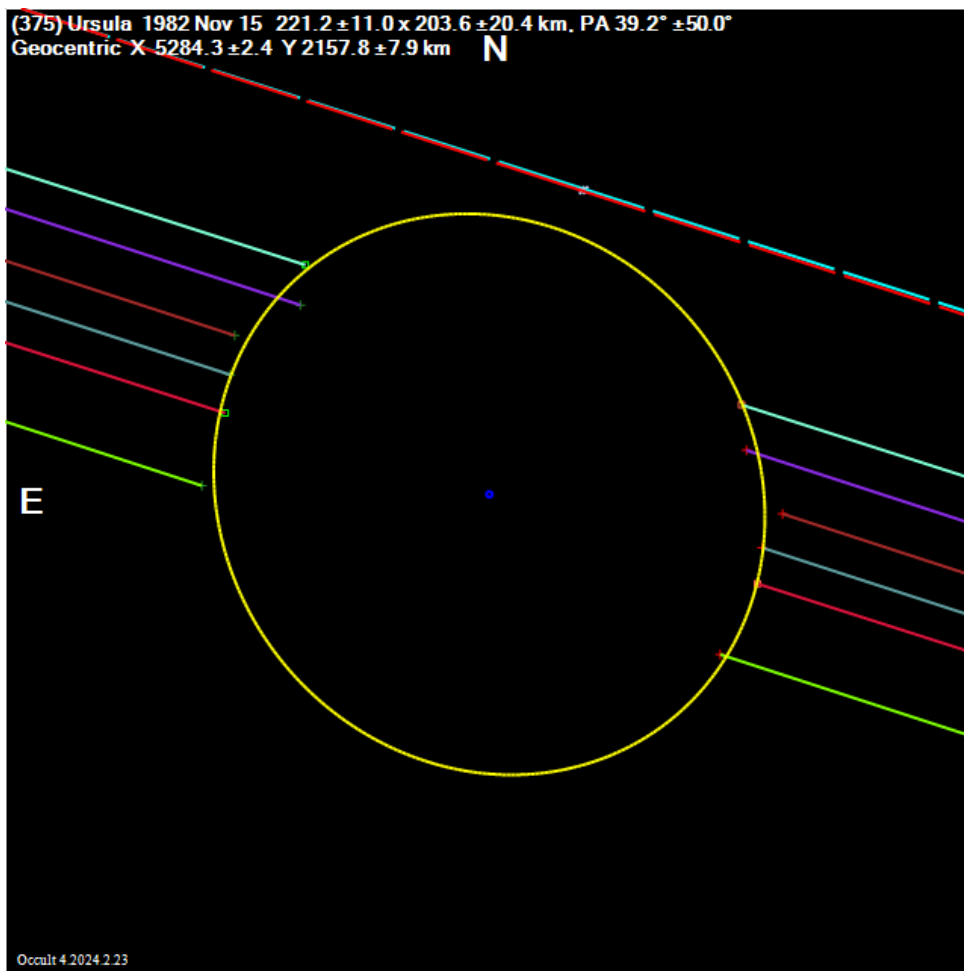
372_Palma_2018Apr10

(372) Palma 2018 Apr 10 $213.2 \pm 32.9 \times 163.6 \pm 3.8$ km, PA $58.7^\circ \pm 13.8^\circ$
Geocentric X 4527.8 ± 6.5 Y 1695.8 ± 7.0 km N

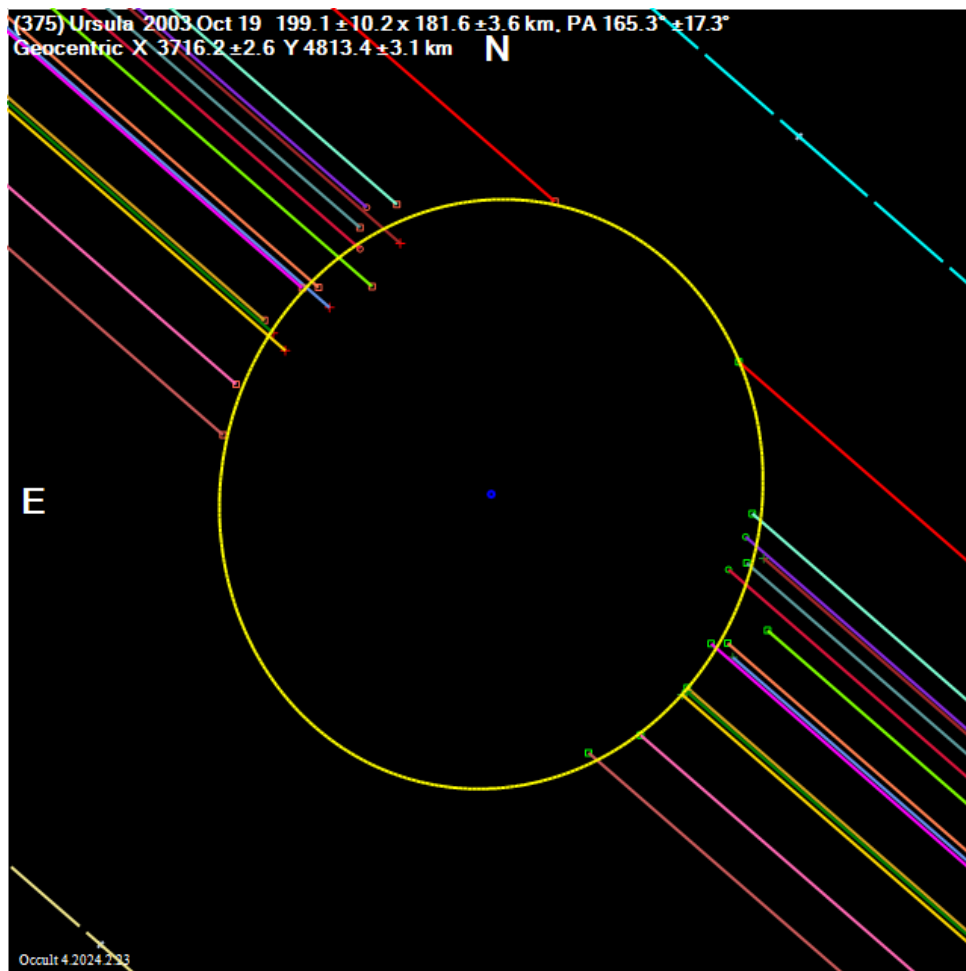


375_Ursula_1982Nov15

(375) Ursula 1982 Nov 15 $221.2 \pm 11.0 \times 203.6 \pm 20.4$ km, PA $39.2^\circ \pm 50.0^\circ$
Geocentric X -5284.3 ± 2.4 Y 2157.8 ± 7.9 km N

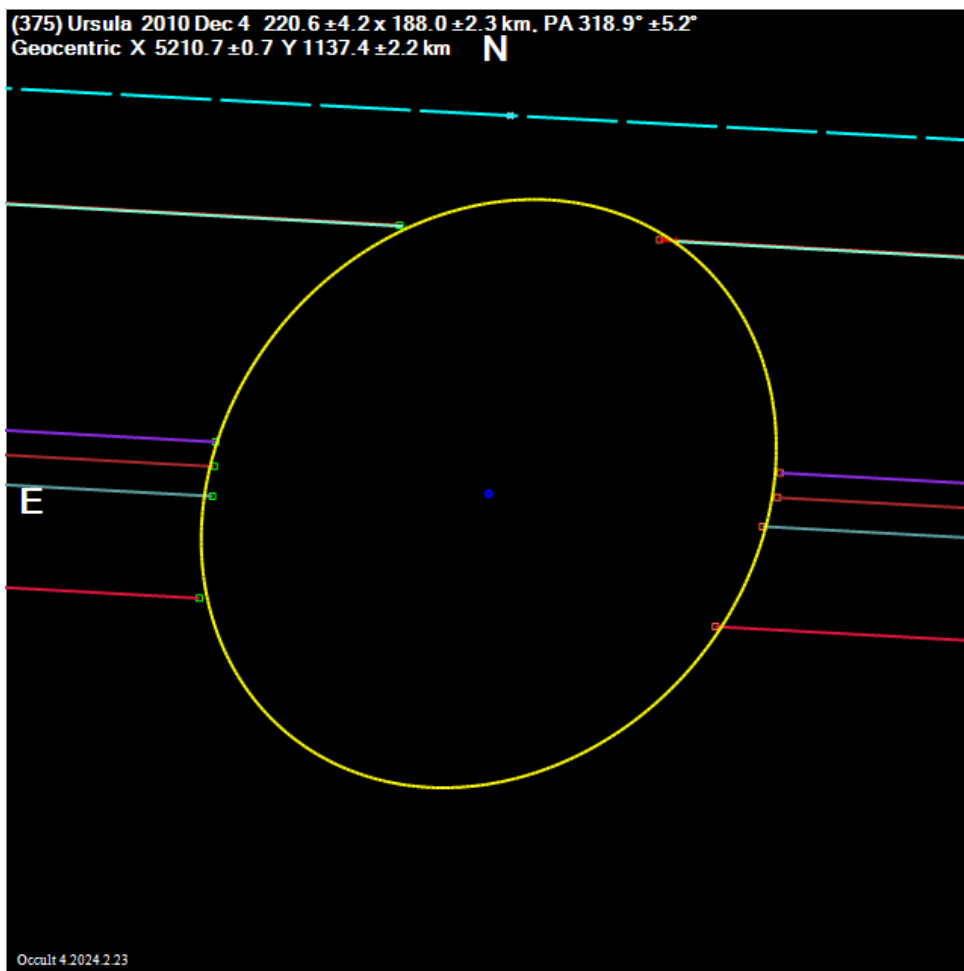


375_Ursula_2003Oct19



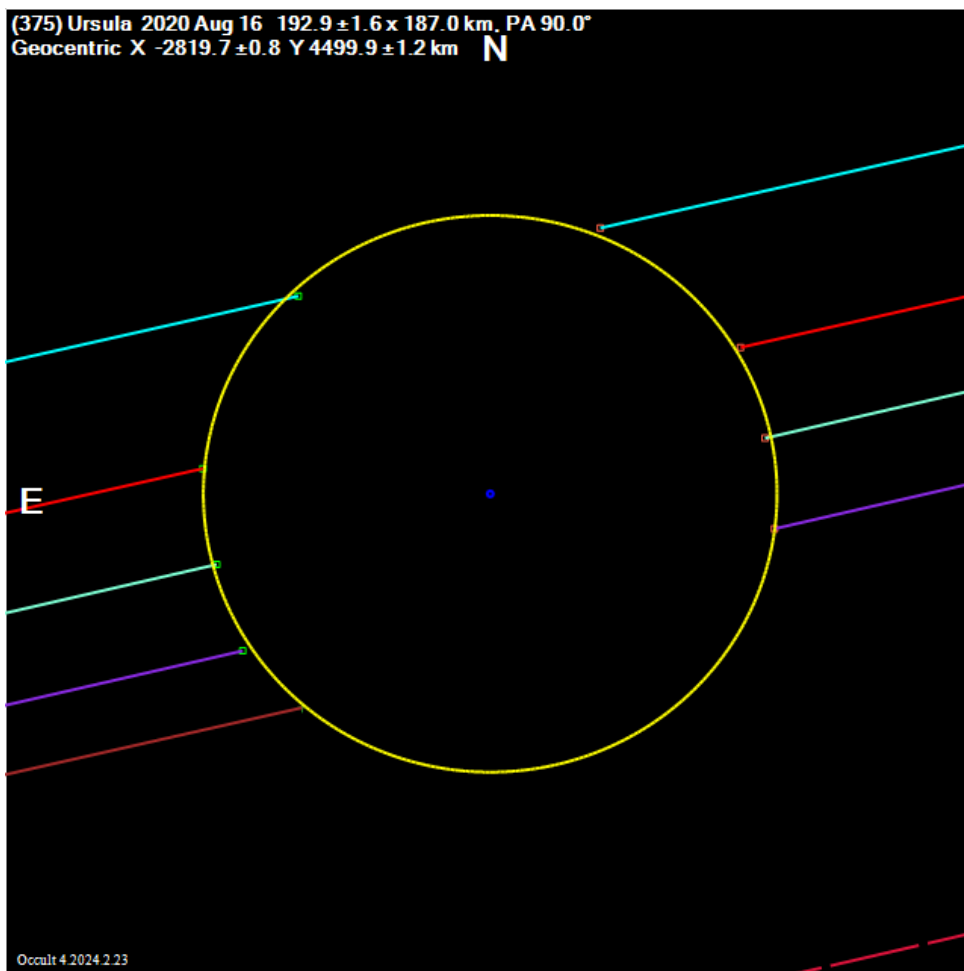
375_Ursula_2010Dec04

(375) Ursula 2010 Dec 4 220.6 ± 4.2 x 188.0 ± 2.3 km, PA 318.9° ± 5.2°
Geocentric X 5210.7 ± 0.7 Y 1137.4 ± 2.2 km **N**



375_Ursula_2020Aug16

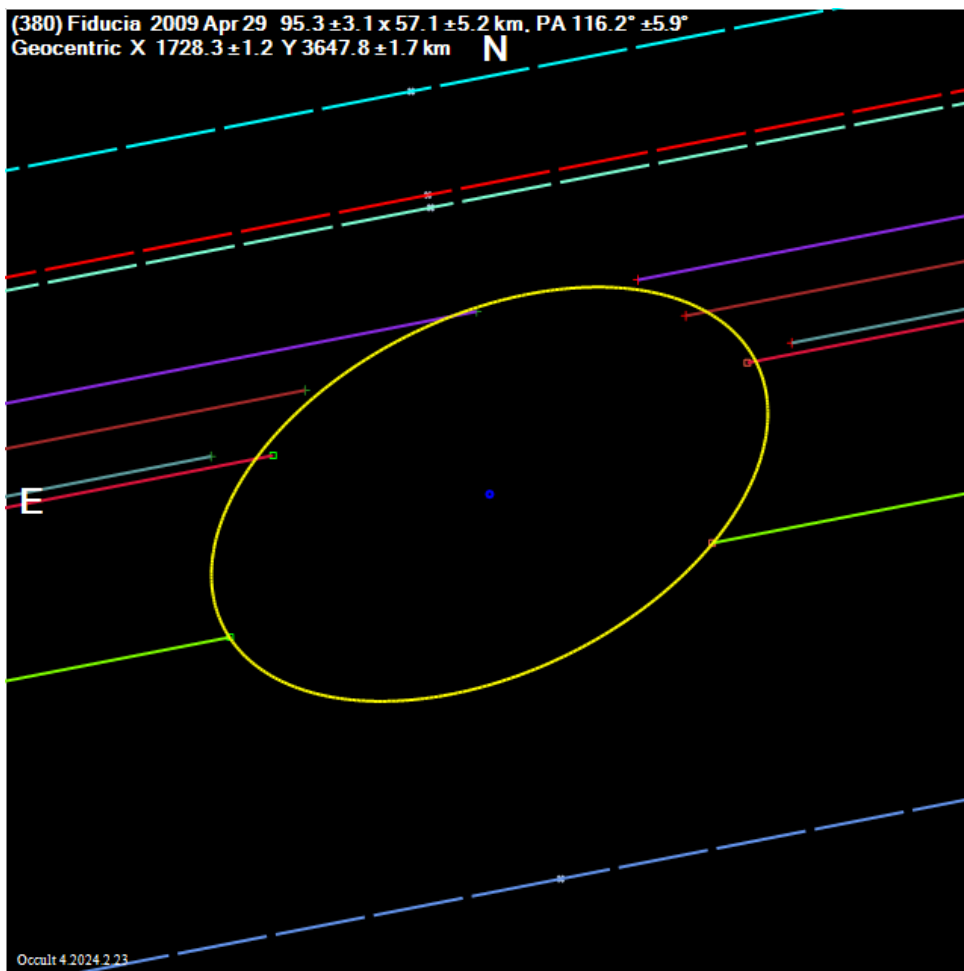
(375) Ursula 2020 Aug 16 $192.9 \pm 1.6 \times 187.0$ km, PA 90.0°
Geocentric X -2819.7 ± 0.8 Y 4499.9 ± 1.2 km **N**



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380_Fiducia_2009Apr29

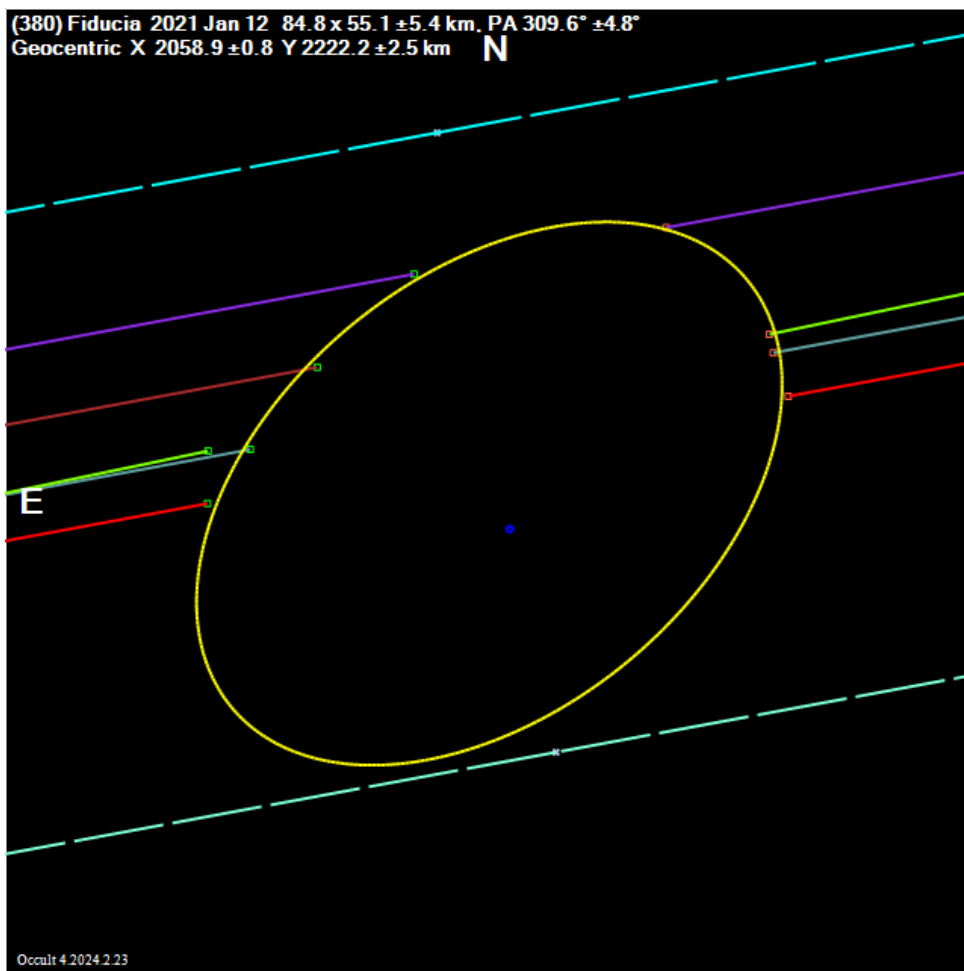
(380) Fiducia 2009 Apr 29 $95.3 \pm 3.1 \times 57.1 \pm 5.2$ km, PA $116.2^\circ \pm 5.9^\circ$
Geocentric X 1728.3 ± 1.2 Y 3647.8 ± 1.7 km **N**



Occult 4.2024.2.23

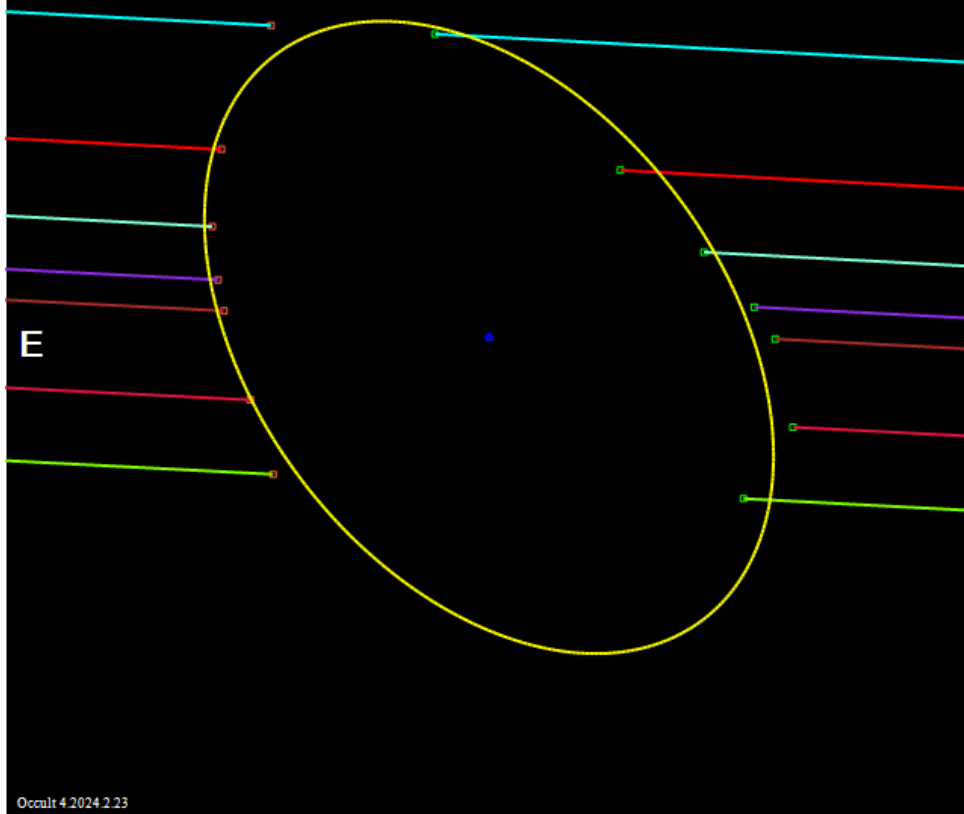
380_Fiducia_2021Jan12

(380) Fiducia 2021 Jan 12 84.8 x 55.1 ±5.4 km, PA 309.6° ±4.8°
Geocentric X 2058.9 ±0.8 Y 2222.2 ±2.5 km N



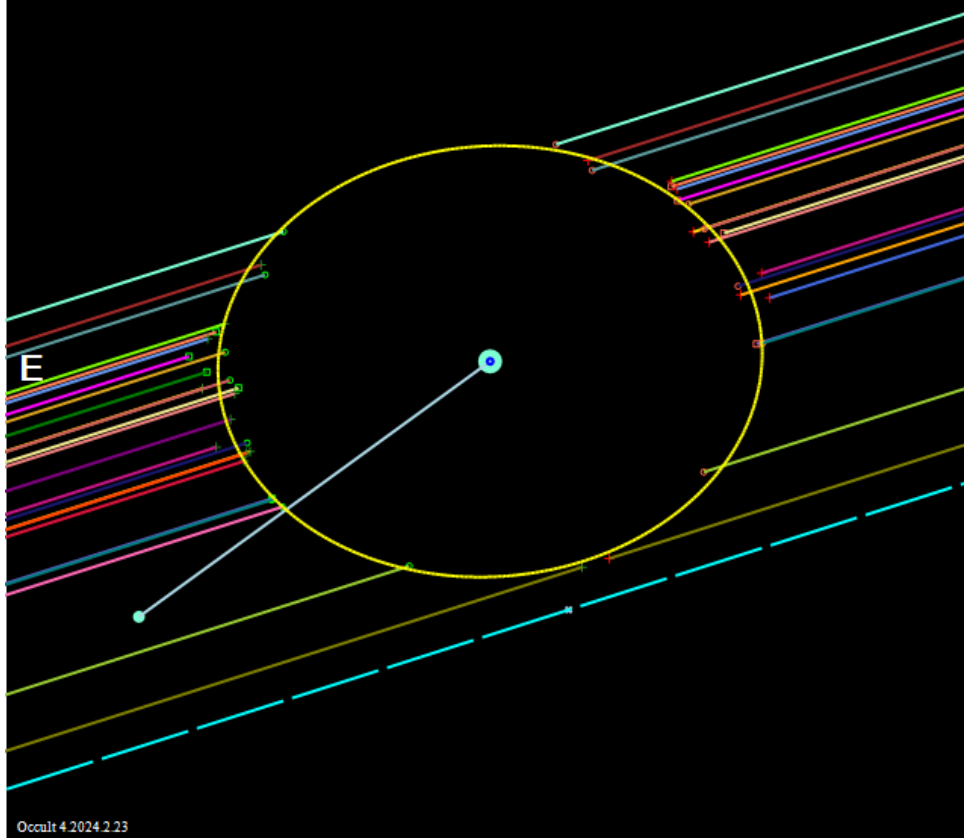
380_Fiducia_2023Sep17

(380) Fiducia 2023 Sep 17 $93.1 \pm 4.7 \times 61.9 \pm 2.2$ km. PA $37.2^\circ \pm 5.3^\circ$
Geocentric X -69.3 ± 0.8 Y 5610.1 ± 2.2 km N



381_Myrrha_1991Jan13

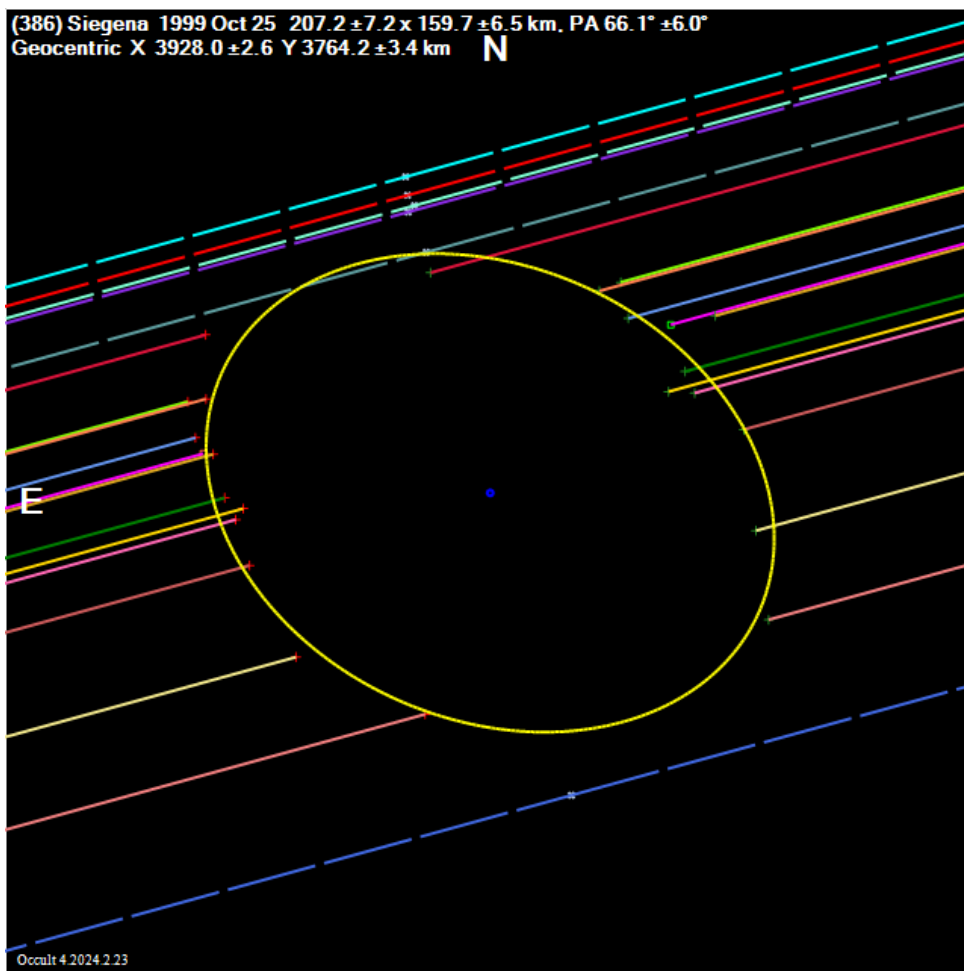
(381) Myrrha 1991 Jan 13 147.8 ±2.4 x 116.7 ±3.7 km. PA 94.4° ±4.3°
Geocentric X -2409.3 ±1.1 Y 2238.8 ±1.3 km **N**
Double : Sep 0.0633 ±0.0020". PA 126.0° ±0.0°



Occult 4.2024.2.23

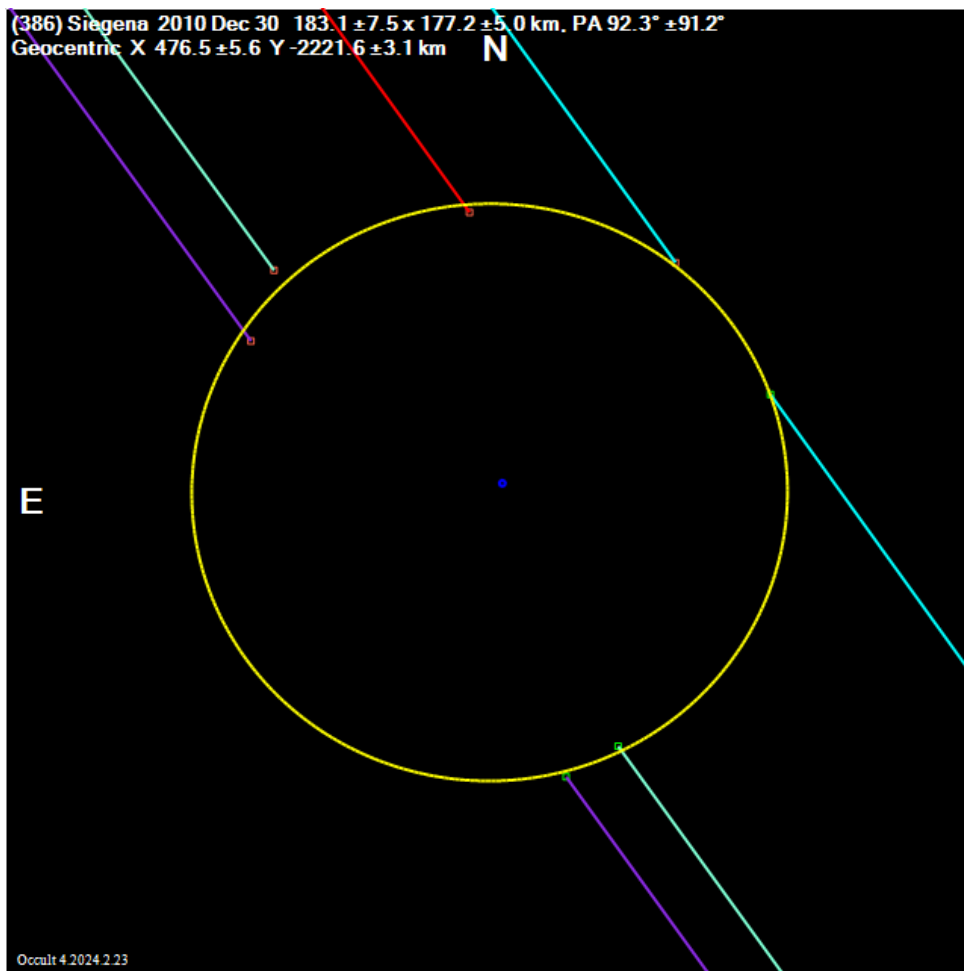
386_Siegena_1999Oct25

(386) Siegena 1999 Oct 25 $207.2 \pm 7.2 \times 159.7 \pm 6.5$ km, PA $66.1^\circ \pm 6.0^\circ$
Geocentric X 3928.0 ± 2.6 Y 3764.2 ± 3.4 km N

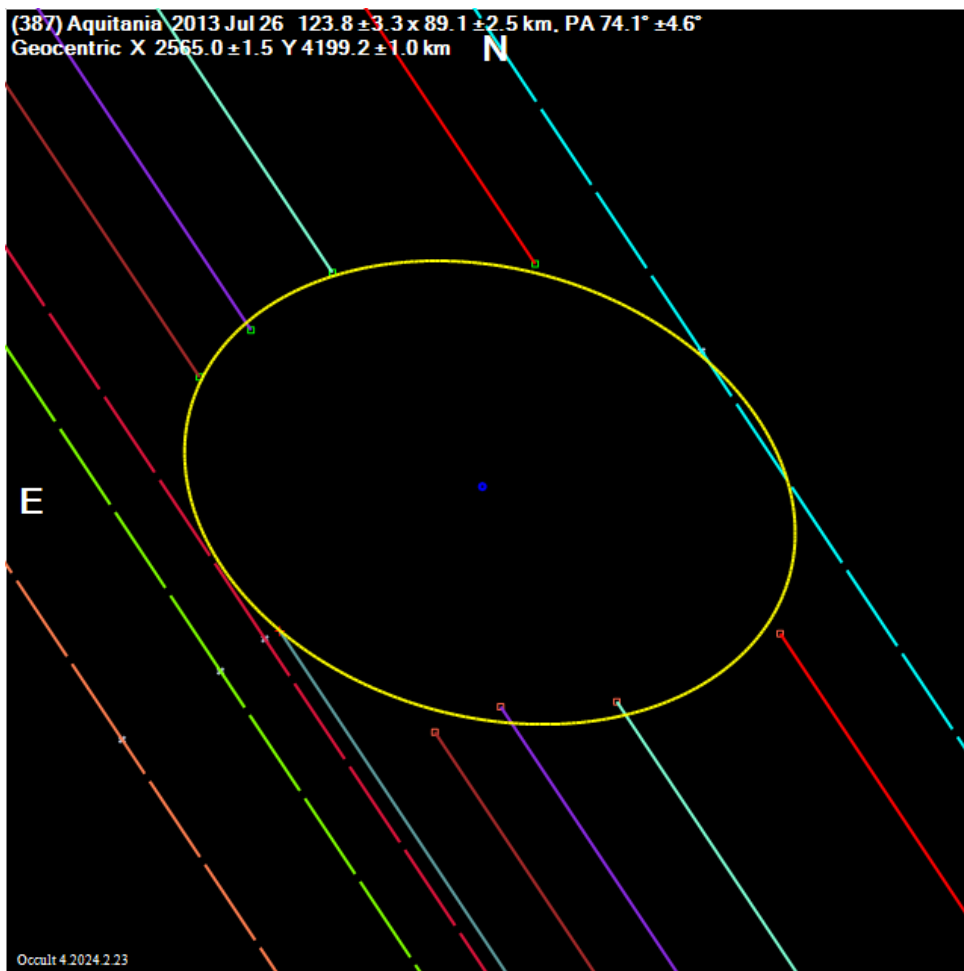


386_Siegena_2010Dec30

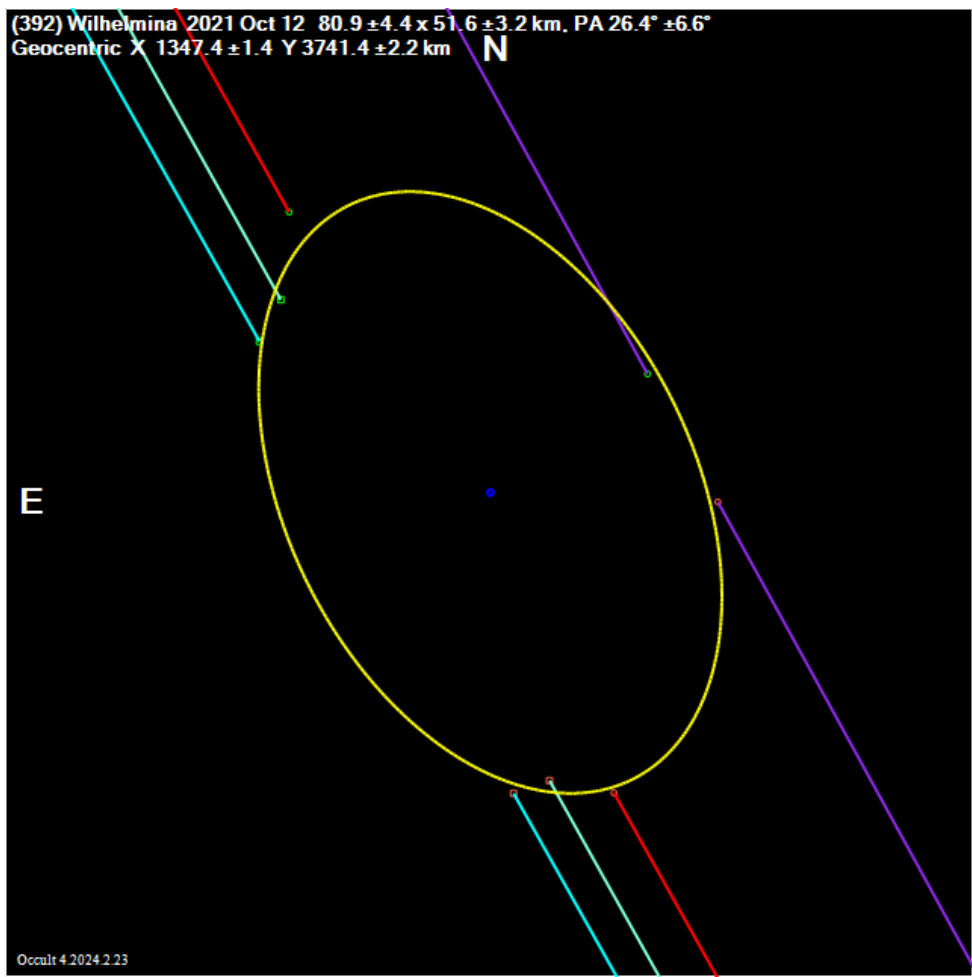
(386) Siegena 2010 Dec 30 183.1 ± 7.5 x 177.2 ± 5.0 km. PA 92.3° ± 91.2°
Geocentric X 476.5 ± 5.6 Y -2221.6 ± 3.1 km



387_Aquitania_2013Jul26

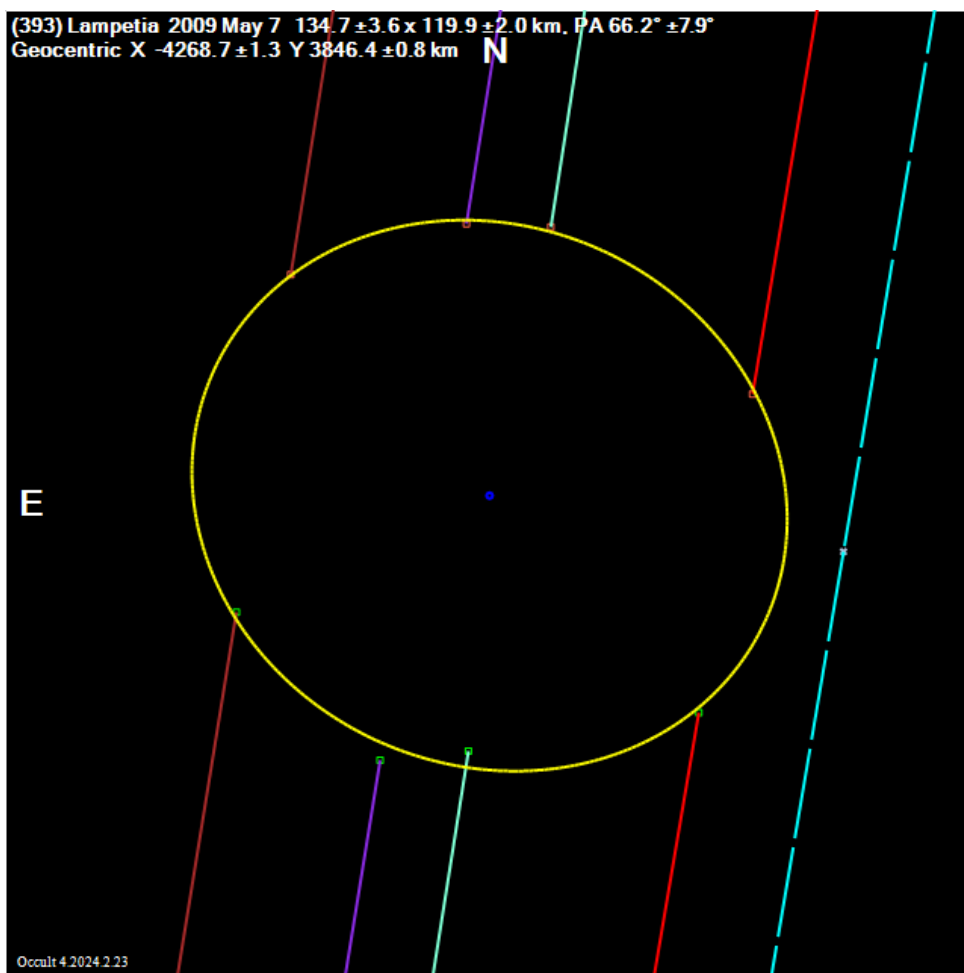


392_Wilhelmina_2021Oct12

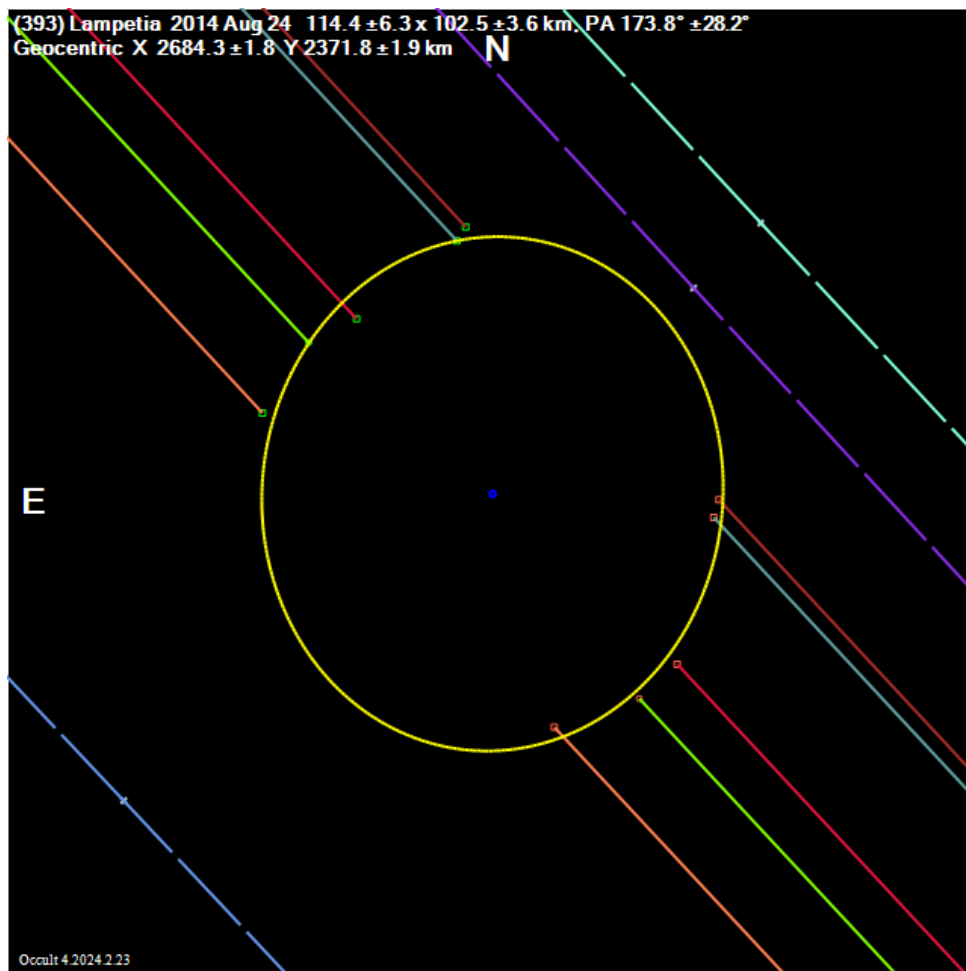


393_Lampetia_2009May07

(393) Lampetia 2009 May 7 $134.7 \pm 3.6 \times 119.9 \pm 2.0$ km. PA $66.2^\circ \pm 7.9^\circ$
Geocentric X -4268.7 ± 1.3 Y 3846.4 ± 0.8 km



393_Lampetia_2014Aug24



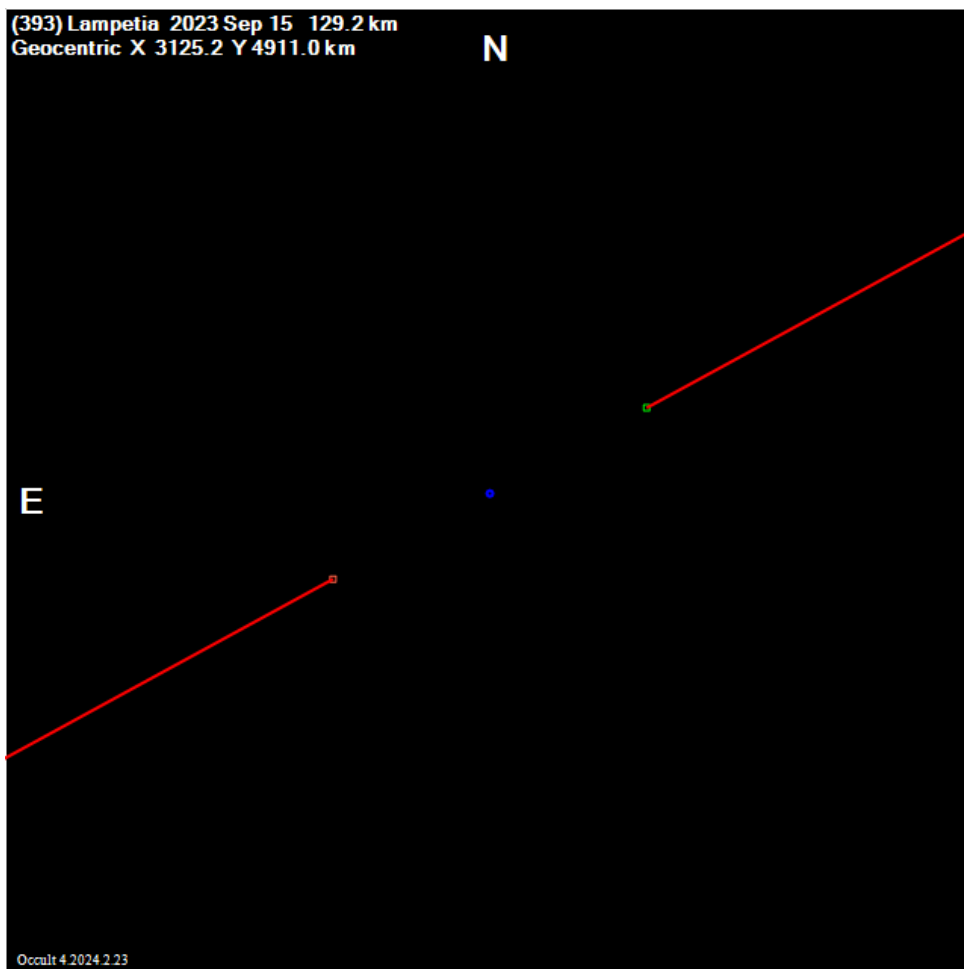
393_Lampetia_2023Sep15

(393) Lampetia 2023 Sep 15 129.2 km
Geocentric X 3125.2 Y 4911.0 km

N

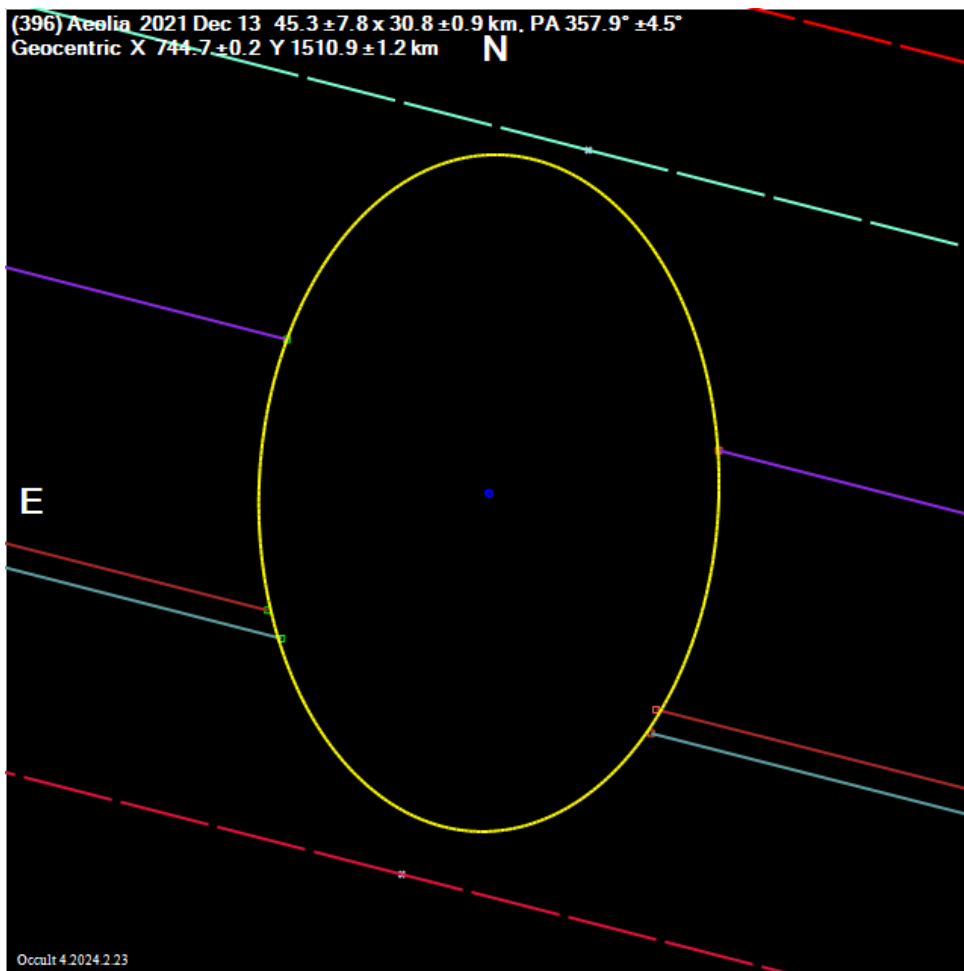
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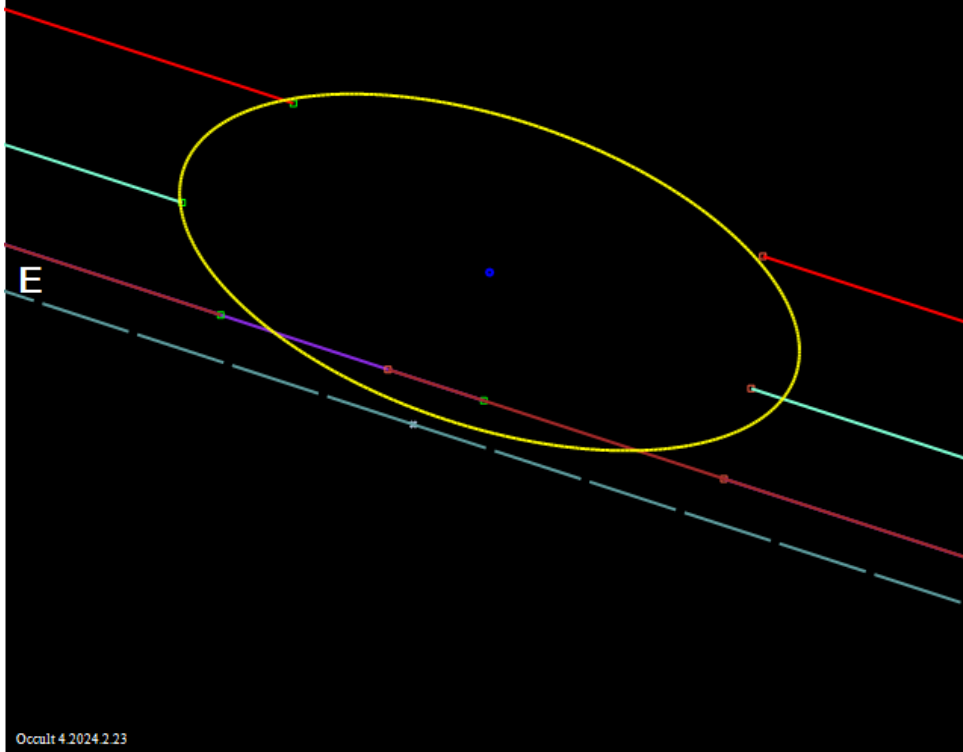
396_Aeolia_2021Dec13

(396) Aeolia 2021 Dec 13 $45.3 \pm 7.8 \times 30.8 \pm 0.9$ km. PA $357.9^\circ \pm 4.5^\circ$
Geocentric X 744.7 ± 0.2 Y 1510.9 ± 1.2 km N



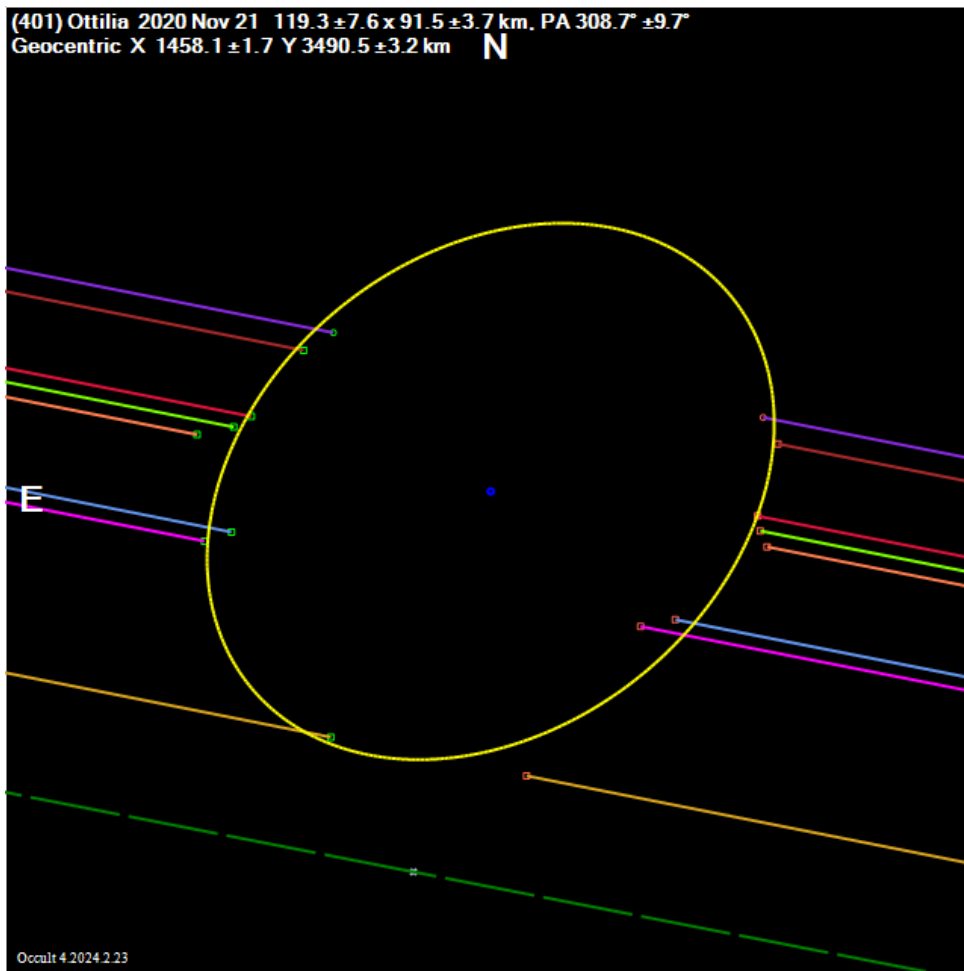
398_Admete_2022Jan01

(398) Admete 2022 Jan 1 72.4 ± 4.3 x 34.4 ± 3.5 km, PA 71.4° ± 3.6°
Geocentric X 2337.4 ± 1.7 Y 2482.7 ± 1.3 km N



401_Ottilia_2020Nov21

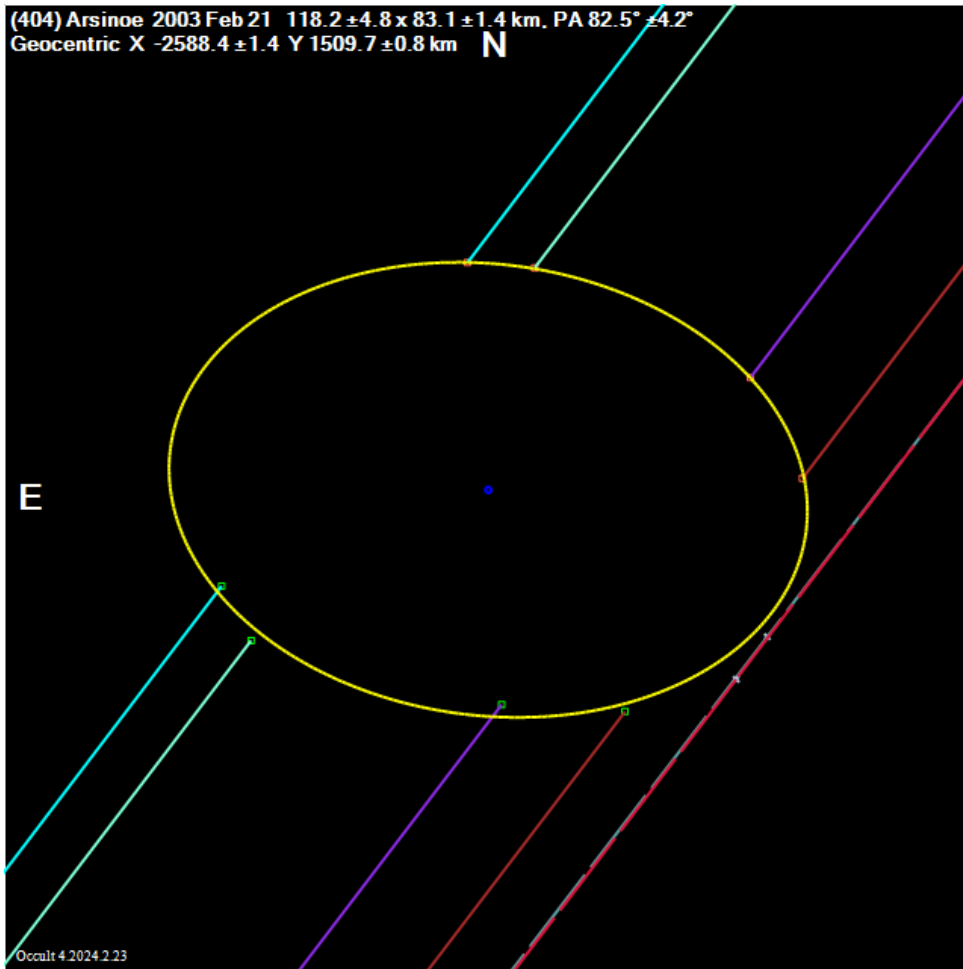
(401) Ottilia 2020 Nov 21 119.3 ± 7.6 × 91.5 ± 3.7 km. PA 308.7° ± 9.7°
Geocentric X 1458.1 ± 1.7 Y 3490.5 ± 3.2 km N



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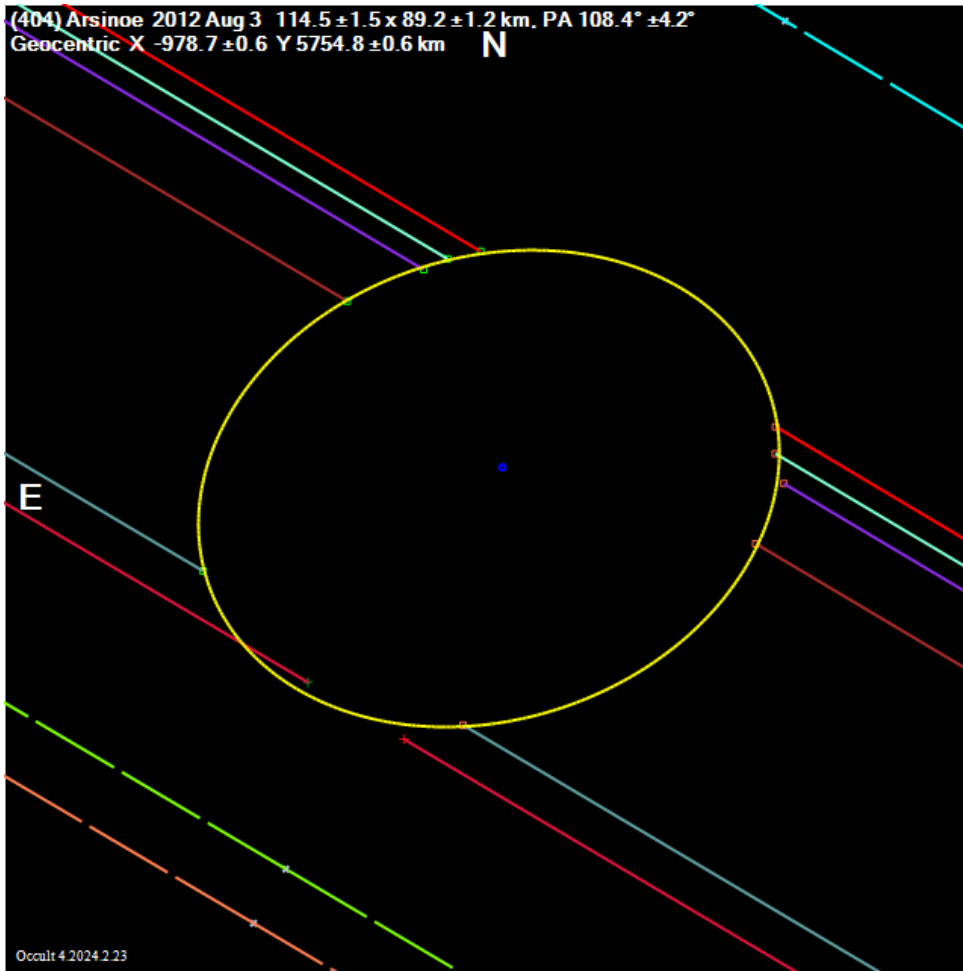
404_Arsinoe_2003Feb21

(404) Arsinoe 2003 Feb 21 118.2 ± 4.8 x 83.1 ± 1.4 km, PA 82.5° ± 4.2°
Geocentric X -2588.4 ± 1.4 Y 1509.7 ± 0.8 km N



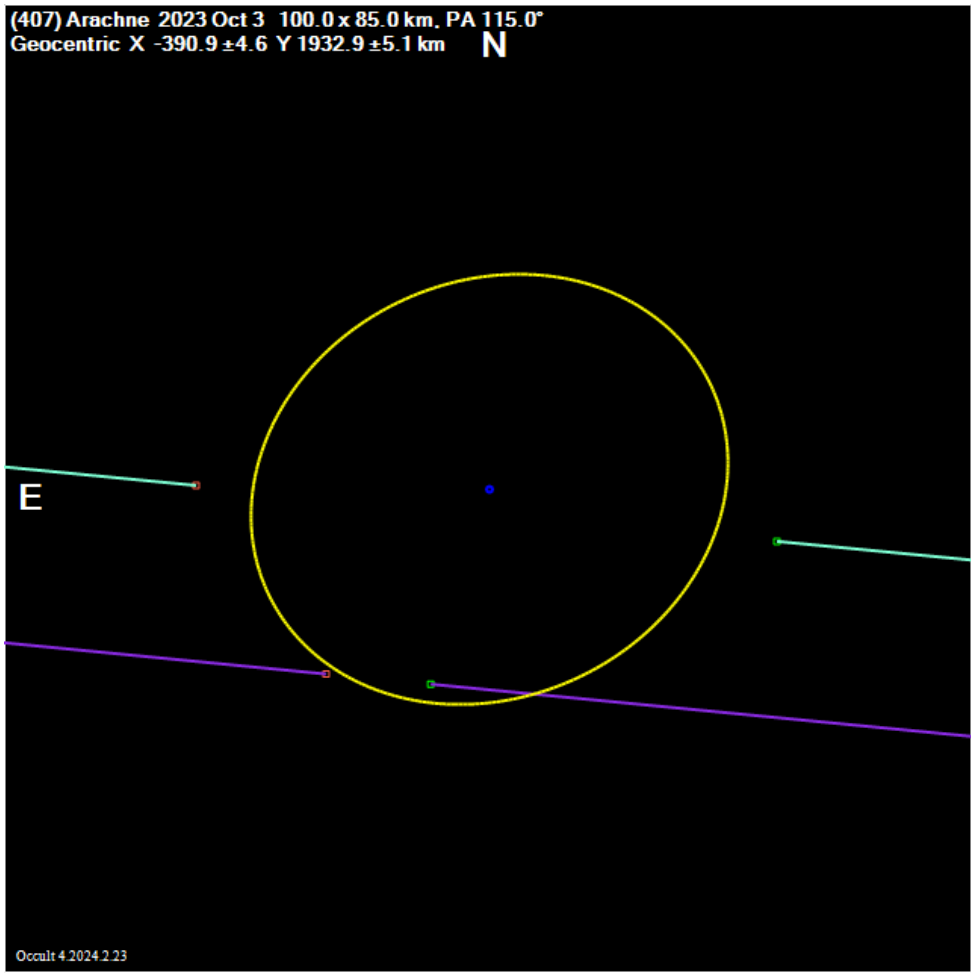
404_Arsinoe_2012Aug03

(404) Arsinoe 2012 Aug 3 $114.5 \pm 1.5 \times 89.2 \pm 1.2$ km, PA $108.4^\circ \pm 4.2^\circ$
Geocentric X -978.7 ± 0.6 Y 5754.8 ± 0.6 km N

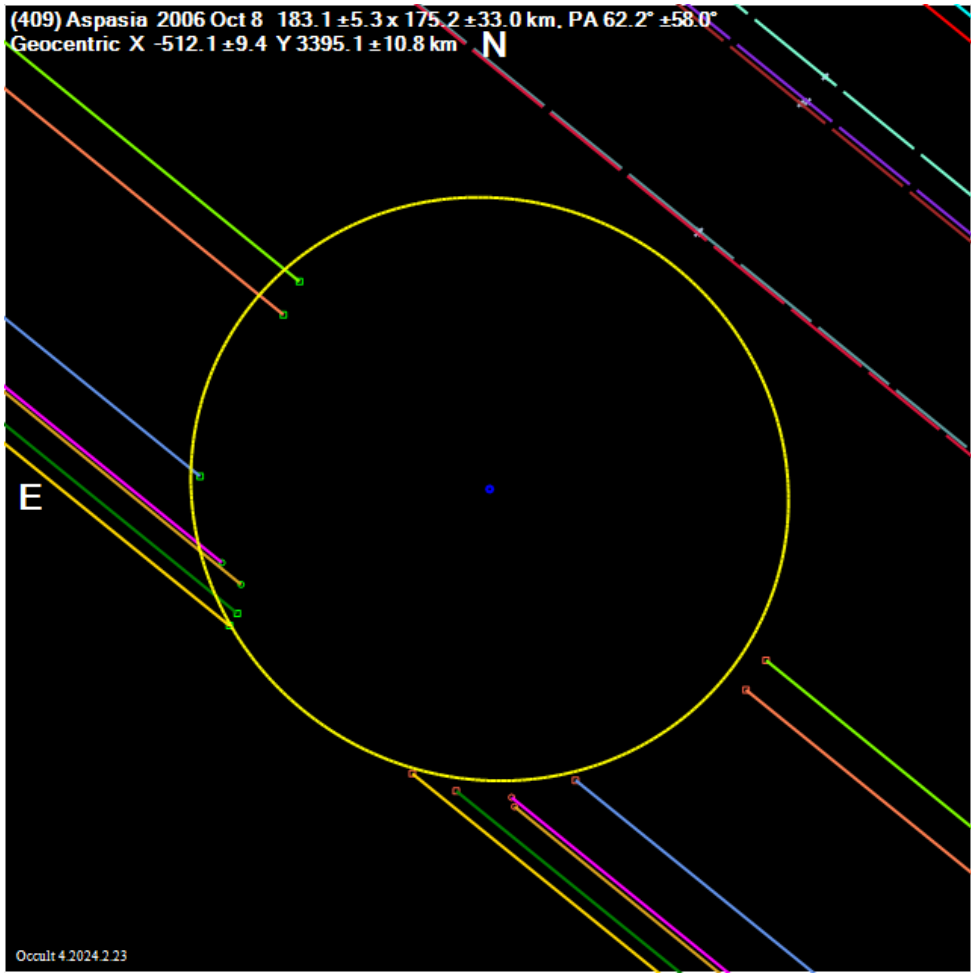


407_Arachne_2023Oct03

(407) Arachne 2023 Oct 3 100.0 x 85.0 km. PA 115.0°
Geocentric X -390.9 ± 4.6 Y 1932.9 ± 5.1 km N

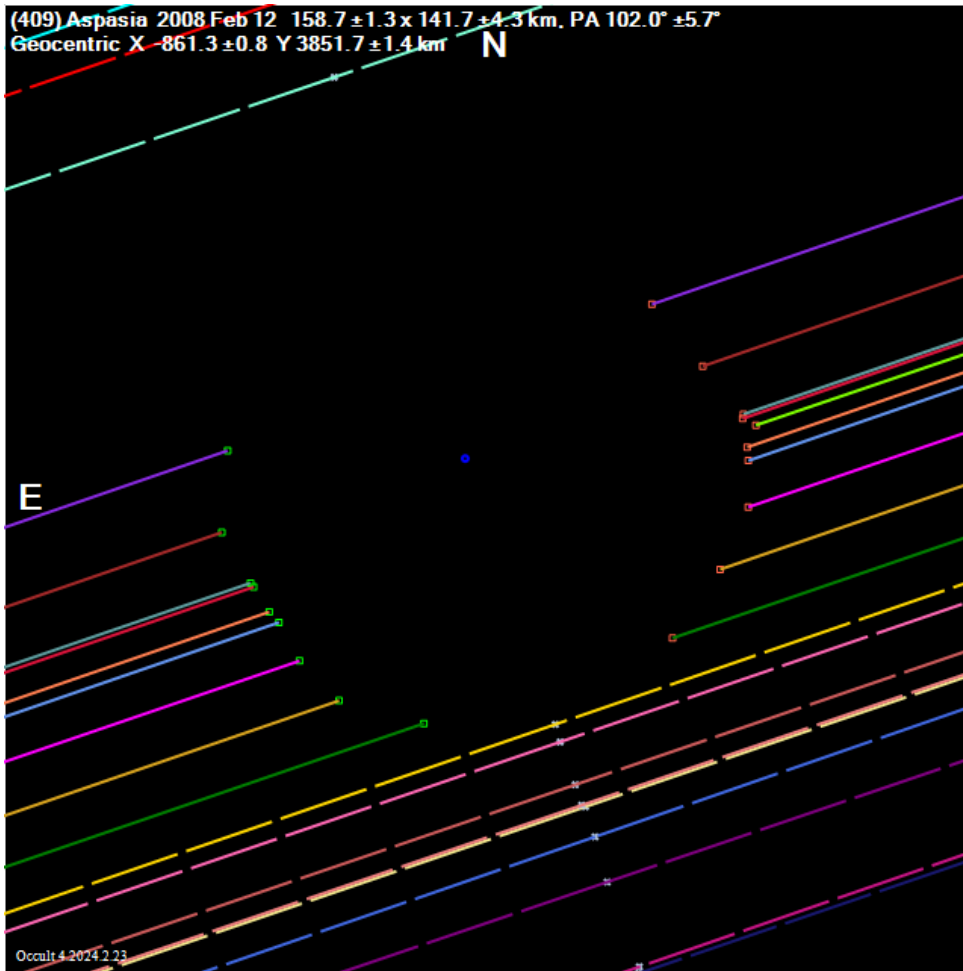


409_Aspasia_2006Oct08



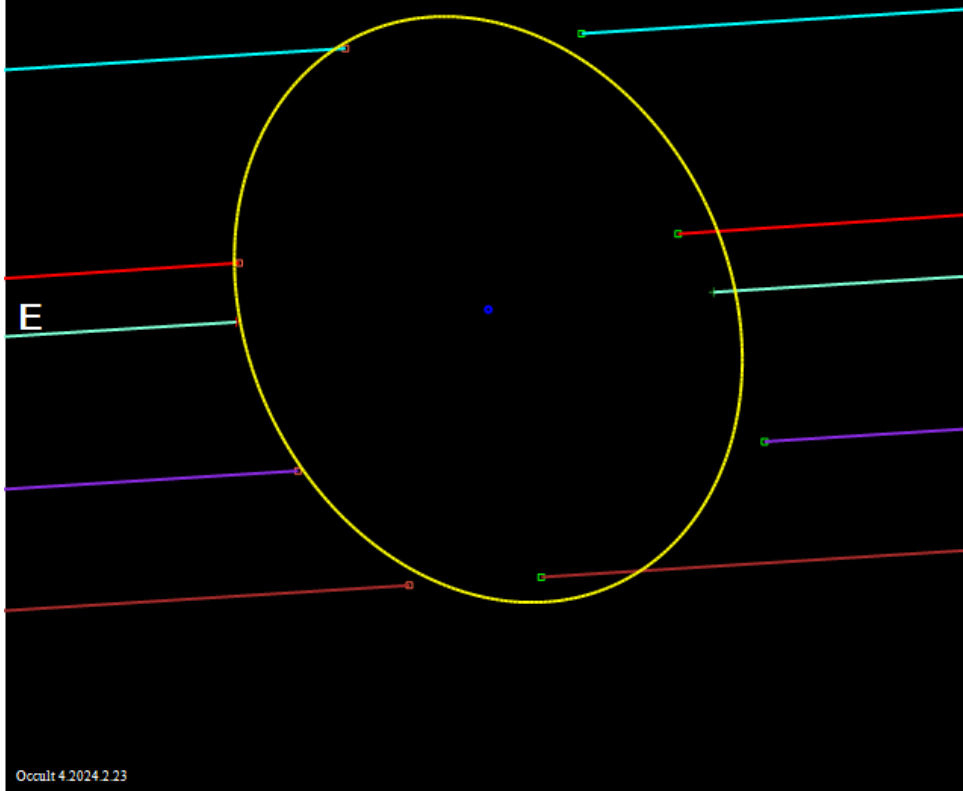
409_Aspasia_2008Feb12

(409) *Aspasia* 2008 Feb 12 $158.7 \pm 1.3 \times 141.7 \pm 4.3$ km. PA $102.0^\circ \pm 5.7^\circ$
Geocentric X -861.3 ± 0.8 Y 3851.7 ± 1.4 km



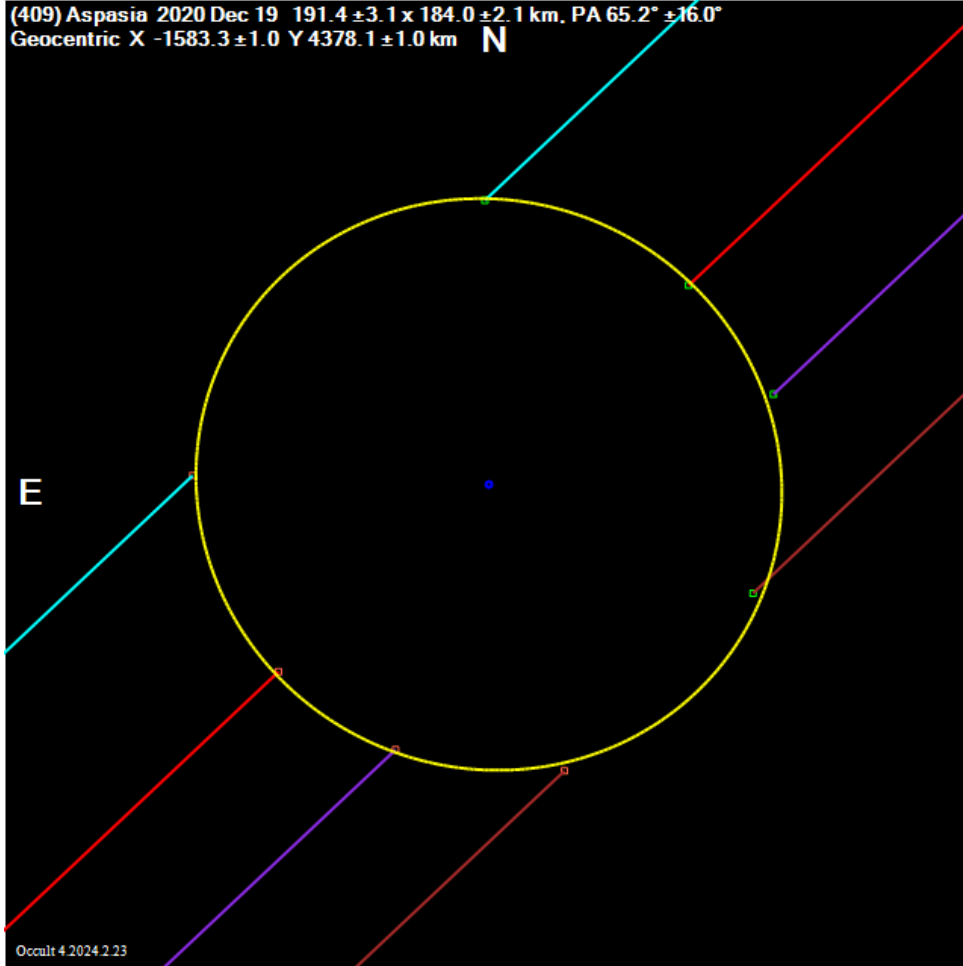
409_Aspasia_2015Sep04

(409) Aspasia 2015 Sep 4 183.8 ± 8.3 x 146.8 ± 6.2 km, PA 25.2° ± 8.9°
Geocentric X -4118.3 ± 2.8 Y 2627.8 ± 3.1 km **N**



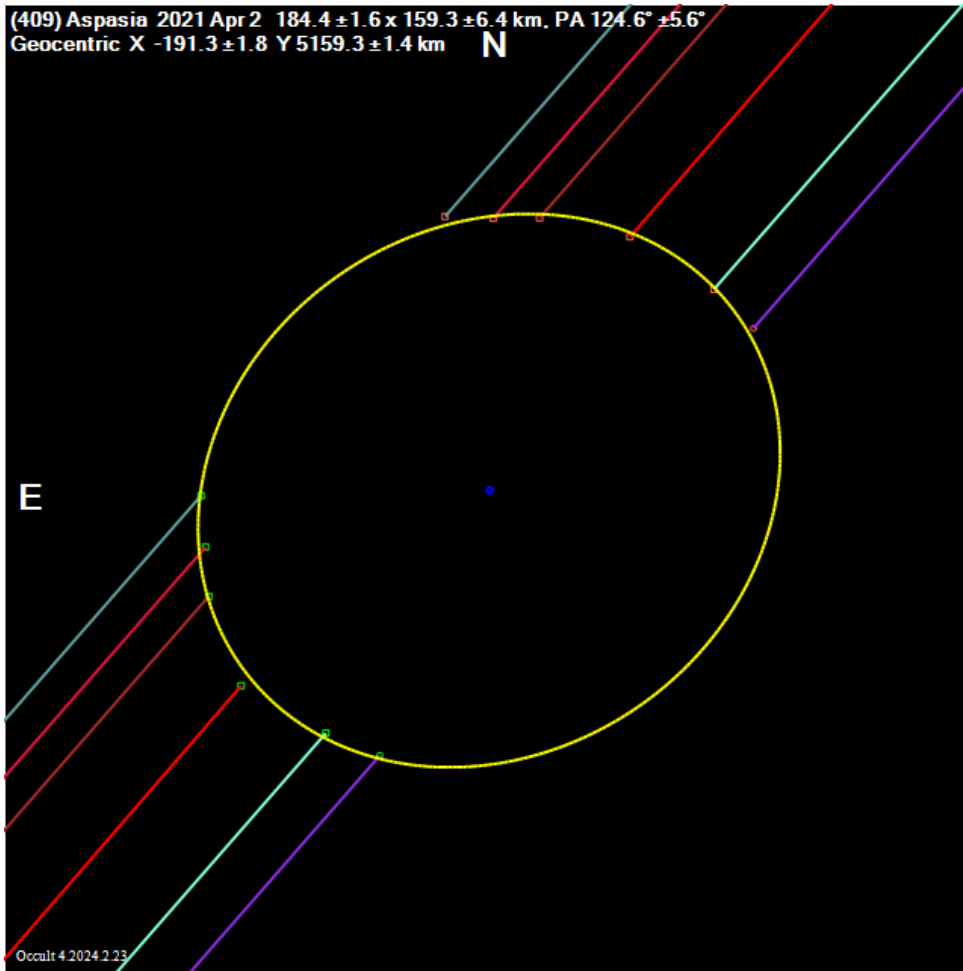
409_Aspasia_2020Dec19

(409) Aspasia 2020 Dec 19 191.4 ± 3.1 x 184.0 ± 2.1 km. PA 65.2° ± 16.0°
Geocentric X -1583.3 ± 1.0 Y 4378.1 ± 1.0 km **N**



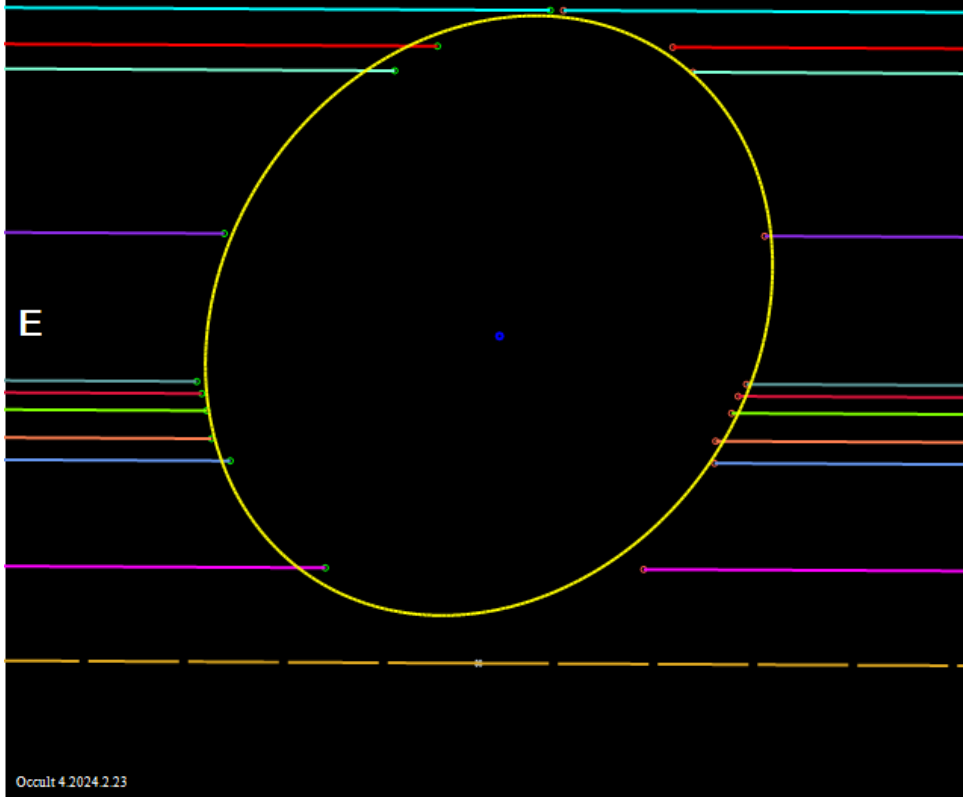
409_Aspasia_2021Apr02

(409) Aspasia 2021 Apr 2 184.4 ± 1.6 x 159.3 ± 6.4 km. PA 124.6° ± 5.6°
Geocentric X -191.3 ± 1.8 Y 5159.3 ± 1.4 km **N**



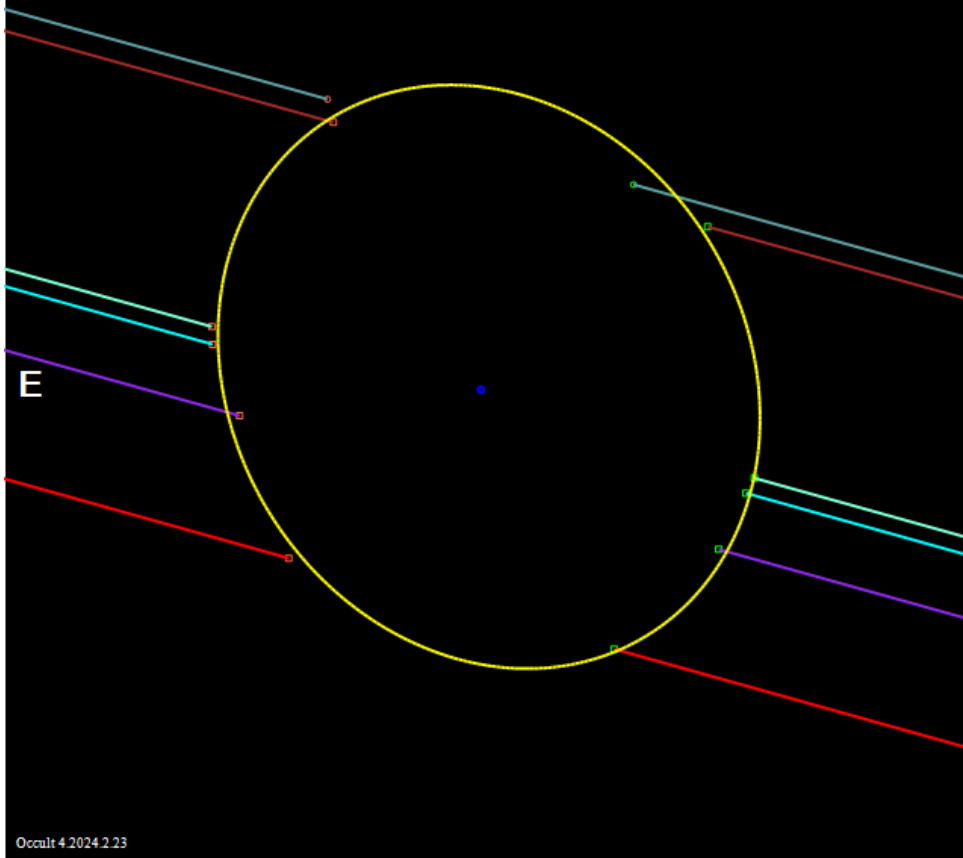
409_Aspasia_2022Jul21

(409) Aspasia 2022 Jul 21 191.8 ± 2.9 x 161.0 ± 2.3 km, PA 324.2° ± 4.3°
Geocentric X -2777.3 ± 0.9 Y 4879.7 ± 1.4 km **N**



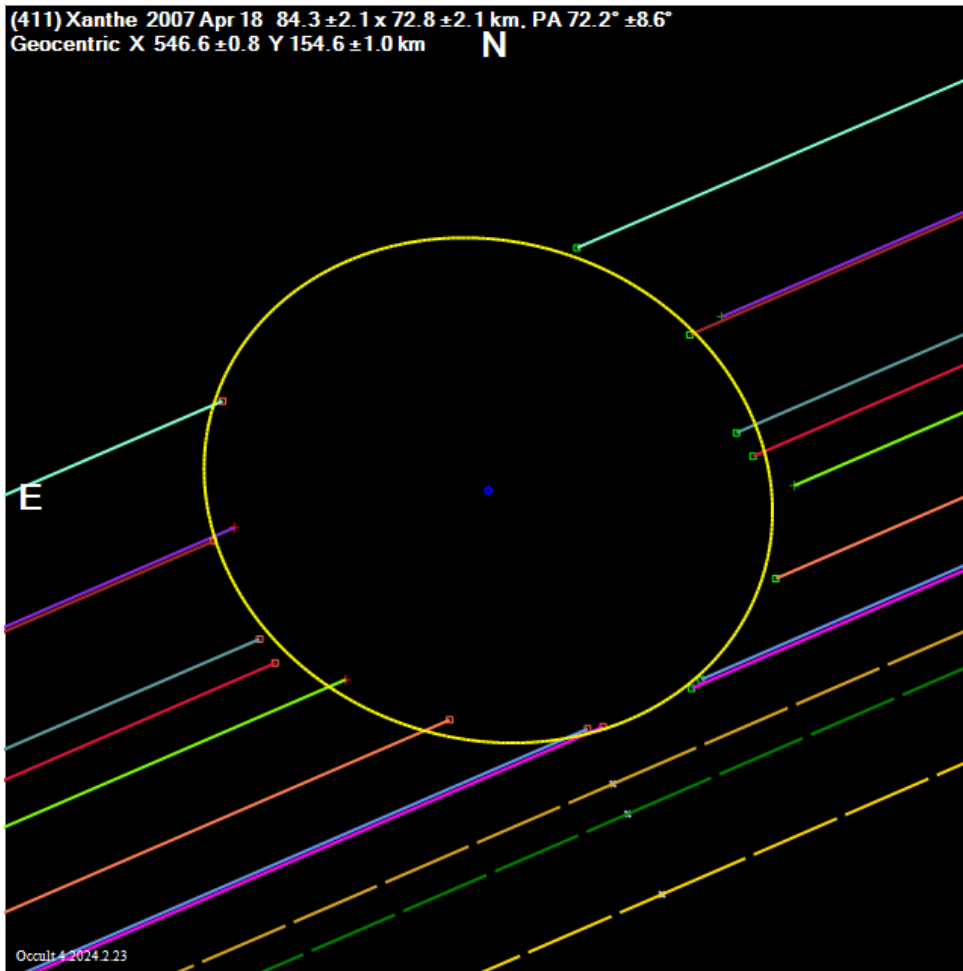
409_Aspasia_2023Jul21

(409) Aspasia 2023 Jul 21 183.9 ± 3.7 x 156.8 ± 3.5 km, PA 31.3° ± 7.2°
Geocentric X -3911.1 ± 1.1 Y 4354.3 ± 1.8 km **N**



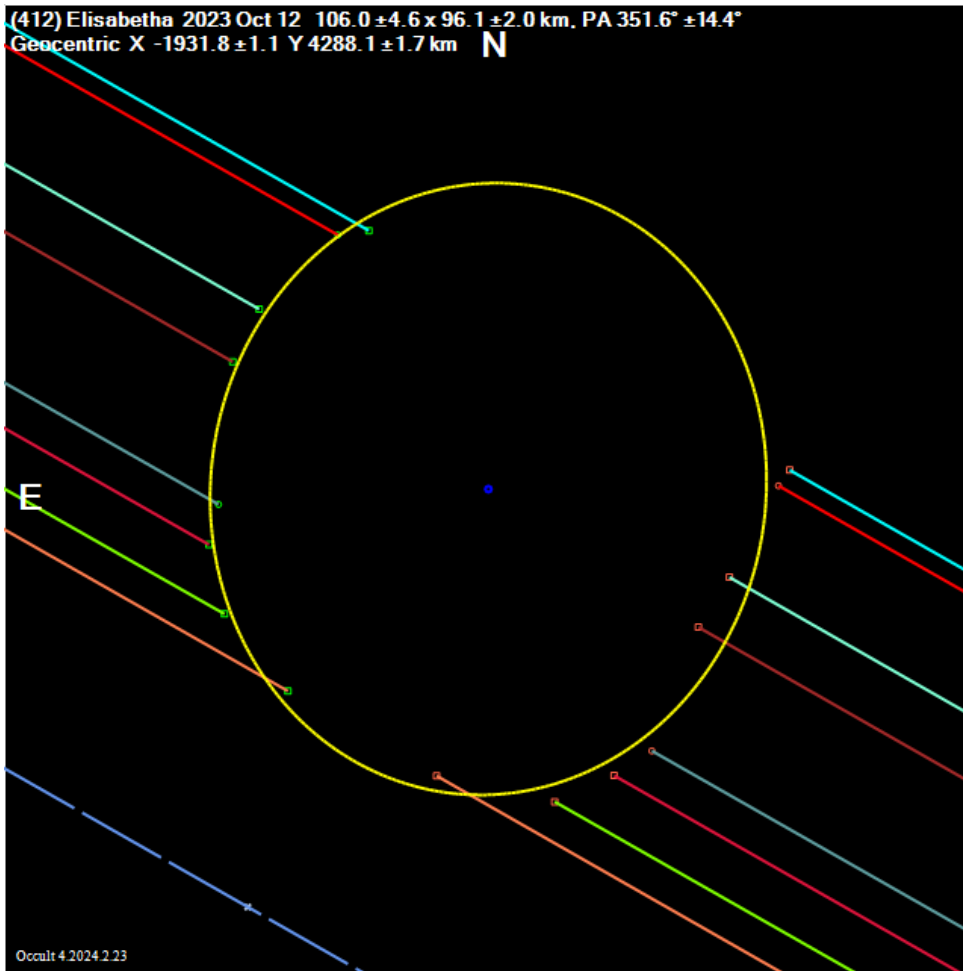
411_Xanthe_2007Apr18

(411) Xanthe 2007 Apr 18 $84.3 \pm 2.1 \times 72.8 \pm 2.1$ km, PA $72.2^\circ \pm 8.6^\circ$
Geocentric X 546.6 ± 0.8 Y 154.6 ± 1.0 km **N**



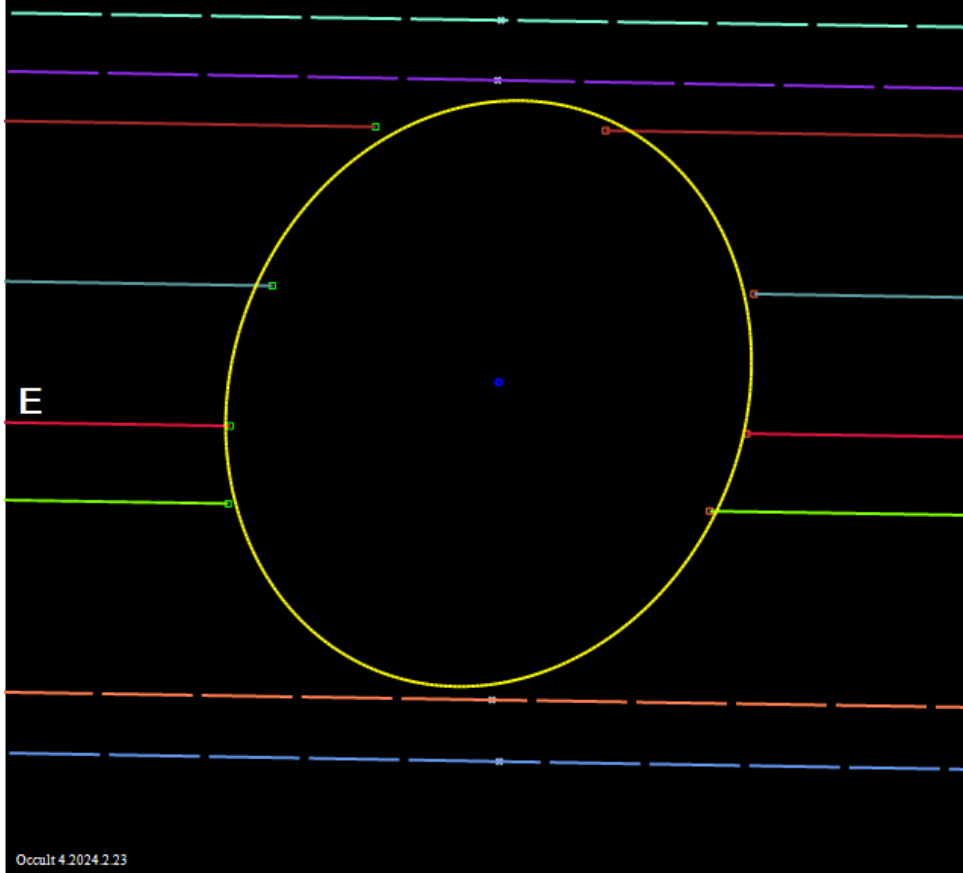
412_Elisabetha_2023Oct12

(412) Elisabetha 2023 Oct 12 $106.0 \pm 4.6 \times 96.1 \pm 2.0$ km, PA $351.6^\circ \pm 14.4^\circ$
Geocentric X -1931.8 ± 1.1 Y 4288.1 ± 1.7 km N

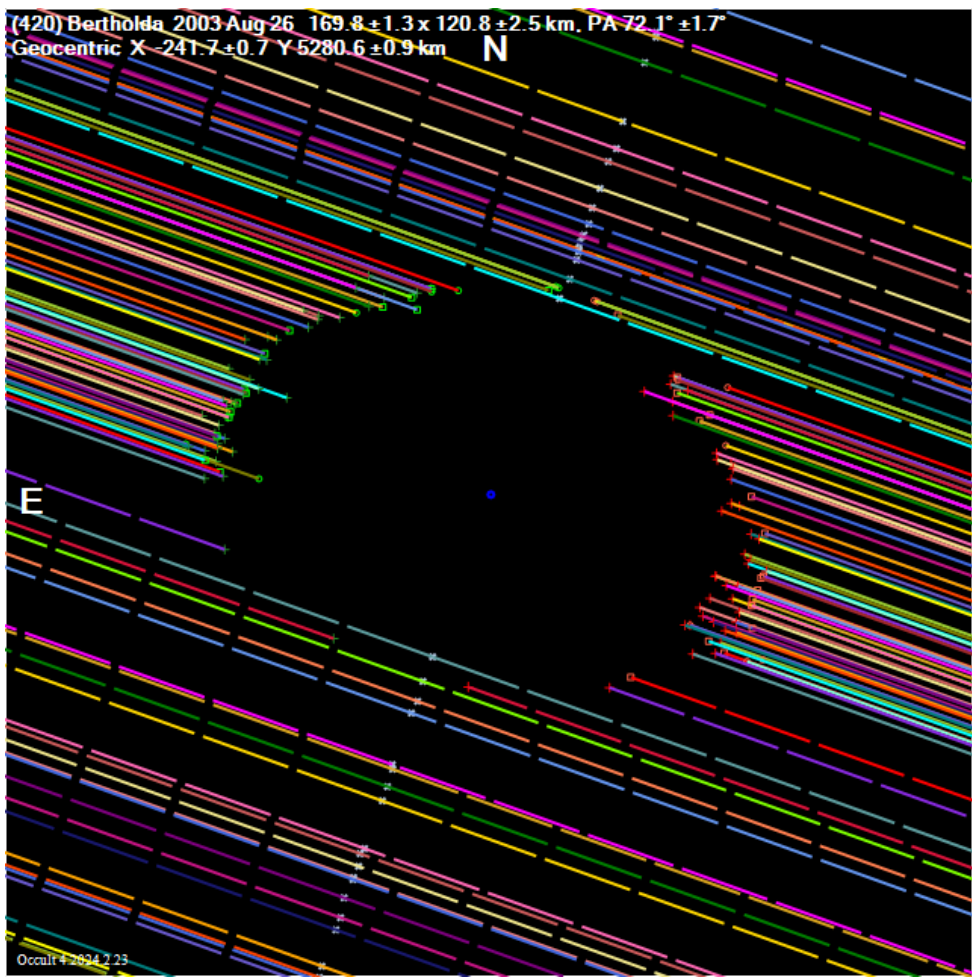


419_Aurelia_2006Dec05

(419) Aurelia 2006 Dec 5 $136.3 \pm 7.3 \times 117.0 \pm 2.3$ km, PA $157.4^\circ \pm 10.5^\circ$
Geocentric X -3989.7 ± 1.0 Y 2401.7 ± 3.1 km **N**

