

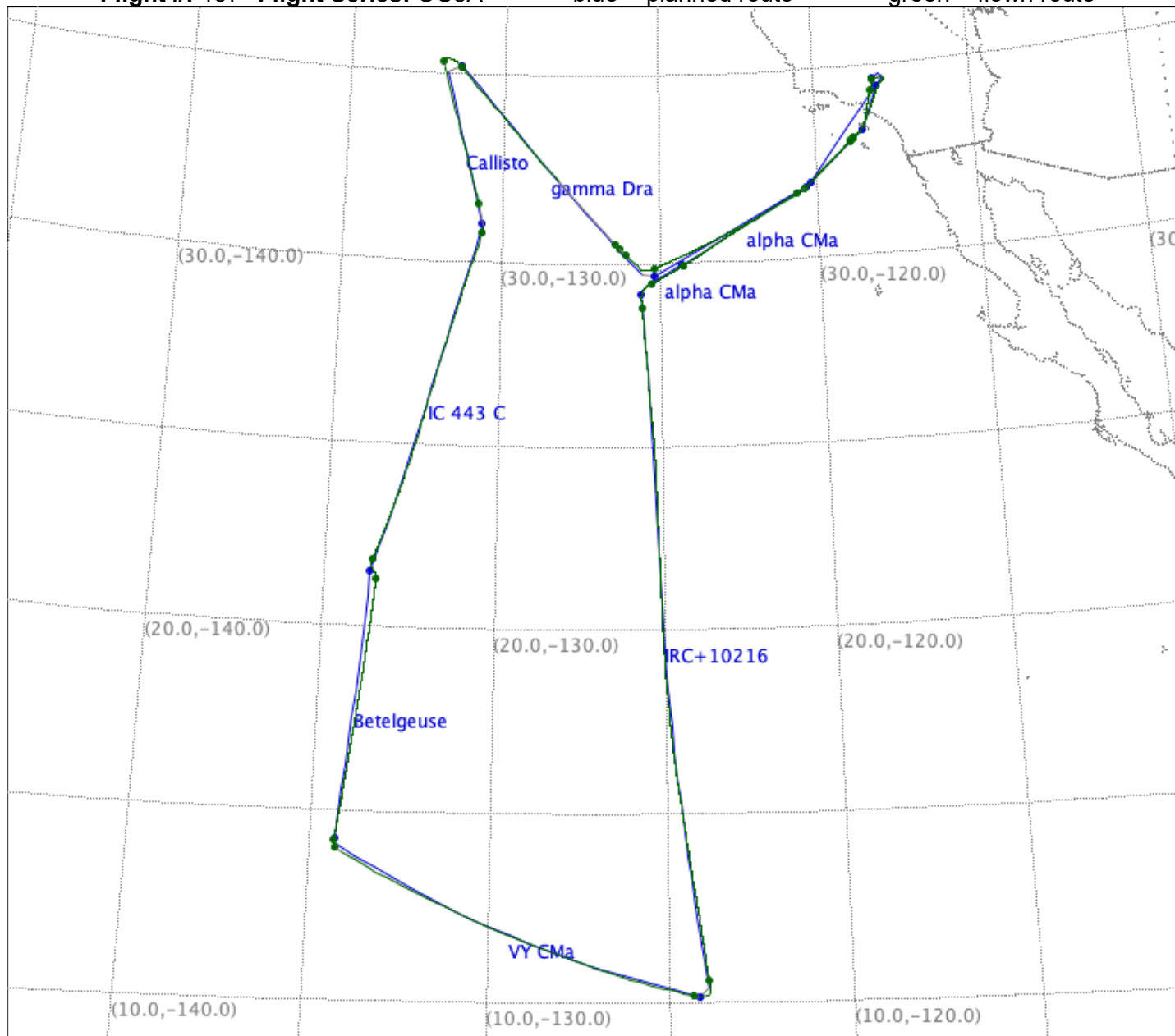
MISSION ID: 2015-03-03_EX_F197

Date: 2015-03-03 UT Instrument: EXES

Flight #: 197 Flight Series: OC3A

blue = planned route

green = flown route

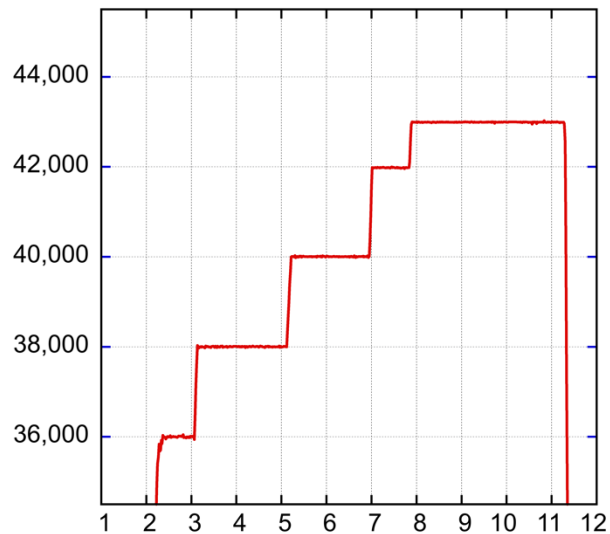


Flight notes:
EXES commissioning flight. Mostly engineering data.

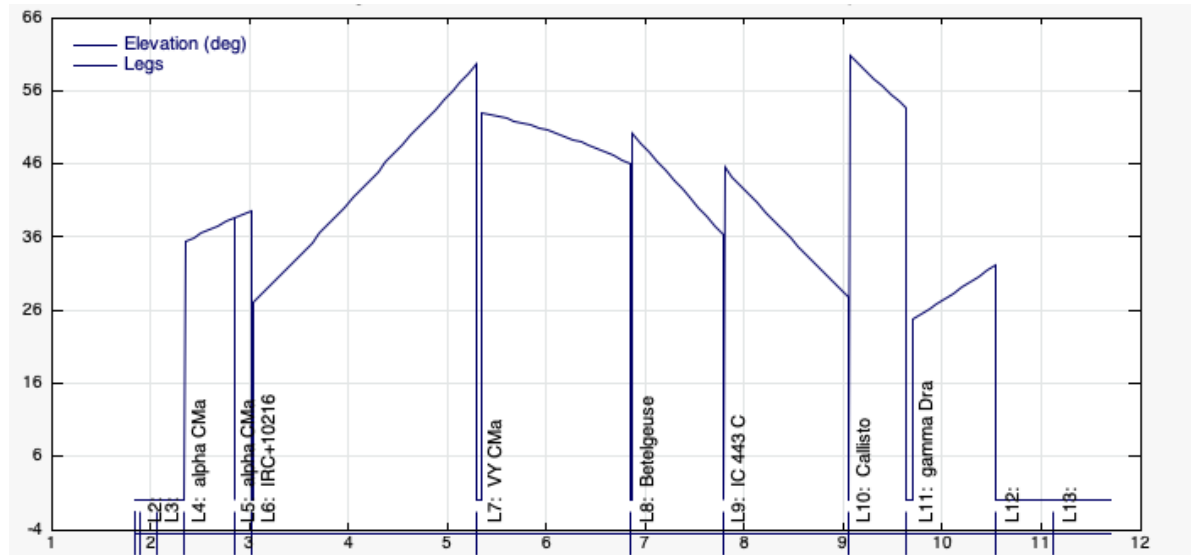
Flight 197 Mission ID 2015-03-03_EX_F197
 Palmdale to Palmdale Take off date UTC: 03-MAR-2015
 Departure UTC: 01:49 Arrival UTC: 11:48

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4	86_0005	Commissioning	alpha CMa	06h45m08.92s	-16d42m58.0s	2:25	30	
5	86_0005	Commissioning	alpha CMa	06h45m08.92s	-16d42m58.0s	2:56	10	
6	03_0146	Fonfria	IRC+10216	09h47m57.41s	13d16m43.6s	3:07	135	
7	86_0005	Commissioning	VY CMa	07h22m58.33s	-25d46m03.2s	5:25	90	
8	02_0004	Harper	Betelgeuse	05h55m10.31s	07d24m25.4s	6:57	55	
9	86_0005	Commissioning	IC 443 C	06h17m42.50s	22d21m29.0s	7:52	75	
10	86_0006	Commissioning	Callisto	09h07m56.97s	17d30m28.5s	9:08	34	Moon nearby.
11	86_0005	Commissioning	gamma Dra	17h56m36.37s	51d29m20.0s	9:46	50	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



