

2024 Best World Asteroidal Events

Steve Preston

Jul 15, 2023

BEST Worldwide Asteroidal Occultations in 2024

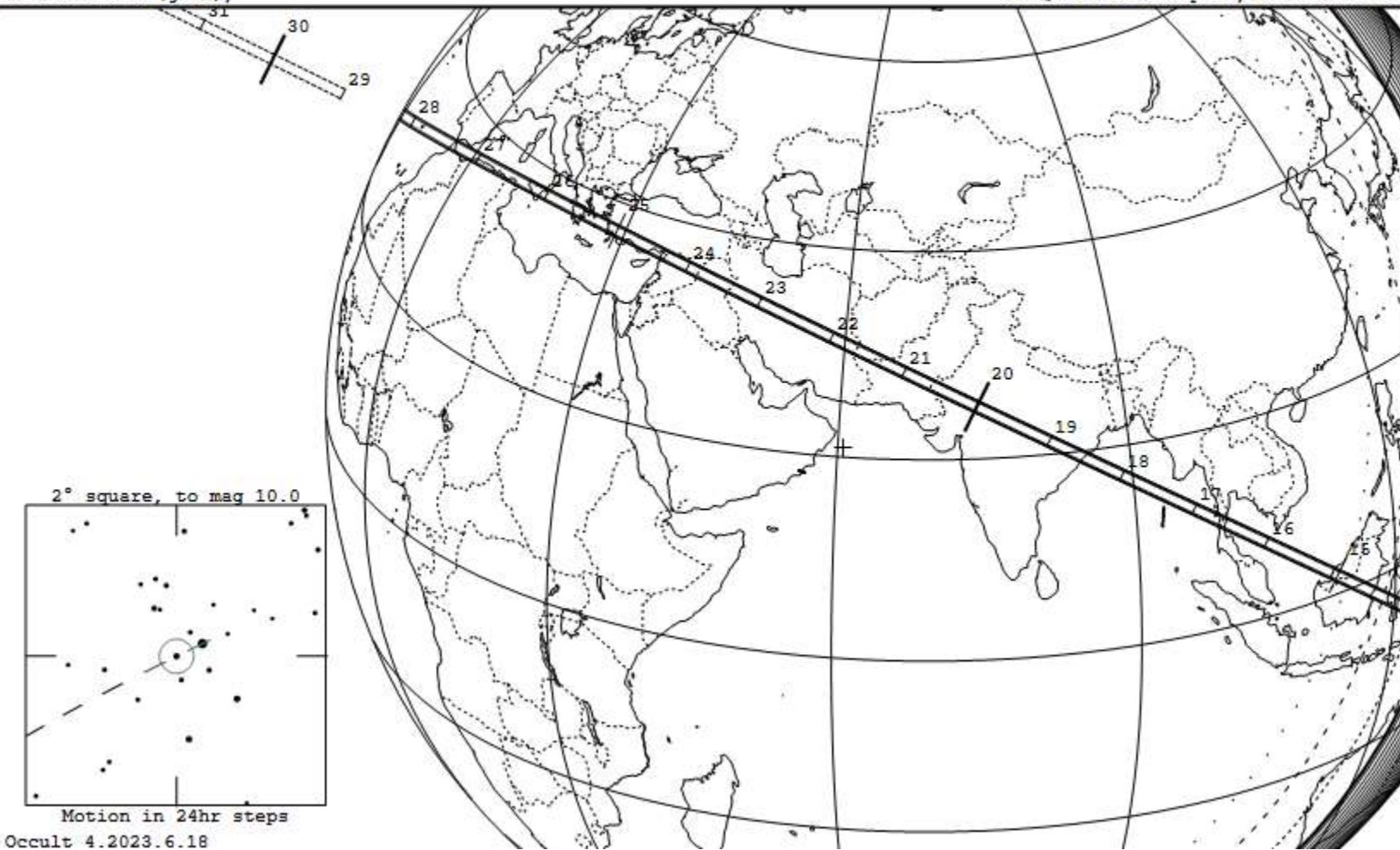
Date			U.T.		Diameter		Durn	Star	Mag-Drop			Elon %	Star	d Rely	Planet
y	m	d	h	m	km	"	sec/m	mag	V	R	*	o Ill	No.	<1.4	No Name
2024	Jan	14	21	20.5	107	0.053	7.8s	8.4	6.3	6.5	155		UCAC4 575-045066	s 0.85	769 Tatjana
2024	Jan	23	20	47.3	47	0.037	4.4s	9.0	5.7	5.6	159		TYC 749-02378-1	s 1.05	1596 Itzigsohn
2024	Jan	29	17	8.8	98	0.082	7.7s	7.4	3.5	3.8	165		HIP 48168	s 0.90	192 Nausikaa
2024	Feb	18	10	40.5	76	0.066	6.9s	9.3	4.2	4.0	148		HIP 39166	s 0.95	329 Svea
2024	Feb	26	11	15.6	70	0.039	7.5s	9.3	5.7	5.9	127		TYC 5394-03232-1	s 0.90	1264 Letaba
2024	Mar	12	11	38.0	262	0.089	11.0s	9.3	4.6	5.0	70		TYC 1254-00052-1	s 1.00	65 Cybele
2024	Apr	12	19	19.7	185	0.116	33.5s	9.1	3.3	3.2	117		HIP 46036	s 0.95	372 Palma
2024	Apr	16	17	56.6	105	0.062	14.0s	9.2	4.6	5.0	111		TYC 7901-00898-1	s 0.90	134 Sophrosyne
2024	Jun	10	12	40.4	25	0.021	3.7s	7.0	7.0	8.1	171		HIP 87668	d 0.85	974 Lioba
2024	Jun	21	17	35.7	105	0.078	8.3s	8.7	4.1	4.5	162		UCAC4 246-138447	s 0.75	134 Sophrosyne
2024	Jul	1	9	33.7	272	0.114	8.1s	9.4	3.4	3.6	61		TYC 1433-00802-1	s 1.15	31 Euphrosyne
2024	Aug	22	19	50.6	82	0.053	6.3s	9.5	4.5	4.4	167		TYC 6954-01387-1	s 1.10	348 May
2024	Sep	10	15	4.2	208	0.108	22.6s	8.9	3.8	3.9	143		TYC 32-00518-1	s 0.95	107 Camilla
2024	Sep	23	9	44.7	147	0.077	6.6s	9.4	2.6	2.8	80		TYC 1342-00182-1	s 0.90	14 Irene
2024	Nov	30	12	41.6	50	0.034	4.2s	9.4	5.5	5.5	161		TYC 1228-01518-1	s 0.95	395 Delia
2024	Nov	30	16	10.3	94	0.071	4.0s	9.3	3.9	3.9	82		TYC 4914-00733-1	s 0.90	313 Chaldaea
2024	Dec	21	11	56.1	33	0.030	3.2s	9.0	5.8	5.8	169		TYC 1329-00100-1	v 0.95	1502 Arenda

769 Tatjana occults UCAC4 575-045066 on 2024 Jan 14 from 21h 13m to 21h 28m UT

Star: (Dia = 0.1 mas)
 Mv 8.4; Mb 8.8; Mr 7.7
 RA = 9 31 51.6202 (astrometric)
 Dec = 24 57 48.656
 [of Date: 9 33 16, 24 51 22]
 Prediction of 2023 Jun 7.2
 Reliable 0.9 (good),

Durations: Max = 7.8 secs
 1km = 0.073 secs, 1mas = 0.15 secs
 Mag Drop: 6.3 [100%]v, 6.5 [100%]r
 Sun : Dist = 155°
 Moon: Dist = 156°, illum = 16%
 Error 20.0 x 5.0 mas in PA 110°

Asteroid: (in DAMIT)
 Mag = 14.6
 Dia = 107 ±5km, 53 mas
 Parallax = 3.146"
 Hourly dRA = -1.616s
 dDec = 10.83"
 JPL#62INTG:2023Apr24, Known errors