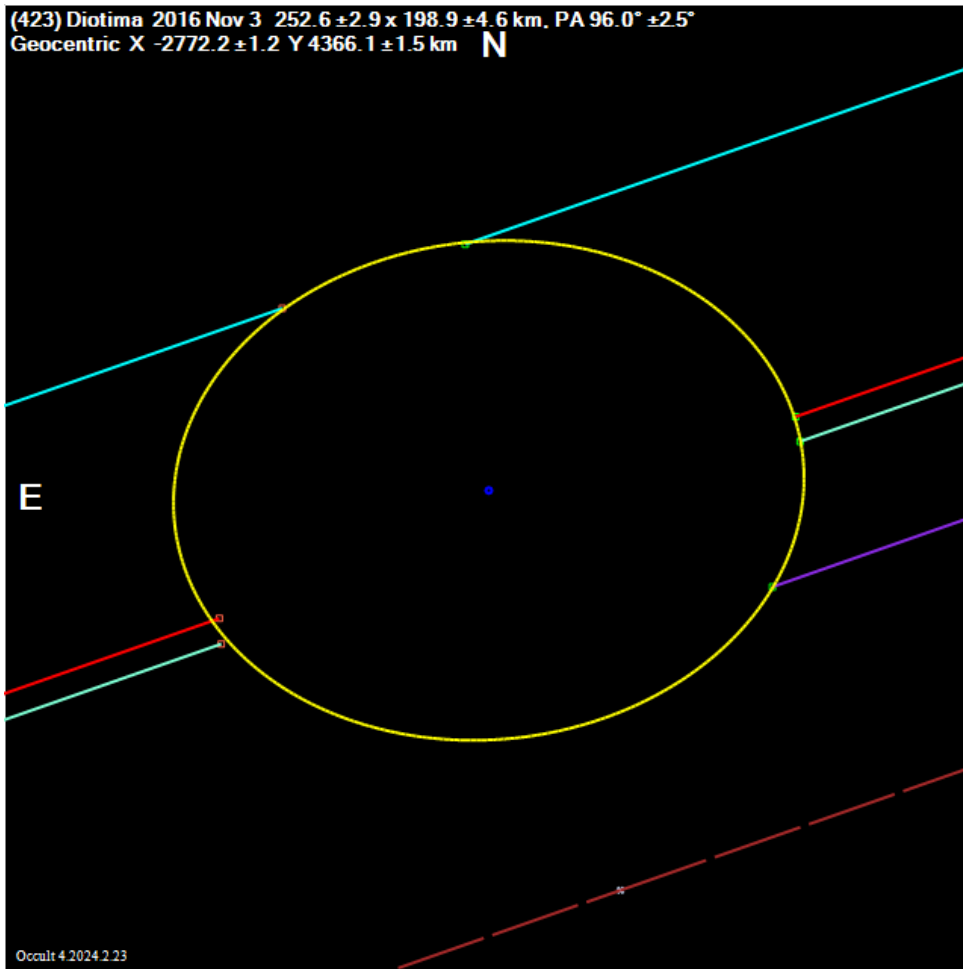


420_Bertholda_2003Aug26



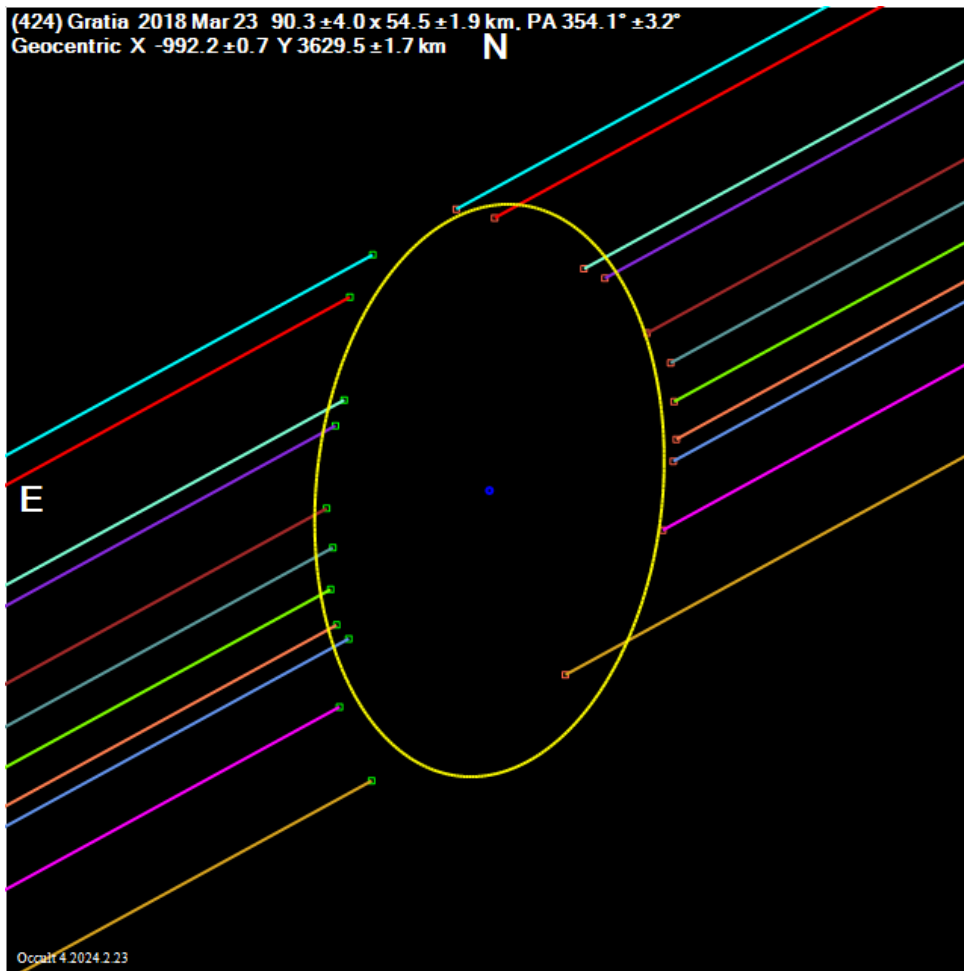
423_Diotima_2016Nov03

(423) Diotima 2016 Nov 3 252.6 ± 2.9 x 198.9 ± 4.6 km. PA 96.0° ± 2.5°
Geocentric X -2772.2 ± 1.2 Y 4366.1 ± 1.5 km N



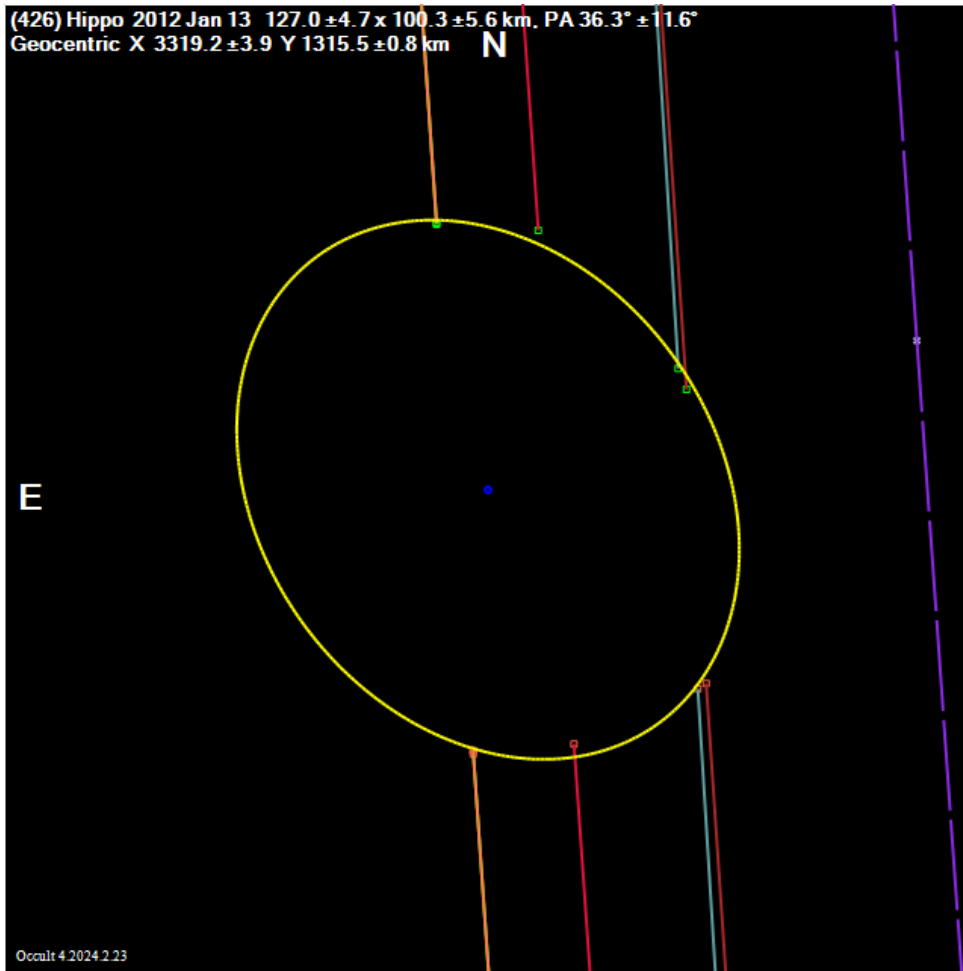
424_Gratia_2018Mar23

(424) Gratia 2018 Mar 23 $90.3 \pm 4.0 \times 54.5 \pm 1.9$ km, PA $354.1^\circ \pm 3.2^\circ$
Geocentric X -992.2 ± 0.7 Y 3629.5 ± 1.7 km **N**

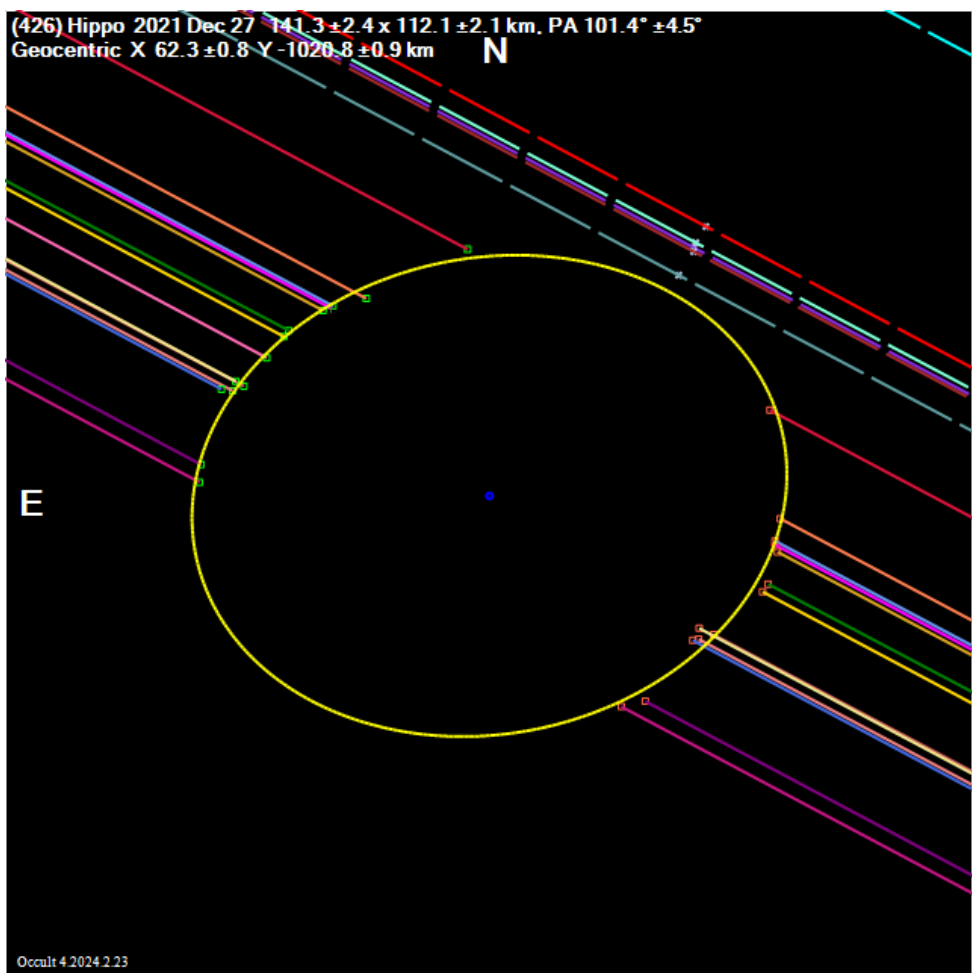


426_Hippo_2012Jan13

(426) Hippo 2012 Jan 13 $127.0 \pm 4.7 \times 100.3 \pm 5.6$ km. PA $36.3^\circ \pm 11.6^\circ$
Geocentric X 3319.2 ± 3.9 Y 1315.5 ± 0.8 km

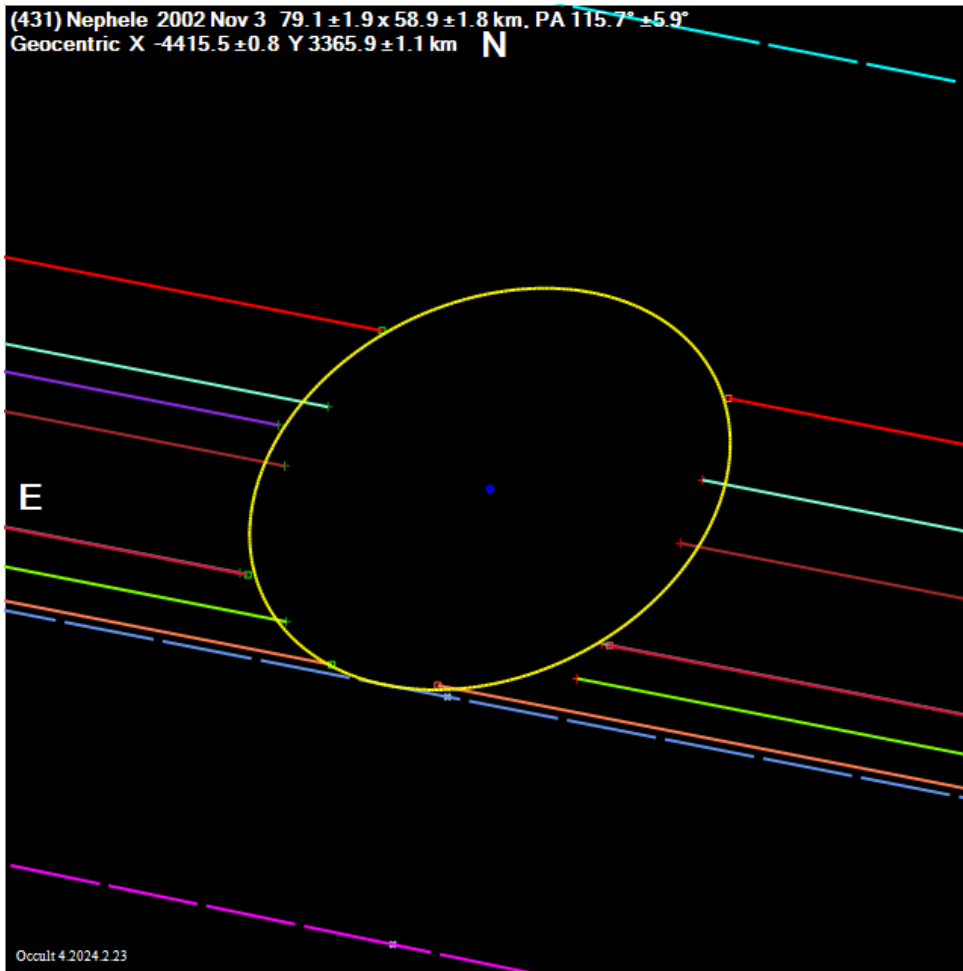


426_Hippo_2021Dec27



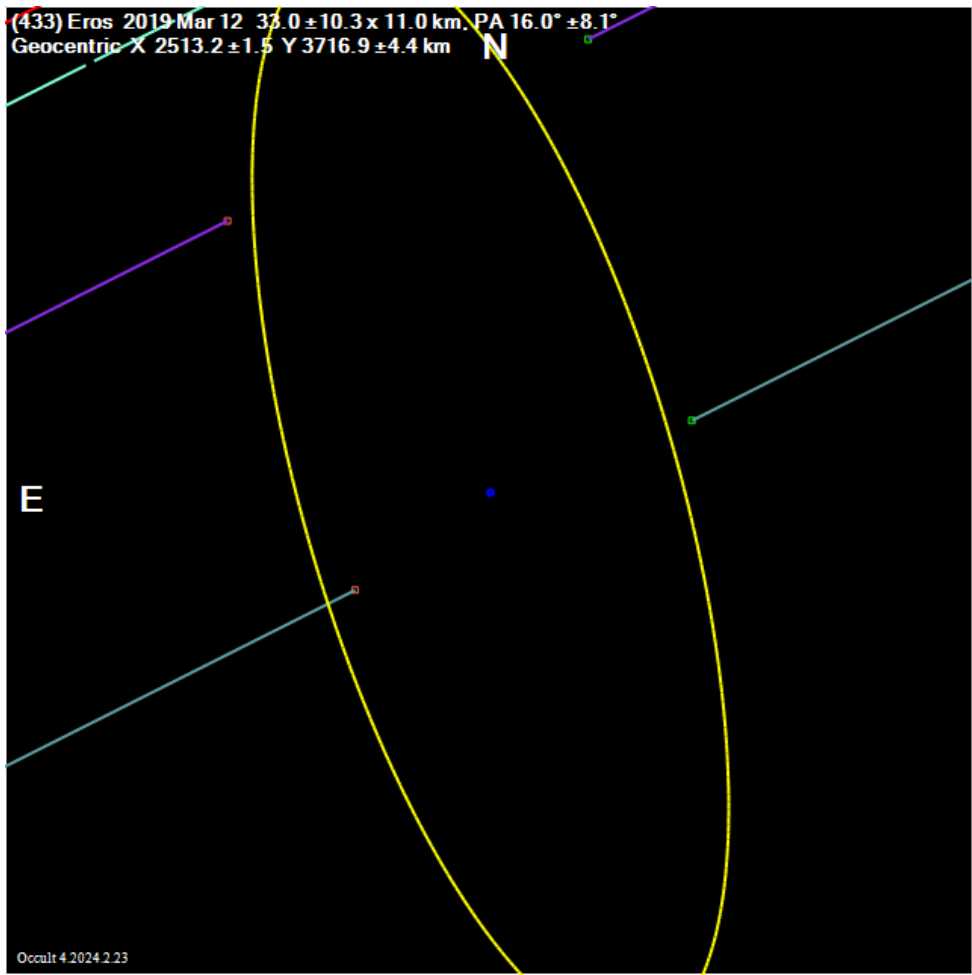
431_Nephele_2002Nov03

(431) Nephele 2002 Nov 3 $79.1 \pm 1.9 \times 58.9 \pm 1.8$ km, PA $115.7^\circ \pm 5.9^\circ$
Geocentric X -4415.5 ± 0.8 Y 3365.9 ± 1.1 km N



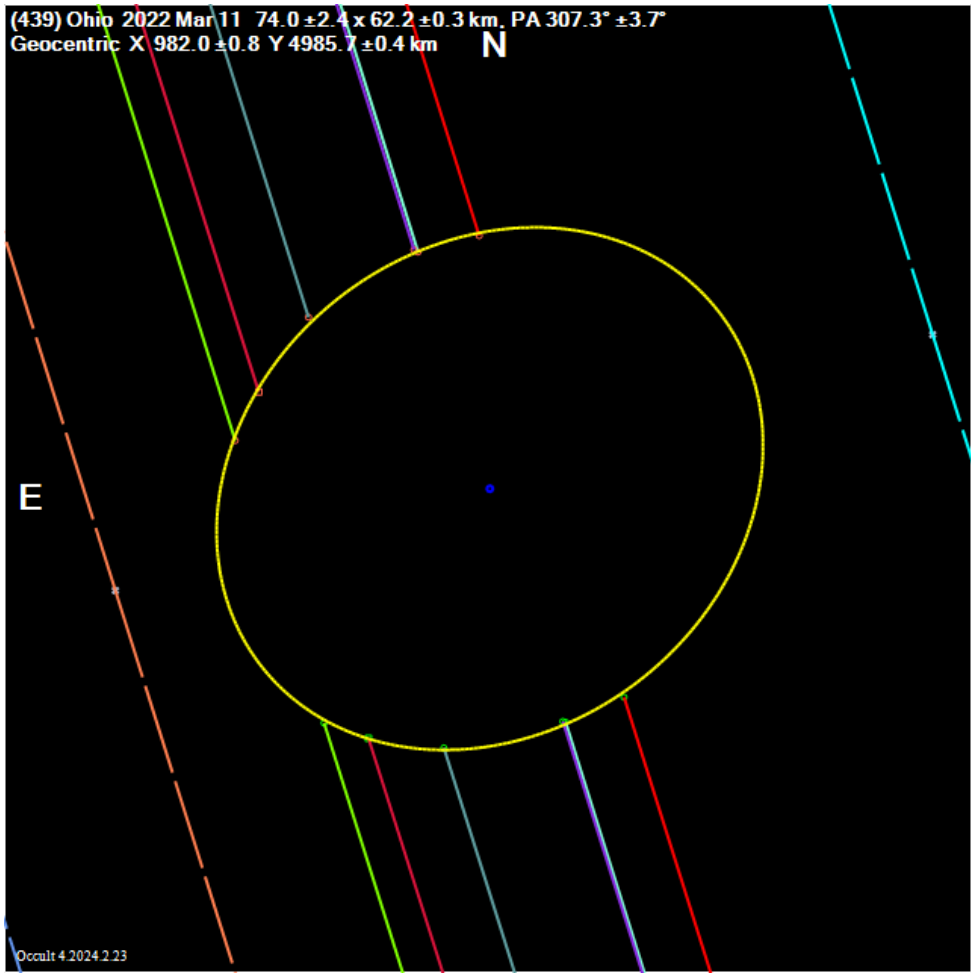
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433_Eros_2019Mar12



439_Ohio_2022Mar11

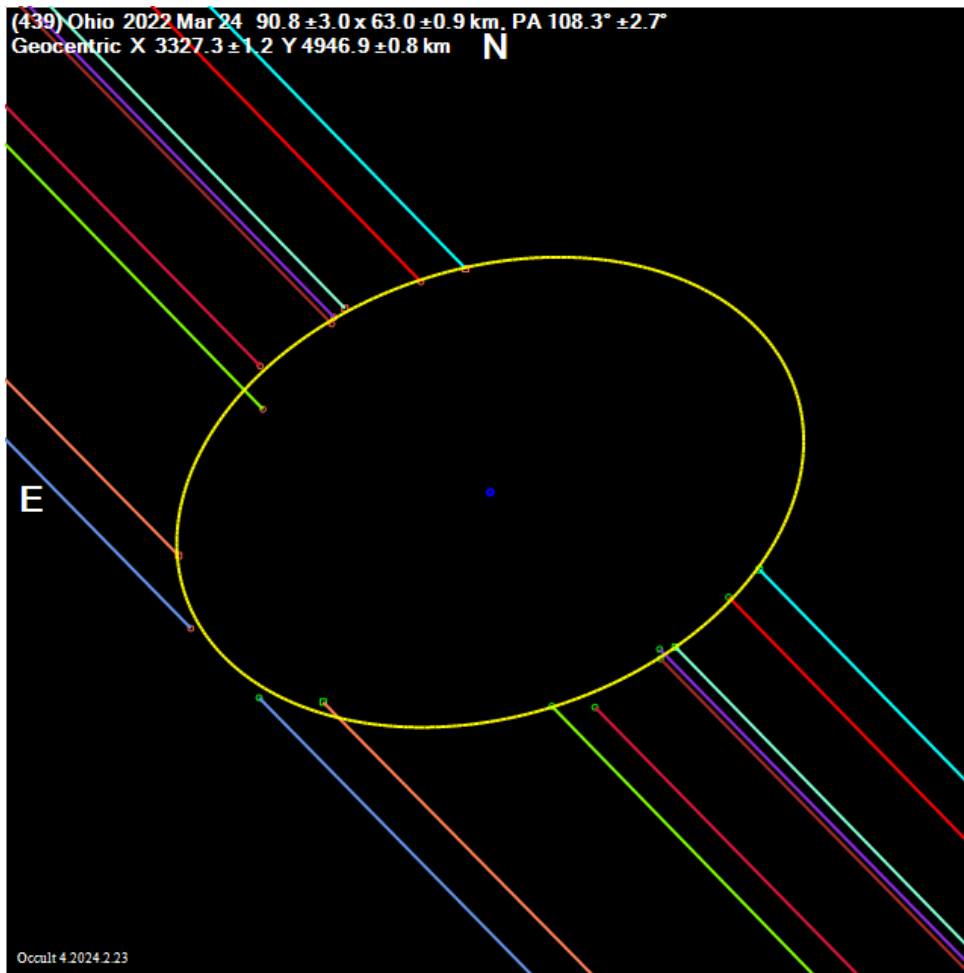
(439) Ohio 2022 Mar 11 $74.0 \pm 2.4 \times 62.2 \pm 0.3$ km, PA $307.3^\circ \pm 3.7^\circ$
Geocentric X 982.0 ± 0.8 Y 4985.7 ± 0.4 km N



Occult 4.2024.2.23

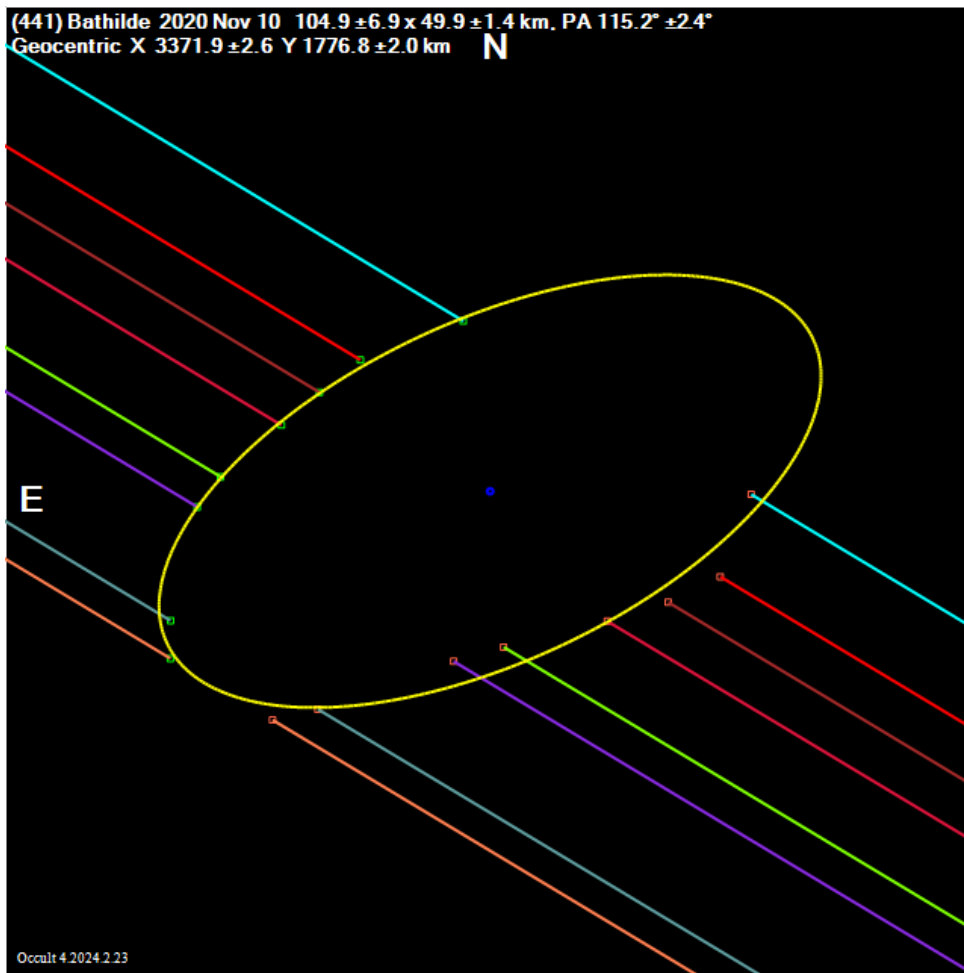
439_Ohio_2022Mar24

(439) Ohio 2022 Mar 24 $90.8 \pm 3.0 \times 63.0 \pm 0.9$ km, PA $108.3^\circ \pm 2.7^\circ$
Geocentric X 3327.3 ± 1.2 Y 4946.9 ± 0.8 km N



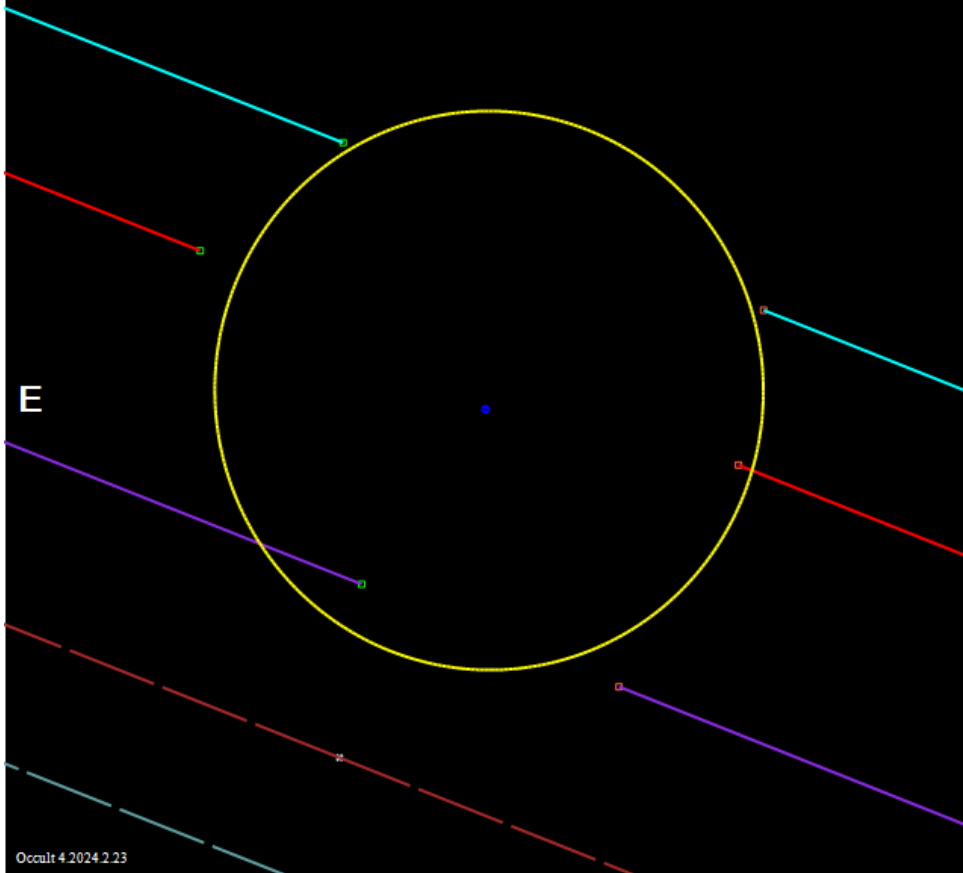
441_Bathilde_2020Nov10

(441) Bathilde 2020 Nov 10 104.9 ± 6.9 x 49.9 ± 1.4 km. PA 115.2° ± 24°
Geocentric X 3371.9 ± 2.6 Y 1776.8 ± 2.0 km N



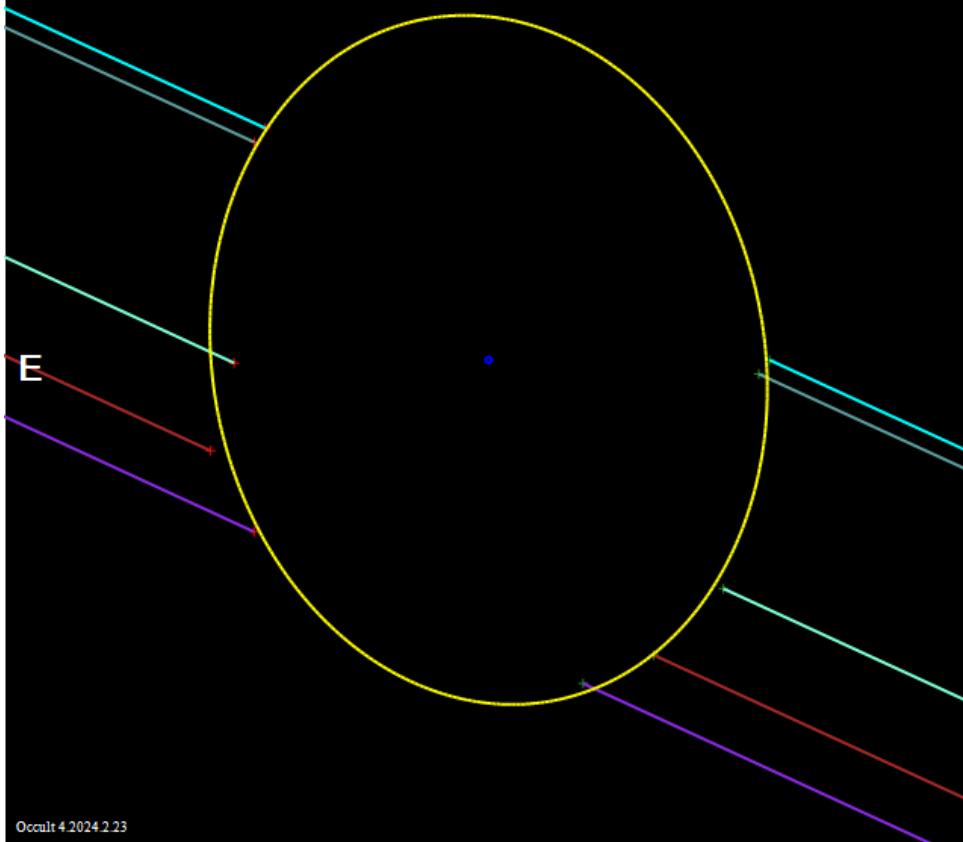
442_Eichsfeldia_2022Jul22

(442) Eichsfeldia 2022 Jul 22 $62.3 \pm 7.5 \times 61.2 \pm 5.6$ km. PA $184.0^\circ \pm 251.3^\circ$
Geocentric X -3359.6 ± 2.4 Y -2450.0 ± 2.9 km **N**



444_Gyptis_1994Jan08

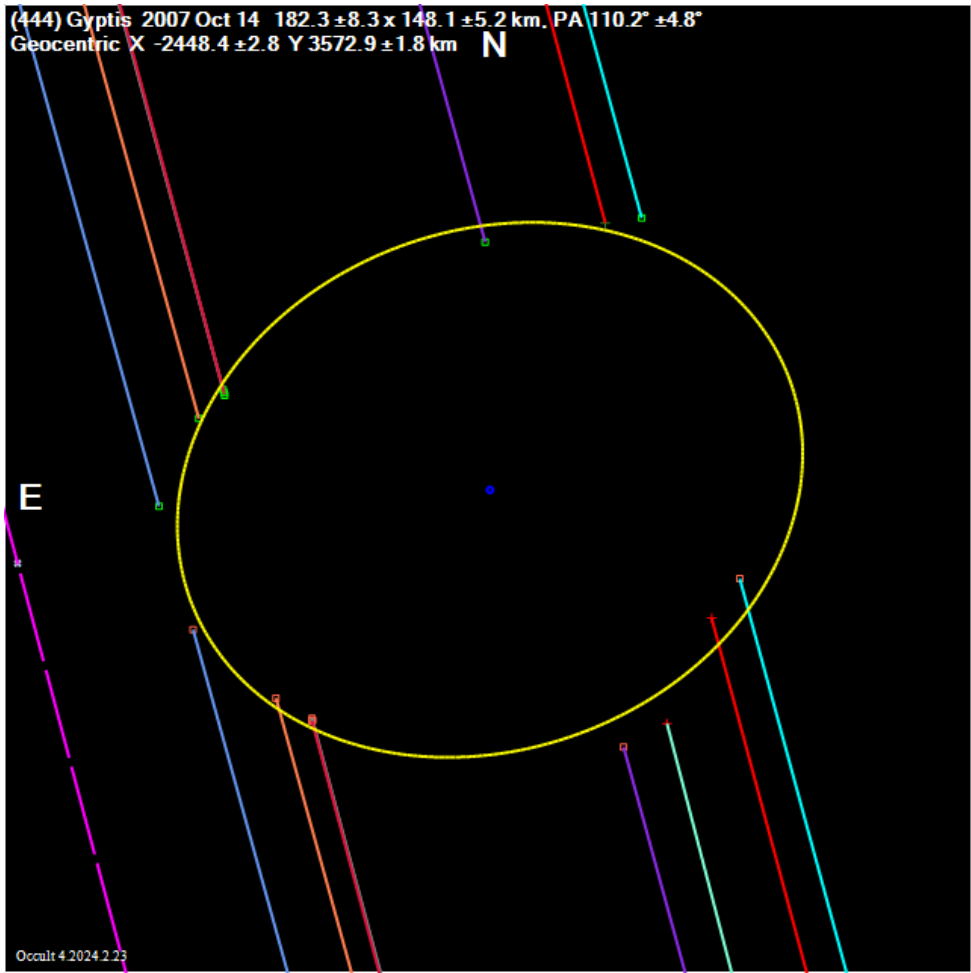
(444) Gyptis 1994 Jan 8 $193.4 \pm 10.3 \times 154.0 \pm 3.0$ km, PA $10.9^\circ \pm 10.1^\circ$
Geocentric X 4336.0 ± 1.4 Y -4031.9 ± 3.6 km **N**



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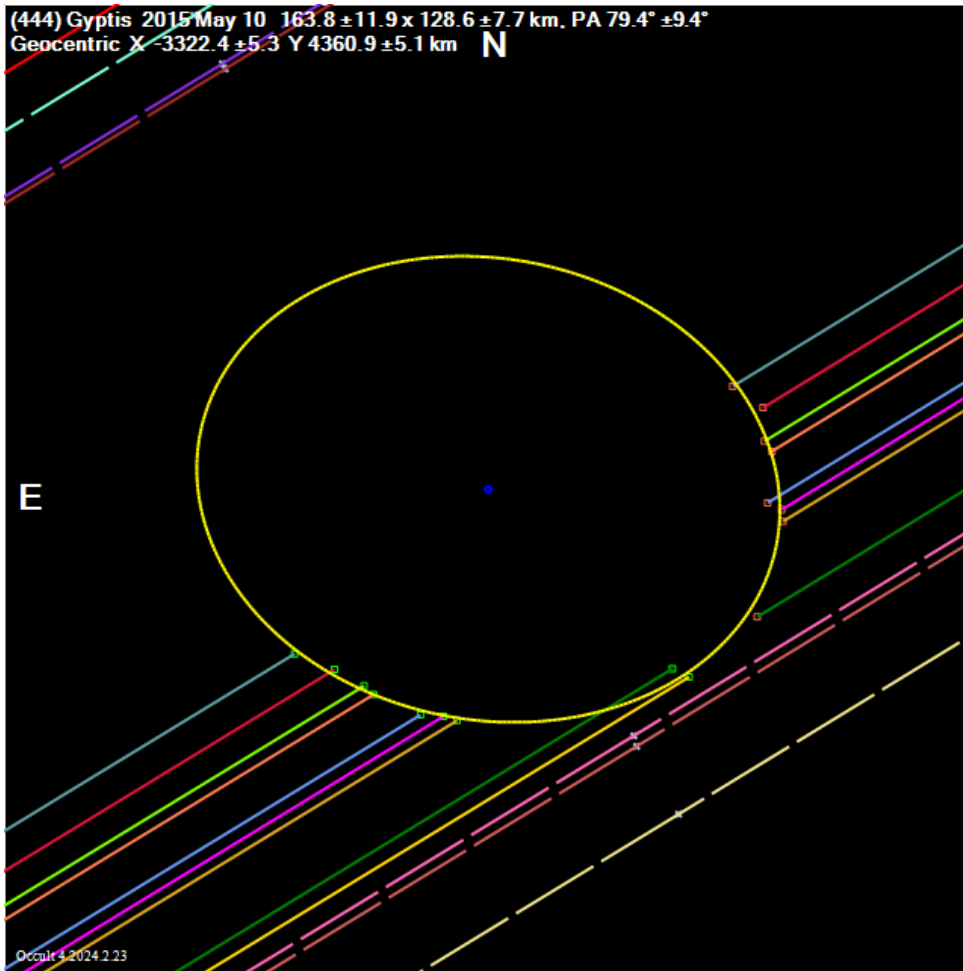
444_Gyptis_2007Oct14

(444) Gyptis 2007 Oct 14 $182.3 \pm 8.3 \times 148.1 \pm 5.2$ km, PA $110.2^\circ \pm 4.8^\circ$
Geocentric X -2448.4 ± 2.8 Y 3572.9 ± 1.8 km **N**



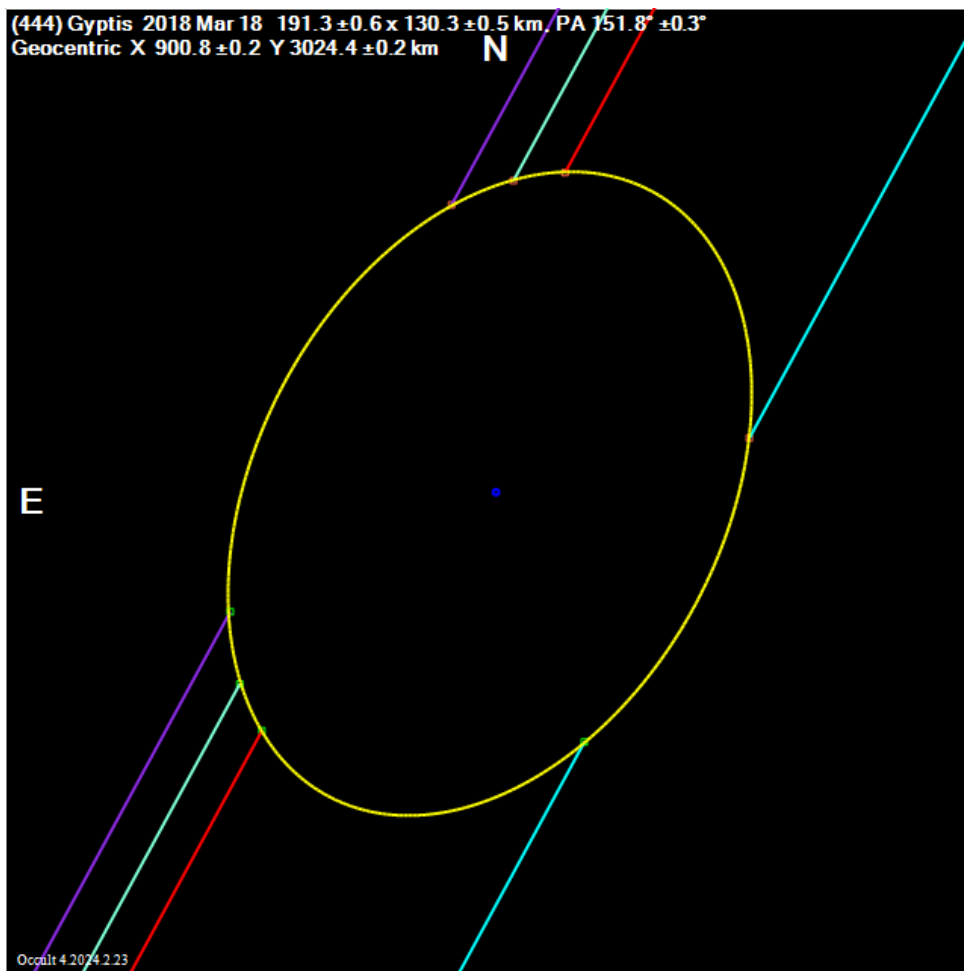
444_Gyptis_2015May10

(444) Gyptis 2015 May 10 $163.8 \pm 11.9 \times 128.6 \pm 7.7$ km. PA $79.4^\circ \pm 9.4^\circ$
Geocentric X -3322.4 ± 5.3 Y 4360.9 ± 5.1 km **N**

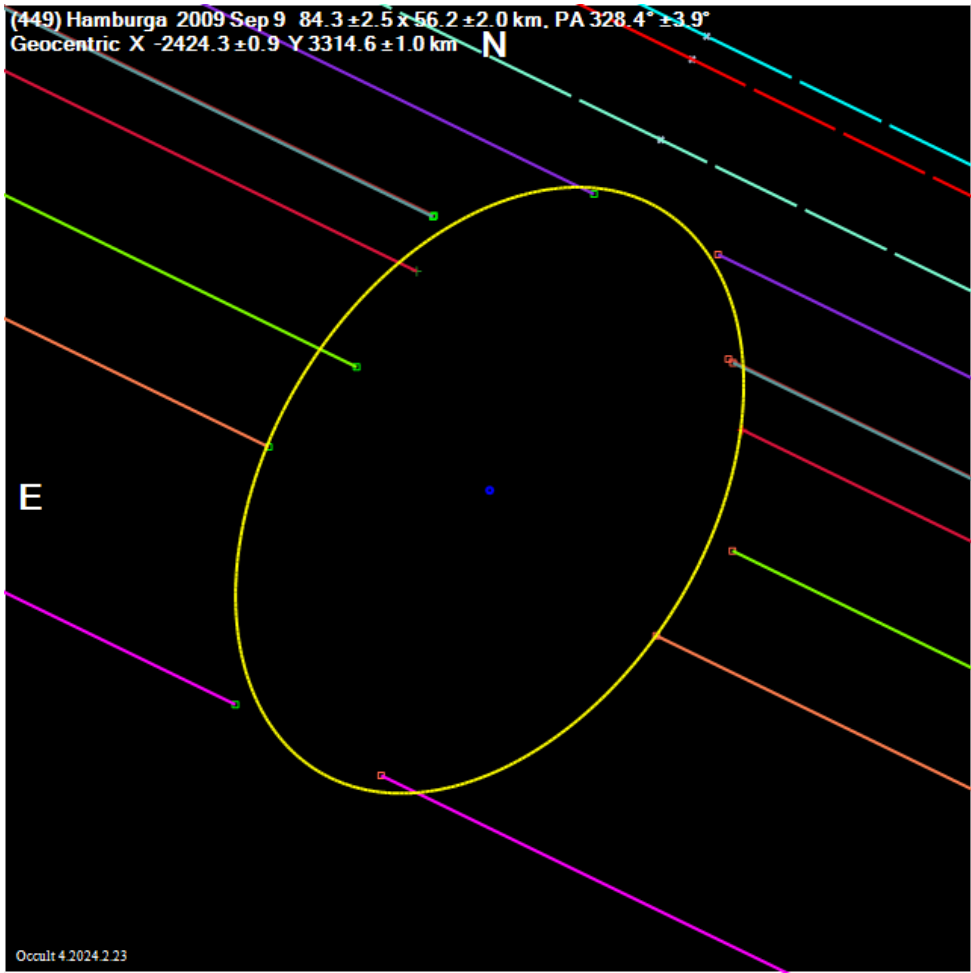


444_Gyptis_2018Mar18

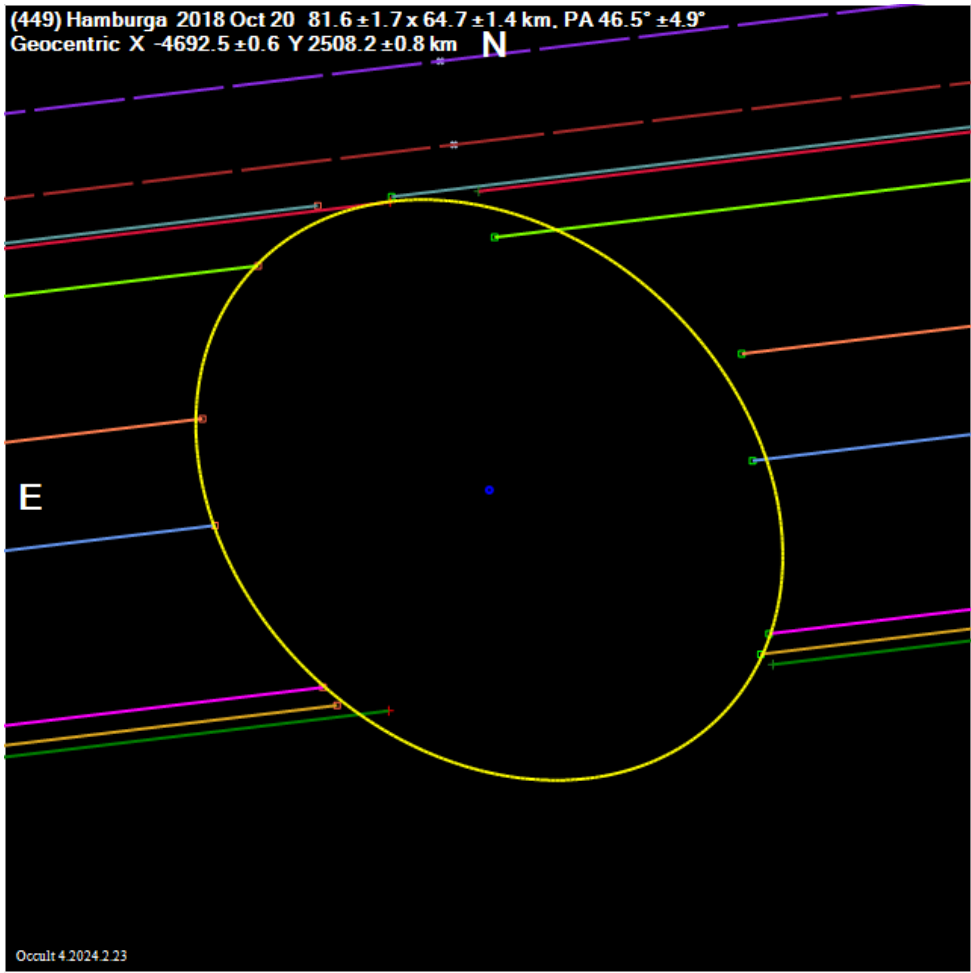
(444) Gyptis 2018 Mar 18 $191.3 \pm 0.6 \times 130.3 \pm 0.5$ km / PA $151.8^\circ \pm 0.3^\circ$
Geocentric X 900.8 ± 0.2 Y 3024.4 ± 0.2 km **N**



449_Hamburga_2009Sep09

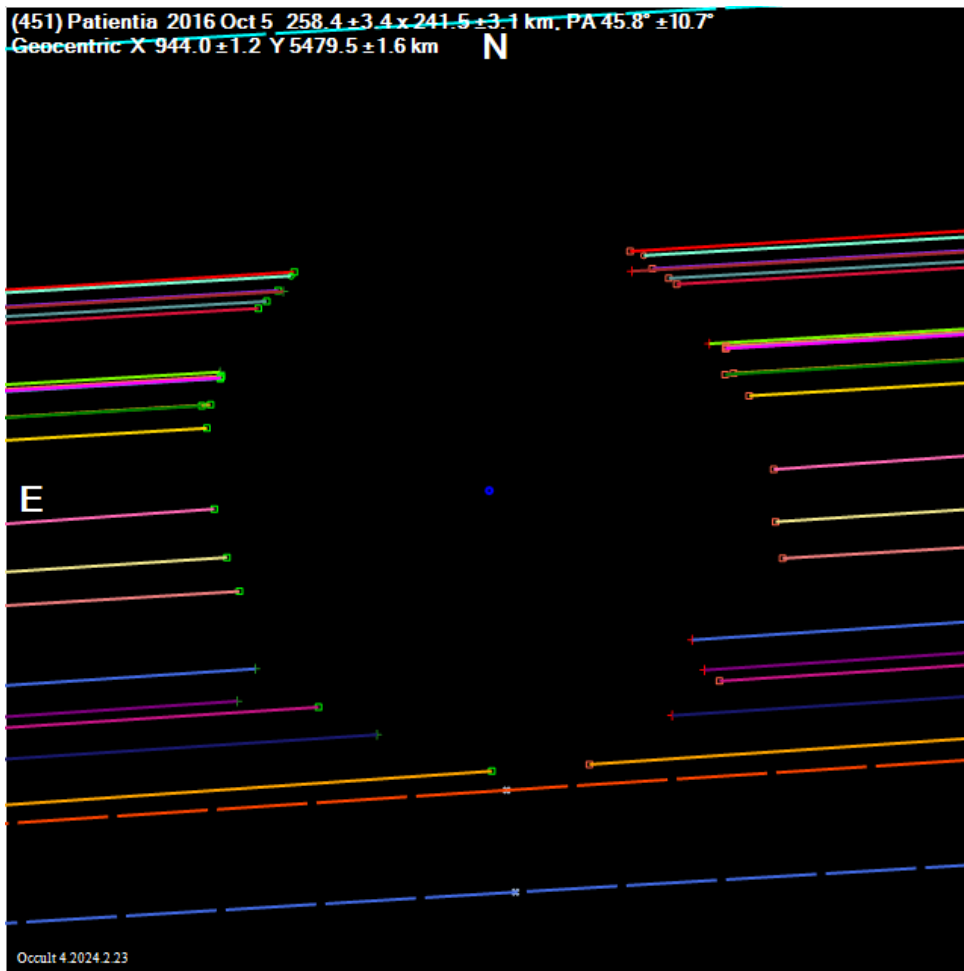


449_Hamburga_2018Oct20



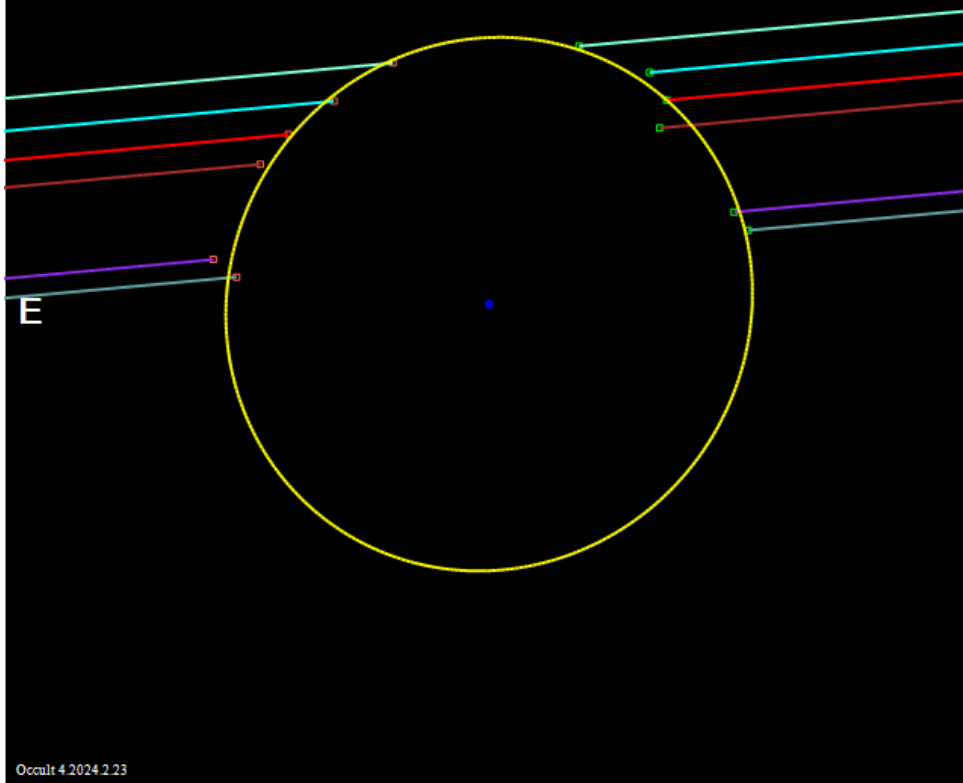
451_Patientia_2016Oct05

(451) Patientia 2016 Oct 5 258.4 ± 3.4 x 241.5 ± 3.1 km, PA 45.8° ± 10.7°
Geocentric X 944.0 ± 1.2 Y 5479.5 ± 1.6 km N



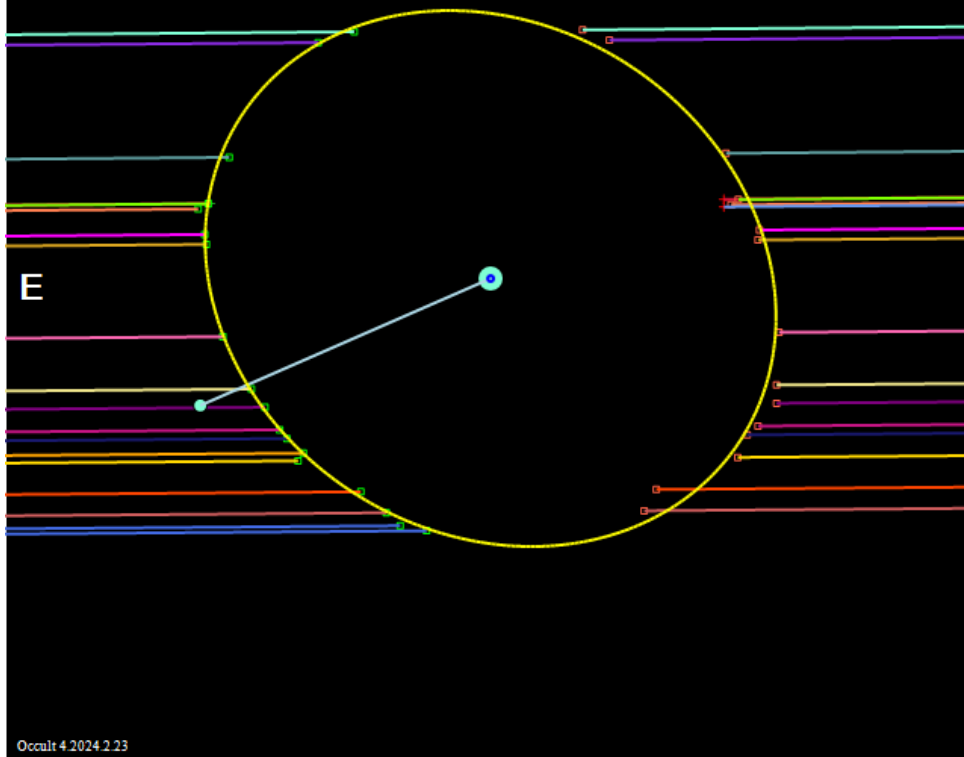
451_Patientia_2020Feb20

(451) Patientia 2020 Feb 20 225.6 ±41.0 x 216.4 ±31.1 km. PA 323.6° ±150.1°
Geocentric X -2876.1 ±3.5 Y 4270.4 ±26.8 km **N**



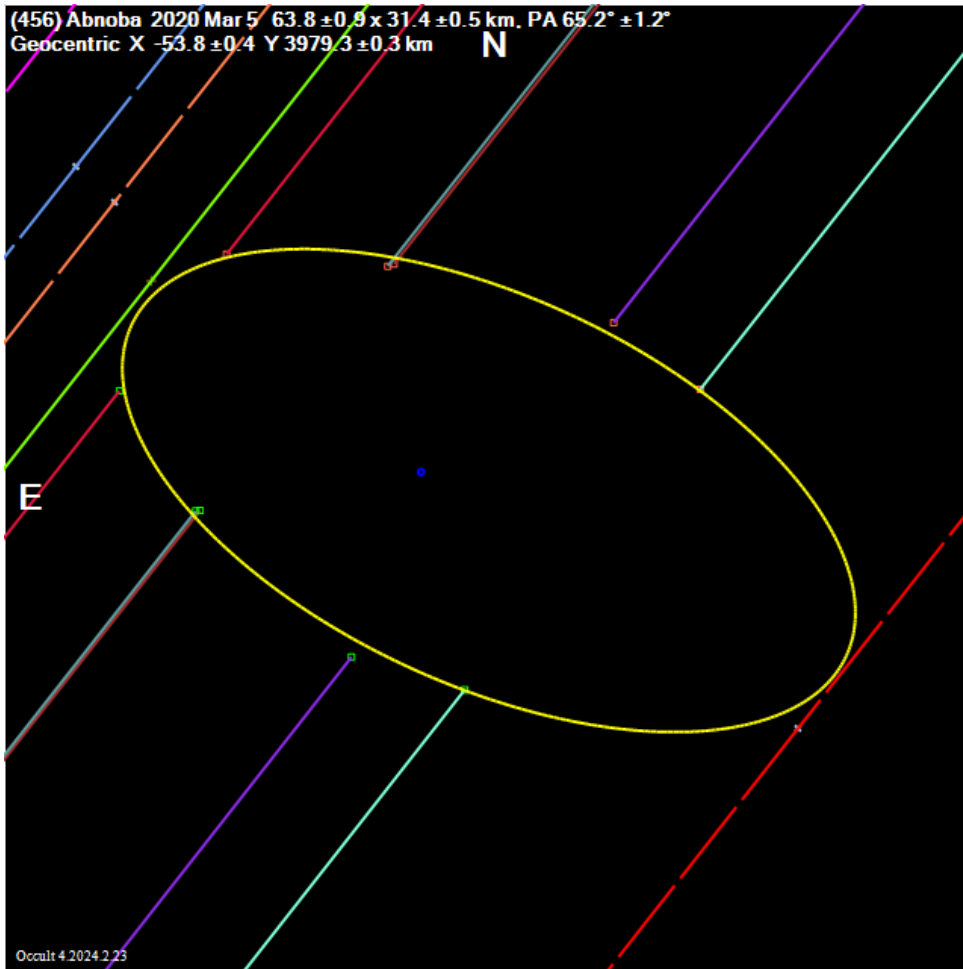
451_Patientia_2020May02

(451) Patientia 2020 May 2 255.1 ± 22.5 x 217.9 ± 26.0 km, PA 57.1° ± 36.8°
Geocentric X -3393.7 ± 7.3 Y 4389.2 ± 12.7 km **N**
Double : Sep 0.0794 ± 0.0181", PA 113.6° ± 0.3°



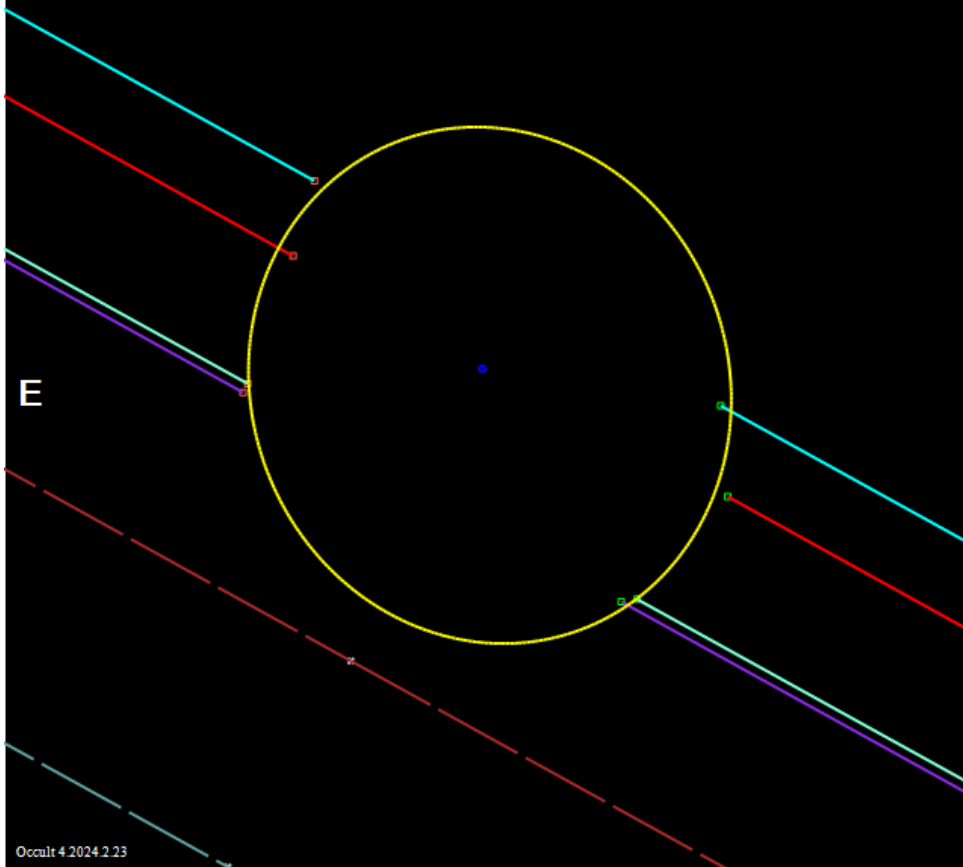
456_Abnoba_2020Mar05

(456) Abnoba 2020 Mar 5 $63.8 \pm 0.9 \times 31.4 \pm 0.5$ km, PA $65.2^\circ \pm 1.2^\circ$
Geocentric X -53.8 ± 0.4 Y 3979.3 ± 0.3 km **N**



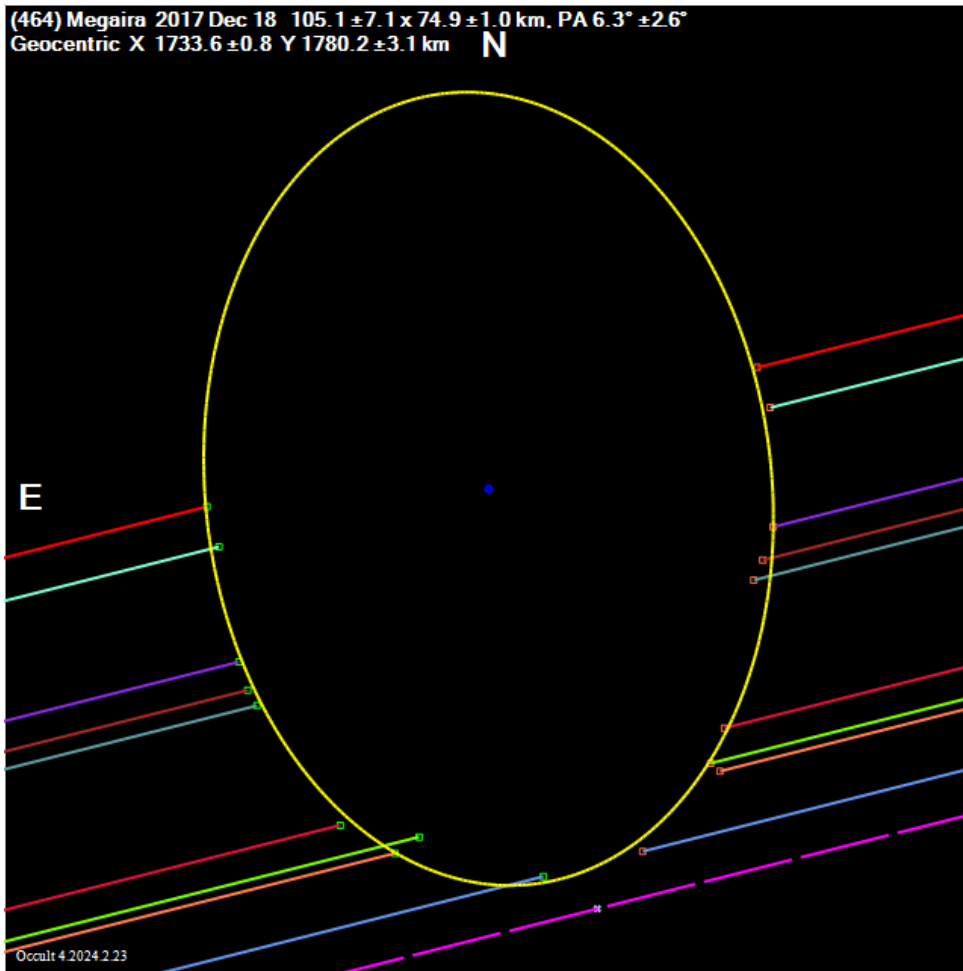
458_Hercynia_2019Dec17

(458) Hercynia 2019 Dec 17 $34.8 \pm 2.5 \times 31.9 \pm 2.6$ km. PA $200.1^\circ \pm 64.1^\circ$
Geocentric X 4442.6 ± 0.4 Y -2678.8 ± 0.8 km **N**



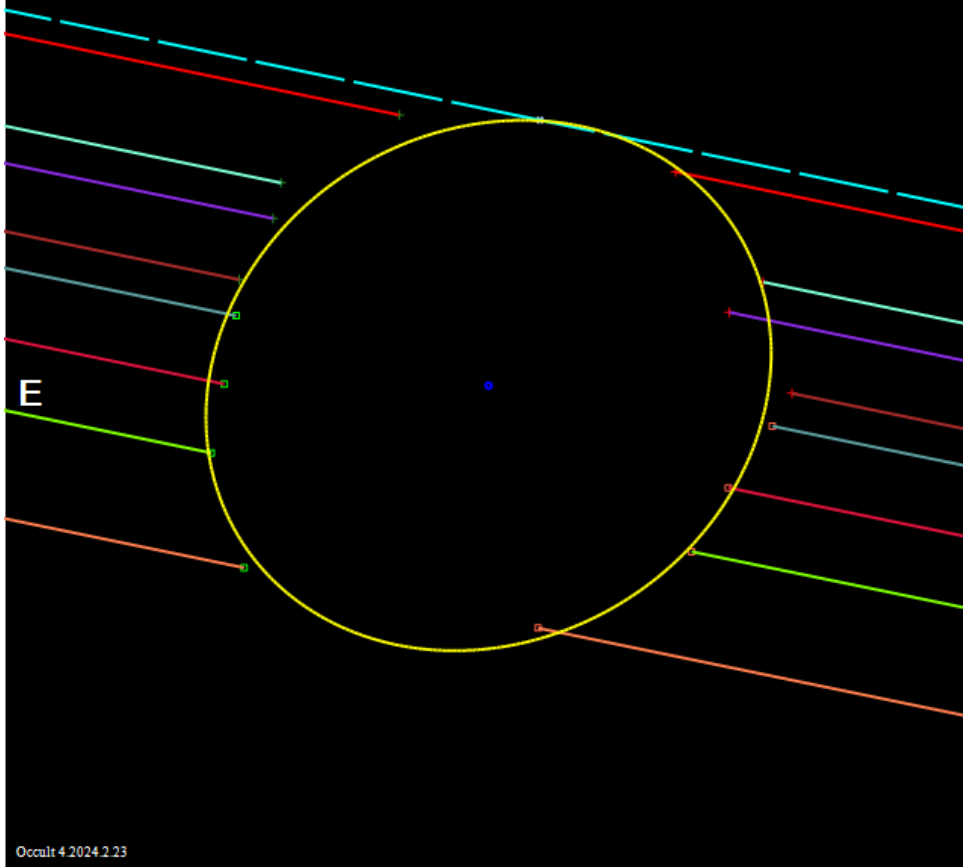
464_Megaira_2017Dec18

(464) Megaira 2017 Dec 18 105.1 ± 7.1 × 74.9 ± 1.0 km, PA 6.3° ± 2.6°
Geocentric X 1733.6 ± 0.8 Y 1780.2 ± 3.1 km N



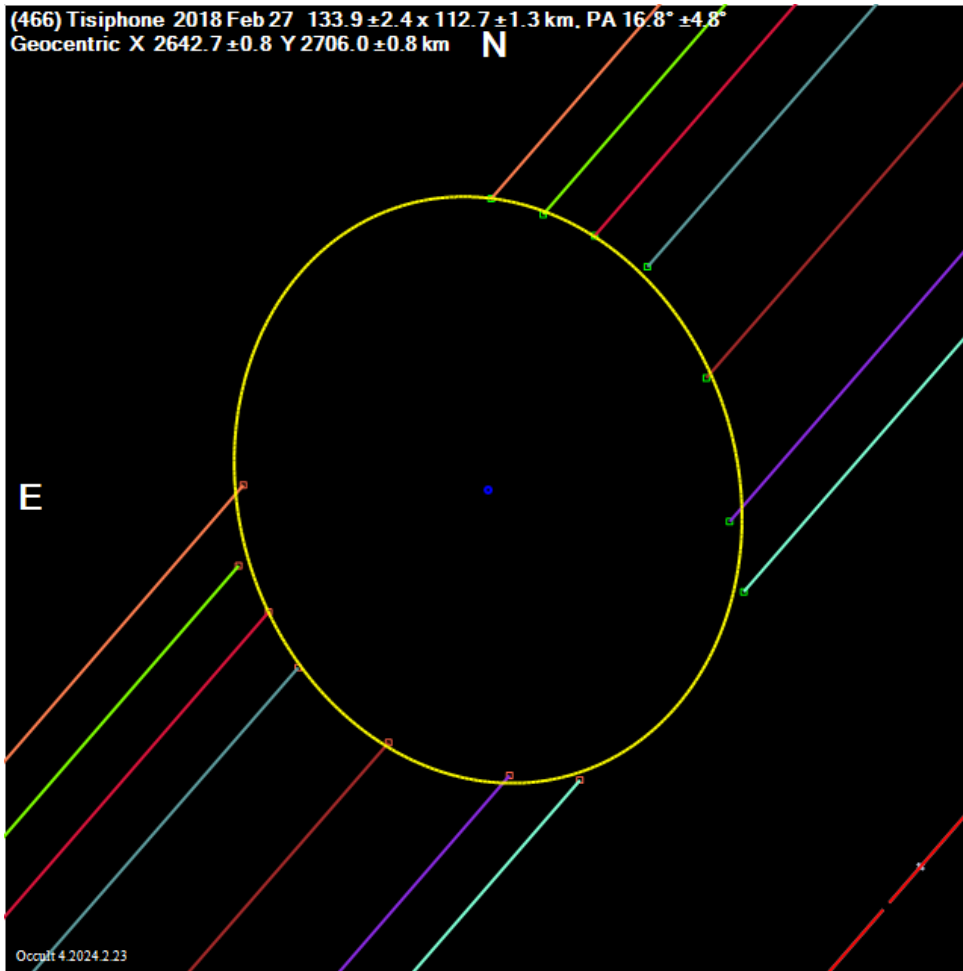
466_Tisiphone_2006Jan05

(466) Tisiphone 2006 Jan 5 $133.9 \pm 3.9 \times 116.7 \pm 3.6$ km. PA $120.9^\circ \pm 9.1^\circ$
Geocentric X 3852.0 ± 1.3 Y 1515.0 ± 1.6 km **N**



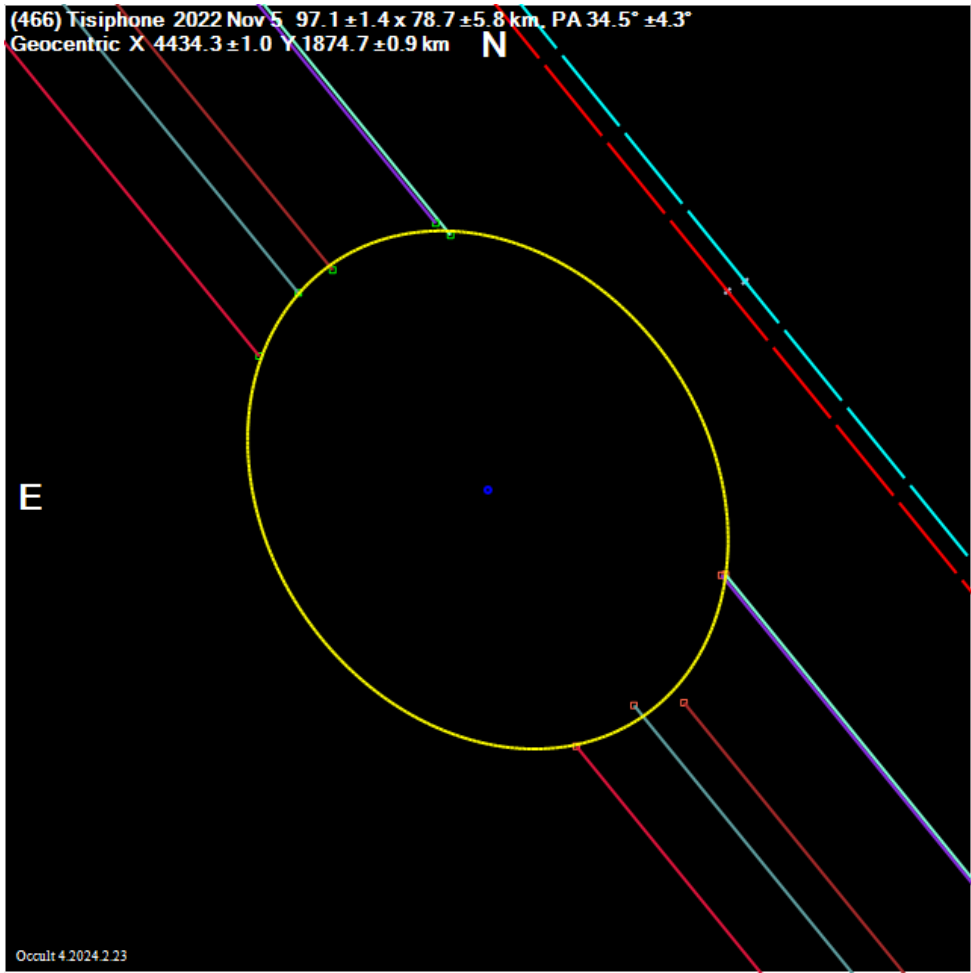
466_Tisiphone_2018Feb27

(466) Tisiphone 2018 Feb 27 133.9 ± 2.4 x 112.7 ± 1.3 km. PA 16.8° ± 4.8°
Geocentric X 2642.7 ± 0.8 Y 2706.0 ± 0.8 km N



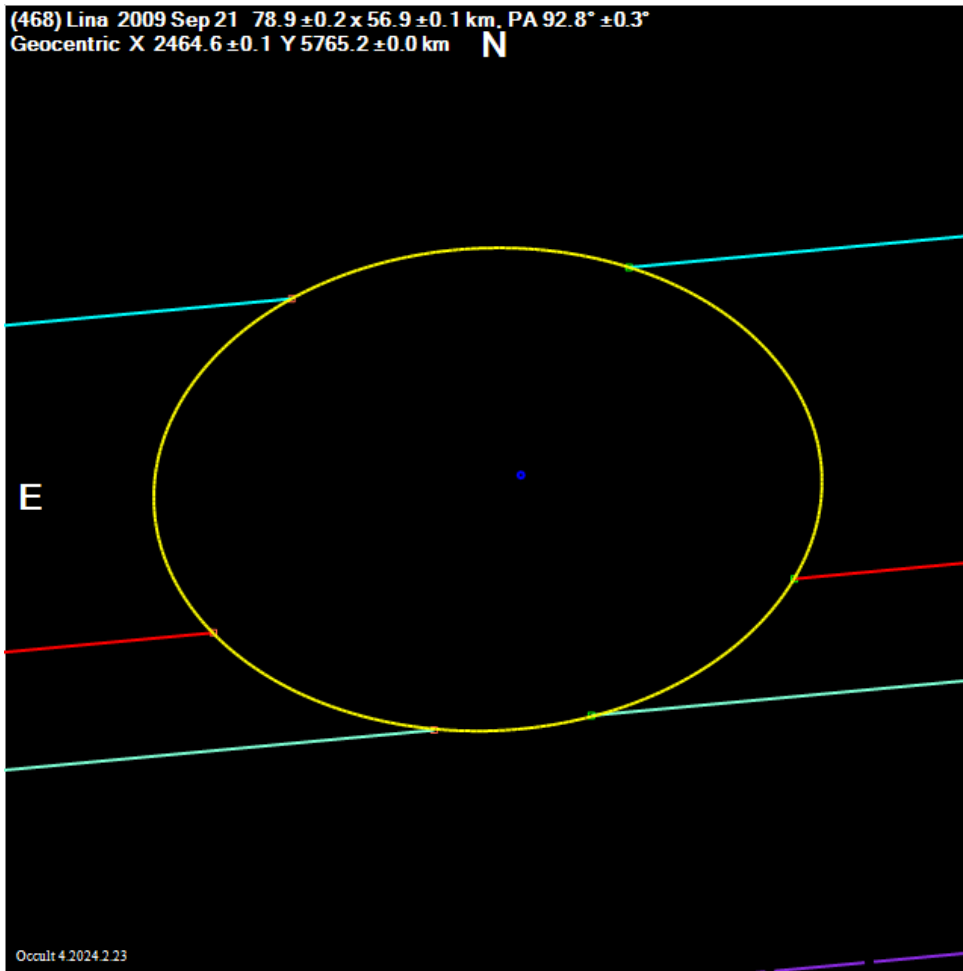
466_Tisiphone_2022Nov05

(466) Tisiphone 2022 Nov 5 $97.1 \pm 1.4 \times 78.7 \pm 5.8$ km, PA $34.5^\circ \pm 4.3^\circ$
Geocentric X 4434.3 ± 1.0 Y 1874.7 ± 0.9 km N



468_Lina_2009Sep21

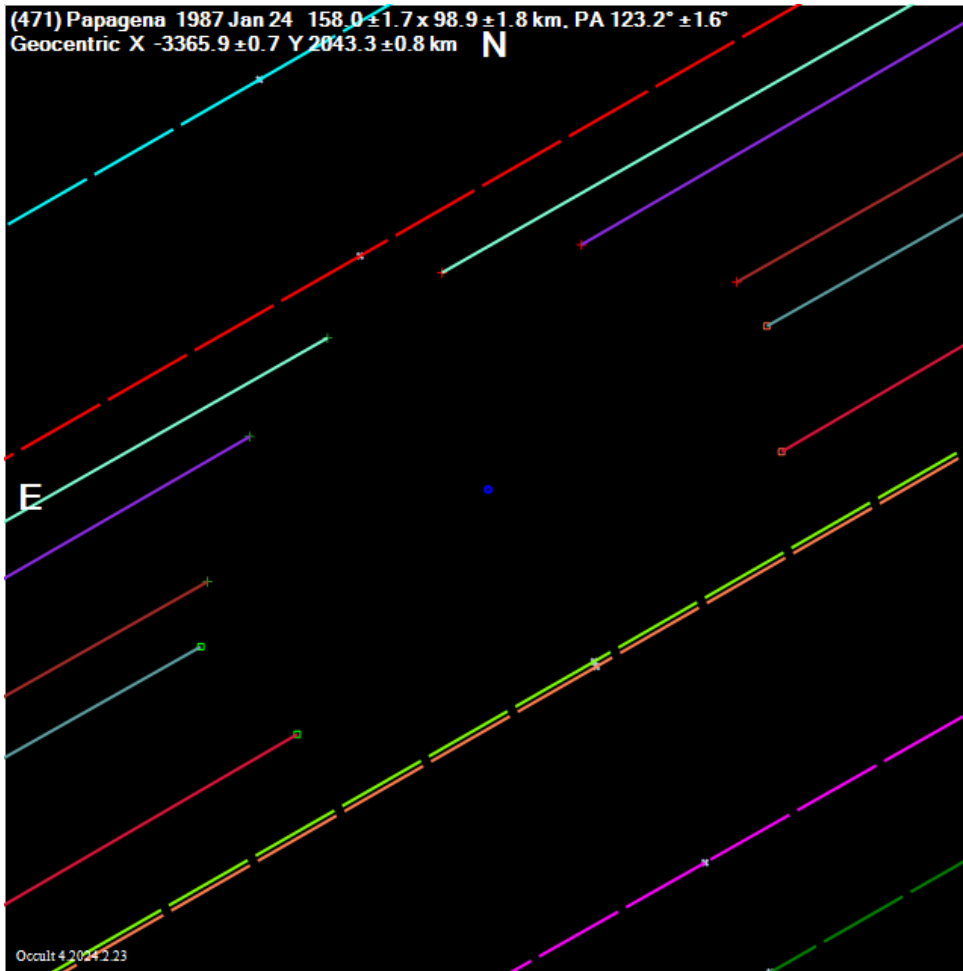
(468) Lina 2009 Sep 21 $78.9 \pm 0.2 \times 56.9 \pm 0.1$ km, PA $92.8^\circ \pm 0.3^\circ$
Geocentric X 2464.6 ± 0.1 Y 5765.2 ± 0.0 km **N**



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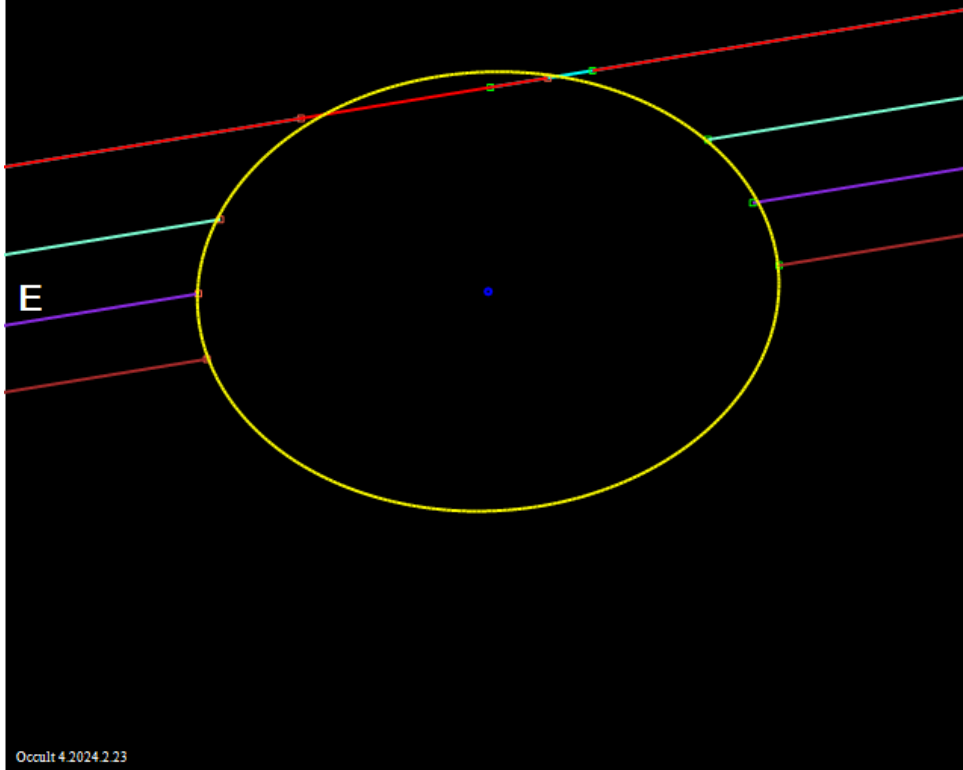
471_Papagena_1987Jan24

(471) Papagena 1987 Jan 24 $158.0 \pm 1.7 \times 98.9 \pm 1.8$ km, PA $123.2^\circ \pm 1.6^\circ$
Geocentric X -3365.9 ± 0.7 Y 2043.3 ± 0.8 km **N**



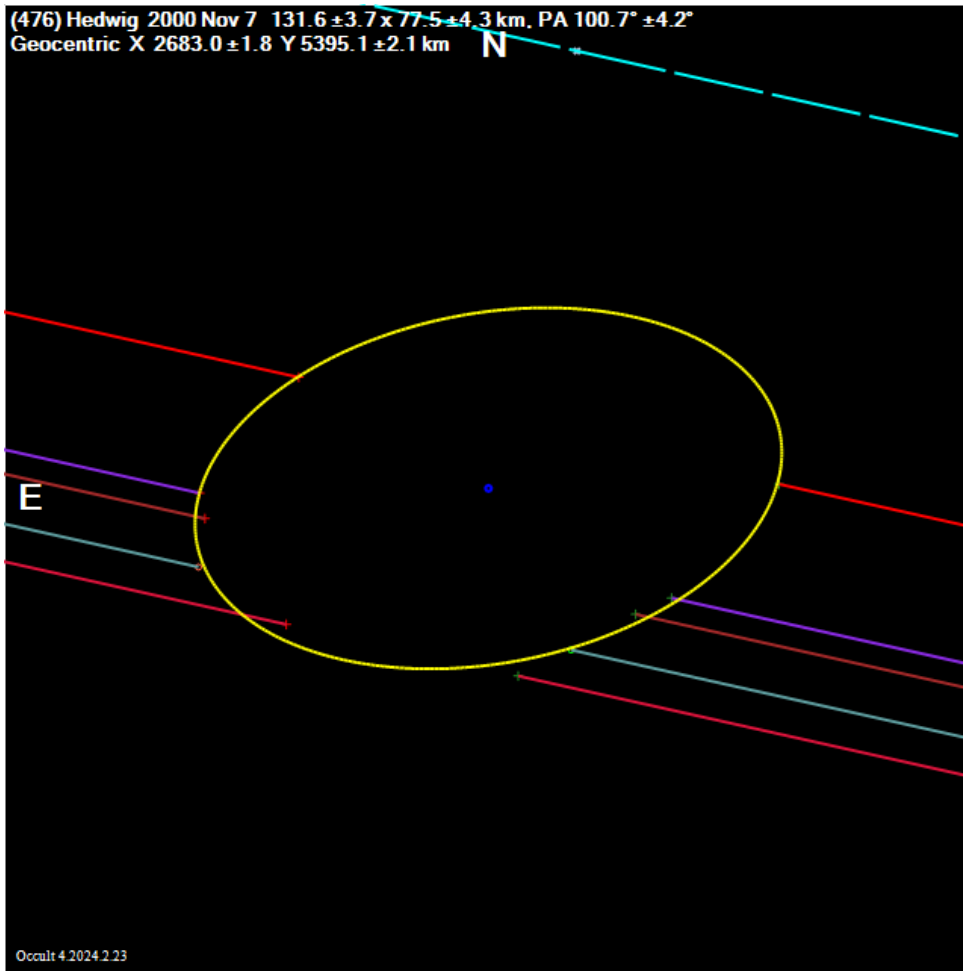
471_Papagena_2020Aug22

(471) Papagena 2020 Aug 22 162.0 \pm 2.3 x 122.0 \pm 9.5 km. PA 93.6° \pm 4.2°
Geocentric X -2574.8 \pm 1.5 Y -2646.8 \pm 4.1 km N



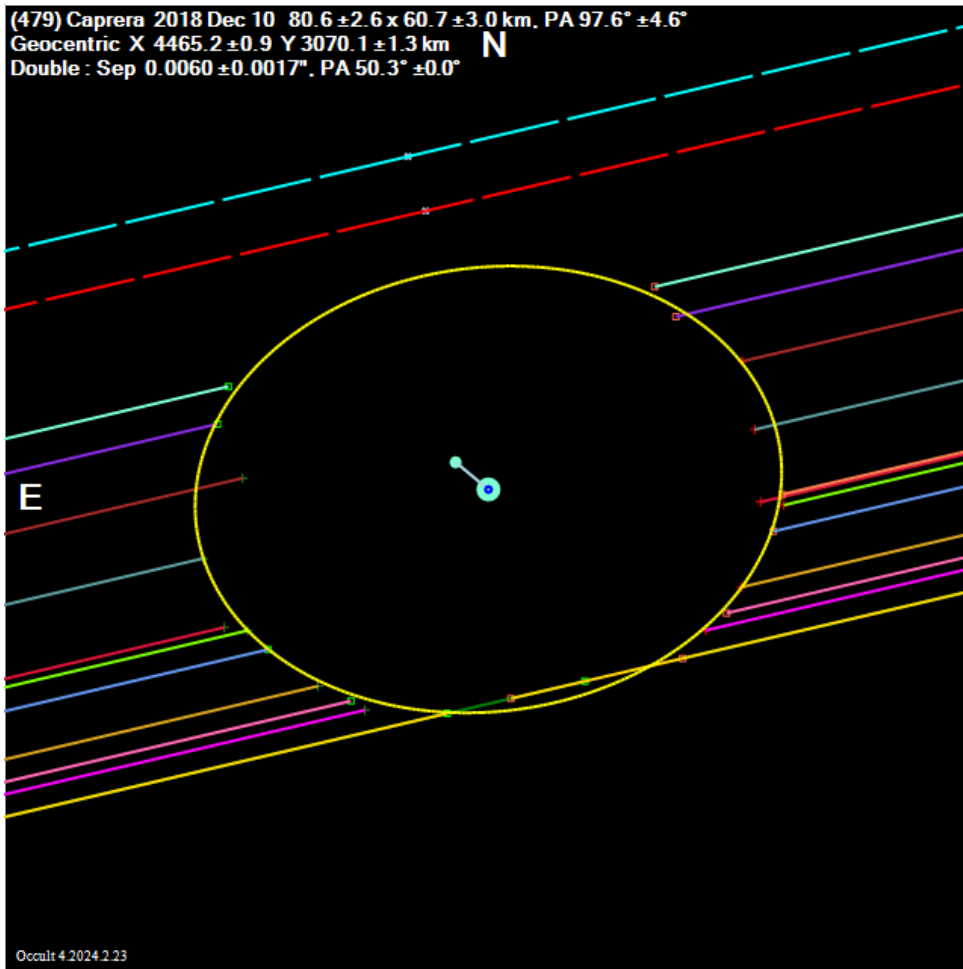
476_Hedwig_2000Nov07

(476) Hedwig 2000 Nov 7 $131.6 \pm 3.7 \times 77.5 \pm 4.3$ km. PA $100.7^\circ \pm 4.2^\circ$
Geocentric X 2683.0 ± 1.8 Y 5395.1 ± 2.1 km



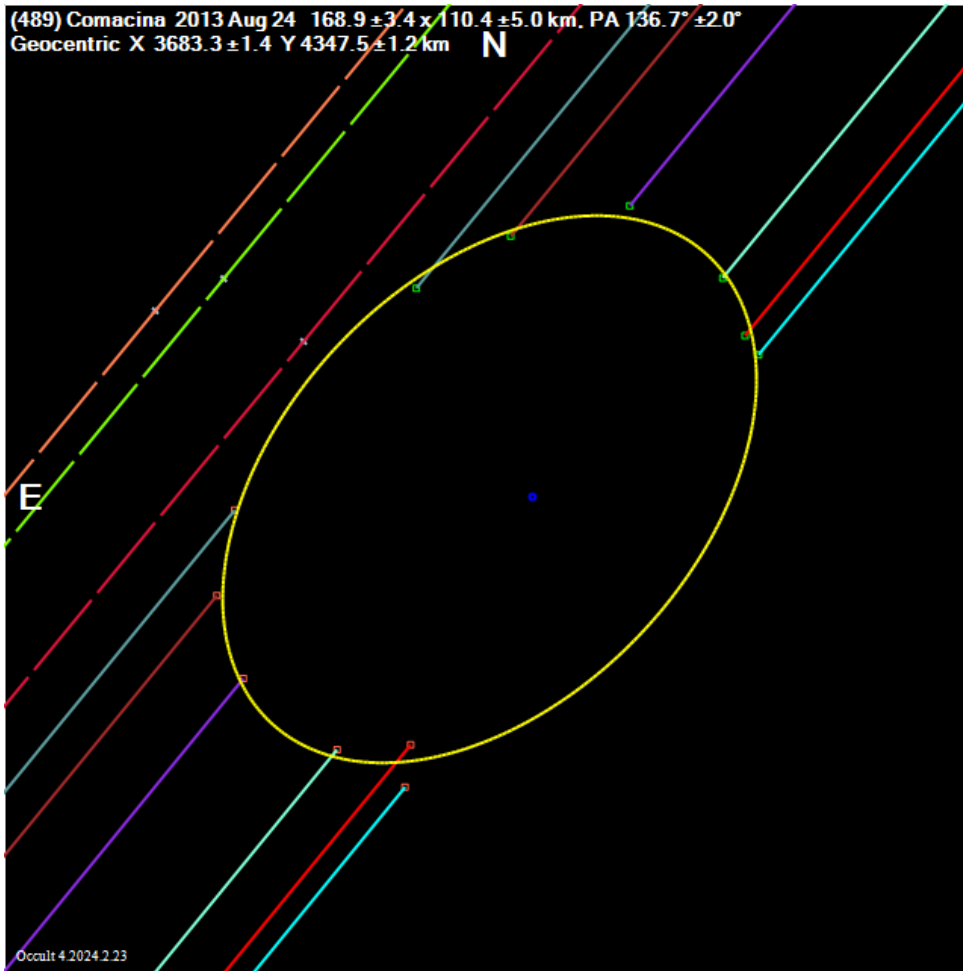
479_Caprera_2018Dec10

(479) Caprera 2018 Dec 10 $80.6 \pm 2.6 \times 60.7 \pm 3.0$ km, PA $97.6^\circ \pm 4.6^\circ$
Geocentric X 4465.2 ± 0.9 Y 3070.1 ± 1.3 km N
Double : Sep $0.0060 \pm 0.0017''$, PA $50.3^\circ \pm 0.0^\circ$



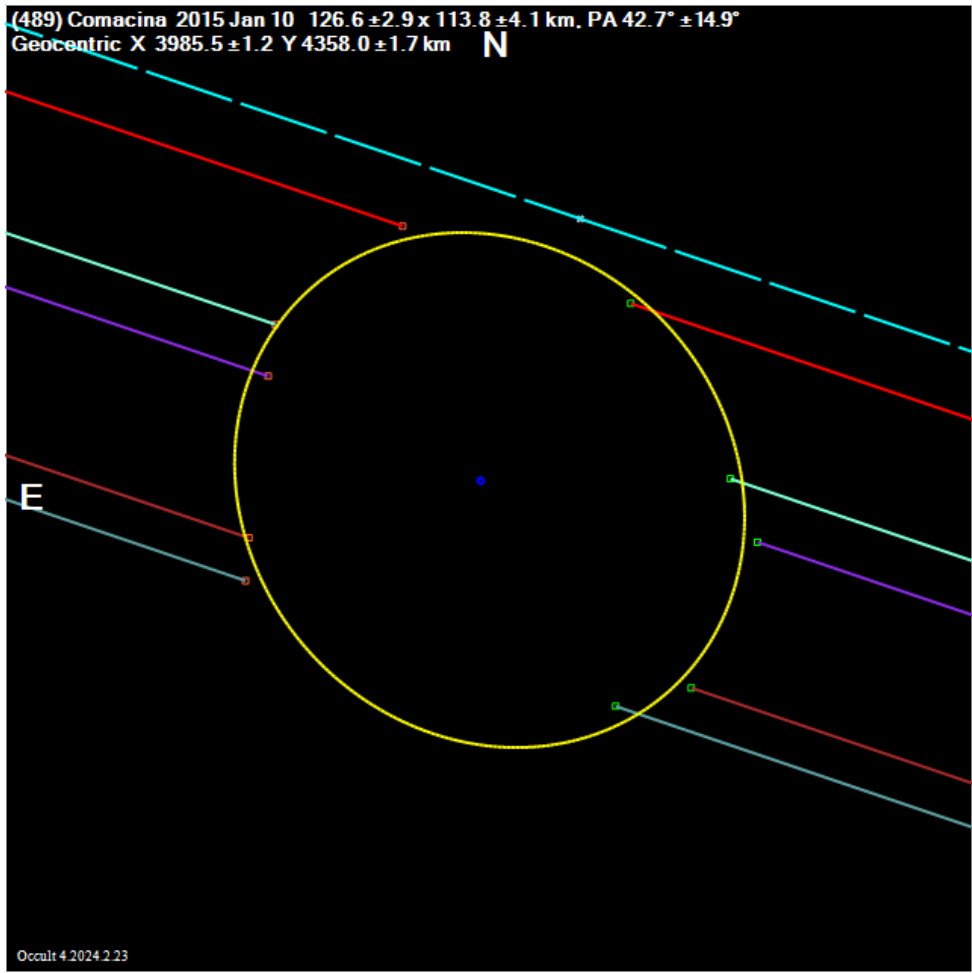
489_Comacina_2013Aug24

(489) Comacina 2013 Aug 24 $168.9 \pm 3.4 \times 110.4 \pm 5.0$ km. PA $136.7^\circ \pm 2.0^\circ$
Geocentric X 3683.3 ± 1.4 Y 4347.5 ± 1.2 km N



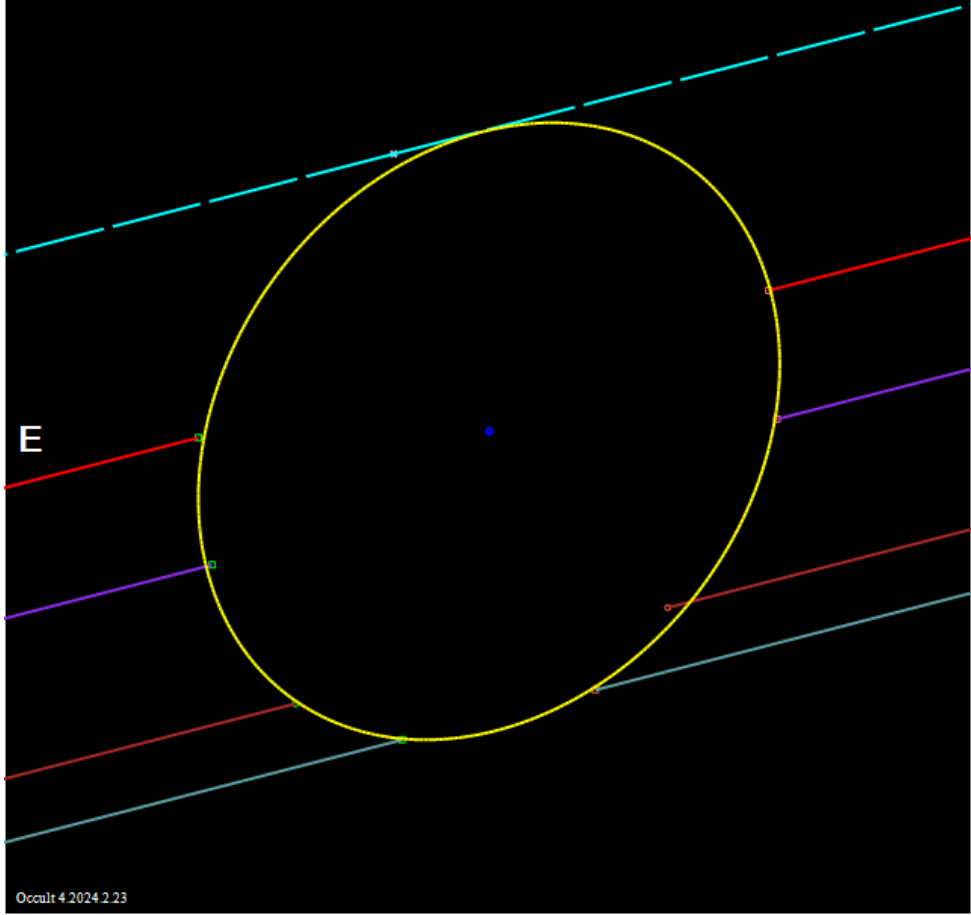
489_Comacina_2015Jan10

(489) Comacina 2015 Jan 10 $126.6 \pm 2.9 \times 113.8 \pm 4.1$ km. PA $42.7^\circ \pm 14.9^\circ$
Geocentric X 3985.5 ± 1.2 Y 4358.0 ± 1.7 km N