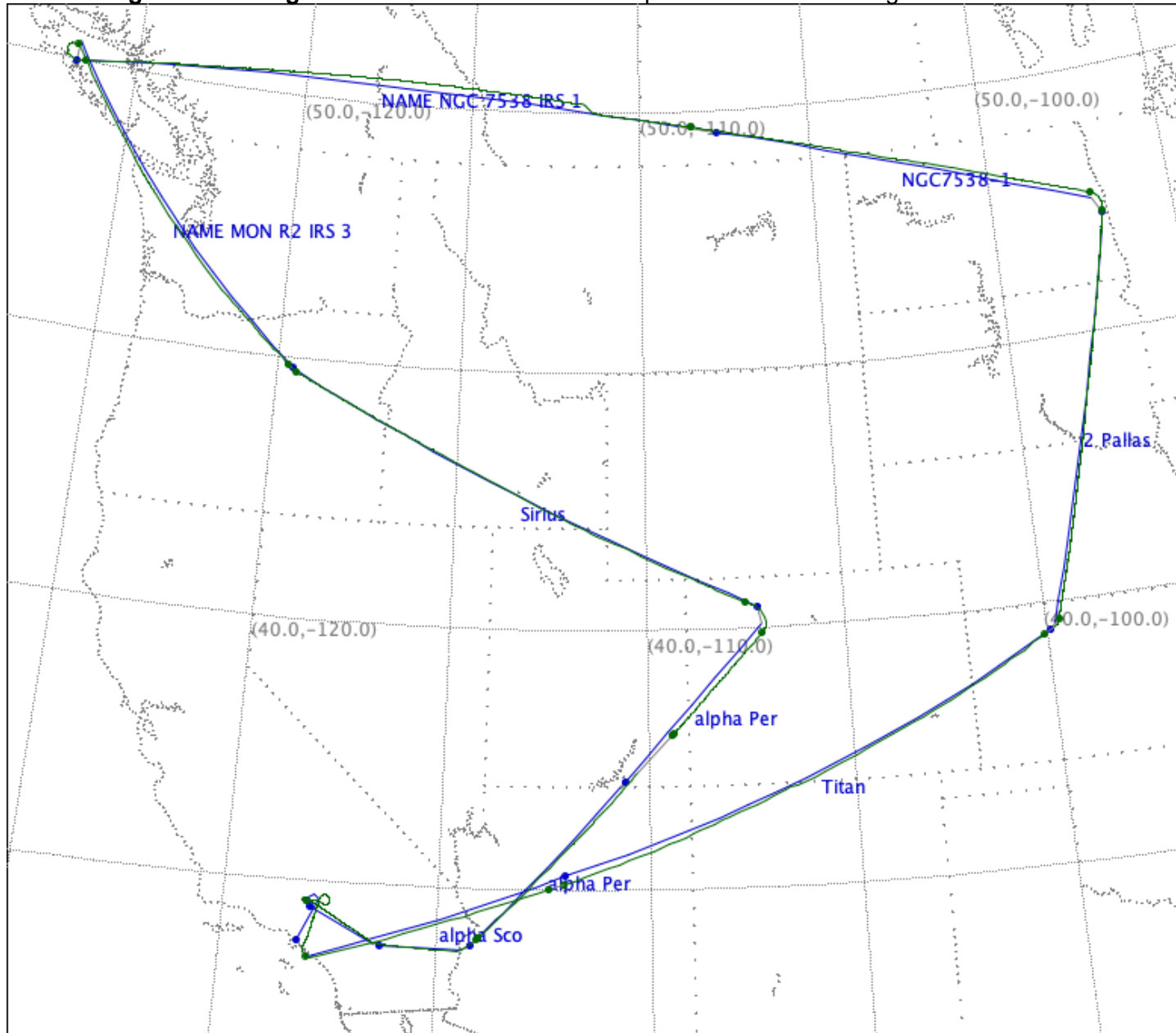
MISSION ID: 2015-03-05_EX_F198

Date: 2015-03-05 UT Instrument: EXES

Flight #: 198 Flight Series: OC3A

blue = planned route

green = flown route

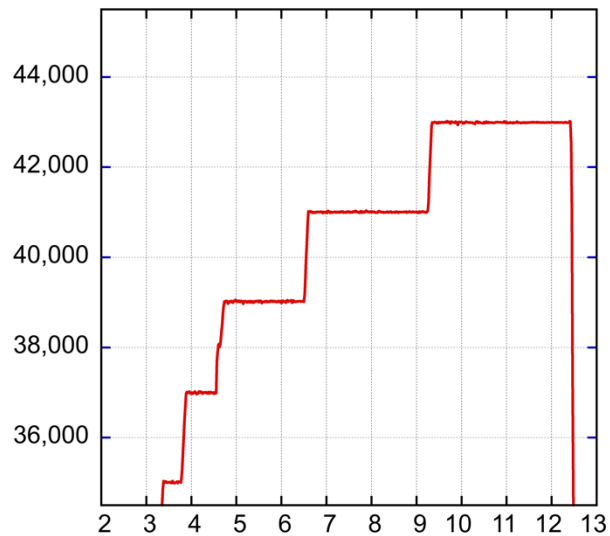


Flight notes:
EXES commissioning flight. Mostly engineering data.

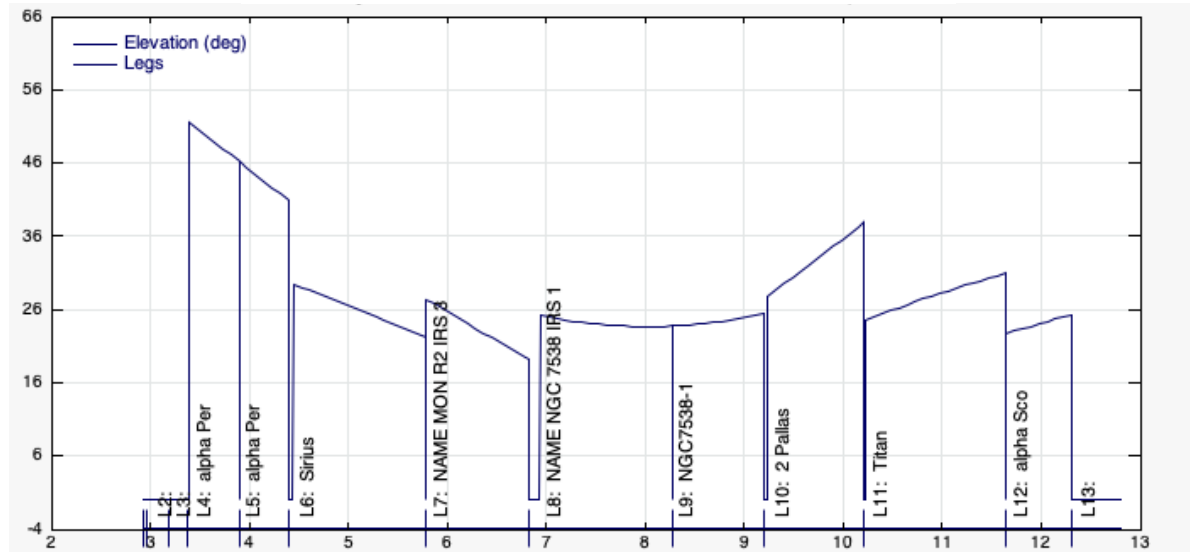
Flight 198 Mission ID 2015-03-05_EX_F198
 Palmdale to Palmdale Take off date UTC: 05-MAR-2015
 Departure UTC: 02:56 Arrival UTC: 12:46

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			alpha Per	03h24m19.37s	49d51m40.3s	3:27	30	
5		engineering	alpha Per	03h24m19.37s	49d51m40.3s	3:58	30	
6	02_0104	Boogert	Sirius	06h45m08.92s	-16d42m58.0s	4:30	80	
7	02_0104	Boogert	NAME MON R2 IRS 3	06h07m47.80s	-06d22m55.0s	5:50	63	
8	02_0104	Boogert	NAME NGC 7538 IRS 1	23h13m45.40s	61d28m12.0s	6:59	80	
9	03_0080	Menten	NGC7538	23h13m45.36s	61d28m10.5s	8:24	55	
10	86_0006	Commissioning	2 Pallas	17h38m25.28s	09d50m08.6s	9:17	59	
11	86_0006	Commissioning	Titan	16h12m31.95s	-19d01m57.9s	10:16	85	Technical issue – partial data.
12	86_0005	Commissioning	alpha Sco	16h29m24.46s	-26d25m55.2s	11:42	40	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