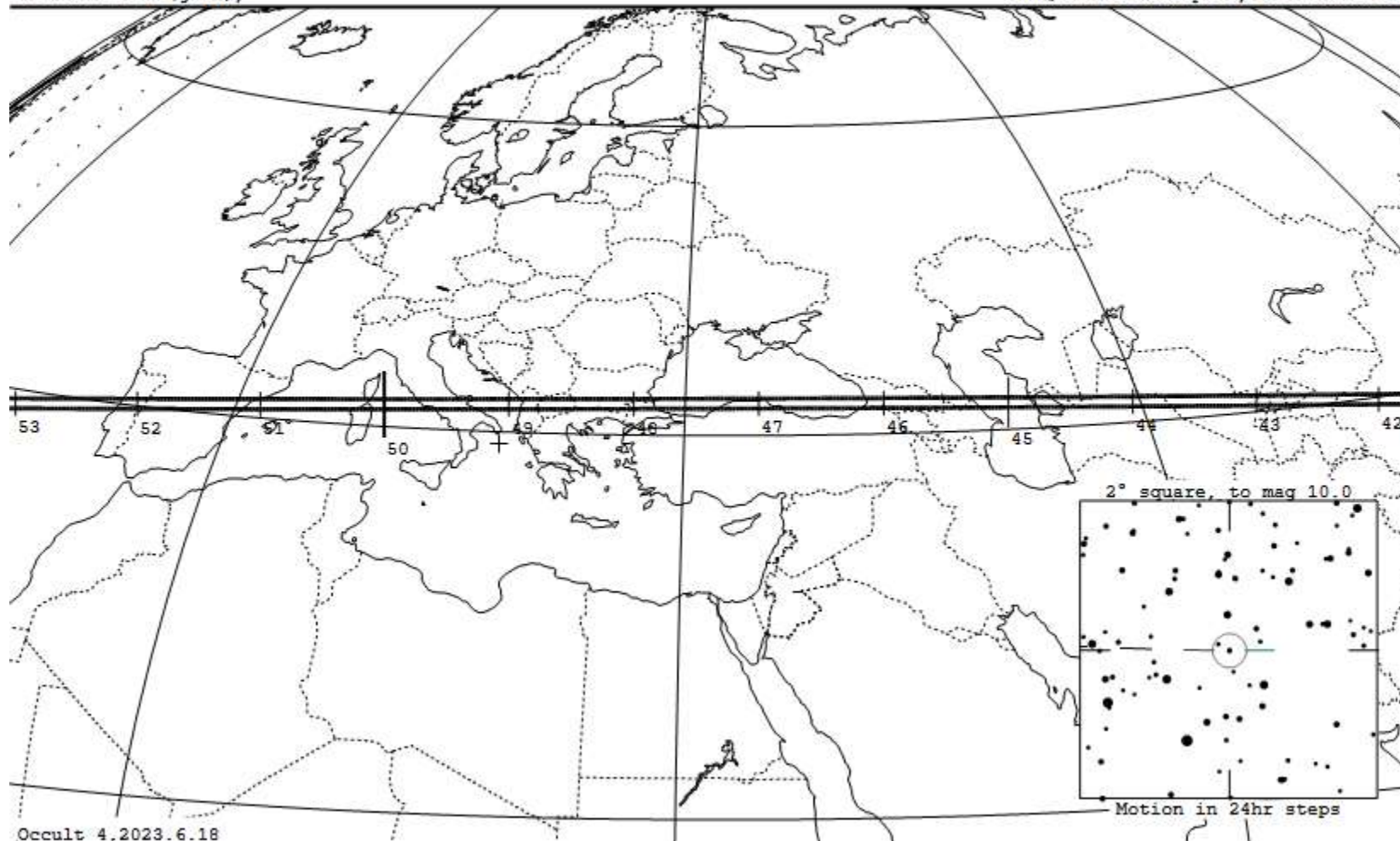
Occult 4.2023.6.18

1596 Itzigsohn occults TYC 749-02378-1 on 2024 Jan 23 from 20h 39m to 20h 56m UT

Star: (Dia = 0.1 mas)
Mv 9.0; Mb 9.2; Mr 8.6
RA = 7 6 40.5917 (astrometric)
Dec = 8 4 22.039
[of Date: 7 8 0, 8 2 7]
Prediction of 2023 Jun 7.2
Reliable 1.1 (good),

Durations: Max = 4.4 secs
1km = 0.093 secs, 1mas = 0.12 secs
Mag Drop: 5.7 [99%]v, 5.6 [99%]r
Sun : Dist = 159°
Moon: Dist = 20°, illum = 96%
Error 25.0 x 3.0 mas in PA 108°

Asteroid:
Mag = 14.7
Dia = 47 ±2km, 37 mas
Parallax = 5.013"
Hourly dRA = -2.051s
dDec = -0.10"
JPL#57INTG:2023Apr24, Known errors



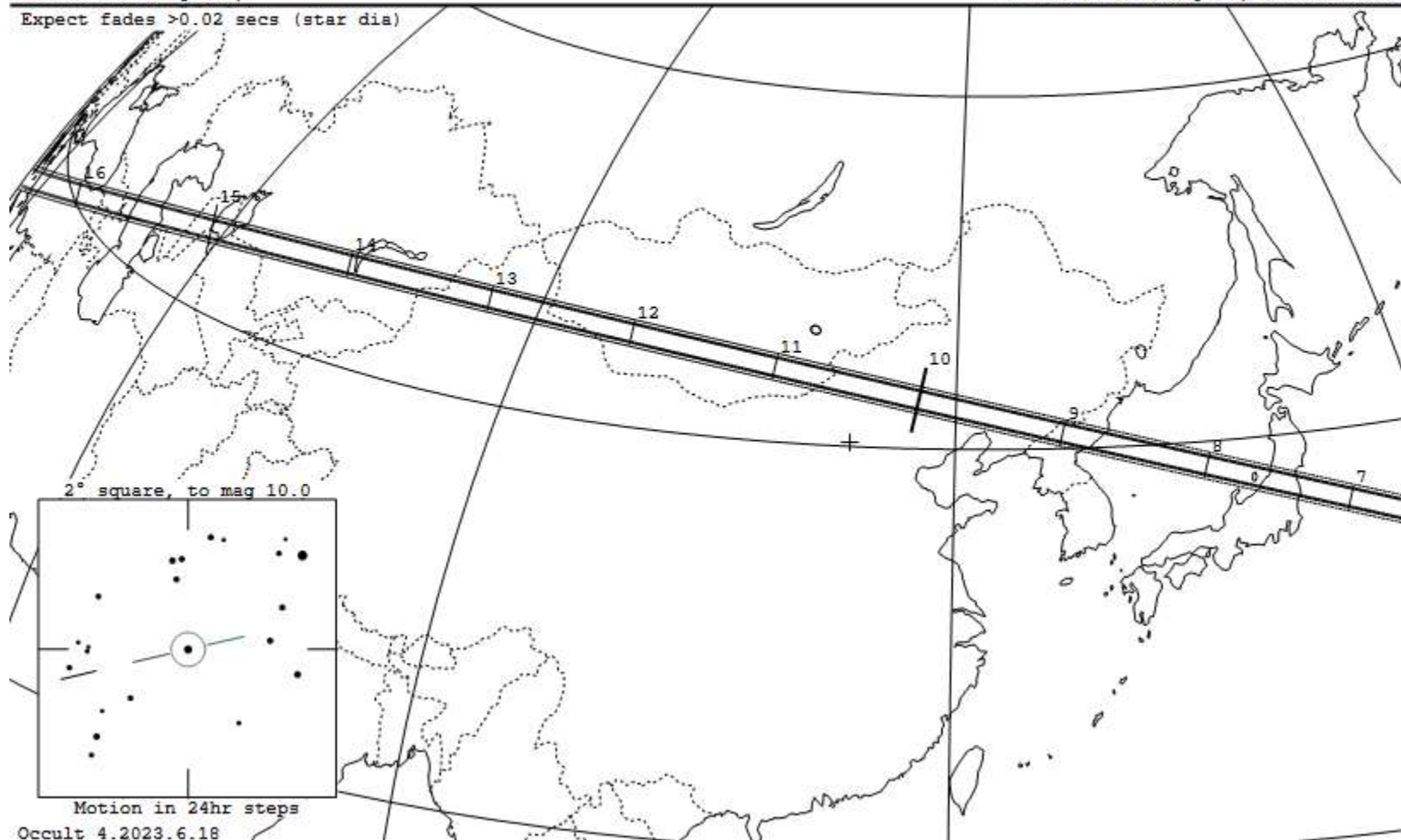
192 Nausikaa occults HIP 48168 on 2024 Jan 29 from 17h 1m to 17h 17m UT

Star: (Dia = 0.2 mas)
 Mv 7.4; Mb 8.0; Mr 6.7
 RA = 9 49 5.4007 (astrometric)
 Dec = 18 3 28.330
 [of Data: 9 50 26, 17 56 40]
 Prediction of 2023 Jun 7.2
 Reliable 0.9 (good),

Durations: Max = 7.7 secs
 lkm = 0.078 secs, lmas = 0.094 secs
 Mag Drop: 3.5 [96%]v, 3.8 [97%]r
 Sun : Dist = 165°
 Moon: Dist = 29°, illum = 86%
 Error 22.0 x 18.0 mas in PA 121°

Asteroid: (in DAMIT)
 Mag = 10.9
 Dia = 98 ±5km, 82 mas
 Parallax = 5.313"
 Hourly dRA = -2.614s
 dDec = 8.71"
 JPL#122INTG:2023Apr27, Known errors

Expect fades >0.02 secs (star dia)