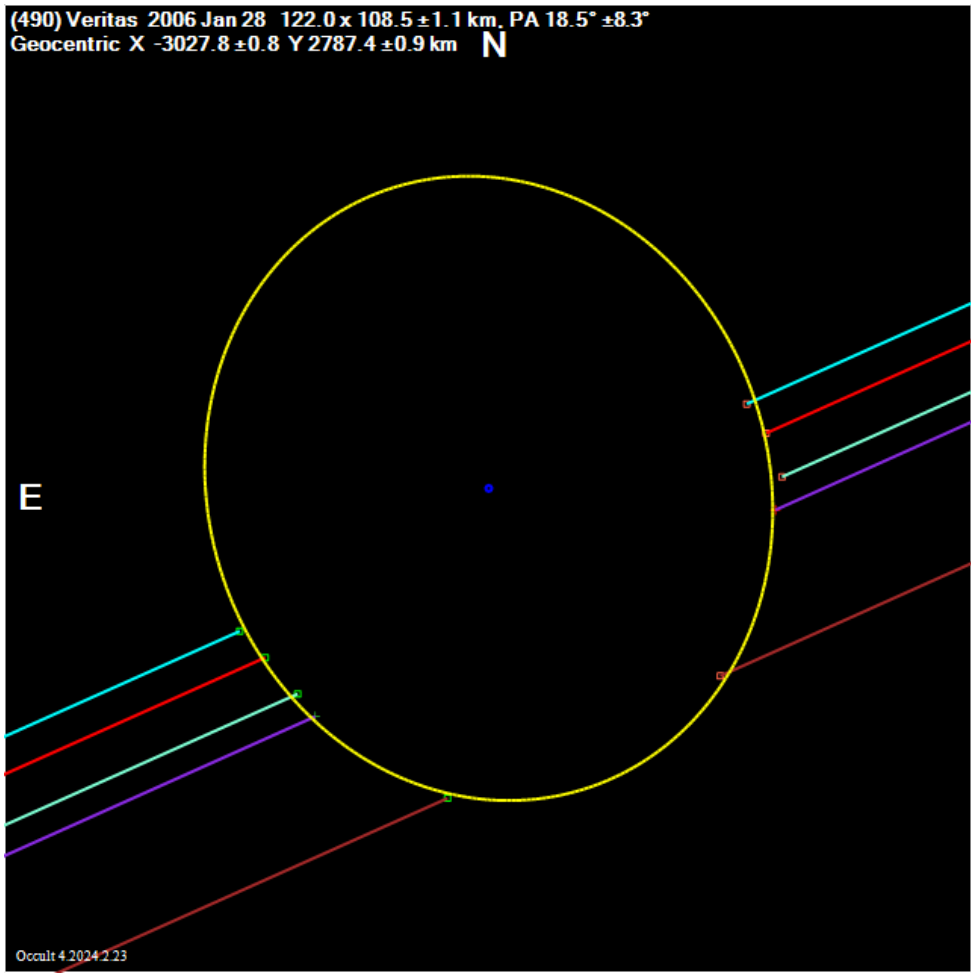
489_Comacina_2022Jan03

(489) Comacina 2022 Jan 3 $155.9 \pm 2.0 \times 123.9 \pm 1.7$ km, PA $142.5^\circ \pm 1.9^\circ$
Geocentric X -770.7 ± 0.6 Y 3830.3 ± 0.7 km **N**



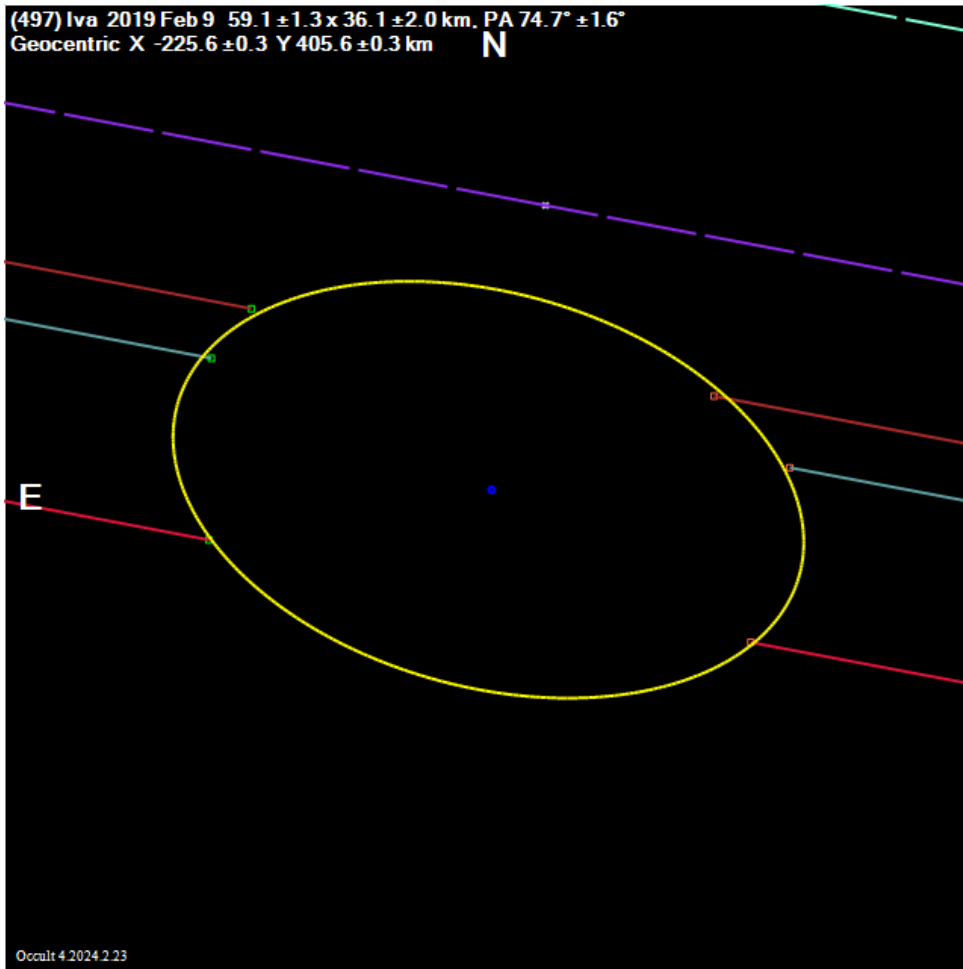
490_Veritas_2006Jan28

(490) Veritas 2006 Jan 28 122.0 x 108.5 ± 1.1 km PA 18.5° ± 8.3°
Geocentric X -3027.8 ± 0.8 Y 2787.4 ± 0.9 km N

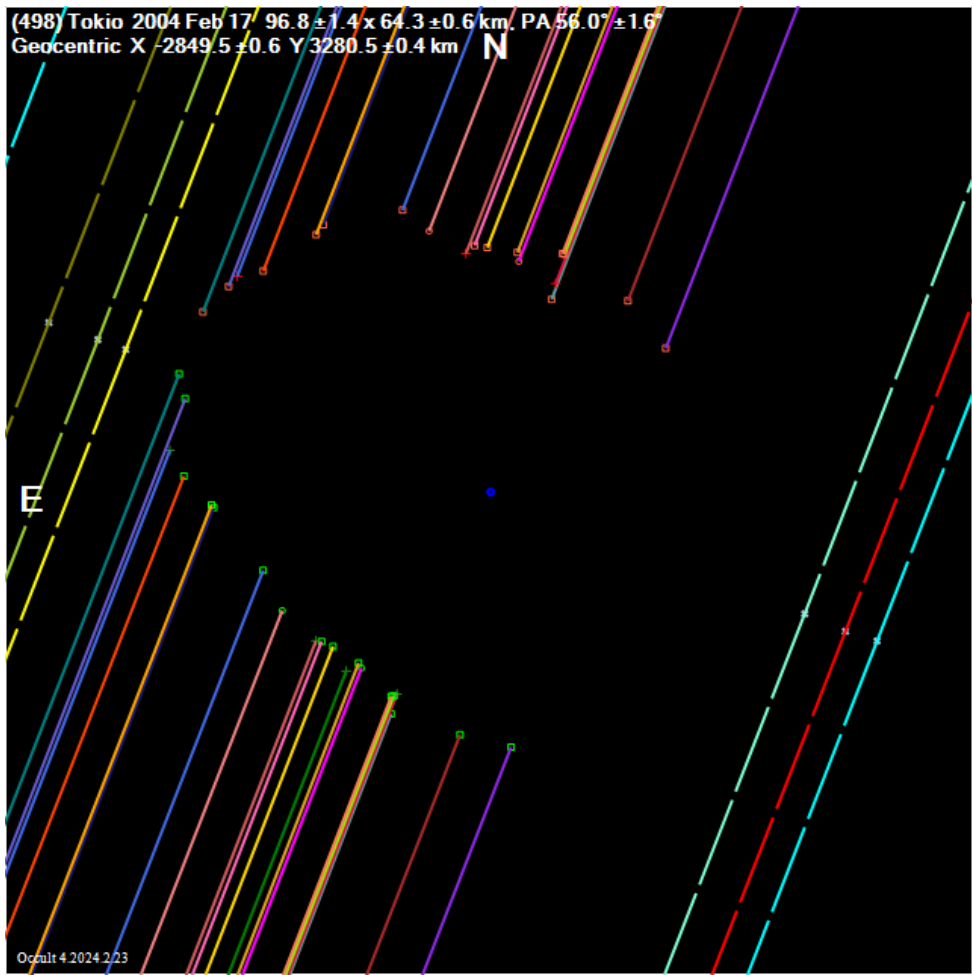


497_Iva_2019Feb09

(497) Iva 2019 Feb 9 $59.1 \pm 1.3 \times 36.1 \pm 2.0$ km, PA $74.7^\circ \pm 1.6^\circ$
Geocentric X -225.6 ± 0.3 Y 405.6 ± 0.3 km **N**

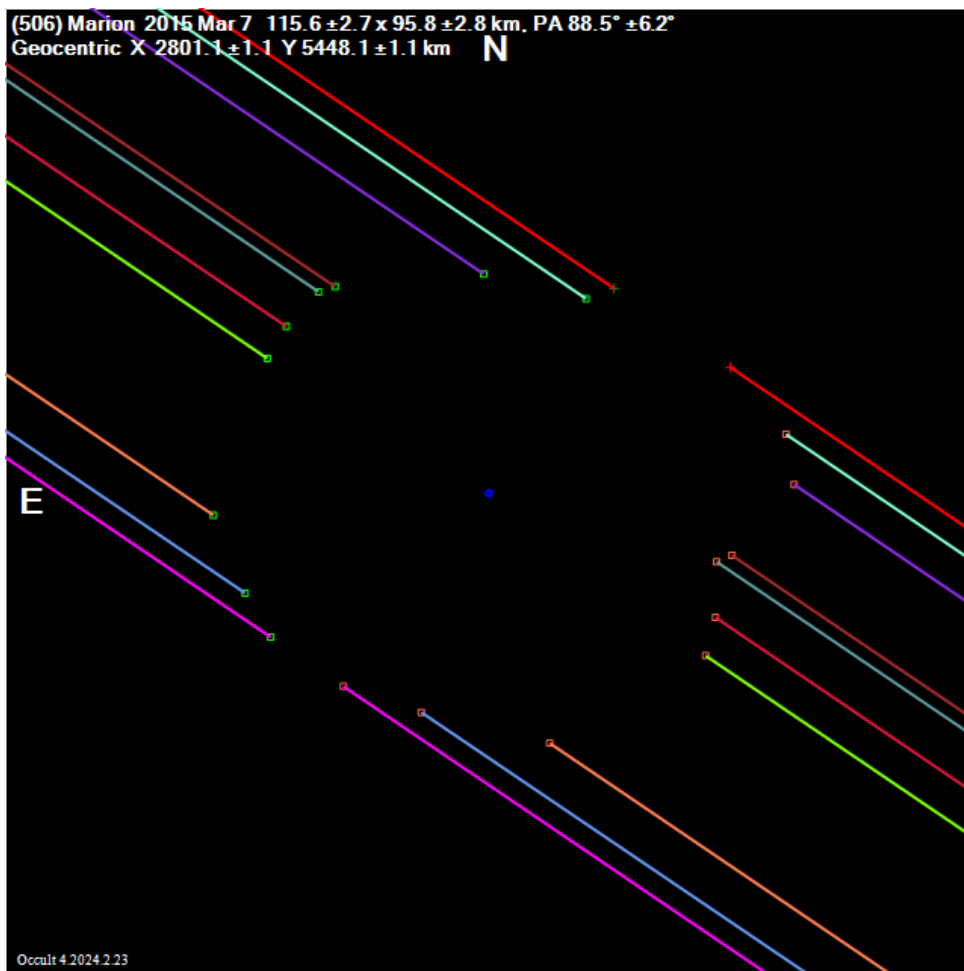


498_Tokio_2004Feb17



506_Marion_2015Mar07

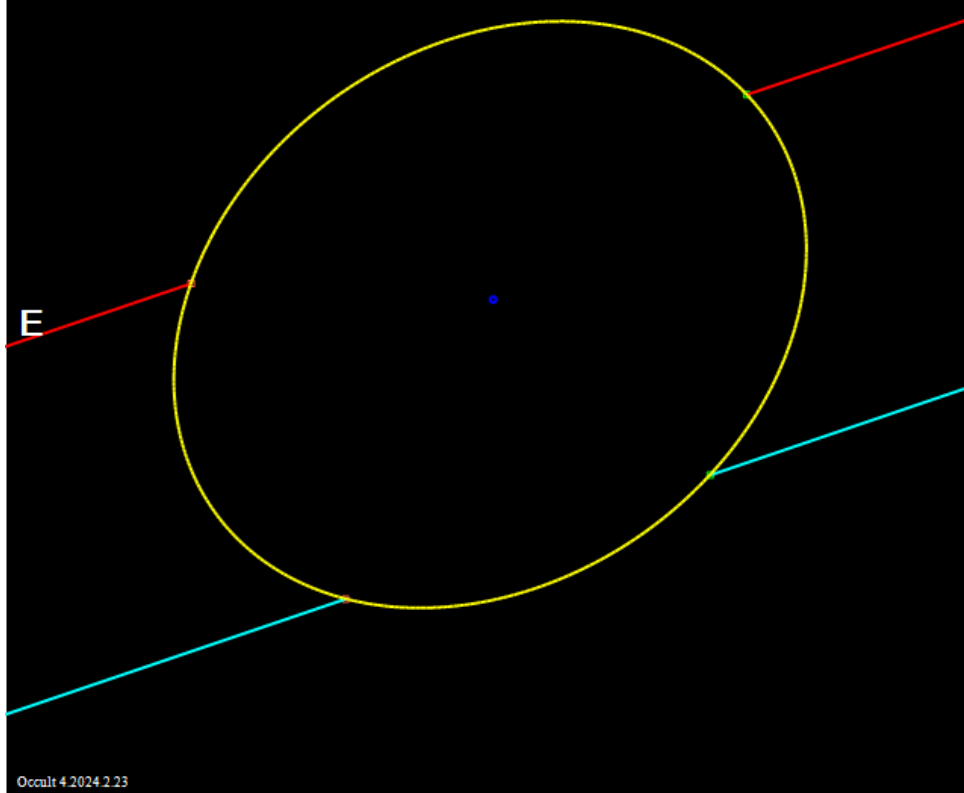
(506) Marion 2015 Mar 7 115.6 ± 2.7 x 95.8 ± 2.8 km, PA 88.5° ± 6.2°
Geocentric X 2801.1 ± 1.1 Y 5448.1 ± 1.1 km N



509_Iolanda_2018Sep11

(509) Iolanda 2018 Sep 11 67.3 x 53.0 km, PA 305.5°
Geocentric X -3737.7 Y 4150.4 km

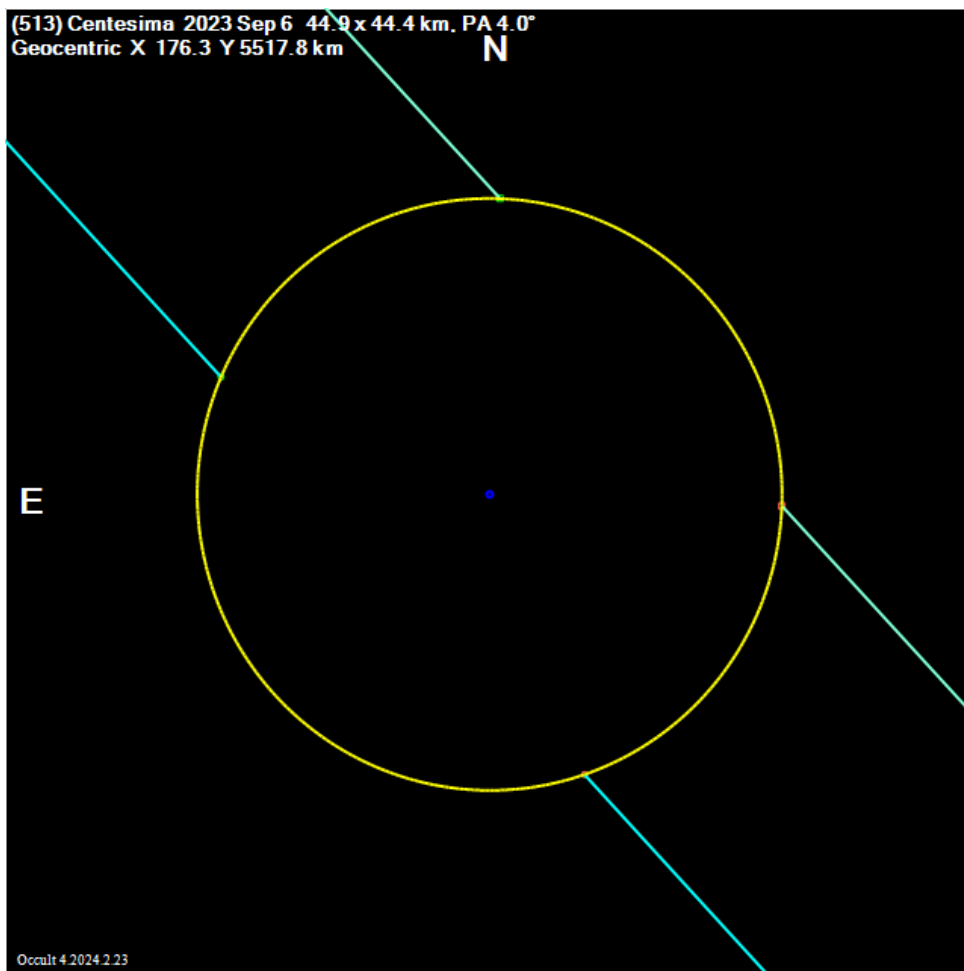
N



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513_Centesima_2023Sep06

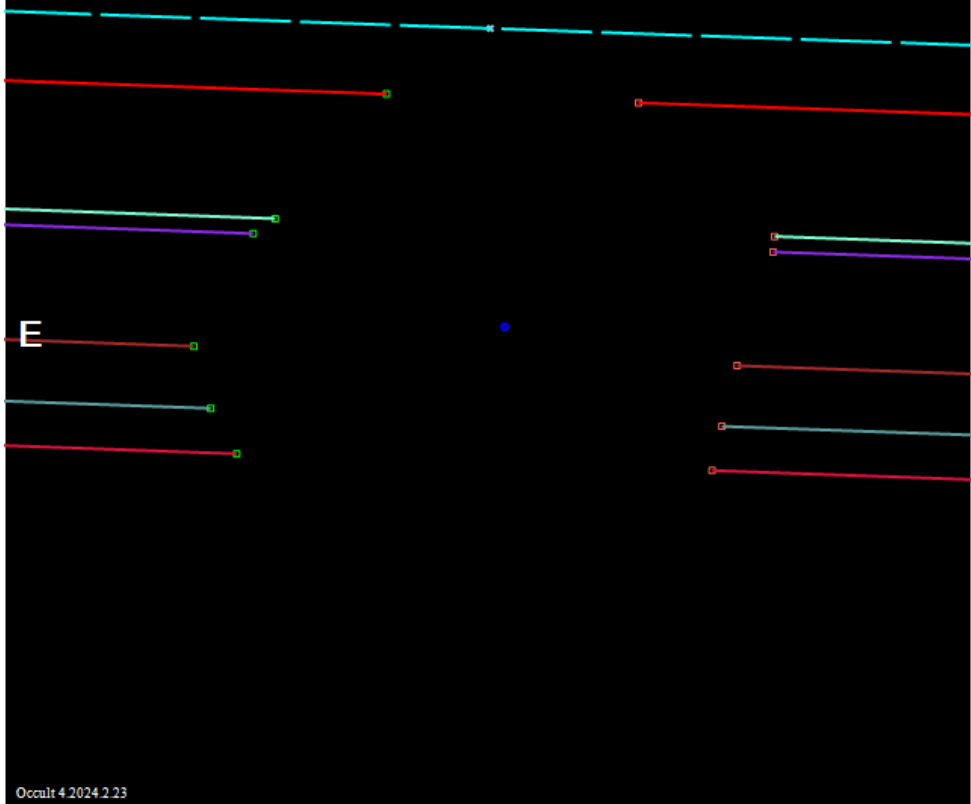
(513) Centesima 2023 Sep 6 44.9 x 44.4 km, PA 4.0°
Geocentric X 176.3 Y 5517.8 km



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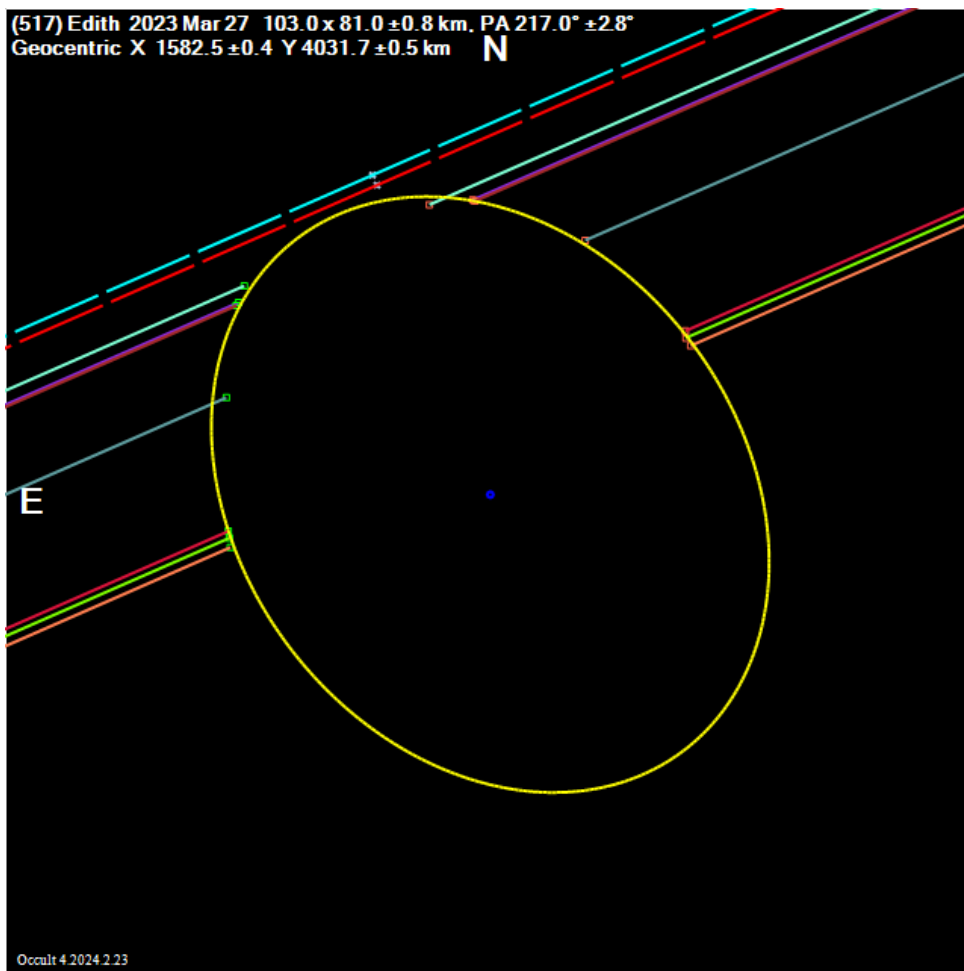
517_Edith_2021Dec09

(517) Edith 2021 Dec 9 $94.2 \pm 1.9 \times 77.9 \pm 2.8$ km, PA $298.4^\circ \pm 8.4^\circ$
Geocentric X -26.9 ± 0.7 Y 1272.0 ± 1.3 km **N**



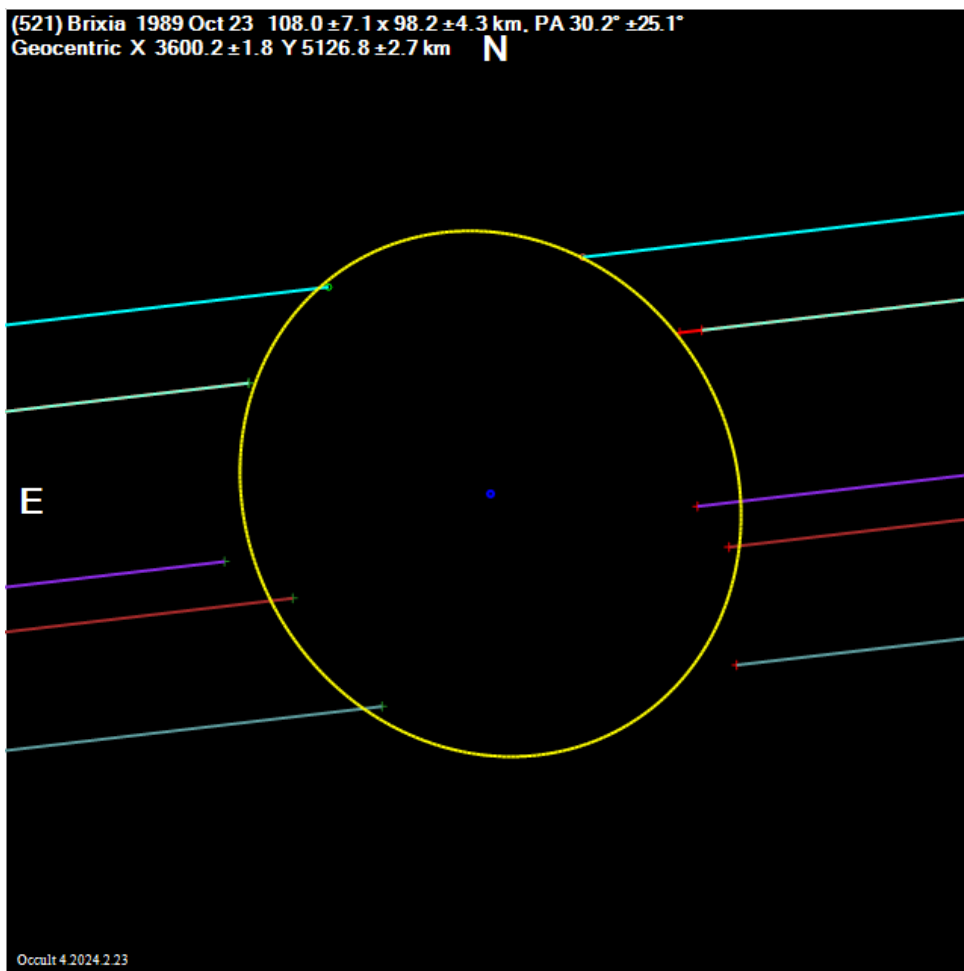
517_Edith_2023Mar27

(517) Edith 2023 Mar 27 103.0 x 81.0 ± 0.8 km, PA 217.0° ± 2.8°
Geocentric X 1582.5 ± 0.4 Y 4031.7 ± 0.5 km **N**

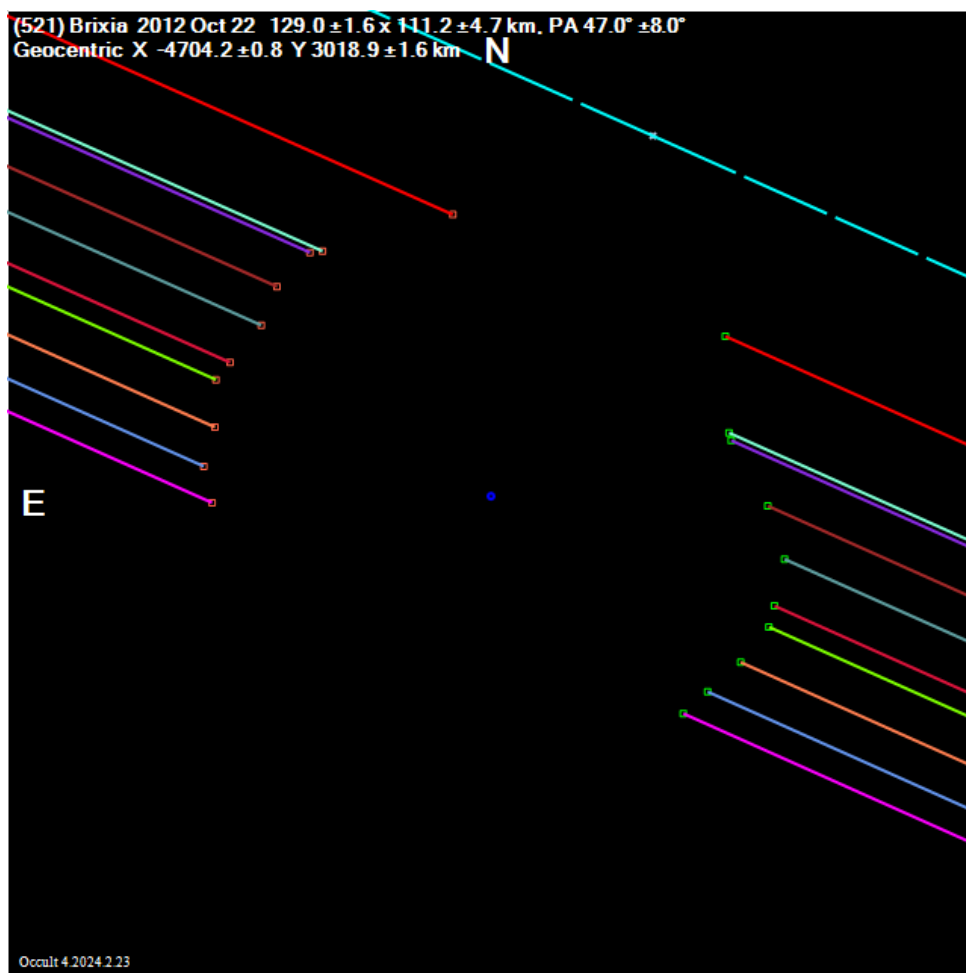


521_Brixia_1989Oct23

(521) Brixia 1989 Oct 23 $108.0 \pm 7.1 \times 98.2 \pm 4.3$ km, PA $30.2^\circ \pm 25.1^\circ$
Geocentric X 3600.2 ± 1.8 Y 5126.8 ± 2.7 km N



521_Brixia_2012Oct22



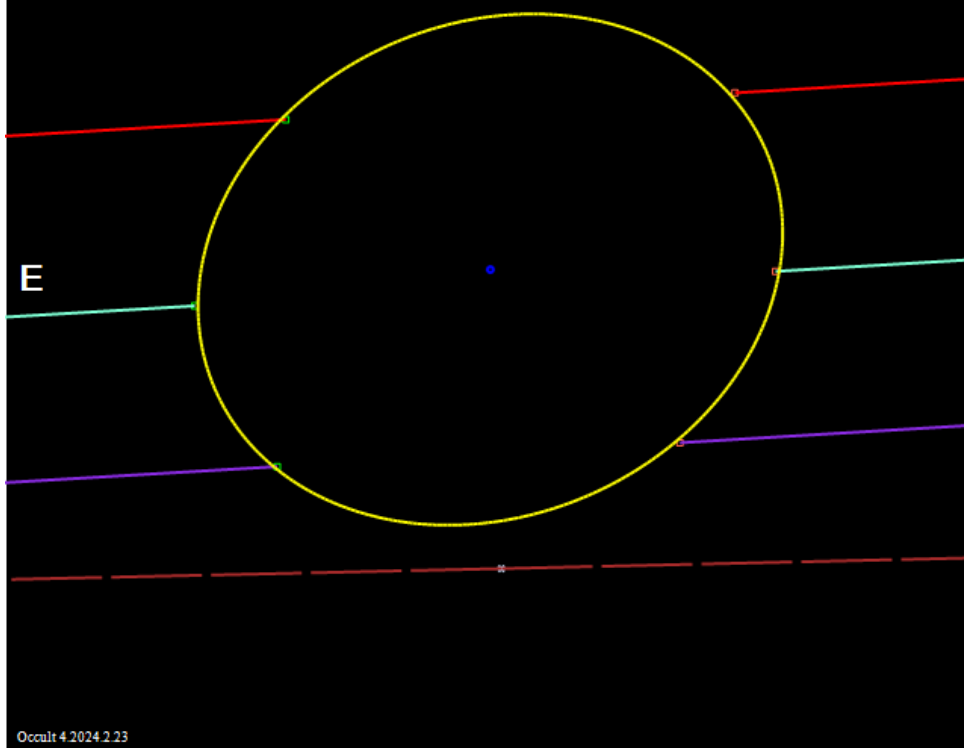
521_Brixia_2018Feb13

(521) Brixia 2018 Feb 13 $130.0 \pm 2.1 \times 113.8 \pm 3.5$ km, PA $144.9^\circ \pm 8.7^\circ$
Geocentric X -1743.4 ± 1.1 Y 3069.5 ± 1.5 km **N**

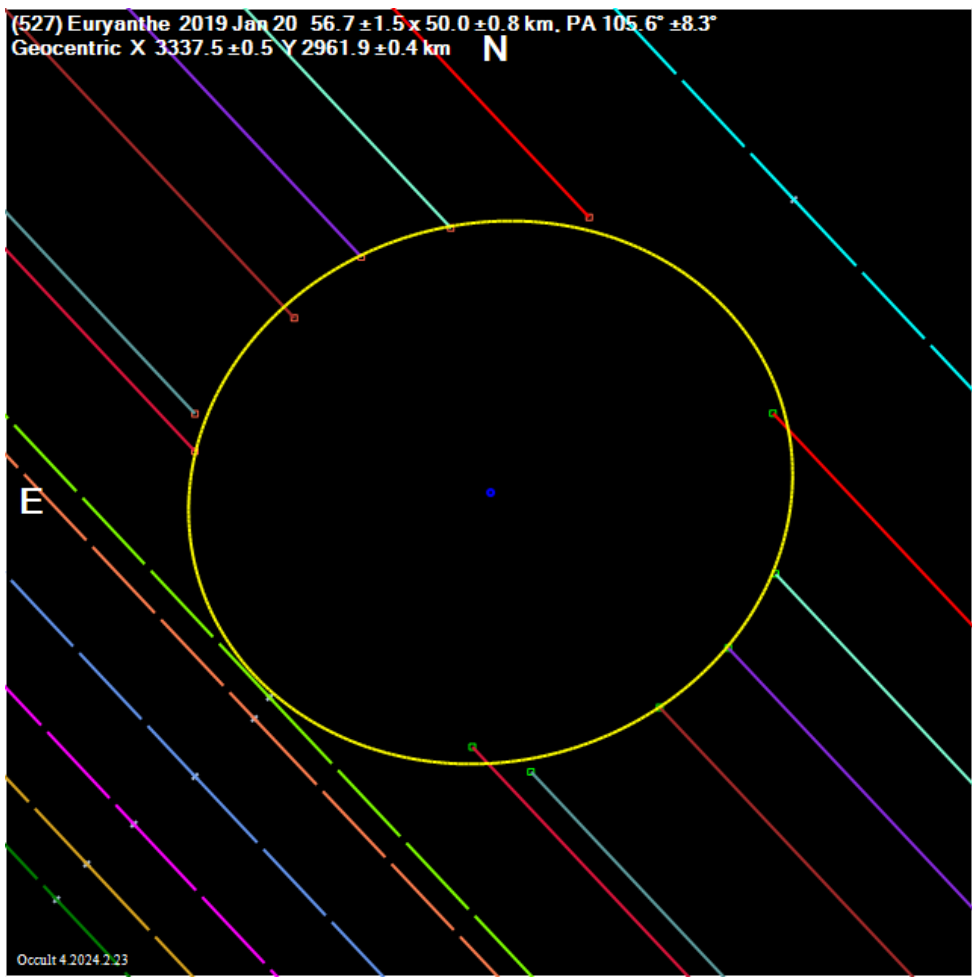


524_Fidelio_2018Dec12

(524) Fidelio 2018 Dec 12 $70.4 \pm 0.5 \times 57.7 \pm 0.9$ km, PA $293.4^\circ \pm 2.7^\circ$
Geocentric X -4724.4 ± 0.2 Y 1467.3 ± 0.3 km **N**

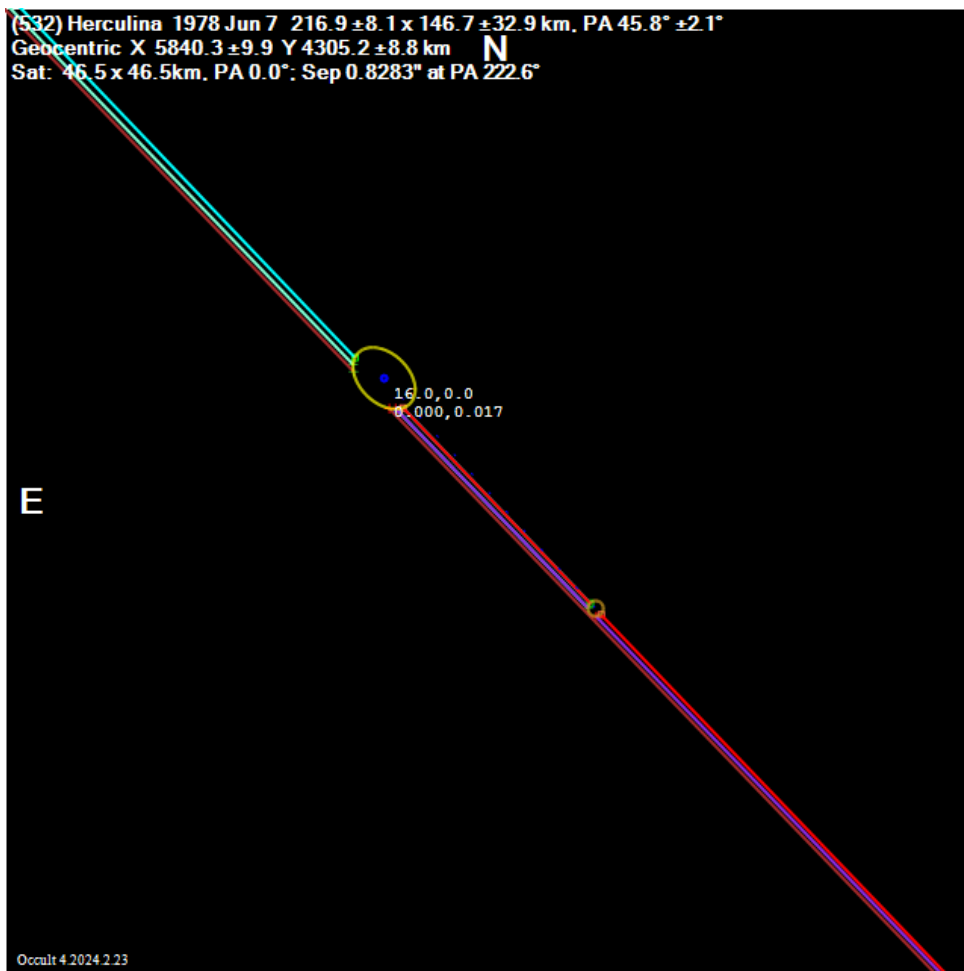


527_Euryanthe_2019Jan20



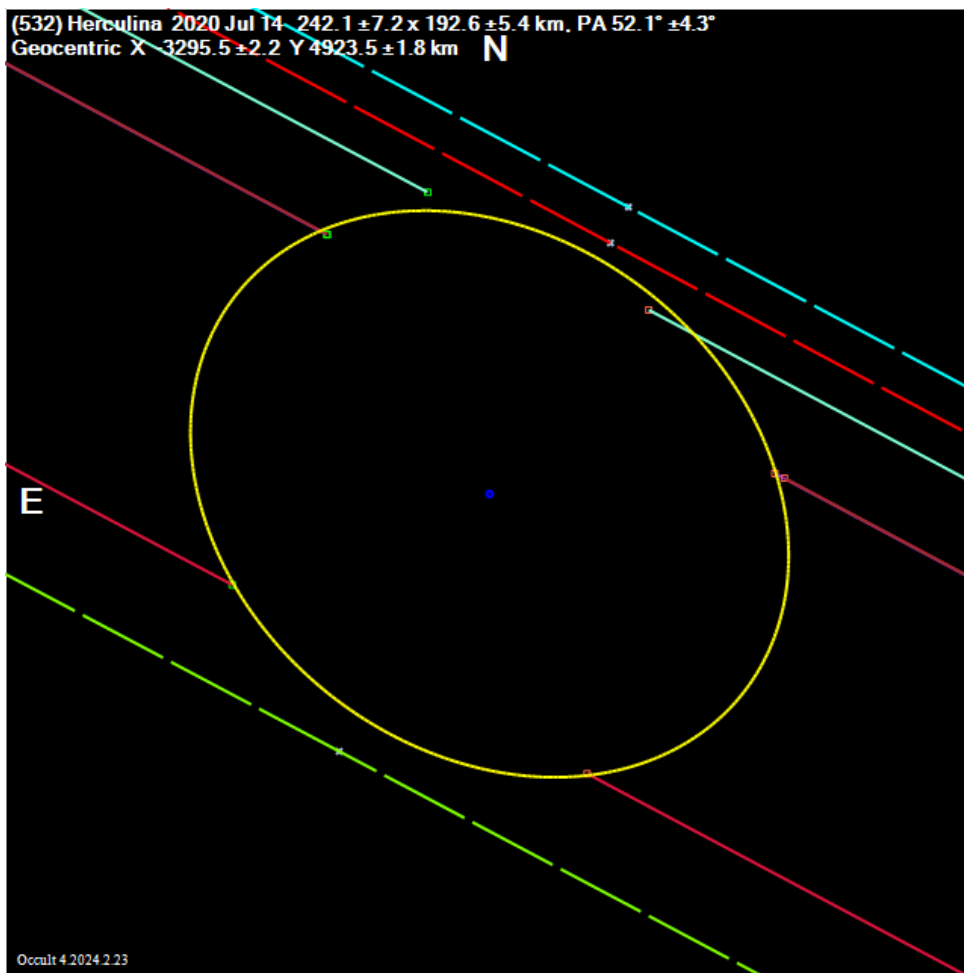
532_Herculina_1978Jun07

(532) Herculina 1978 Jun 7 216.9 ± 8.1 x 146.7 ± 32.9 km, PA 45.8° ± 2.1°
Geocentric X 5840.3 ± 9.9 Y 4305.2 ± 8.8 km N
Sat: 46.5 x 46.5 km, PA 0.0°; Sep 0.8283" at PA 222.6°



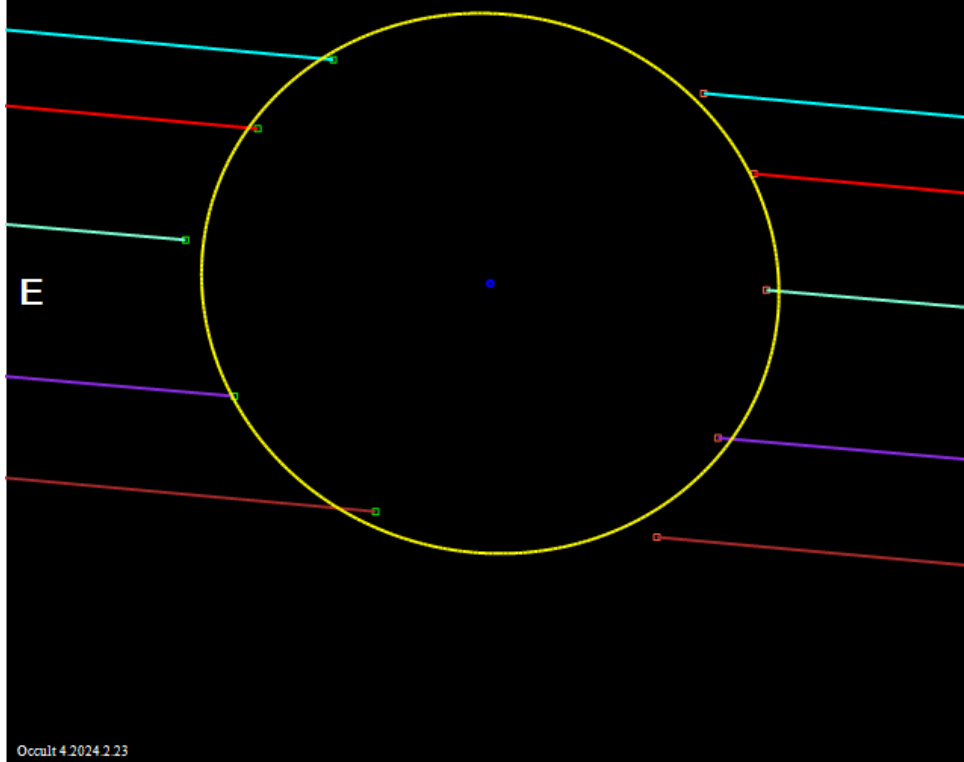
532_Herculina_2020Jul14

(532) Herculina 2020 Jul 14, $242.1 \pm 7.2 \times 192.6 \pm 5.4$ km, PA $52.1^\circ \pm 4.3^\circ$
Geocentric X -3295.5 ± 2.2 Y 4923.5 ± 1.8 km **N**



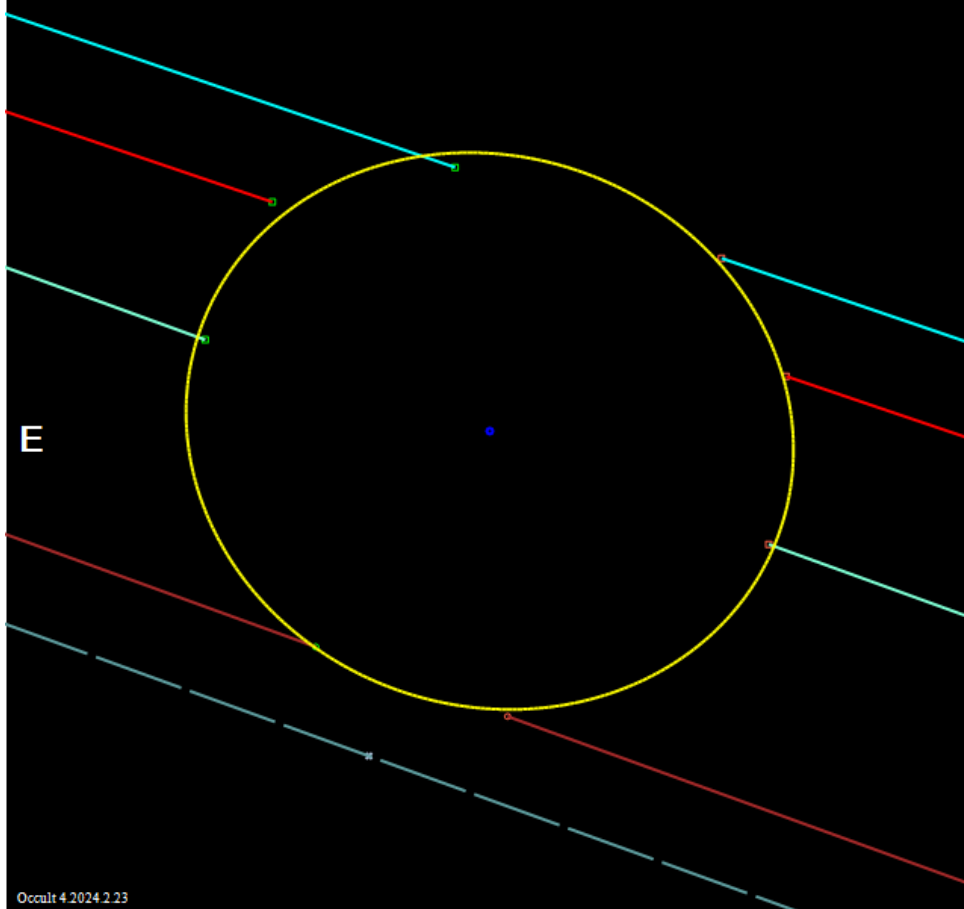
535_Montague_2021Nov10

(535) Montague 2021 Nov 10 $81.1 \pm 1.9 \times 75.2 \pm 2.8$ km, PA $76.6^\circ \pm 14.5^\circ$
Geocentric X -357.3 ± 0.7 Y 2247.5 ± 0.9 km **N**



541_Deborah_2023Nov07

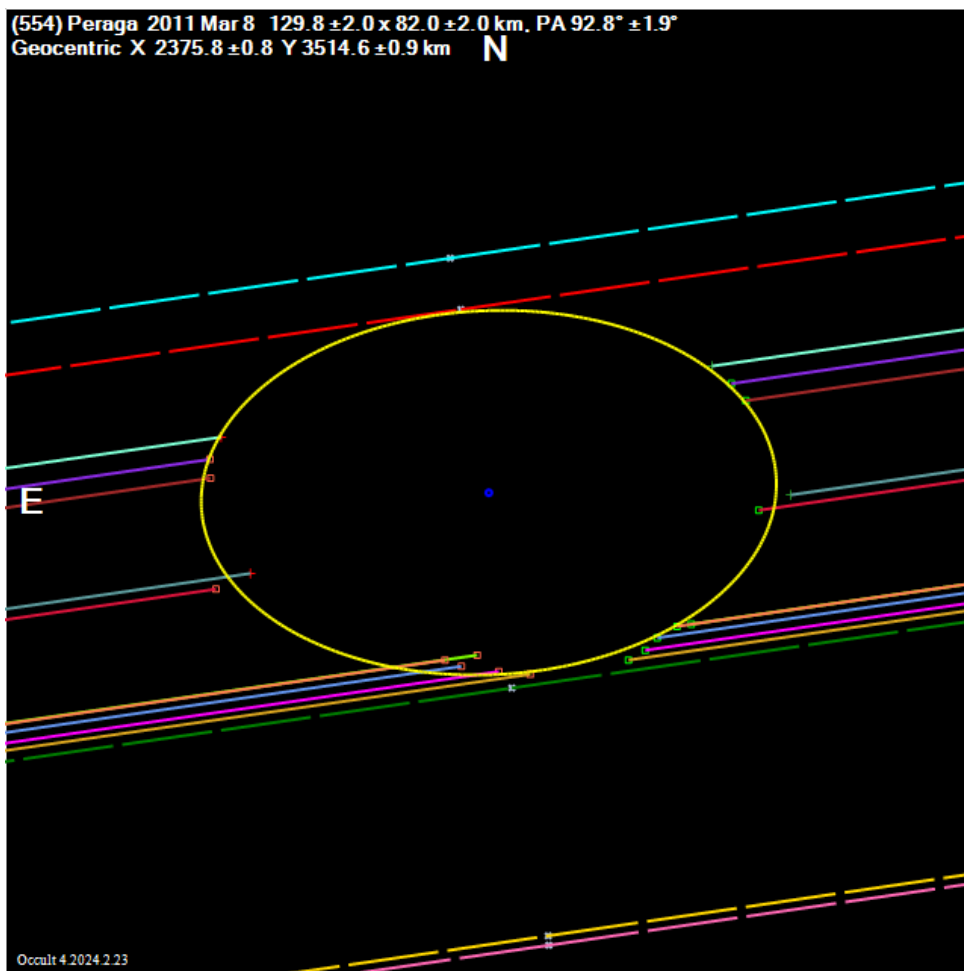
(541) Deborah 2023 Nov 7 $62.1 \pm 1.1 \times 55.6 \pm 1.2$ km, PA $71.4^\circ \pm 9.8^\circ$
Geocentric X 425.9 ± 0.5 Y 2920.8 ± 0.5 km N



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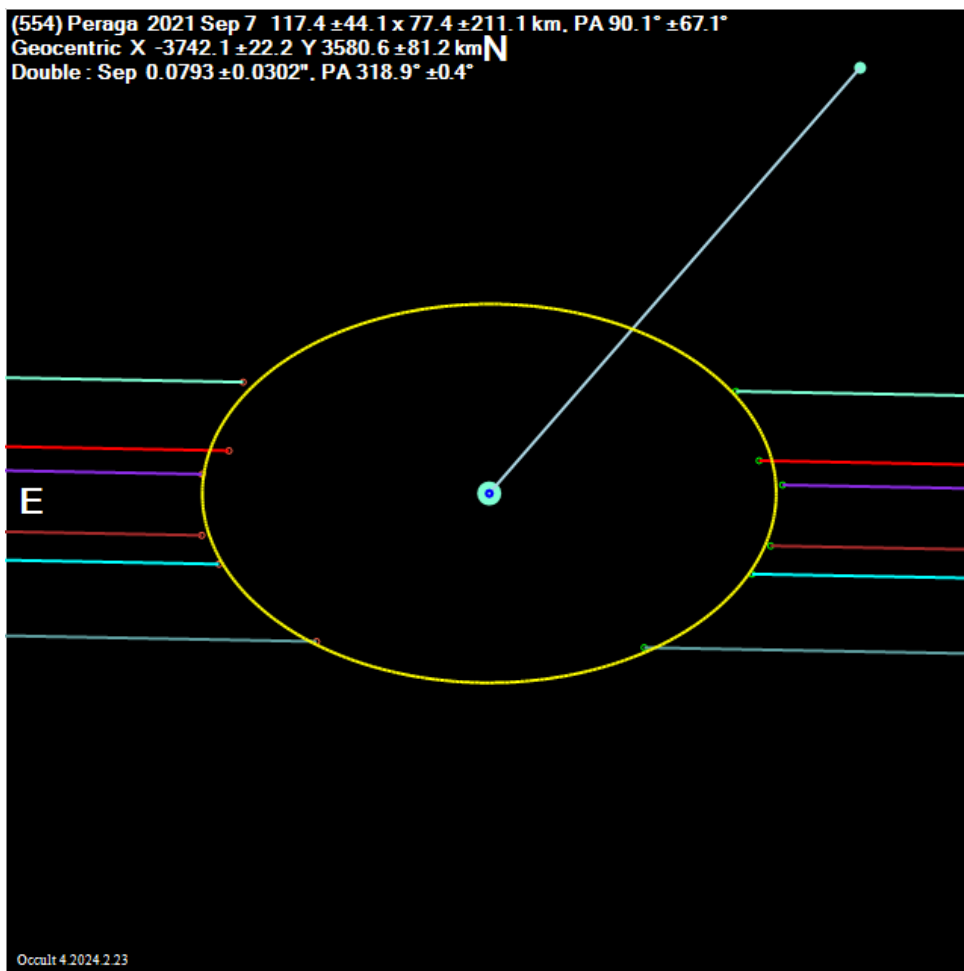
554_Peraga_2011Mar08

(554) Peraga 2011 Mar 8 $129.8 \pm 2.0 \times 82.0 \pm 2.0$ km, PA $92.8^\circ \pm 1.9^\circ$
Geocentric X 2375.8 ± 0.8 Y 3514.6 ± 0.9 km N



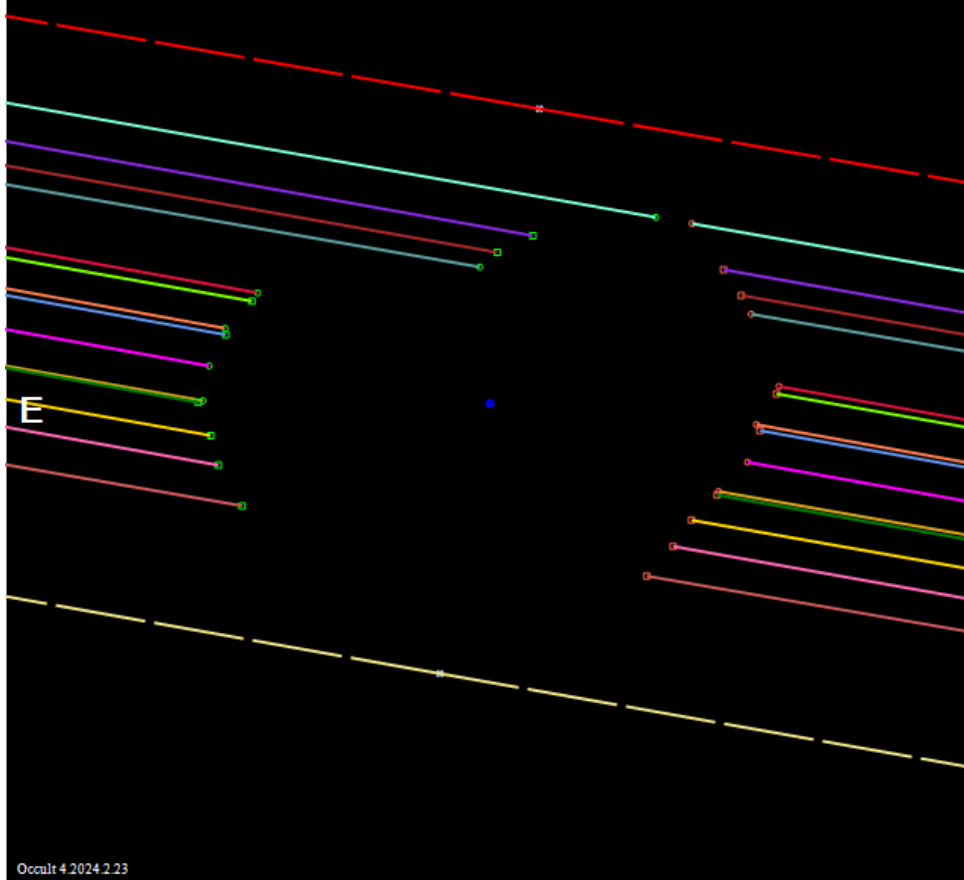
554_Peraga_2021Sep07

(554) Peraga 2021 Sep 7 $117.4 \pm 44.1 \times 77.4 \pm 211.1$ km, PA $90.1^\circ \pm 67.1^\circ$
Geocentric X -3742.1 ± 22.2 Y 3580.6 ± 81.2 km **N**
Double : Sep $0.0793 \pm 0.0302''$, PA $318.9^\circ \pm 0.4^\circ$



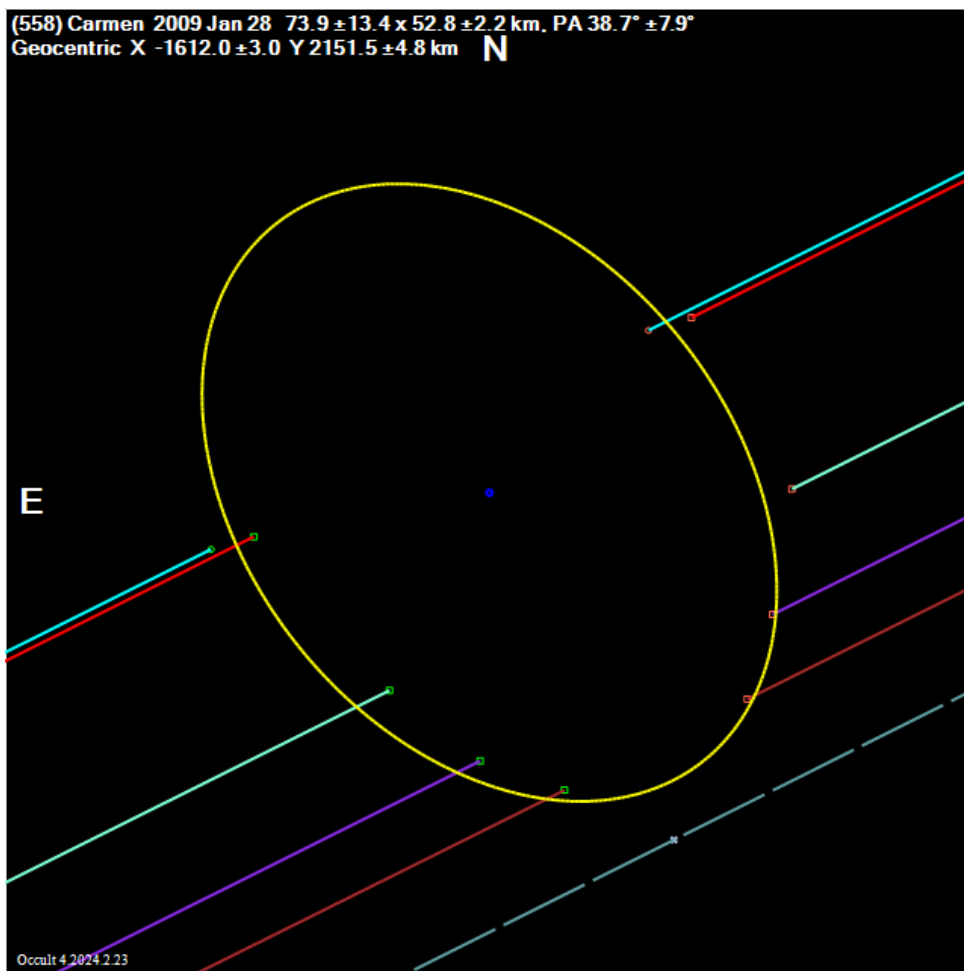
554_Peraga_2022Jan26

(554) Peraga 2022 Jan 26 $127.4 \pm 2.2 \times 82.7 \pm 3.1$ km. PA $96.6^\circ \pm 2.5^\circ$
Geocentric X 1307.6 ± 1.0 Y 2208.5 ± 1.1 km **N**



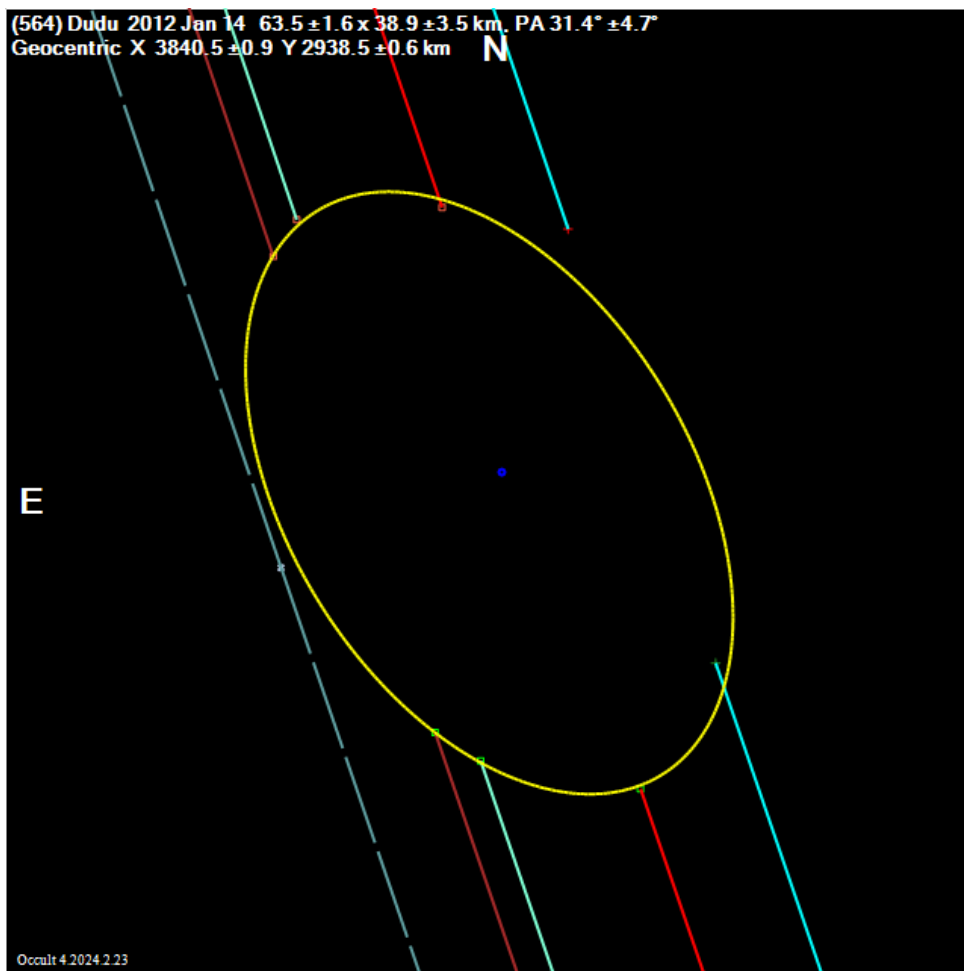
558_Carmen_2009Jan28

(558) Carmen 2009 Jan 28 $73.9 \pm 13.4 \times 52.8 \pm 2.2$ km, PA $38.7^\circ \pm 7.9^\circ$
Geocentric X -1612.0 ± 3.0 Y 2151.5 ± 4.8 km **N**



564_Dudu_2012Jan14

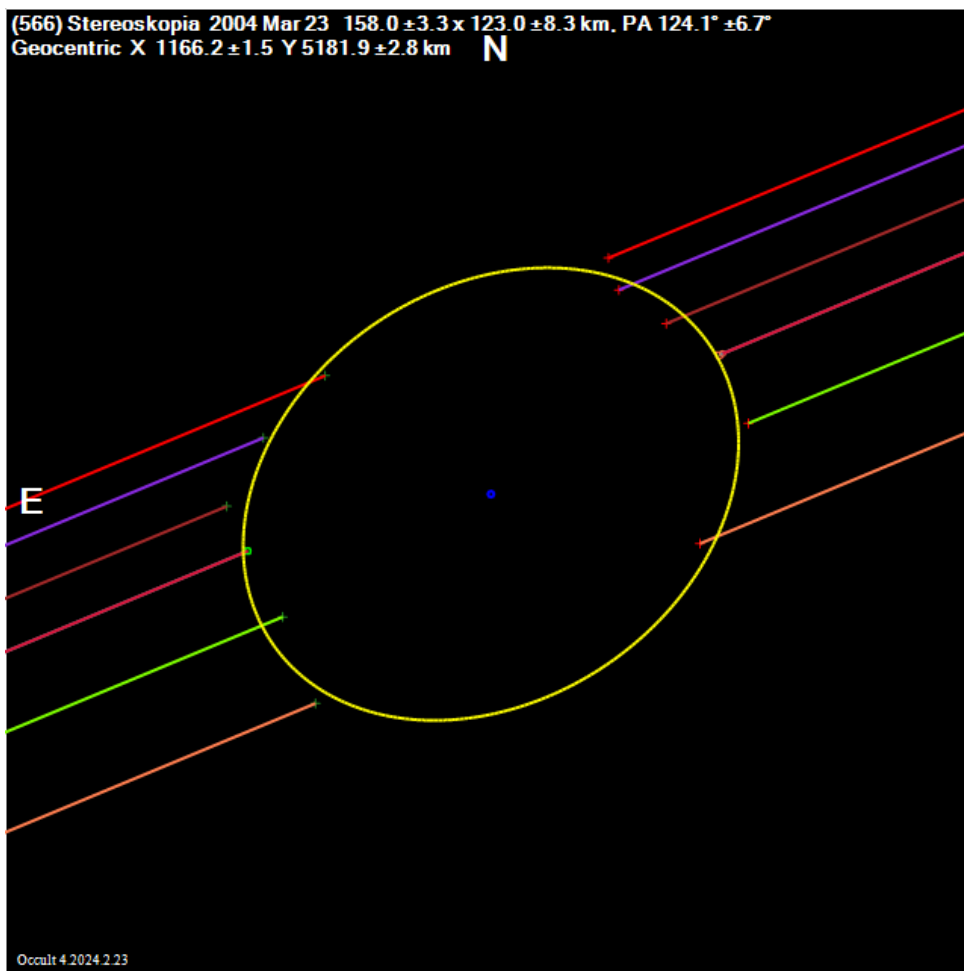
(564) Dudu 2012 Jan 14 $63.5 \pm 1.6 \times 38.9 \pm 3.5$ km, PA $31.4^\circ \pm 4.7^\circ$
Geocentric X 3840.5 ± 0.9 Y 2938.5 ± 0.6 km



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566_Stereoskopia_2004Mar23

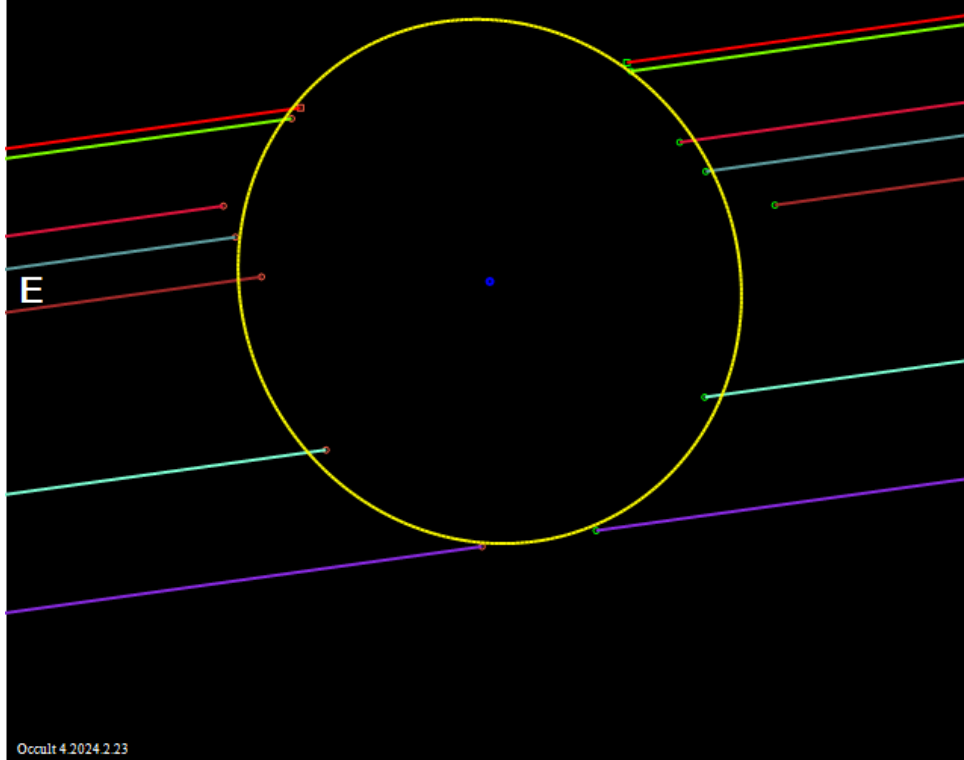
(566) Stereoskopia 2004 Mar 23 158.0 ±3.3 x 123.0 ±8.3 km. PA 124.1° ±6.7°
Geocentric X 1166.2 ±1.5 Y 5181.9 ±2.8 km N



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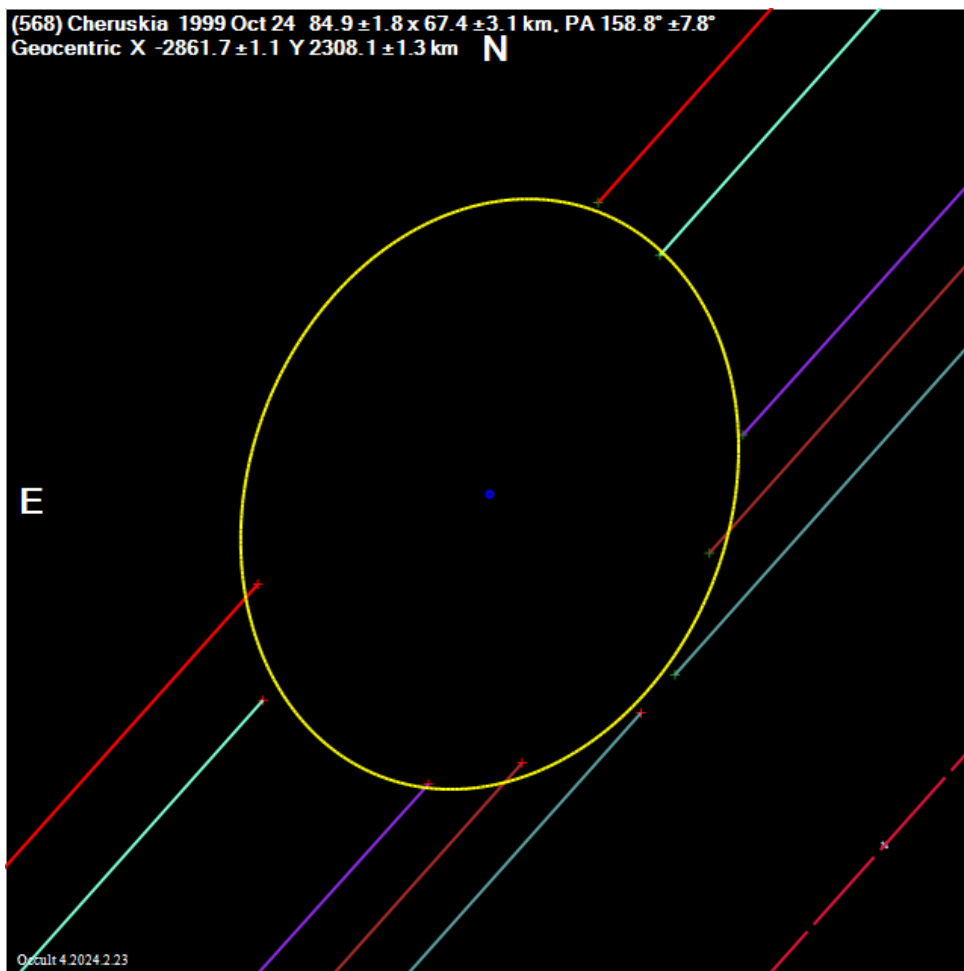
566_Stereoskopia_2021Apr08

(566) Stereoskopia-2021 Apr 8 158.3 ± 5.8 x 148.2 ± 5.2 km, PA 26.4° ± 26.3°
Geocentric X 2256.0 ± 2.2 Y 2672.4 ± 2.4 km N



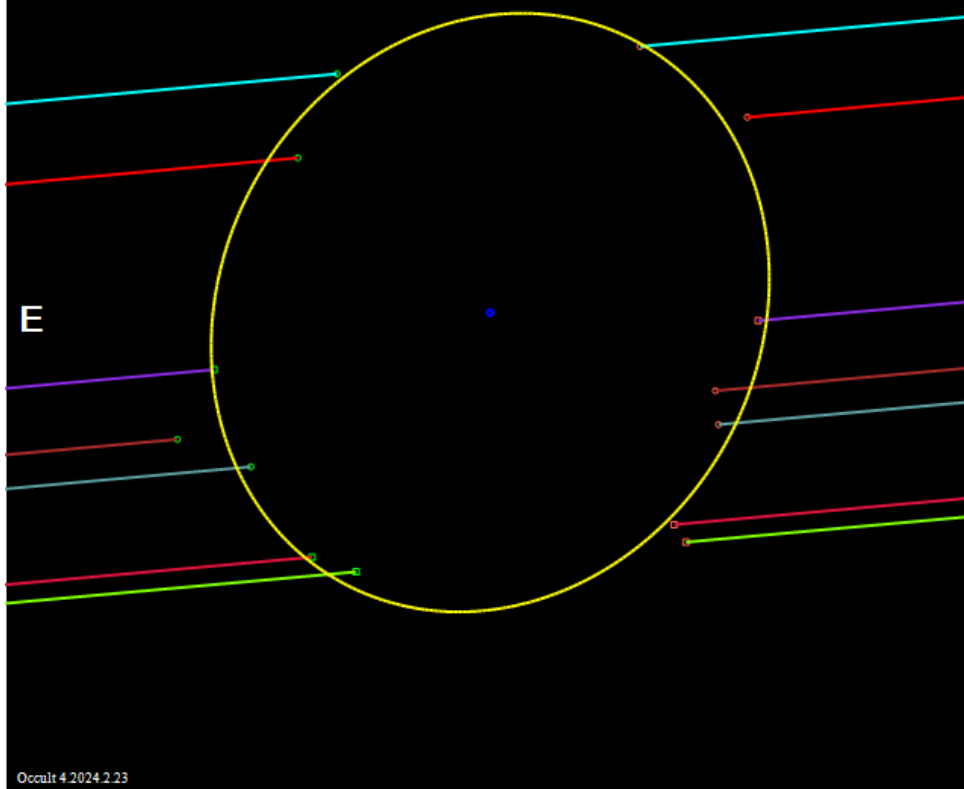
568_Cheruskia_1999Oct24

(568) Cheruskia 1999 Oct 24 $84.9 \pm 1.8 \times 67.4 \pm 3.1$ km, PA $158.8^\circ \pm 7.8^\circ$
Geocentric X -2861.7 ± 1.1 Y 2308.1 ± 1.3 km **N**



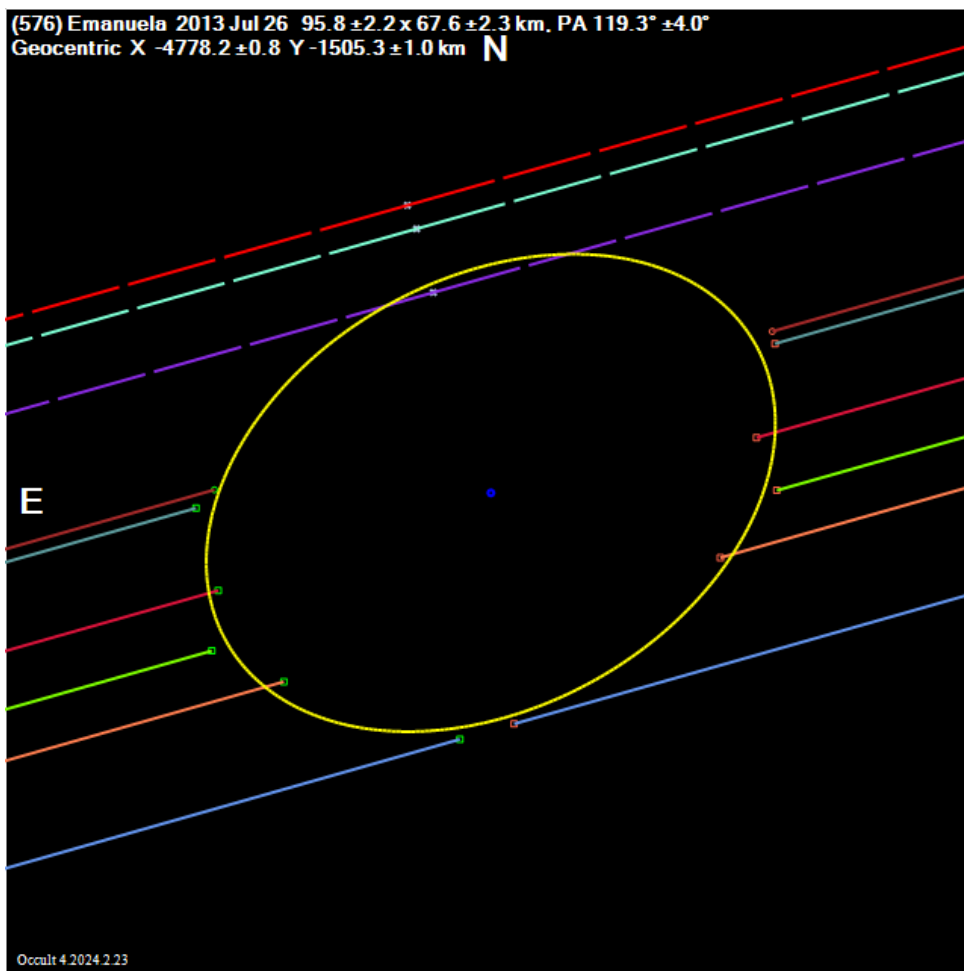
568_Cheruskia_2022Jul17

(568) Cheruskia 2022 Jul 17 $90.6 \pm 3.4 \times 79.3 \pm 2.6$ km, PA $330.7^\circ \pm 14.9^\circ$
Geocentric X 1231.4 ± 1.1 Y 5171.3 ± 1.5 km **N**



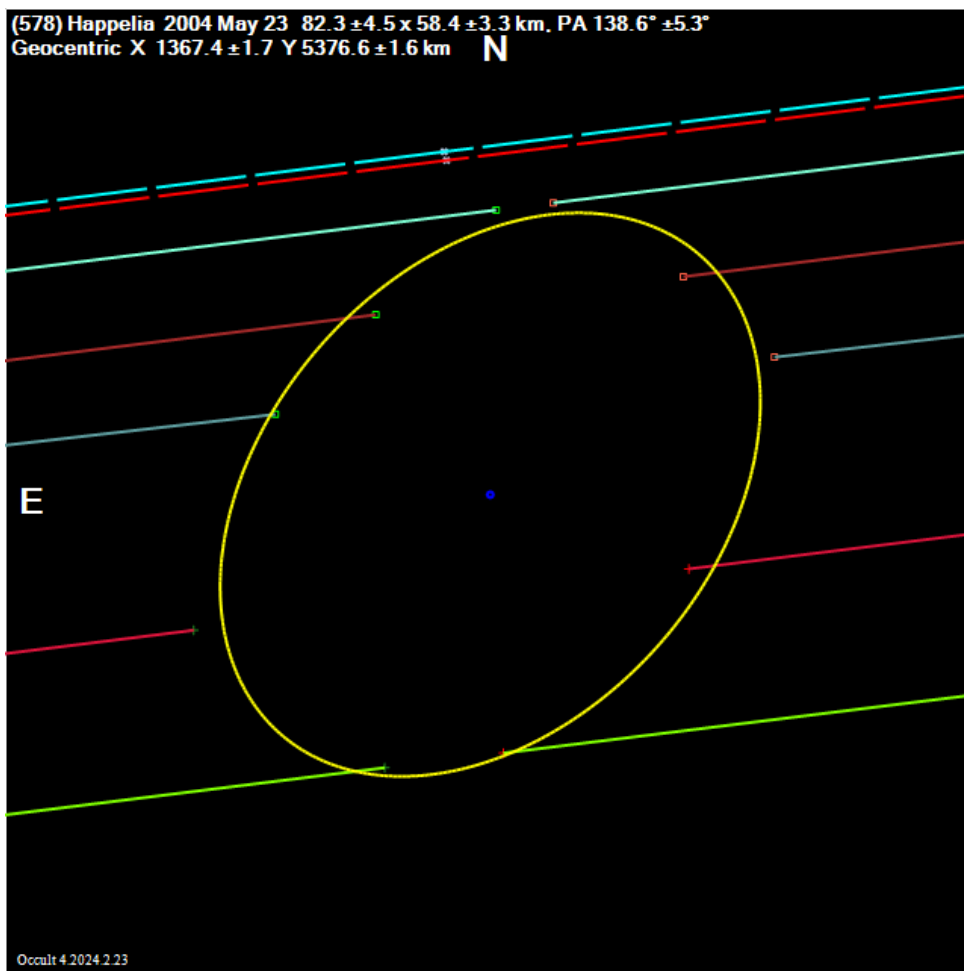
576_Emanuela_2013Jul26

(576) Emanuela 2013 Jul 26 $95.8 \pm 2.2 \times 67.6 \pm 2.3$ km. PA $119.3^\circ \pm 4.0^\circ$
Geocentric X -4778.2 ± 0.8 Y -1505.3 ± 1.0 km **N**



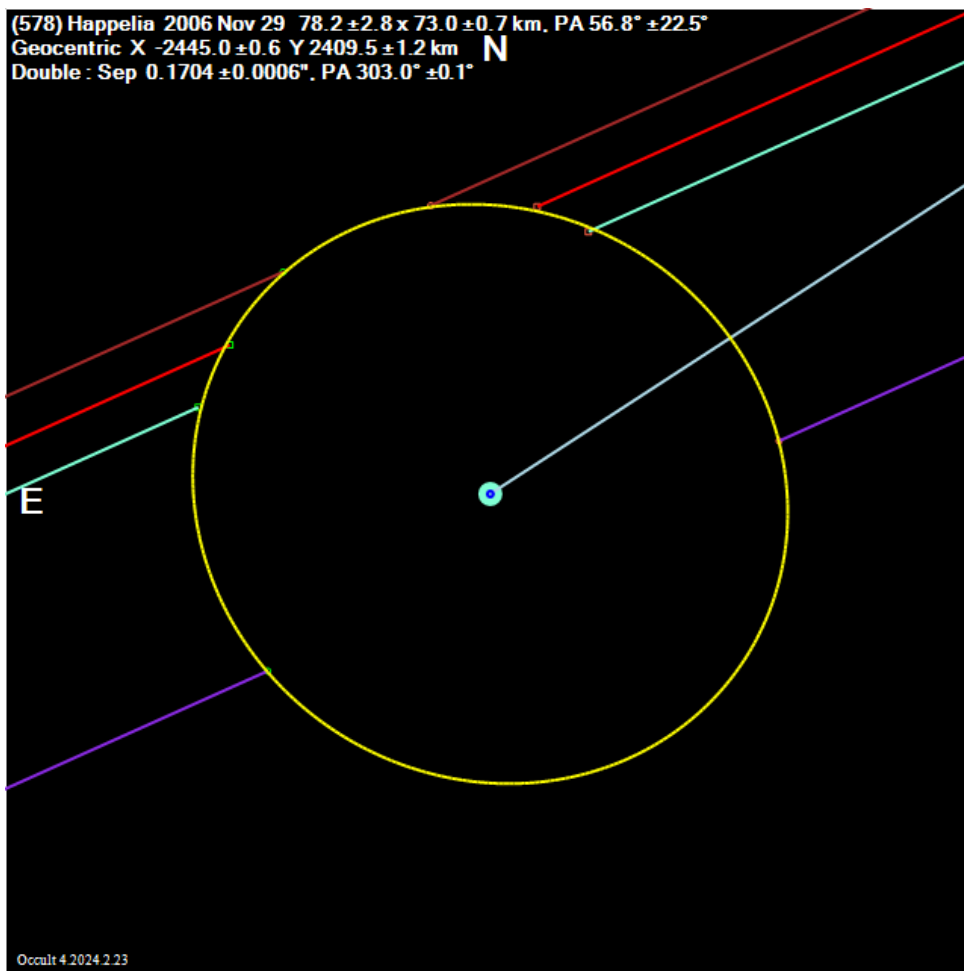
578_Happelia_2004May23

(578) Happelia 2004 May 23 $82.3 \pm 4.5 \times 58.4 \pm 3.3$ km. PA $138.6^\circ \pm 5.3^\circ$
Geocentric X 1367.4 ± 1.7 Y 5376.6 ± 1.6 km N



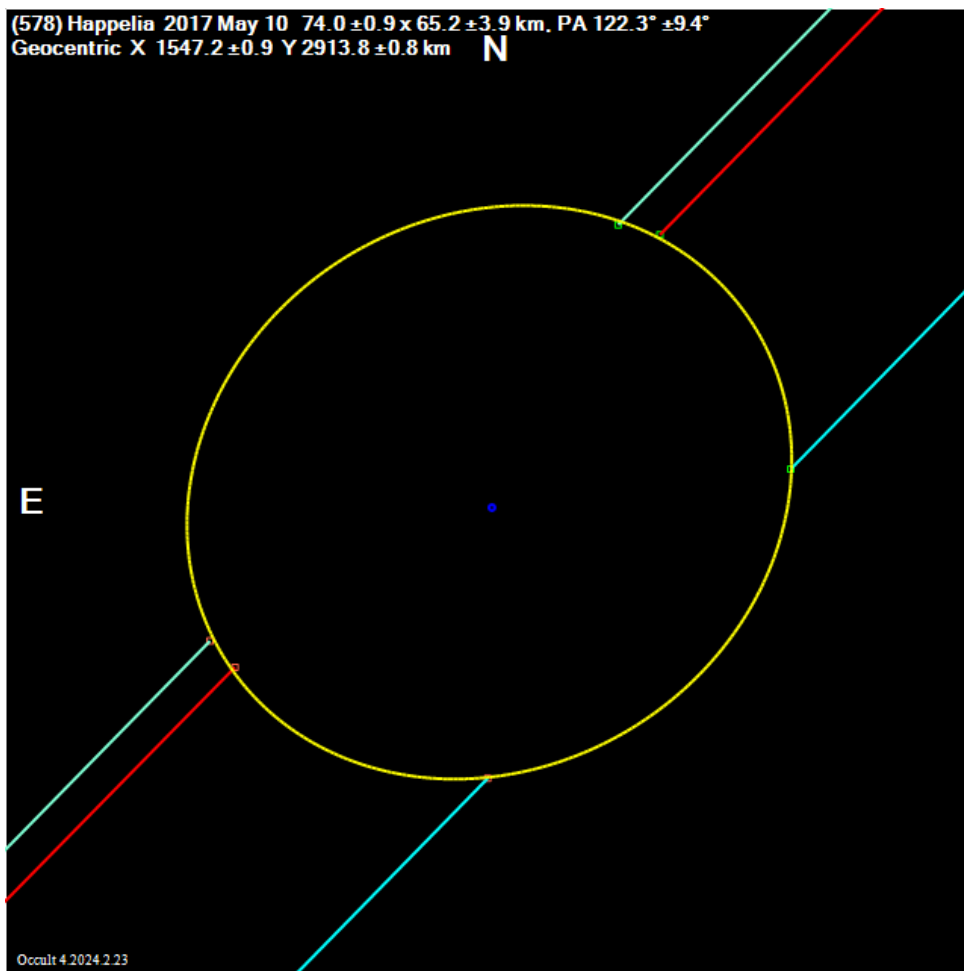
578_Happelia_2006Nov29

(578) Happelia 2006 Nov 29 $78.2 \pm 2.8 \times 73.0 \pm 0.7$ km, PA $56.8^\circ \pm 22.5^\circ$
Geocentric X -2445.0 ± 0.6 Y 2409.5 ± 1.2 km **N**
Double : Sep $0.1704 \pm 0.0006''$, PA $303.0^\circ \pm 0.1^\circ$



578_Happelia_2017May10

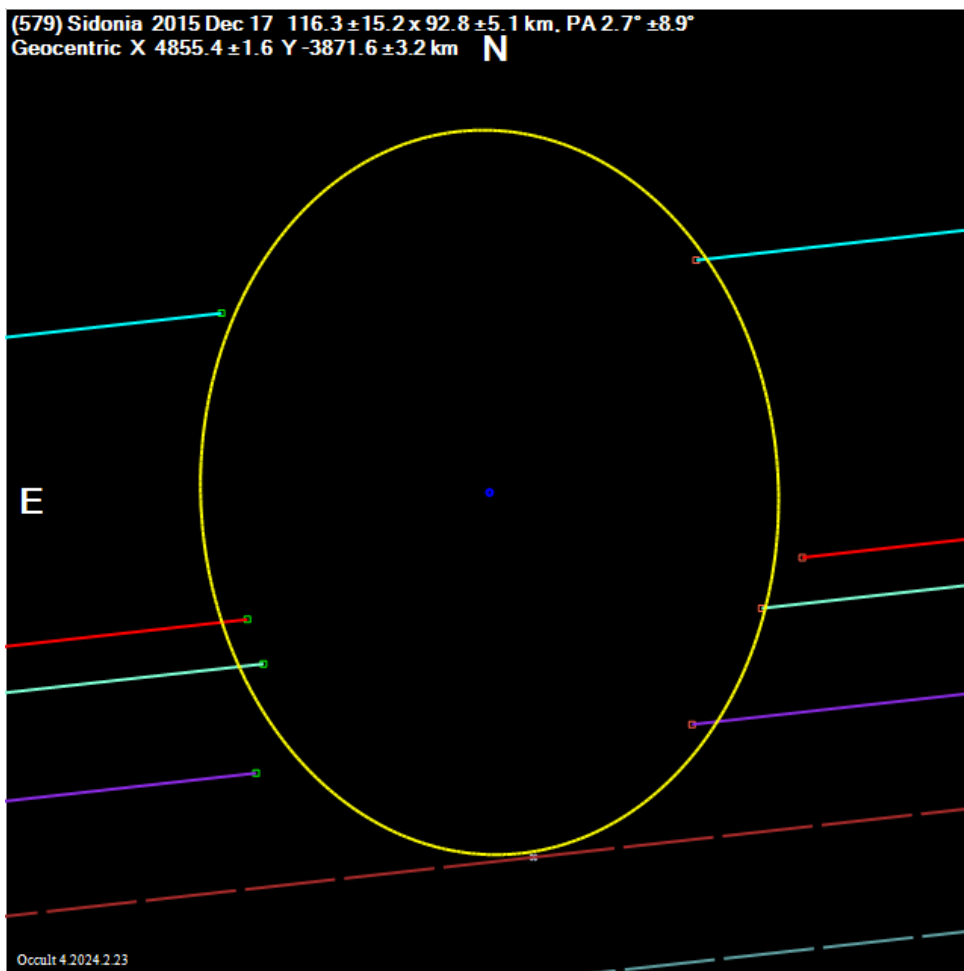
(578) Happelia 2017 May 10 $74.0 \pm 0.9 \times 65.2 \pm 3.9$ km. PA $122.3^\circ \pm 9.4^\circ$
Geocentric X 1547.2 ± 0.9 Y 2913.8 ± 0.8 km **N**



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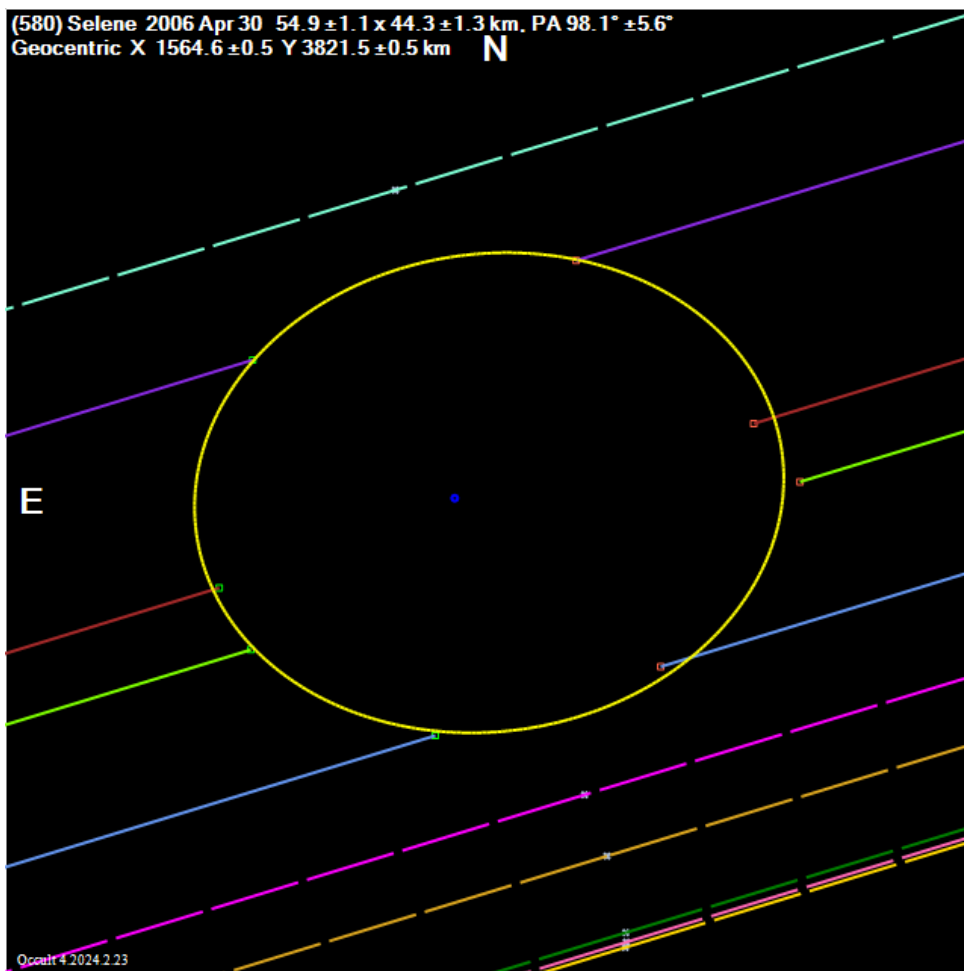
579_Sidonia_2015Dec17

(579) Sidonia 2015 Dec 17 $116.3 \pm 15.2 \times 92.8 \pm 5.1$ km, PA $2.7^\circ \pm 8.9^\circ$
Geocentric X 4855.4 ± 1.6 Y -3871.6 ± 3.2 km **N**



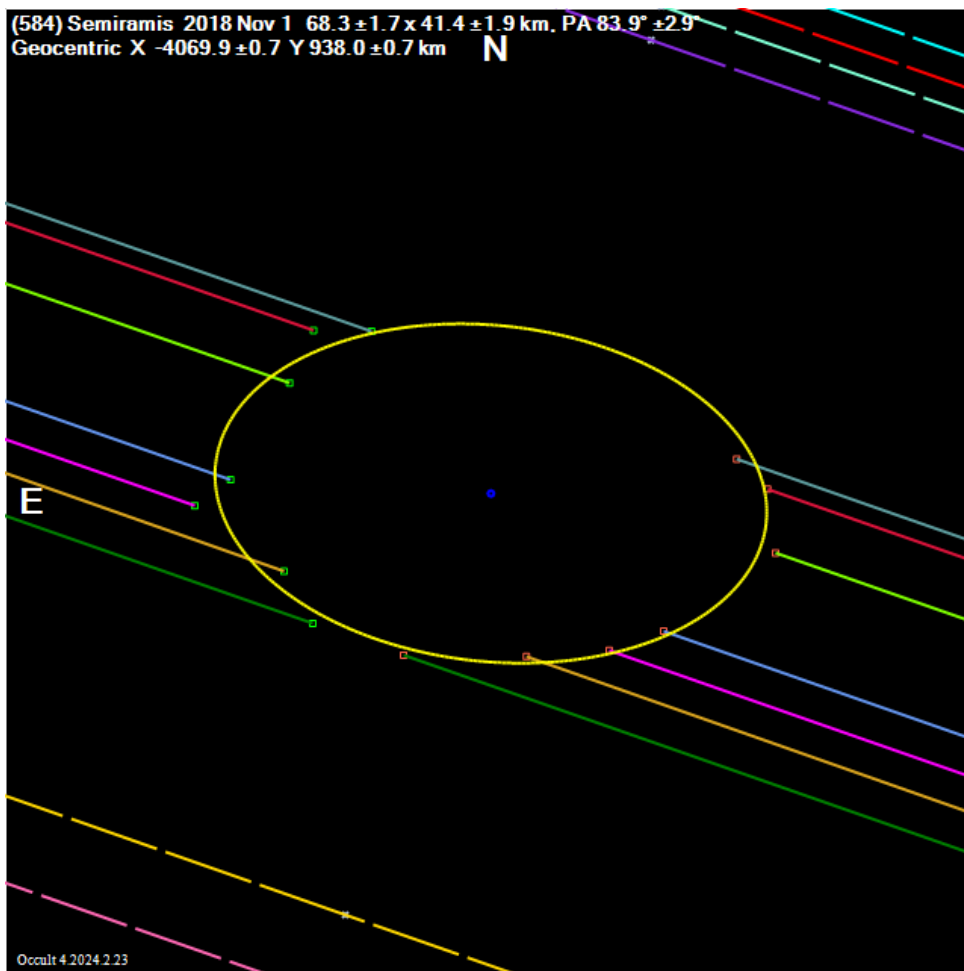
580_Selene_2006Apr30

(580) Selene 2006 Apr 30 $54.9 \pm 1.1 \times 44.3 \pm 1.3$ km, PA $98.1^\circ \pm 5.6^\circ$
Geocentric X 1564.6 ± 0.5 Y 3821.5 ± 0.5 km N



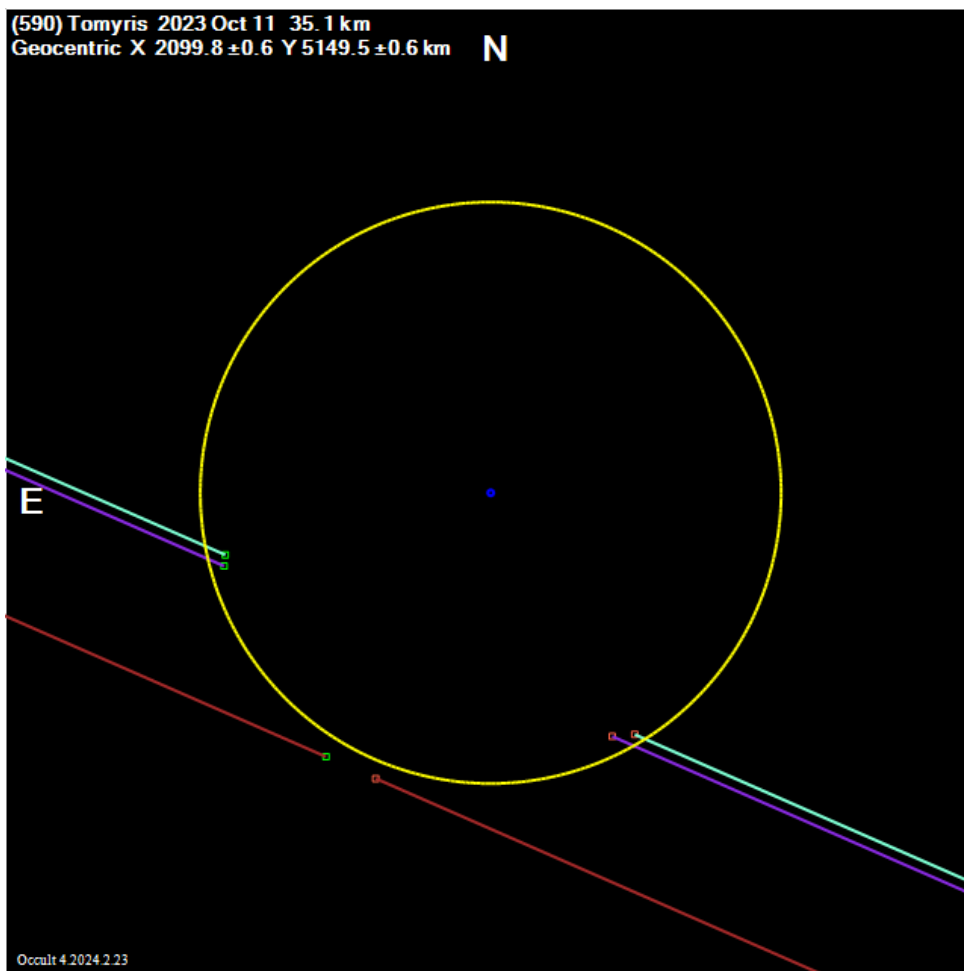
584_Semiramis_2018Nov01

(584) Semiramis 2018 Nov 1 $68.3 \pm 1.7 \times 41.4 \pm 1.9$ km. PA $83.9^\circ \pm 2.9^\circ$
Geocentric X -4069.9 ± 0.7 Y 938.0 ± 0.7 km N



590_Tomyris_2023Oct11

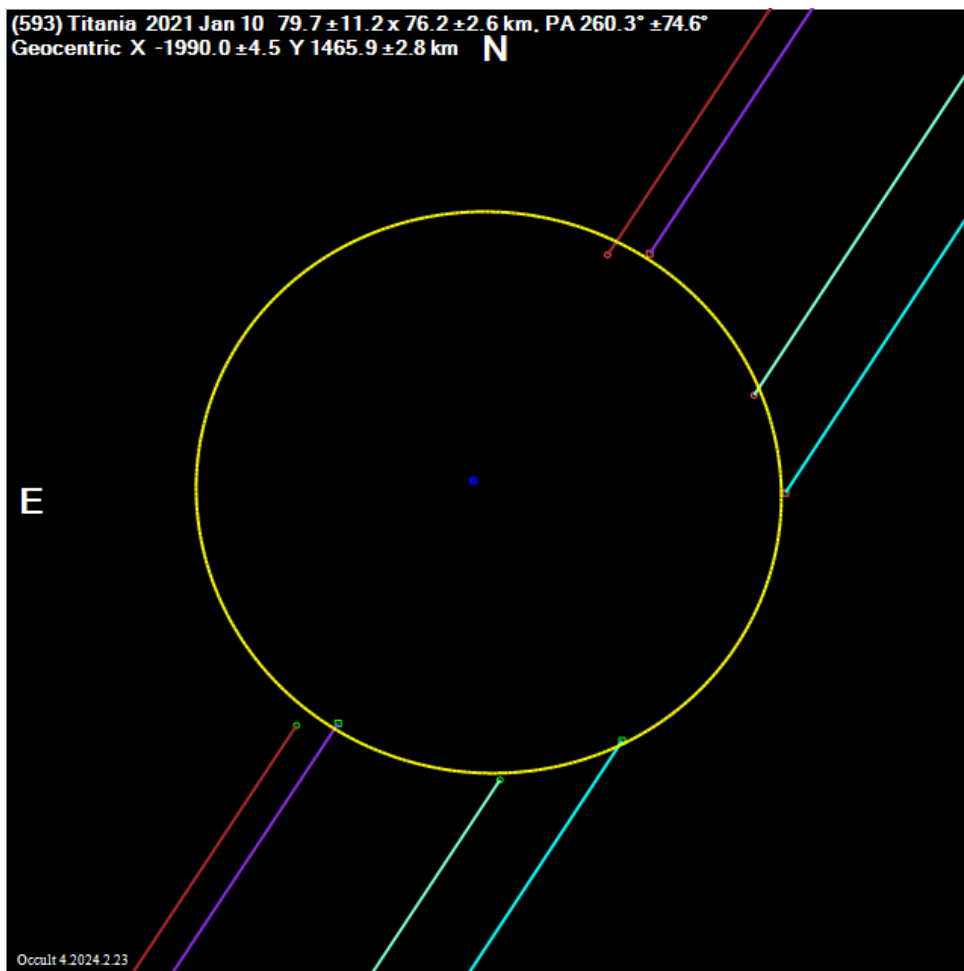
(590) Tomyris 2023 Oct 11 35.1 km
Geocentric X 2099.8 ± 0.6 Y 5149.5 ± 0.6 km N



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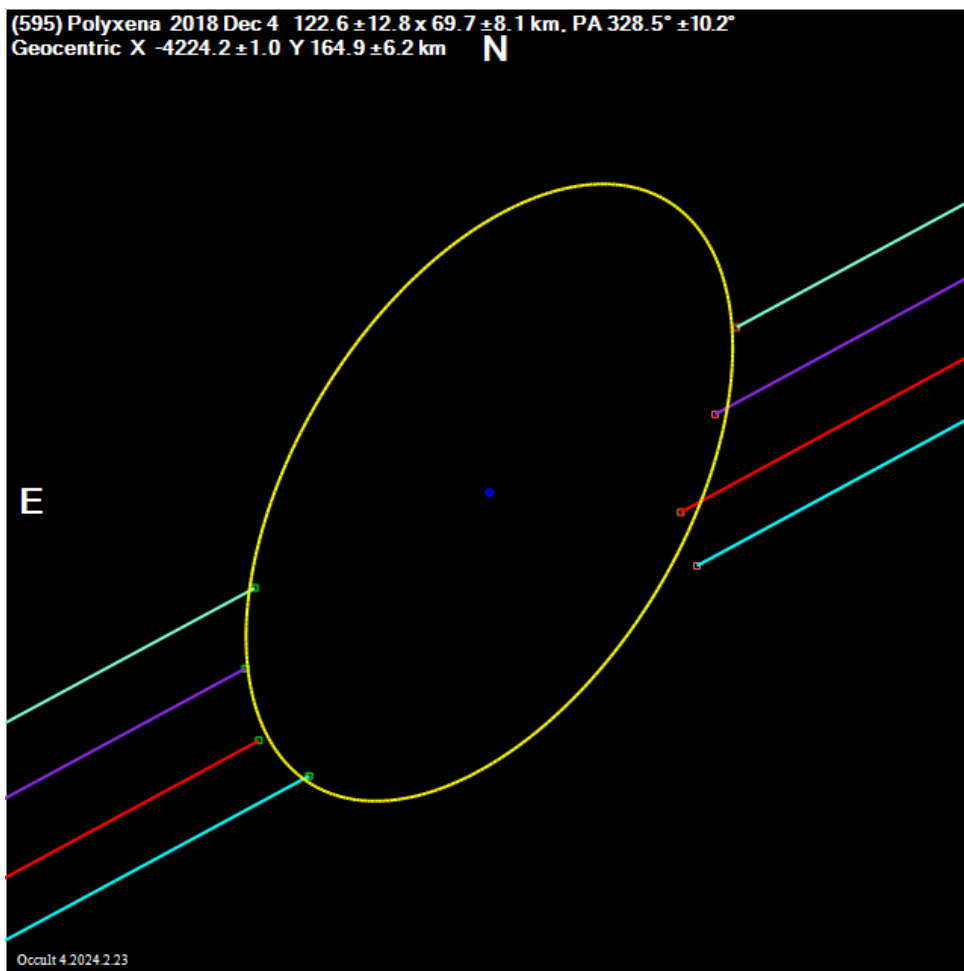
593_Titania_2021Jan10

(593) Titania 2021 Jan 10 $79.7 \pm 11.2 \times 76.2 \pm 2.6$ km, PA $260.3^\circ \pm 74.6^\circ$
Geocentric X -1990.0 ± 4.5 Y 1465.9 ± 2.8 km **N**



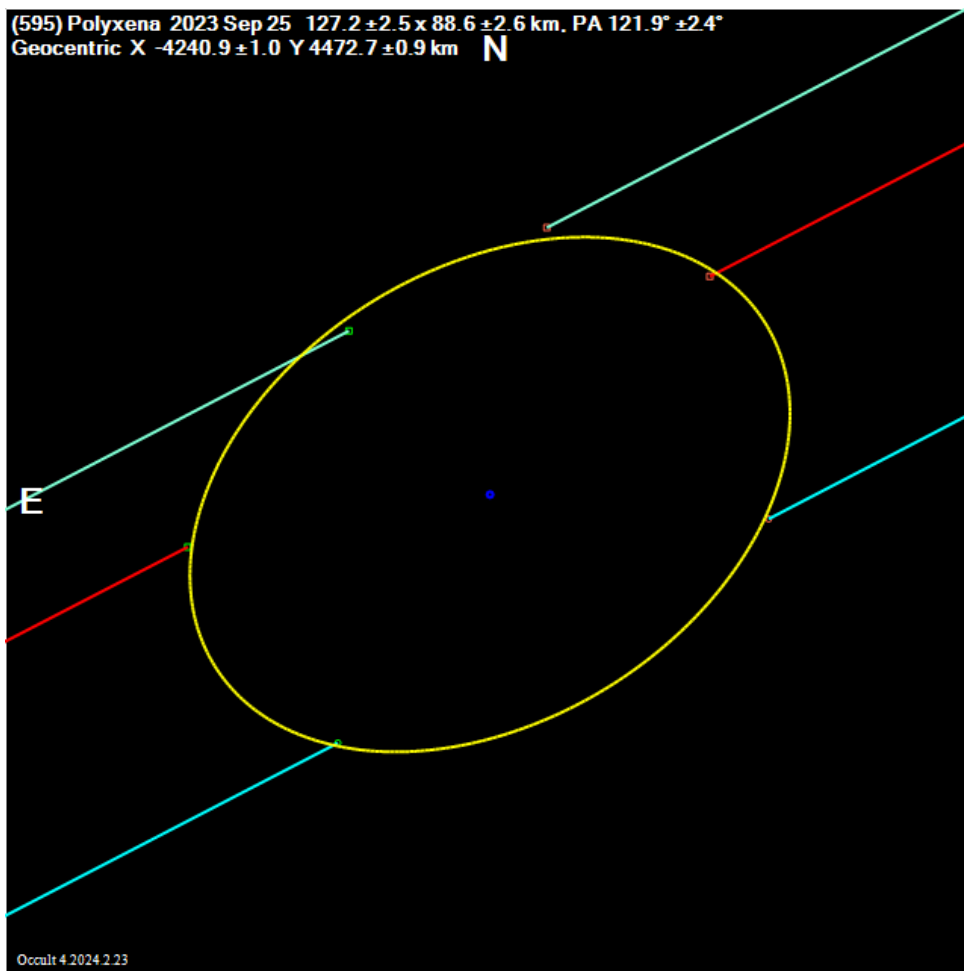
595_Polyxena_2018Dec04

(595) Polyxena 2018 Dec 4 $122.6 \pm 12.8 \times 69.7 \pm 8.1$ km. PA $328.5^\circ \pm 10.2^\circ$
Geocentric X -4224.2 ± 1.0 Y 164.9 ± 6.2 km **N**



595_Polyxena_2023Sep25

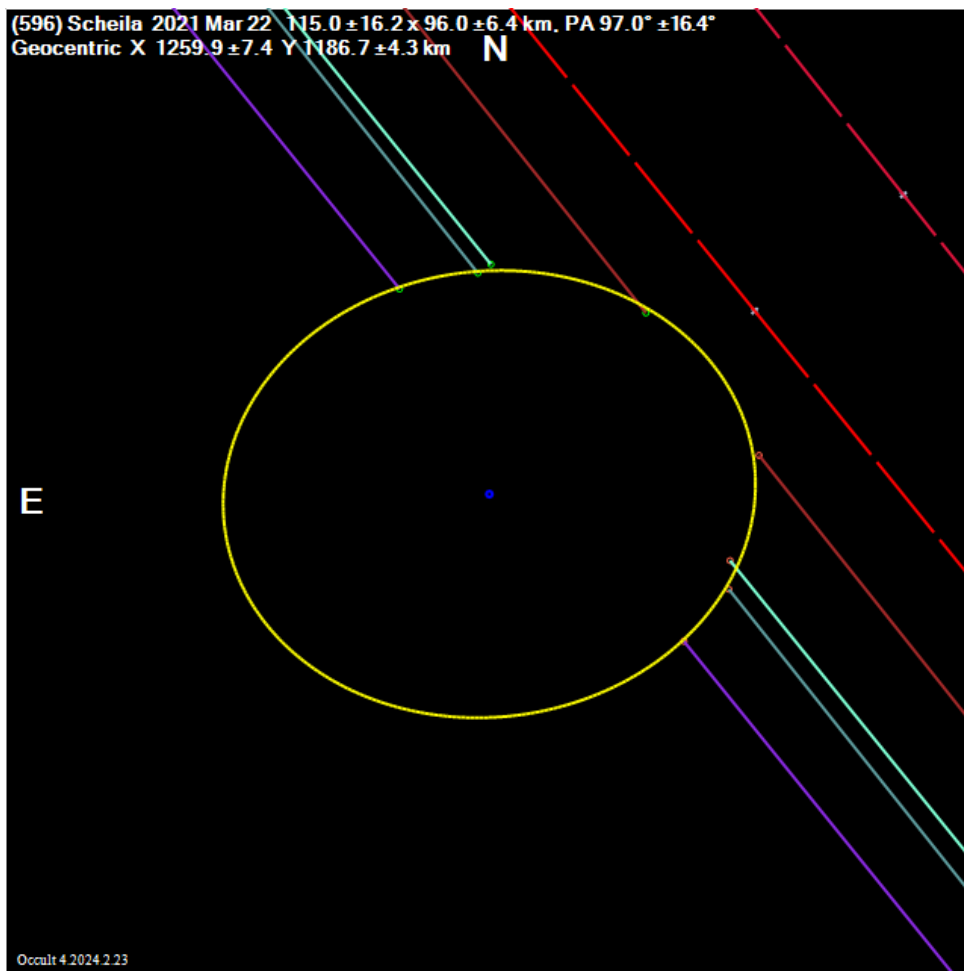
(595) Polyxena 2023 Sep 25 $127.2 \pm 2.5 \times 88.6 \pm 2.6$ km. PA $121.9^\circ \pm 2.4^\circ$
Geocentric X -4240.9 ± 1.0 Y 4472.7 ± 0.9 km **N**



Occult 4.2024.2.23

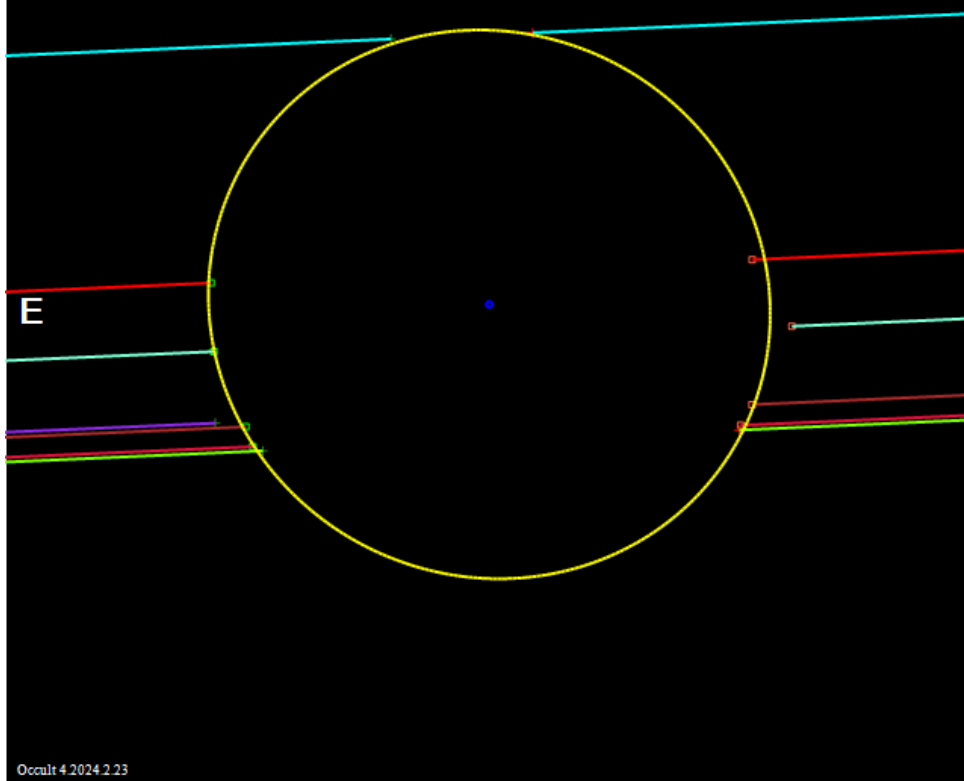
596_Scheila_2021Mar22

(596) Scheila 2021 Mar 22 $115.0 \pm 16.2 \times 96.0 \pm 6.4$ km, PA $97.0^\circ \pm 16.4^\circ$
Geocentric X 1259.9 ± 7.4 Y 1186.7 ± 4.3 km **N**



599_Luisa_2009Dec29

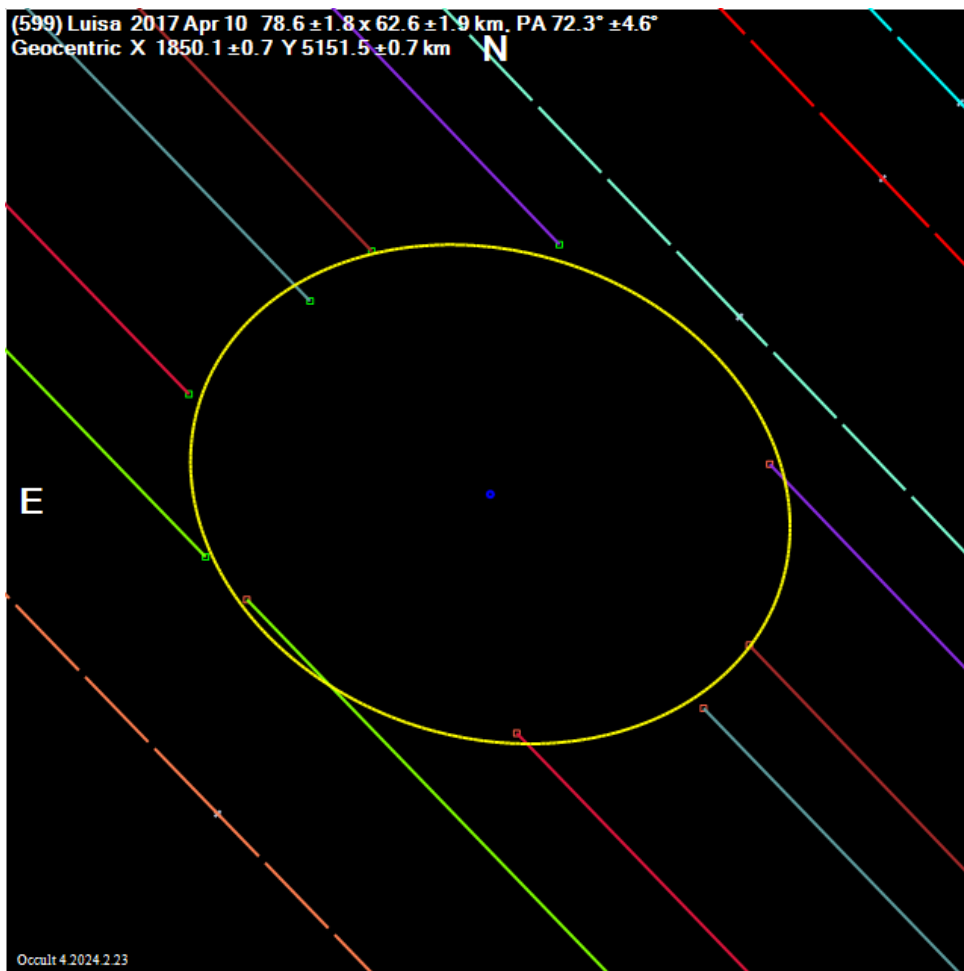
(599) Luisa 2009 Dec 29 $74.4 \pm 1.6 \times 71.3 \pm 2.5$ km, PA $62.7^\circ \pm 32.3^\circ$
Geocentric X 3955.5 ± 0.5 Y 3240.0 ± 1.0 km N



Occult 4.2024.2.23

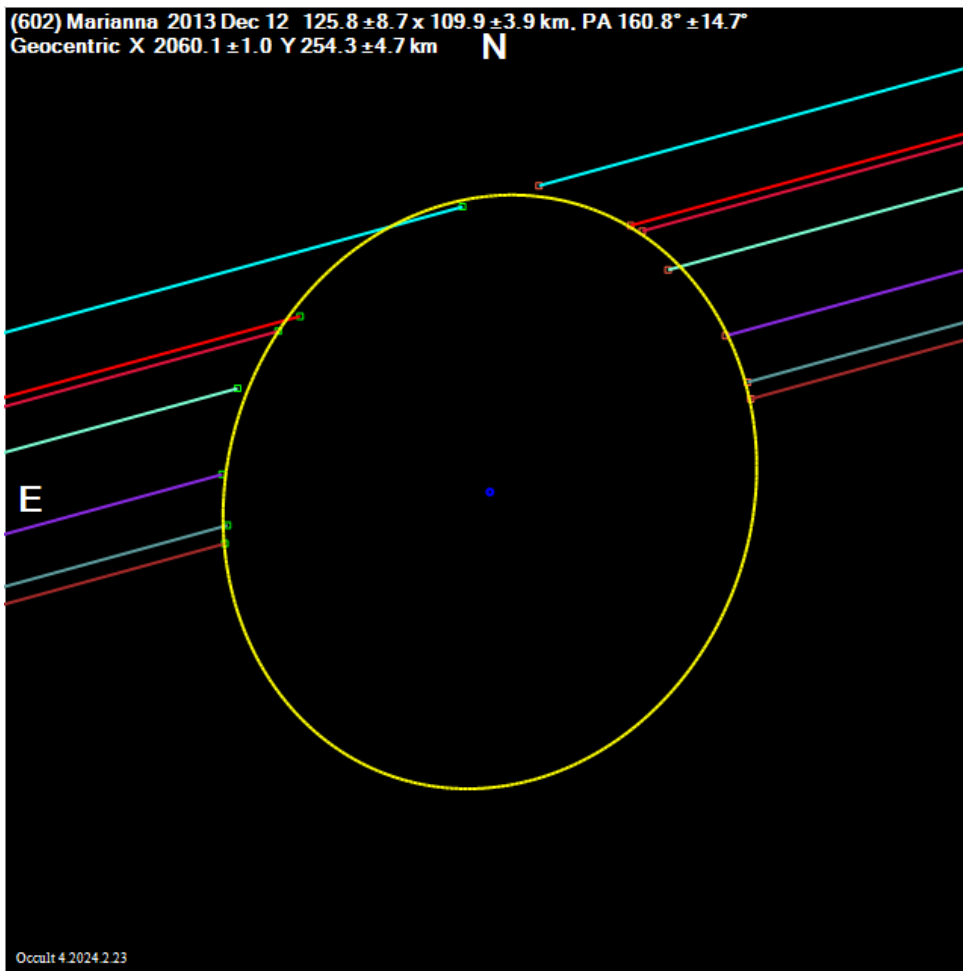
599_Luisa_2017Apr10

(599) Luisa 2017 Apr 10 $78.6 \pm 1.8 \times 62.6 \pm 1.9$ km, PA $72.3^\circ \pm 4.6^\circ$
Geocentric X 1850.1 ± 0.7 Y 5151.5 ± 0.7 km

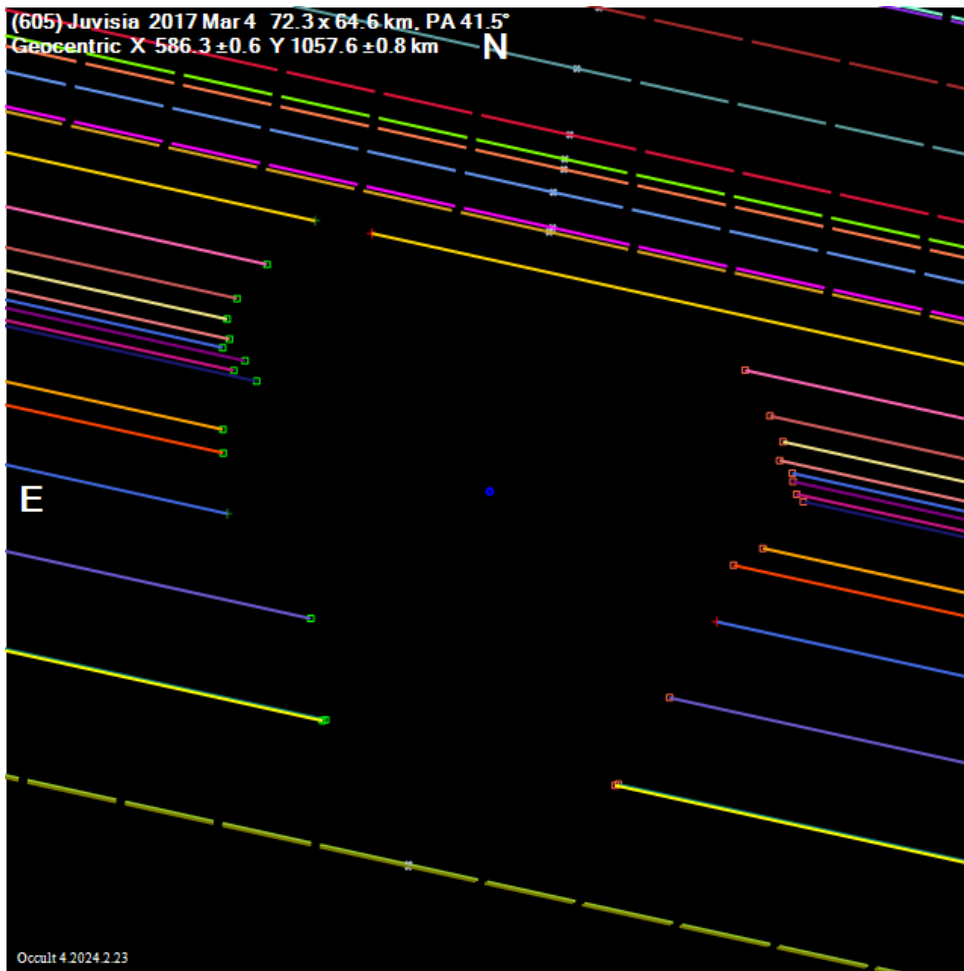


602_Marianna_2013Dec12

(602) Marianna 2013 Dec 12 $125.8 \pm 8.7 \times 109.9 \pm 3.9$ km, PA $160.8^\circ \pm 14.7^\circ$
Geocentric X 2060.1 ± 1.0 Y 254.3 ± 4.7 km N

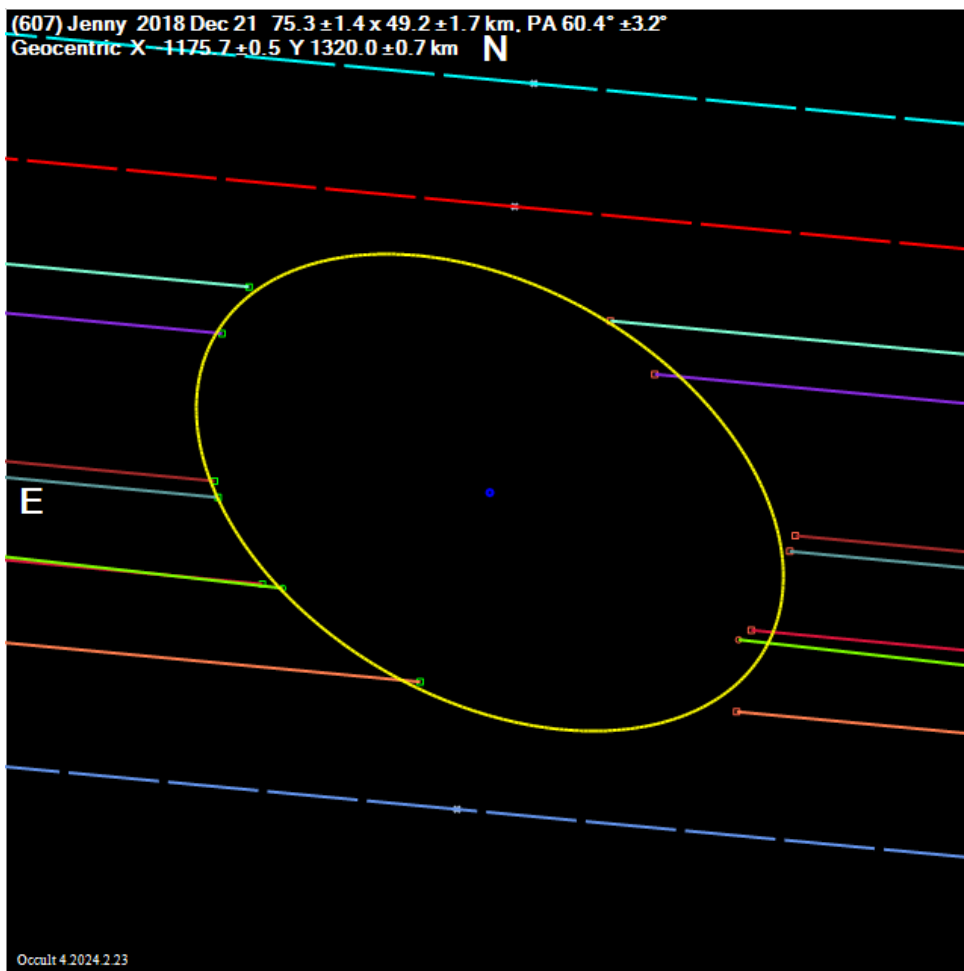


605_Juvisia_2017Mar04



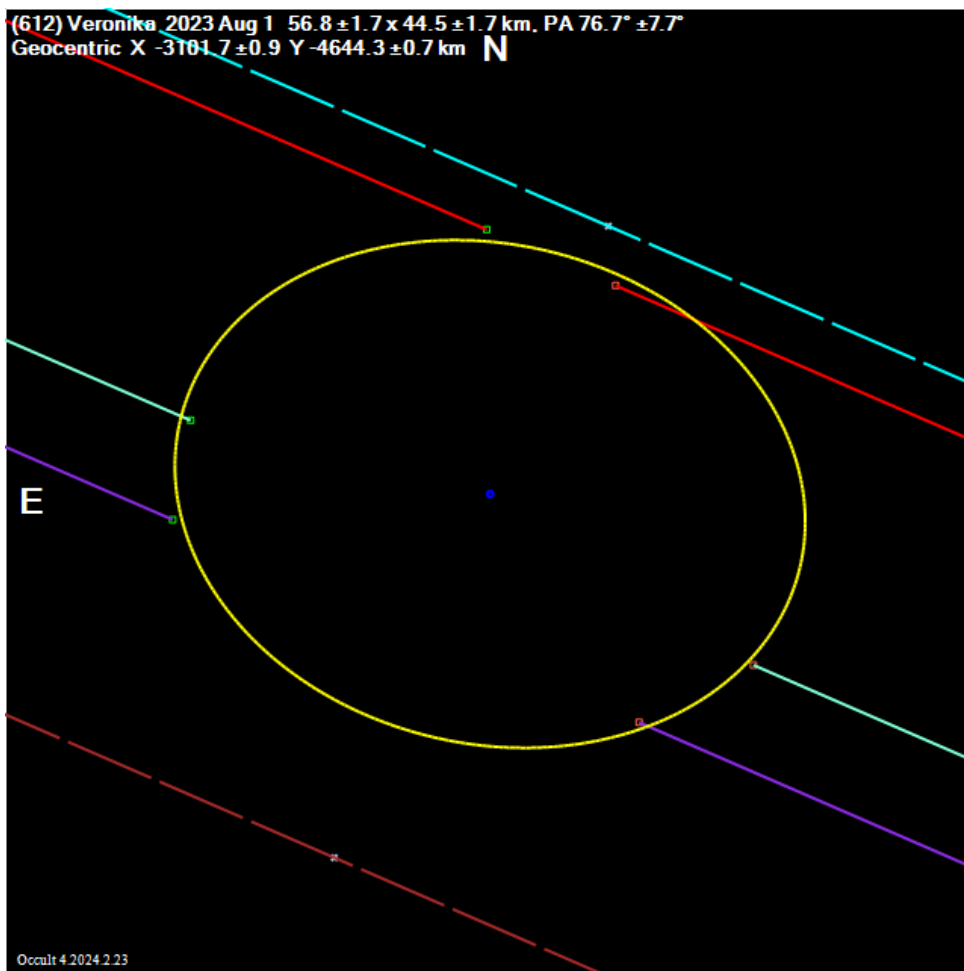
607_Jenny_2018Dec21

(607) Jenny 2018 Dec 21 $75.3 \pm 1.4 \times 49.2 \pm 1.7$ km. PA $60.4^\circ \pm 3.2^\circ$
Geocentric X -1175.7 ± 0.5 Y 1320.0 ± 0.7 km N



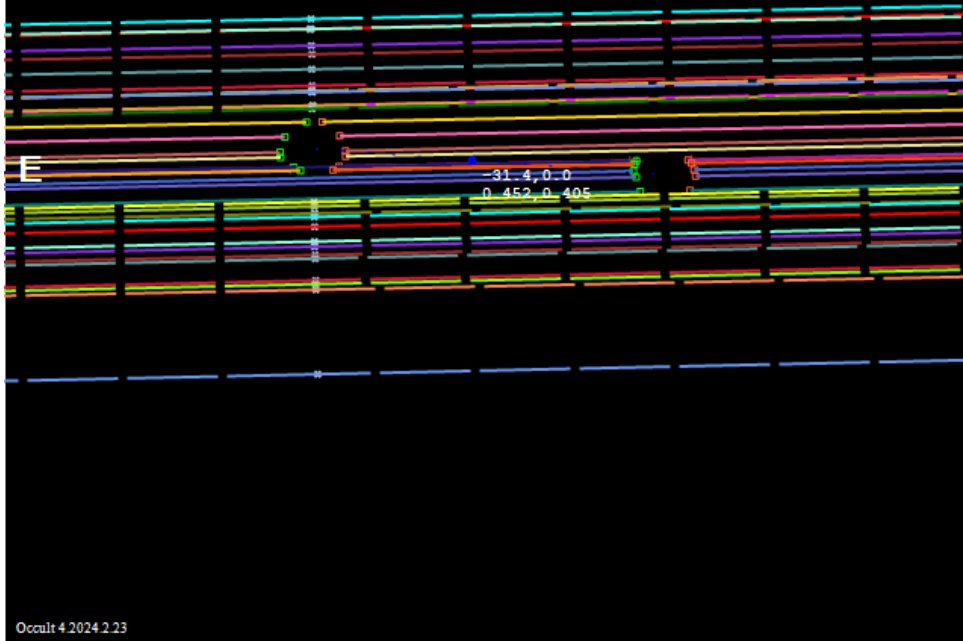
612_Veronika_2023Aug01

(612) Veronika 2023 Aug 1 $56.8 \pm 1.7 \times 44.5 \pm 1.7$ km, PA $76.7^\circ \pm 7.7^\circ$
Geocentric X -3101.7 ± 0.9 Y -4644.3 ± 0.7 km **N**



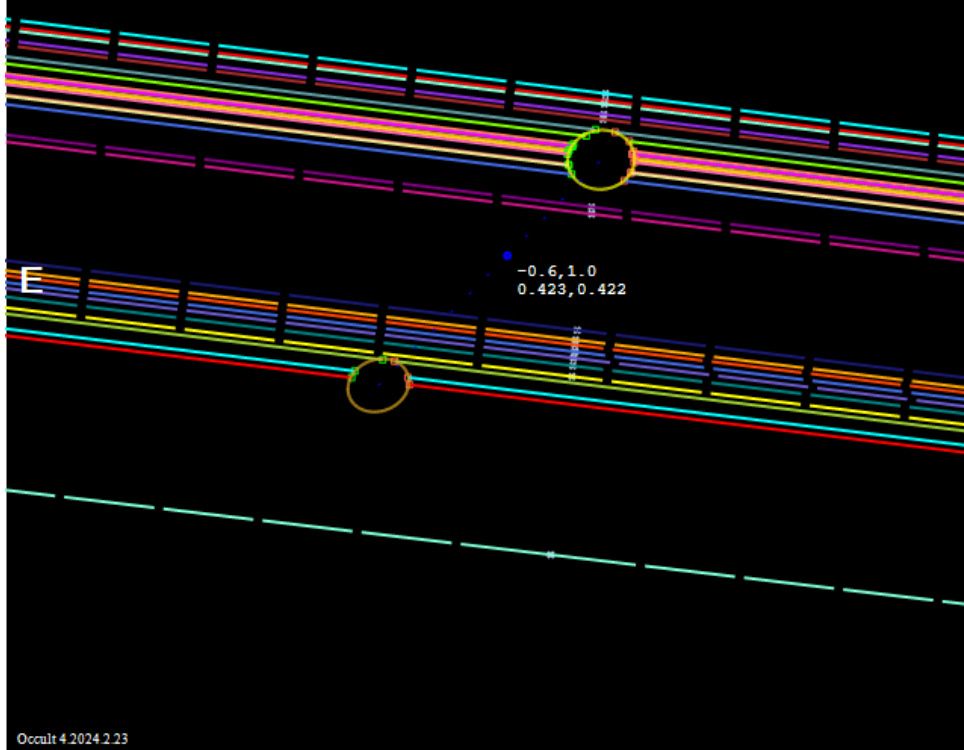
617_Patroclus_2013Oct21

(617) Patroclus 2013 Oct 21 $125.0 \pm 2.3 \times 98.8 \pm 2.4$ km, PA $83.6^\circ \pm 4.3^\circ$
Geocentric X -94.7 ± 1.0 Y 2525.1 ± 1.0 km N
Sat: (617) 1 = Menoetius 81.0×117.2 km, PA 354.4° ; Sep $0.2475''$ at PA 265.7°



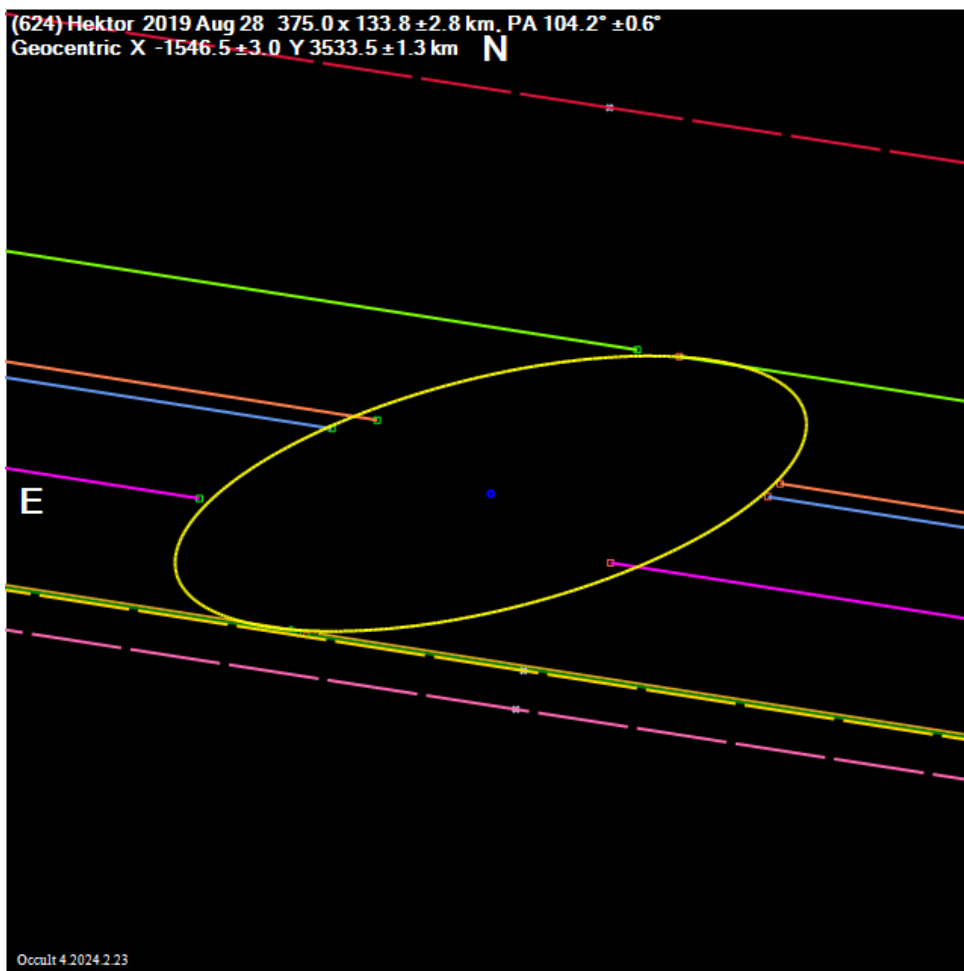
617_Patroclus_2021May09

(617) Patroclus 2021 May 9 $119.7 \pm 1.1 \times 105.3 \pm 2.5$ km, PA $277.4^\circ \pm 5.3^\circ$
Geocentric X 930.9 ± 0.5 Y 5799.5 ± 0.9 km N
Sat: (617) 1 = Menoetius 111.5×91.5 km, PA 292.0° ; Sep $0.1772''$ at PA 135.3°



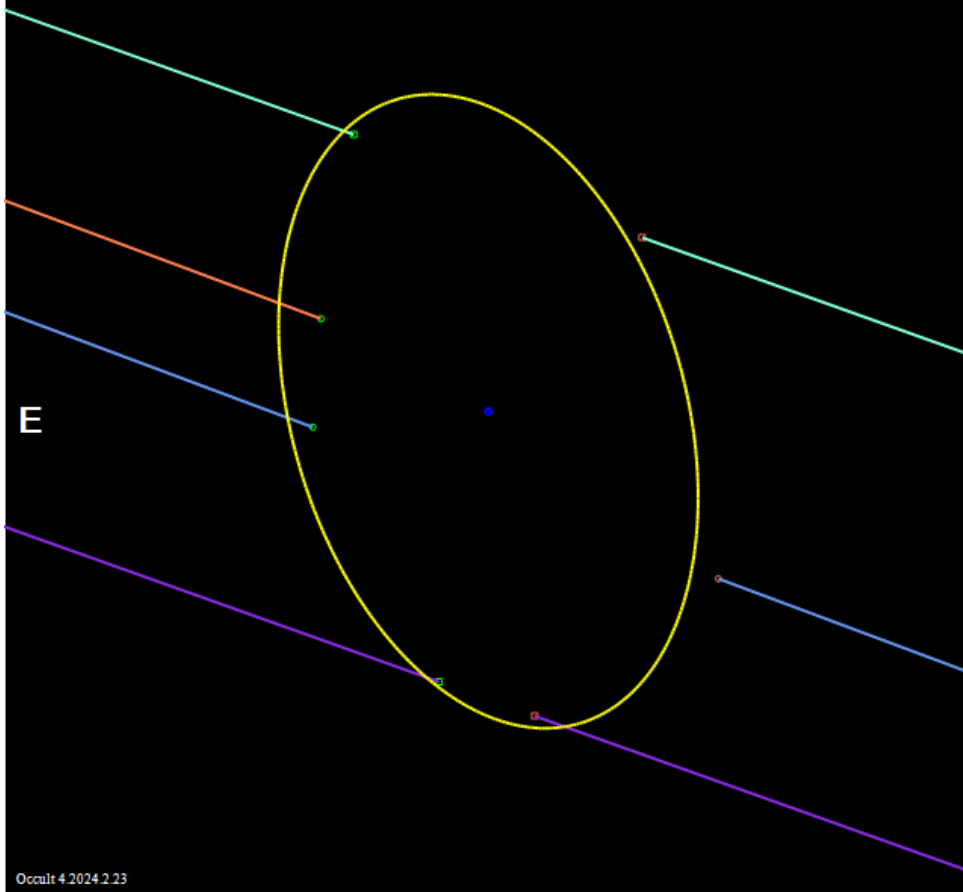
624_Hektor_2019Aug28

(624) Hektor 2019 Aug 28 375.0 x 133.8 ± 2.8 km, PA 104.2° ± 0.6°
Geocentric X -1546.5 ± 3.0 Y 3533.5 ± 1.3 km N



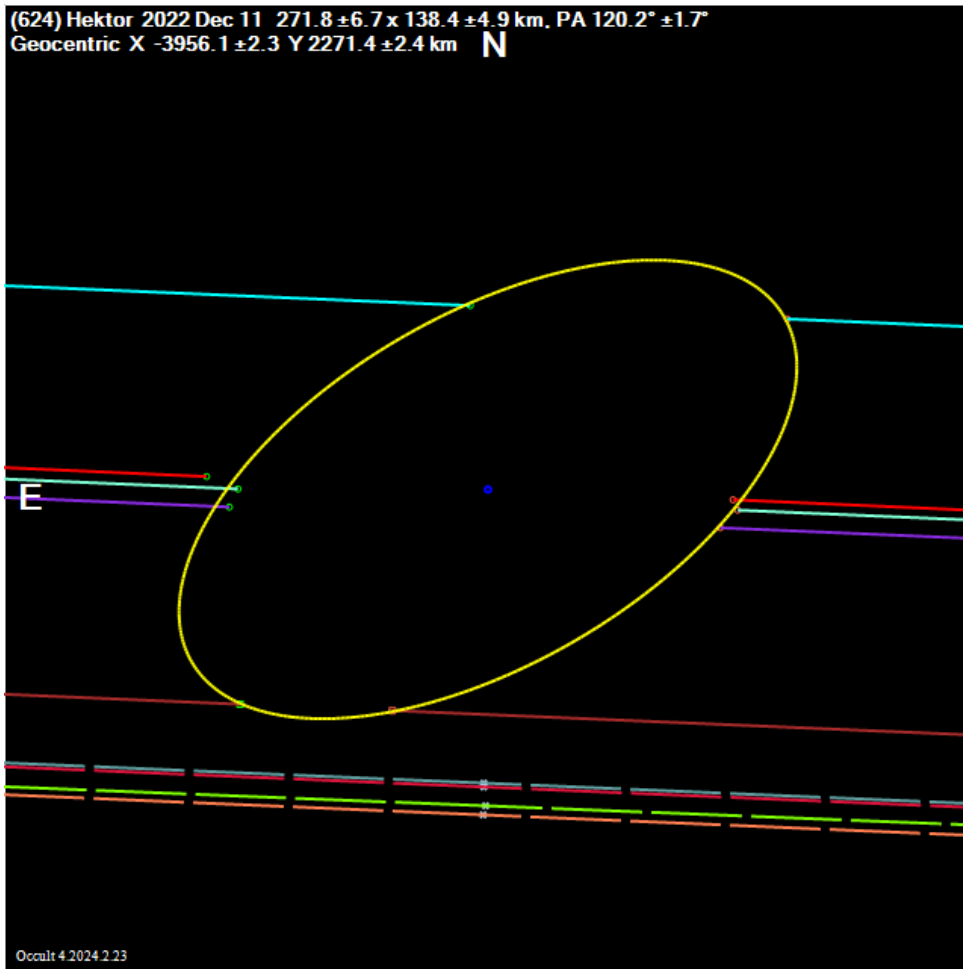
624_Hektor_2020Oct28

(624) Hektor 2020 Oct 28 219.5 ± 11.4 x 133.0 ± 9.7 km, PA 16.3° ± 6.3°
Geocentric X -861.2 ± 4.1 Y 3611.6 ± 5.2 km N



624_Hektor_2022Dec11

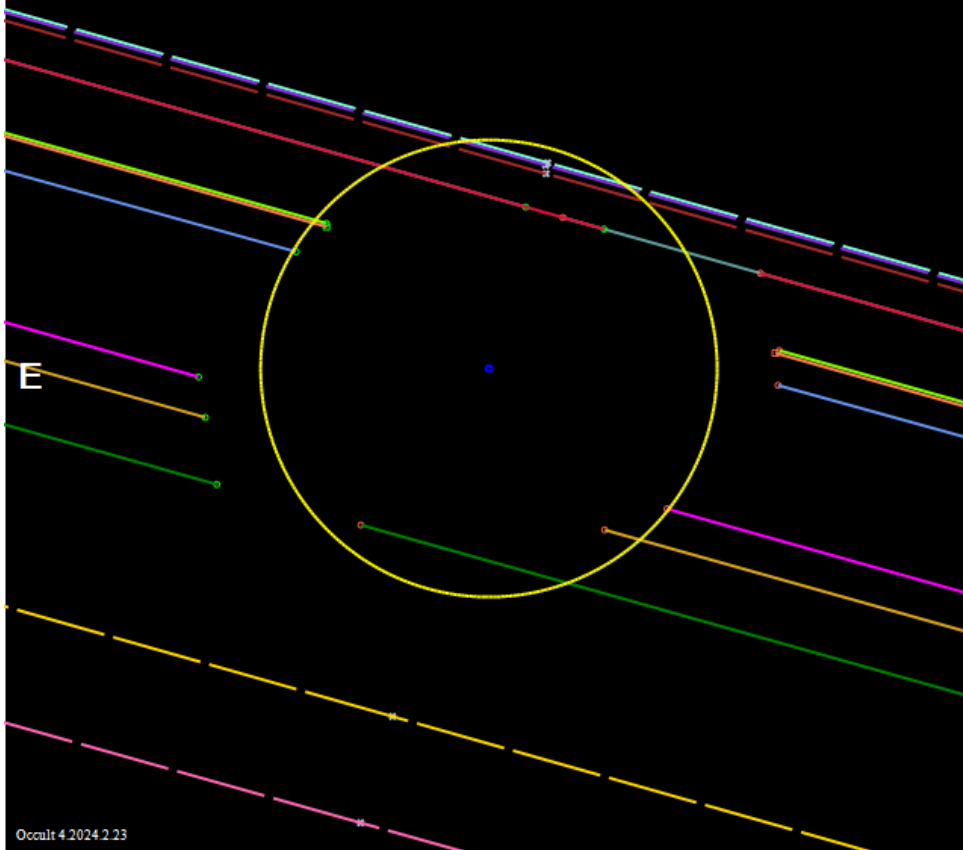
(624) Hektor 2022 Dec 11 271.8 ±6.7 x 138.4 ±4.9 km. PA 120.2° ±1.7°
Geocentric X -3956.1 ±2.3 Y 2271.4 ±2.4 km N



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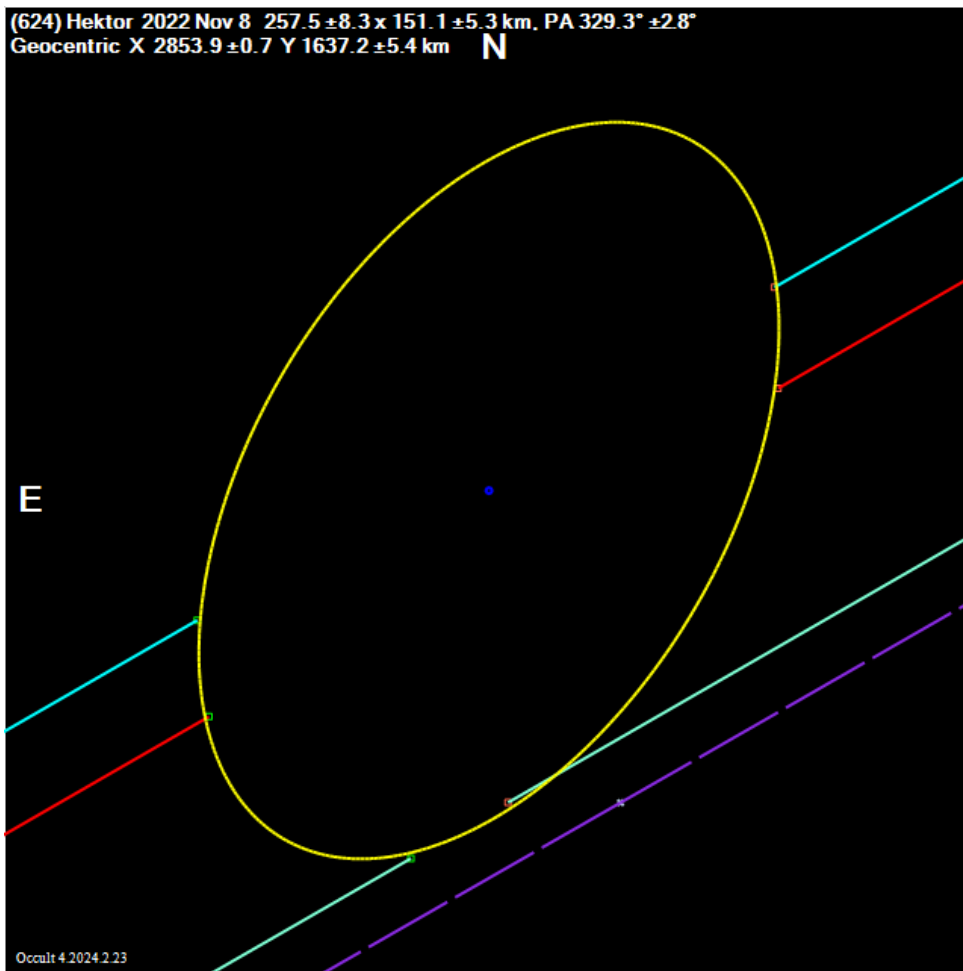
624_Hektor_2022Dec27

(624) Hektor 2022 Dec 27 181.3 km
Geocentric X -350.7 ± 5.7 Y 336.0 ± 6.1 km N



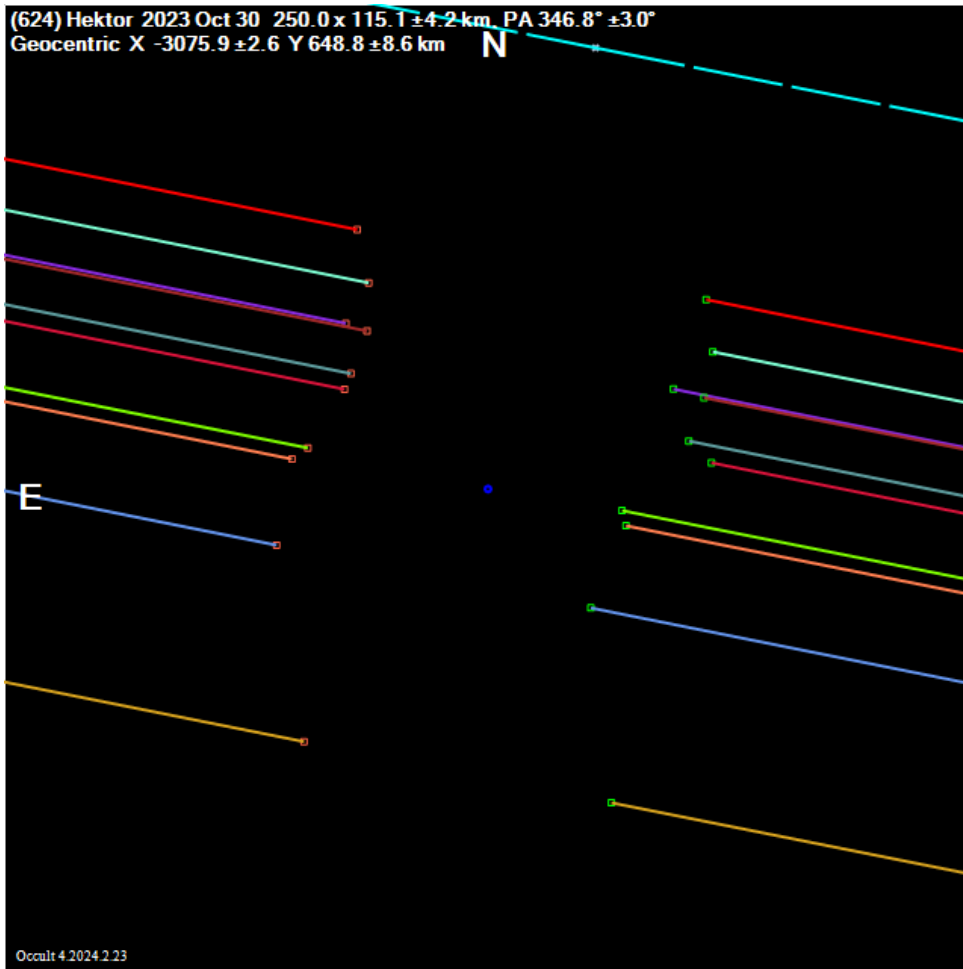
624_Hektor_2022Nov08

(624) Hektor 2022 Nov 8 257.5 ± 8.3 x 151.1 ± 5.3 km, PA 329.3° ± 2.8°
Geocentric X 2853.9 ± 0.7 Y 1637.2 ± 5.4 km N



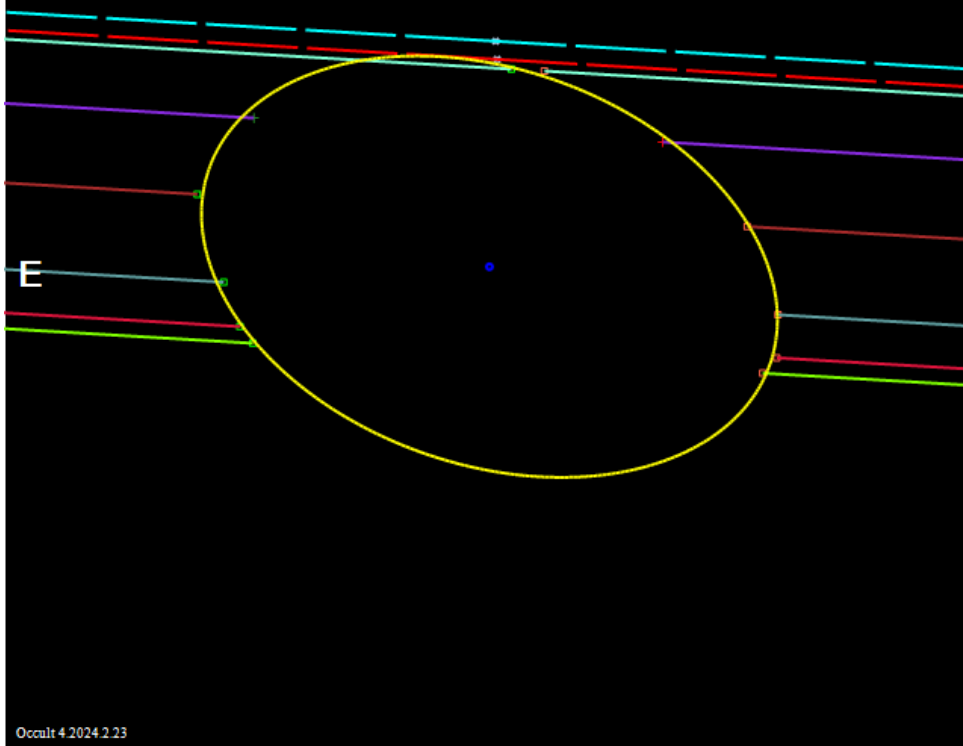
624_Hektor_2023Oct30

(624) Hektor 2023 Oct 30 250.0 x 115.1 ± 4.2 km PA 346.8° ± 3.0°
Geocentric X -3075.9 ± 2.6 Y 648.8 ± 8.6 km



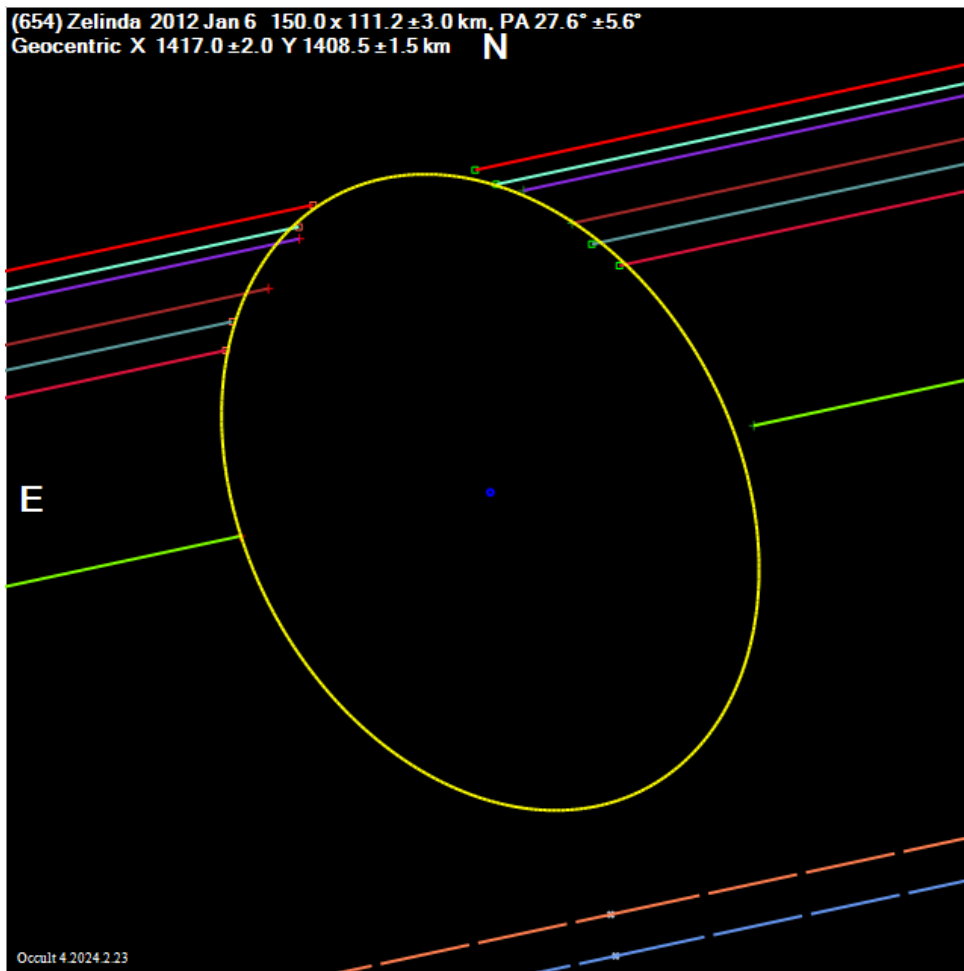
636_Erika_2019Nov09

(636) Erika 2019 Nov 9 $103.1 \pm 0.9 \times 68.6 \pm 1.3$ km, PA $70.9^\circ \pm 1.8^\circ$
Geocentric X 2351.5 ± 0.3 Y 1595.8 ± 0.6 km N



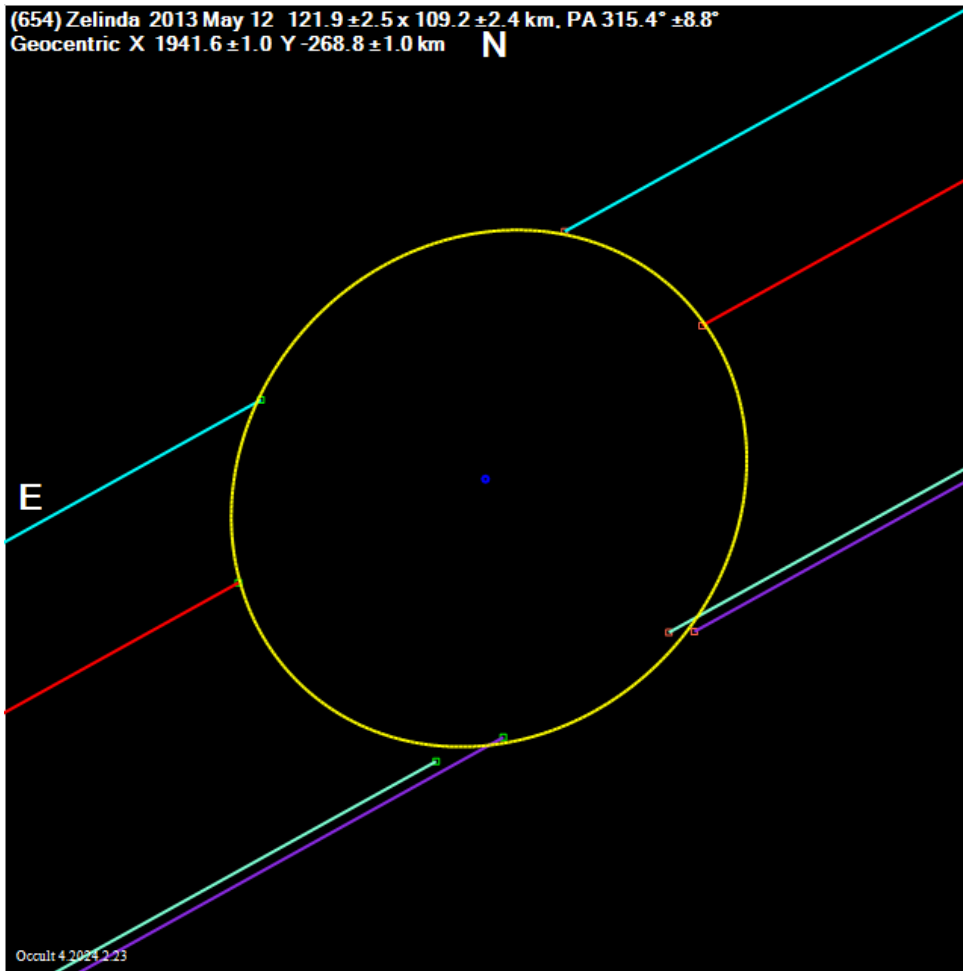
654_Zelinda_2012Jan06

(654) Zelinda 2012 Jan 6 150.0 x 111.2 ± 3.0 km, PA 27.6° ± 5.6°
Geocentric X 1417.0 ± 2.0 Y 1408.5 ± 1.5 km N



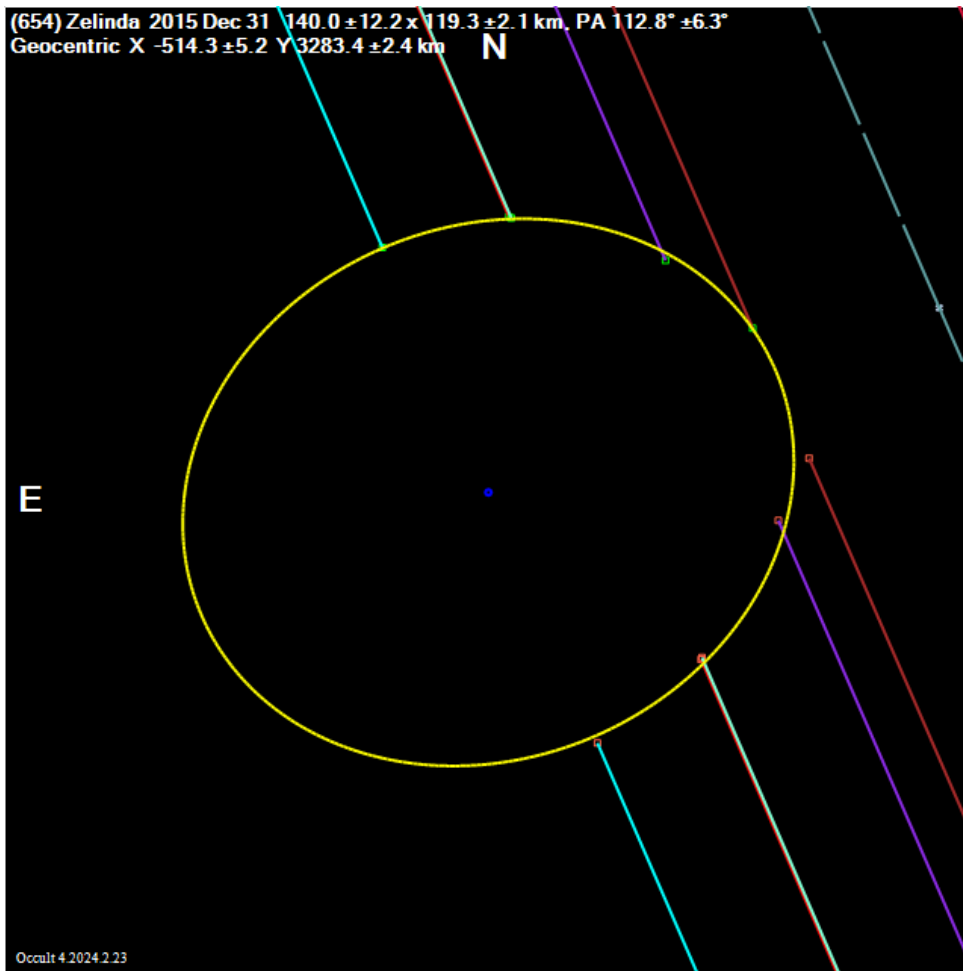
654_Zelinda_2013May12

(654) Zelinda 2013 May 12 $121.9 \pm 2.5 \times 109.2 \pm 2.4$ km, PA $315.4^\circ \pm 8.8^\circ$
Geocentric X 1941.6 ± 1.0 Y -268.8 ± 1.0 km N



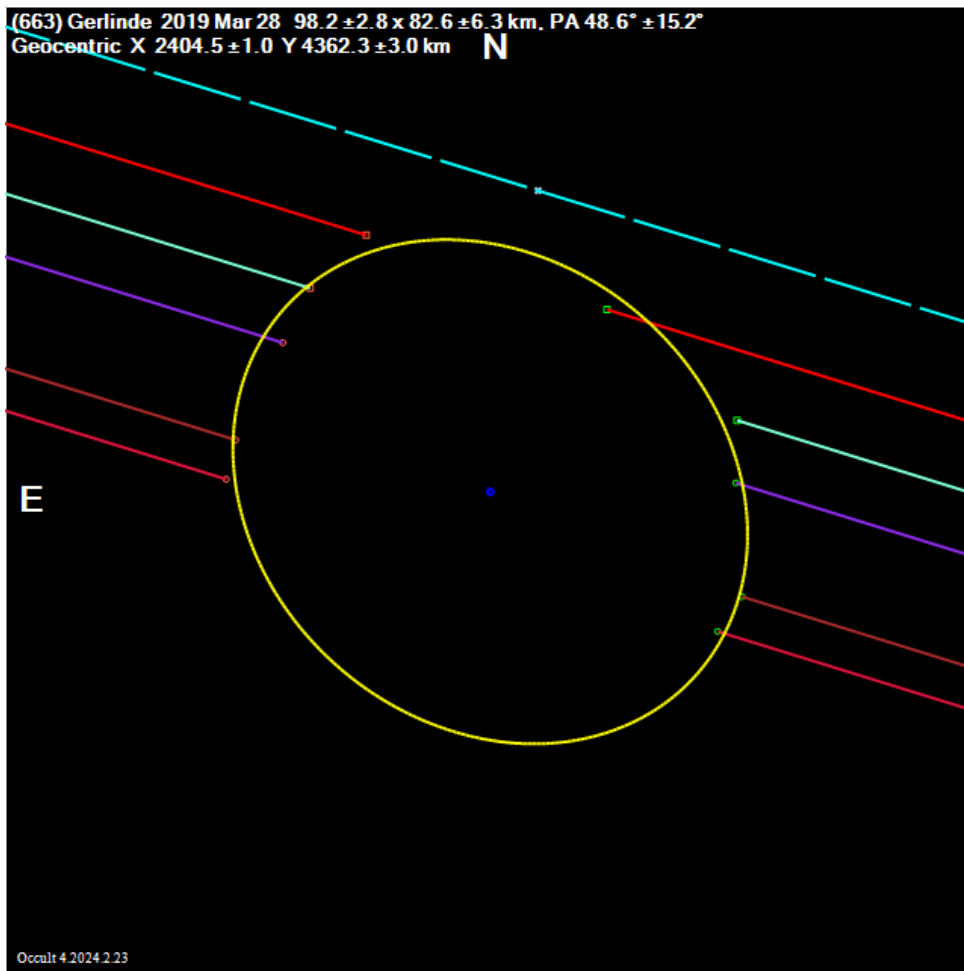
654_Zelinda_2015Dec31

(654) Zelinda 2015 Dec 31 $140.0 \pm 12.2 \times 119.3 \pm 2.1$ km, PA $112.8^\circ \pm 6.3^\circ$
Geocentric X -514.3 ± 5.2 Y 3283.4 ± 2.4 km **N**



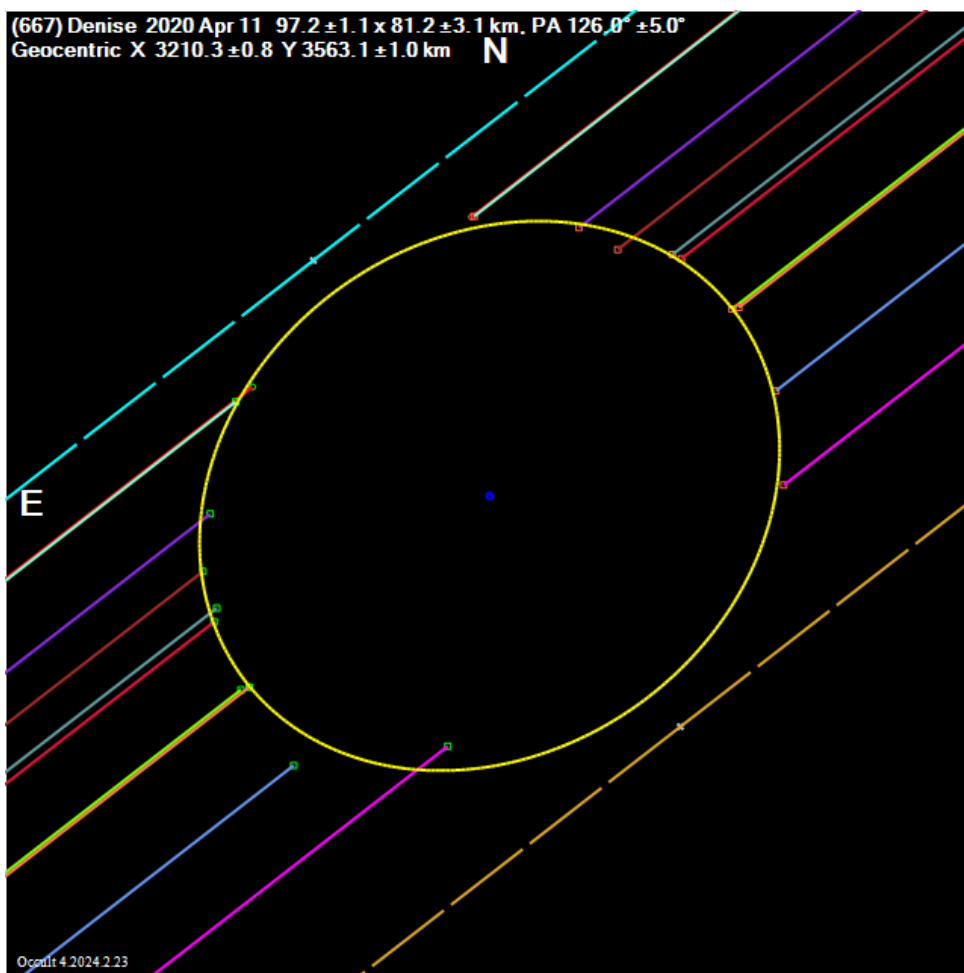
663_Gerlinde_2019Mar28

(663) Gerlinde 2019 Mar 28 $98.2 \pm 2.8 \times 82.6 \pm 6.3$ km, PA $48.6^\circ \pm 15.2^\circ$
Geocentric X 2404.5 ± 1.0 Y 4362.3 ± 3.0 km N



667_Denise_2020Apr11

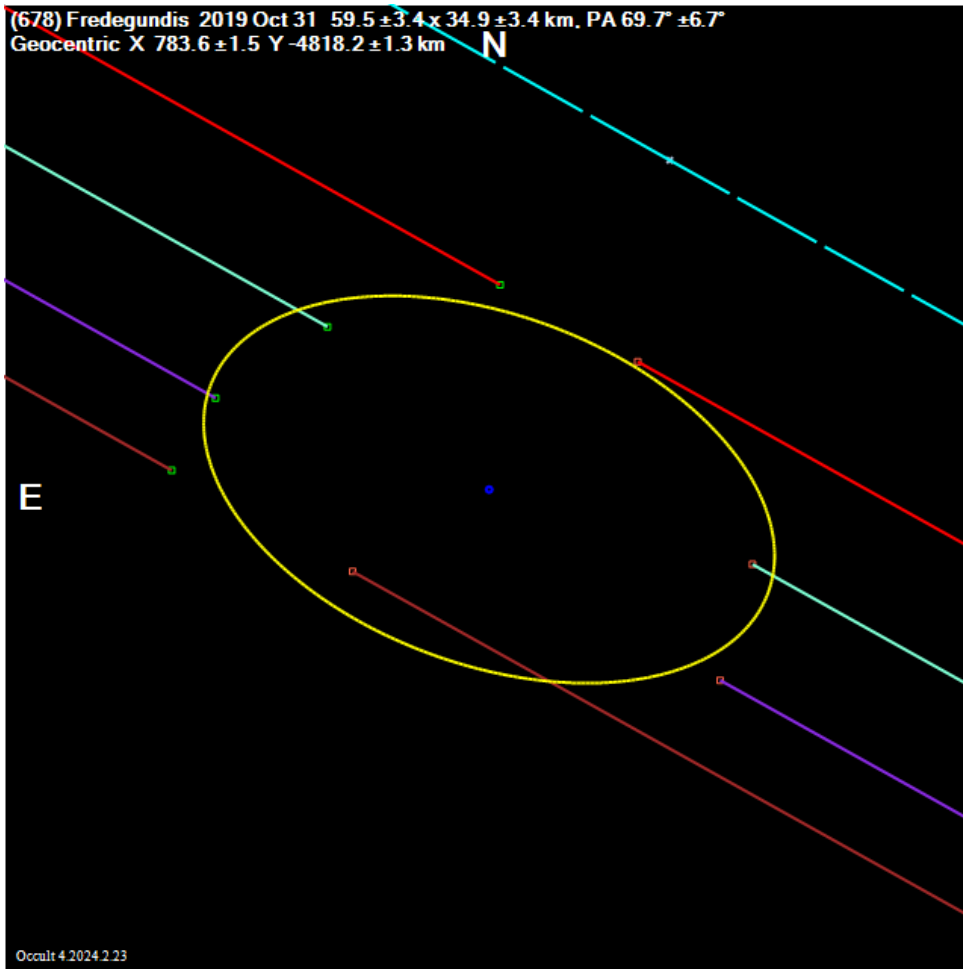
(667) Denise 2020 Apr 11 $97.2 \pm 1.1 \times 81.2 \pm 3.1$ km, PA $126.0^\circ \pm 5.0^\circ$
Geocentric X 3210.3 ± 0.8 Y 3563.1 ± 1.0 km **N**



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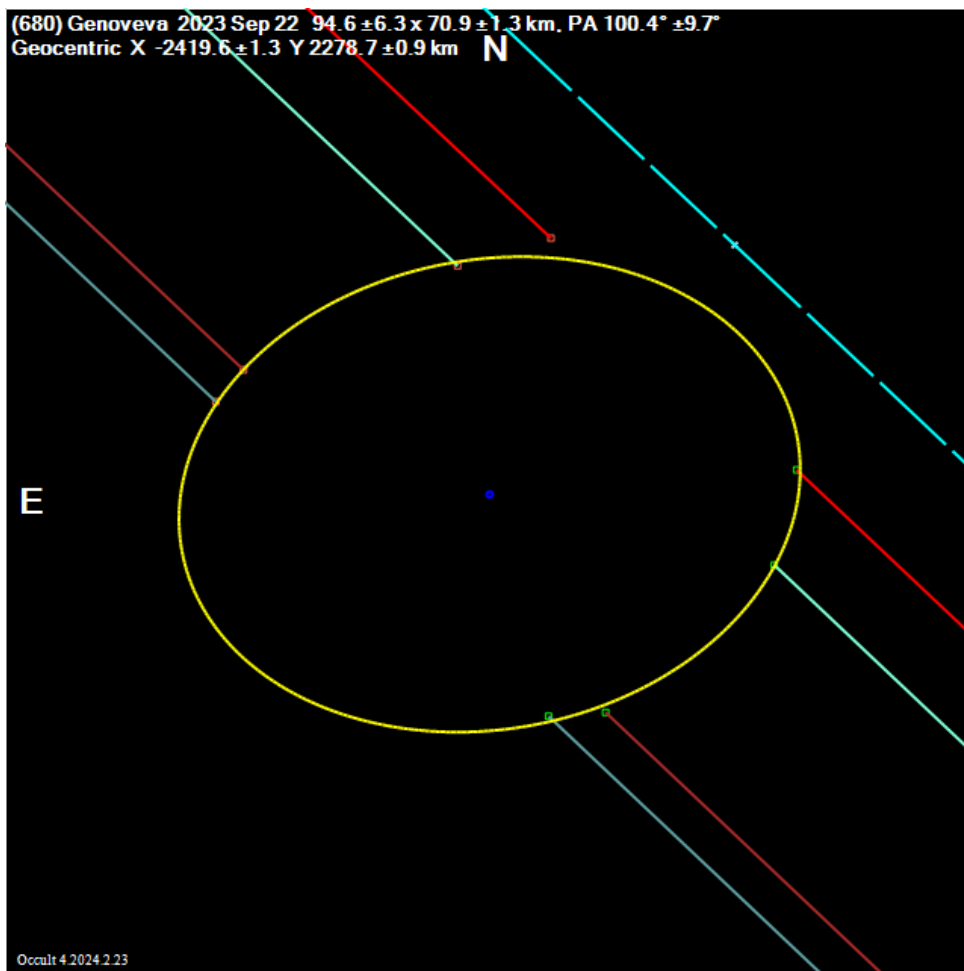
678_Fredegundis_2019Oct31

(678) Fredegundis 2019 Oct 31 $59.5 \pm 3.4 \times 34.9 \pm 3.4$ km. PA $69.7^\circ \pm 6.7^\circ$
Geocentric X 783.6 ± 1.5 Y -4818.2 ± 1.3 km



680_Genoveva_2023Sep22

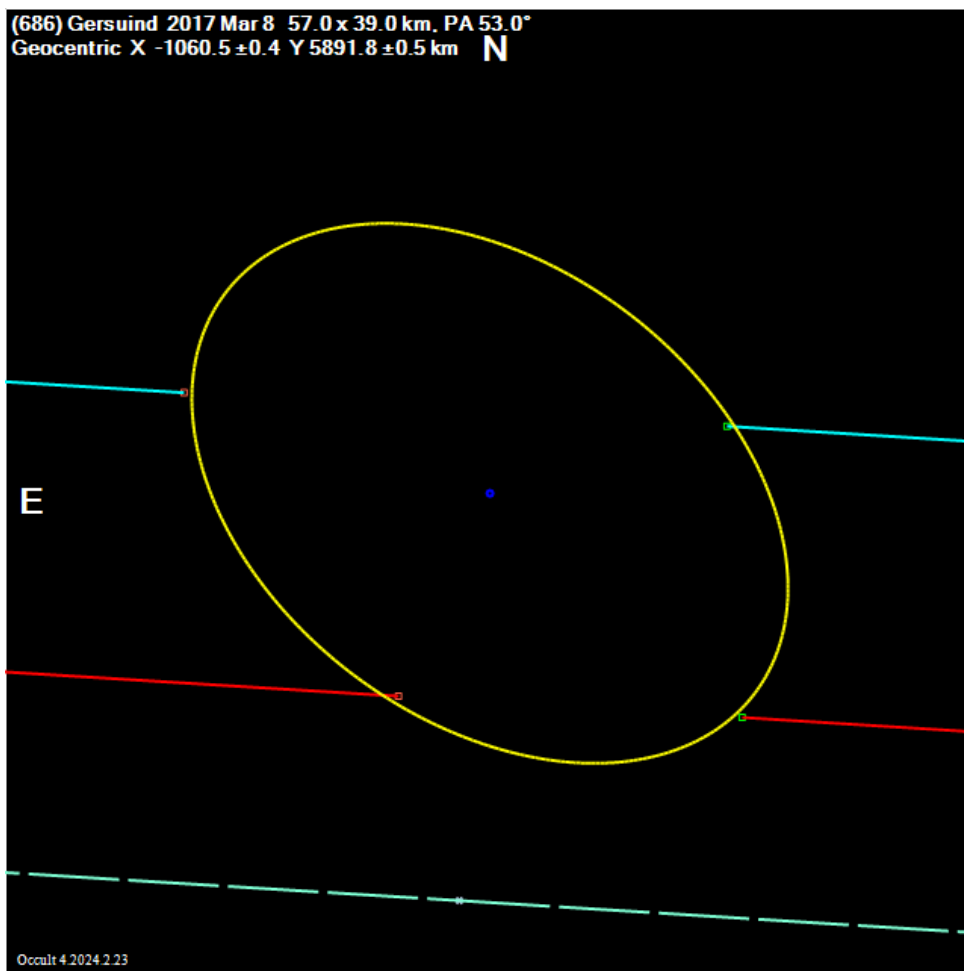
(680) Genoveva 2023 Sep 22 $94.6 \pm 6.3 \times 70.9 \pm 1.3$ km, PA $100.4^\circ \pm 9.7^\circ$
Geocentric X -2419.6 ± 1.3 Y 2278.7 ± 0.9 km **N**



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686_Gersuind_2017Mar08

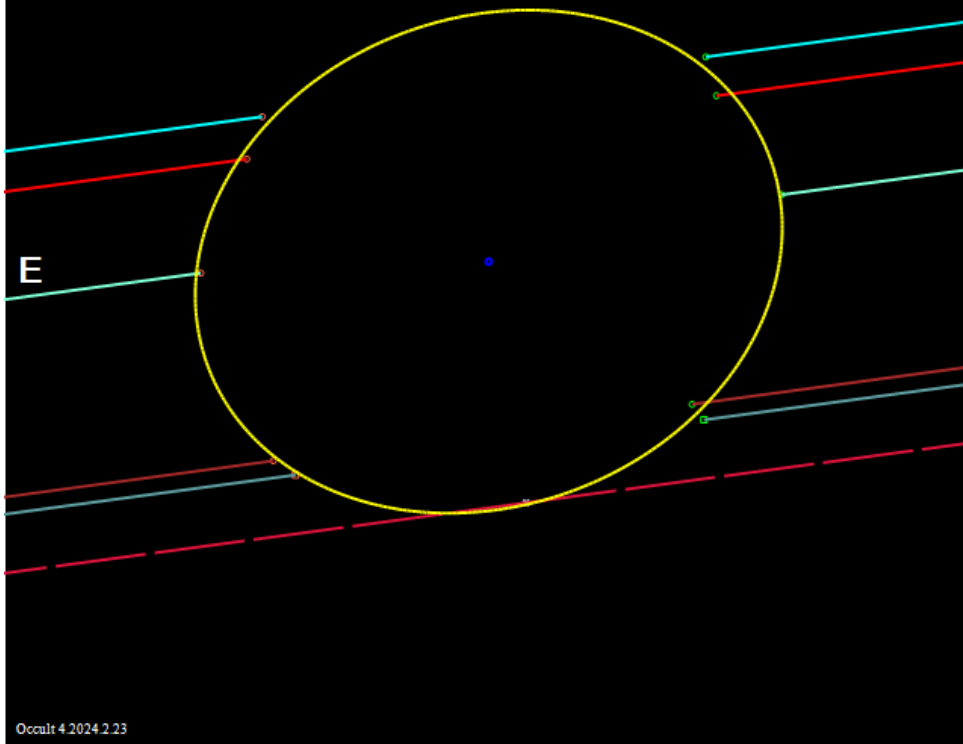
(686) Gersuind 2017 Mar 8 57.0 x 39.0 km. PA 53.0°
Geocentric X -1060.5 ± 0.4 Y 5891.8 ± 0.5 km N



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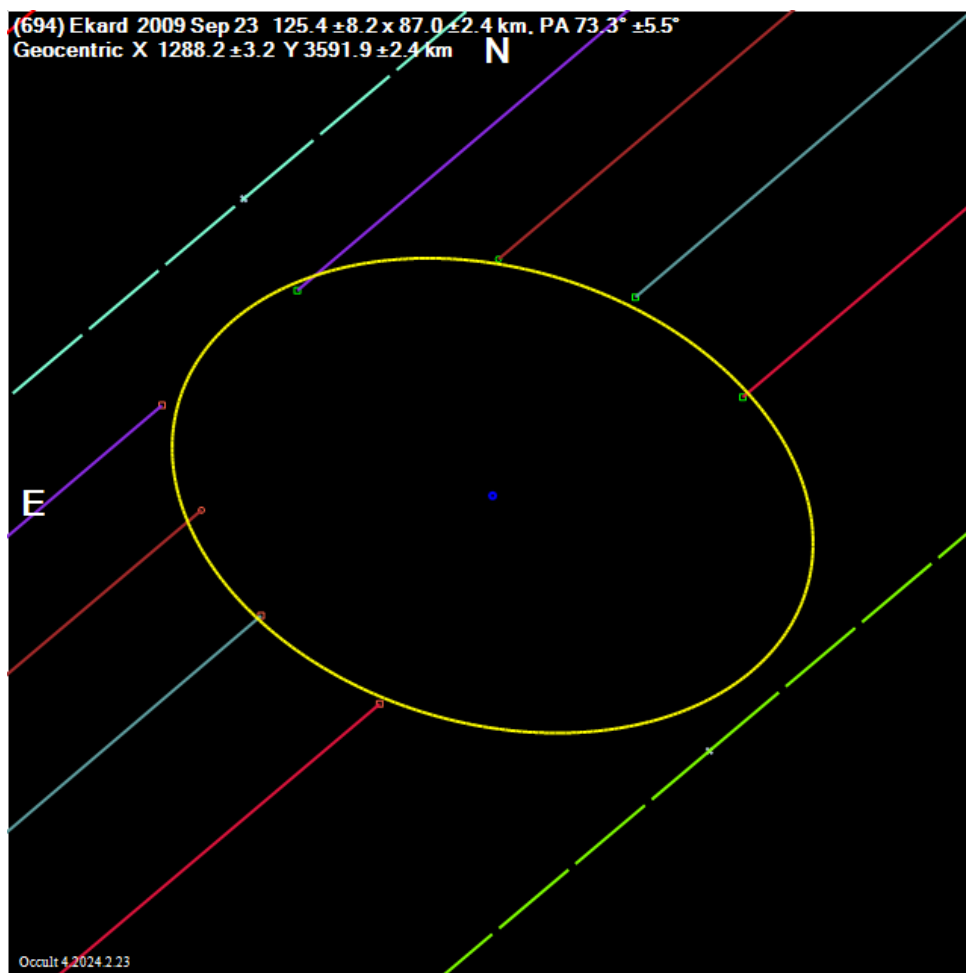
691_Lehigh_2022Mar24

(691) Lehigh 2022 Mar 24 $97.1 \pm 1.5 \times 79.0 \pm 1.8$ km, PA $110.4^\circ \pm 3.6^\circ$
Geocentric X -2767.9 ± 0.5 Y 5513.7 ± 0.7 km **N**



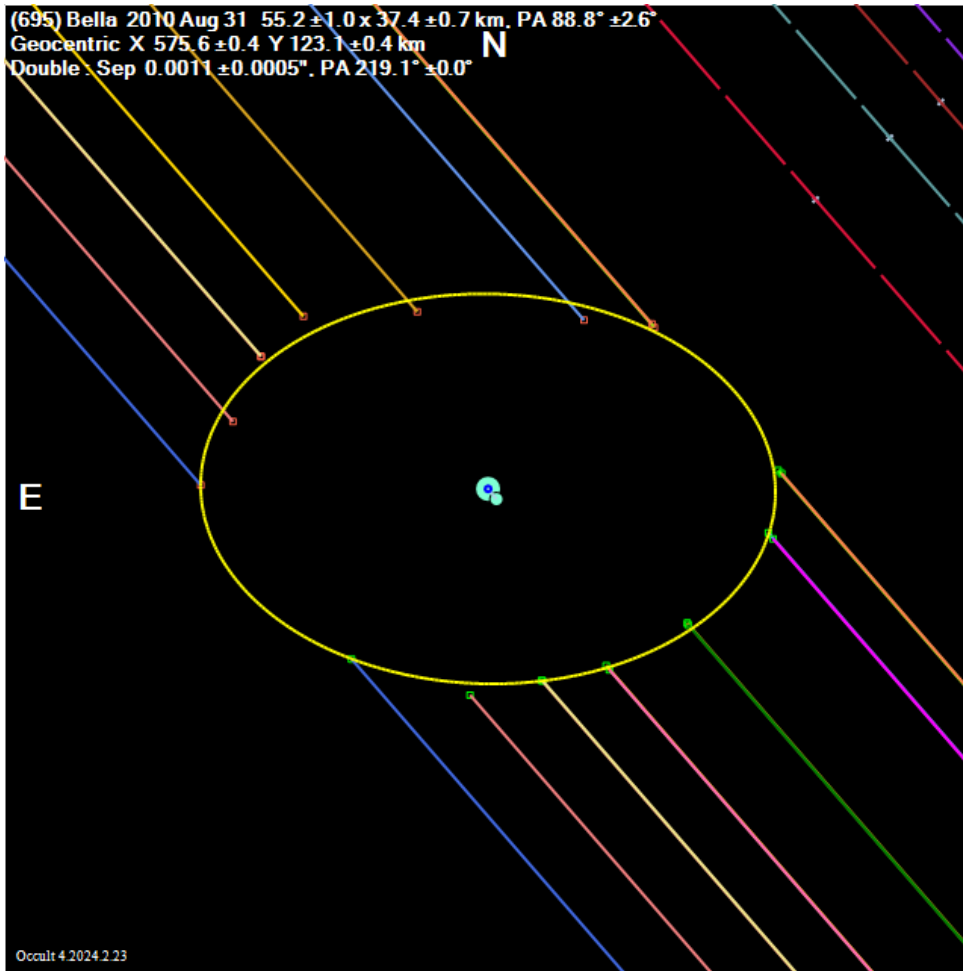
694_Ekard_2009Sep23

(694) Ekard 2009 Sep 23 $125.4 \pm 8.2 \times 87.0 \pm 2.4$ km, PA $73.3^\circ \pm 5.5^\circ$
Geocentric X 1288.2 ± 3.2 Y 3591.9 ± 2.4 km N



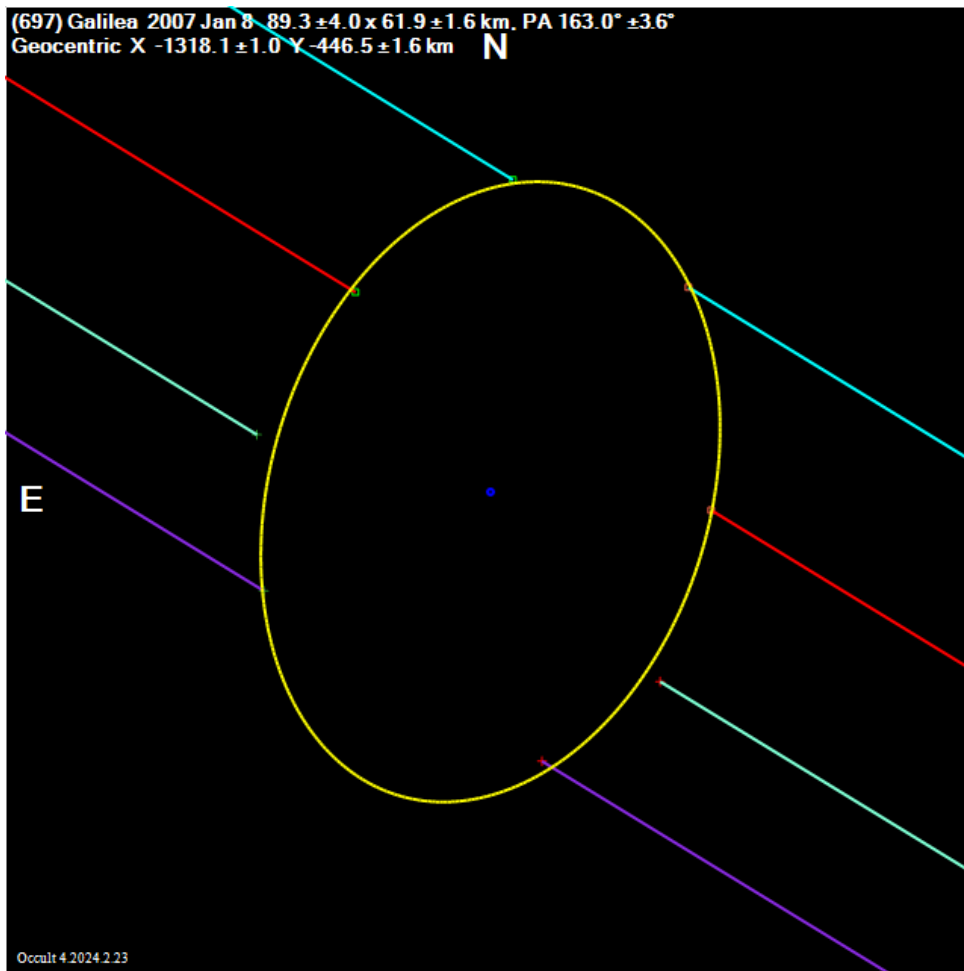
695_Bella_2010Aug31

(695) Bella 2010 Aug 31 $55.2 \pm 1.0 \times 37.4 \pm 0.7$ km, PA $88.8^\circ \pm 2.6^\circ$
Geocentric X 575.6 ± 0.4 Y 123.1 ± 0.4 km
Double . Sep $0.0011 \pm 0.0005''$, PA $219.1^\circ \pm 0.0^\circ$



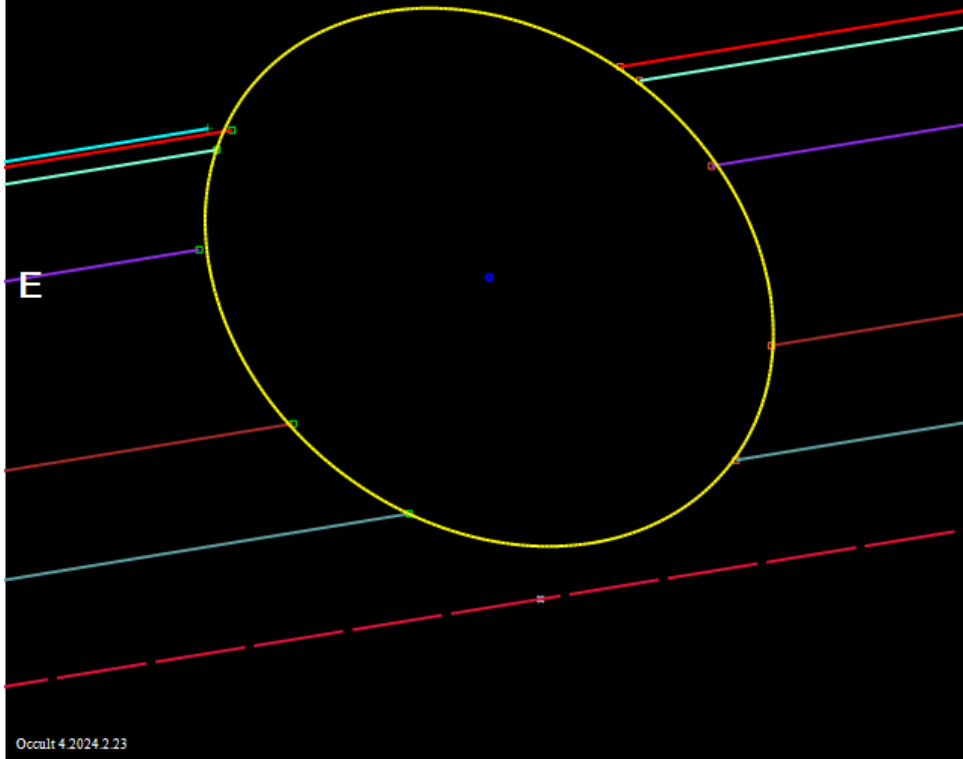
697_Galilea_2007Jan08

(697) Galilea 2007 Jan 8 $89.3 \pm 4.0 \times 61.9 \pm 1.6$ km. PA $163.0^\circ \pm 3.6^\circ$
Geocentric X -1318.1 ± 1.0 Y -446.5 ± 1.6 km **N**