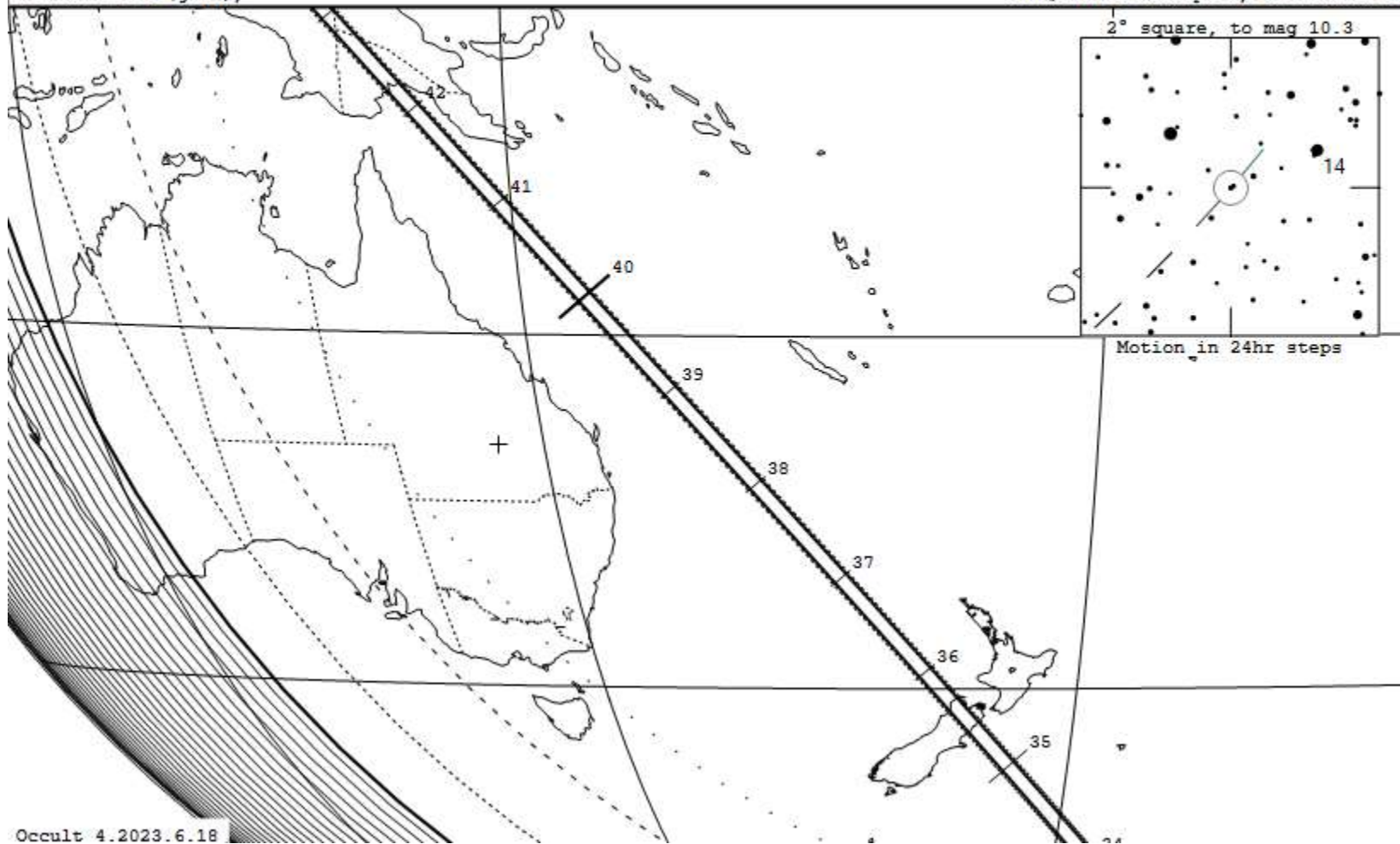


329 Svea occults HIP 39166 on 2024 Feb 18 from 10h 32m to 10h 49m UT

Star: (Dia = 0.1 mas)
 Mv 9.3; Mb 9.4; Mr 8.9
 RA = 8 0 39.2510 (astrometric)
 Dec = 1 58 25.886
 [of Date: 8 1 55, 1 54 23]
 Prediction of 2023 Jun 7.0
 Reliable 1.0 (good),

Durations: Max = 6.9 secs
 1km = 0.091 secs, 1mas = 0.11 secs
 Mag Drop: 4.2 [98%]v, 4.0 [98%]r
 Sun : Dist = 148°
 Moon: Dist = 47°, illum = 69%
 Error 14.0 x 5.0 mas in PA 93°

Asteroid: (in DAMIT, ISAM)
 Mag = 13.4
 Dia = 76 ±4km, 66 mas
 Parallax = 5.501"
 Hourly dRA = -1.490s
 dDec = 25.88"
 JPL#81INTG:2023Apr27, Known errors

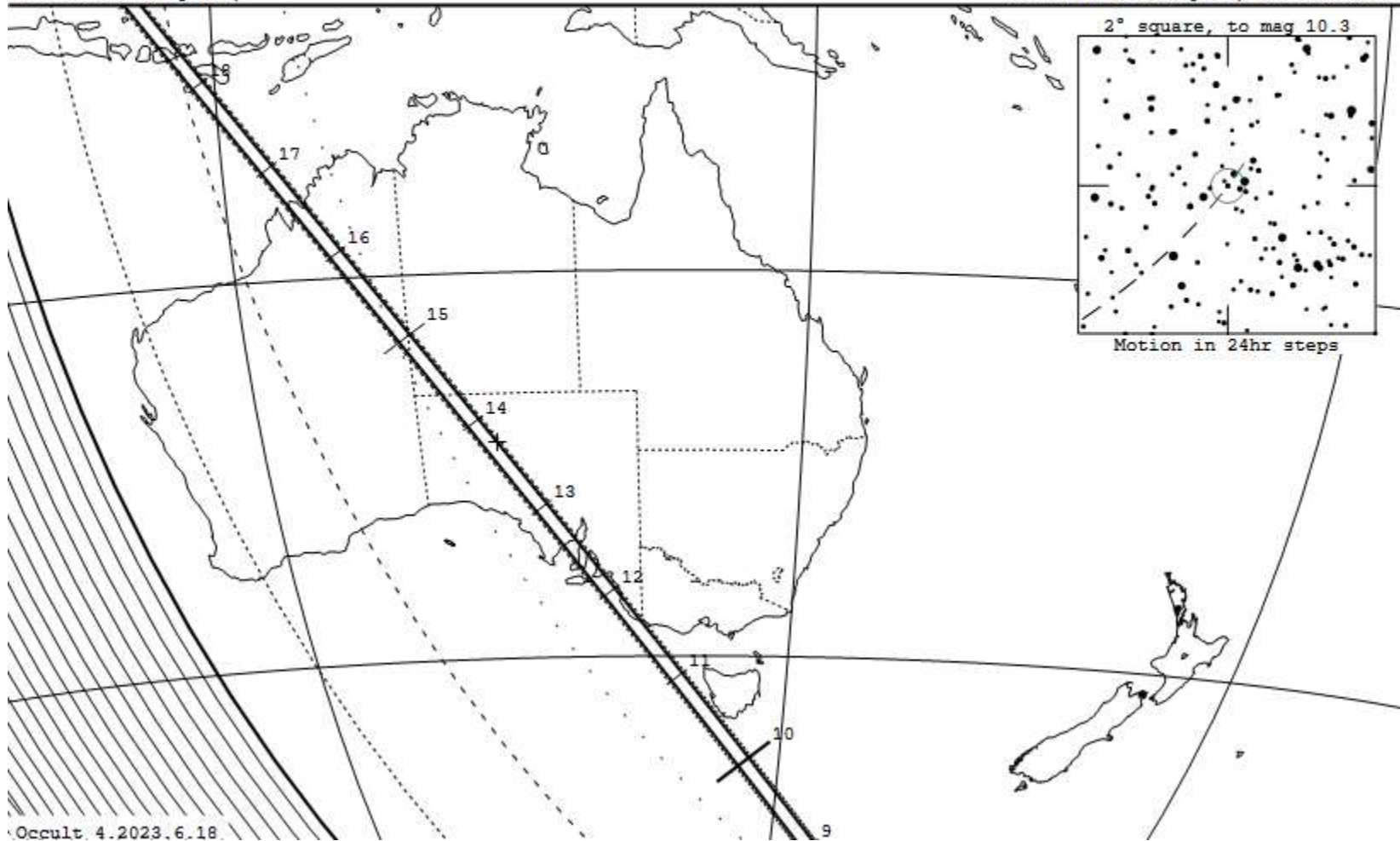


1264 Letaba occults TYC 5394-03232-1 on 2024 Feb 26 from 11h 5m to 11h 26m UT

Star: (Dia = 0.1 mas)
 Mv 9.3; Mb 9.8; Mr 8.6
 RA = 7 12 41.0623 (astrometric)
 Dec = - 8 47 18.203
 [of Date: 7 13 51, - 8 49 51]
 Prediction of 2023 Jun 7.0
 Reliable 0.9 (good),

Durations: Max = 7.5 secs
 1km = 0.11 secs, 1mas = 0.19 secs
 Mag Drop: 5.7 [99%]v, 5.9 [100%]r
 Sun : Dist = 127°
 Moon: Dist = 71°, illum = 97%
 Error 15.0 x 4.0 mas in PA 117°

Asteroid:
 Mag = 15.0
 Dia = 70 ±4km, 39 mas
 Parallax = 3.549"
 Hourly dRA = -0.772s
 dDec = 15.05"
 JPL#64INTG:2023Apr24, Known errors