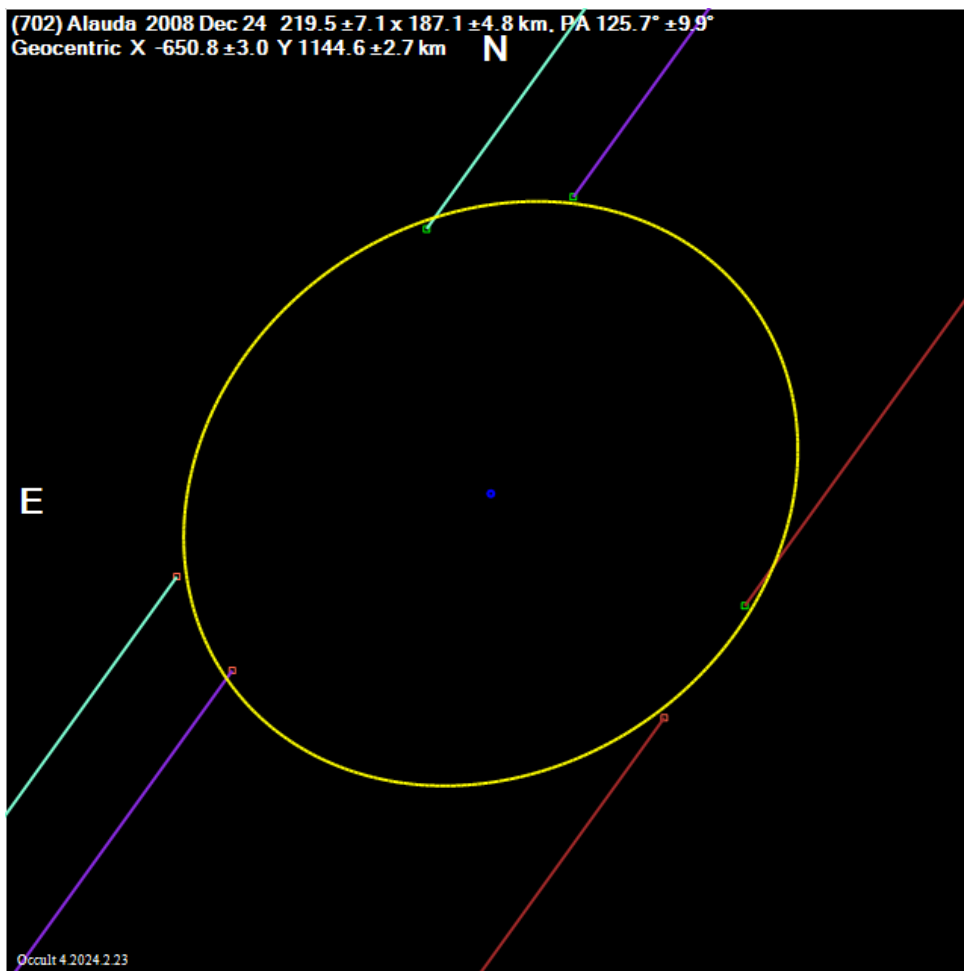
697_Galilea_2023Mar21

(697) Galilea 2023 Mar 21 $79.8 \pm 1.0 \times 64.1 \pm 0.7$ km, PA $52.4^\circ \pm 4.4^\circ$
Geocentric X 991.4 ± 0.3 Y 3365.4 ± 0.4 km N



702_Alada_2008Dec24

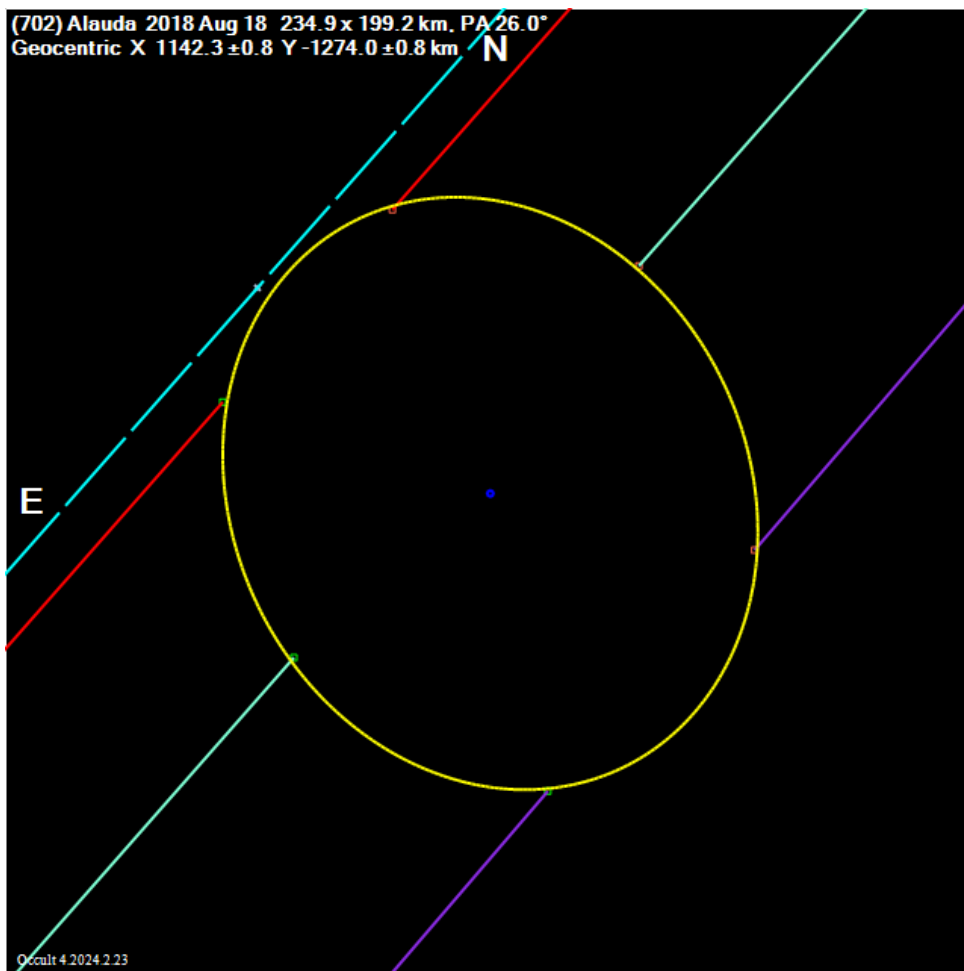
(702) Alada 2008 Dec 24 $219.5 \pm 7.1 \times 187.1 \pm 4.8$ km, PA $125.7^\circ \pm 9.9^\circ$
Geocentric X -650.8 ± 3.0 Y 1144.6 ± 2.7 km **N**



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702_Alauda_2018Aug18

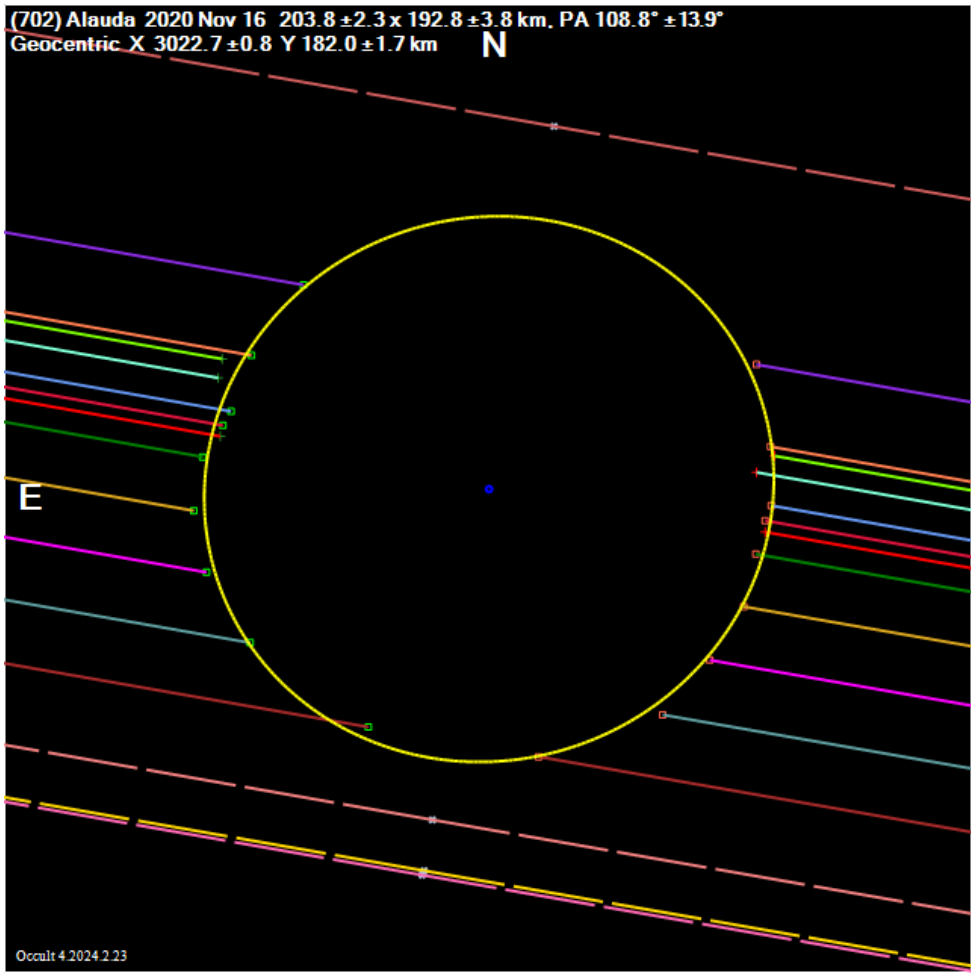
(702) Alauda 2018 Aug 18 234.9 x 199.2 km. PA 26.0°
Geocentric X 1142.3 ± 0.8 Y -1274.0 ± 0.8 km



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702_Alauda_2020Nov16

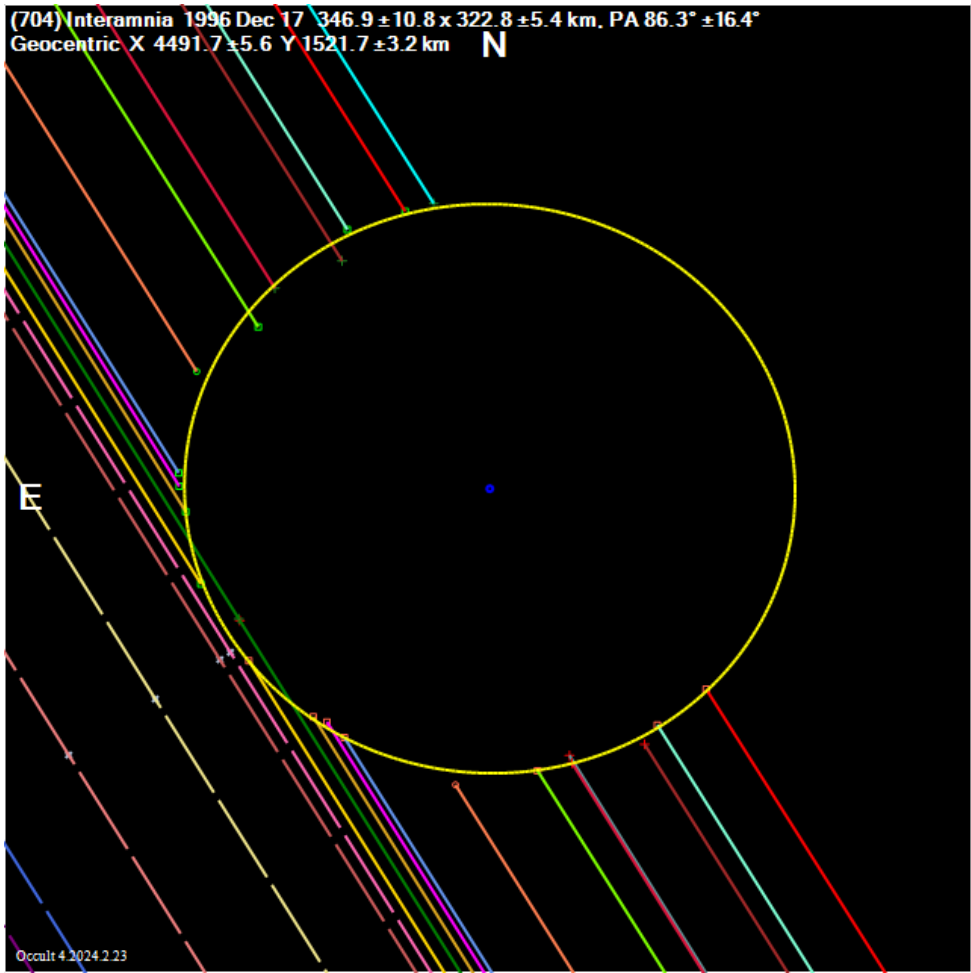
(702) Alauda 2020 Nov 16 $203.8 \pm 2.3 \times 192.8 \pm 3.8$ km, PA $108.8^\circ \pm 13.9^\circ$
Geocentric X 3022.7 ± 0.8 Y 182.0 ± 1.7 km N



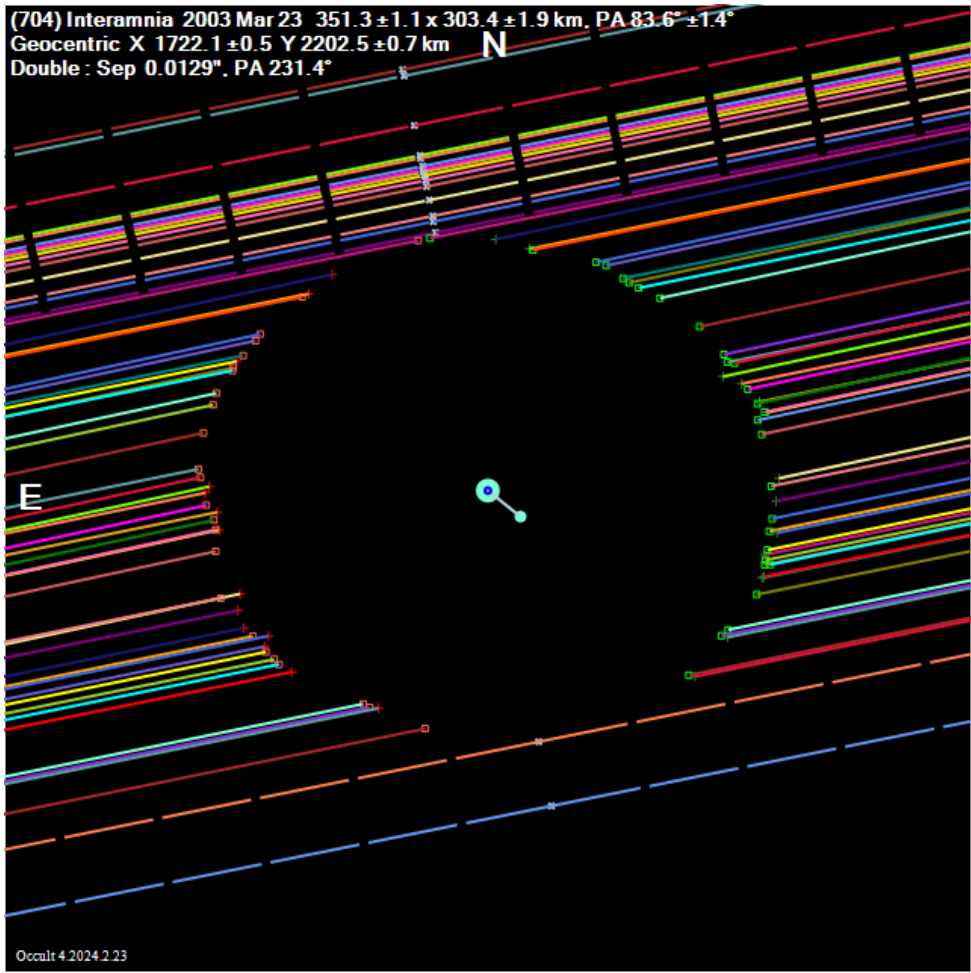
Occult 4.2024.2.23

704_Interamnia_1996Dec17

(704) Interamnia 1996 Dec 17 346.9 ± 10.8 x 322.8 ± 5.4 km. PA 86.3° ± 16.4°
Geocentric X 4491.7 ± 5.6 Y 1521.7 ± 3.2 km N

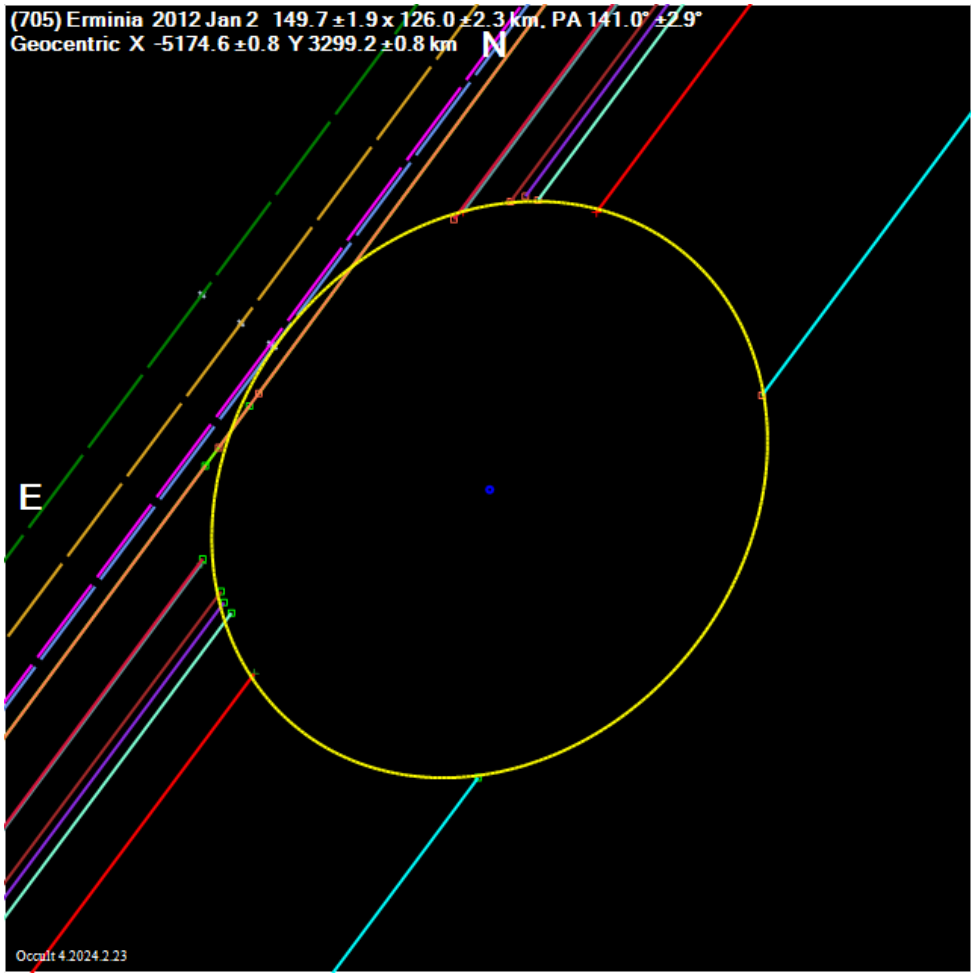


704_Interamnia_2003Mar23



705_Erminia_2012Jan02

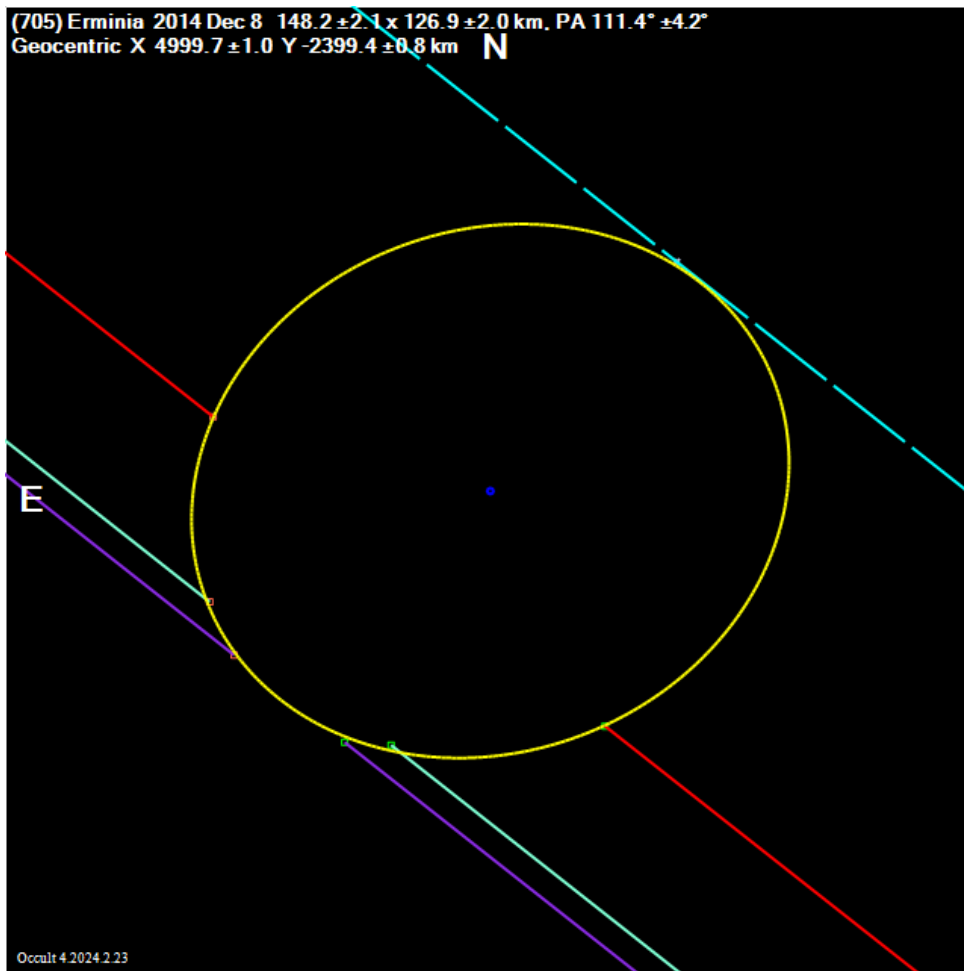
(705) Erminia 2012 Jan 2 $149.7 \pm 1.9 \times 126.0 \pm 2.3$ km, PA $141.0^\circ \pm 2.9^\circ$
Geocentric X -5174.6 ± 0.8 Y 3299.2 ± 0.8 km



Occult 4.2024.2.23

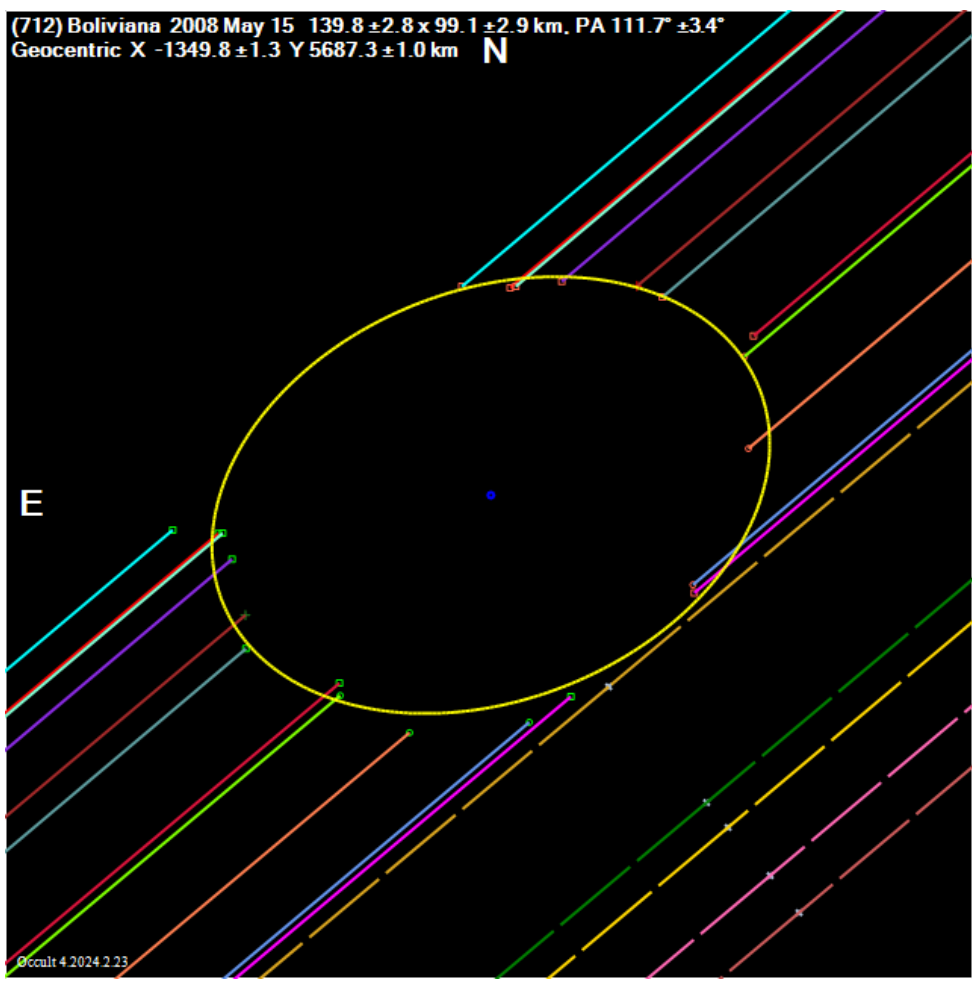
705_Erminia_2014Dec08

(705) Erminia 2014 Dec 8 148.2 ± 2.1 x 126.9 ± 2.0 km. PA 111.4° ± 4.2°
Geocentric X 4999.7 ± 1.0 Y -2399.4 ± 0.8 km **N**

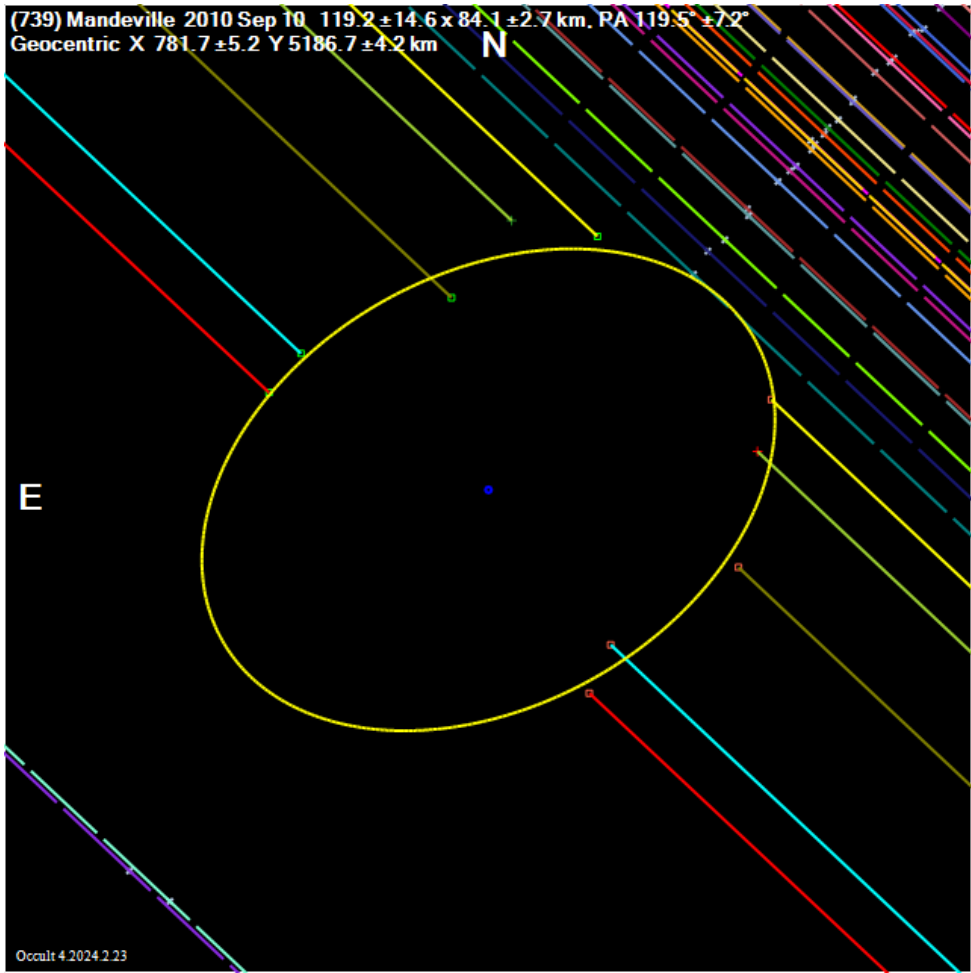


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712_Boliviana_2008May15

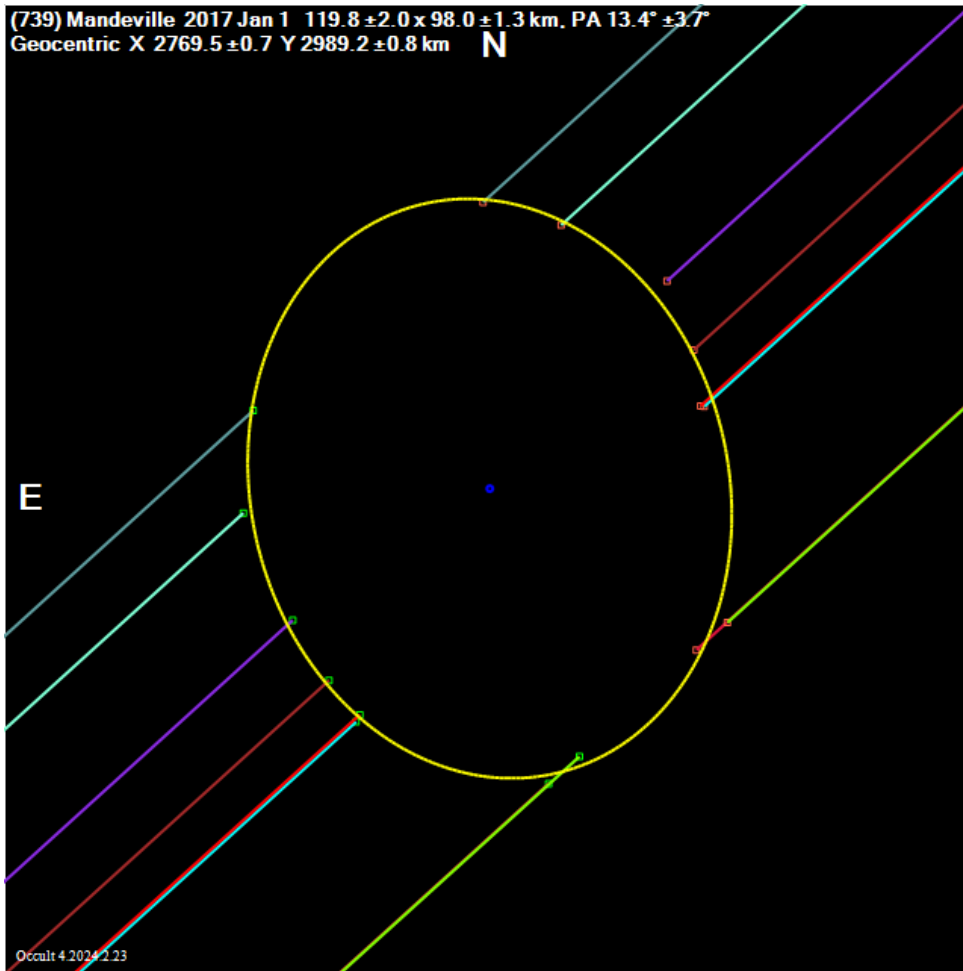


739_Mandeville_2010Sep10



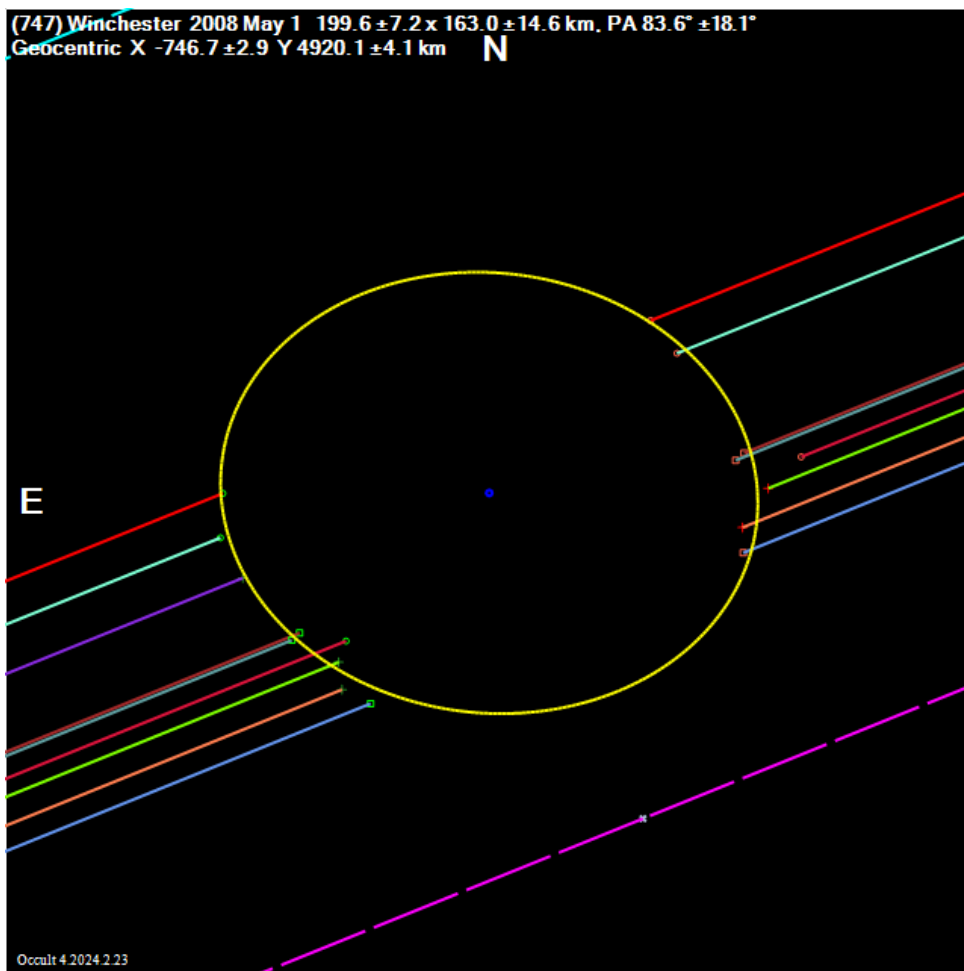
739_Mandeville_2017Jan01

(739) Mandeville 2017 Jan 1 119.8 ± 2.0 × 98.0 ± 1.3 km. PA 13.4° ± 3.7°
Geocentric X 2769.5 ± 0.7 Y 2989.2 ± 0.8 km N



747_Winchester_2008May01

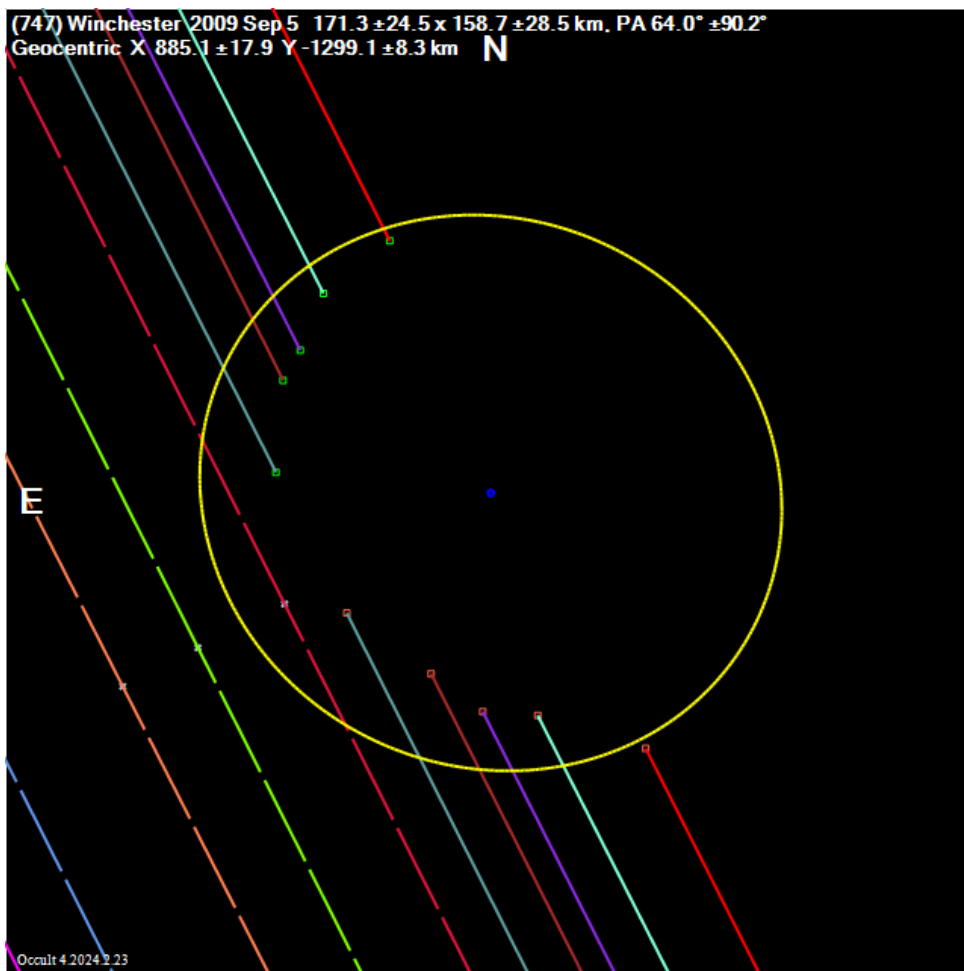
(747) Winchester 2008 May 1 $199.6 \pm 7.2 \times 163.0 \pm 14.6$ km, PA $83.6^\circ \pm 18.1^\circ$
Geocentric X -746.7 ± 2.9 Y 4920.1 ± 4.1 km **N**



Occult 4.2024.2.23

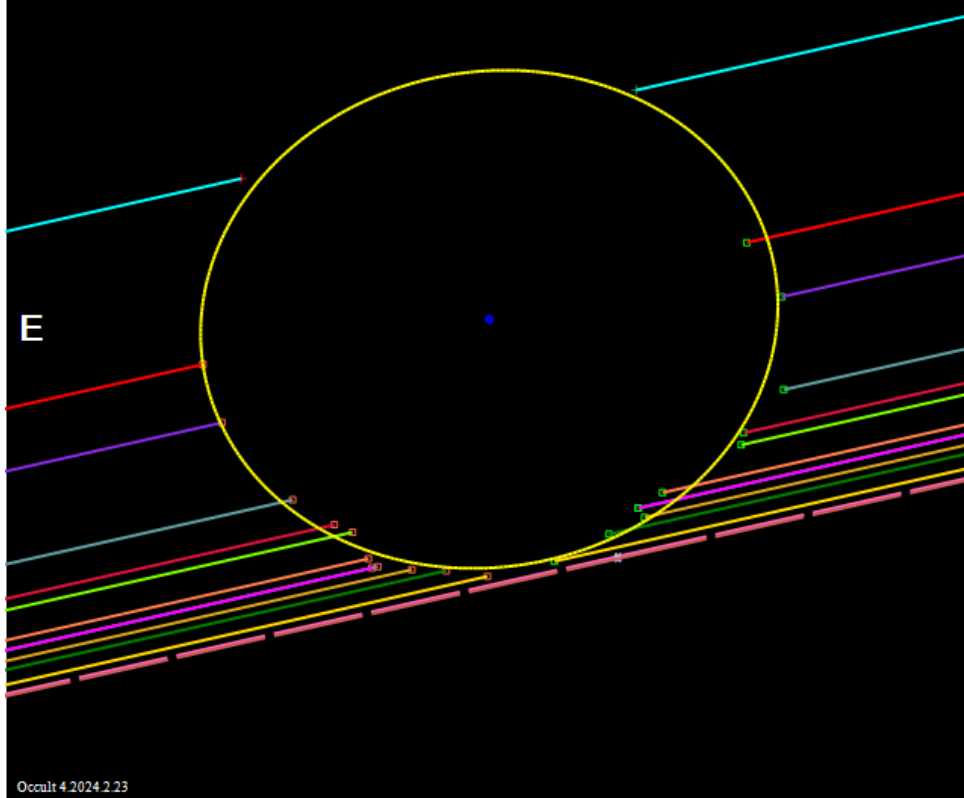
747_Winchester_2009Sep05

(747) Winchester 2009 Sep 5 $171.3 \pm 24.5 \times 158.7 \pm 28.5$ km, PA $64.0^\circ \pm 90.2^\circ$
Geocentric X 885.1 ± 17.9 Y -1299.1 ± 8.3 km **N**



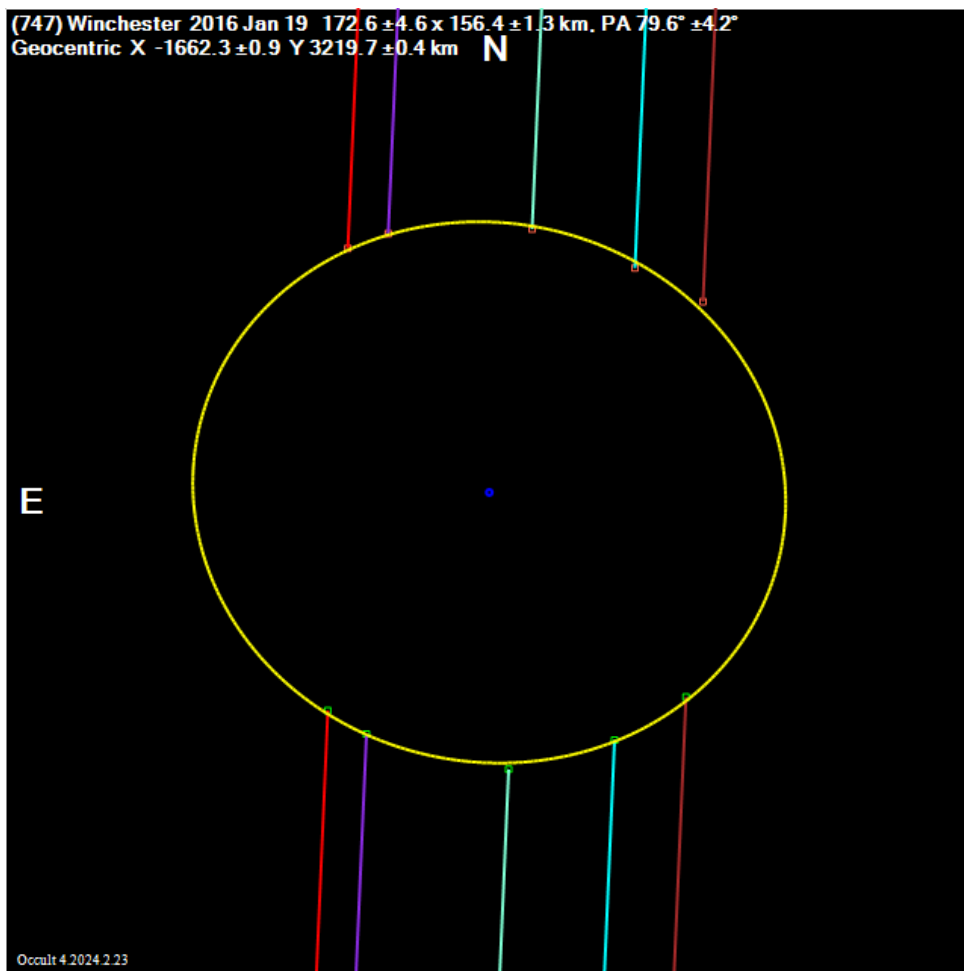
747_Winchester_2014Oct17

(747) Winchester 2014 Oct 17 $183.1 \pm 3.0 \times 156.2 \pm 6.9$ km, PA $100.3^\circ \pm 5.8^\circ$
Geocentric X 3048.7 ± 1.7 Y 4959.5 ± 3.0 km **N**



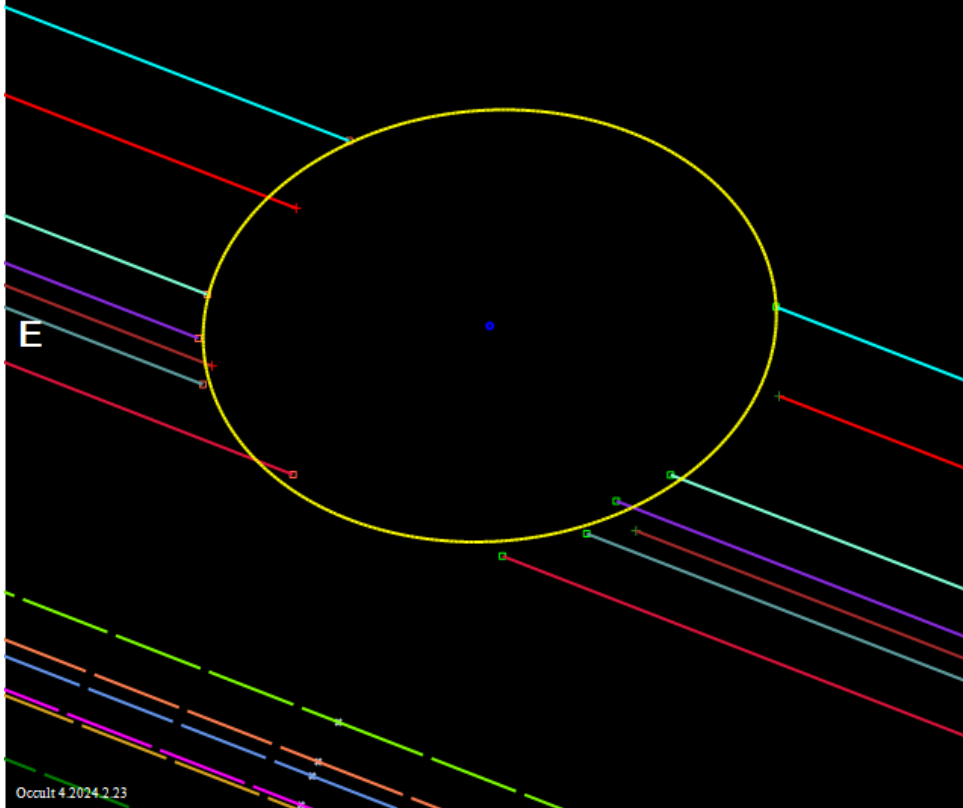
747_Winchester_2016Jan19

(747) Winchester 2016 Jan 19 $172.6 \pm 4.6 \times 156.4 \pm 1.3$ km, PA $79.6^\circ \pm 4.2^\circ$
Geocentric X -1662.3 ± 0.9 Y 3219.7 ± 0.4 km **N**



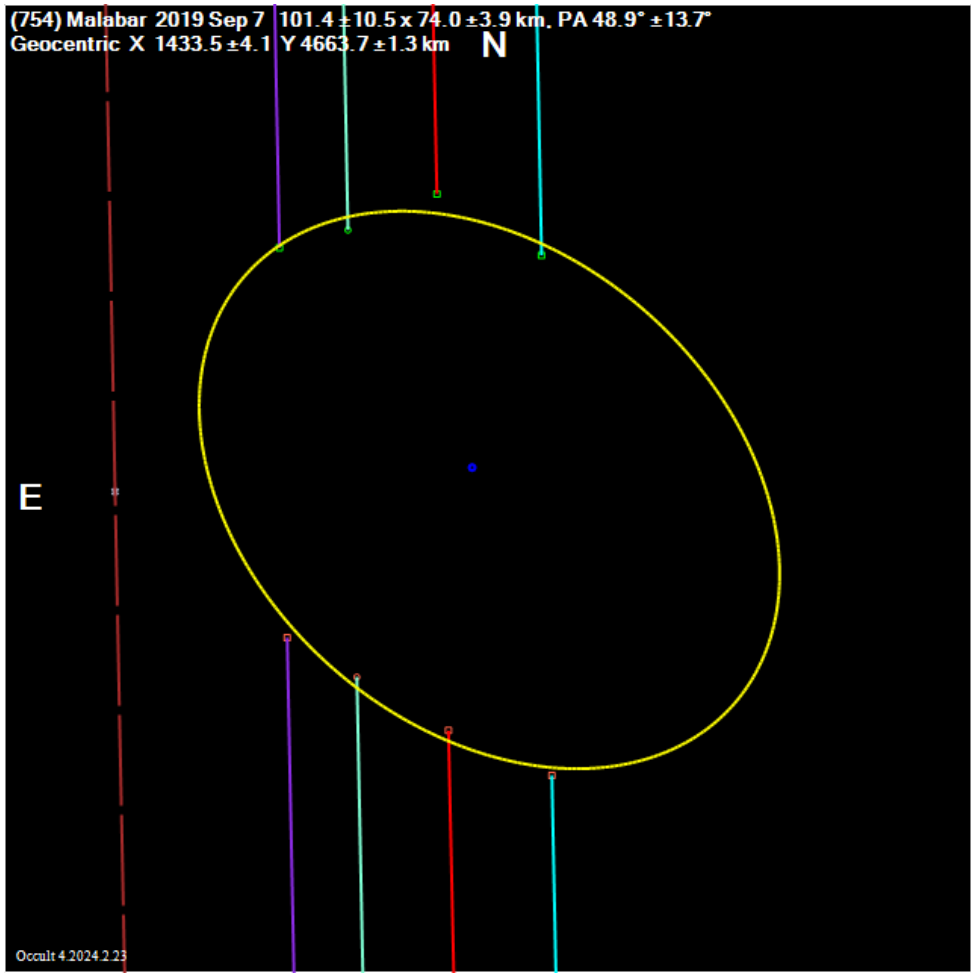
747_Winchester_2016Mar22

(747) Winchester 2016 Mar 22 $197.3 \pm 4.9 \times 147.9 \pm 6.7$ km, PA $95.1^\circ \pm 6.4^\circ$
Geocentric X 4740.6 ± 2.4 Y 3000.1 ± 2.8 km N



754_Malabar_2019Sep07

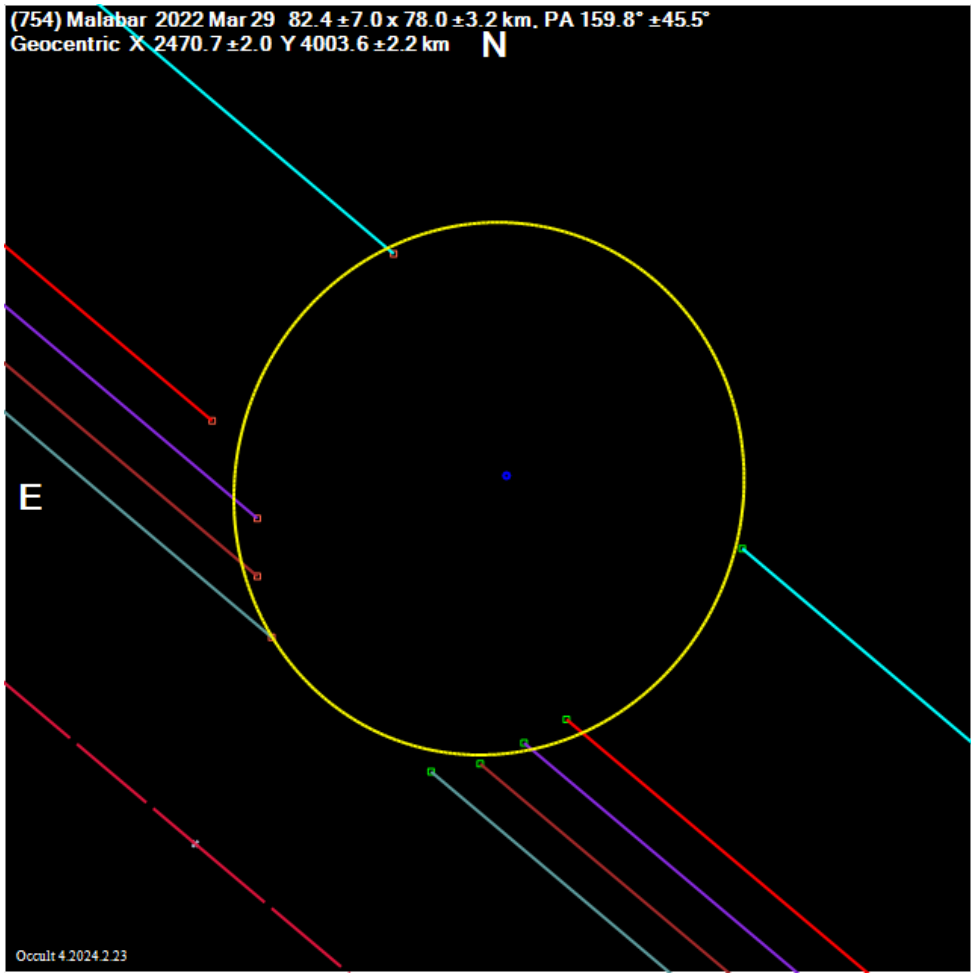
(754) Malabar 2019 Sep 7 $101.4 \pm 10.5 \times 74.0 \pm 3.9$ km. PA $48.9^\circ \pm 13.7^\circ$
Geocentric X 1433.5 ± 4.1 Y 4663.7 ± 1.3 km N



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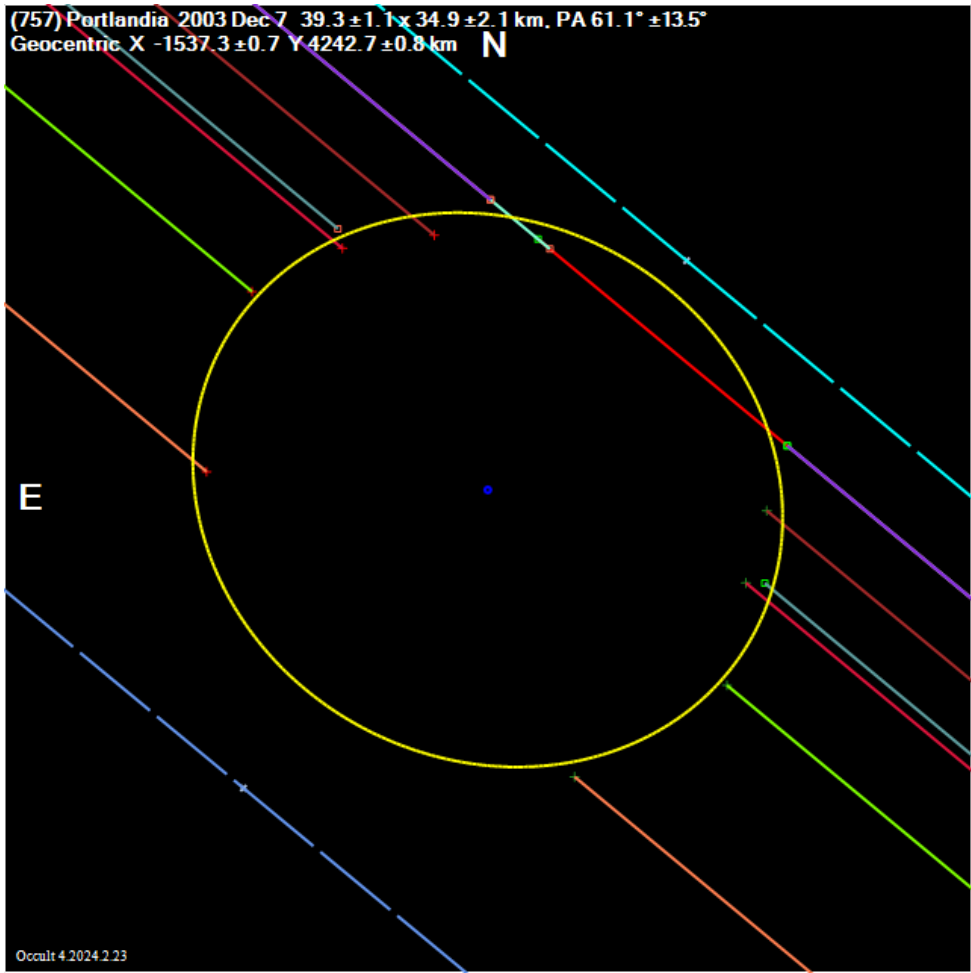
754_Malabar_2022Mar29

(754) Malabar 2022 Mar 29 $82.4 \pm 7.0 \times 78.0 \pm 3.2$ km, PA $159.8^\circ \pm 45.5^\circ$
Geocentric X 2470.7 ± 2.0 Y 4003.6 ± 2.2 km N

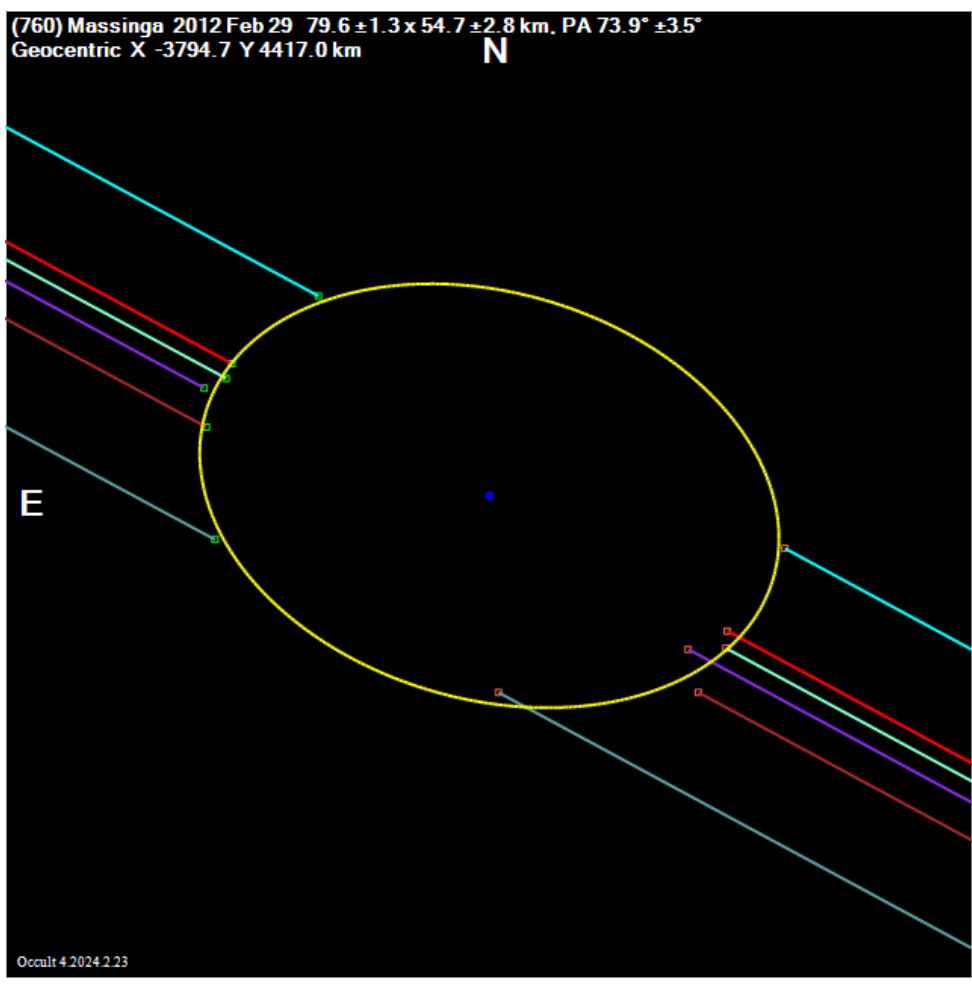


757_Portlandia_2003Dec07

(757) Portlandia 2003 Dec 7 $39.3 \pm 1.1 \times 34.9 \pm 2.1$ km. PA $61.1^\circ \pm 13.5^\circ$
Geocentric X -1537.3 ± 0.7 Y 4242.7 ± 0.8 km **N**

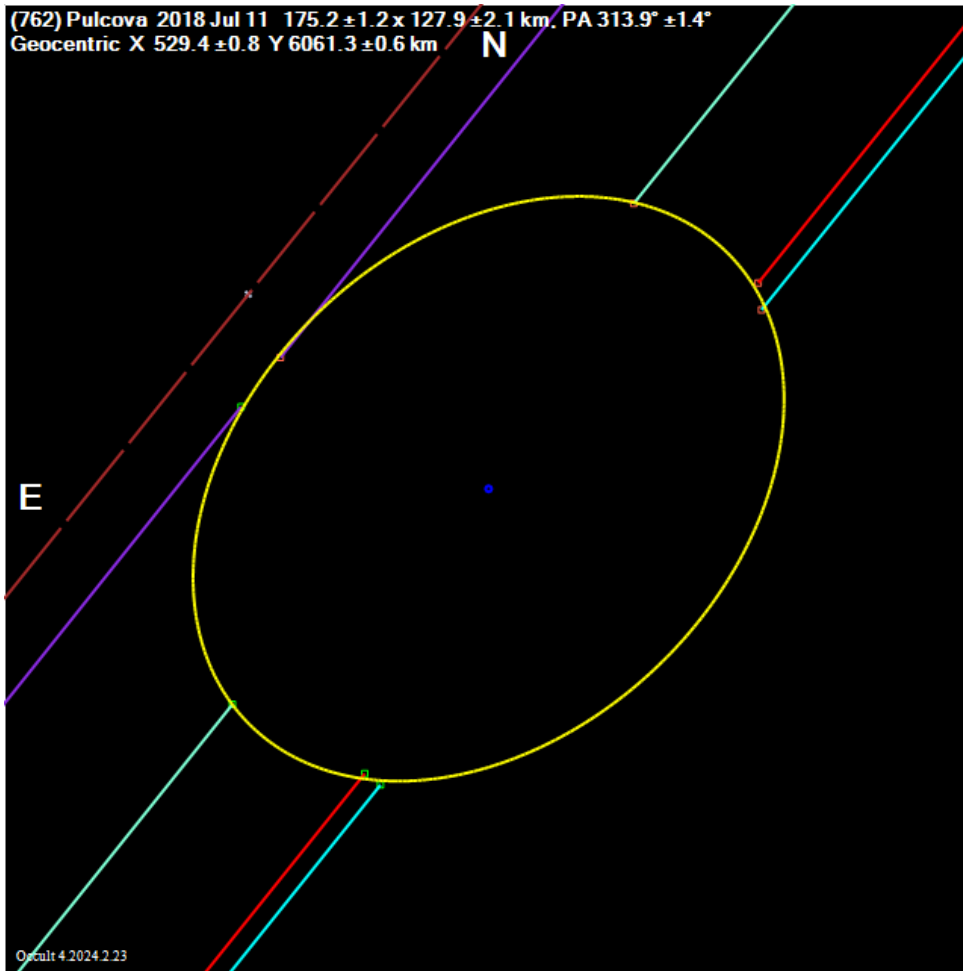


760_Massinga_2012Feb29



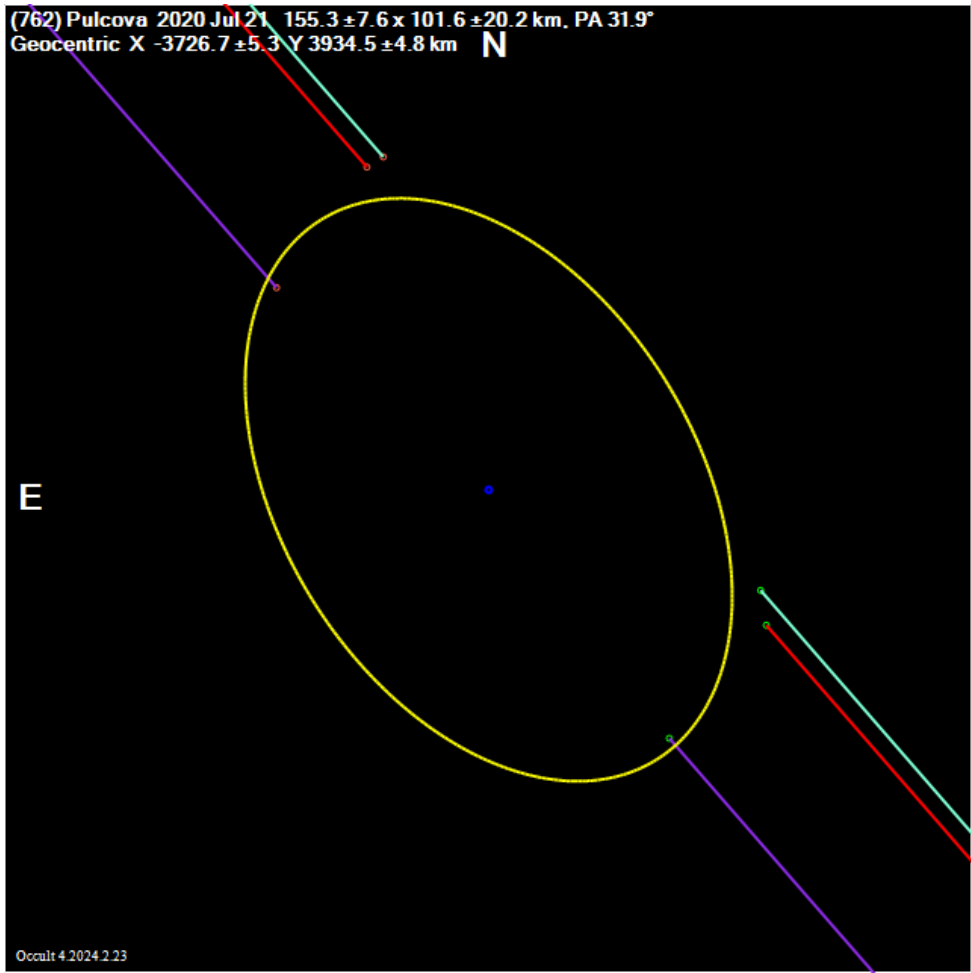
762_Pulcova_2018Jul11

(762) Pulcova 2018 Jul 11 $175.2 \pm 1.2 \times 127.9 \pm 2.1$ km, PA $313.9^\circ \pm 1.4^\circ$
Geocentric X 529.4 ± 0.8 Y 6061.3 ± 0.6 km



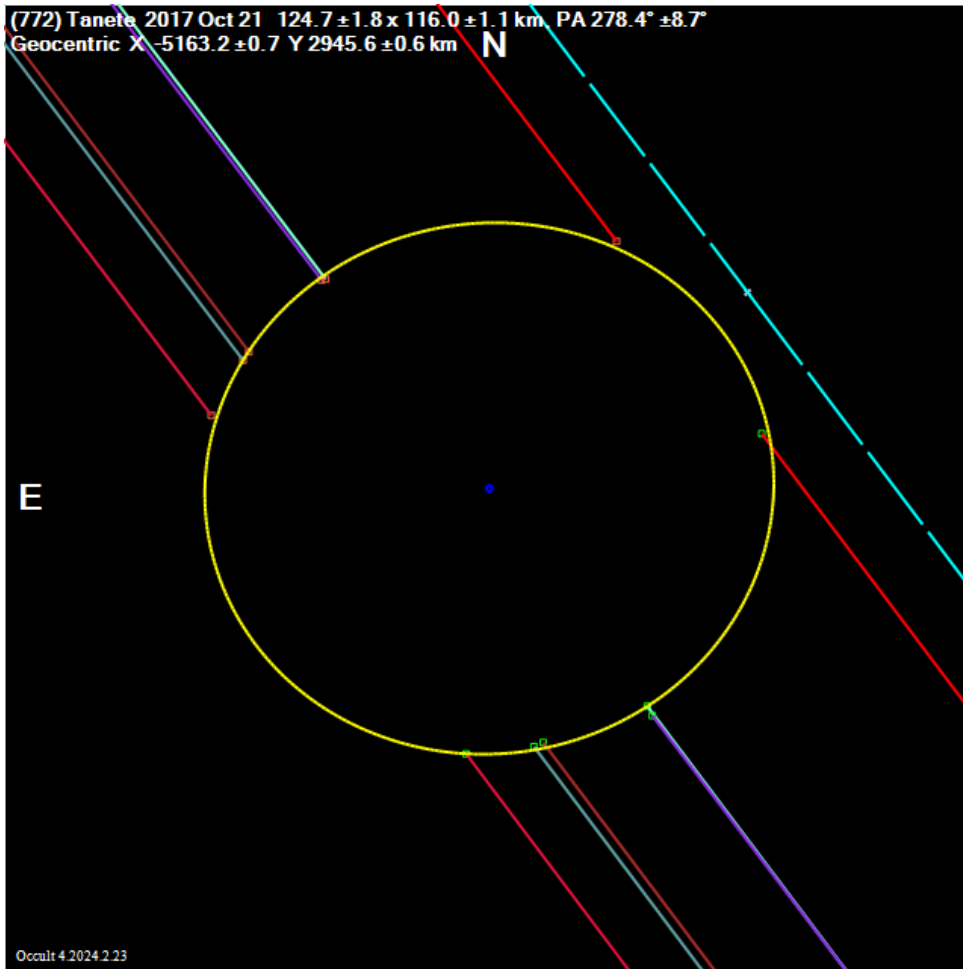
762_Pulcova_2020Jul21

(762) Pulcova 2020 Jul 21 155.3 ± 7.6 x 101.6 ± 20.2 km, PA 31.9°
Geocentric X -3726.7 ± 5.3 Y 3934.5 ± 4.8 km **N**



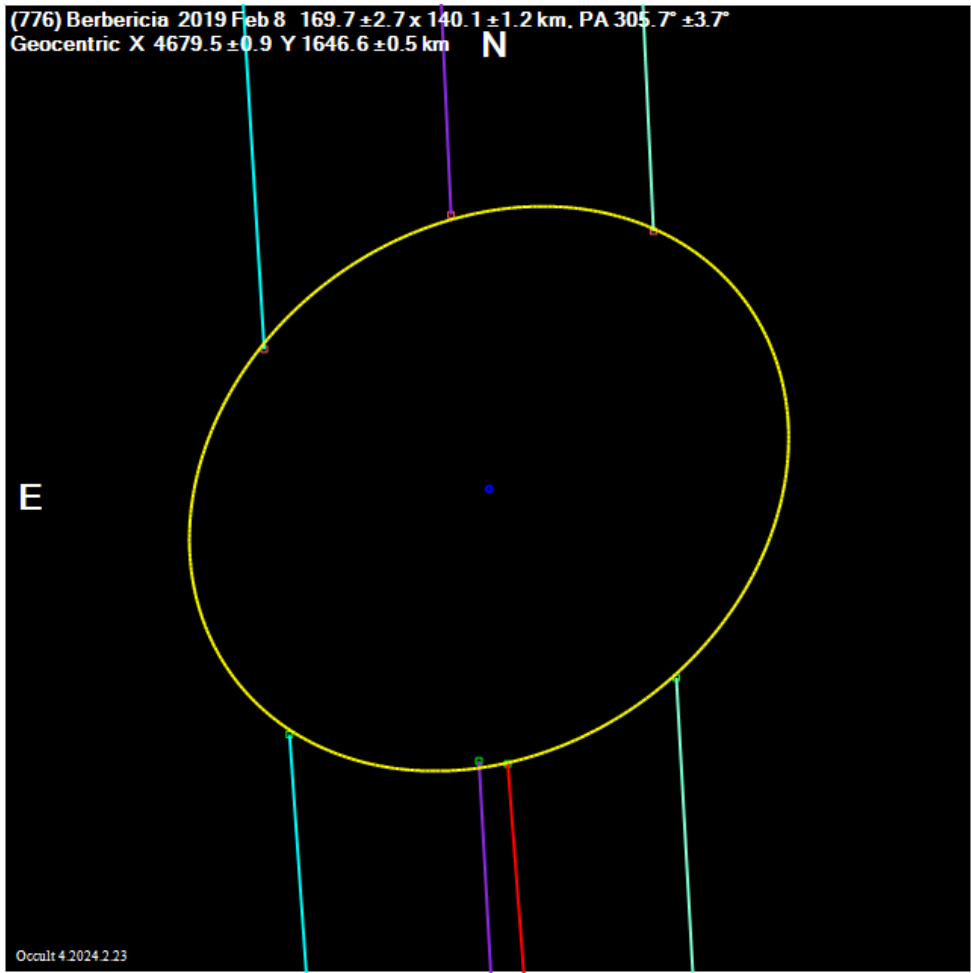
772_Tanete_2017Oct21

(772) Tanete 2017 Oct 21 $124.7 \pm 1.8 \times 116.0 \pm 1.1$ km PA $278.4^\circ \pm 8.7^\circ$
Geocentric X -5163.2 ± 0.7 Y 2945.6 ± 0.6 km **N**



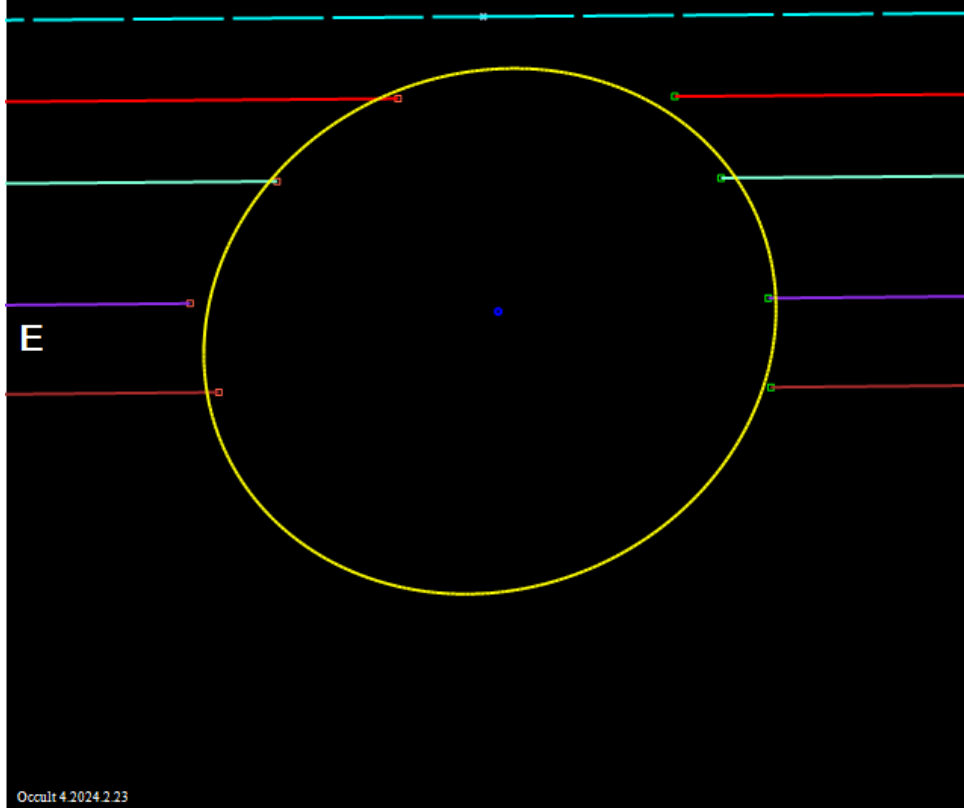
776_Berbericia_2019Feb08

(776) Berbericia 2019 Feb 8 $169.7 \pm 2.7 \times 140.1 \pm 1.2$ km, PA $305.7^\circ \pm 3.7^\circ$
Geocentric X 4679.5 ± 0.9 Y 1646.6 ± 0.5 km **N**



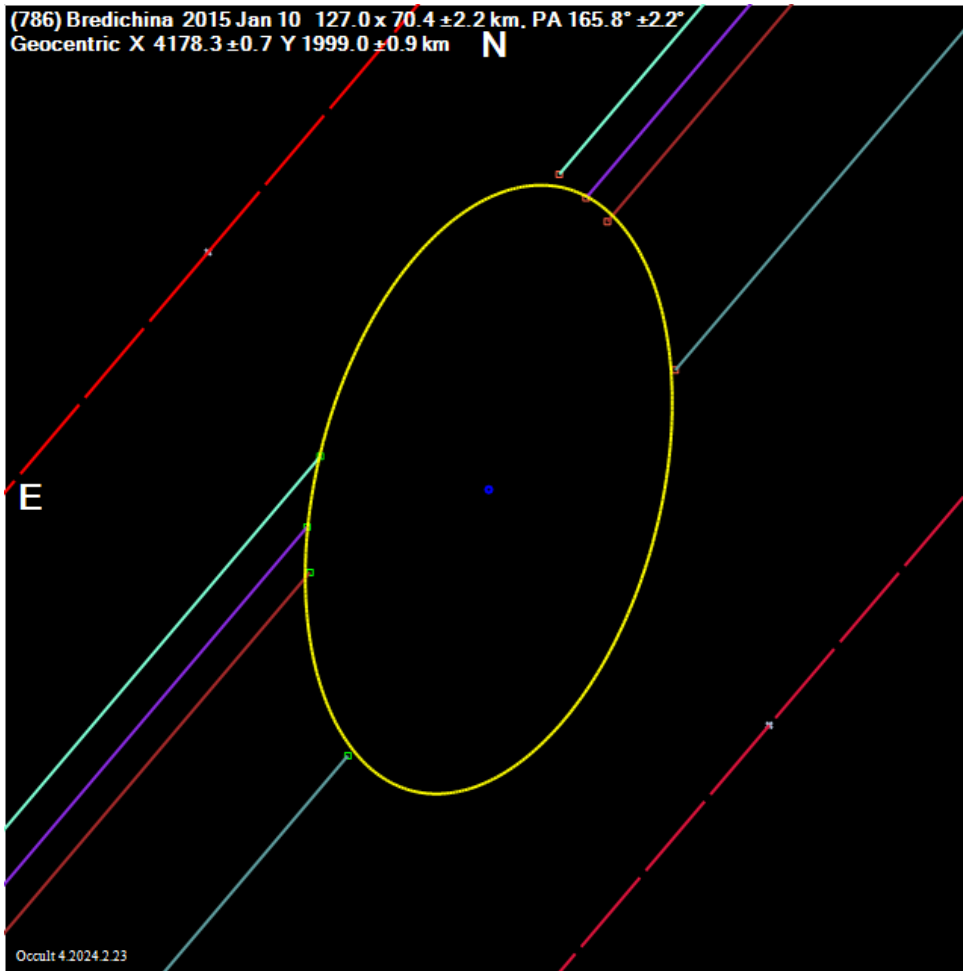
780_Armenia_2021Nov09

(780) Armenia 2021 Nov 9 $105.9 \pm 3.0 \times 93.8 \pm 8.9$ km, PA $112.4^\circ \pm 22.9^\circ$
Geocentric X 1748.2 ± 1.0 Y 4867.2 ± 4.1 km N



786_Bredichina_2015Jan10

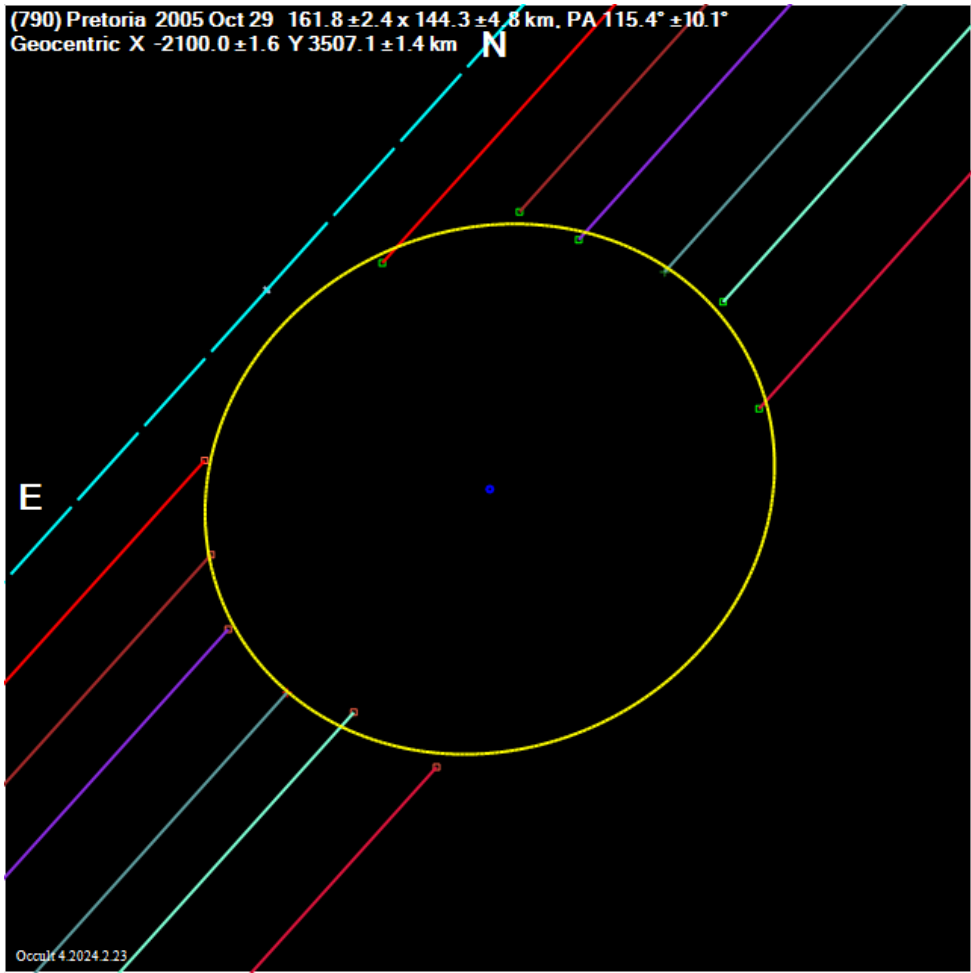
(786) Bredichina 2015 Jan 10 127.0 x 70.4 ±2.2 km, PA 165.8° ±2.2°
Geocentric X 4178.3 ±0.7 Y 1999.0 ±0.9 km N



Occult 4.2024.2.23

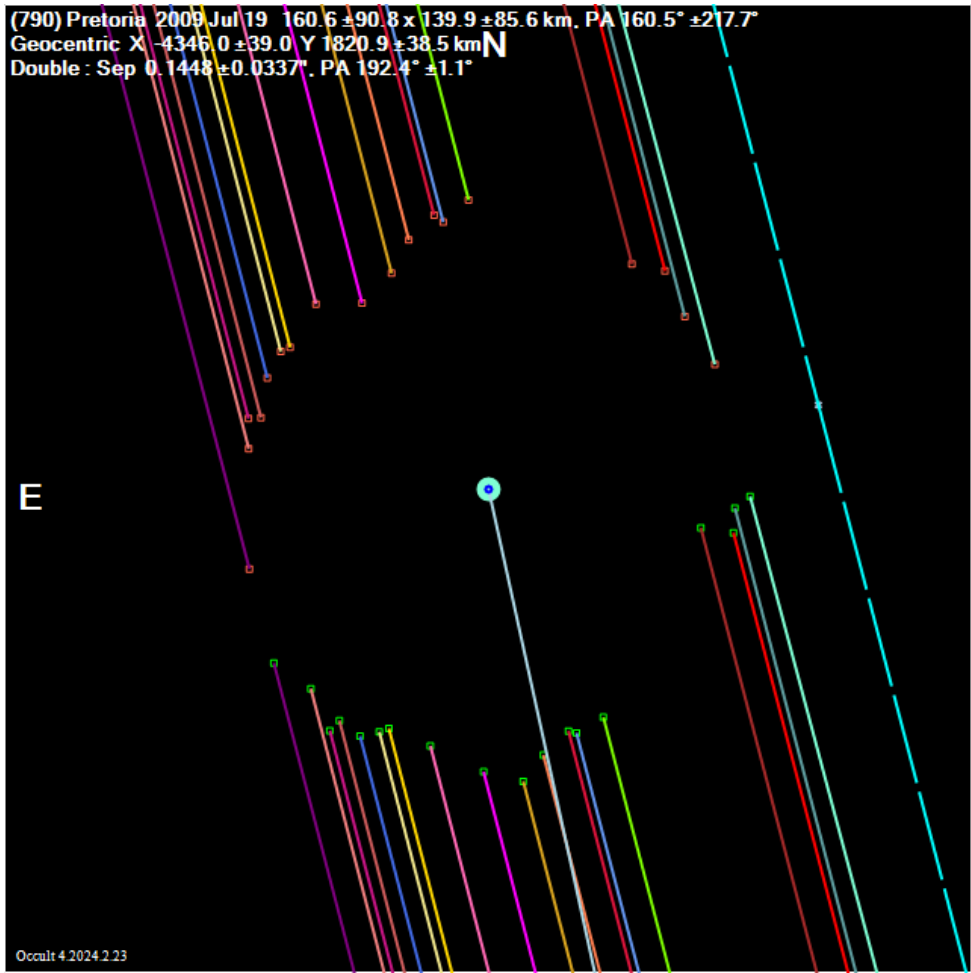
790_Pretoria_2005Oct29

(790) Pretoria 2005 Oct 29 $161.8 \pm 2.4 \times 144.3 \pm 4.8$ km, PA $115.4^\circ \pm 10.1^\circ$
Geocentric X -2100.0 ± 1.6 Y 3507.1 ± 1.4 km



790_Pretoria_2009Jul19

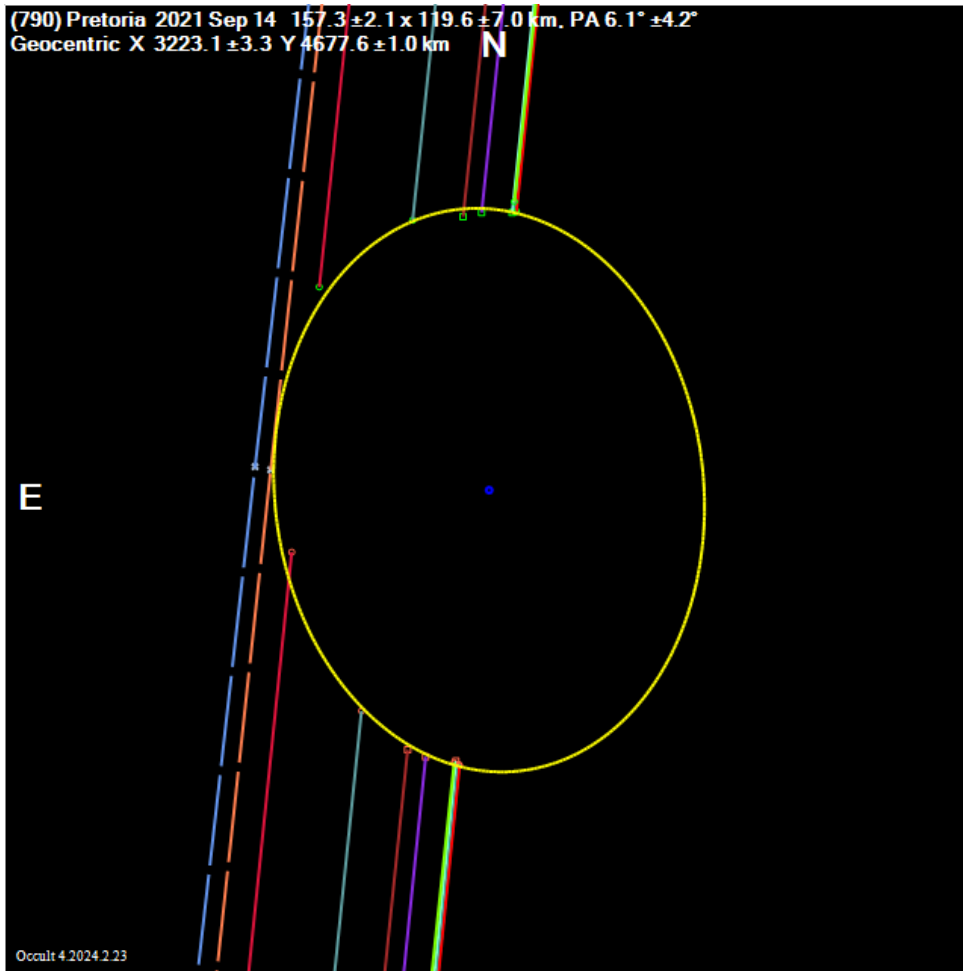
(790) Pretoria 2009 Jul 19 160.6 ± 90.8 x 139.9 ± 85.6 km, PA 160.5° ± 217.7°
Geocentric X -4346.0 ± 39.0 Y 1820.9 ± 38.5 km
Double : Sep 0.1448 ± 0.0337", PA 192.4° ± 1.1"



Occult 4.2024.2.23

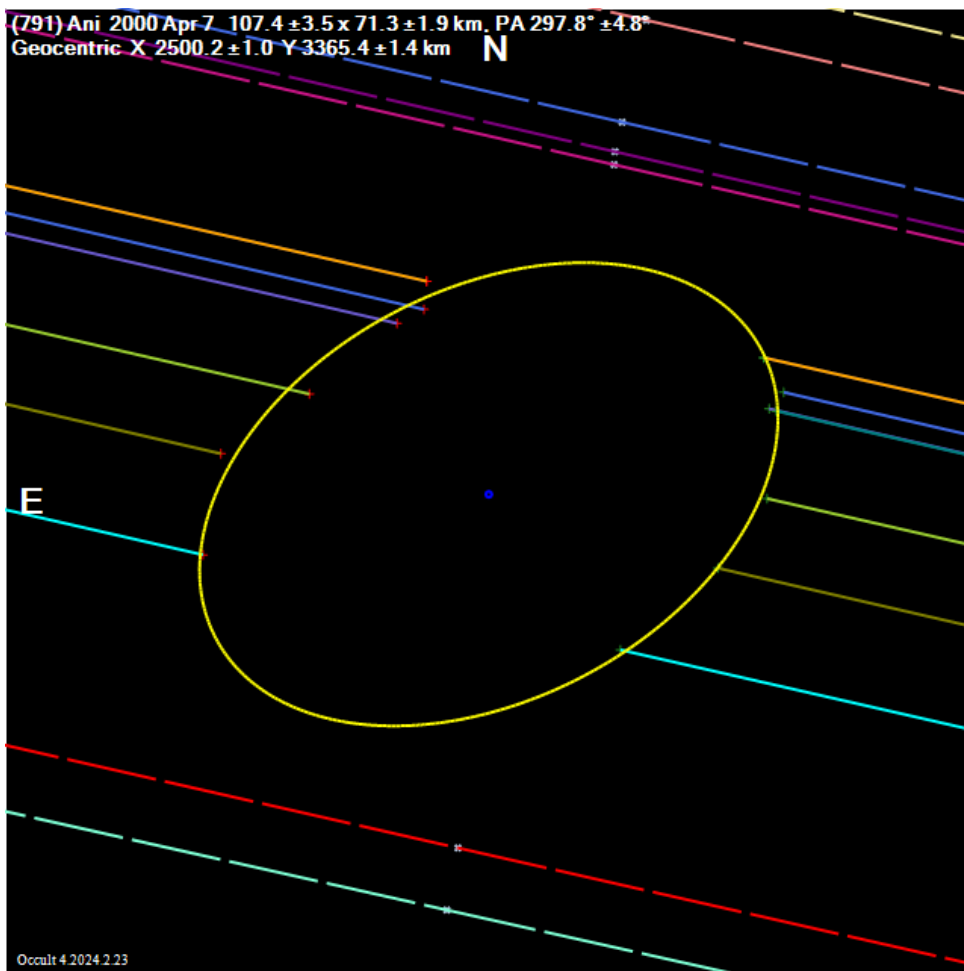
790_Pretoria_2021Sep14

(790) Pretoria 2021 Sep 14 $157.3 \pm 2.1 \times 119.6 \pm 7.0$ km. PA $6.1^\circ \pm 4.2^\circ$
Geocentric X 3223.1 ± 3.3 Y 4677.6 ± 1.0 km



791_Ani_2000Apr07

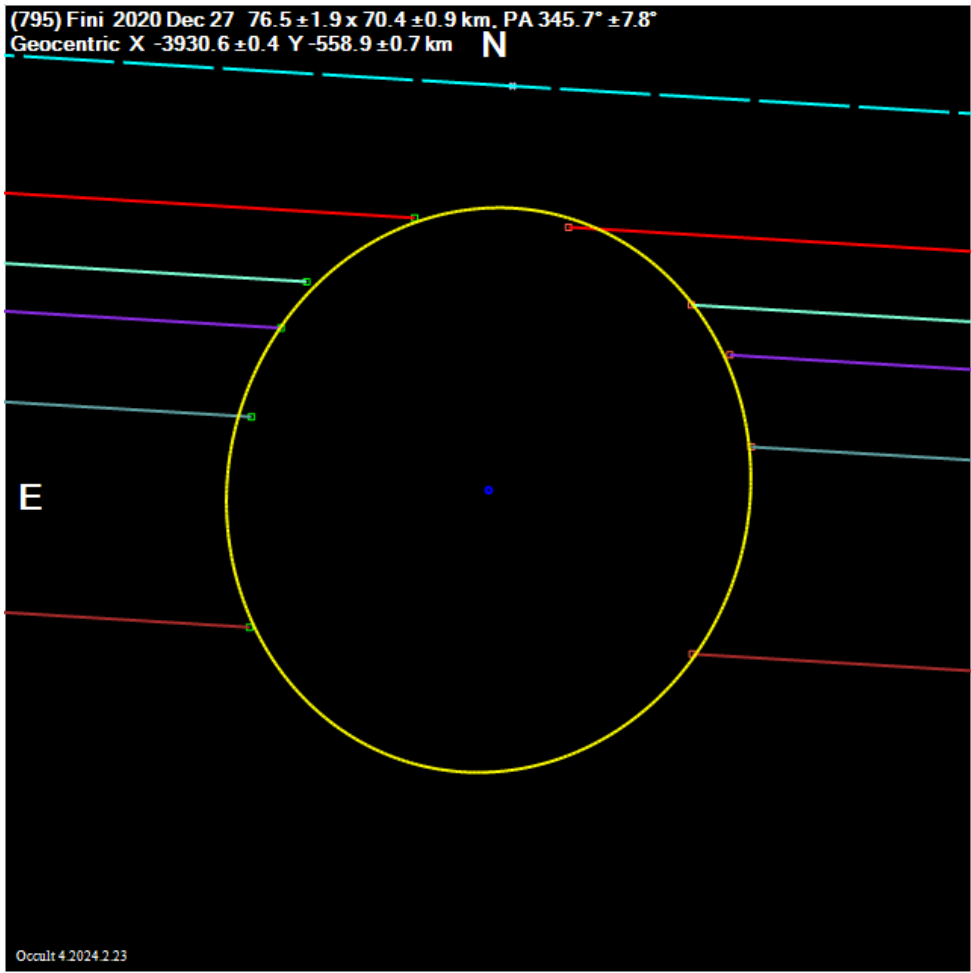
(791) Ani 2000 Apr 7 $107.4 \pm 3.5 \times 71.3 \pm 1.9$ km. PA $297.8^\circ \pm 4.8^\circ$
Geocentric X 2500.2 ± 1.0 Y -3365.4 ± 1.4 km N



Occult 4.2024.2.23

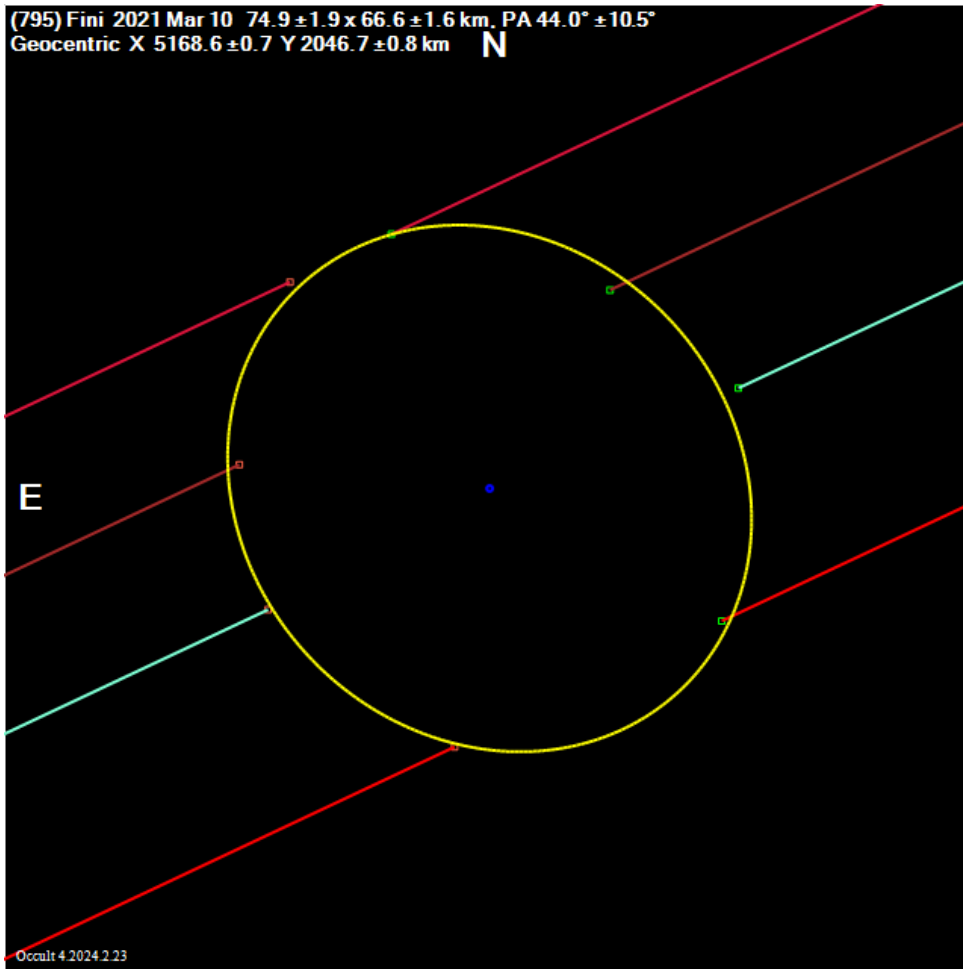
795_Fini_2020Dec27

(795) Fini 2020 Dec 27 $76.5 \pm 1.9 \times 70.4 \pm 0.9$ km, PA $345.7^\circ \pm 7.8^\circ$
Geocentric X -3930.6 ± 0.4 Y -558.9 ± 0.7 km **N**



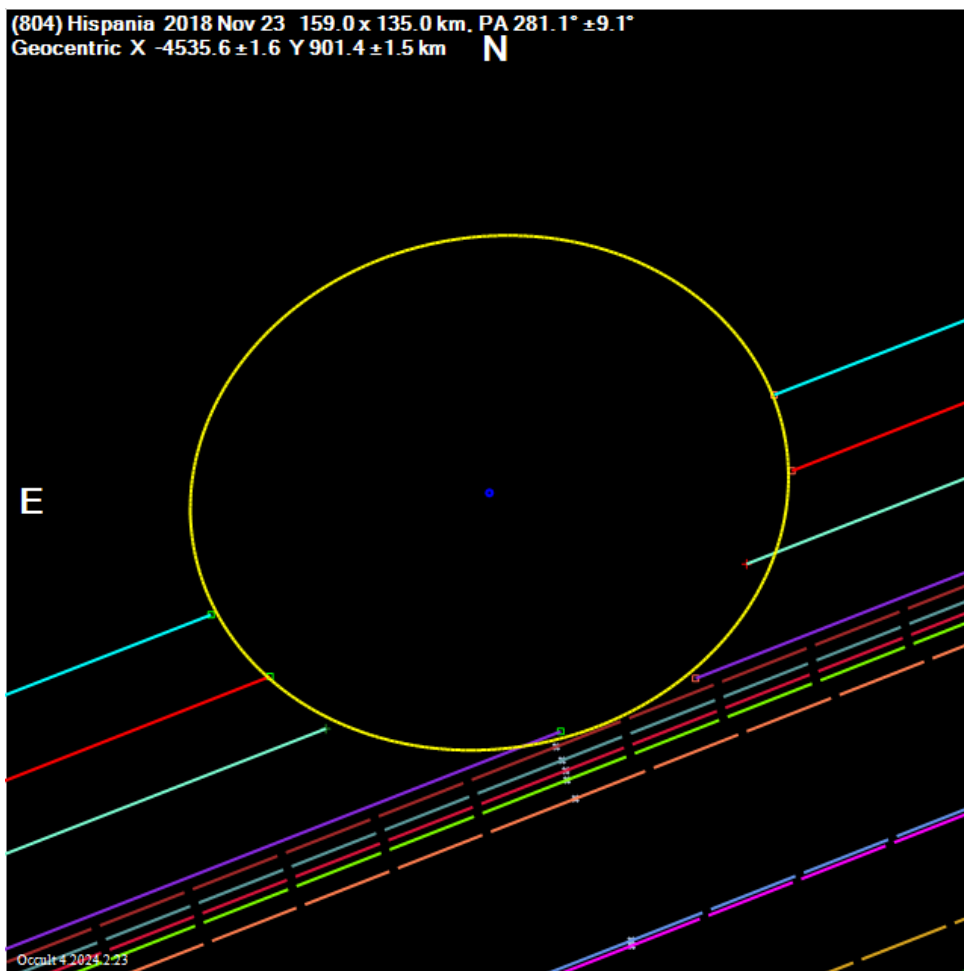
795_Fini_2021Mar10

(795) Fini 2021 Mar 10 $74.9 \pm 1.9 \times 66.6 \pm 1.6$ km, PA $44.0^\circ \pm 10.5^\circ$
Geocentric X 5168.6 ± 0.7 Y 2046.7 ± 0.8 km N



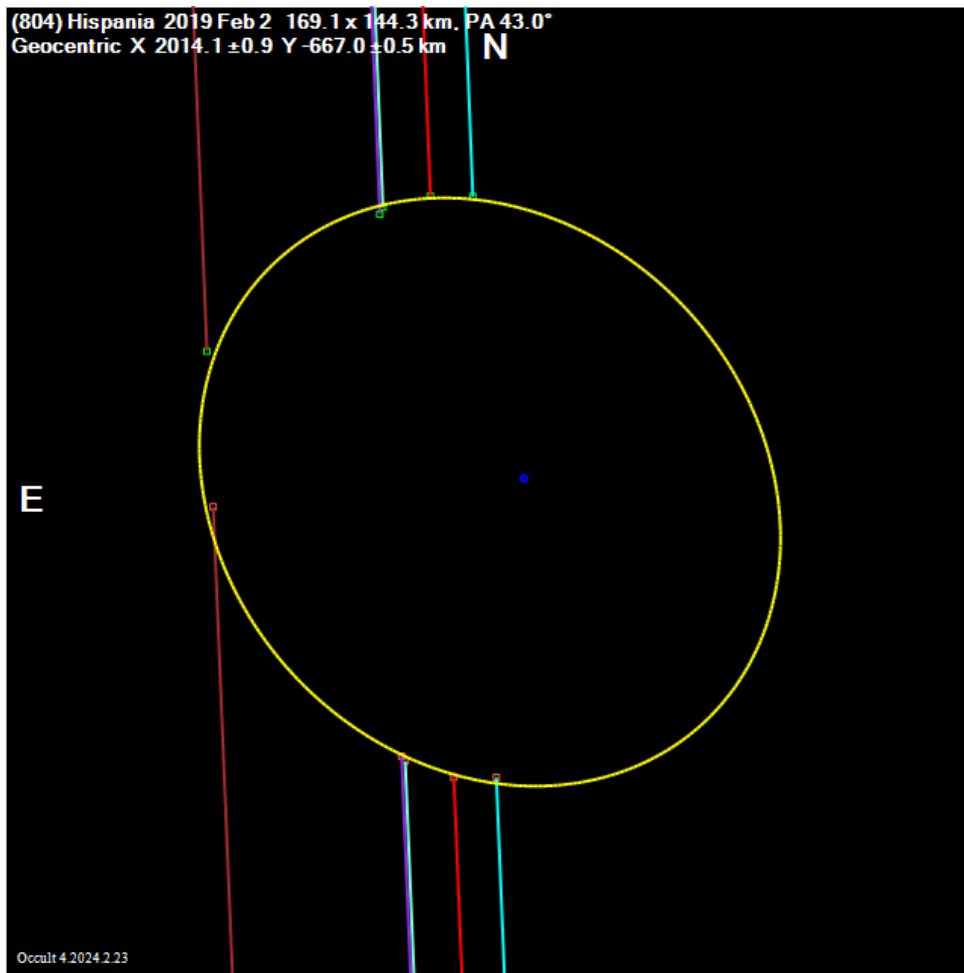
804_Hispania_2018Nov23

(804) Hispania 2018 Nov 23 159.0 x 135.0 km. PA 281.1° ± 9.1°
Geocentric X -4535.6 ± 1.6 Y 901.4 ± 1.5 km N



804_Hispania_2019Feb02

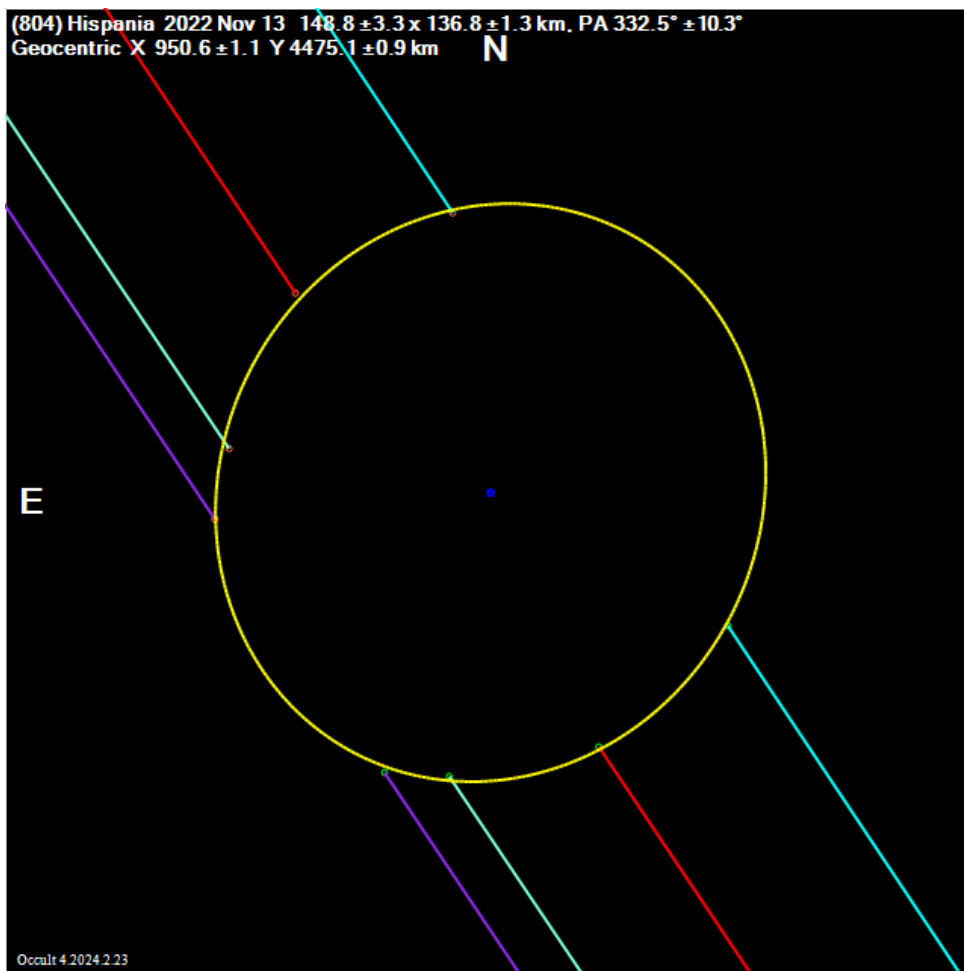
(804) Hispania 2019 Feb 2 169.1 x 144.3 km, PA 43.0°
Geocentric X 2014.1 ± 0.9 Y -667.0 ± 0.5 km



Occult 4.2024.2.23

804_Hispania_2022Nov13

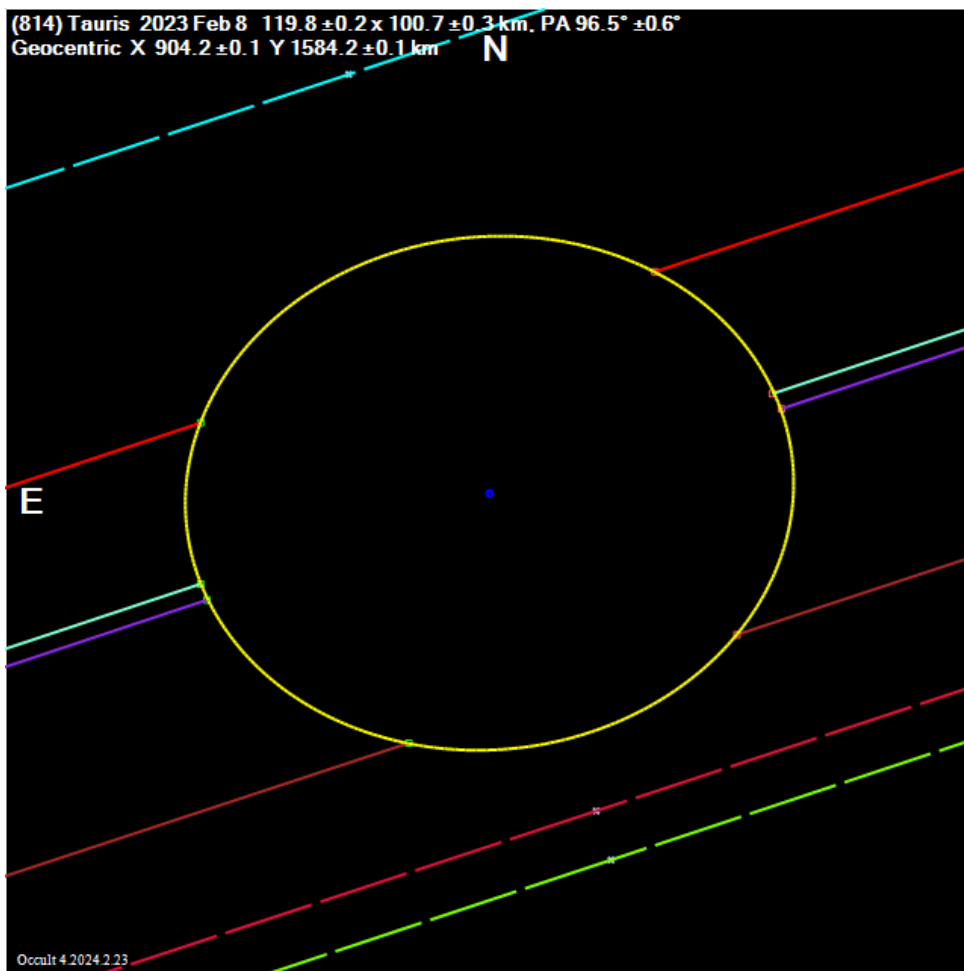
(804) Hispania 2022 Nov 13 $148.8 \pm 3.3 \times 136.8 \pm 1.3$ km. PA $332.5^\circ \pm 10.3^\circ$
Geocentric X 950.6 ± 1.1 Y 4475.1 ± 0.9 km **N**



Occult 4.2024.2.23

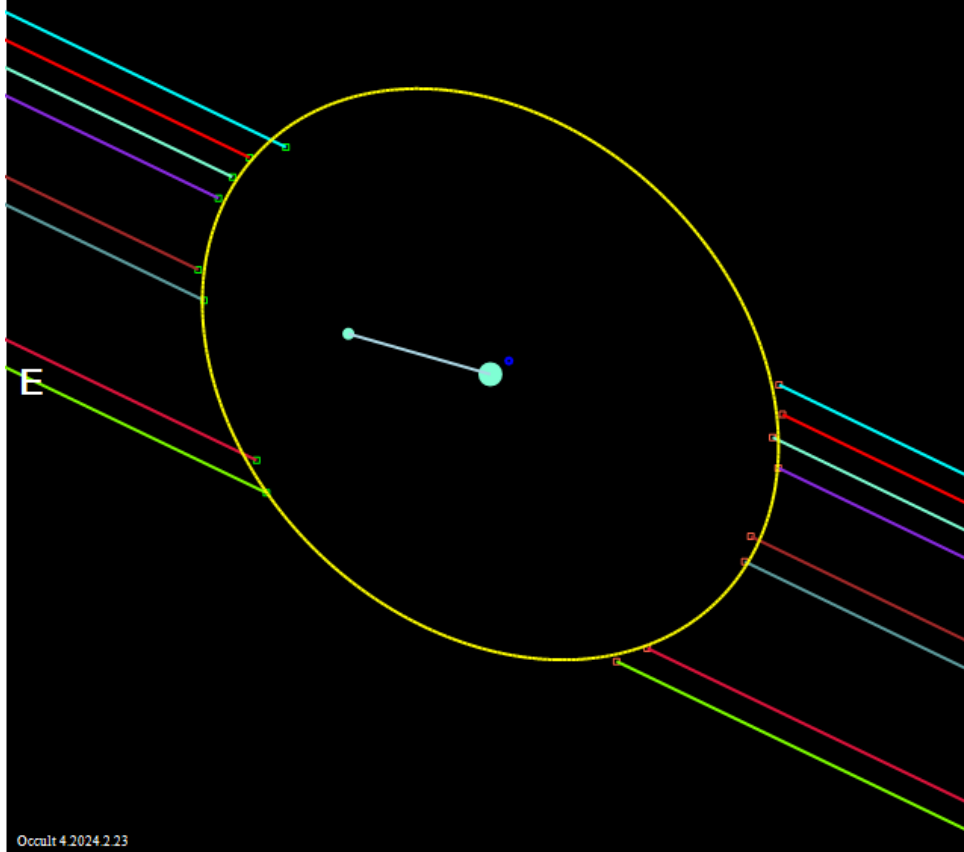
814_Tauris_2023Feb08

(814) Tauris 2023 Feb 8 $119.8 \pm 0.2 \times 100.7 \pm 0.3$ km. PA $96.5^\circ \pm 0.6^\circ$
Geocentric X 904.2 ± 0.1 Y 1584.2 ± 0.1 km



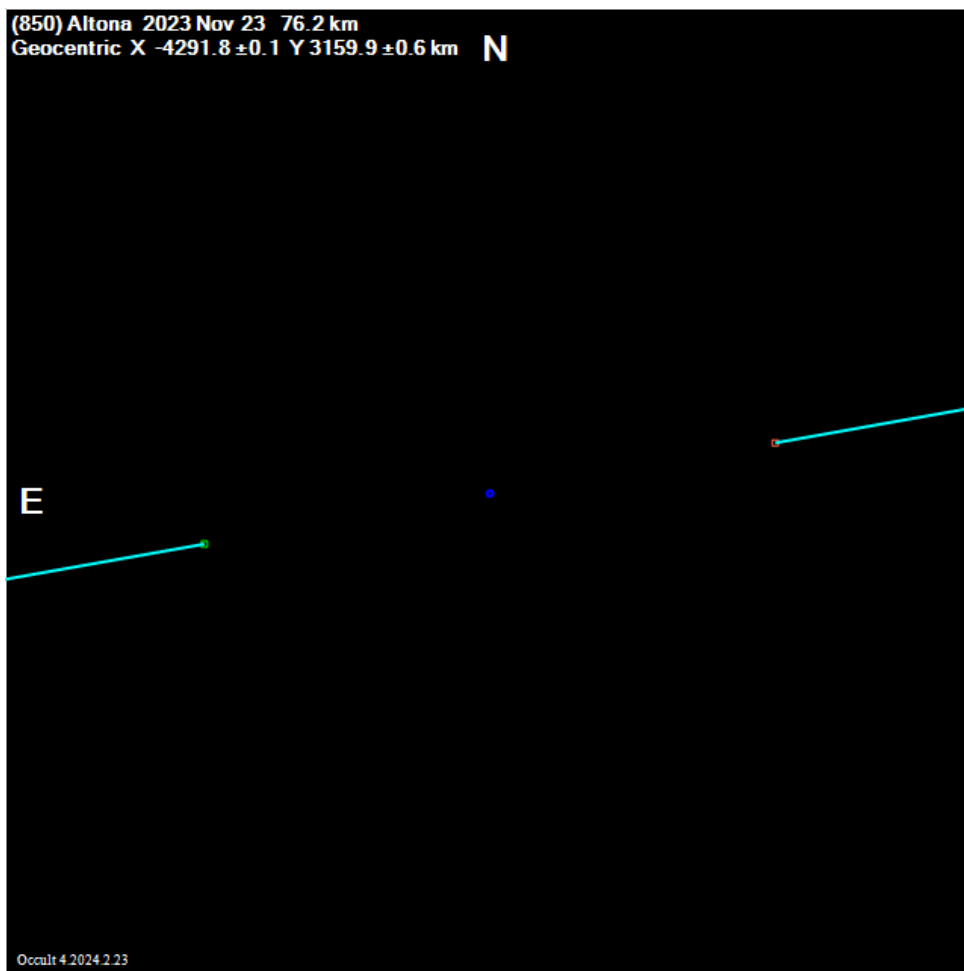
834_Burnhamia_2017Aug23

(834) Burnhamia 2017 Aug 23 $76.6 \pm 0.6 \times 59.2 \pm 1.7$ km, PA $46.1^\circ \pm 3.3^\circ$
Geocentric X -1976.0 ± 0.4 Y 4879.7 ± 0.6 km **N**
Double : Sep $0.0143 \pm 0.0004''$, PA $74.1^\circ \pm 2.7^\circ$



850_Altona_2023Nov23

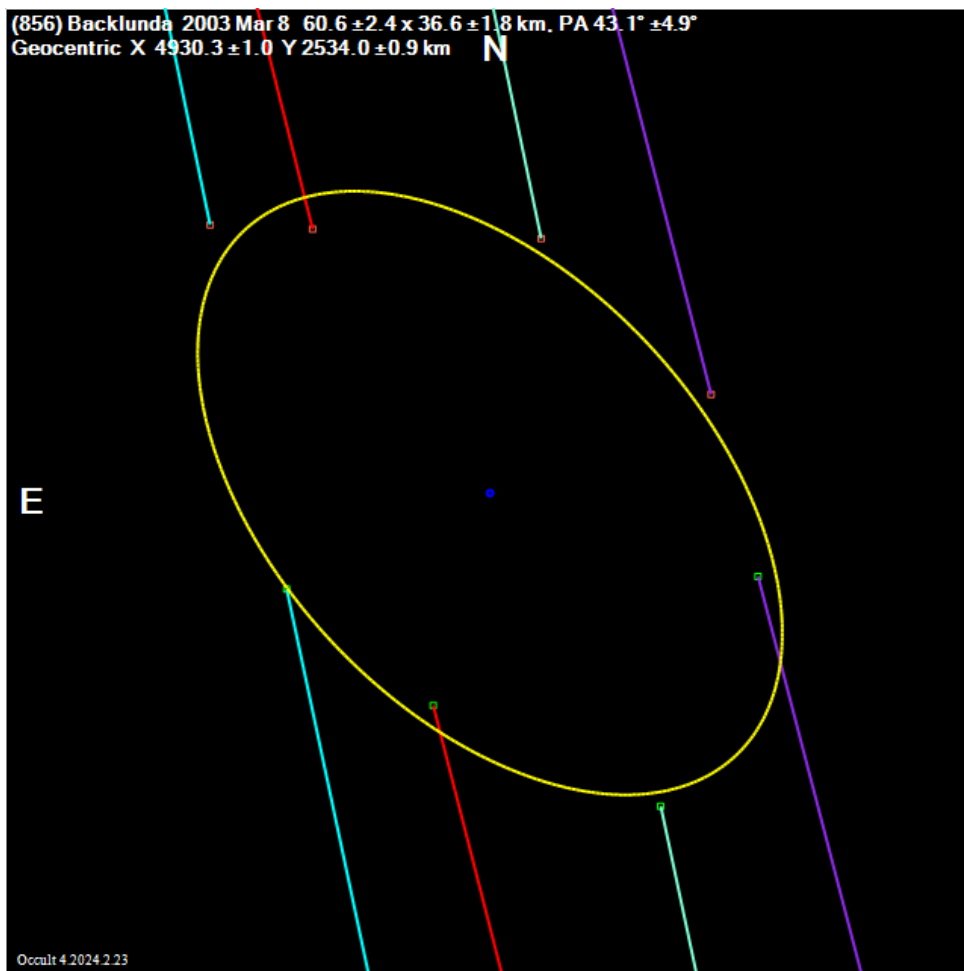
(850) Altona 2023 Nov 23 76.2 km
Geocentric X -4291.8 ± 0.1 Y 3159.9 ± 0.6 km N



Occult 4.2024.2.23

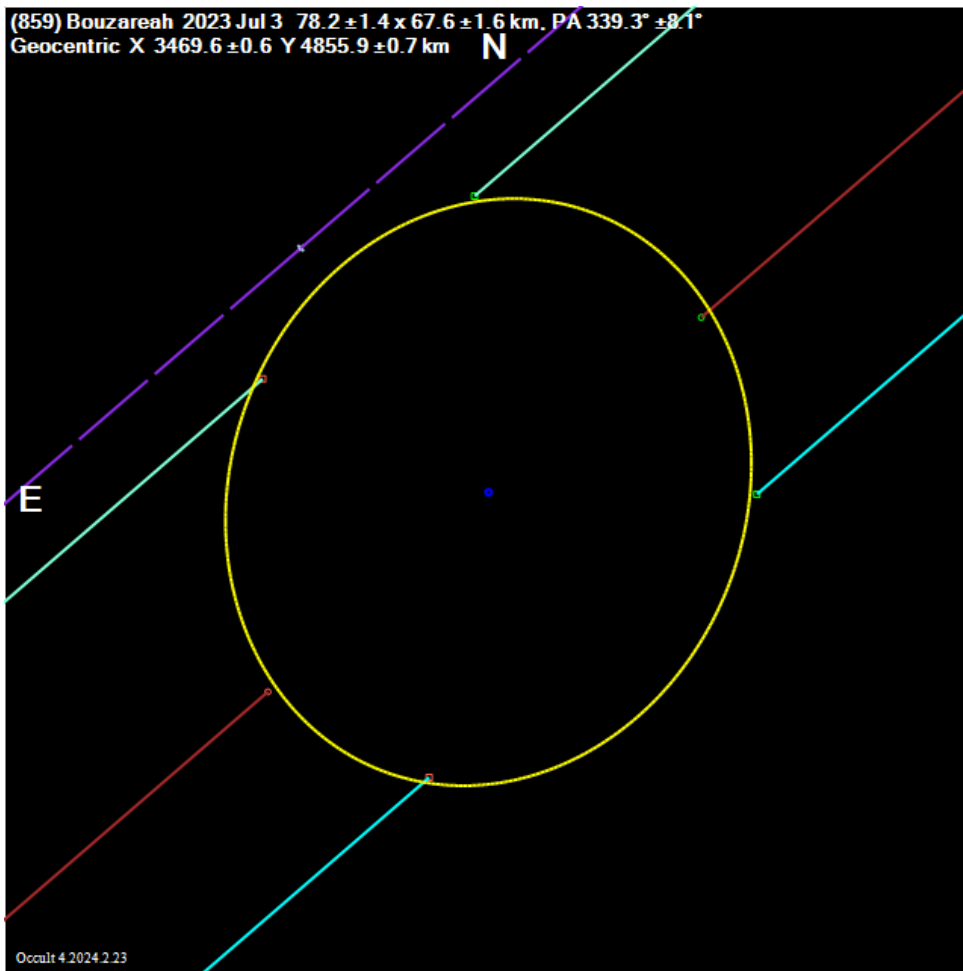
856_Backlunda_2003Mar08

(856) Backlunda 2003 Mar 8 60.6 ± 2.4 × 36.6 ± 1.8 km, PA 43.1° ± 4.9°
Geocentric X 4930.3 ± 1.0 Y 2534.0 ± 0.9 km



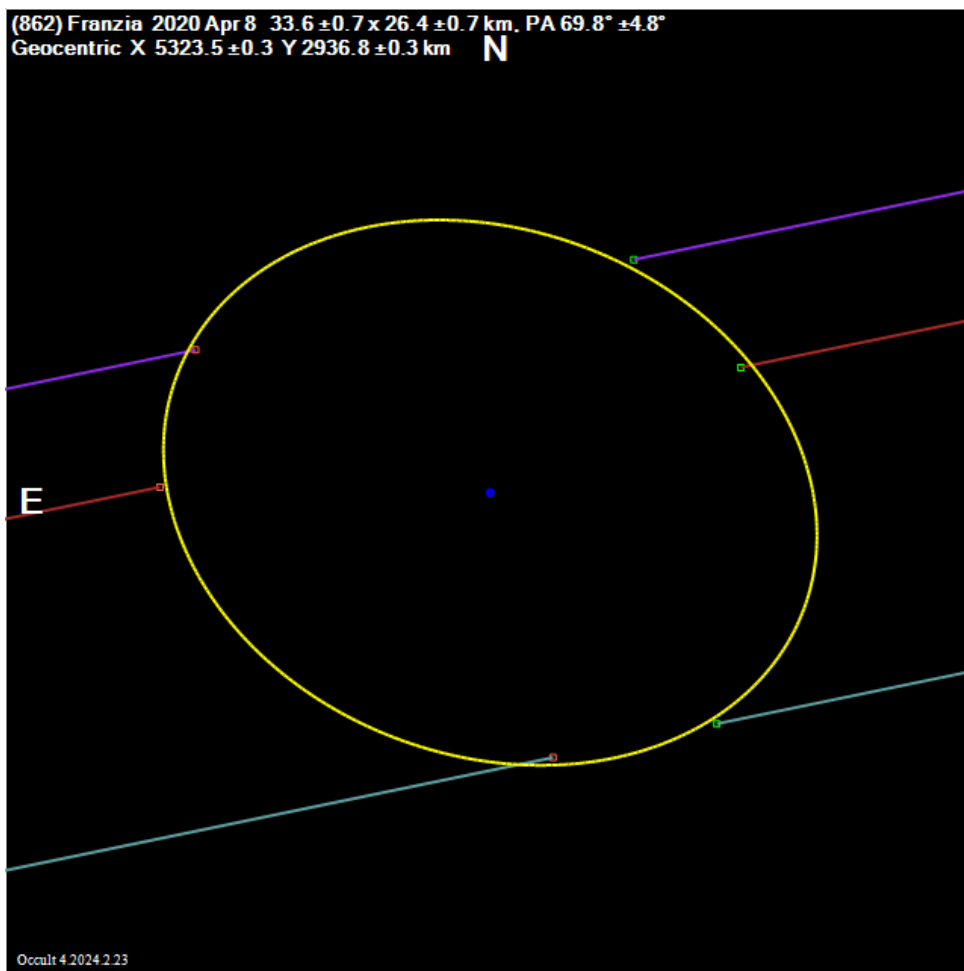
859_Bouzareah_2023Jul03

(859) Bouzareah 2023 Jul 3 $78.2 \pm 1.4 \times 67.6 \pm 1.6$ km, PA $339.3^\circ \pm 8.1^\circ$
Geocentric X 3469.6 ± 0.6 Y 4855.9 ± 0.7 km N



862_Franzia_2020Apr08

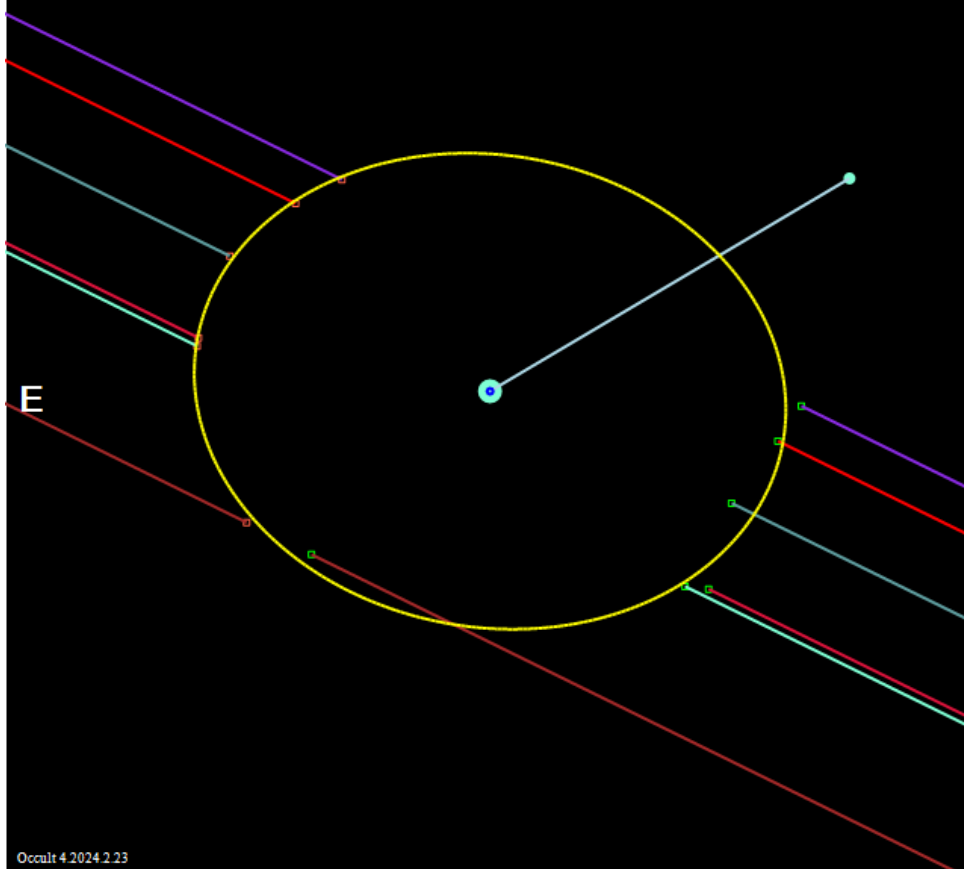
(862) Franzia 2020 Apr 8 $33.6 \pm 0.7 \times 26.4 \pm 0.7$ km. PA $69.8^\circ \pm 4.8^\circ$
Geocentric X 5323.5 ± 0.3 Y 2936.8 ± 0.3 km N



Occult 4.2024.2.23

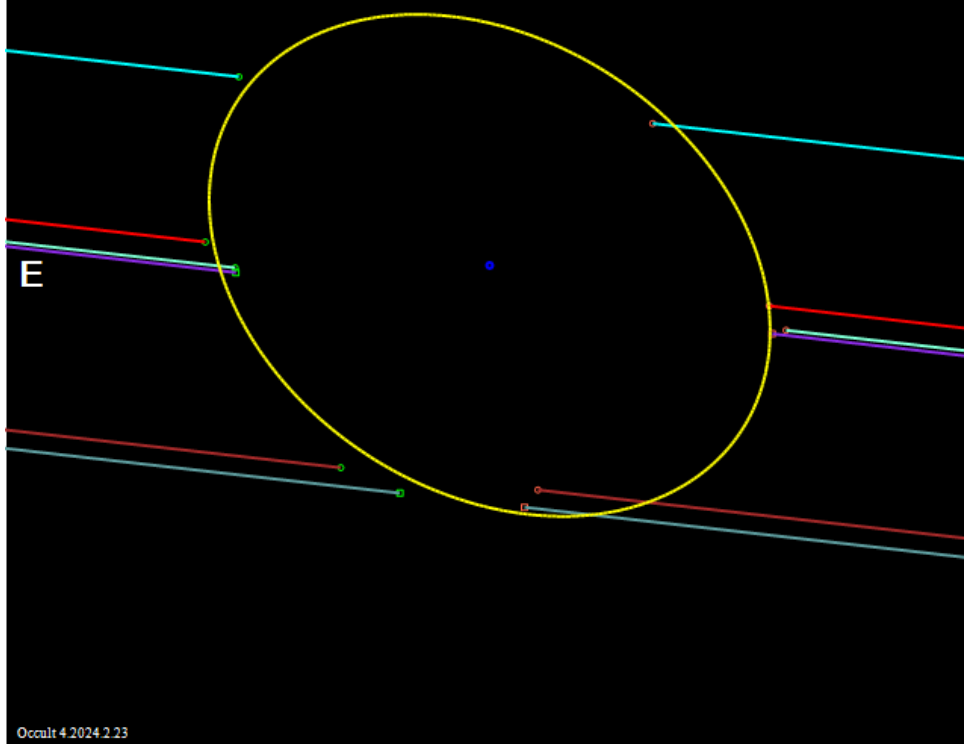
877_Walkure_2022Jan25

(877) Walkure 2022 Jan 25 $47.4 \pm 12.2 \times 37.6 \pm 28.5$ km, PA $80.4^\circ \pm 94.5^\circ$
Geocentric X 3248.1 ± 8.1 Y 2942.1 ± 11.5 km **N**
Double : Sep $0.0225 \pm 0.0081''$, PA $300.6^\circ \pm 0.1^\circ$



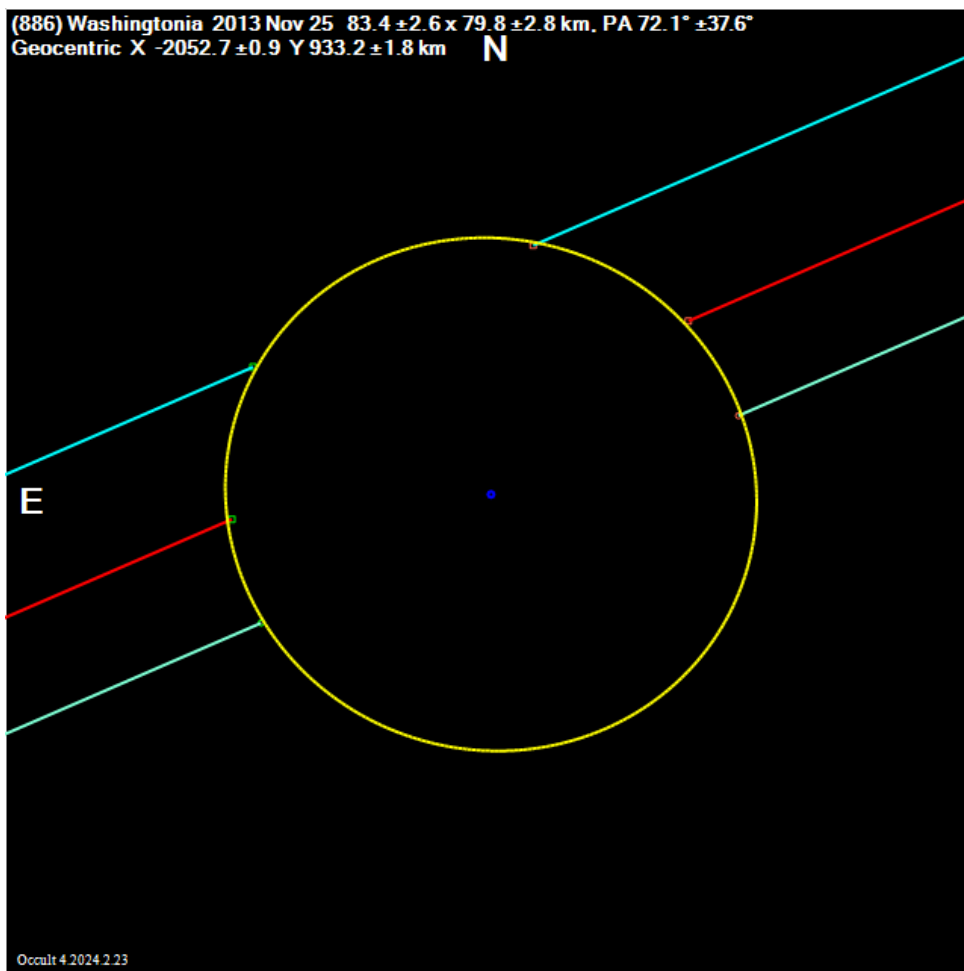
884_Priamus_2022Jul18

(884) Priamus 2022 Jul 18 $119.8 \pm 4.5 \times 89.7 \pm 4.2$ km, PA $56.7^\circ \pm 5.6^\circ$
Geocentric X -2751.1 ± 1.2 Y 5389.6 ± 2.1 km **N**



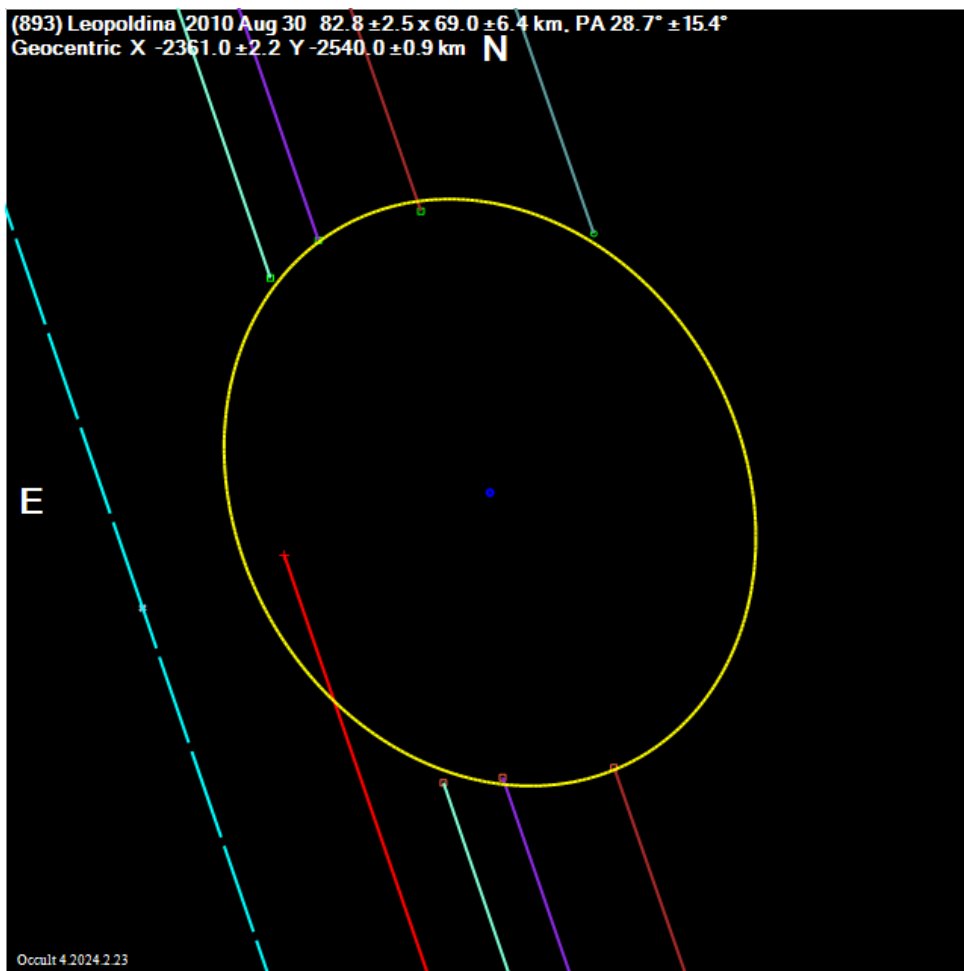
886_Washingtonia_2013Nov25

(886) Washingtonia 2013 Nov 25 $83.4 \pm 2.6 \times 79.8 \pm 2.8$ km. PA $72.1^\circ \pm 37.6^\circ$
Geocentric X -2052.7 ± 0.9 Y 933.2 ± 1.8 km N



893_Leopoldina_2010Aug30

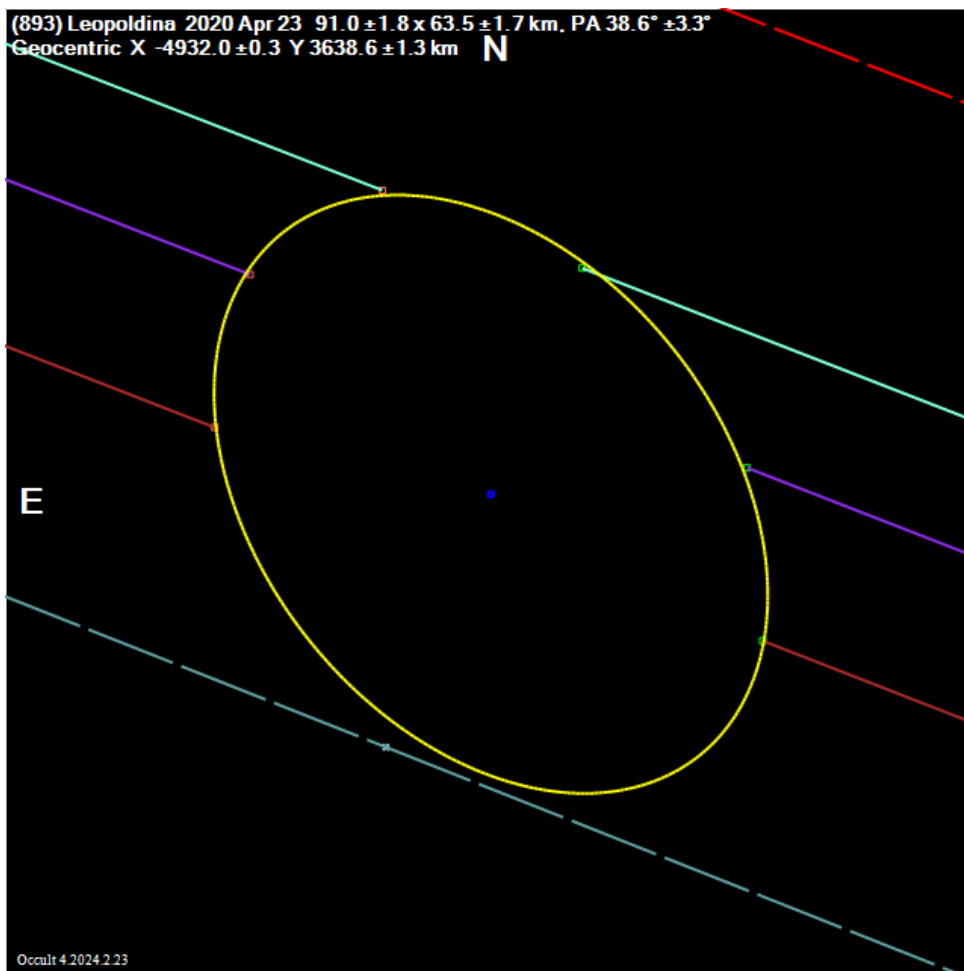
(893) Leopoldina 2010 Aug 30 $82.8 \pm 2.5 \times 69.0 \pm 6.4$ km, PA $28.7^\circ \pm 15.4^\circ$
Geocentric X -2361.0 ± 2.2 Y -2540.0 ± 0.9 km **N**



Occult 4.2024.2.23

893_Leopoldina_2020Apr23

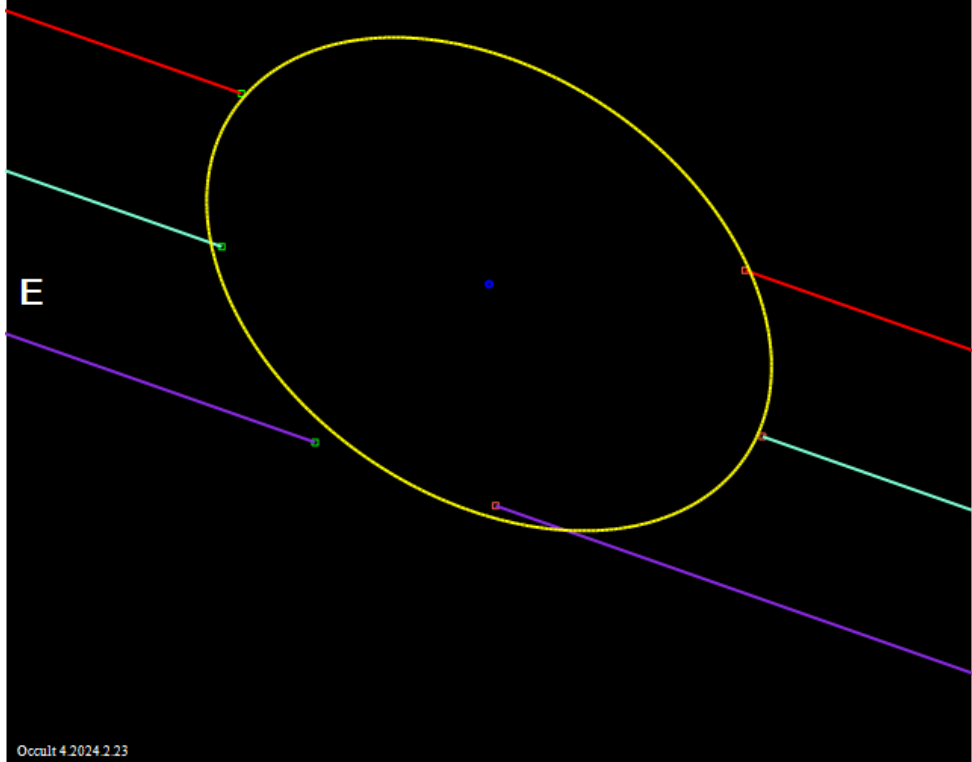
(893) Leopoldina 2020 Apr 23 $91.0 \pm 1.8 \times 63.5 \pm 1.7$ km. PA $38.6^\circ \pm 3.3^\circ$
Geocentric X -4932.0 ± 0.3 Y 3638.6 ± 1.3 km **N**



Occult 4.2024.2.23

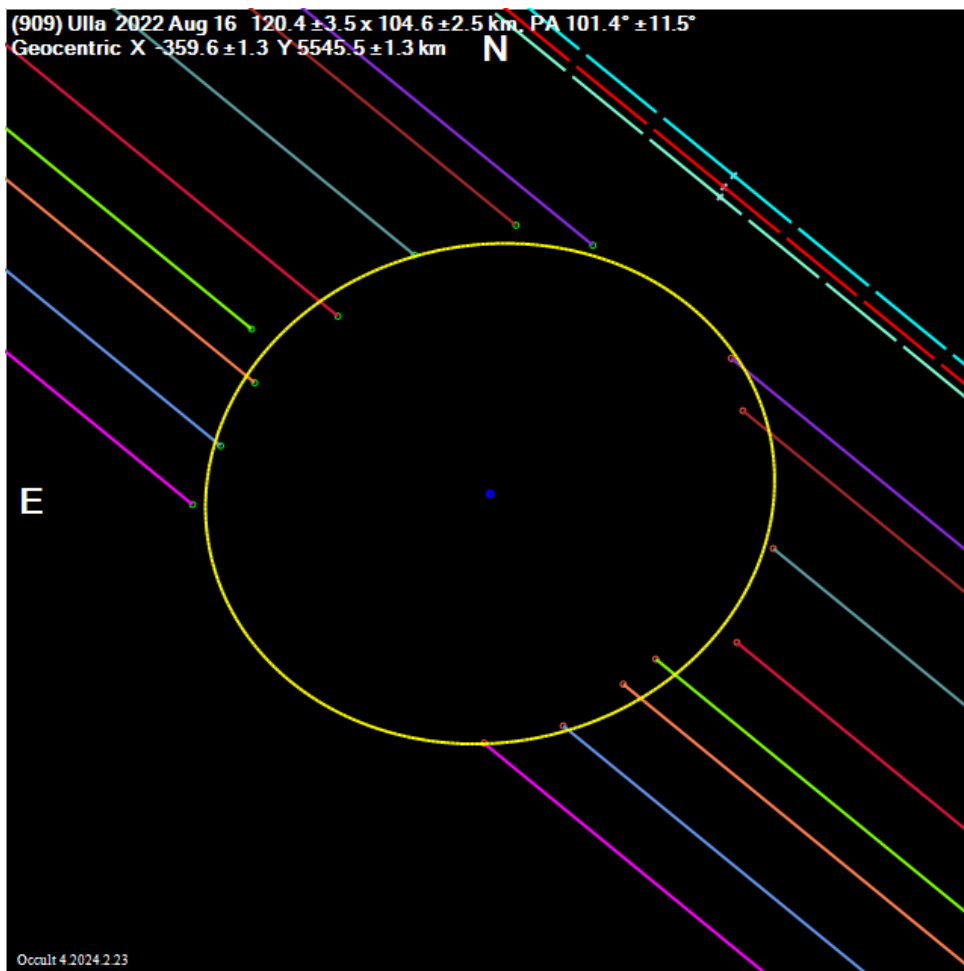
904_Rockefellia_2022Dec06

(904) Rockefellia 2022 Dec 6 $60.1 \pm 1.5 \times 41.3 \pm 2.1$ km, PA $56.1^\circ \pm 4.6^\circ$
Geocentric X -1316.7 ± 0.6 Y 3322.0 ± 1.0 km **N**



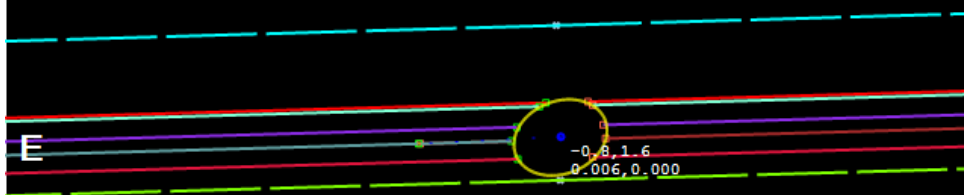
Occult 4.2024.2.23

909_Ulla_2022Aug16



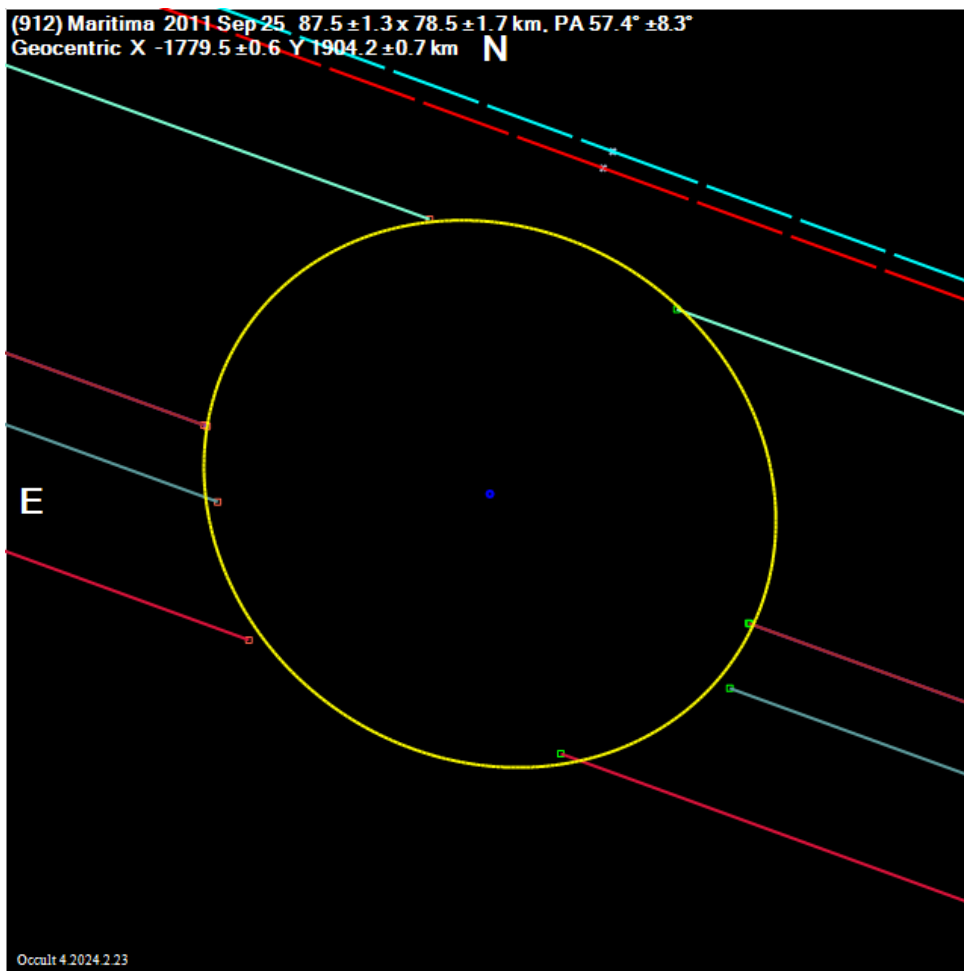
911_Agamemnon_2012Jan19

(911) Agamemnon 2012 Jan 19 190.4 ± 3.5 x 144.2 ± 5.4 km, PA 111.2° ± 4.6°
Geocentric X 4645.9 ± 1.4 Y 3112.4 ± 2.4 km N
Sat: 3.5 x 3.5 km, PA 289.0°; Sep 0.0940" at PA 92.5°

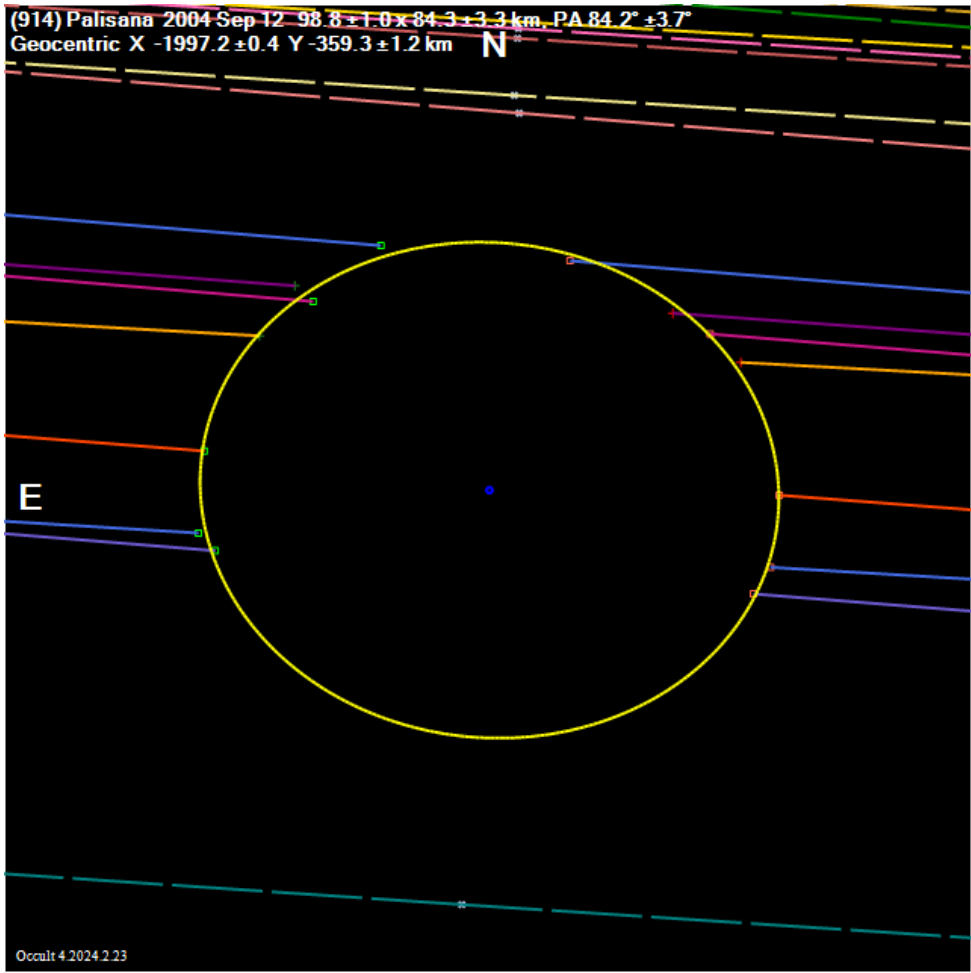


912_Maritima_2011Sep25

(912) Maritima 2011 Sep 25, $87.5 \pm 1.3 \times 78.5 \pm 1.7$ km, PA $57.4^\circ \pm 8.3^\circ$
Geocentric X -1779.5 ± 0.6 Y 1904.2 ± 0.7 km **N**

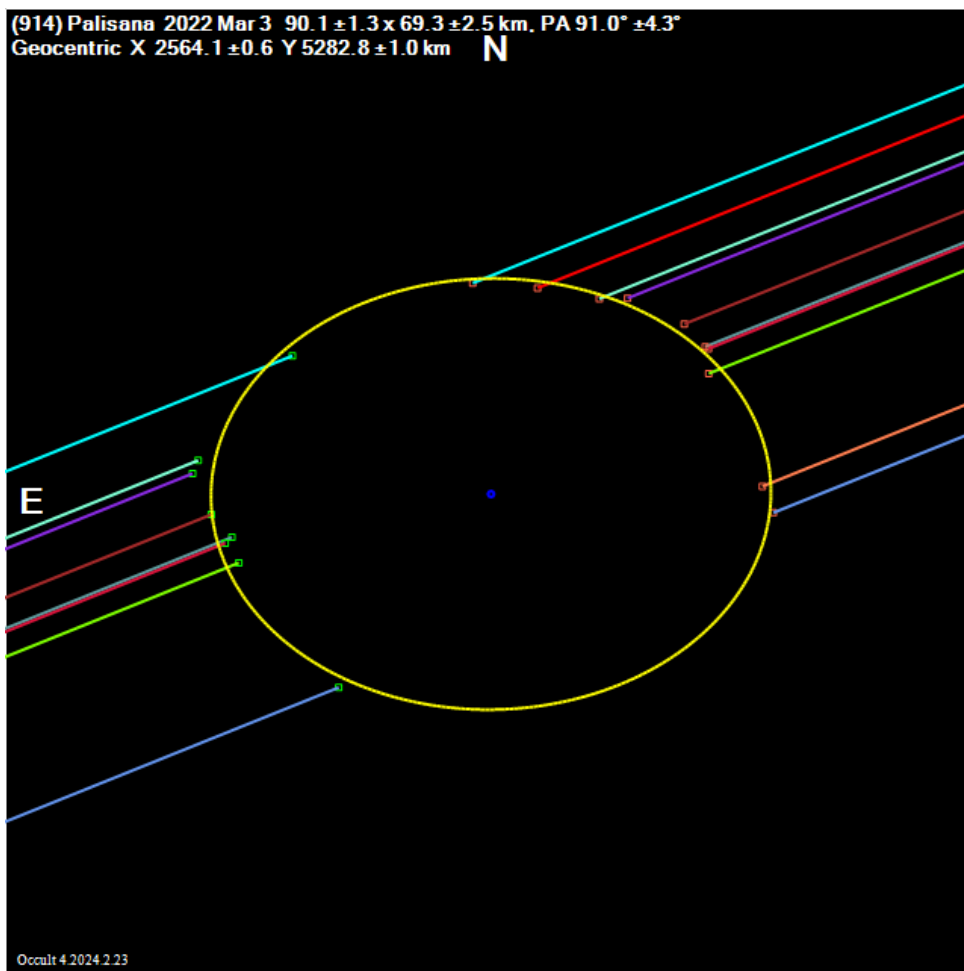


914_Palisana_2004Sep12



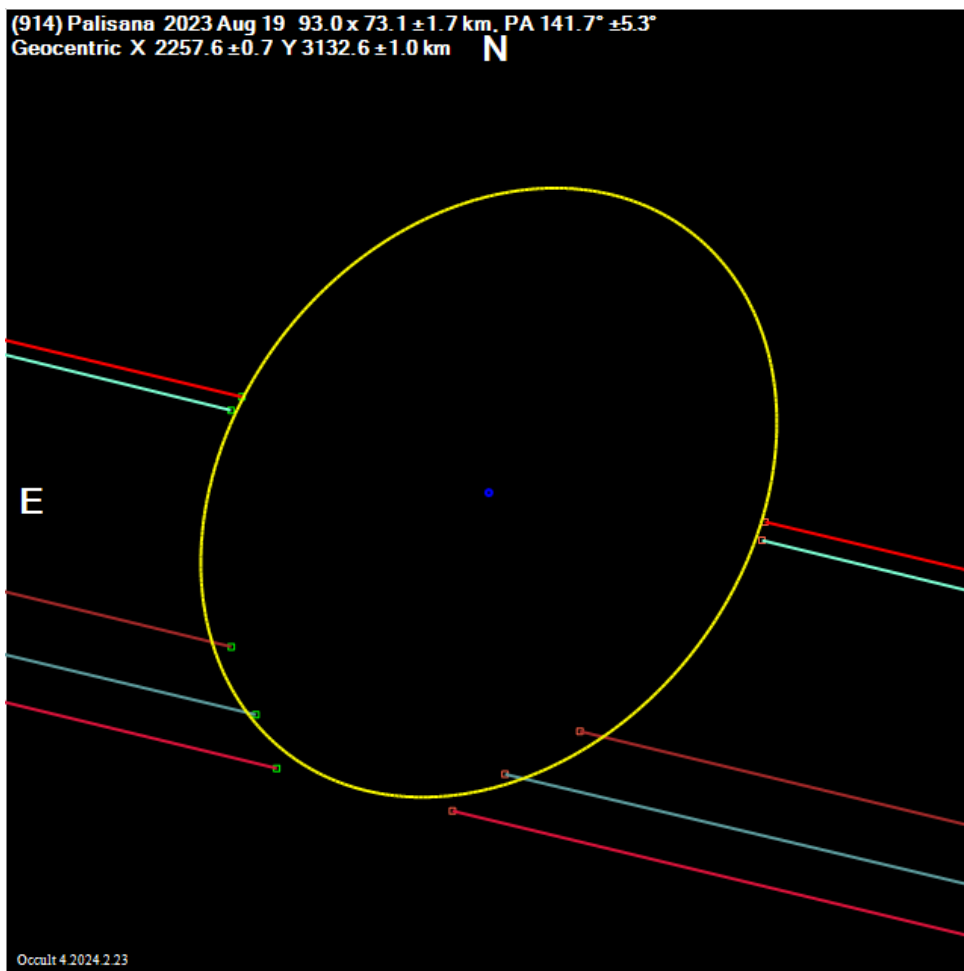
914_Palisana_2022Mar03

(914) Palisana 2022 Mar 3 $90.1 \pm 1.3 \times 69.3 \pm 2.5$ km. PA $91.0^\circ \pm 4.3^\circ$
Geocentric X 2564.1 ± 0.6 Y 5282.8 ± 1.0 km N



914_Palisana_2023Aug19

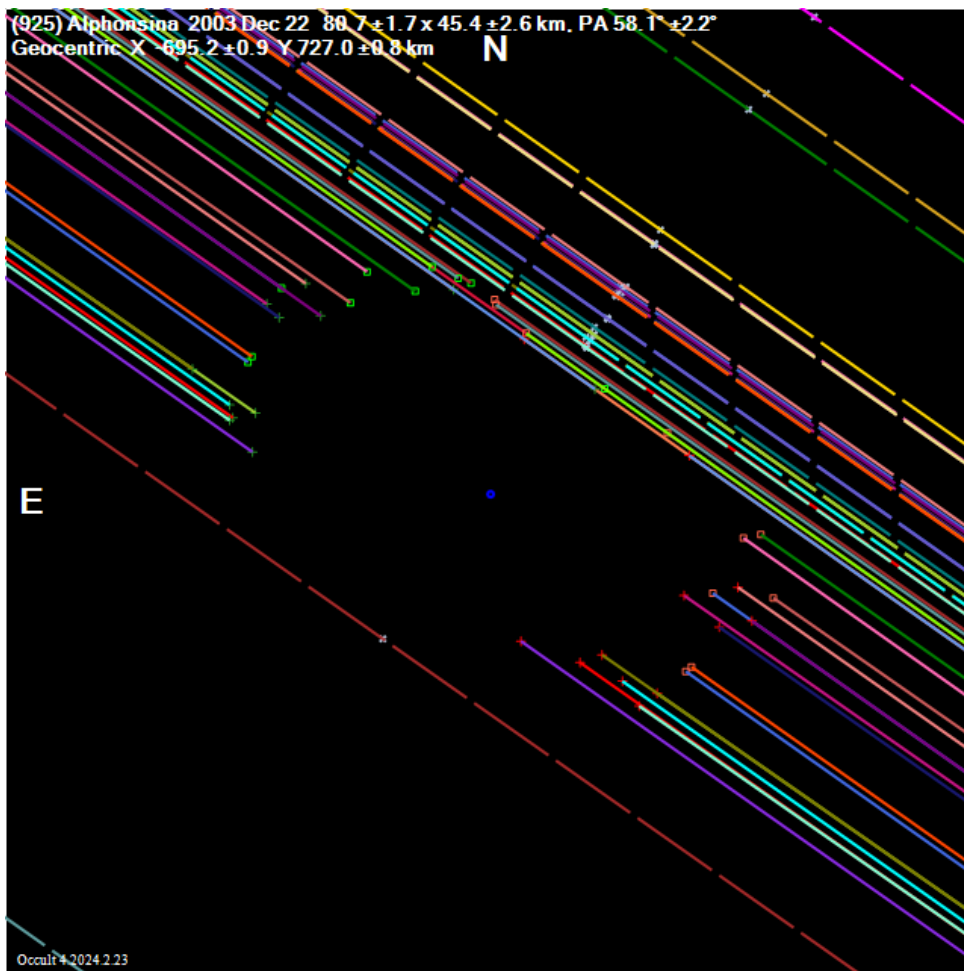
(914) Palisana 2023 Aug 19 93.0 x 73.1 ± 1.7 km, PA 141.7° ± 5.3°
Geocentric X 2257.6 ± 0.7 Y 3132.6 ± 1.0 km N



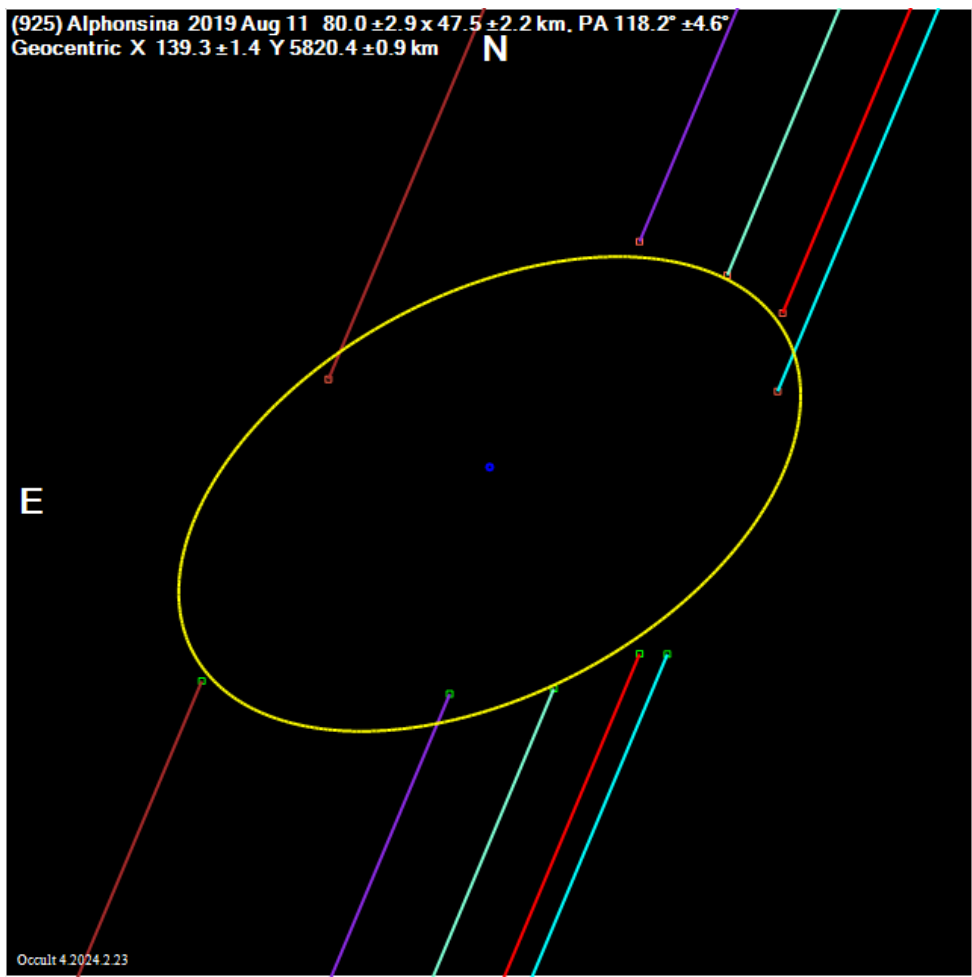
Occult 4.2024.2.23

925_Alphonsina_2003Dec22

(925) Alphonsina 2003 Dec 22 80.7 ± 1.7 x 45.4 ± 2.6 km. PA 58.1 ± 2.2°
Geocentric X -695.2 ± 0.9 Y 727.0 ± 0.8 km

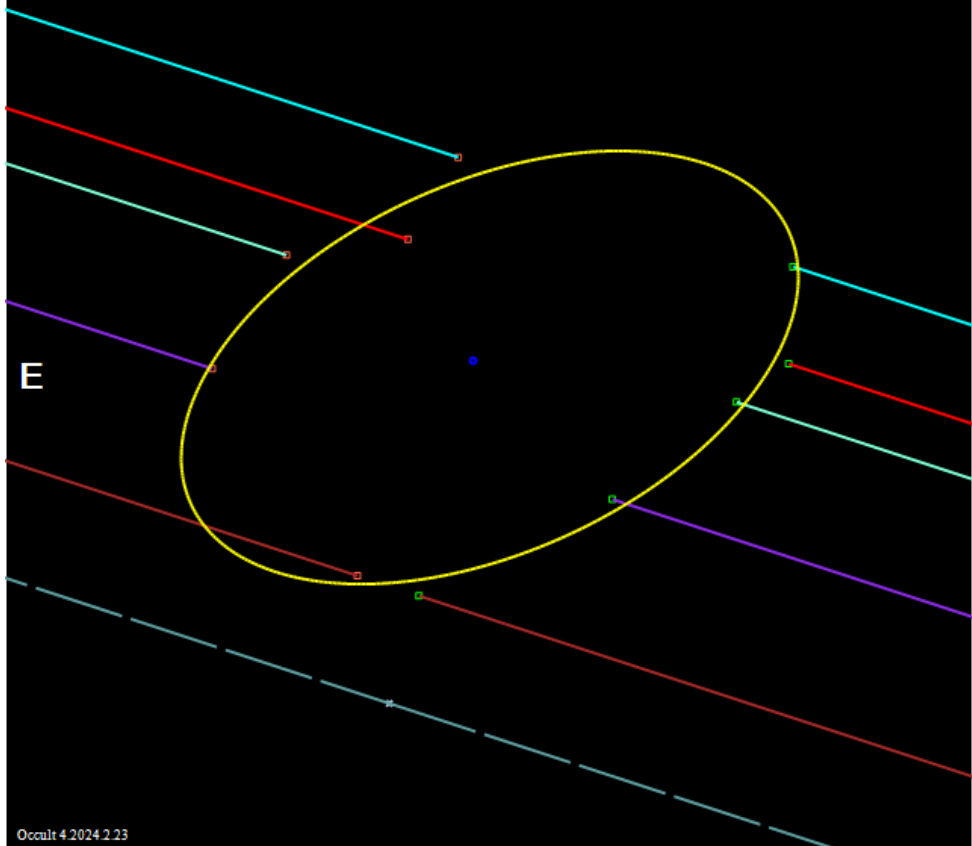


925_Alphonsina_2019Aug11



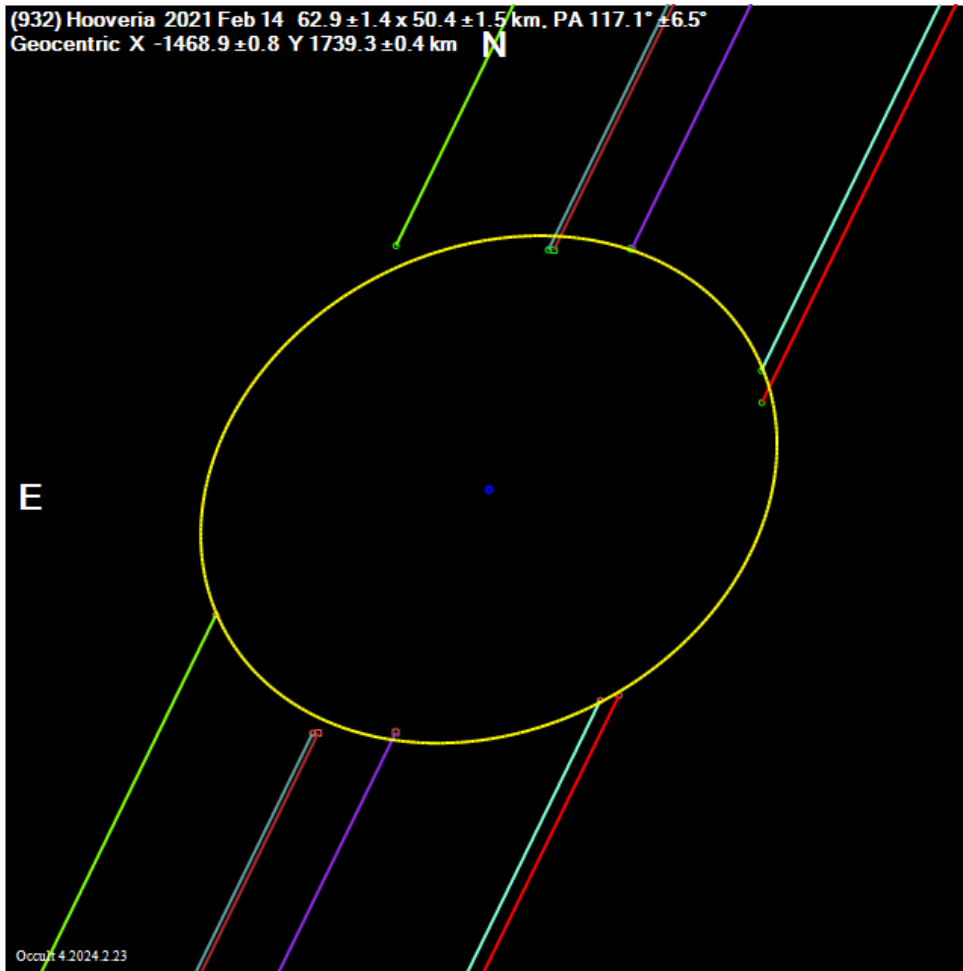
925_Alphonsina_2019Oct23

(925) Alphonsina 2019 Oct 23 $86.6 \pm 4.8 \times 48.7 \pm 2.1$ km, PA $114.5^\circ \pm 3.6^\circ$
Geocentric X 5132.3 ± 1.6 Y -3005.0 ± 1.3 km **N**

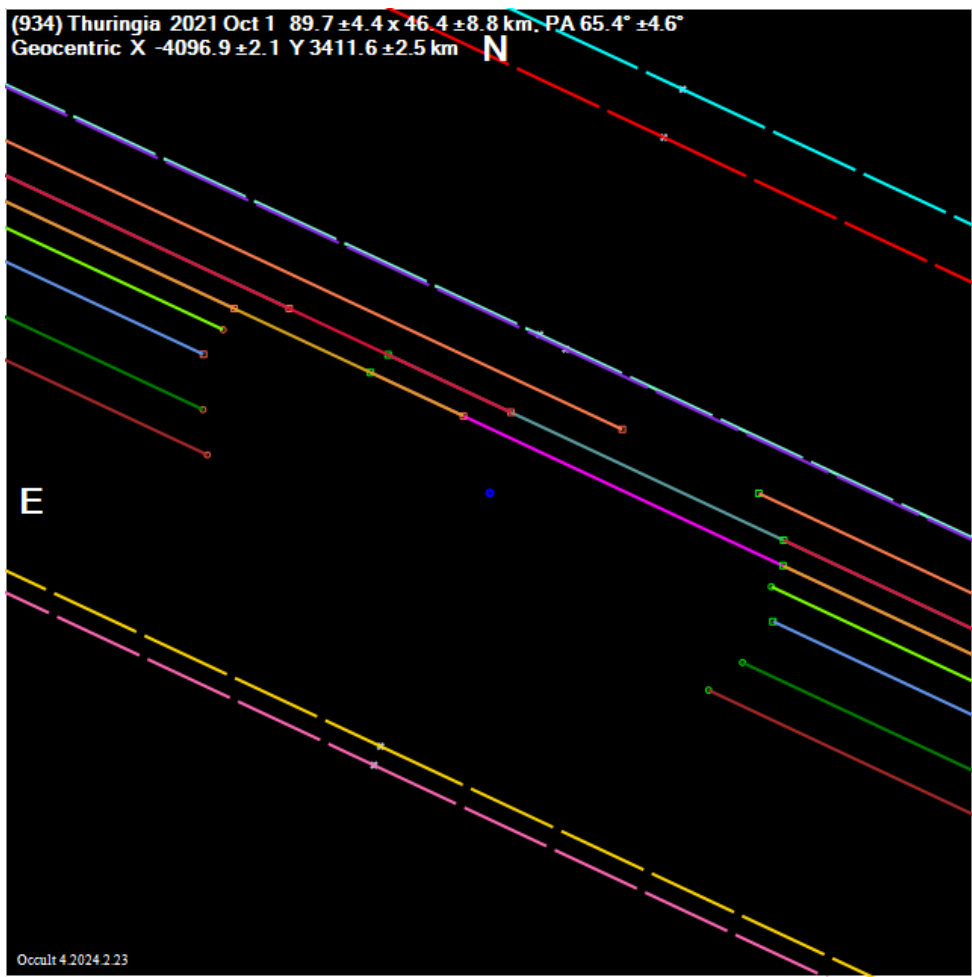


932_Hooveria_2021Feb14

(932) Hooveria 2021 Feb 14 $62.9 \pm 1.4 \times 50.4 \pm 1.5$ km, PA $117.1^\circ \pm 6.5^\circ$
Geocentric X -1468.9 ± 0.8 Y 1739.3 ± 0.4 km

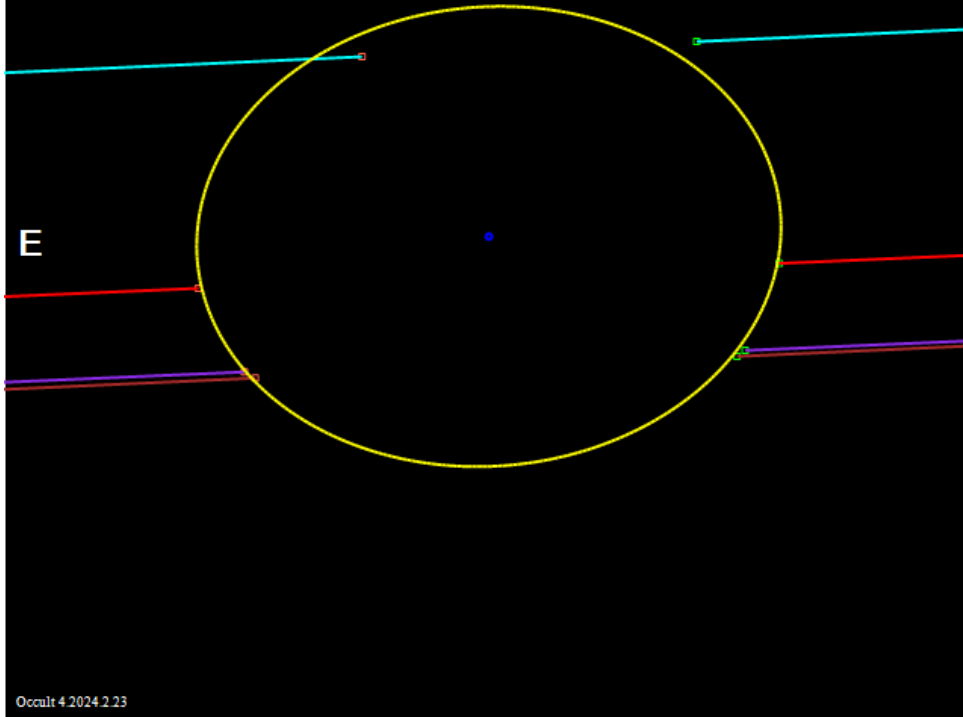


934_Thuringia_2021Oct01

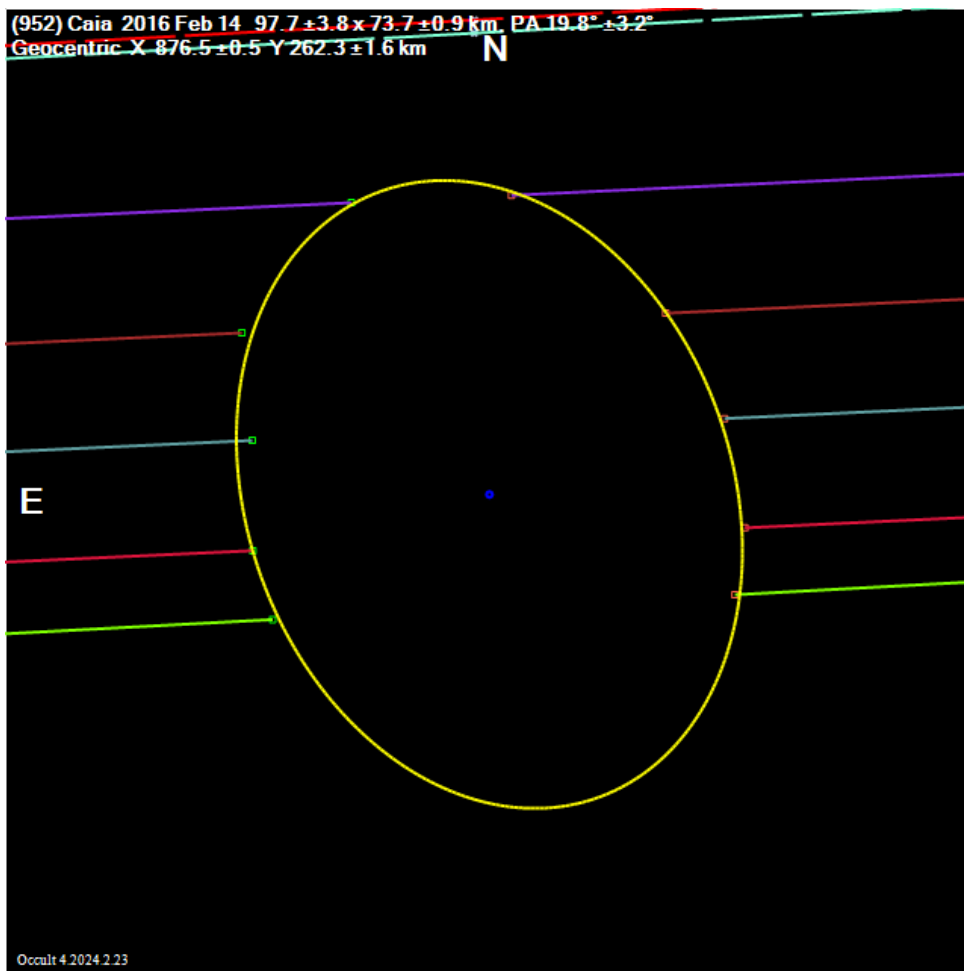


943_Begonia_2020Sep24

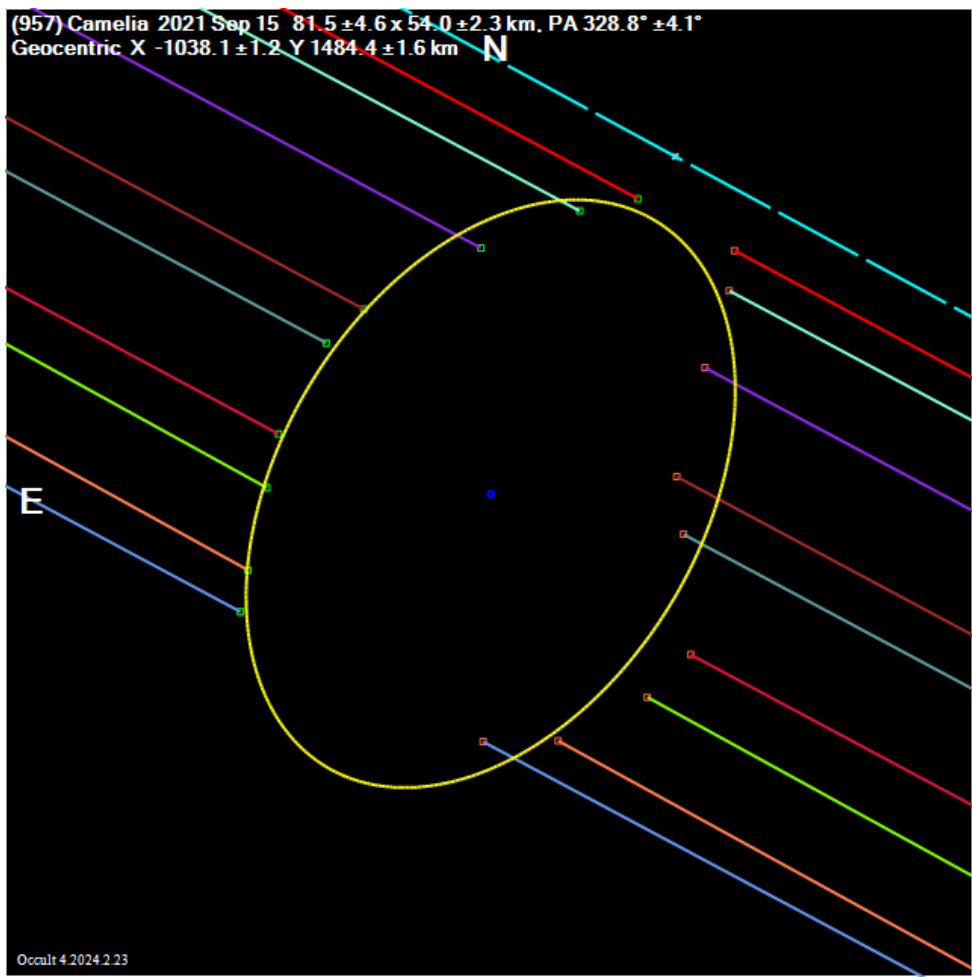
(943) Begonia 2020 Sep 24 $79.2 \pm 2.6 \times 62.1 \pm 3.5$ km, PA $94.7^\circ \pm 5.4^\circ$
Geocentric X -4342.5 ± 0.9 Y 3143.2 ± 1.1 km **N**



952_Caia_2016Feb14

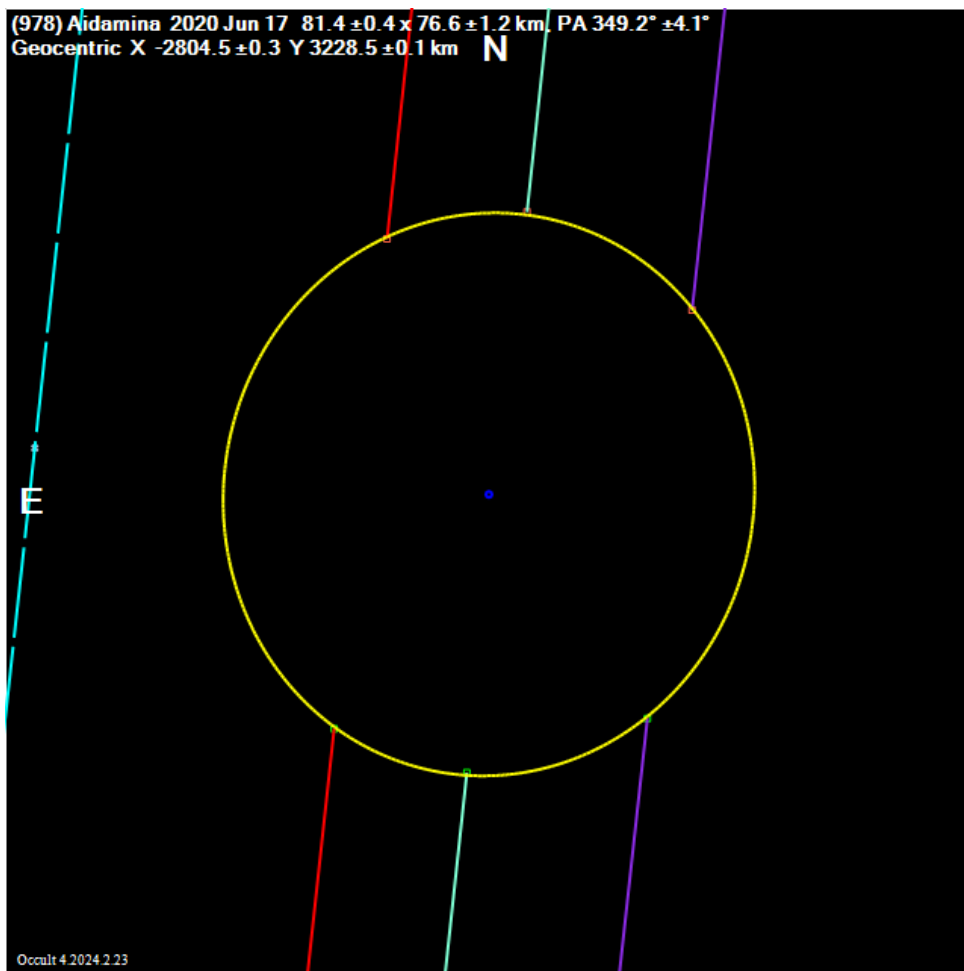


957_Camelia_2021Sep15



978_Aidamina_2020Jun17

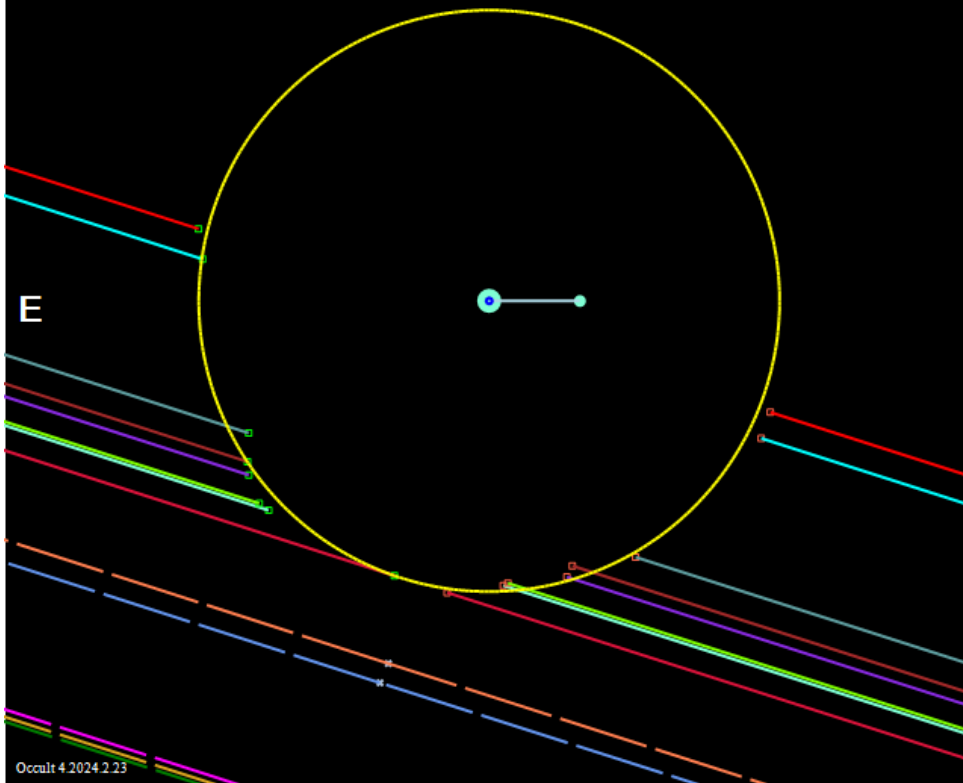
(978) Aidamina 2020 Jun 17 81.4 ± 0.4 × 76.6 ± 1.2 km PA 349.2° ± 4.1°
Geocentric X -2804.5 ± 0.3 Y 3228.5 ± 0.1 km N



Occult 4.2024.2.23

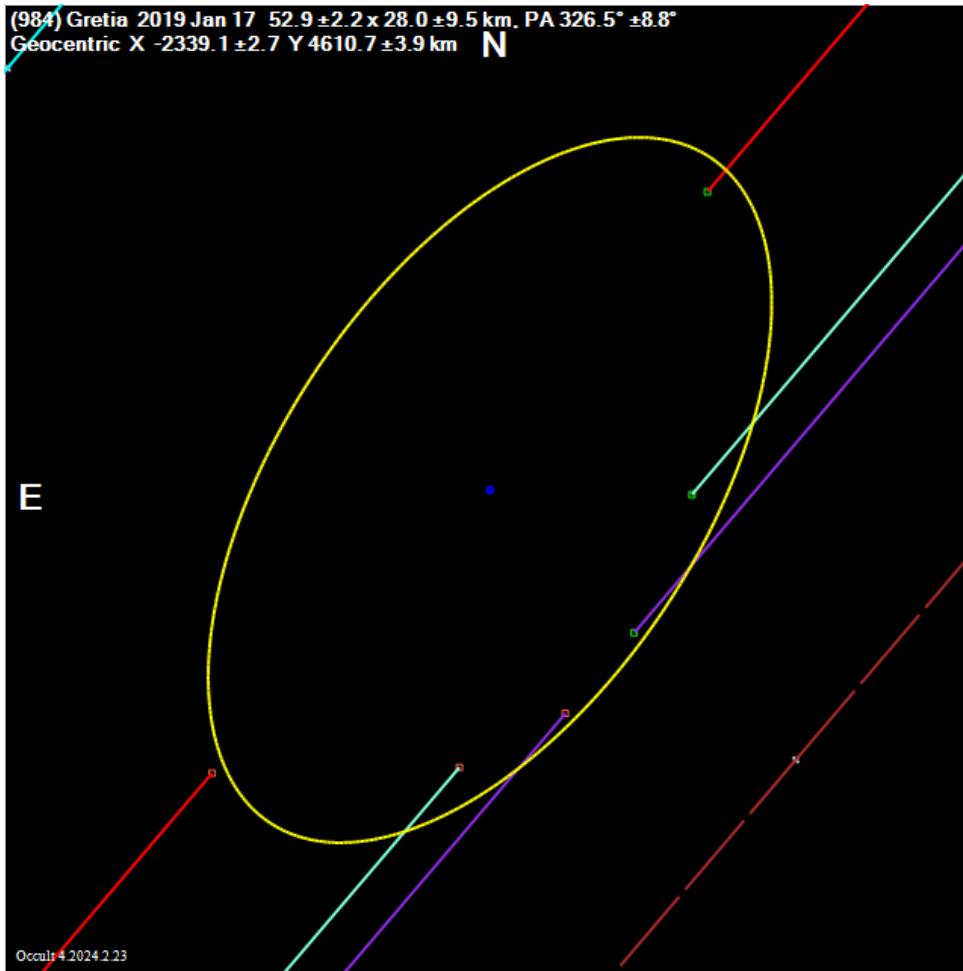
980_Anacostia_2021Sep27

(980) Anacostia 2021 Sep 27 80.0 km
Geocentric X 3293.7 ± 0.7 Y 1237.6 ± 0.6 km N
Double : Sep $0.0137 \pm 0.0011''$, PA $269.9^\circ \pm 4.1^\circ$

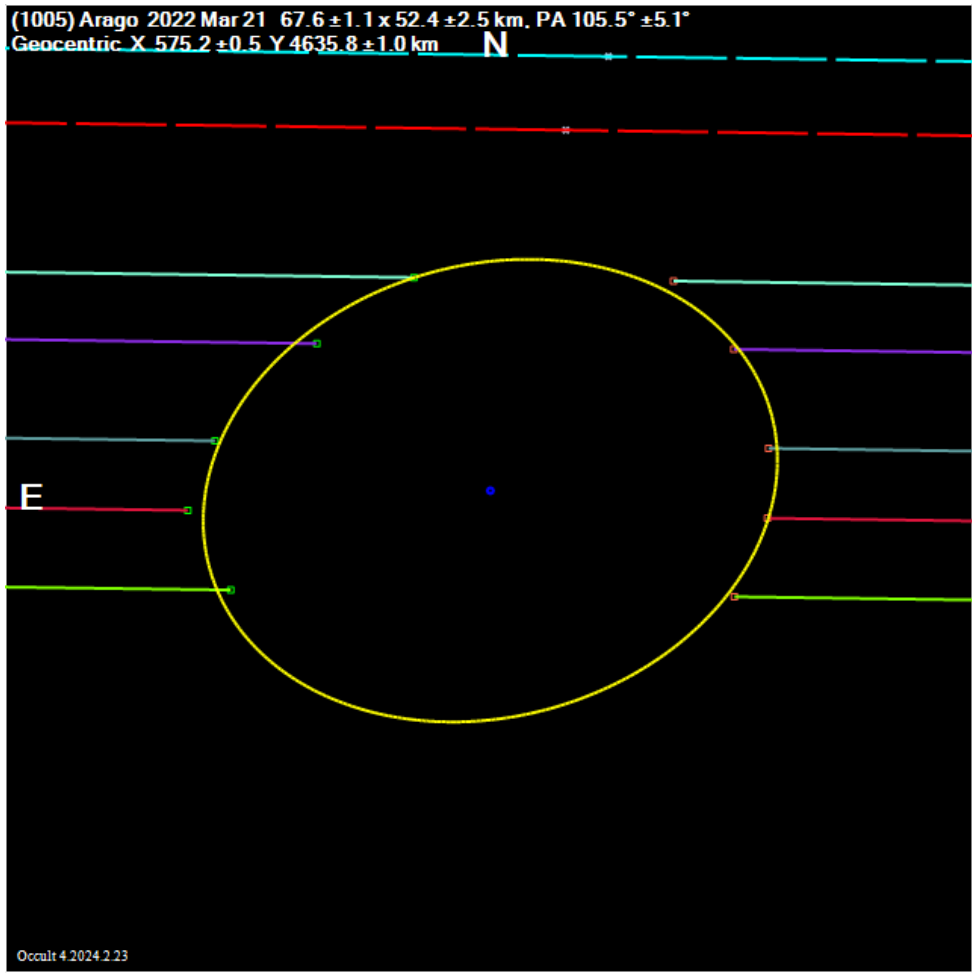


984_Gretia_2019Jan17

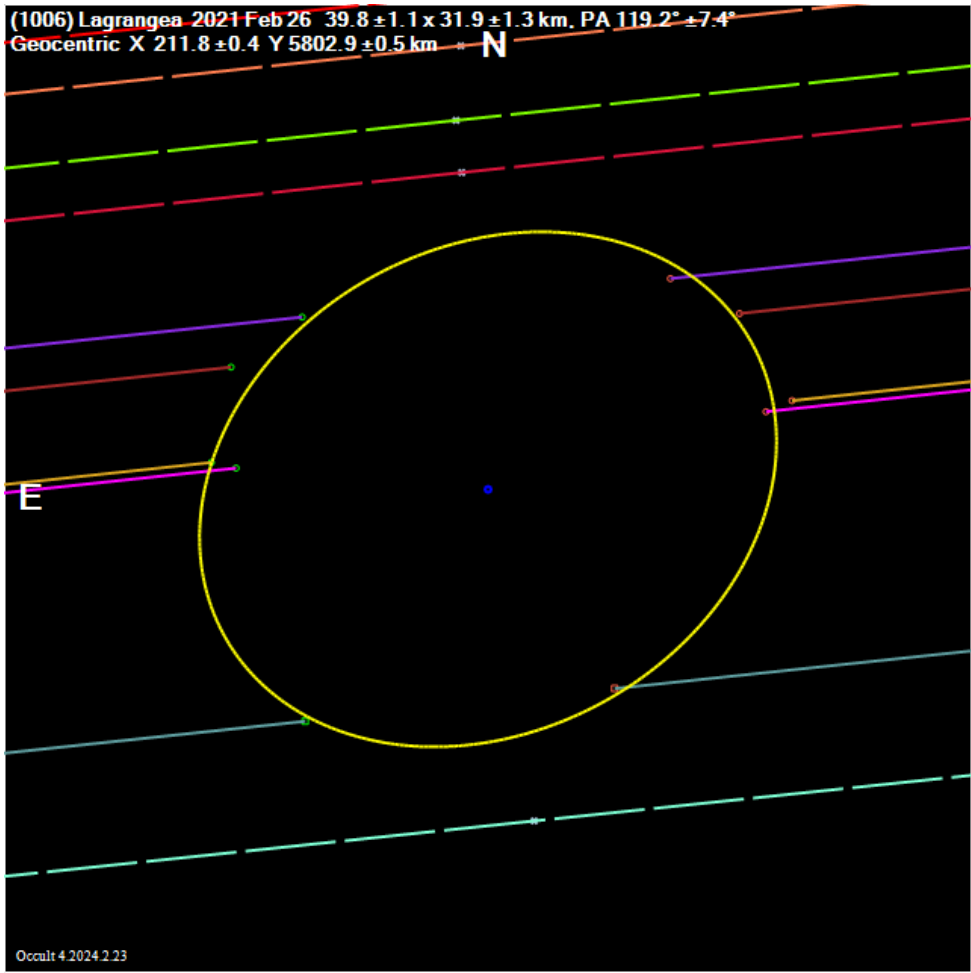
(984) Gretia 2019 Jan 17 $52.9 \pm 2.2 \times 28.0 \pm 9.5$ km. PA $326.5^\circ \pm 8.8^\circ$
Geocentric X -2339.1 ± 2.7 Y 4610.7 ± 3.9 km **N**