Occult 4.2023.6.18

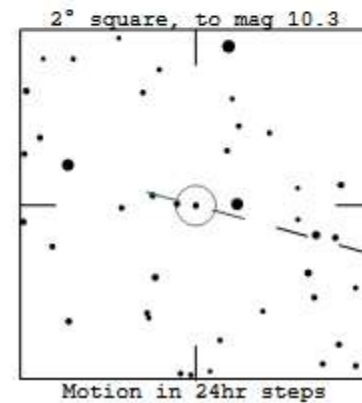
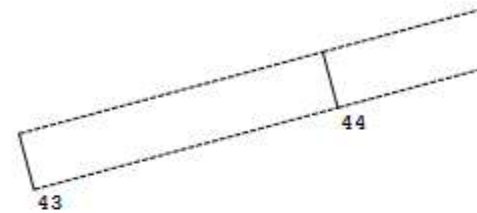
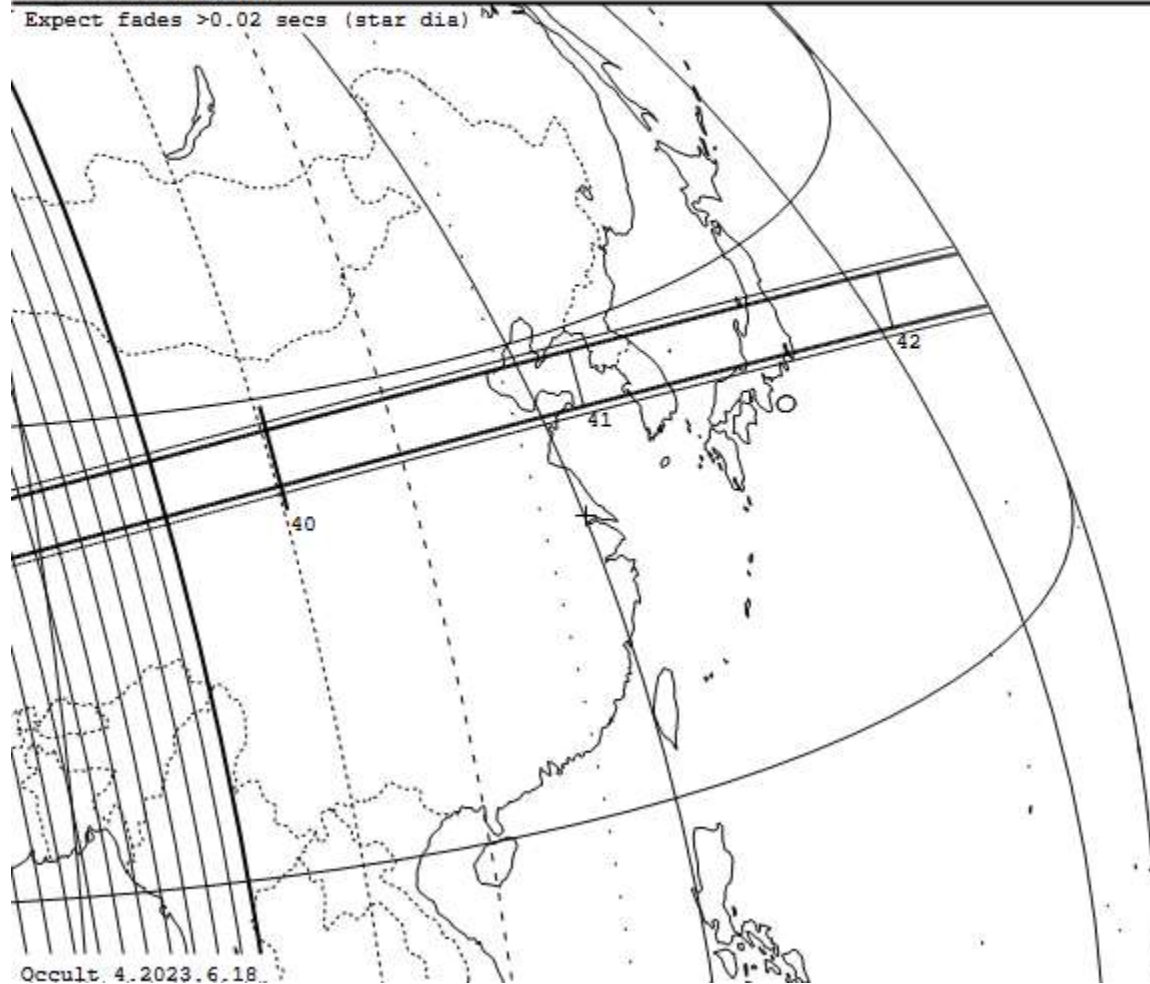
65 Cybele occults TYC 1254-00052-1 on 2024 Mar 12 from 11h 34m to 11h 42m UT

Star: (Dia = 0.2 mas)
 Mv 9.3; Mb 10.0; Mr 8.4
 RA = 4 1 36.0437 (astrometric)
 Dec = 17 17 16.435
 [of Date: 4 2 58, 17 21 20]
 Prediction of 2023 Jun 6.7
 Reliable 1.0 (good),

Durations: Max = 11.0 secs
 1km = 0.042 secs, 1mas = 0.12 secs
 Mag Drop: 4.6 [99%]v, 5.0 [99%]r
 Sun : Dist = 70°
 Moon: Dist = 40°, illum = 7%
 Error 14.0 x 12.0 mas in PA 80°

Asteroid: (in DAMIT)
 Mag = 13.8
 Dia = 262 ±17km, 89 mas
 Parallax = 2.160"
 Hourly dRA = 1.957s
 dDec = 7.54"
 JPL#104INTG:2023Apr24, Known errors

Expect fades >0.02 secs (star dia)

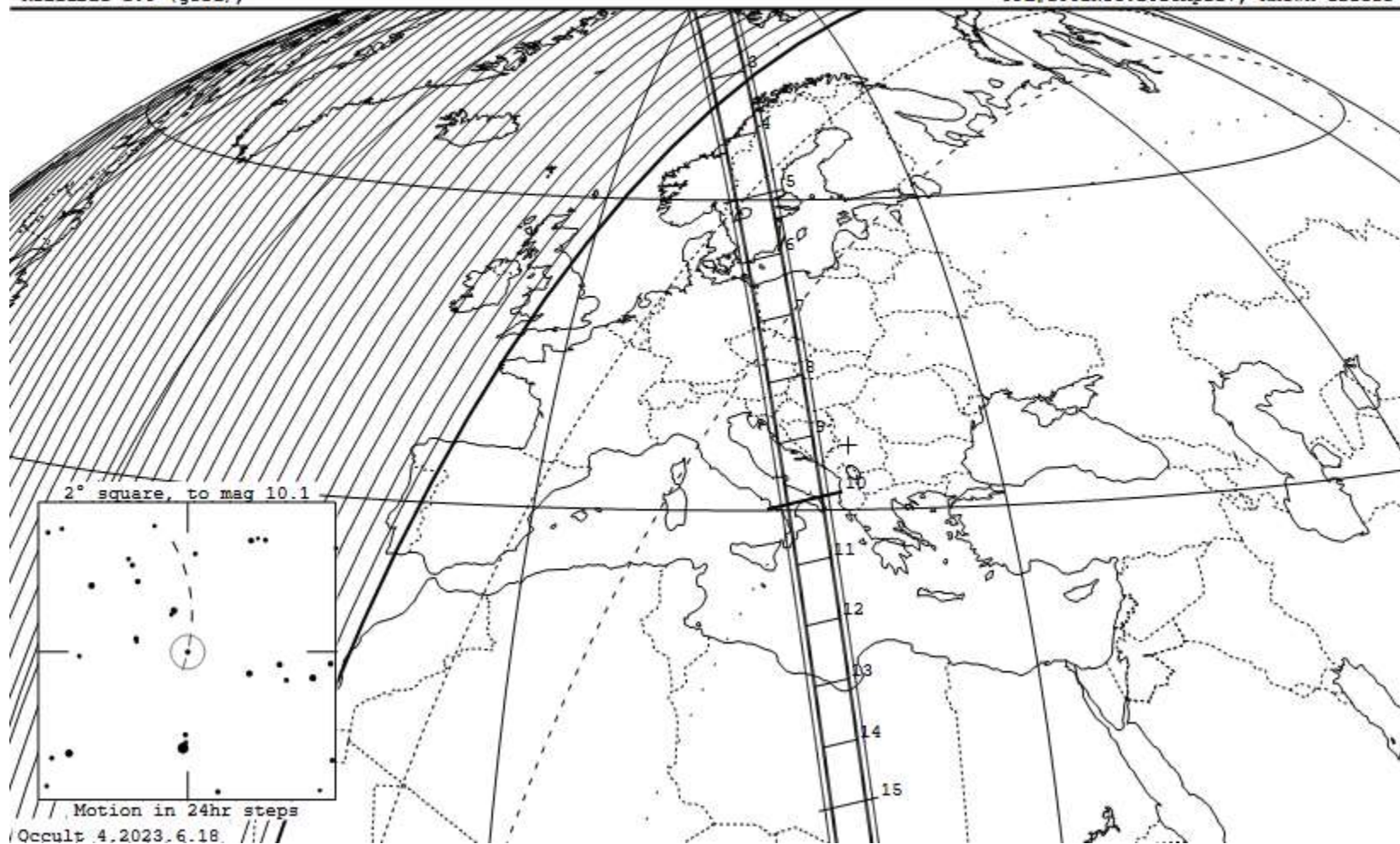


372 Palma occults HIP 46036 on 2024 Apr 12 from 19h 0m to 19h 39m UT

Star: (Dia = 0.1 mas)
 Mv 9.1; Mb 9.4; Mr 8.7
 RA = 9 23 21.9326 (astrometric)
 Dec = 8 21 22.533
 [of Date: 9 24 40, 8 15 7]
 Prediction of 2023 Jun 6.6
 Reliable 1.0 (good),

Durations: Max = 33.5 secs
 1km = 0.18 secs, 1mas = 0.29 secs
 Mag Drop: 3.3 [95%]v, 3.2 [95%]r
 Sun : Dist = 117°
 Moon: Dist = 64°, illum = 21%
 Error 28.0 x 17.0 mas in PA 136°