1005_Arago_2022Mar21

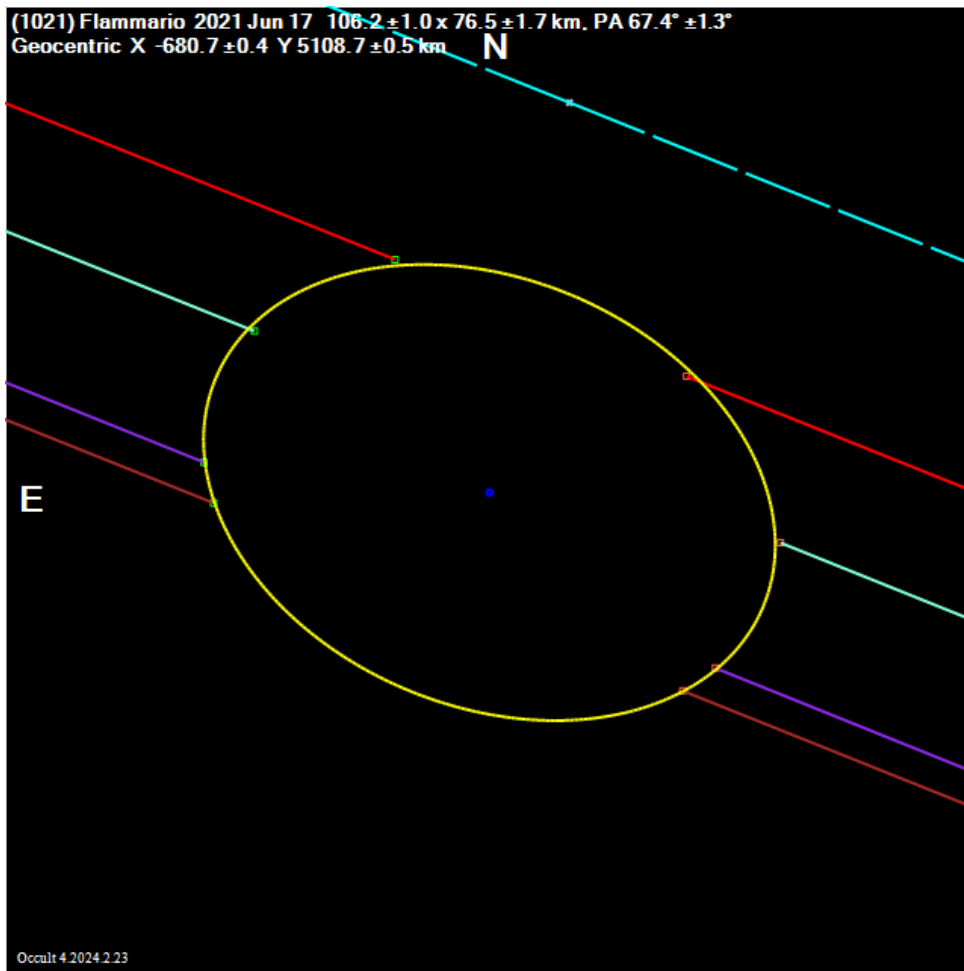


1006_Lagrangea_2021Feb26



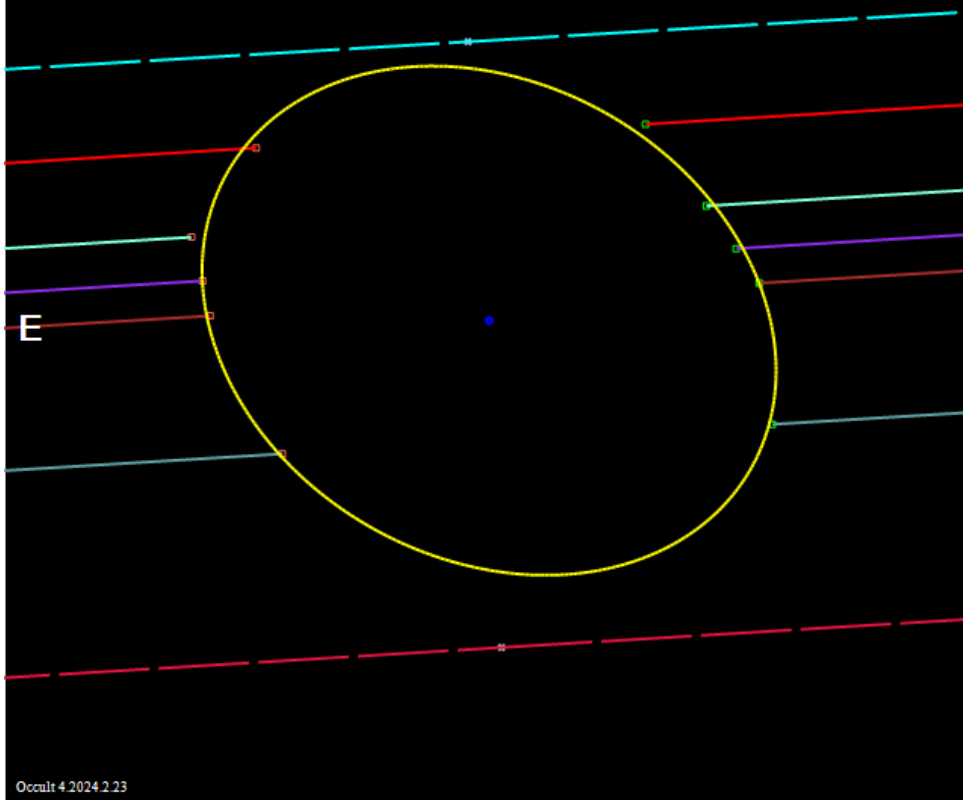
1021_Flammario_2021Jun17

(1021) Flammario 2021 Jun 17 $106.2 \pm 1.0 \times 76.5 \pm 1.7$ km, PA $67.4^\circ \pm 1.3^\circ$
Geocentric X -680.7 ± 0.4 Y 5108.7 ± 0.5 km



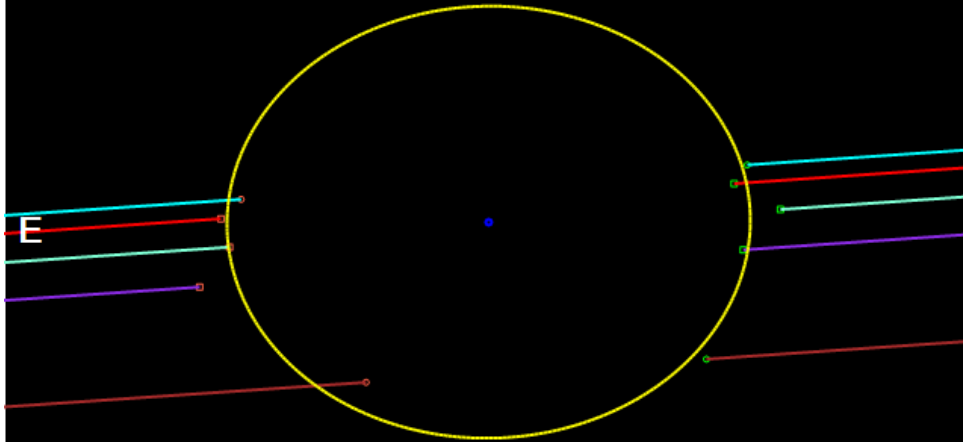
1021_Flammario_2021Oct22

(1021) Flammario 2021 Oct 22 108.8 ± 2.0 × 86.1 ± 2.6 km, PA 60.8° ± 6.0°
Geocentric X 3233.5 ± 0.6 Y 5046.2 ± 1.1 km N



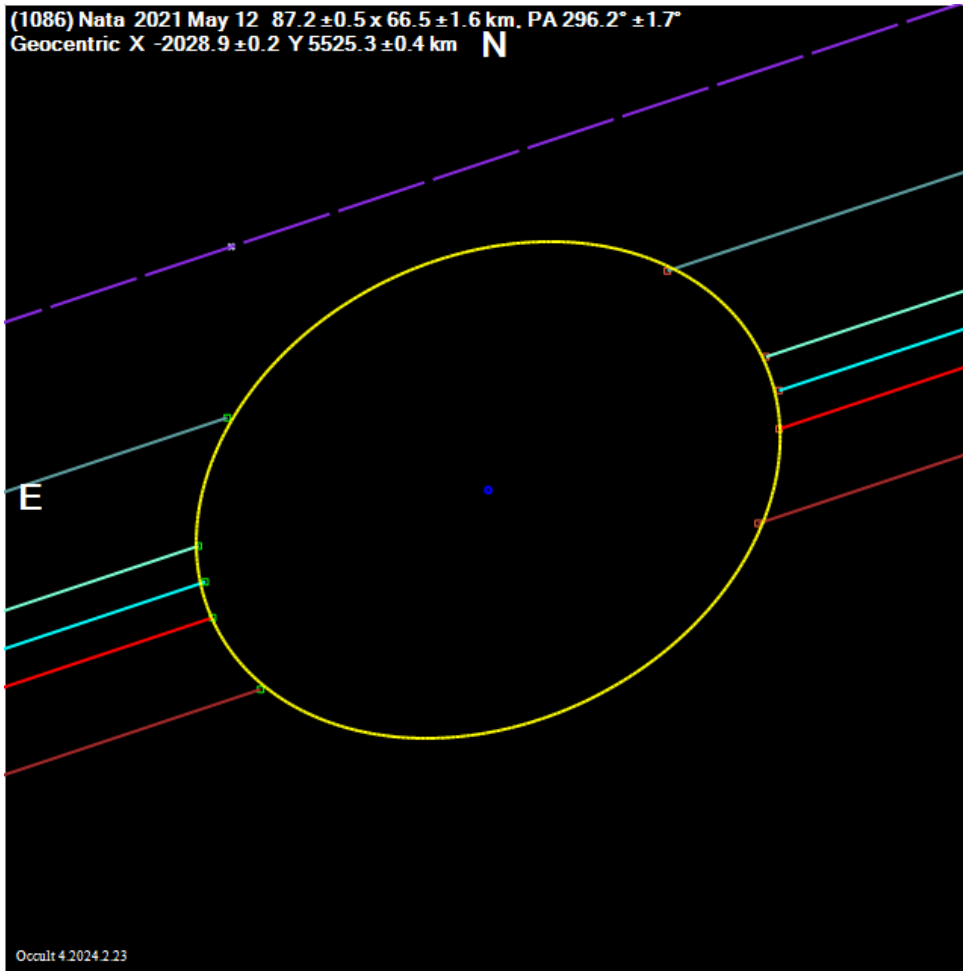
1021_Flammario_2022Sep30

(1021) Flammario 2022 Sep 30 114.0 x 94.0 km, PA 271.3° ± 16.3°
Geocentric X -1689.8 ± 1.4 Y 4423.8 ± 3.8 km **N**



1086_Nata_2021May12

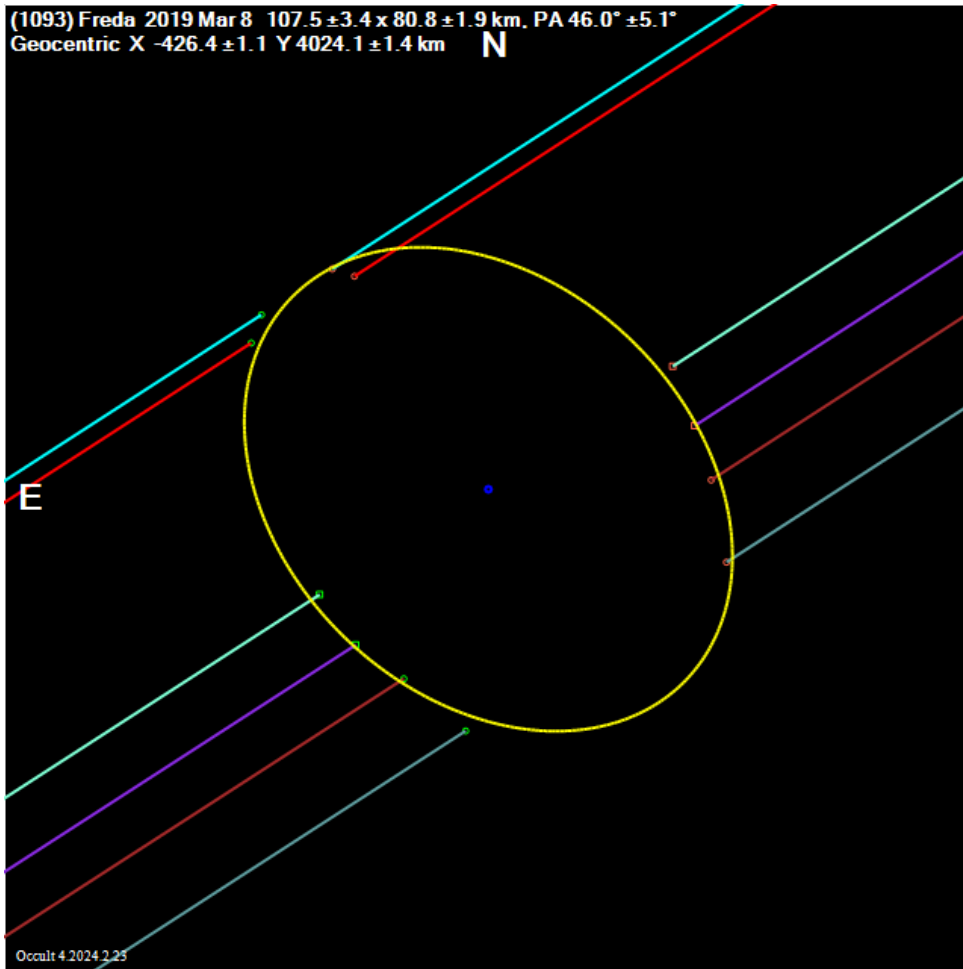
(1086) Nata 2021 May 12 $87.2 \pm 0.5 \times 66.5 \pm 1.6$ km, PA $296.2^\circ \pm 1.7^\circ$
Geocentric X -2028.9 ± 0.2 Y 5525.3 ± 0.4 km **N**



Occult 4.2024.2.23

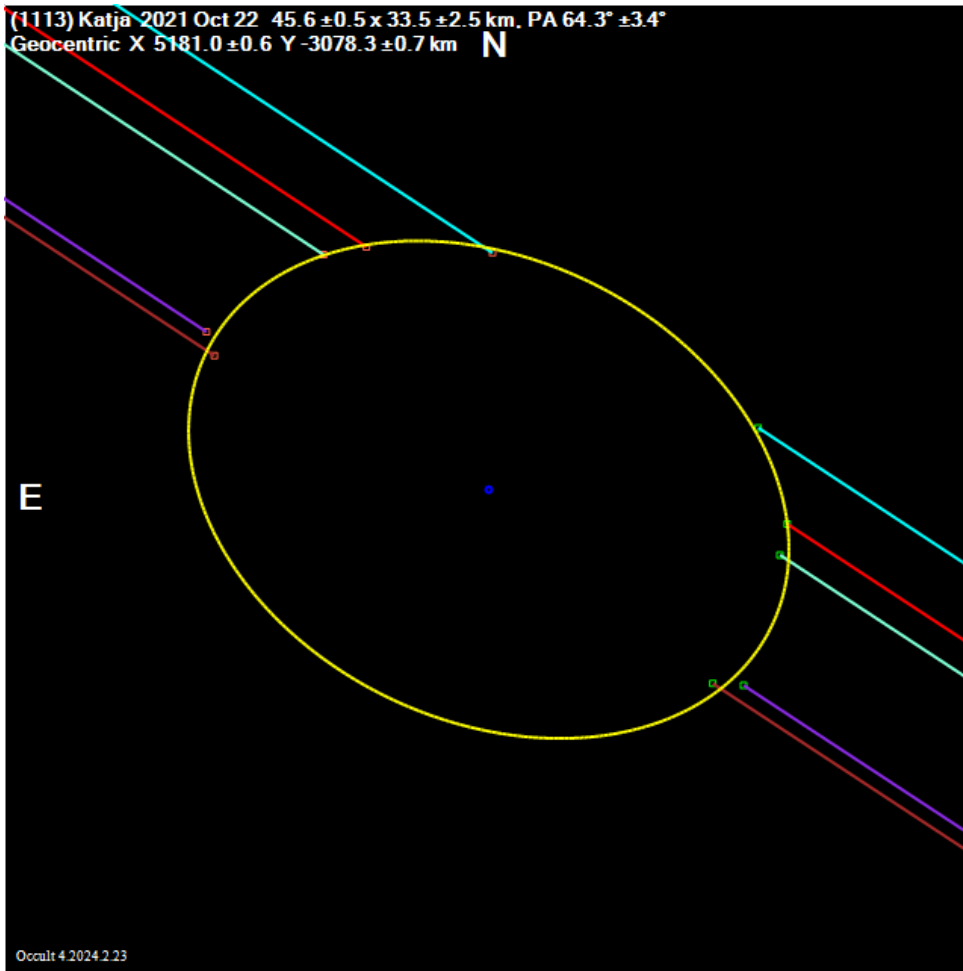
1093_Freda_2019Mar08

(1093) Freda 2019 Mar 8 $107.5 \pm 3.4 \times 80.8 \pm 1.9$ km, PA $46.0^\circ \pm 5.1^\circ$
Geocentric X -426.4 ± 1.1 Y 4024.1 ± 1.4 km N



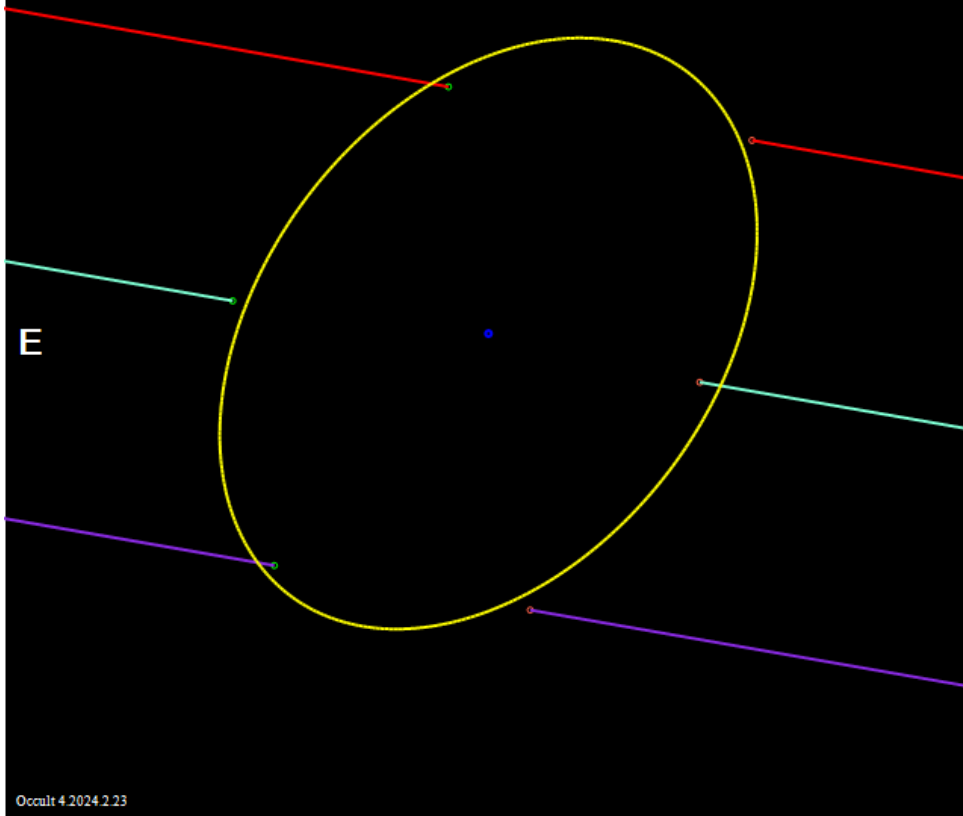
1113_Katja_2021Oct22

(1113) Katja 2021 Oct 22 45.6 ± 0.5 x 33.5 ± 2.5 km, PA 64.3° ± 3.4°
Geocentric X 5181.0 ± 0.6 Y -3078.3 ± 0.7 km **N**

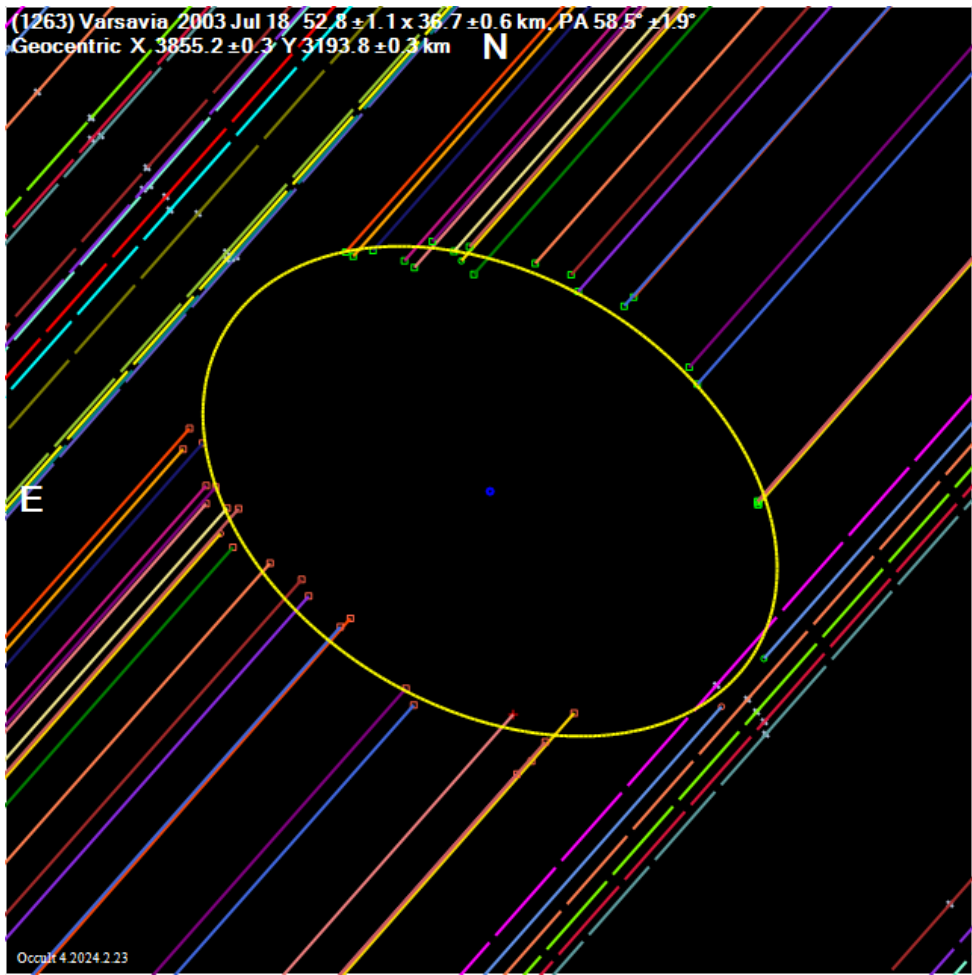


1167_Dubiago_2020Nov27

(1167) Dubiago 2020 Nov 27 $83.8 \pm 3.3 \times 57.9 \pm 2.3$ km, PA $322.7^\circ \pm 5.2^\circ$
Geocentric X -2885.6 ± 1.0 Y 3654.6 ± 1.2 km **N**

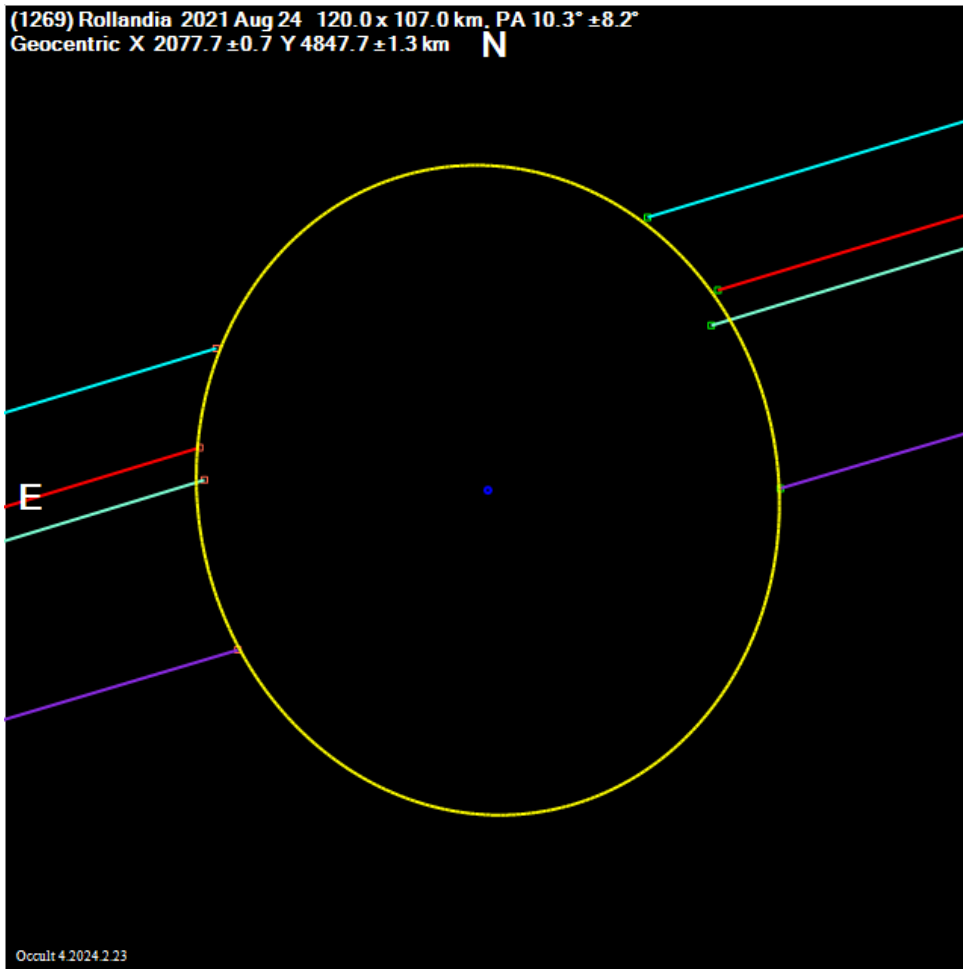


1263_Varsavia_2003Jul18



1269_Rollandia_2021Aug24

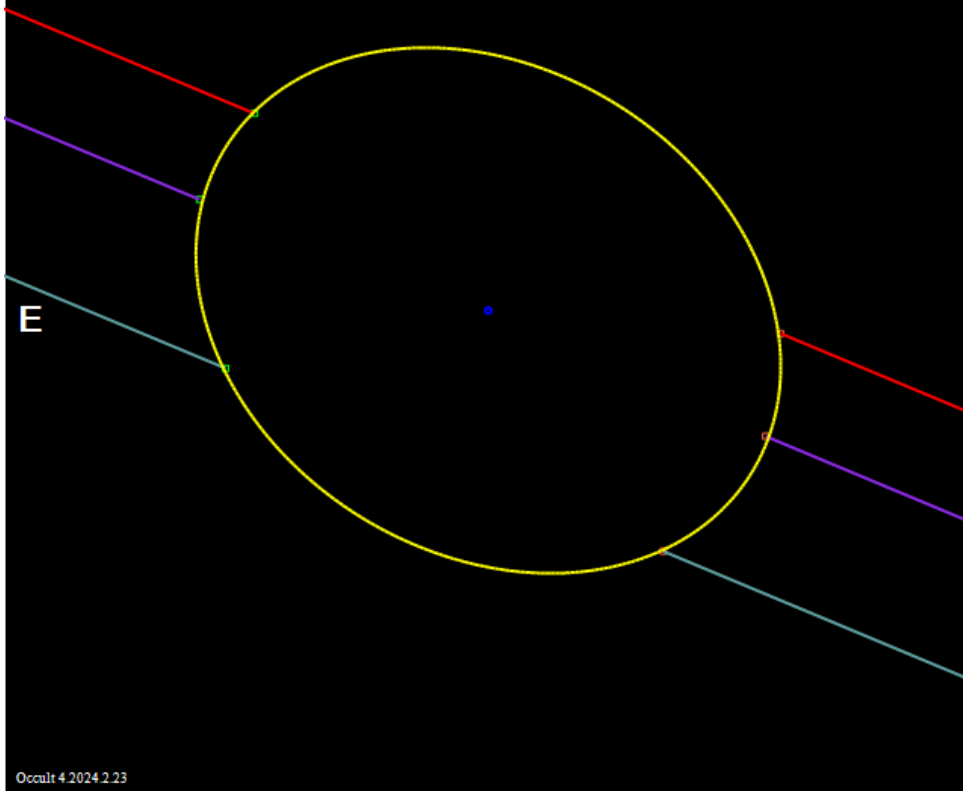
(1269) Rollandia 2021 Aug 24 120.0 x 107.0 km, PA 10.3° ± 8.2°
Geocentric X 2077.7 ± 0.7 Y 4847.7 ± 1.3 km N



Occult 4.2024.2.23

1340_Yvette_2023Oct08

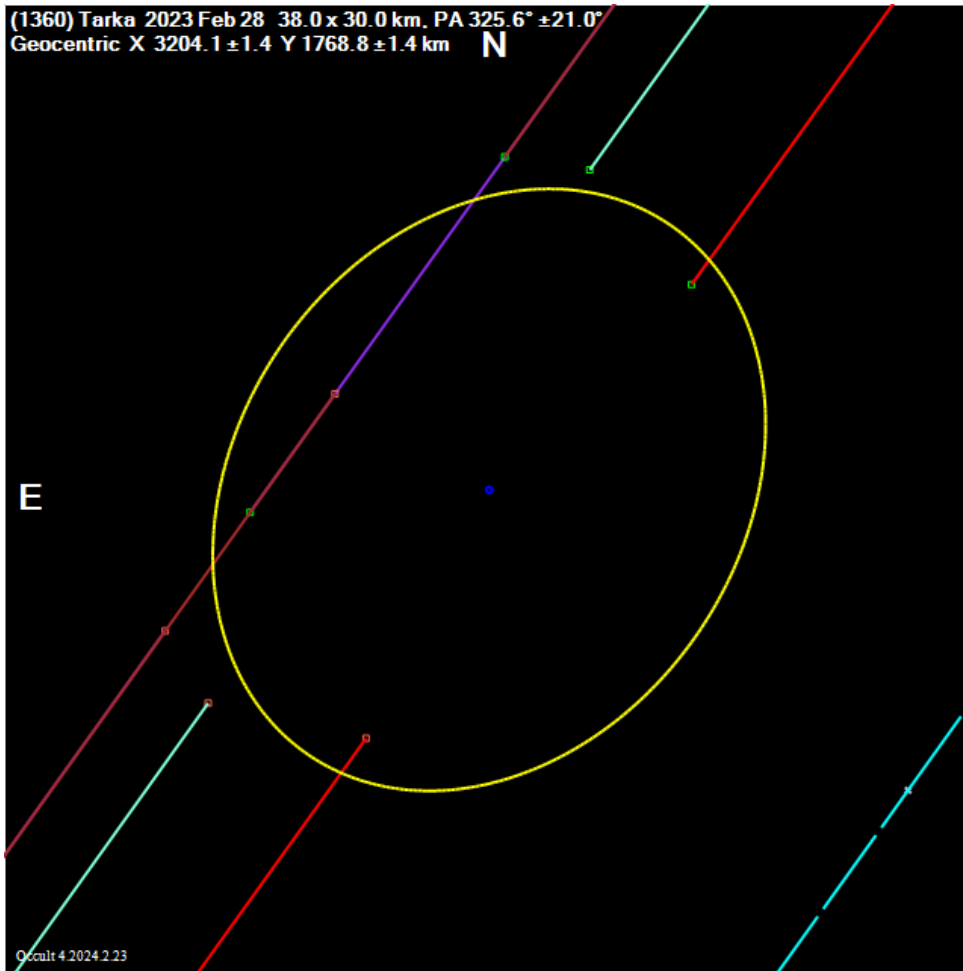
(1340) Yvette 2023 Oct 8 $36.7 \pm 0.2 \times 28.8 \pm 0.7$ km. PA $58.4^\circ \pm 1.6^\circ$
Geocentric X -2572.1 ± 0.1 Y 4576.1 ± 0.2 km **N**



Occult 4.2024.2.23

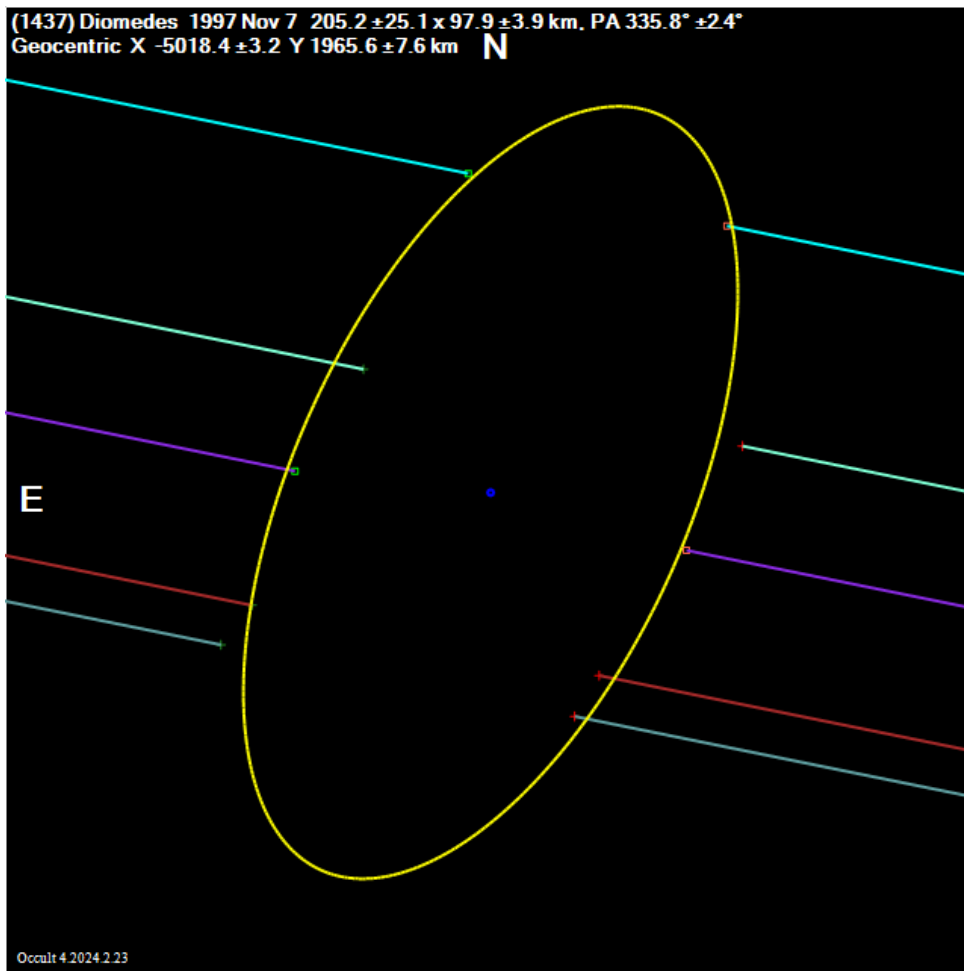
1360_Tarka_2023Feb28

(1360) Tarka 2023 Feb 28 38.0 x 30.0 km. PA $325.6^\circ \pm 21.0^\circ$
Geocentric X 3204.1 ± 1.4 Y 1768.8 ± 1.4 km N



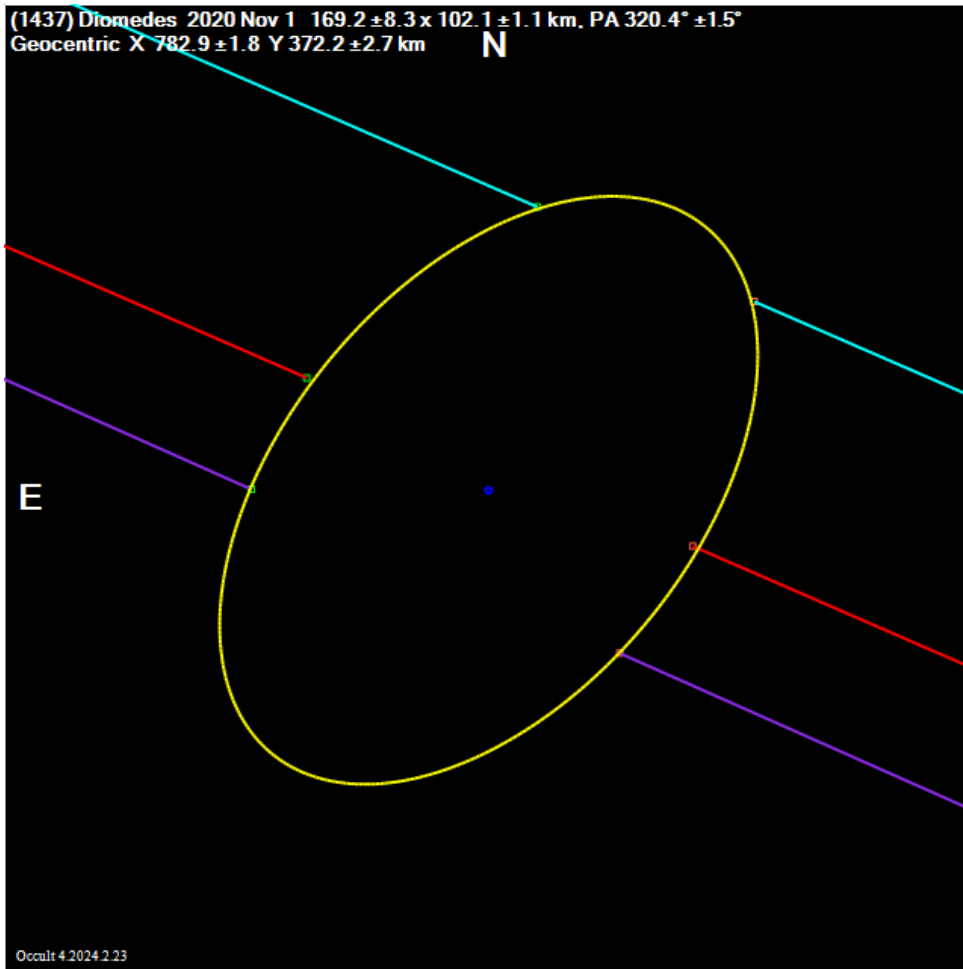
1437_Diomedes_1997Nov07

(1437) Diomedes 1997 Nov 7 205.2 ±25.1 × 97.9 ±3.9 km. PA 335.8° ±2.4°
Geocentric X -5018.4 ±3.2 Y 1965.6 ±7.6 km N



1437_Diomedes_2020Nov01

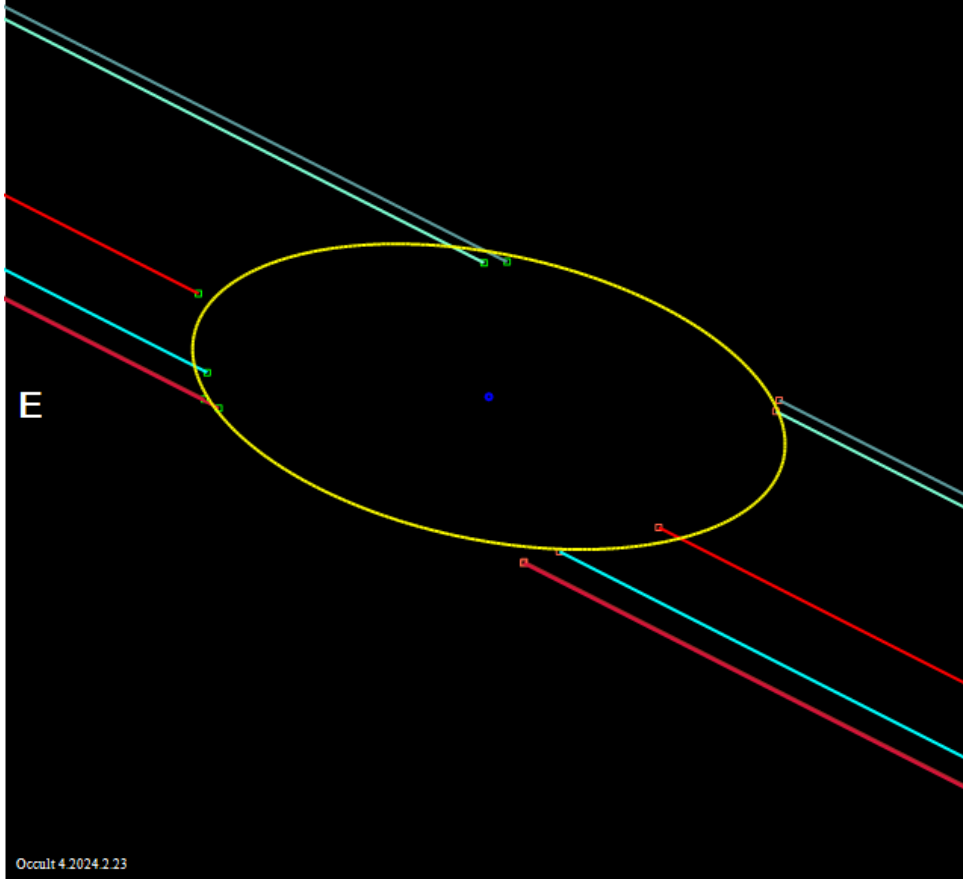
(1437) Diomedes 2020 Nov 1 $169.2 \pm 8.3 \times 102.1 \pm 1.1$ km, PA $320.4^\circ \pm 1.5^\circ$
Geocentric X 782.9 ± 1.8 Y 372.2 ± 2.7 km N



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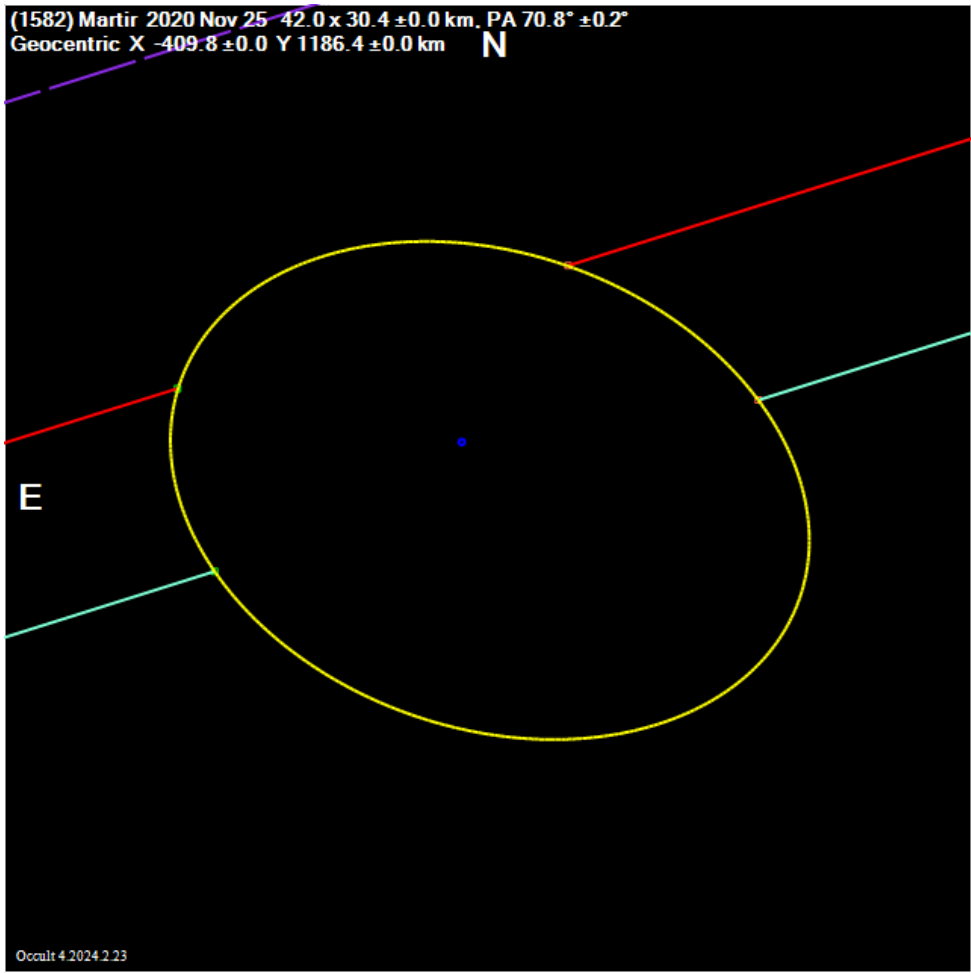
1490_Limpopo_2023Sep08

(1490) Limpopo 2023 Sep 8 $22.8 \pm 0.6 \times 10.8 \pm 0.4$ km, PA $78.2^\circ \pm 1.9^\circ$
Geocentric X -3355.2 ± 0.2 Y 4044.8 ± 0.2 km N



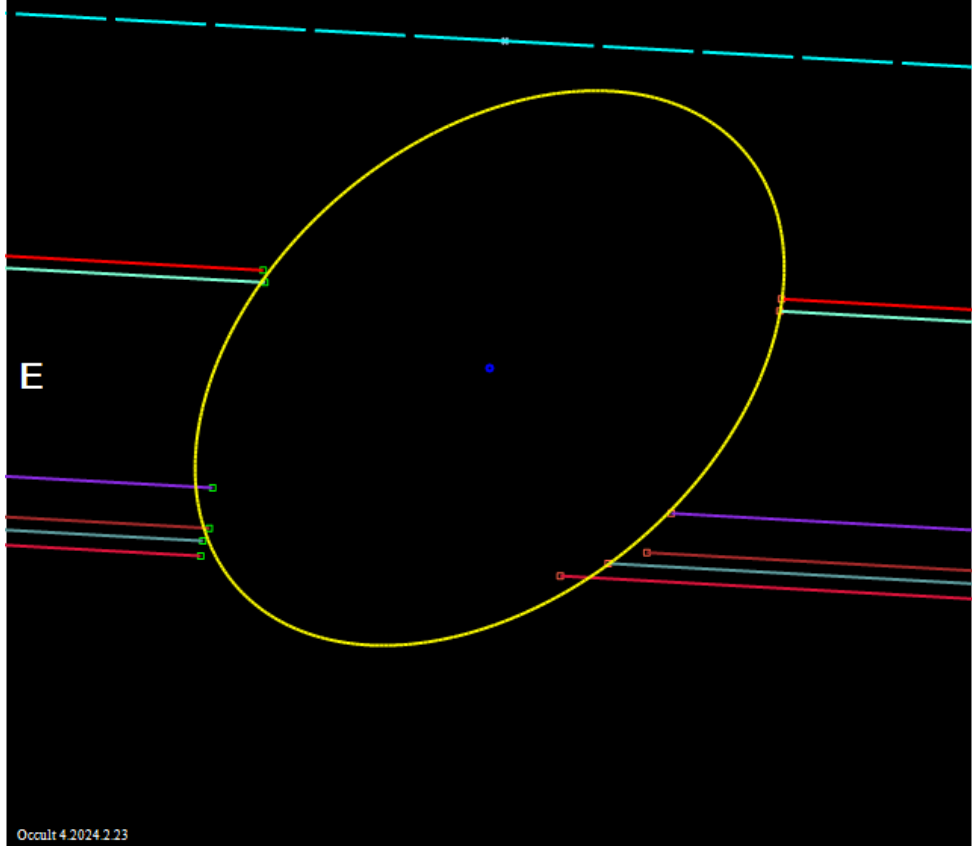
1582_Martir_2020Nov25

(1582) Martir 2020 Nov 25 42.0 x 30.4 ± 0.0 km, PA 70.8° ± 0.2°
Geocentric X -409.8 ± 0.0 Y 1186.4 ± 0.0 km N



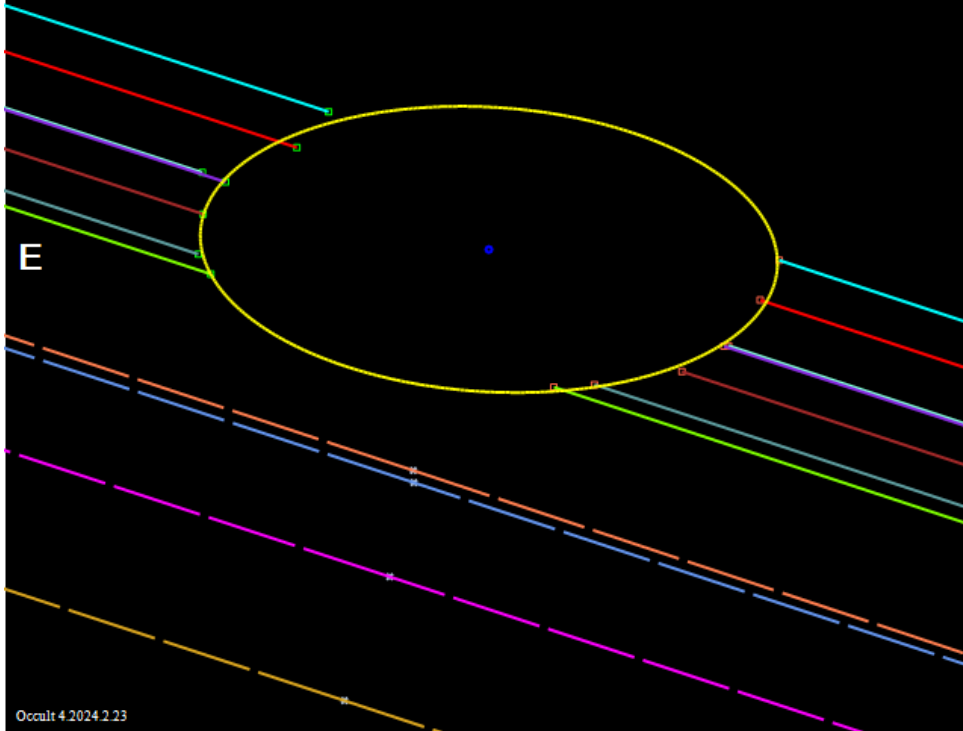
1678_Hveen_2023Oct18

(1678) Hveen 2023 Oct 18 $47.4 \pm 3.8 \times 32.3 \pm 1.1$ km. PA $130.2^\circ \pm 11.0^\circ$
Geocentric X 4372.1 ± 0.6 Y 3904.9 ± 1.3 km N

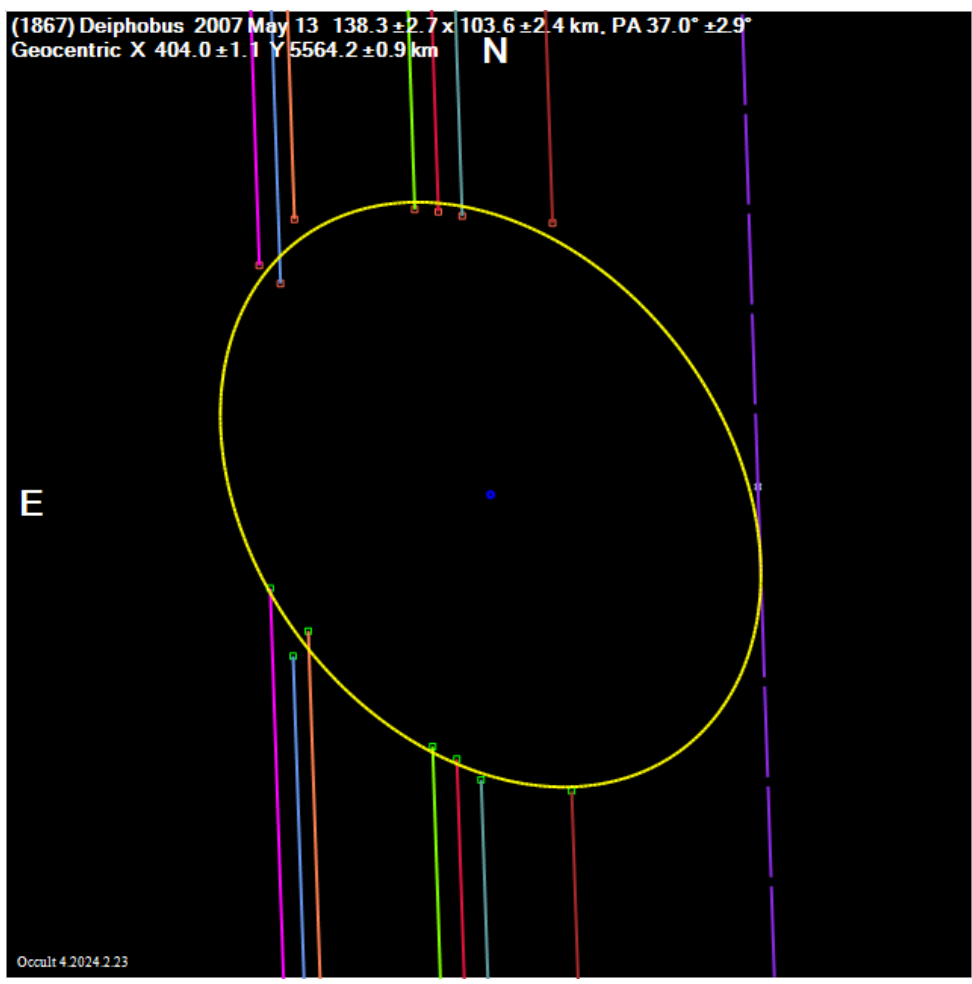


1768_Appenzella_2022Jun03

(1768) Appenzella 2022 Jun 3 $24.0 \pm 0.3 \times 11.8 \pm 0.6$ km, PA $86.4^\circ \pm 2.0^\circ$
Geocentric X 48.6 ± 0.2 Y 5641.5 ± 0.2 km N

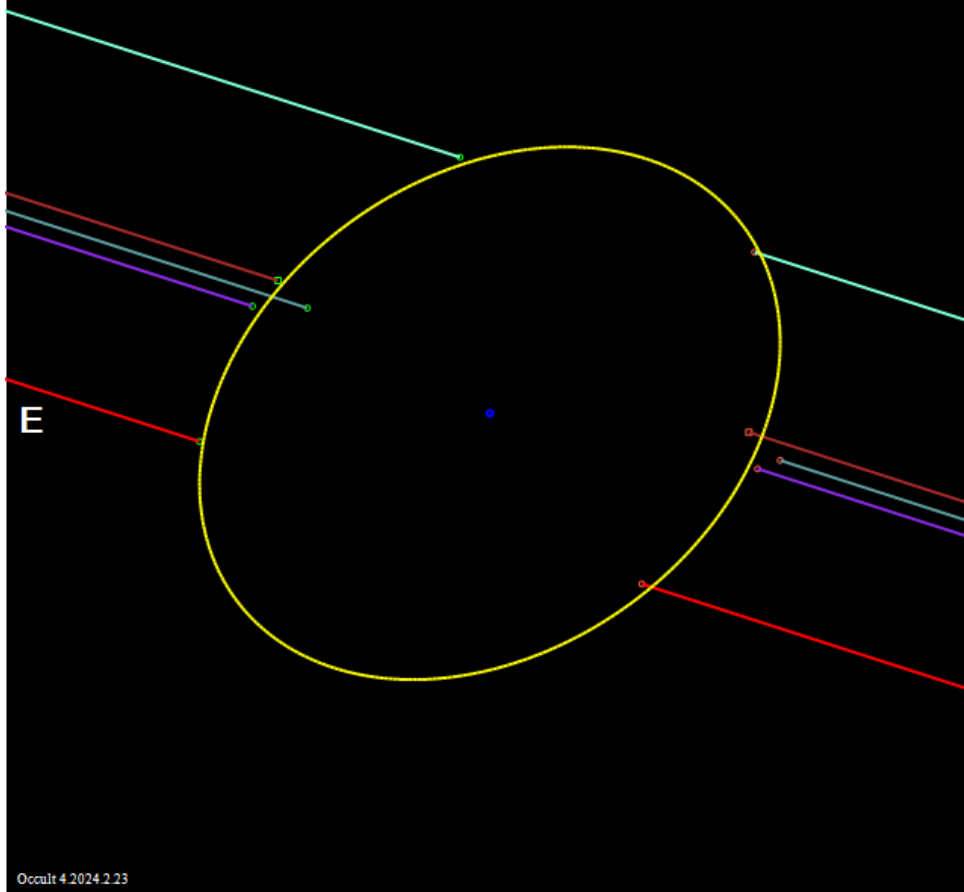


1867_Deiphobus_2007May13



1963_Bezovec_2021Jun09

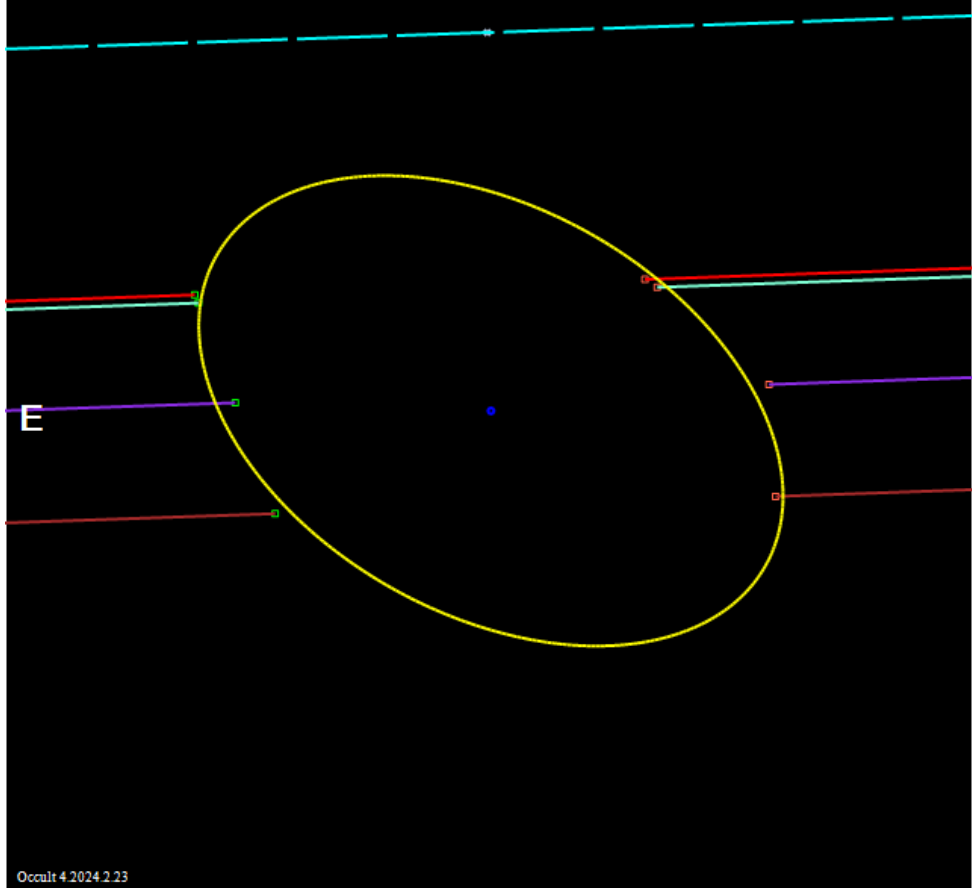
(1963) Bezovec 2021 Jun 9 $45.8 \pm 3.6 \times 34.4 \pm 1.5$ km, PA $125.9^\circ \pm 10.4^\circ$
Geocentric X 78.9 ± 0.9 Y 5290.0 ± 1.3 km **N**



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1984_Fedynskij_2021Dec24

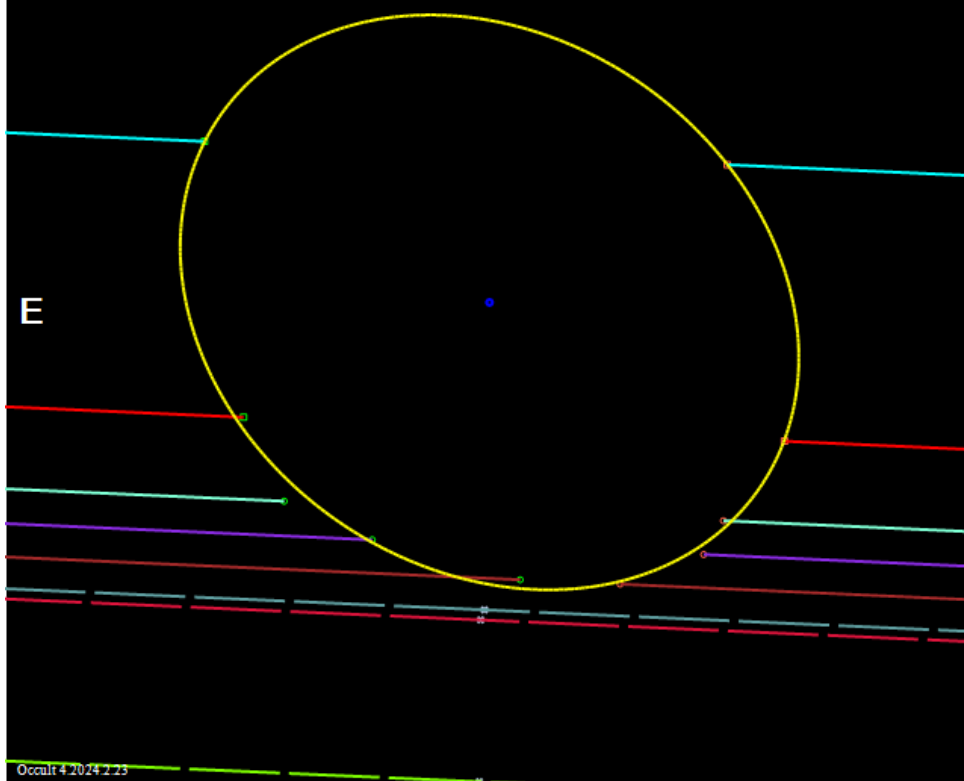
(1984) Fedynskij 2021 Dec 24 $44.1 \pm 2.8 \times 28.4 \pm 2.4$ km, PA $60.6^\circ \pm 11.6^\circ$
Geocentric X 1080.9 ± 0.5 Y 1464.5 ± 0.9 km **N**



Occult 4.2024.2.23

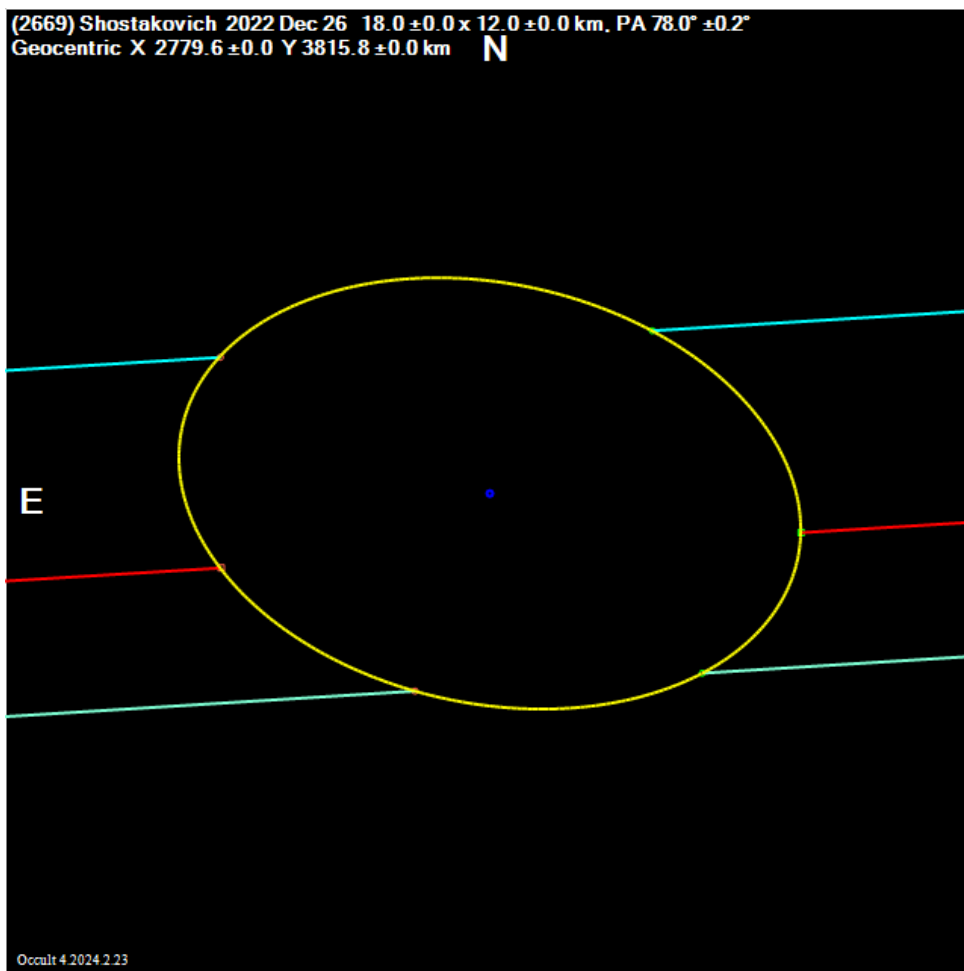
2241_Alcatous_2022Aug11

(2241) Alcatous 2022 Aug 11 $130.3 \pm 1.6 \times 105.8 \pm 2.1$ km. PA $55.6^\circ \pm 5.2^\circ$
Geocentric X 1100.1 ± 0.7 Y 5754.7 ± 1.1 km N



2669_Shostakovich_2022Dec26

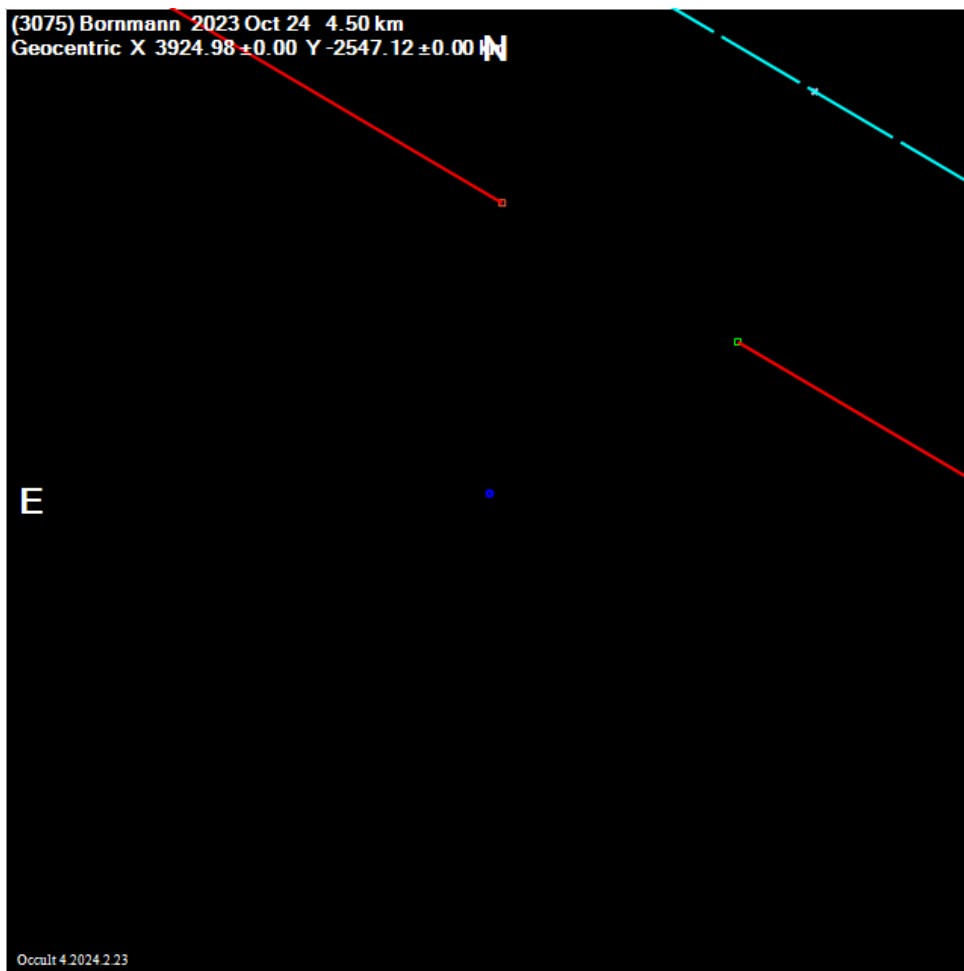
(2669) Shostakovich 2022 Dec 26 $18.0 \pm 0.0 \times 12.0 \pm 0.0$ km, PA $78.0^\circ \pm 0.2^\circ$
Geocentric X 2779.6 ± 0.0 Y 3815.8 ± 0.0 km N



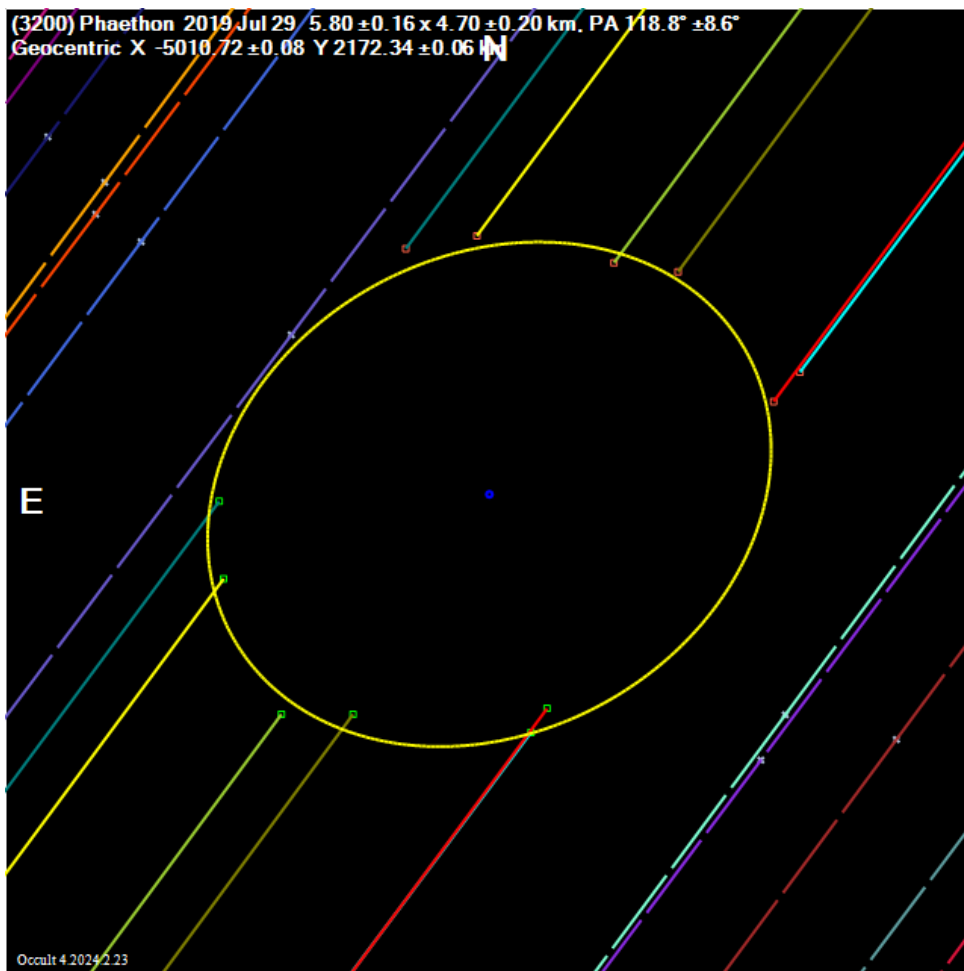
Occult 4.2024.2.23

3075_Bornmann_2023Oct24

(3075) Bornmann 2023 Oct 24 4.50 km
Geocentric X 3924.98 ± 0.00 Y -2547.12 ± 0.00 N

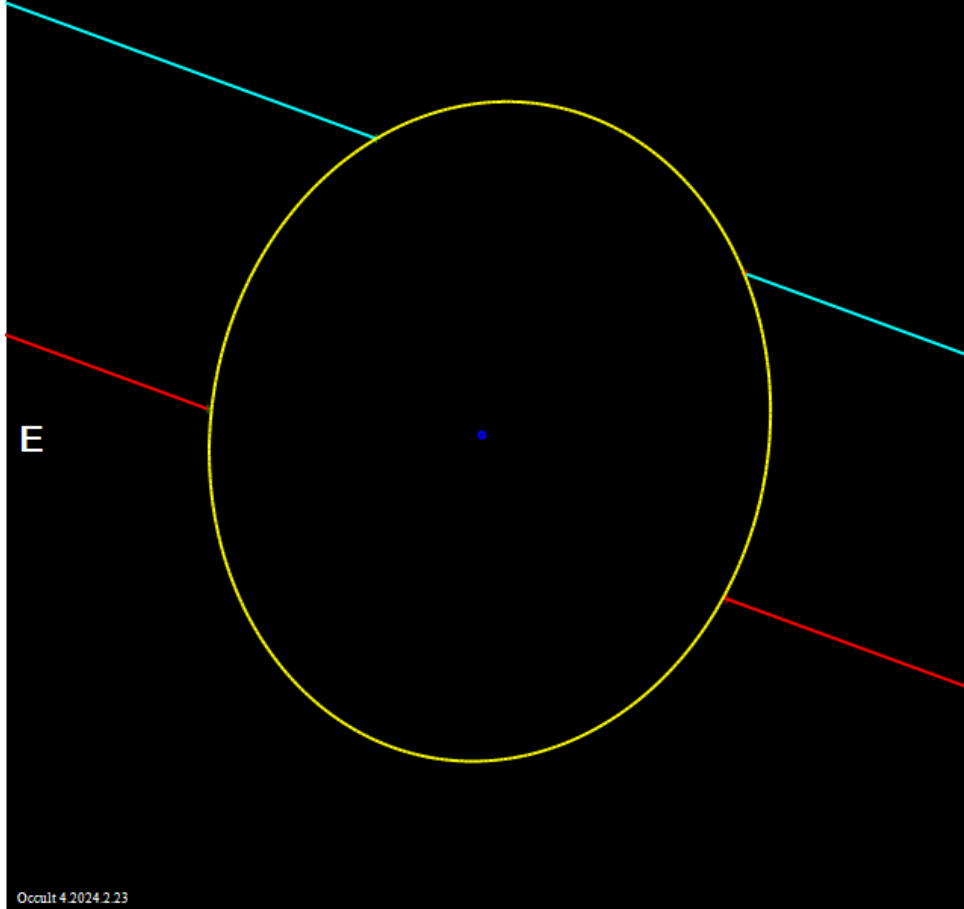


3200_Phaethon_2019Jul29



3200_Phaethon_2019Oct12

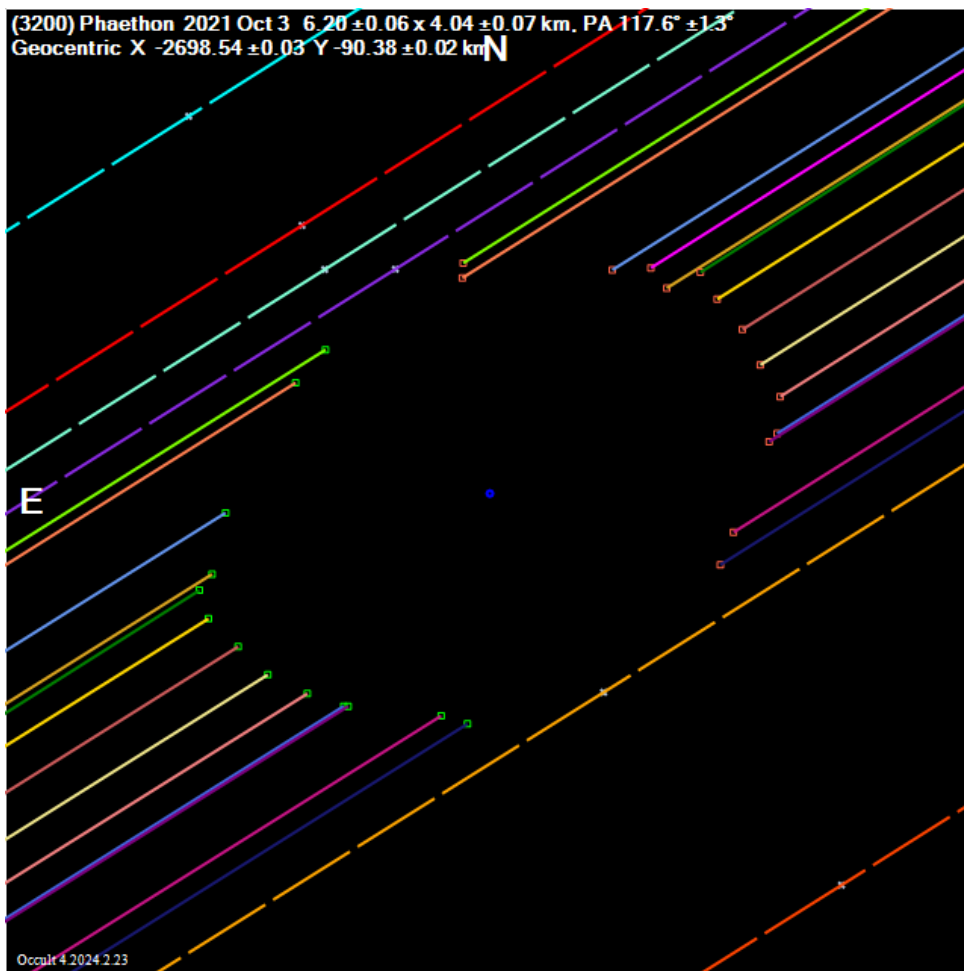
(3200) Phaethon 2019 Oct 12 5.70 ± 0.11 x 4.80 km, PA 169.6° ± 1.6°
Geocentric X 326.51 ± 0.01 Y -1647.89 ± 0.04 km



Occult 4.2024.2.23

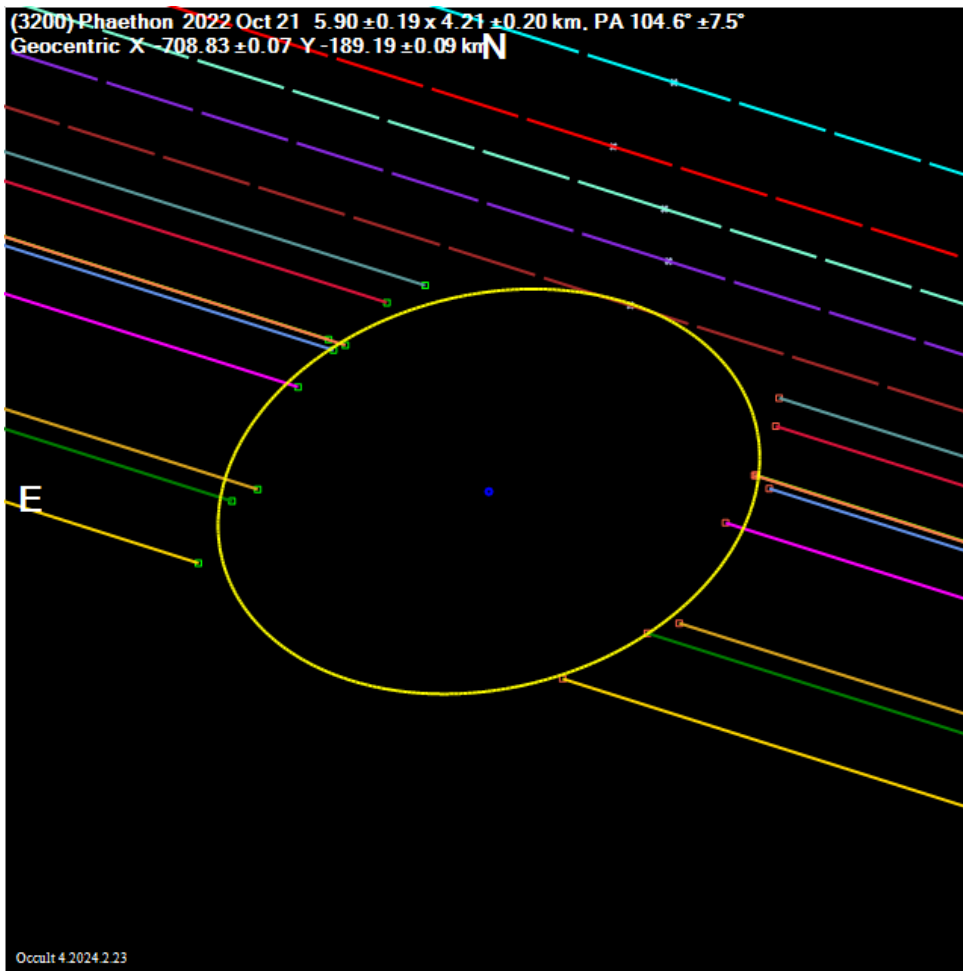
3200_Phaethon_2021Oct03

(3200) Phaethon 2021 Oct 3 $6.20 \pm 0.06 \times 4.04 \pm 0.07$ km, PA $117.6^\circ \pm 1.3^\circ$
Geocentric X -2698.54 ± 0.03 Y -90.38 ± 0.02 km



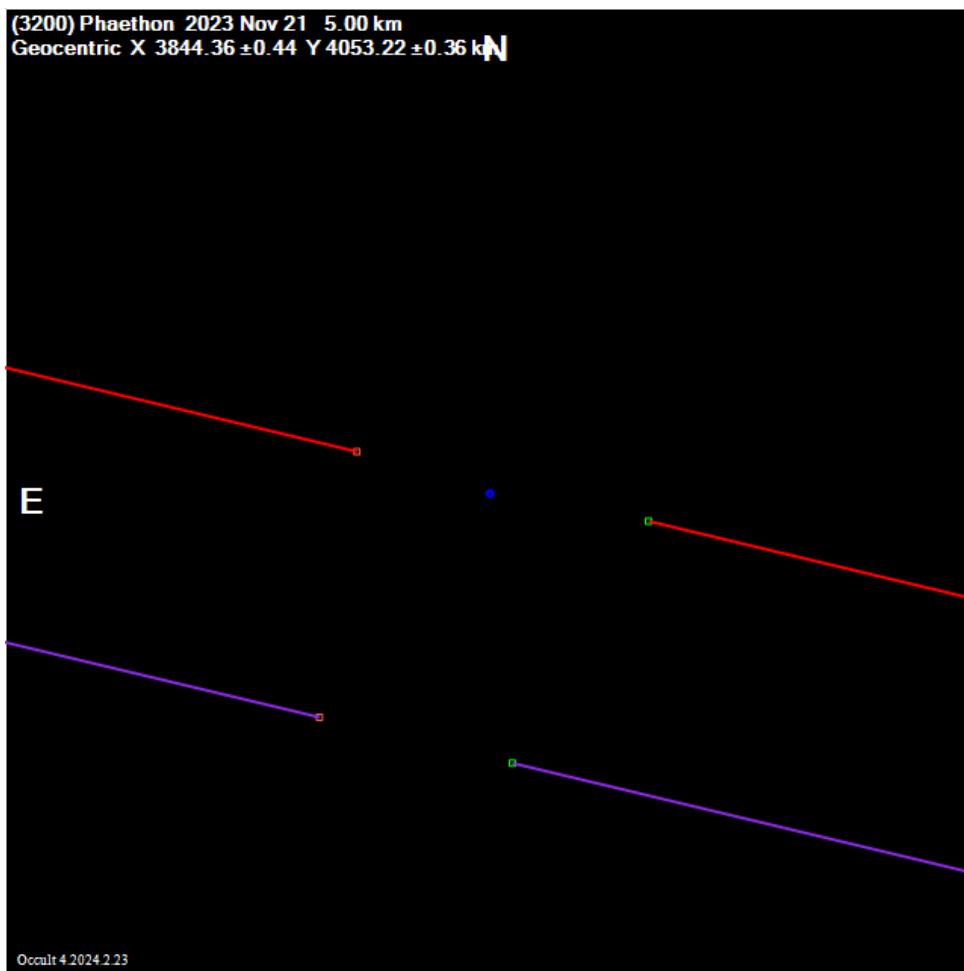
3200_Phaethon_2022Oct21

(3200) Phaethon 2022 Oct 21 $5.90 \pm 0.19 \times 4.21 \pm 0.20$ km, PA $104.6^\circ \pm 7.5^\circ$
Geocentric X -708.83 ± 0.07 Y -189.19 ± 0.09 km



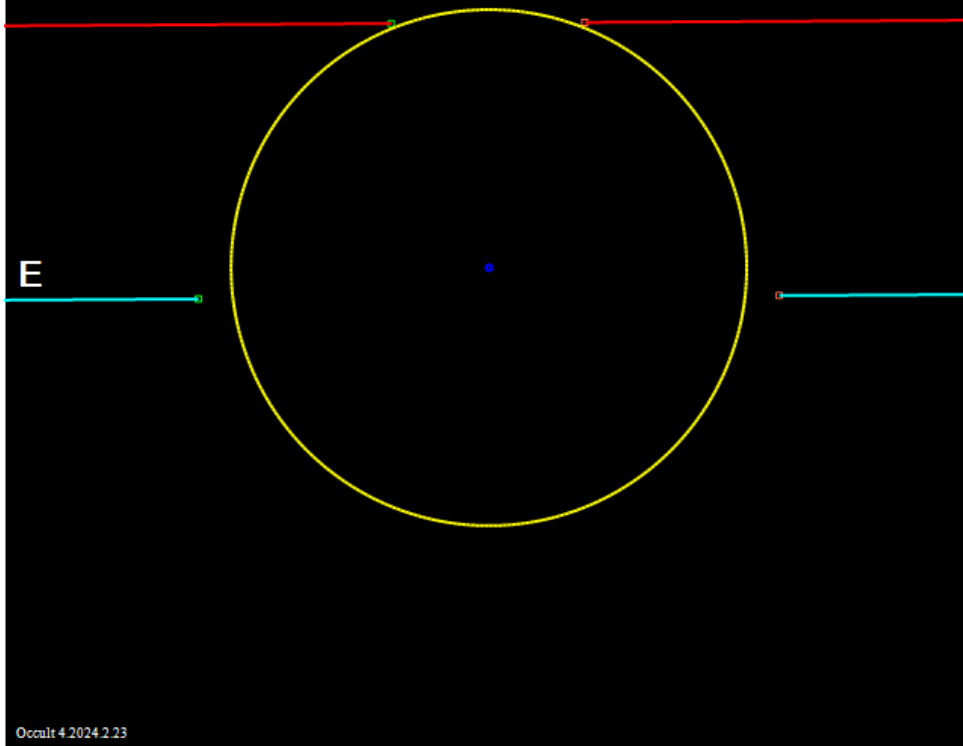
3200_Phaethon_2023Nov21

(3200) Phaethon 2023 Nov 21 5.00 km
Geocentric X 3844.36 ± 0.44 Y 4053.22 ± 0.36 kN

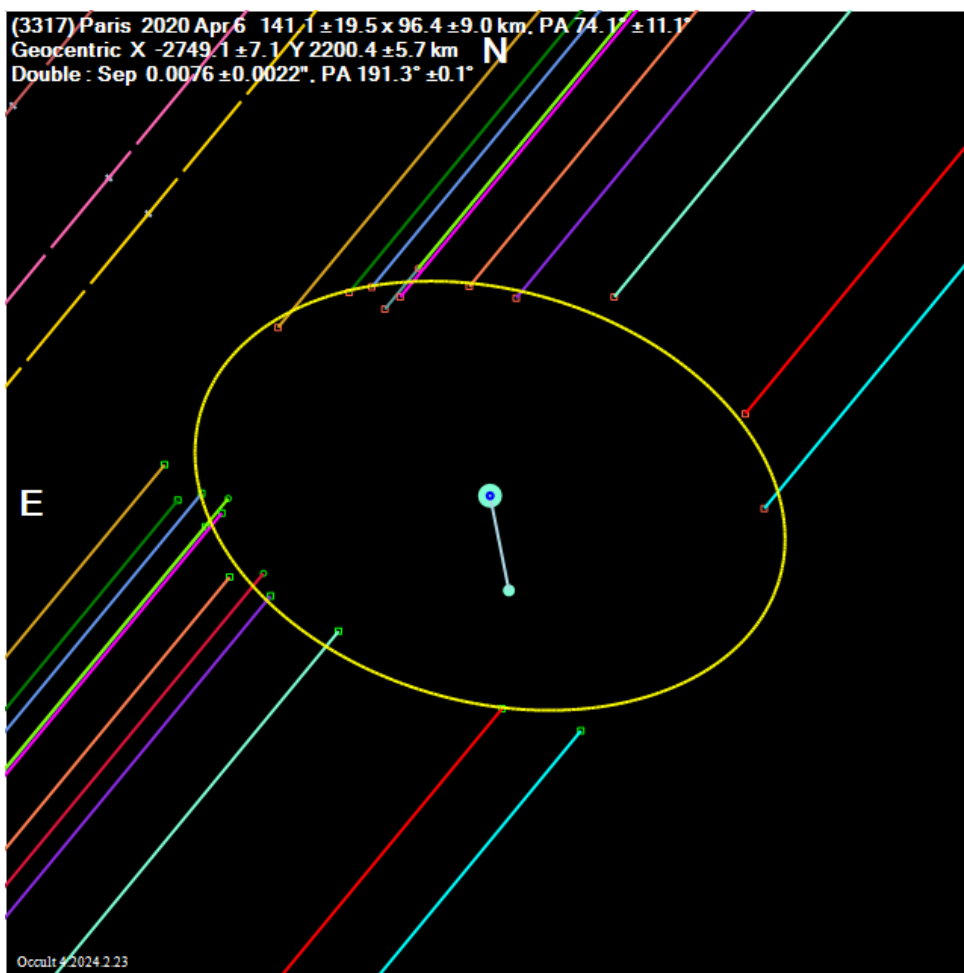


3228_Pire_2021Jun28

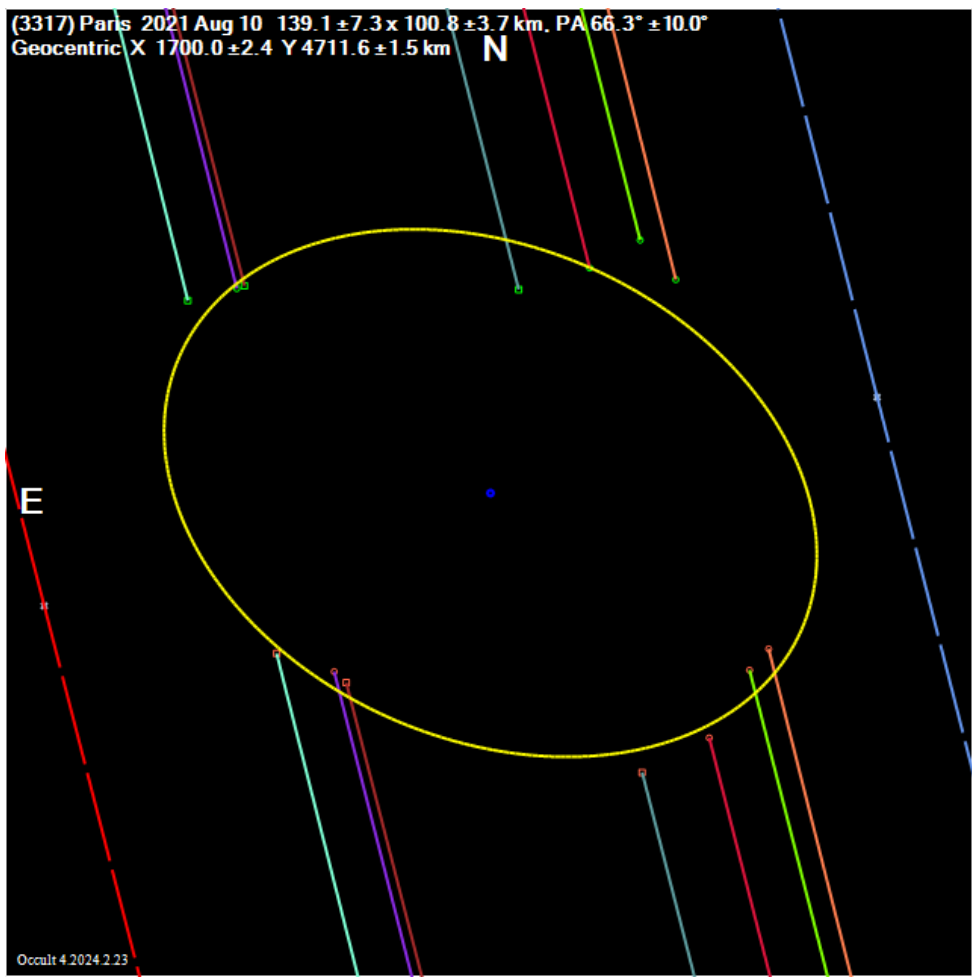
(3228) Pire 2021 Jun 28 16.4 km
Geocentric X -1633.6 ± 0.3 Y -519.6 ± 0.3 km N



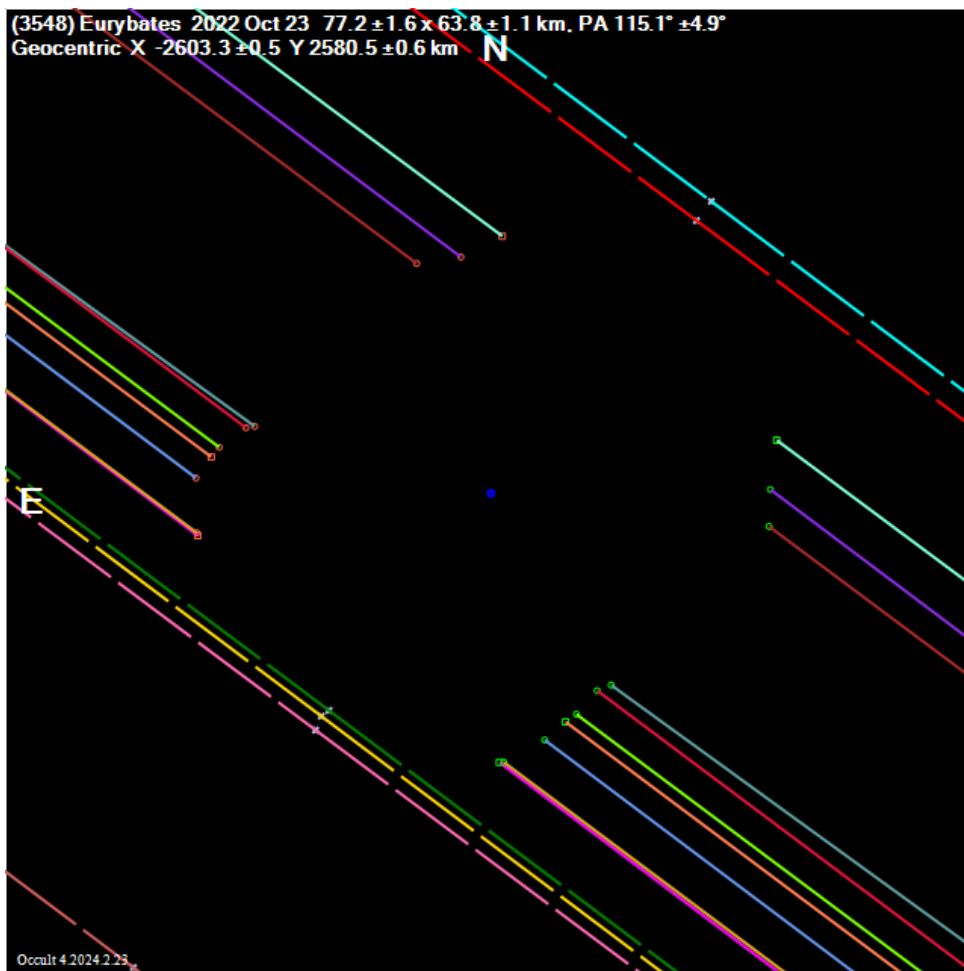
3317_Paris_2020Apr06



3317_Paris_2021Aug10

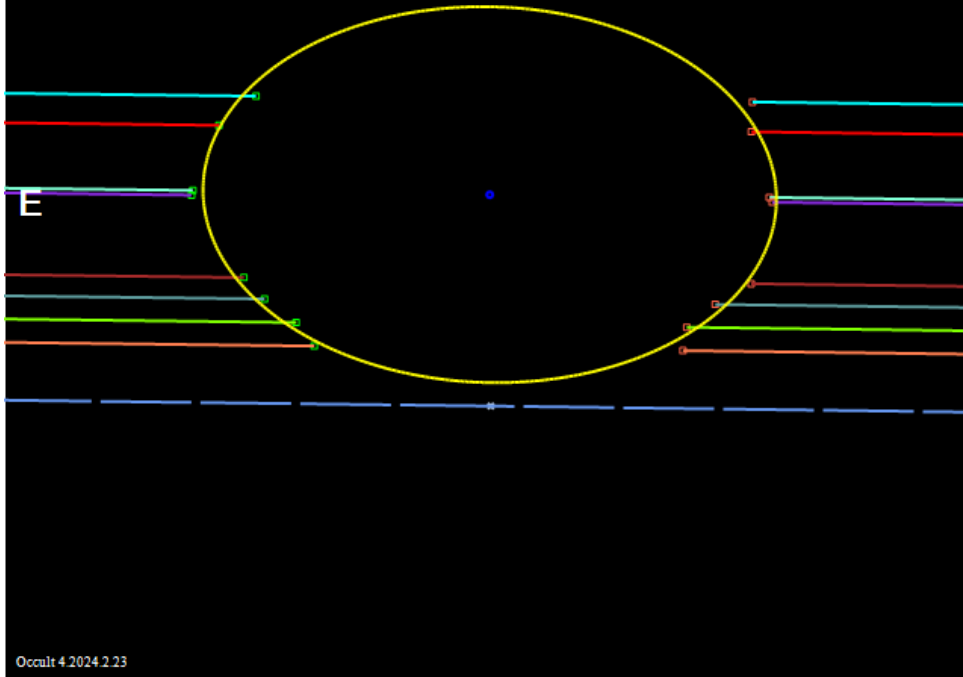


3548_Eurybates_2022Oct23



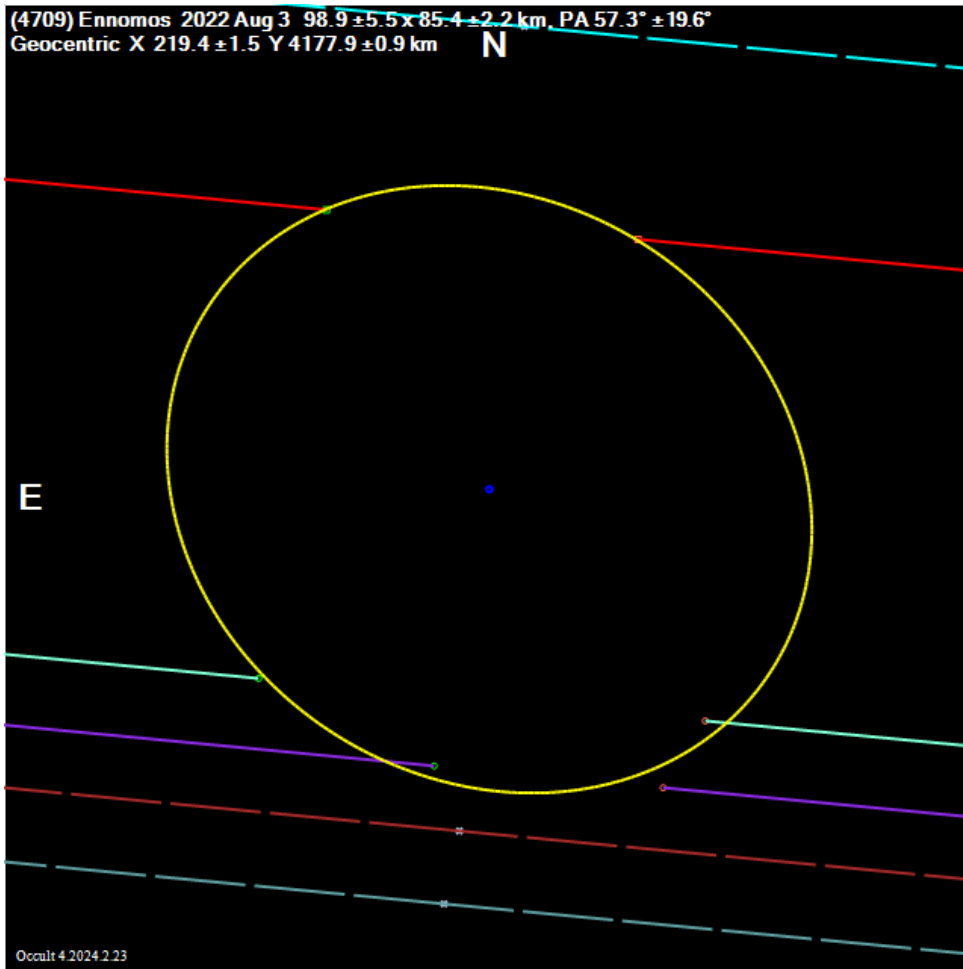
4009_Drobyshevskij_2022Jun07

(4009) Drobyshevskij 2022 Jun 7 22.0 ± 0.3 x 14.4 ± 0.6 km, PA 88.4° ± 1.5°
Geocentric X -2117.8 ± 0.1 Y 5241.4 ± 0.2 km **N**