Asteroid: (in DAMIT)
 Mag = 12.3
 Dia = 185 ±10km, 116 mas
 Parallax = 3.994"
 Hourly dRA = 0.194s
 dDec = -12.14"
 JPL#105INTG:2023Apr27, Known errors



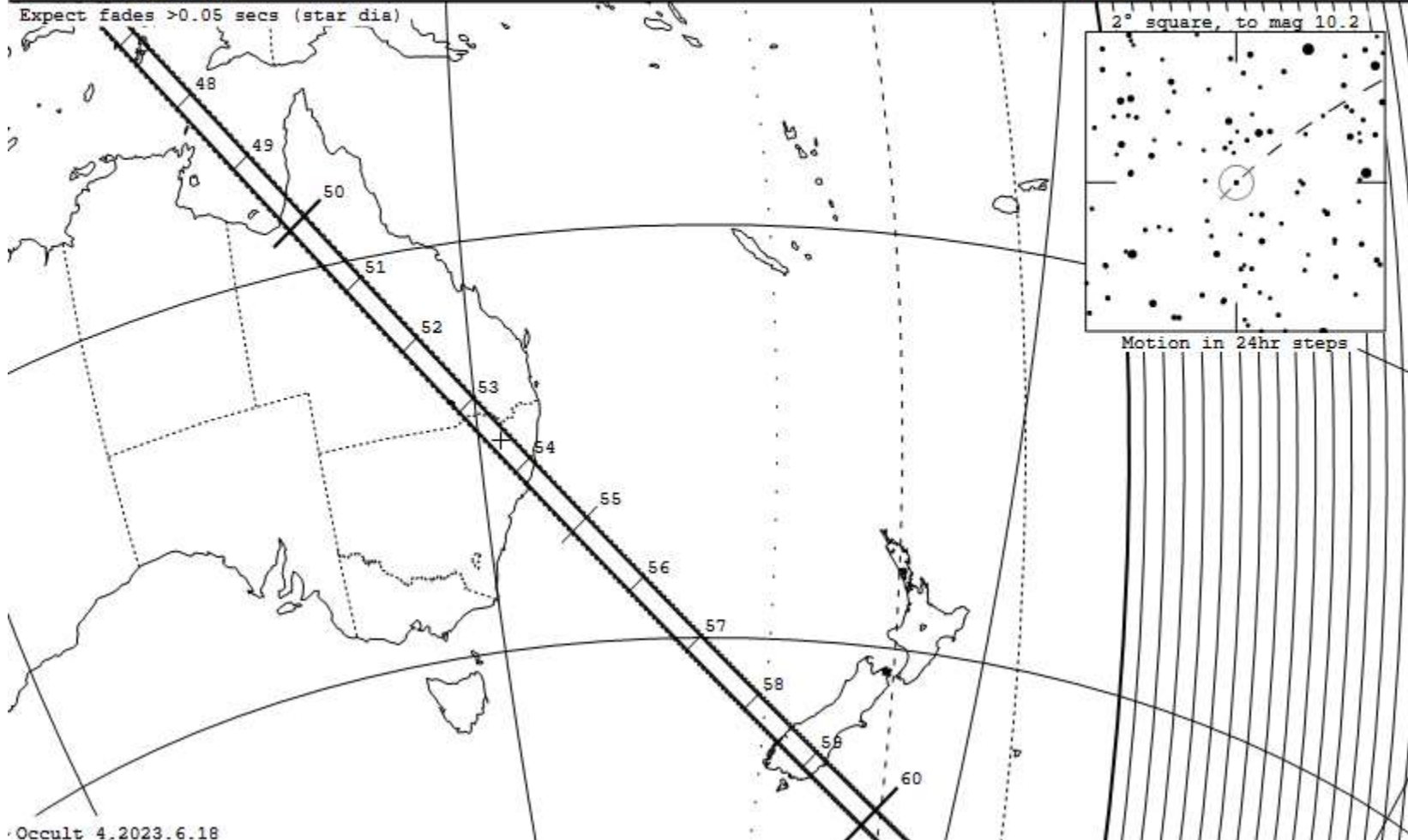
134 Sophrosyne occults TYC 7901-00898-1 on 2024 Apr 16 from 17h 42m to 18h 11m UT

Star: (Dia = 0.2 mas)
 Mv 9.2; Mb 10.0; Mr 8.3
 RA = 18 25 16.1172 (astrometric)
 Dec = -37 33 26.610
 [of Date: 18 26 56, -37 32 36]
 Prediction of 2023 Jun 6.6
 Reliable 0.9 (good),

Durations: Max = 14.0 secs
 1km = 0.13 secs, 1mas = 0.23 secs
 Mag Drop: 4.6 [99%]v, 5.0 [99%]r
 Sun : Dist = 111°
 Moon: Dist = 147°, illum = 59%
 Error 9.0 x 4.0 mas in PA 96°

Asteroid: (in DAMIT)
 Mag = 13.8
 Dia = 105 ±5km, 62 mas
 Parallax = 3.759"
 Hourly dRA = 0.963s
 dDec = -11.08"
 JPL#131INTG:2023Apr24, Known errors

Expect fades >0.05 secs (star dia)



Occult 4.2023.6.18

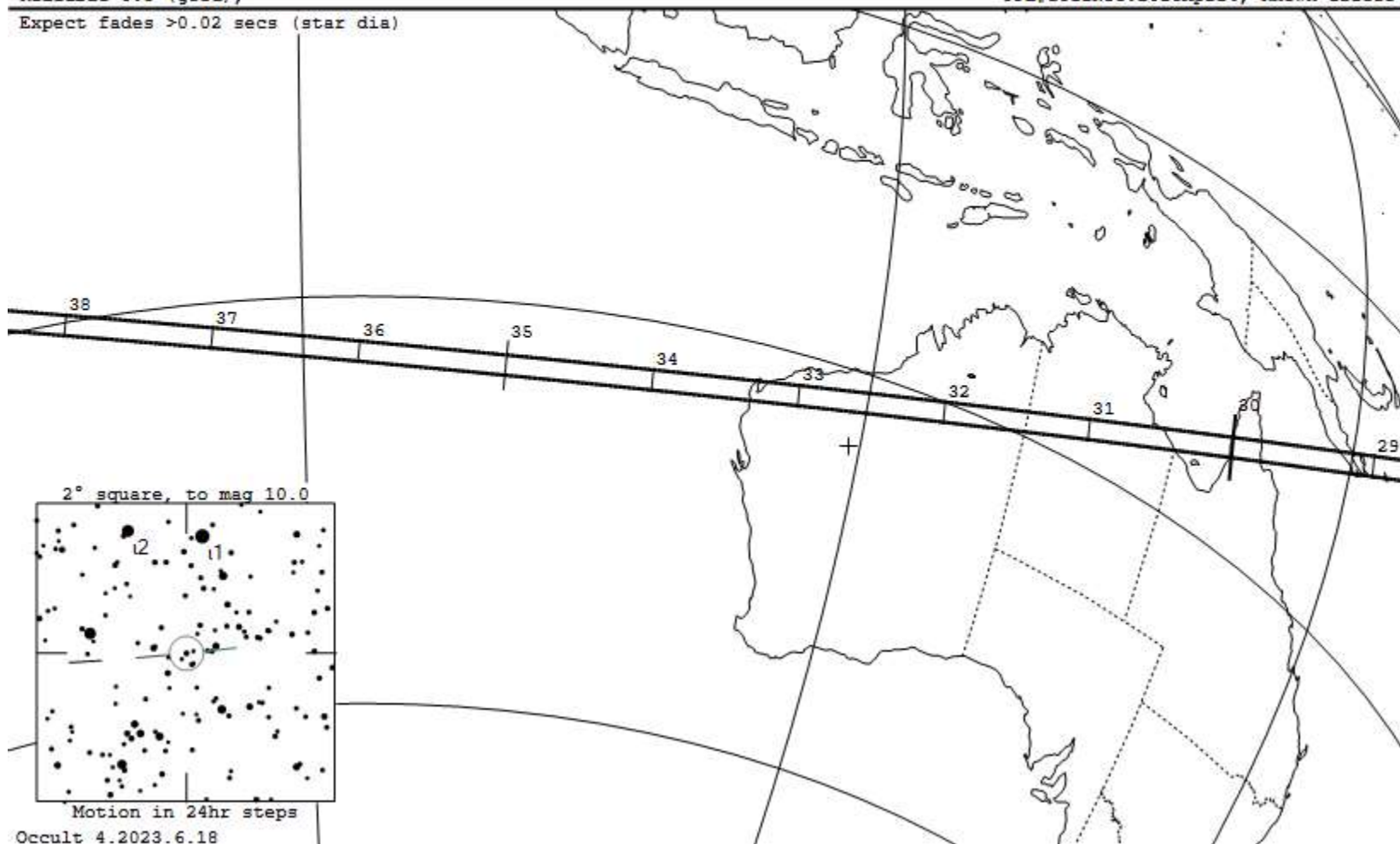
134 Sophrosyne occults UCAC4 246-138447 on 2024 Jun 21 from 17h 28m to 17h 44m UT

Star: (Dia = 0.2 mas)
 Mv 8.7; Mb 9.5; Mr 7.9
 RA = 17 48 8.5162 (astrometric)
 Dec = -40 54 29.231
 [of Date: 17 49 54, -40 55 2]
 Prediction of 2023 Jun 6.1
 Reliable 0.8 (good),

Durations: Max = 8.3 secs
 lkm = 0.079 secs, lmas = 0.11 secs
 Mag Drop: 4.1 [98%]v, 4.5 [98%]r
 Sun : Dist = 162°
 Moon: Dist = 13°, illum =100%
 Error 12.0 x 5.0 mas in PA 100°

Asteroid: (in DAMIT)
 Mag = 12.8
 Dia = 105 ±5km, 78 mas
 Parallax = 4.734"
 Hourly dRA = -2.969s
 dDec = 3.26"
 JPL#131INTG:2023Apr24, Known errors

Expect fades >0.02 secs (star dia)



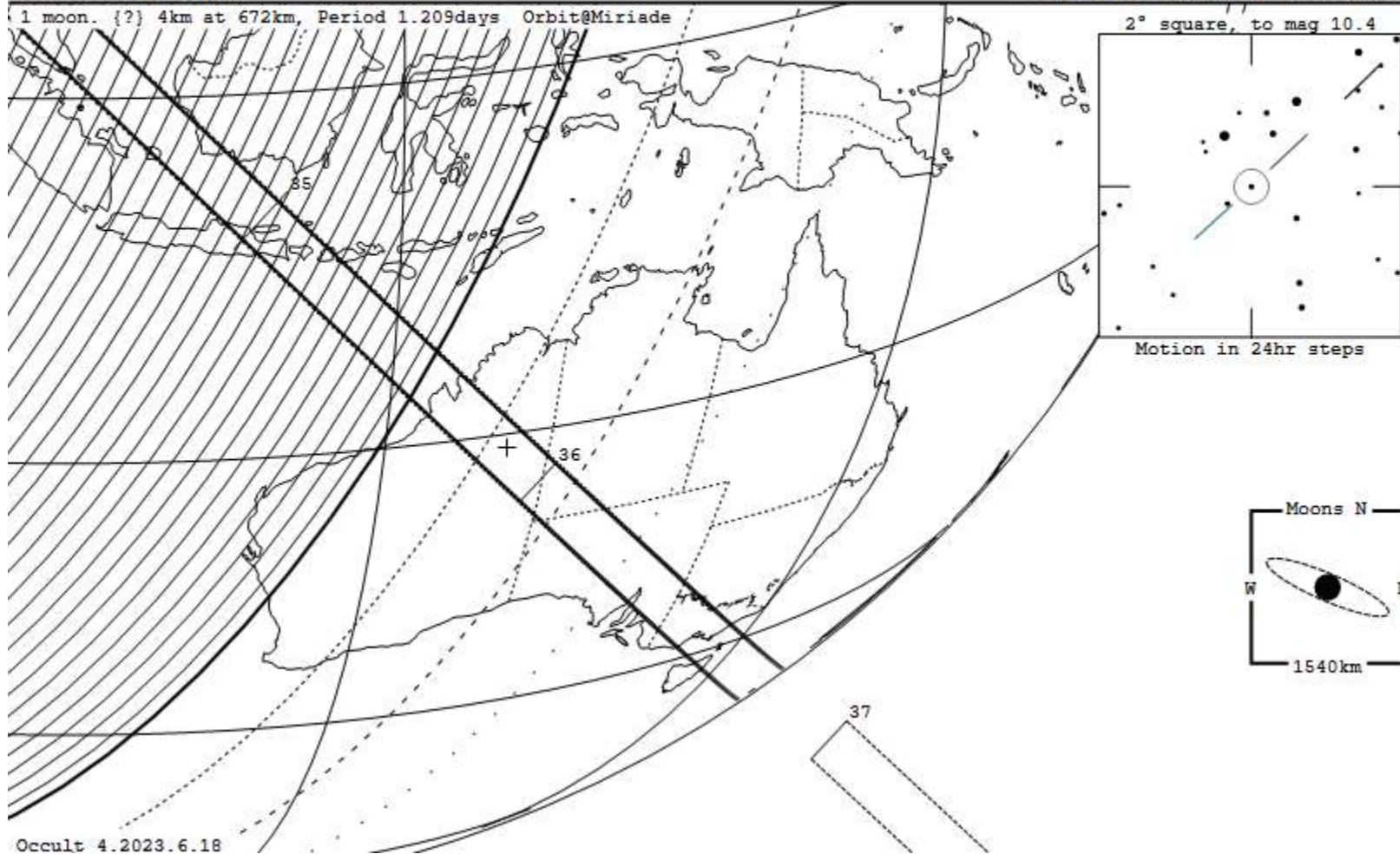
31 Euphrosyne occults TYC 1433-00802-1 on 2024 Jul 1 from 9h 30m to 9h 37m UT

Star: (Dia = 0.1 mas)
 Mv 9.4; Mb 9.9; Mr 8.8
 RA = 11 8 11.1422 (astrometric)
 Dec = 19 55 28.990
 [of Date: 11 9 29, 19 47 41]
 Prediction of 2023 Jun 6.0
 Reliable 1.2 (good),

Durations: Max = 8.1 secs
 1km = 0.030 secs, 1mas = 0.071 secs
 Mag Drop: 3.4 [96%]v, 3.6 [96%]r
 Sun : Dist = 61°
 Moon: Dist = 117°, illum = 23%
 Error 16.0 x 4.0 mas in PA 129°

Asteroid: (in DAMIT)
 Mag = 12.7
 Dia = 272 ±14km, 114 mas
 Parallax = 2.680"
 Hourly dRA = 2.624s
 dDec = -34.42"
 JPL#116INTG:2023Apr24, Known errors

1 moon. (?) 4km at 672km, Period 1.209days Orbit@Miriade



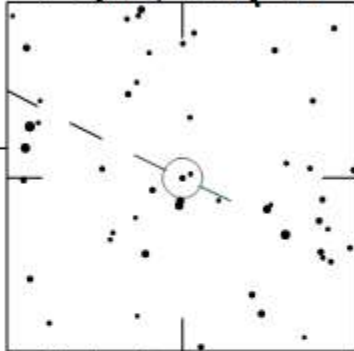
348 May occults TYC 6954-01387-1 on 2024 Aug 22 from 19h 44m to 19h 57m UT

Star: (Dia = 0.1 mas)
 Mv 9.5; Mb 9.7; Mr 9.1
 RA = 22 3 48.1622 (astrometric)
 Dec = -24 41 22.689
 [of Date: 22 5 13, -24 34 9]
 Prediction of 2023 Jun 5.9
 Reliable 1.1 (good),

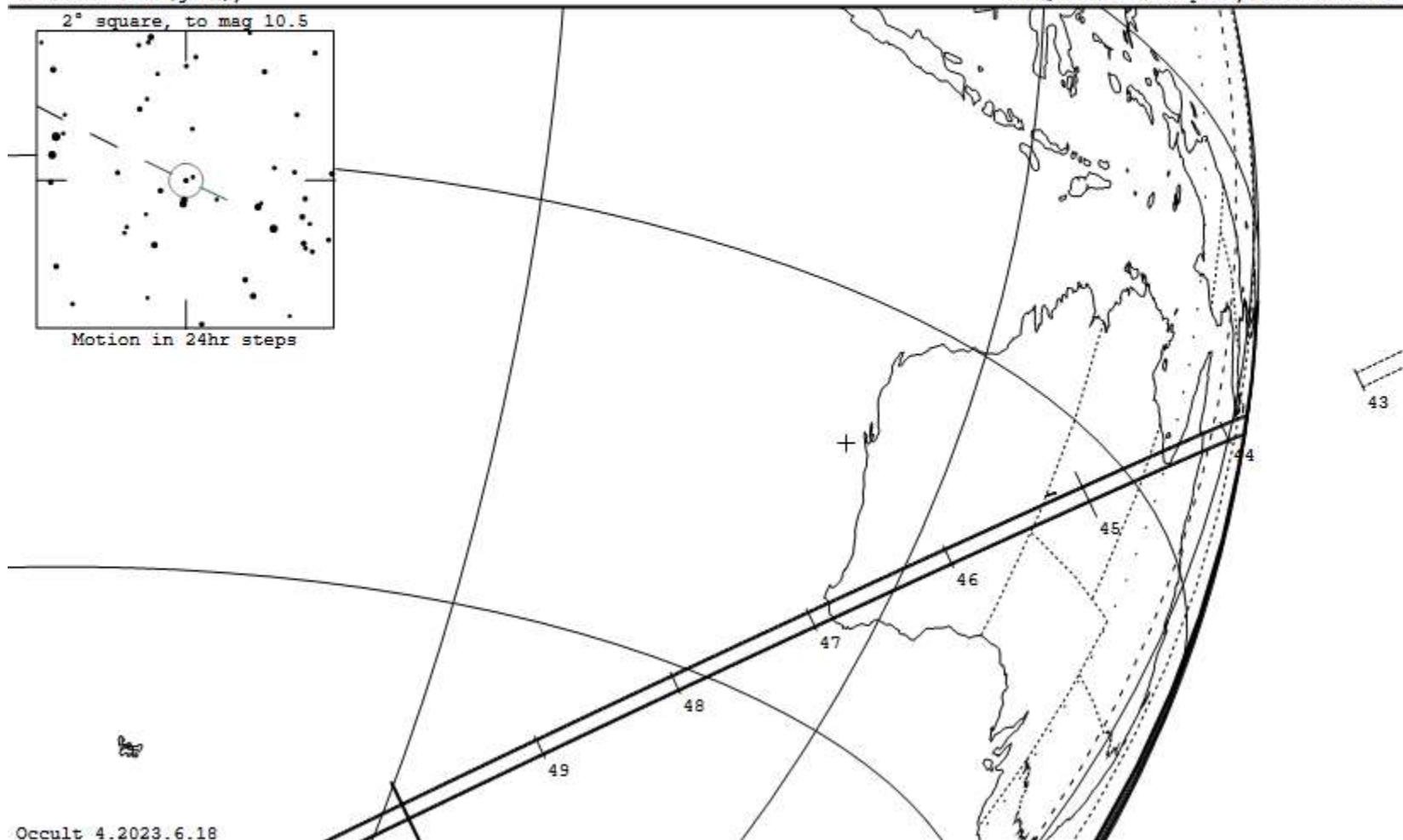
Durations: Max = 6.3 secs
 lkm = 0.077 secs, lmas = 0.12 secs
 Mag Drop: 4.5 [98%]v, 4.4 [98%]r
 Sun : Dist = 167°
 Moon: Dist = 49°, illum = 87%
 Error 17.0 x 1.0 mas in PA 74°