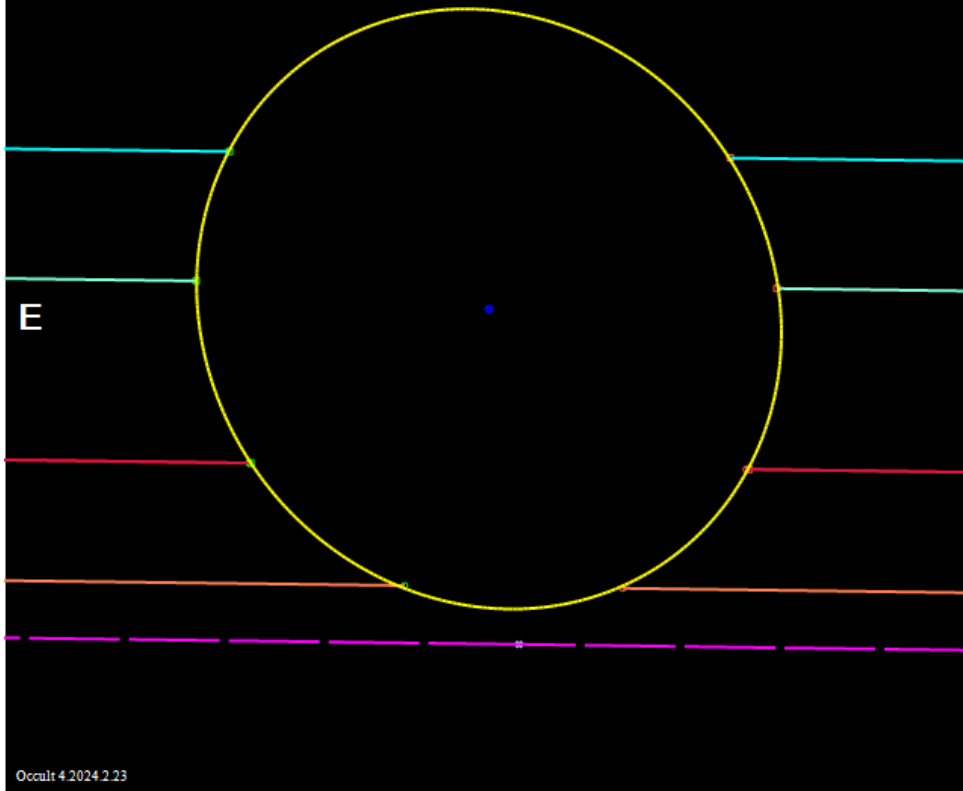
4709_Ennomos_2022Aug03

(4709) Ennomos 2022 Aug 3 $98.9 \pm 5.5 \times 85.4 \pm 2.2$ km, PA $57.3^\circ \pm 19.6^\circ$
Geocentric X 219.4 ± 1.5 Y 4177.9 ± 0.9 km



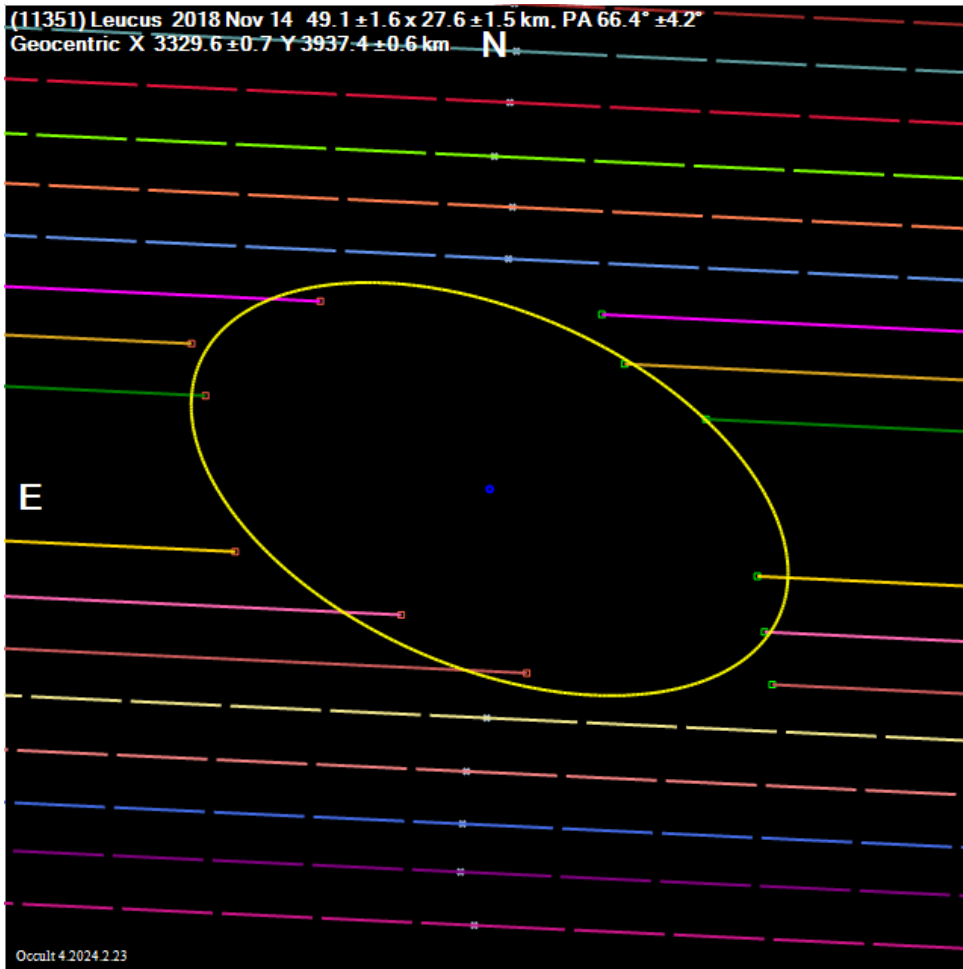
10199_Chariklo_2017Jun22

(10199) Chariklo 2017 Jun 22 $275.4 \pm 1.2 \times 253.3 \pm 0.7$ km, PA $36.4^\circ \pm 2.6^\circ$
Geocentric X -3425.1 ± 0.3 Y 491.5 ± 0.5 km **N**



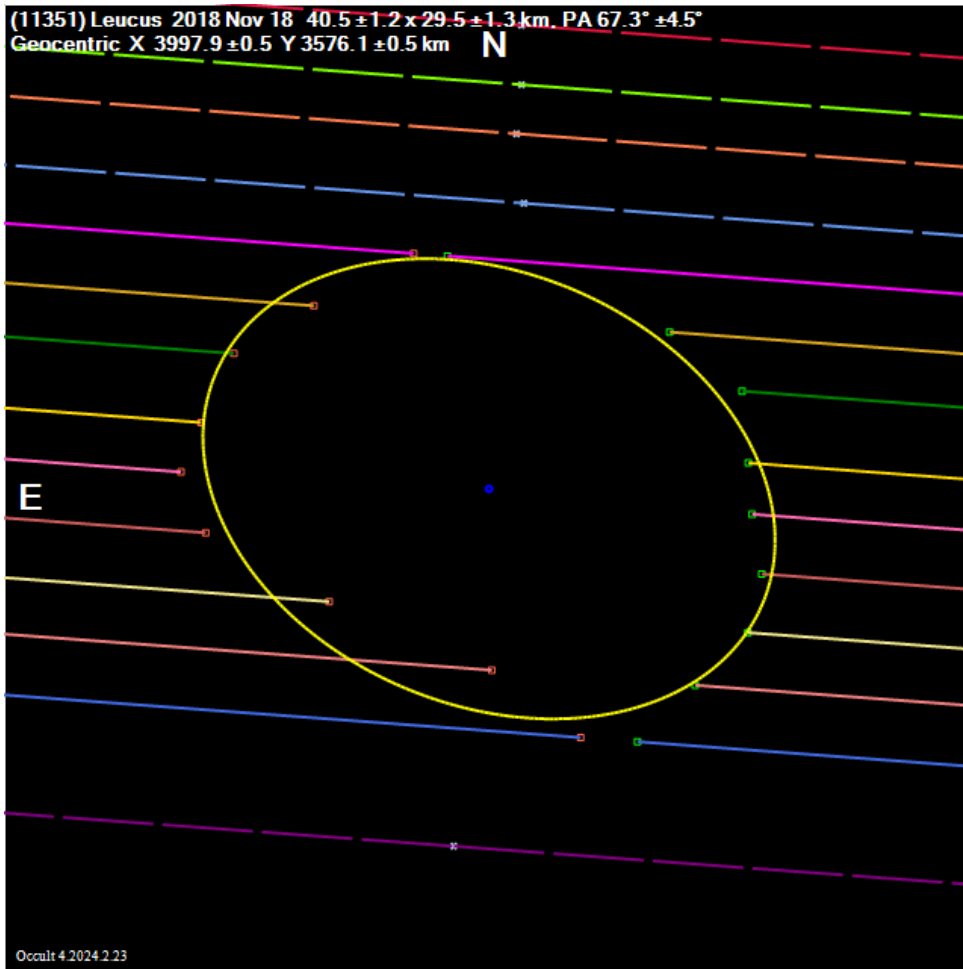
11351_Leucus_2018Nov14

(11351) Leucus 2018 Nov 14 $49.1 \pm 1.6 \times 27.6 \pm 1.5$ km, PA $66.4^\circ \pm 4.2^\circ$
Geocentric X 3329.6 ± 0.7 Y 3937.4 ± 0.6 km — N



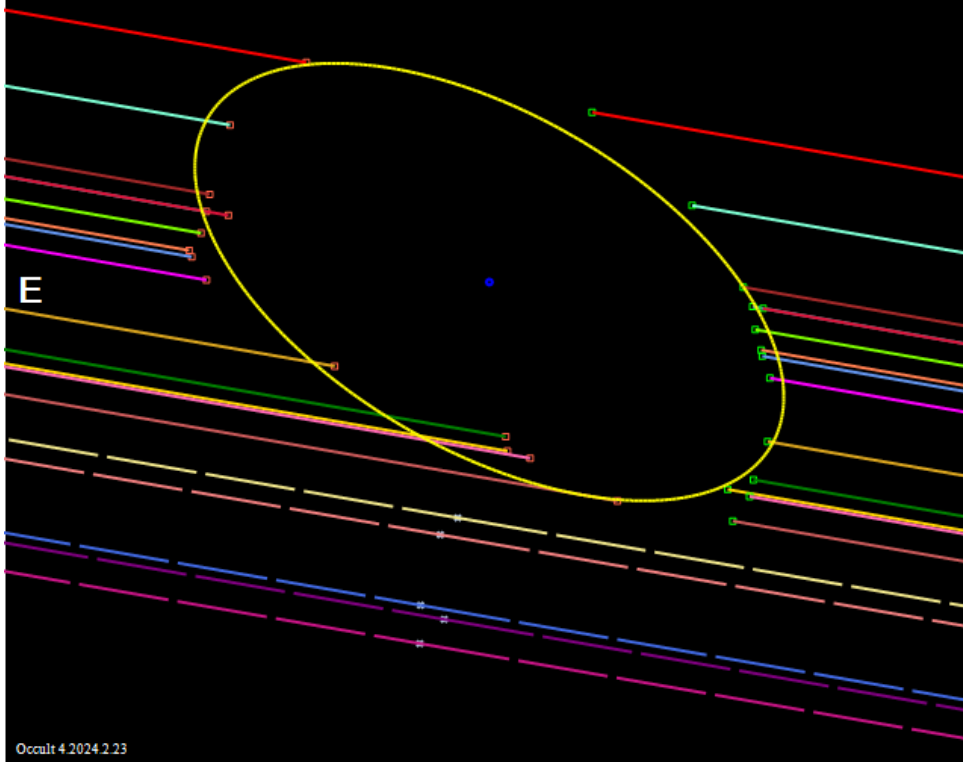
11351_Leucus_2018Nov18

(11351) Leucus 2018 Nov 18 $40.5 \pm 1.2 \times 29.5 \pm 1.3$ km. PA $67.3^\circ \pm 4.5^\circ$
Geocentric X 3997.9 ± 0.5 Y 3576.1 ± 0.5 km N



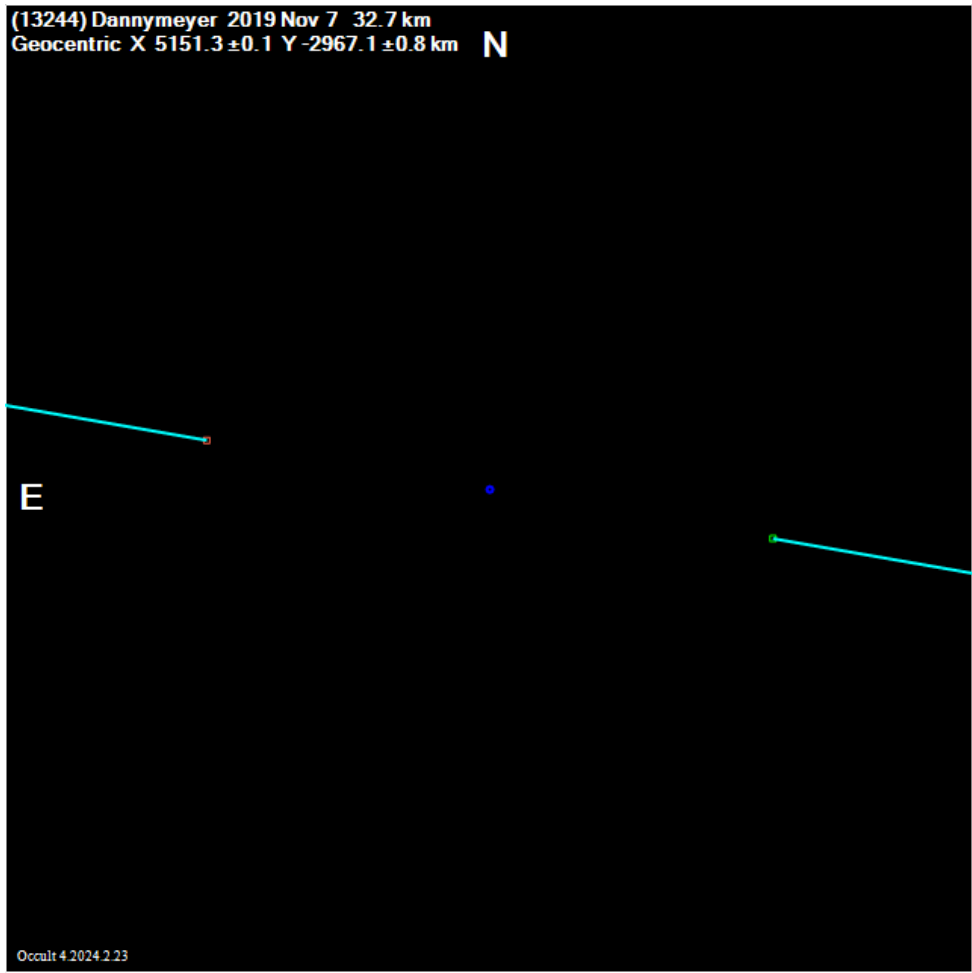
11351_Leucus_2019Dec29

(11351) Leucus 2019 Dec 29 $53.5 \pm 1.3 \times 27.6 \pm 1.2$ km, PA $60.0^\circ \pm 1.8^\circ$
Geocentric X 4305.9 ± 0.4 Y 3277.2 ± 0.6 km N



13244_Dannymeyer_2019Nov07

(13244) Dannymeyer 2019 Nov 7 32.7 km
Geocentric X 5151.3 ± 0.1 Y -2967.1 ± 0.8 km N

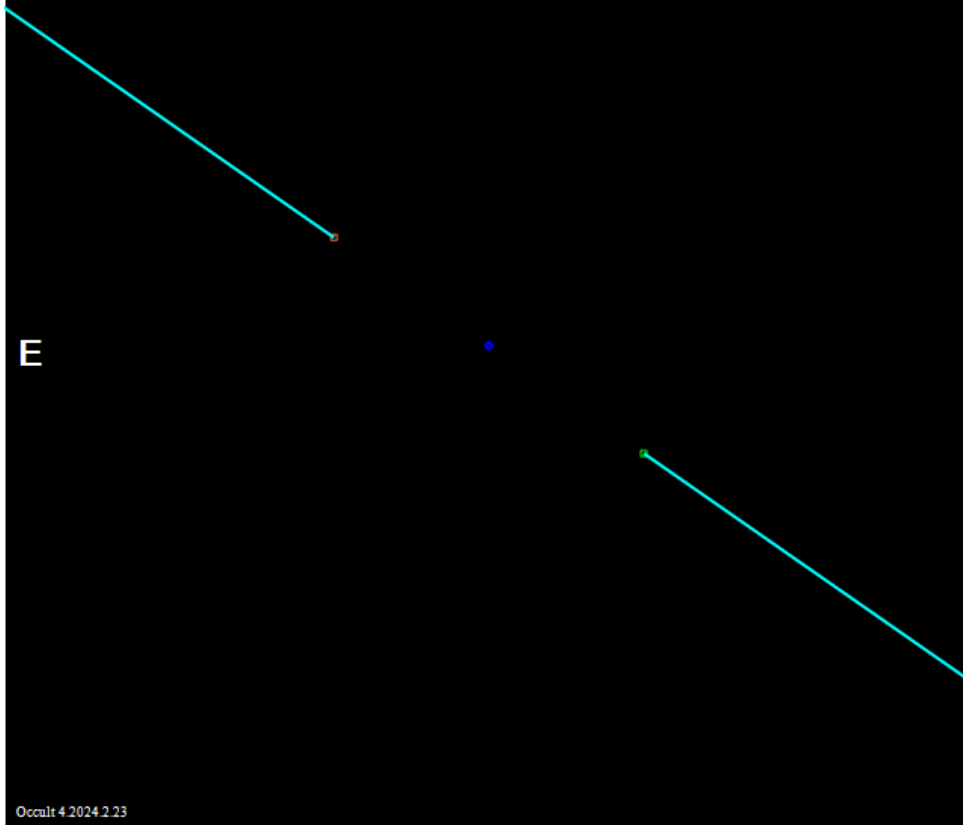


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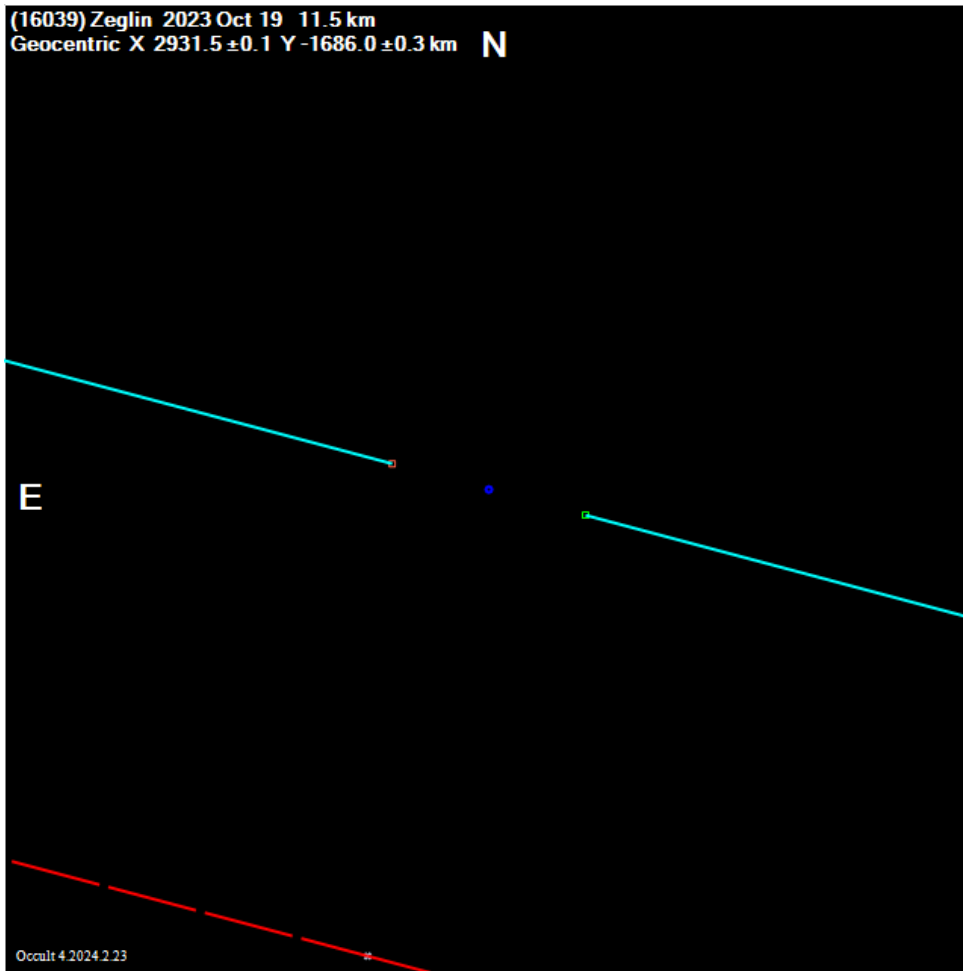
14686_1999XA174_2023Nov12

(14686) 1999 XA174 2023 Nov 12 4.60 km
Geocentric X 2216.26 ± 0.43 Y -2284.64 ± 0.62 N



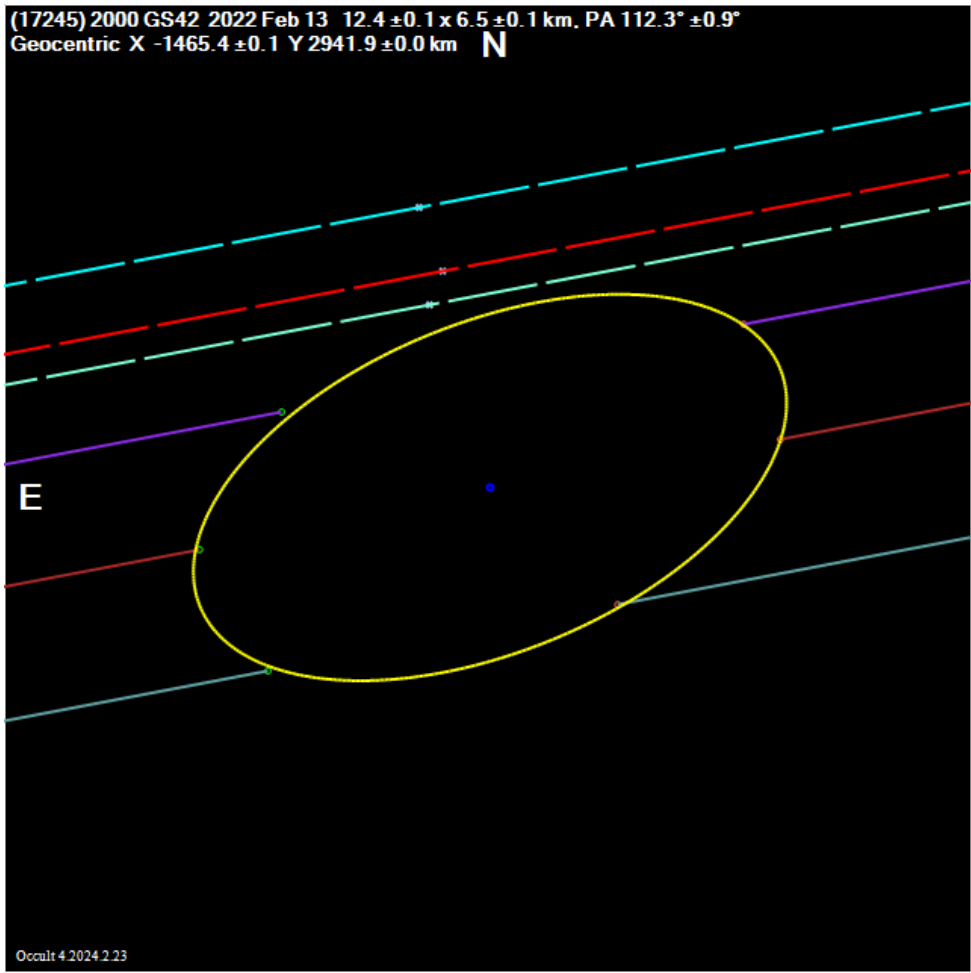
16039_Zeglin_2023Oct19

(16039) Zeglin 2023 Oct 19 11.5 km
Geocentric X 2931.5 ± 0.1 Y -1686.0 ± 0.3 km N



17245_2000GS42_2022Feb13

(17245) 2000 GS42 2022 Feb 13 $12.4 \pm 0.1 \times 6.5 \pm 0.1$ km, PA $112.3^\circ \pm 0.9^\circ$
Geocentric X -1465.4 ± 0.1 Y 2941.9 ± 0.0 km **N**



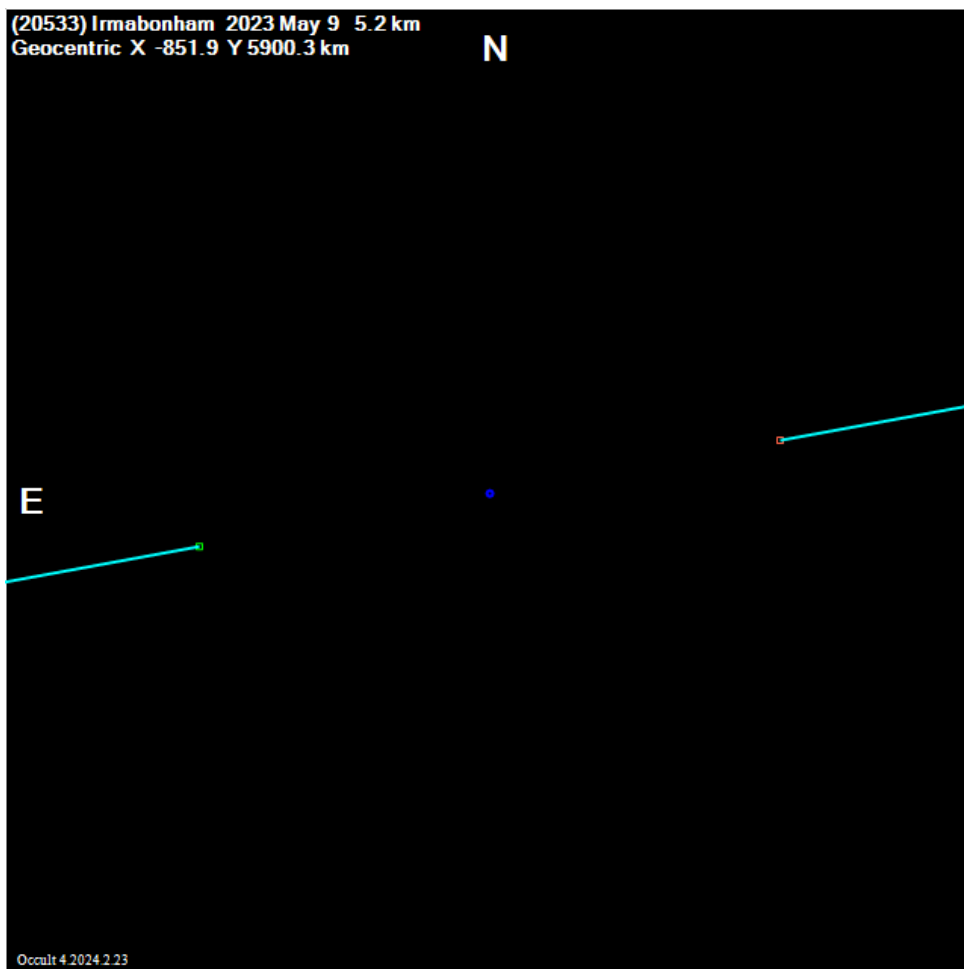
20533_Irmabonham_2023May09

(20533) Irmabonham 2023 May 9 5.2 km
Geocentric X -851.9 Y 5900.3 km

N

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Occult 4.2024.2.23



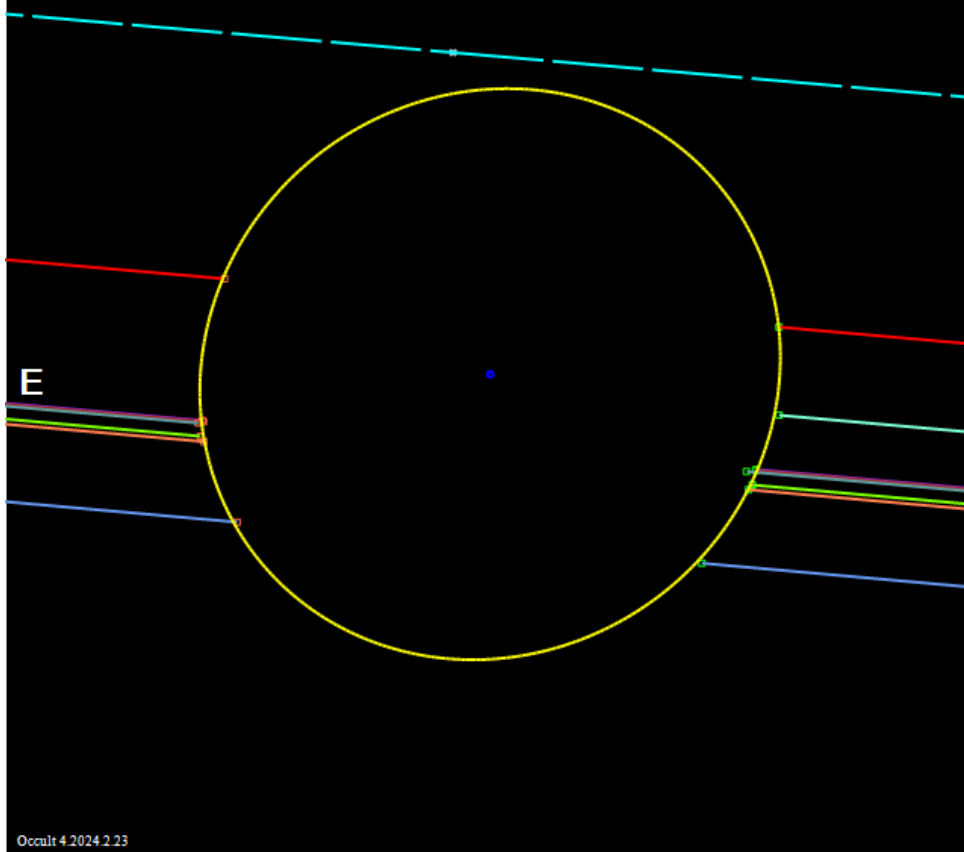
25239_1998UB8_2023Oct01

(25239) 1998 UB8 2023 Oct 1 6.8 km
Geocentric X 3255.8 ± 0.0 Y 5308.0 ± 0.4 km N



28978_Ixion_2020Oct13

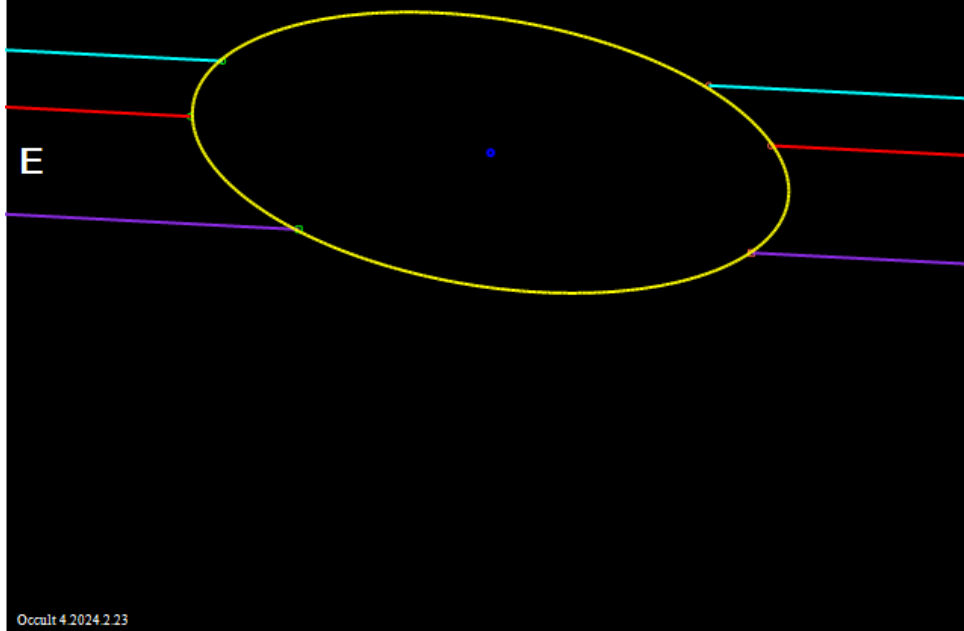
(28978) Ixion 2020 Oct 13 729.1 ± 14.5 x 685.3 ± 15.2 km, PA 126.9° ± 19.3°
Geocentric X 2825.4 ± 1.8 Y 5370.8 ± 6.2 km N



Occult 4.2024.2.23

29564_1998ED6_2023Oct28

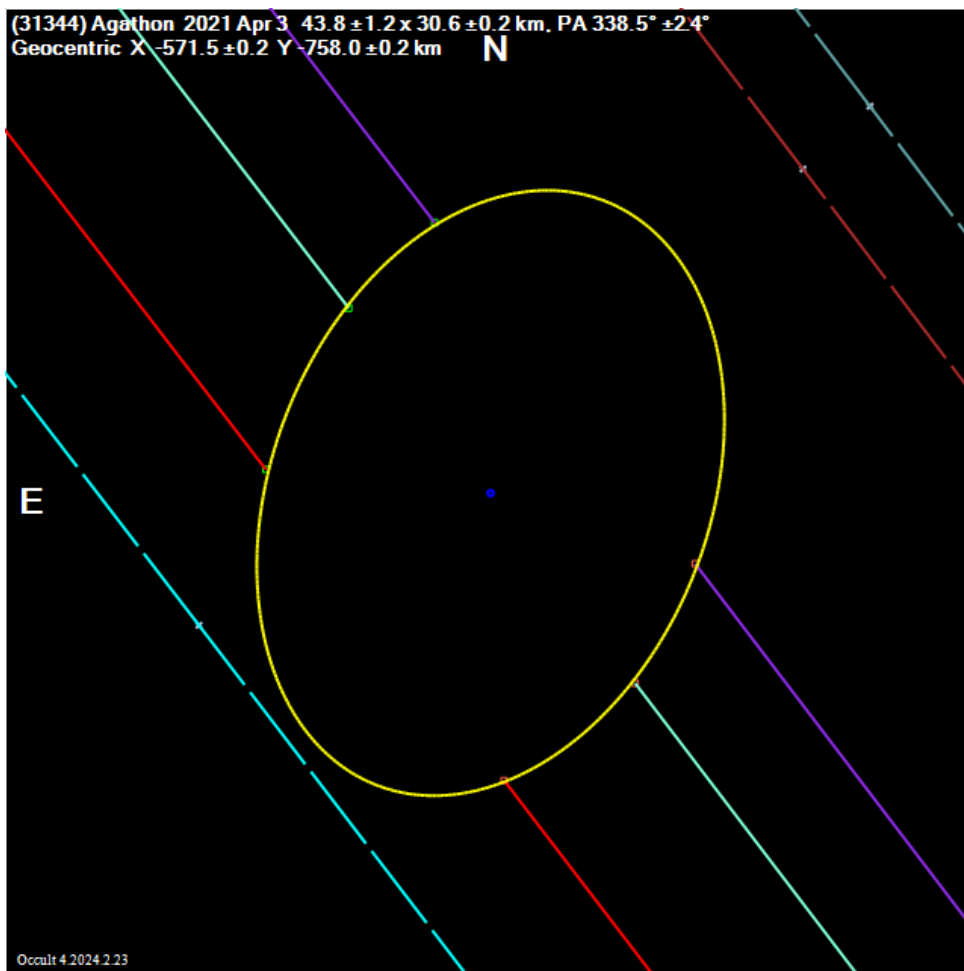
(29564) 1998 ED6 2023 Oct 28 $42.2 \pm 0.3 \times 18.7 \pm 0.3$ km, PA $260.8^\circ \pm 0.4^\circ$
Geocentric X -1697.8 ± 0.1 Y 578.2 ± 0.1 km **N**



Occult 4.2024.2.23

31344_Agathon_2021Apr03

(31344) Agathon 2021 Apr 3 $43.8 \pm 1.2 \times 30.6 \pm 0.2$ km. PA $338.5^\circ \pm 2.4^\circ$
Geocentric X -571.5 ± 0.2 Y -758.0 ± 0.2 km N



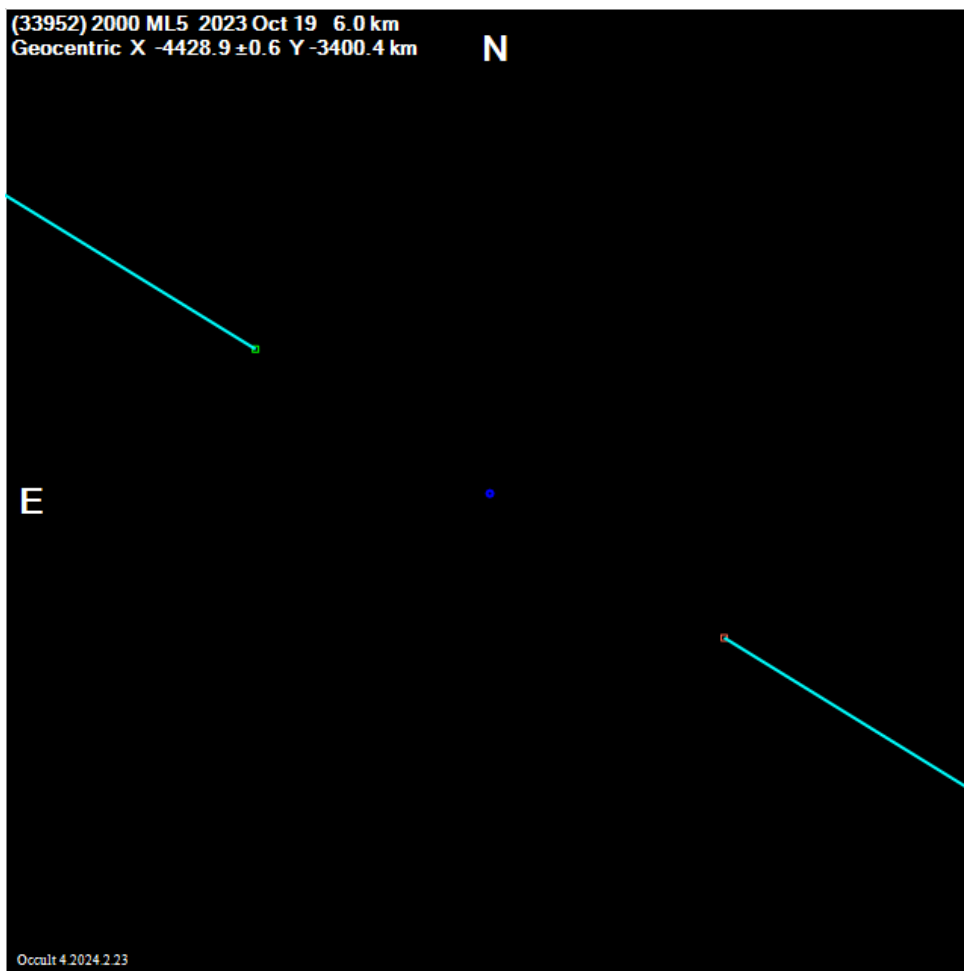
33952_2000ML5_2023Oct19

(33952) 2000 ML5 2023 Oct 19 6.0 km
Geocentric X -4428.9 ± 0.6 Y -3400.4 km

N

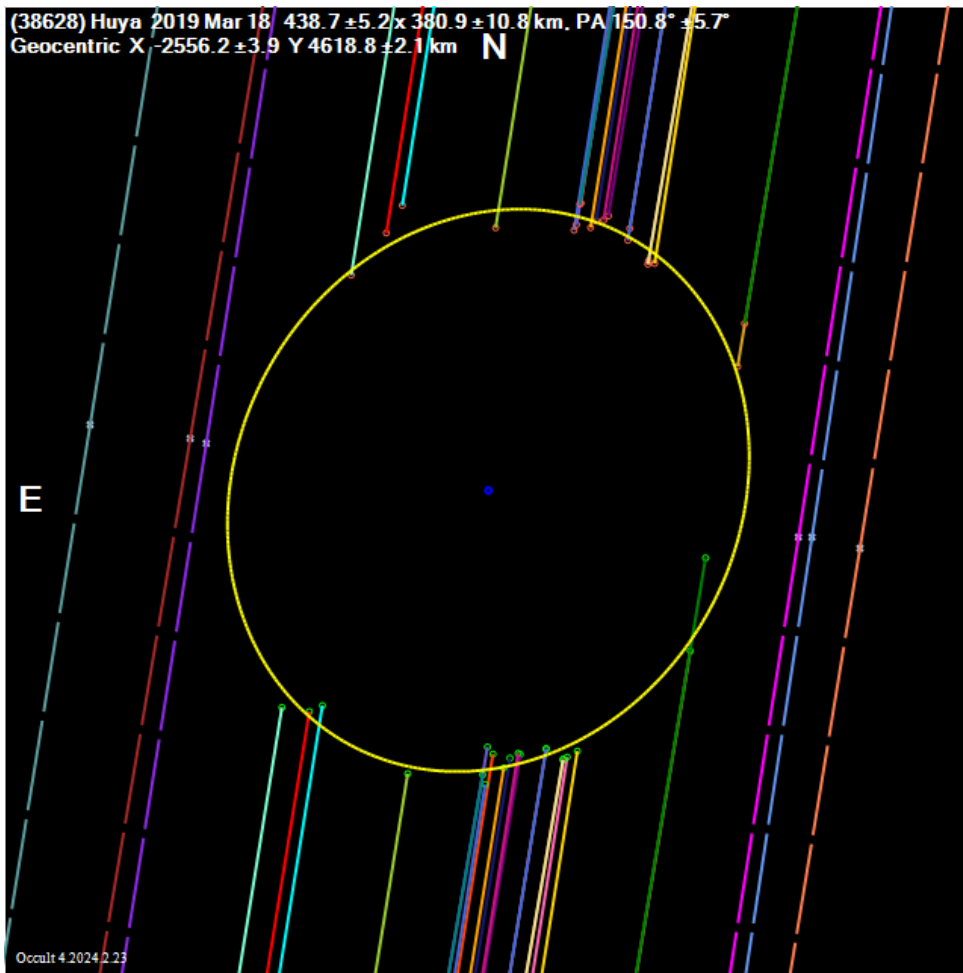
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Occult 4.2024.2.23



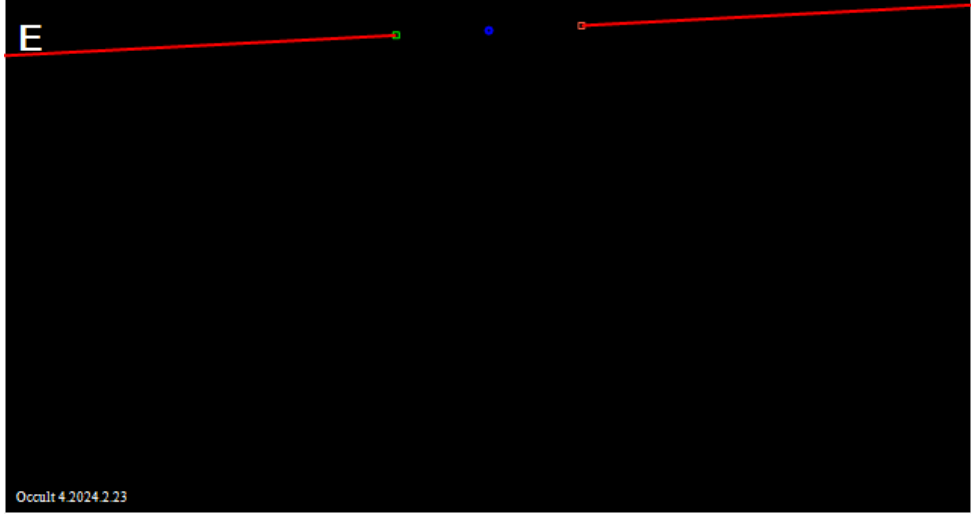
38628_Huya_2019Mar18

(38628) Huya 2019 Mar 18 438.7 ± 5.2 x 380.9 ± 10.8 km, PA 150.8° ± 5.7°
Geocentric X -2556.2 ± 3.9 Y 4618.8 ± 2.1 km **N**



47687_2000CW86_2023Dec04

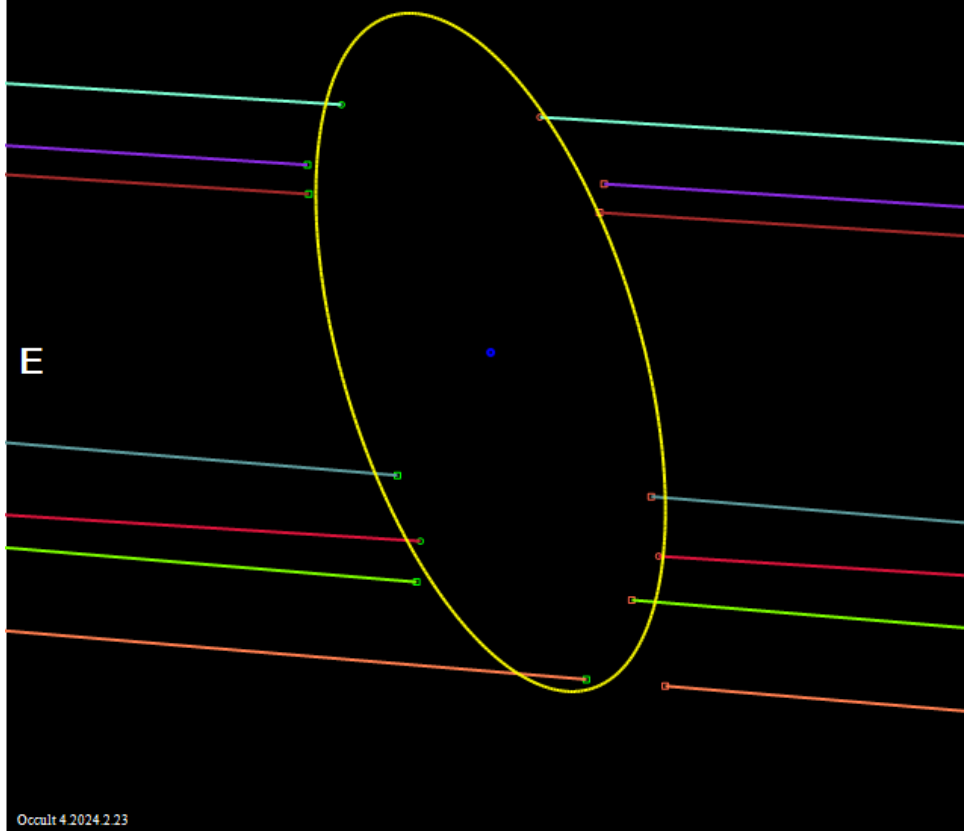
(47687) 2000 CW86 2023 Dec 4 4.60 km
Geocentric X -386.67 ± 0.01 Y -5487.03 ± 0.15 km



Occult 4.2024.2.23

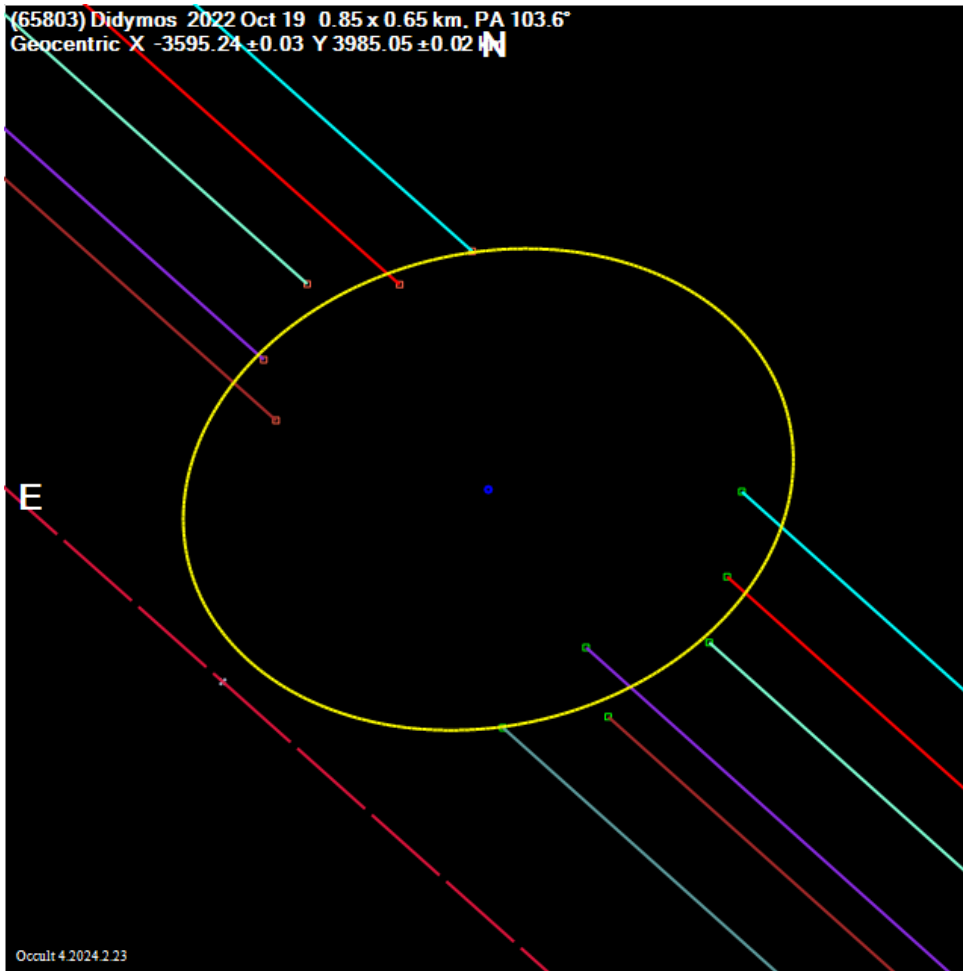
54598_Bienor_2022Dec26

(54598) Bienor 2022 Dec 26 232.1 ± 14.3 x 98.9 ± 5.0 km, PA 16.6° ± 2.0°
Geocentric X 402.0 ± 1.8 Y 1800.0 ± 5.0 km **N**



65803_Didymos_2022Oct19

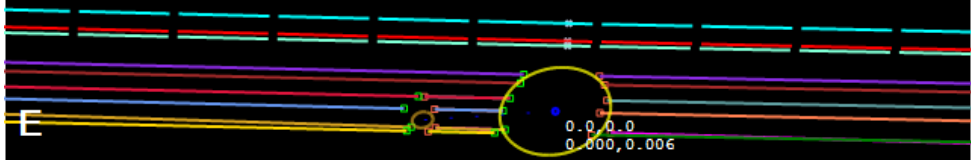
(65803) Didymos 2022 Oct 19 0.85 x 0.65 km. PA 103.6°
Geocentric X -3595.24 ± 0.03 Y 3985.05 ± 0.02



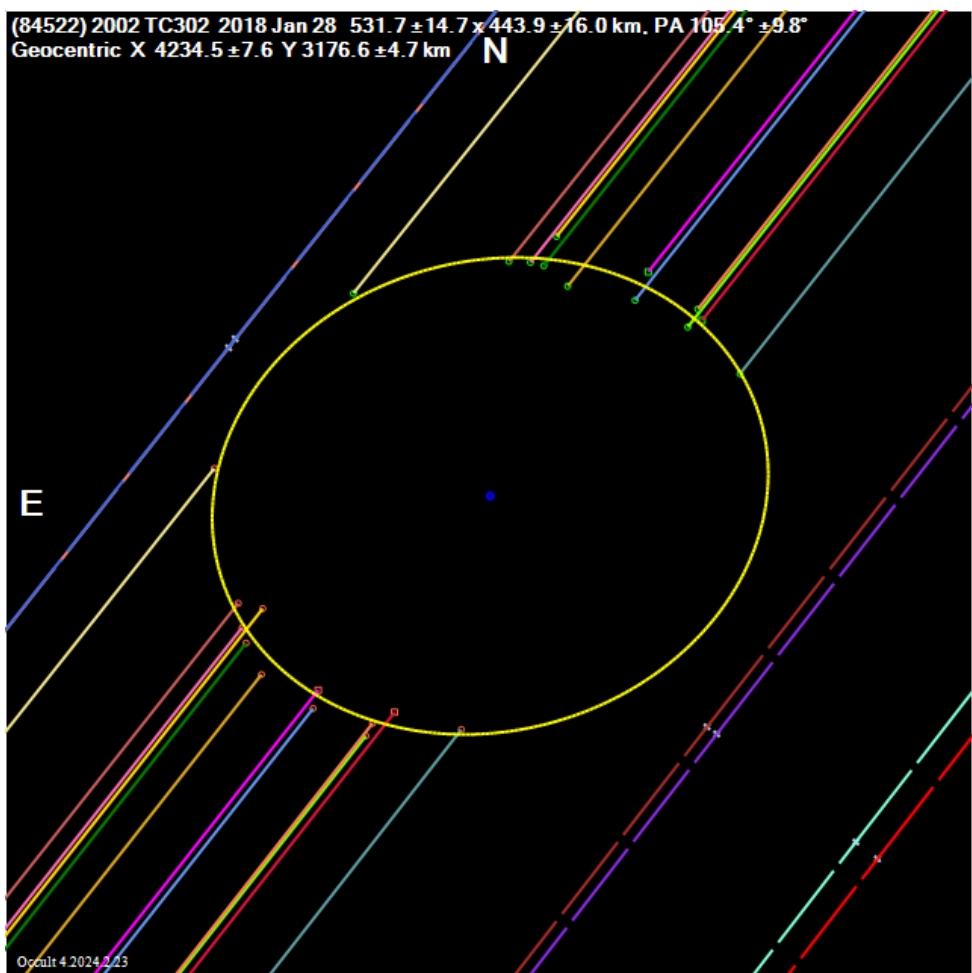
Occult 4.2024.2.23

65803_Didymos_2023Jan21

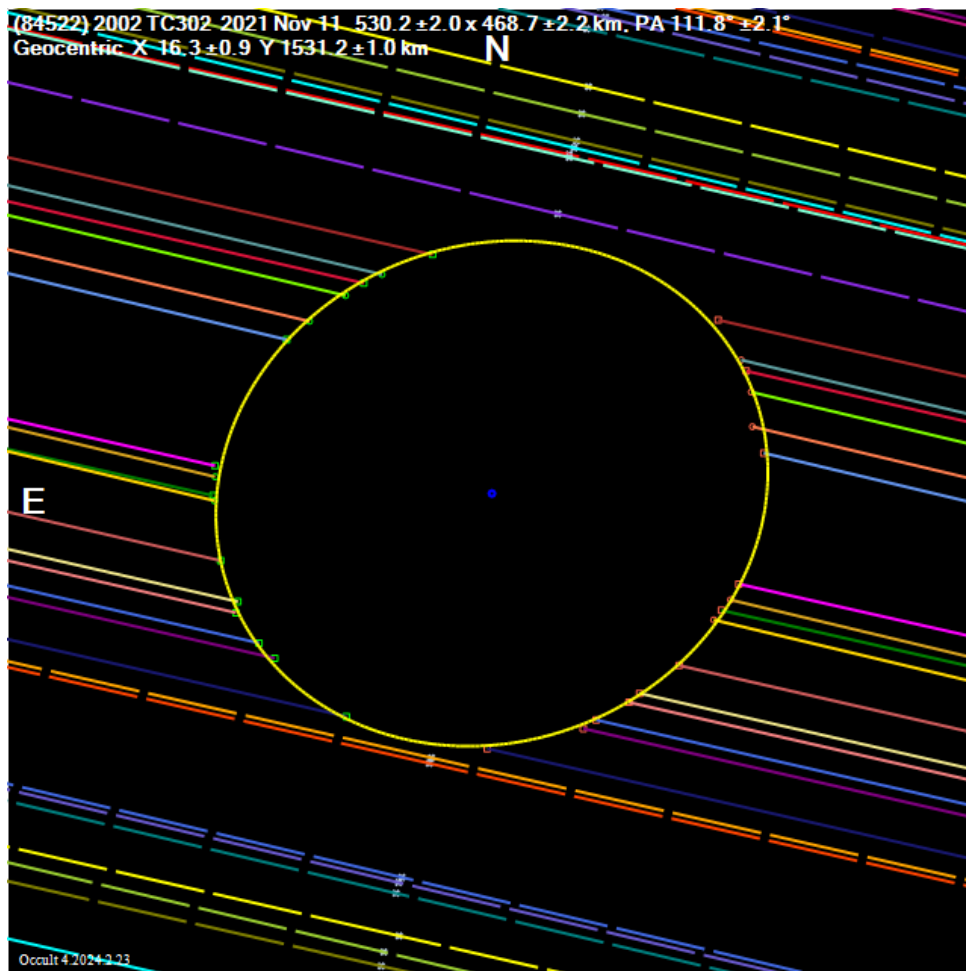
(65803) Didymos 2023 Jan 21 0.85 x 0.65 km. PA 104.0°
Geocentric X 441.27 ± 0.01 Y 1571.04 ± 0.02 km
Sat: (65803) 1 = Dimorphos 0.2 x 0.1 km. PA 104.0°; Sep 0.0036" at PA 93.7°



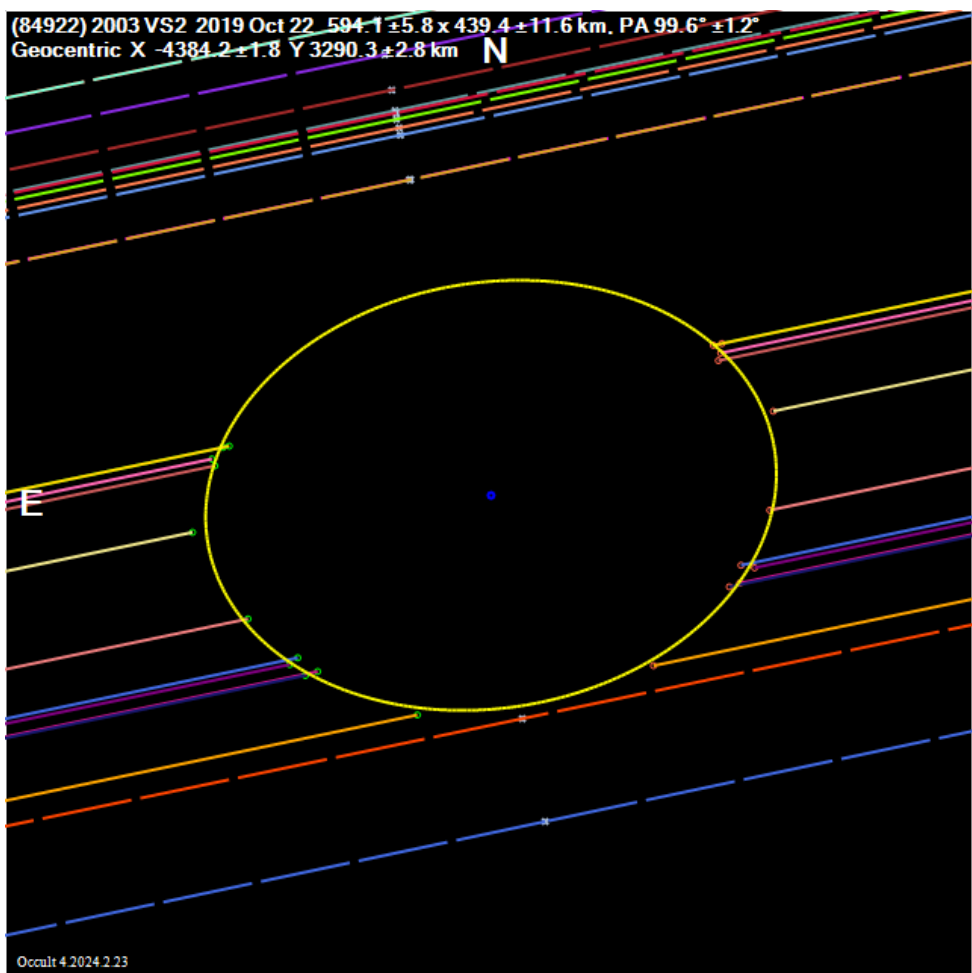
84522_2002TC302_2018Jan28



84522_2002TC302_2021Nov11

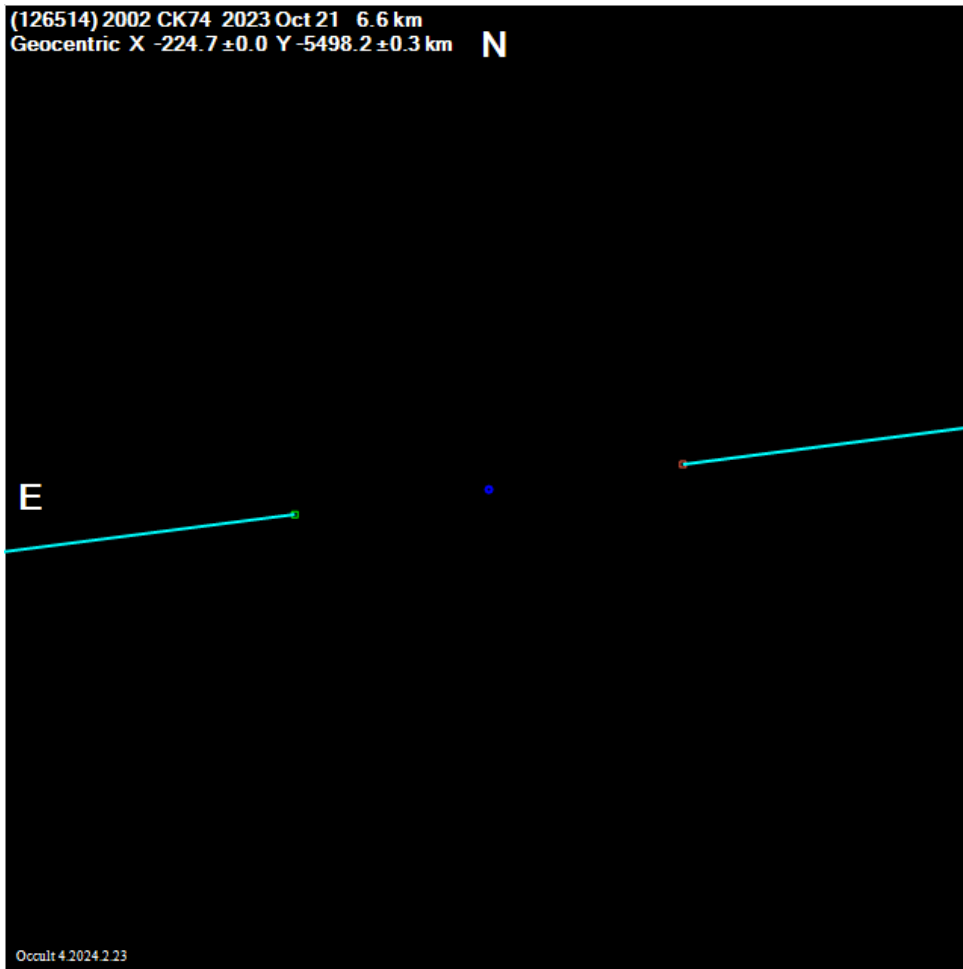


84922_2003VS2_2019Oct22



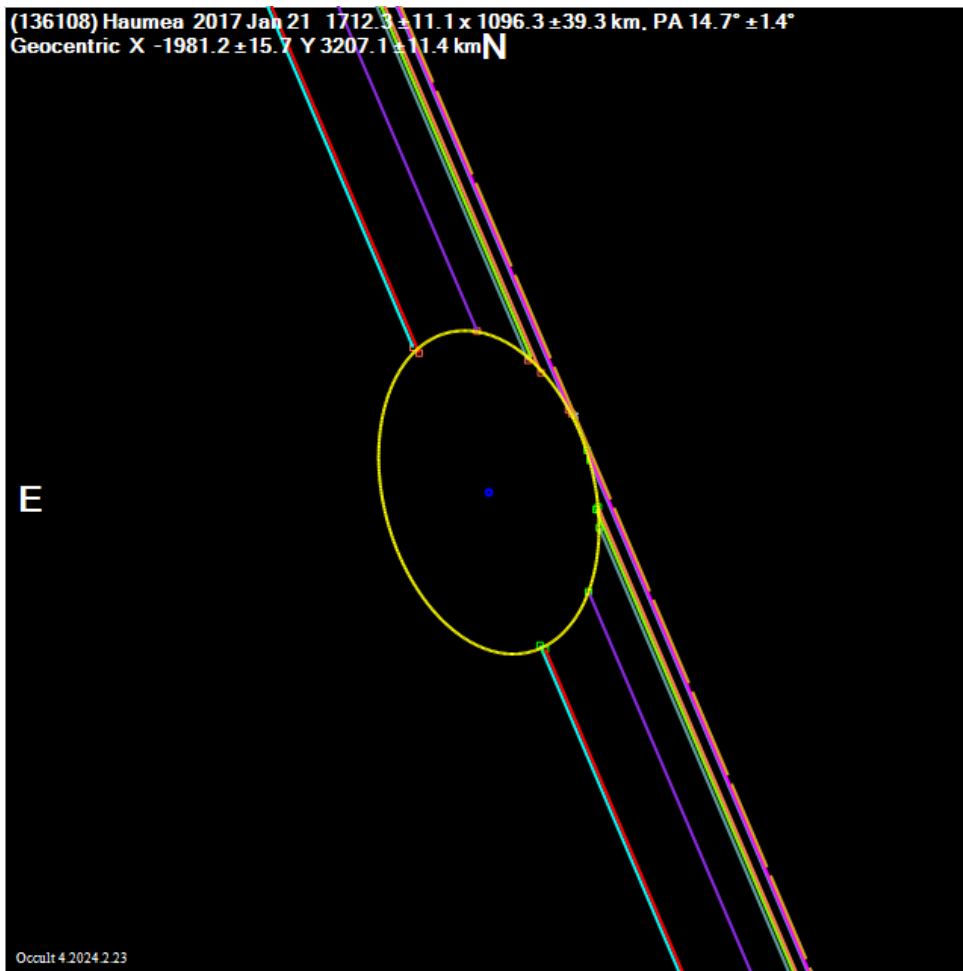
126514_2002CK74_2023Oct21

(126514) 2002 CK74 2023 Oct 21 6.6 km
Geocentric X -224.7 ± 0.0 Y -5498.2 ± 0.3 km N



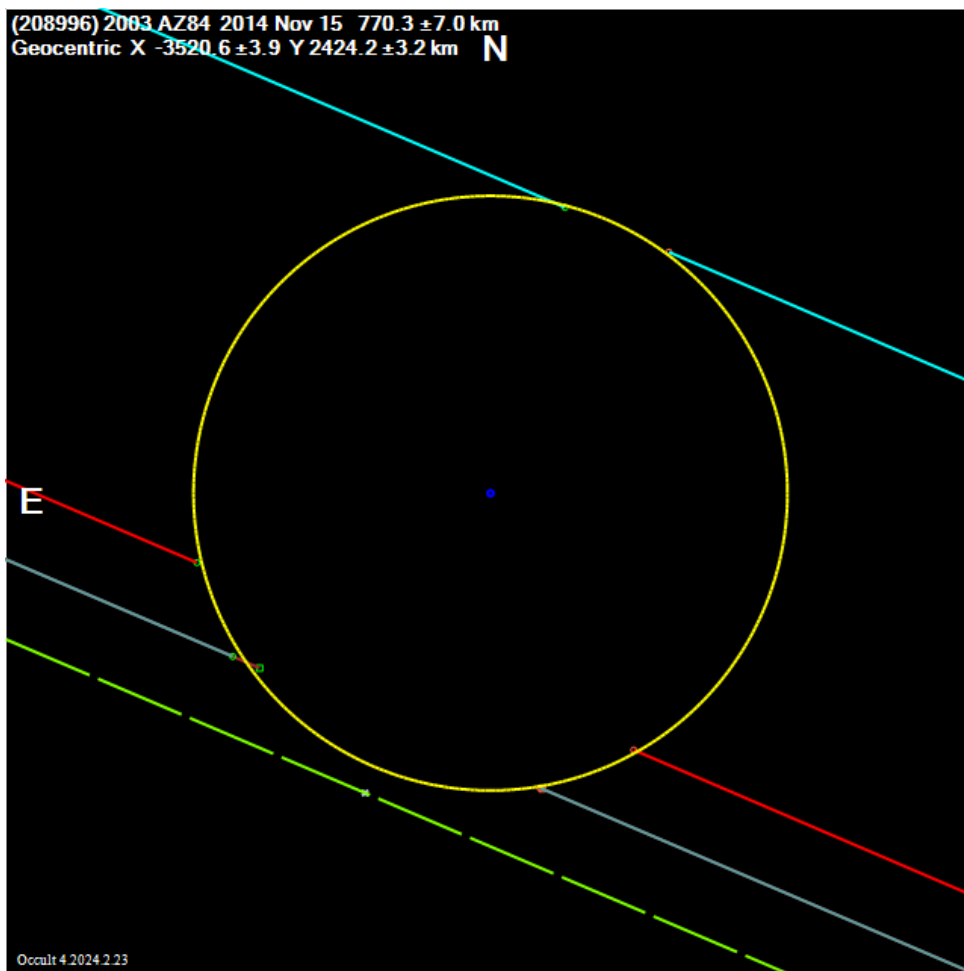
136108_Haumea_2017Jan21

(136108) Haumea 2017 Jan 21 1712.3 ± 11.1 x 1096.3 ± 39.3 km. PA 14.7° ± 1.4°
Geocentric X -1981.2 ± 15.7 Y 3207.1 ± 11.4 km



208996_2003AZ84_2014Nov15

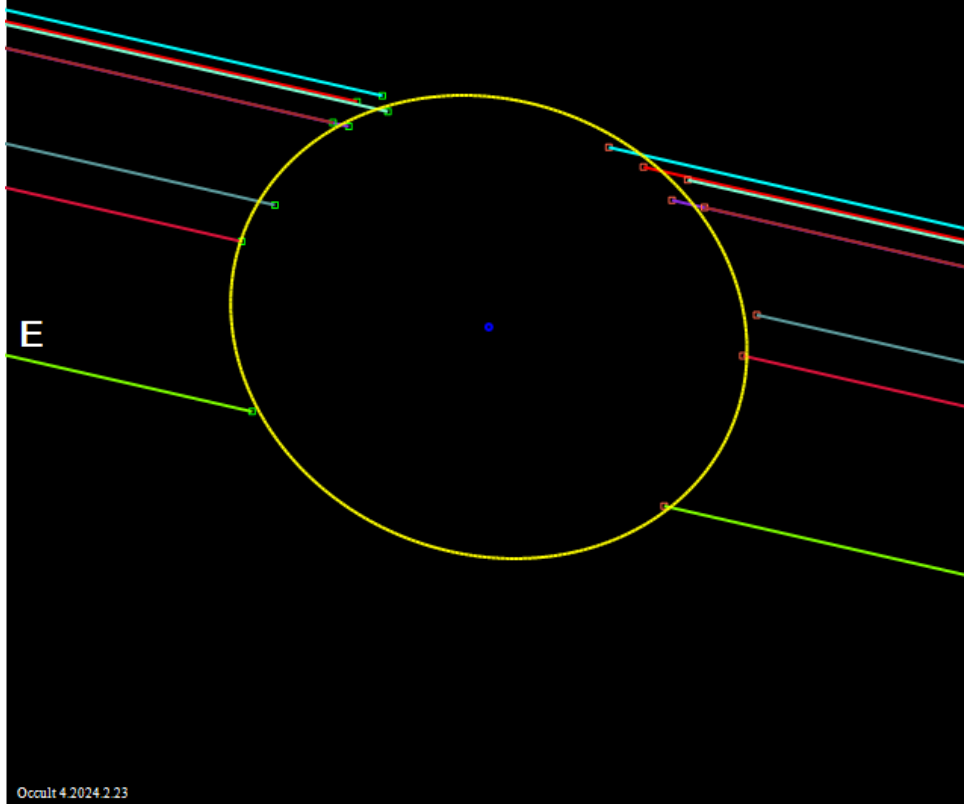
(208996) 2003 AZ84 2014 Nov 15 770.3 ± 7.0 km
Geocentric X -3520.6 ± 3.9 Y 2424.2 ± 3.2 km N



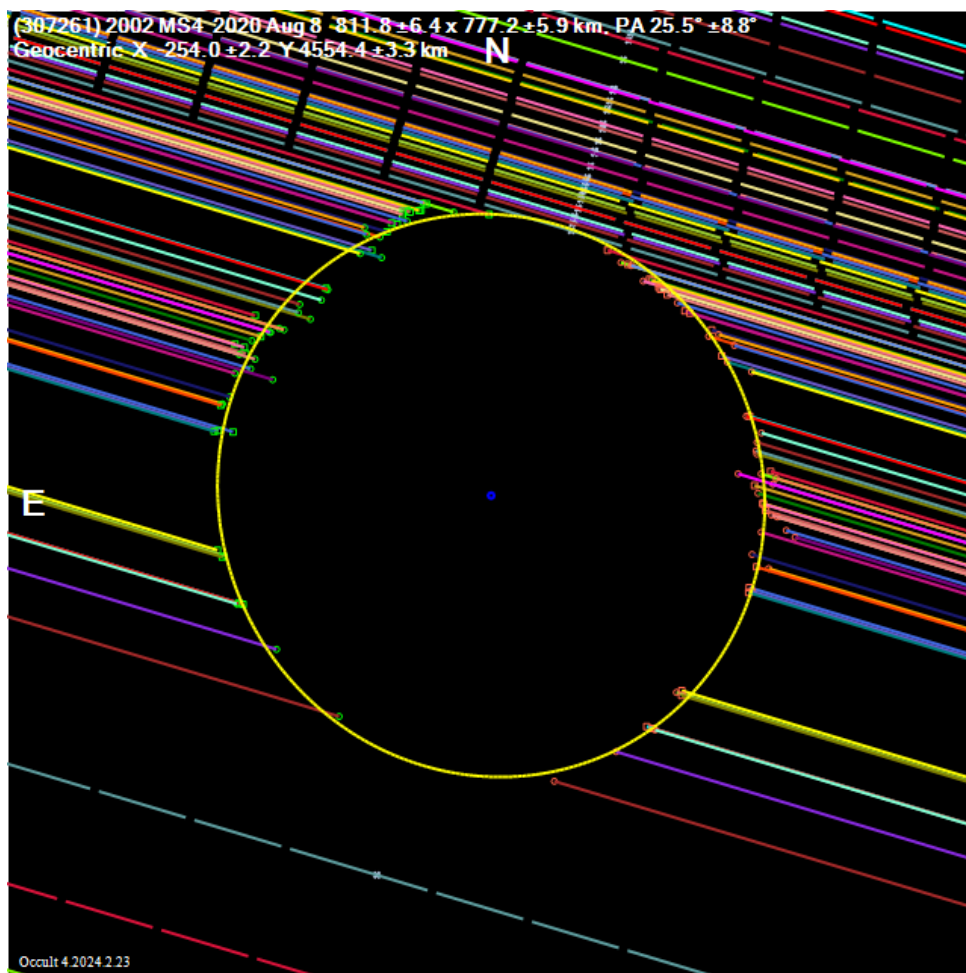
Occult 4.2024.2.23

229762_Gunhoumdima_2014Nov15

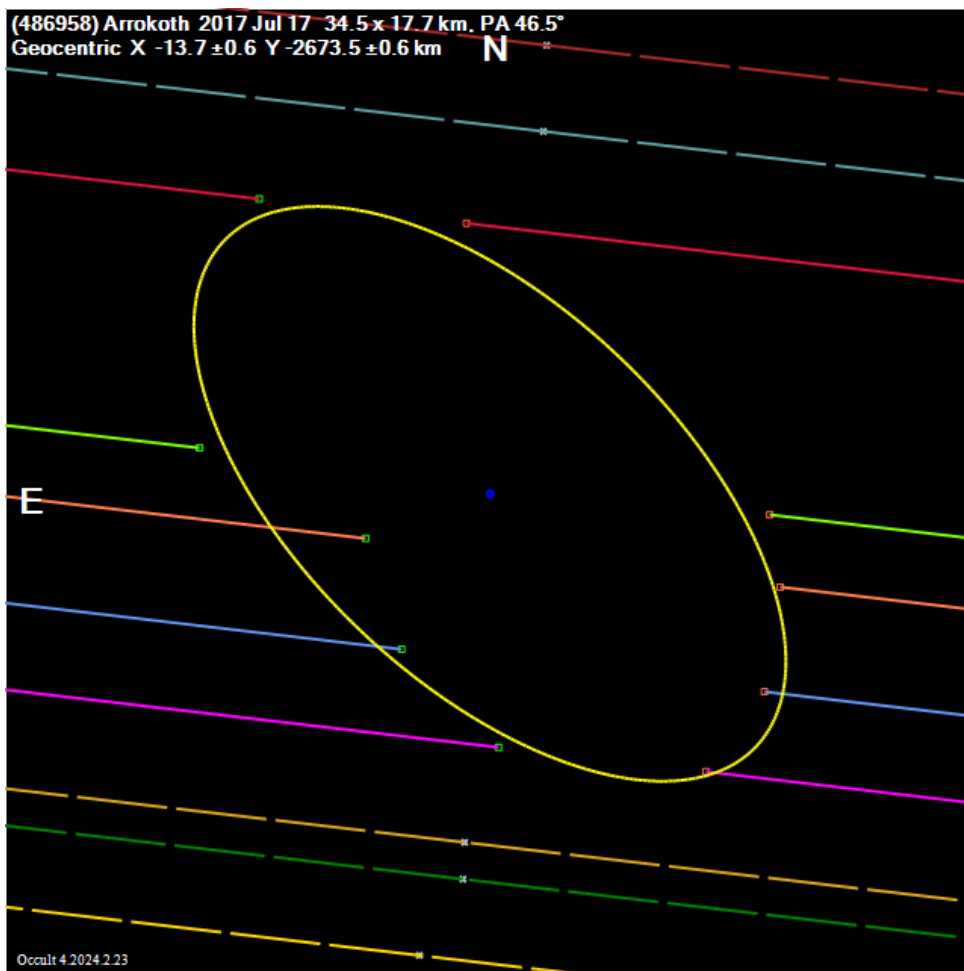
(229762) Gikun||'homdima 2014 Nov 15 655.1 ±12.0 x 564.5 ±20.2 km, PA 68.8° ±5.9°
Geocentric X 2179.0 ±5.3 Y 3880.2 ±7.4 km N



307261_2002MS4_2020Aug08

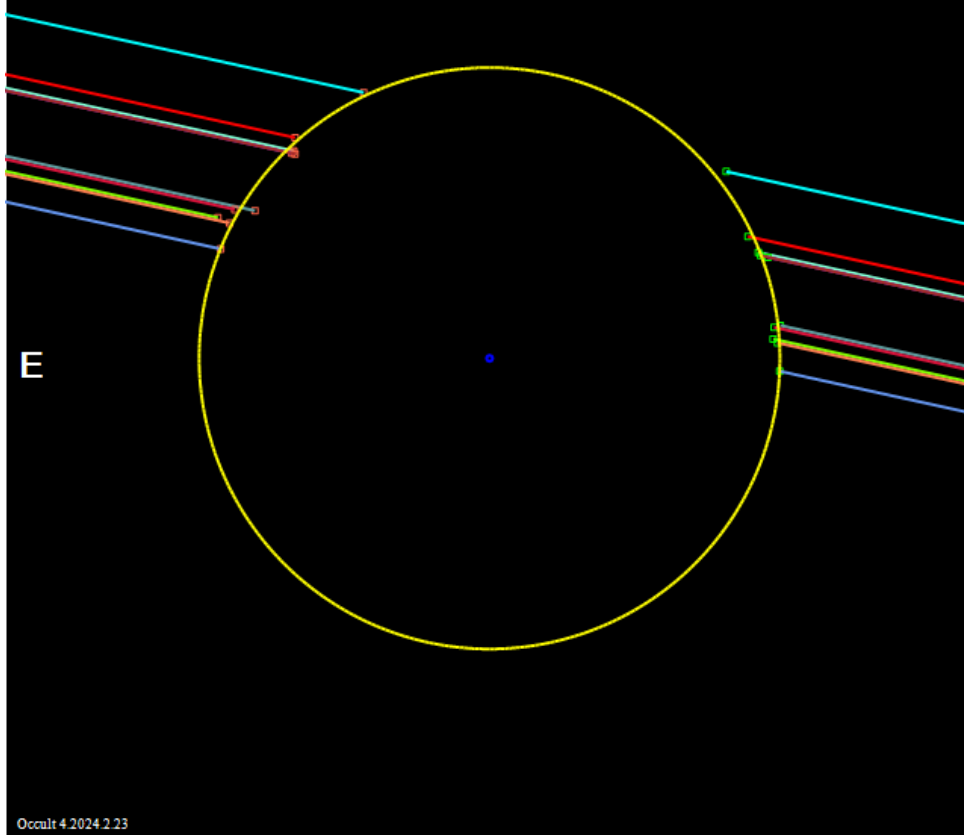


486958_Arrokoth_2017Jul17



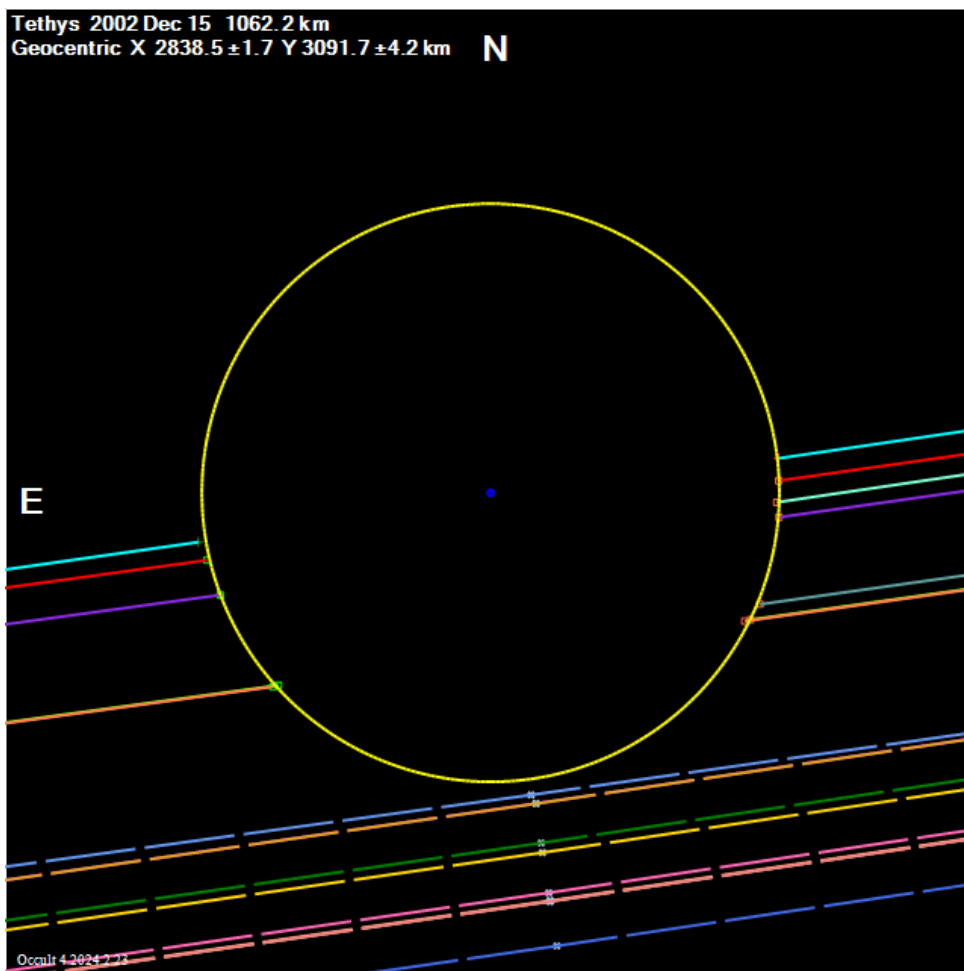
P5M03_Ganymede_2020Dec21

Ganymede 2020 Dec 21 5268.2 km
Geocentric X 4535.1 ± 15.7 Y 3197.5 ± 27.1 km **N**



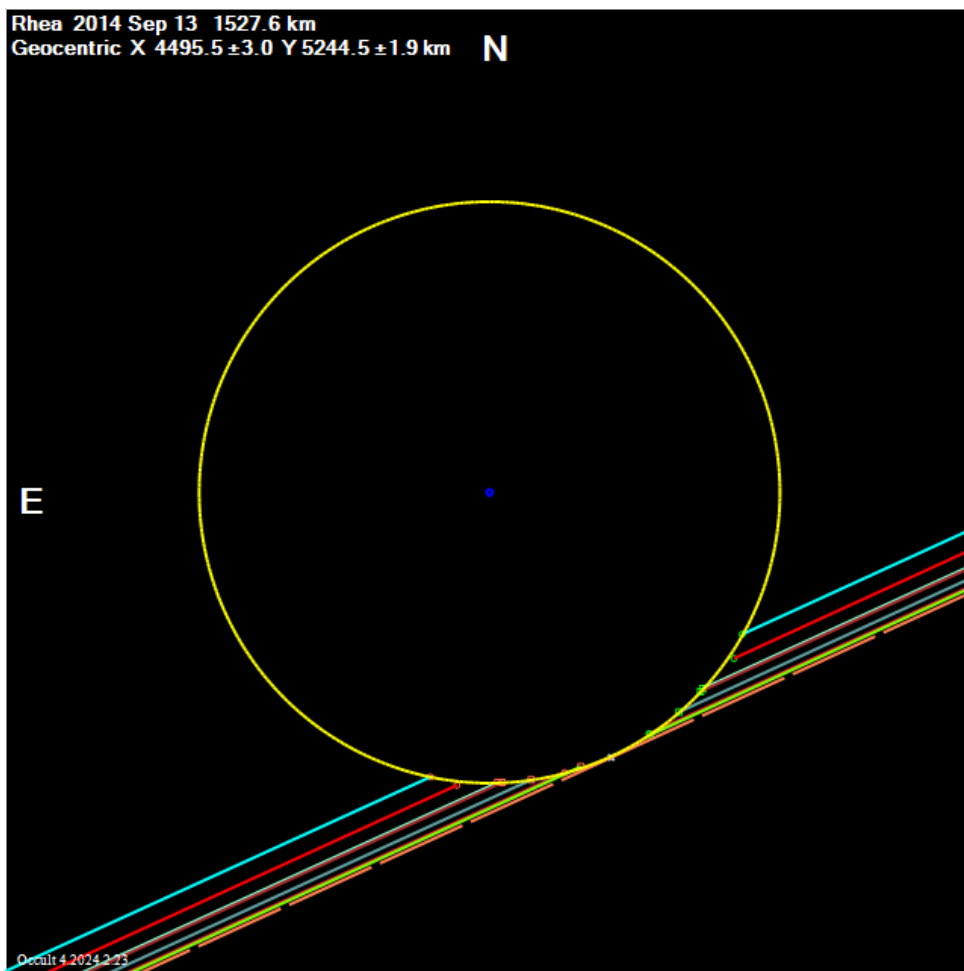
Occult 4.2024.2.23

P6M03_Tethys_2002Dec15

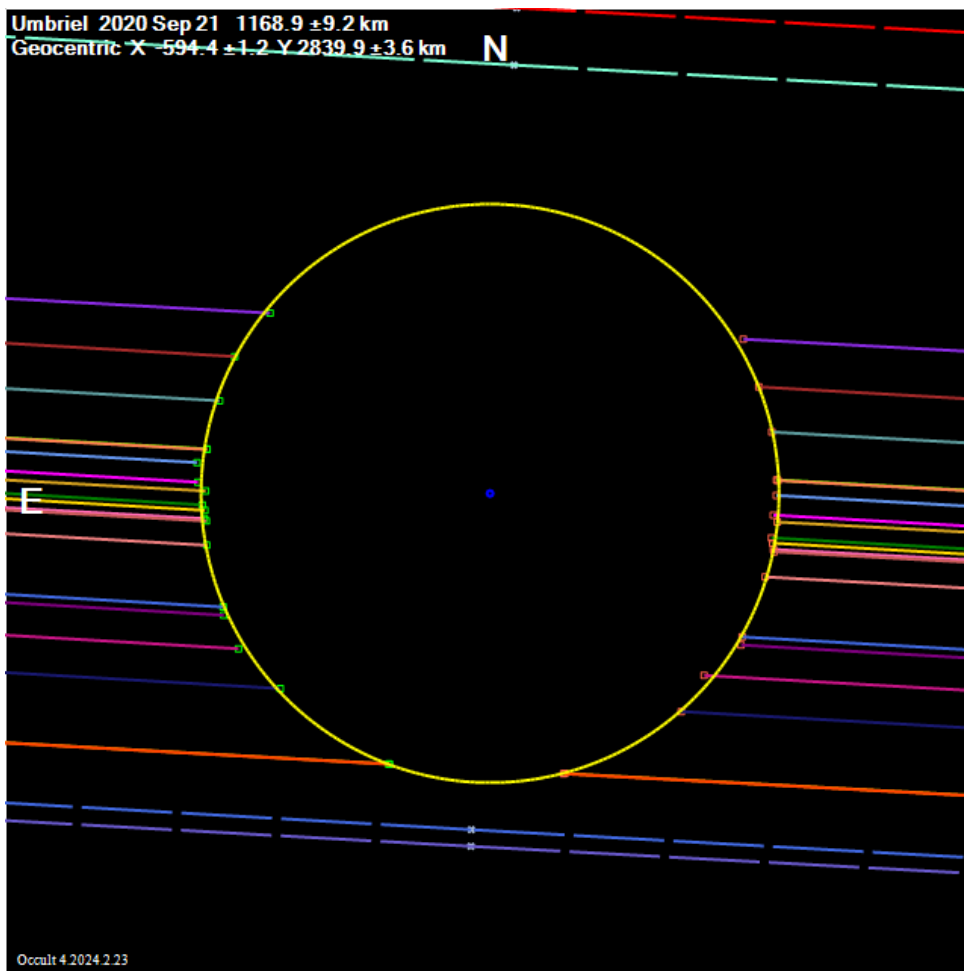


P6M05_Rhea_2014Sep13

Rhea 2014 Sep 13 1527.6 km
Geocentric X 4495.5 ± 3.0 Y 5244.5 ± 1.9 km N

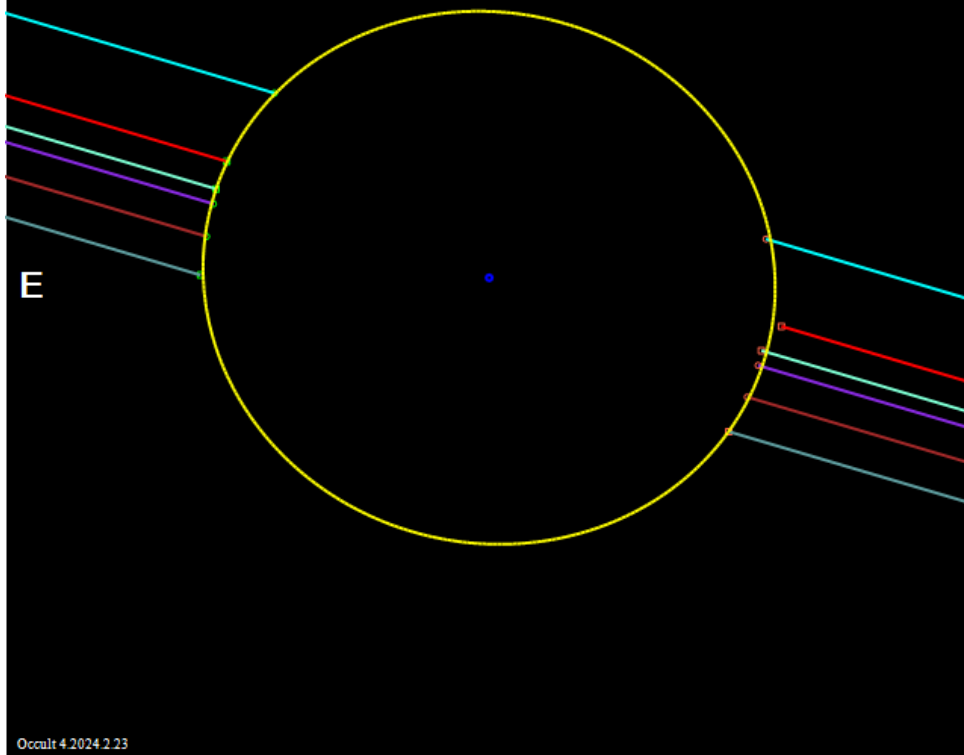


P7M02_Umbriel_2020Sep21



P7M03_Titania_2022Dec10

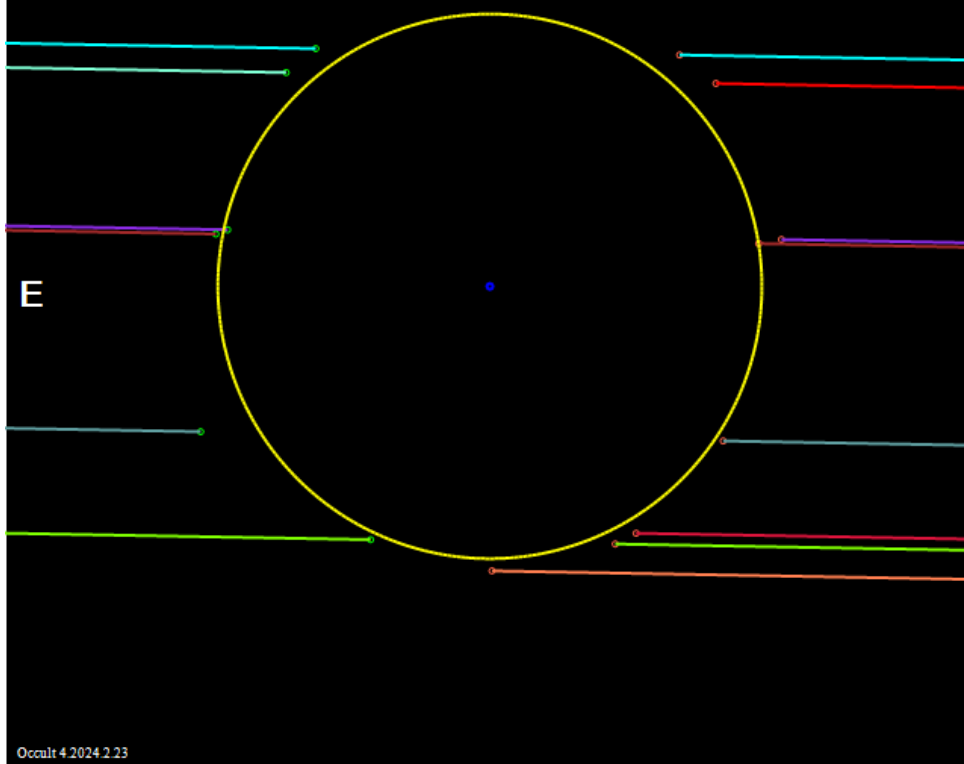
Titania 2022 Dec 10 1591.7 \pm 7.7 x 1468.6 \pm 88.8 km. PA 76.6° \pm 6.9°
Geocentric X 636.7 \pm 4.8 Y 2980.2 \pm 12.6 km **N**



Occult 4.2024.2.23

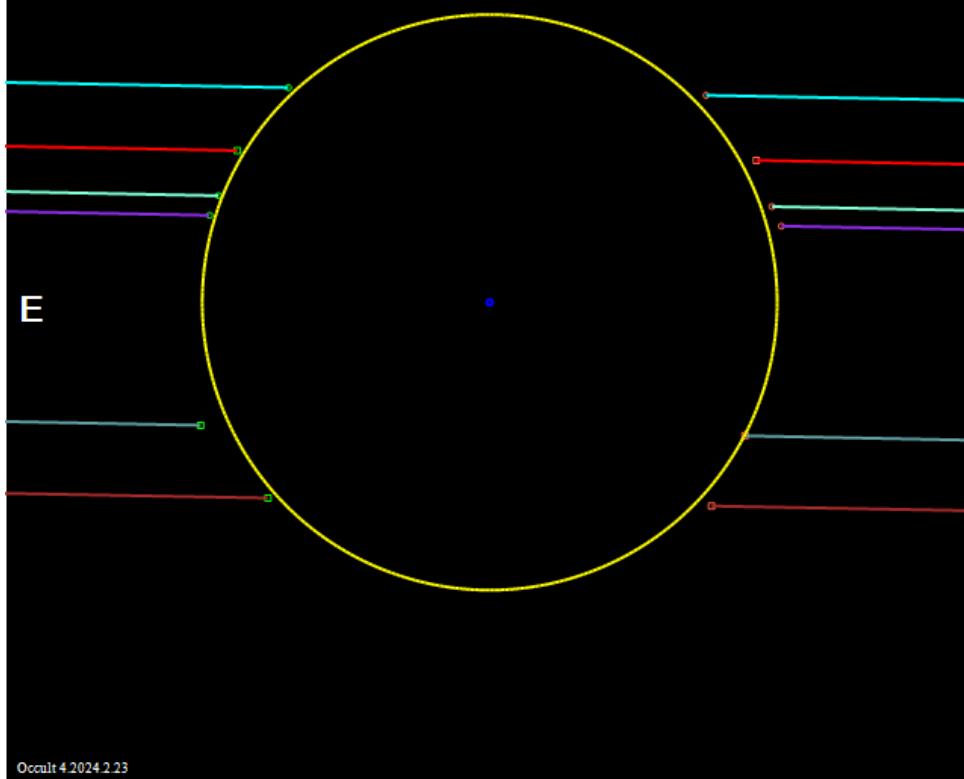
P9M00_Pluto_1988Jun09

Pluto 1988 Jun 9 2376.0 km
Geocentric X -206.3 ± 21.5 Y -3241.3 ± 24.2 km **N**



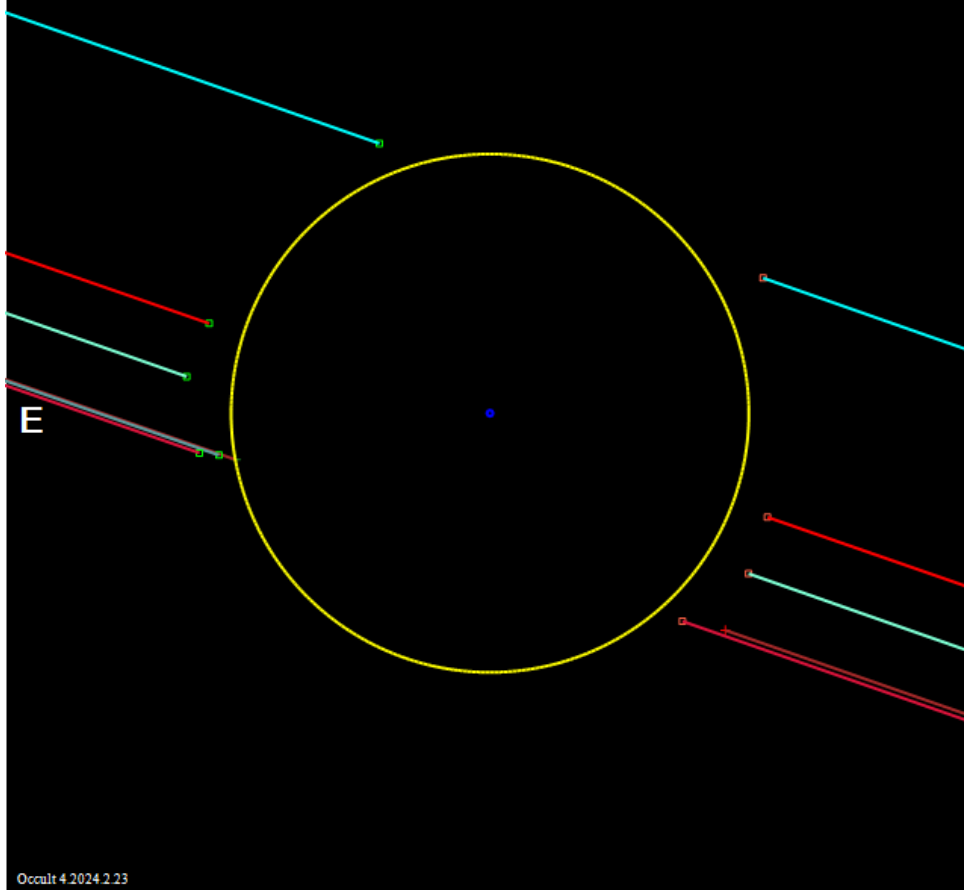
P9M00_Pluto_2006Jun12

Pluto 2006 Jun 12 2376.0 km
Geocentric X 2808.7 ± 9.0 Y -2501.6 ± 14.8 km **N**



P9M00_Pluto_2012Aug26

Pluto 2012 Aug 26 2382.0 km
Geocentric X 446.1 ±27.1 Y -1150.1 ±47.9 km **N**



P9M01_Charon_2005Jul11