Asteroid:
 Mag = 13.9
 Dia = 82 ±5km, 53 mas
 Parallax = 4.143"
 Hourly dRA = -2.011s
 dDec = -13.08"
 JPL#59INTG:2023Apr24, Known errors

2° square, to mag 10.5



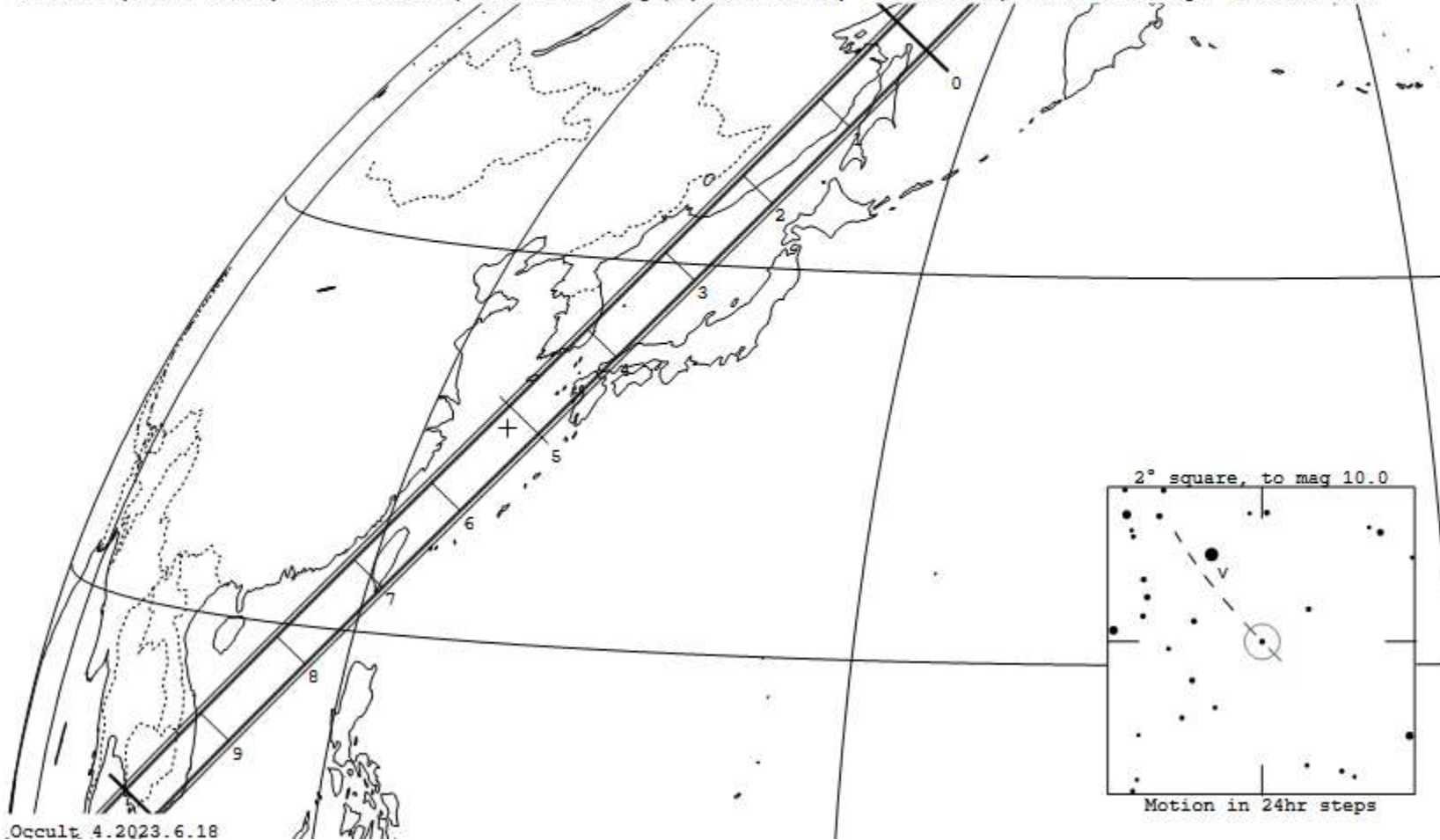
Motion in 24hr steps



107 Camilla occults TYC 32-00518-1 on 2024 Sep 10 from 14h 56m to 15h 12m UT

Star: (Dia = 0.1 mas)	Durations: Max = 22.6 secs	Asteroid: (in DAMIT)
Mv 8.9; Mb 9.2; Mr 8.4	1km = 0.11 secs, 1mas = 0.21 secs	Mag = 12.7
RA = 1 40 6.9648 (astrometric)	Mag Drop: 3.8 [97%]v, 3.9 [97%]r	Dia = 208 ±13km, 108 mas
Dec = 4 55 23.568	Sun : Dist = 143°	Parallax = 3.299"
[of Date: 1 41 25, 5 3 2]	Moon: Dist = 133°, illum = 44%	Hourly dRA = -0.801s
Prediction of 2023 Jun 5.8	Error 23.0 x 2.0 mas in PA 77°	dDec = -12.34"
Reliable 1.0 (good),		JPL#128INTG:2023Apr24, Known errors

2 moons. {S/2001(107)1} 16km at 1250km, Period 3.722days, {S/2016(107)1} 4km at 340km, Period 0.500days Orbit@Miriade



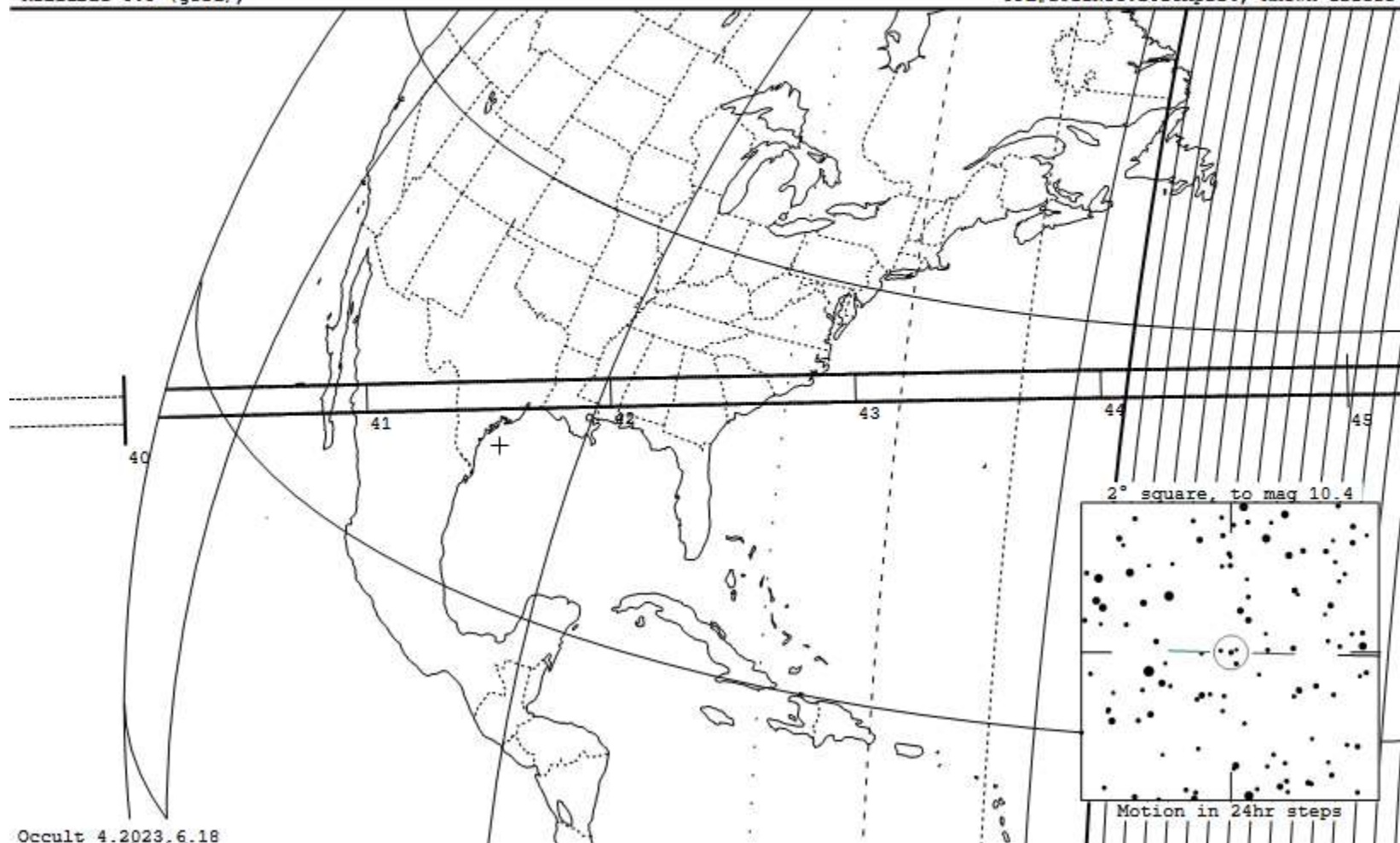
Occult 4.2023.6.18

14 Irene occults TYC 1342-00182-1 on 2024 Sep 23 from 9h 40m to 9h 49m UT

Star: (Dia = 0.1 mas)
 Mv 9.4; Mb 9.9; Mr 8.7
 RA = 6 45 25.6189 (astrometric)
 Dec = 21 49 2.064
 [of Date: 6 46 54, 21 47 33]
 Prediction of 2023 Jun 5.8
 Reliable 0.9 (good),

Durations: Max = 6.6 secs
 lkm = 0.045 secs, lmas = 0.085 secs
 Mag Drop: 2.6 [91%]v, 2.8 [92%]r
 Sun : Dist = 80°
 Moon: Dist = 28°, illum = 65%
 Error 11.0 x 2.0 mas in PA 87°

Asteroid: (in DAMIT, ISAM)
 Mag = 11.8
 Dia = 147 ±10km, 77 mas
 Parallax = 3.358"
 Hourly dRA = 3.038s
 dDec = 1.03"
 JPL#101INTG:2023Apr24, Known errors



Occult 4.2023.6.18

395 Delia occults TYC 1228-01518-1 on 2024 Nov 30 from 12h 33m to 12h 50m UT

Star: (Dia = 0.1 mas)
 Mv 9.4; Mb 9.7; Mr 9.0
 RA = 3 4 7.7557 (astrometric)
 Dec = 19 24 22.017
 [of Data: 3 5 34, 19 30 19]
 Prediction of 2023 Jun 5.7
 Reliable 1.0 (good),

Durations: Max = 4.2 secs
 1km = 0.085 secs, 1mas = 0.12 secs
 Mag Drop: 5.5 [99%]v, 5.5 [99%]r
 Sun : Dist = 161°
 Moon: Dist = 169°, illum = 1%
 Error 12.0 x 1.0 mas in PA 77°

Asteroid: (in DAMIT)
 Mag = 14.9
 Dia = 50 ±3km, 34 mas
 Parallax = 4.352"
 Hourly dRA = -1.903s
 dDec = -10.74"
 JPL#72INTG:2023Apr24, Known errors

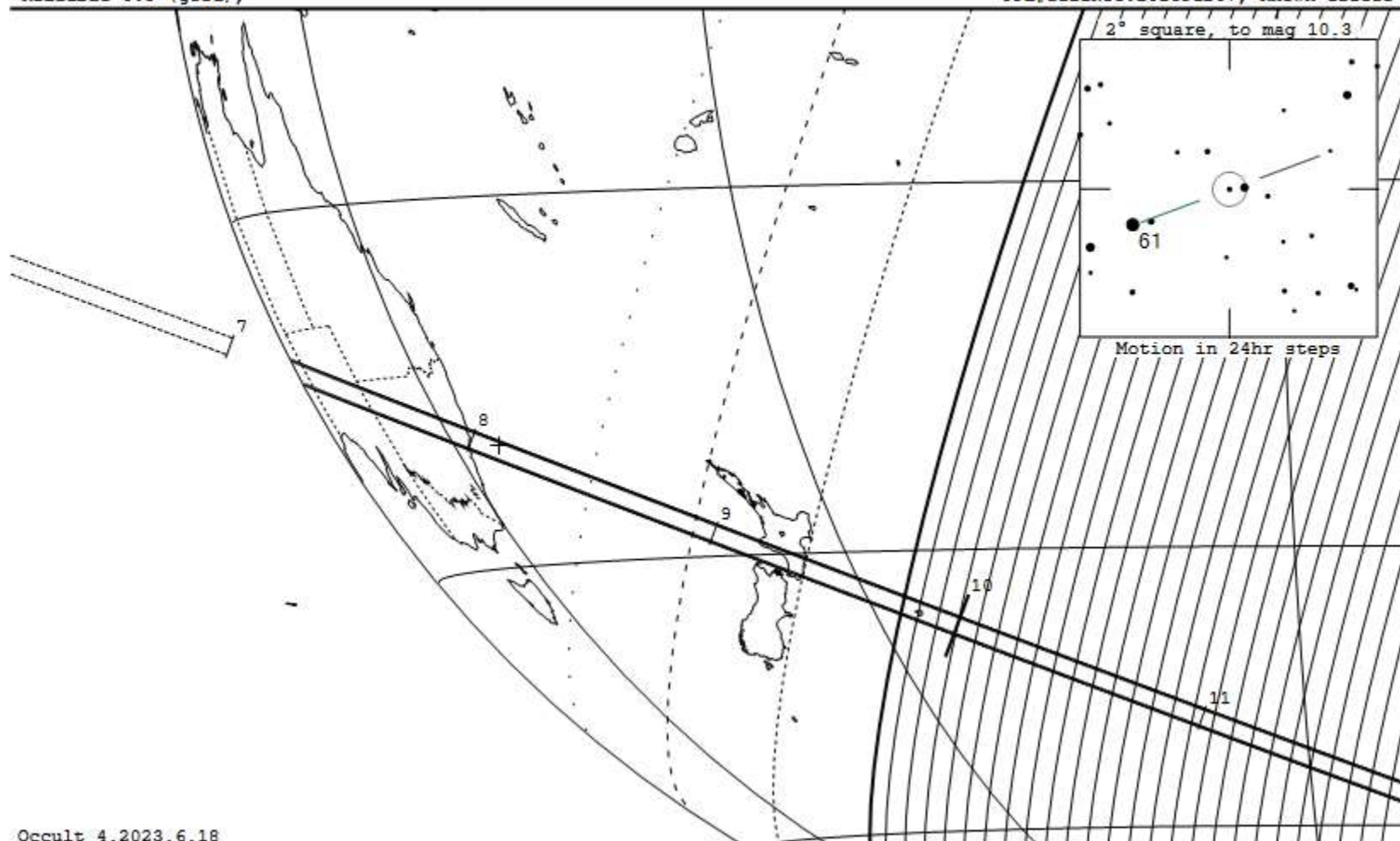


313 Chaldaea occults TYC 4914-00733-1 on 2024 Nov 30 from 16h 7m to 16h 13m UT

Star: (Dia = 0.1 mas)
 Mv 9.3; Mb 9.6; Mr 8.8
 RA = 10 59 14.1045 (astrometric)
 Dec = - 2 14 51.684
 [of Date: 11 0 30, - 2 22 47]
 Prediction of 2023 Jun 5.7
 Reliable 0.9 (good),

Durations: Max = 4.0 secs
 1km = 0.043 secs, 1mas = 0.056 secs
 Mag Drop: 3.9 [97%]v, 3.9 [97%]r
 Sun : Dist = 82°
 Moon: Dist = 75°, illum = 0%
 Error 18.0 x 1.0 mas in PA 98°

Asteroid: (in DAMIT)
 Mag = 13.1
 Dia = 94 ±6km, 71 mas
 Parallax = 4.820"
 Hourly dRA = 4.001s
 dDec = -22.31"
 JPL#112INTG:2023Feb07, Known errors



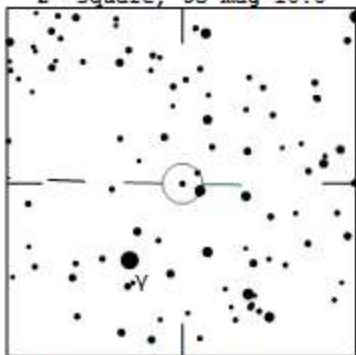
1502 Arenda occults TYC 1329-00100-1 on 2024 Dec 21 from 11h 47m to 12h 5m UT

Star: (Dia = 0.1 mas)
 Mv 9.0; Mb 9.3; Mr 8.7
 RA = 6 36 27.4233 (astrometric)
 Dec = 16 50 7.249
 [of Date: 6 37 56, 16 48 54]
 Prediction of 2023 Jun 5.6
 Reliable 1.0 (good),

Durations: Max = 3.2 secs
 1km = 0.096 secs, 1mas = 0.11 secs
 Mag Drop: 5.8 [100%]v, 5.8 [100%]r
 Sun : Dist = 169°
 Moon: Dist = 66°, illum = 64%
 Error 20.0 x 4.0 mas in PA 94°

Asteroid: (in DAMIT)
 Mag = 14.9
 Dia = 33 ±2km, 30 mas
 Parallax = 5.729"
 Hourly dRA = -2.340s
 dDec = -0.56"
 JPL#51INTG:2023Feb09, Known errors

Variable star
 2° square, to mag 10.0



Motion in 24hr steps