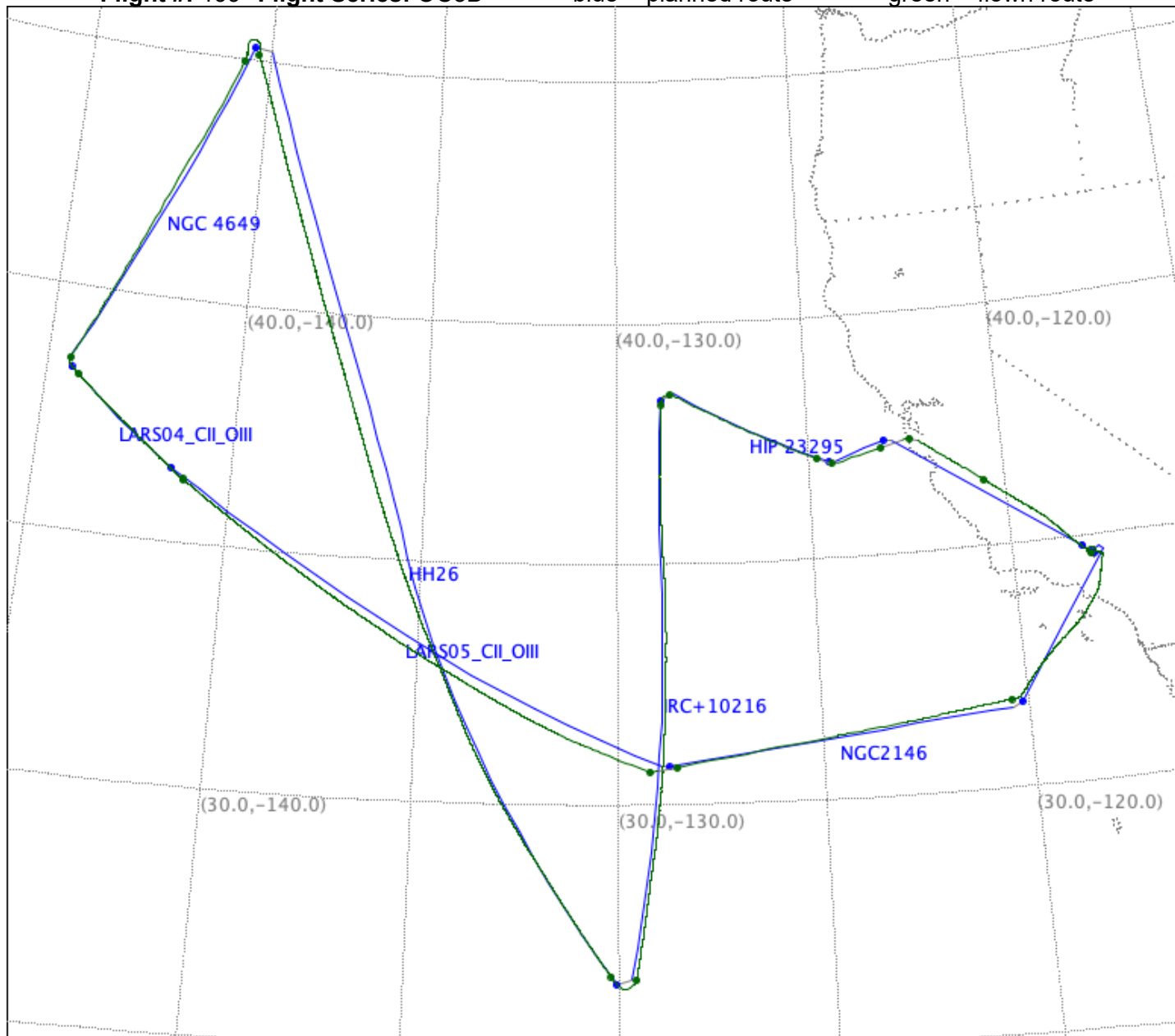
MISSION ID: 2015-03-12_FI_F199

Date: 2015-03-12 UT Instrument: FIFI-LS

Flight #: 199 Flight Series: OC3B

blue = planned route

green = flown route

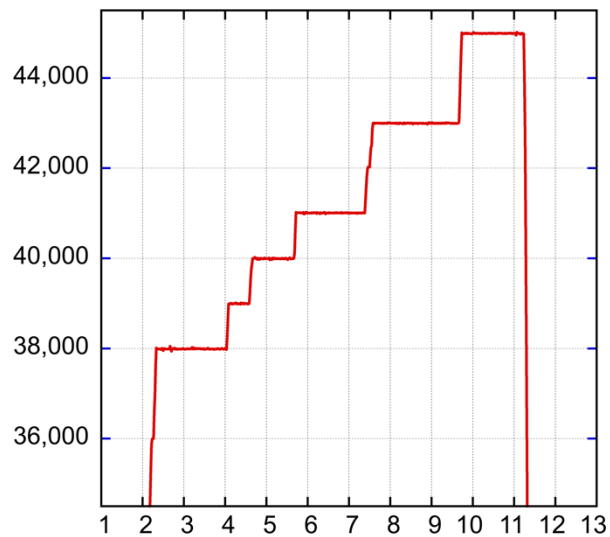


Flight notes: No irregularities.

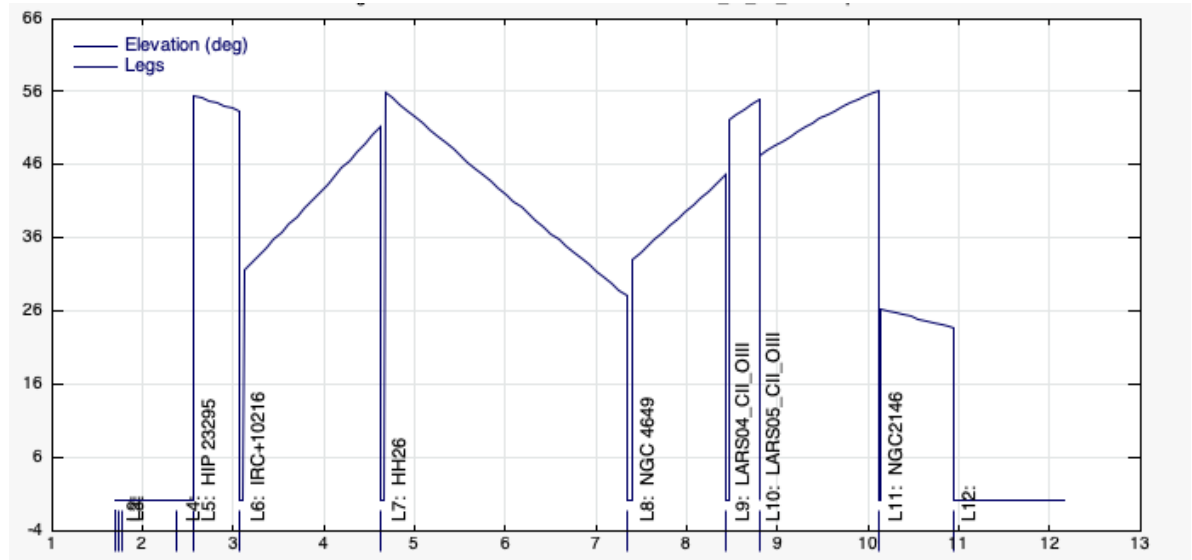
Flight 199 Mission ID 2015-03-12_FI_F199
 Palmdale to Palmdale Take off date UTC: 12-MAR-2015
 Departure UTC: 01:44 Arrival UTC: ~11:40

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
5			HIP 23295	05h00m39.79s	03d15m55.2s	2:39	30	
6	90_0031	Calibration	IRC+10216	09h47m57.41s	13d16m43.6s	3:12	90	Turbulence.
7	03_0073	Eisloeffel	HH26	05h46m03.63s	-00d14m49.3s	4:45	160	Guiding stability issues
8	03_0141	Werner	NGC 4649	12h43m40.00s	11d33m10.0s	7:29	62	
9	03_0059	Hayes	LARS04_CII_OIII	13h07m28.20s	54d26m50.7s	8:33	20	
10	03_0059	Hayes	LARS05_CII_OIII	13h59m51.00s	57d26m23.0s	8:53	79	
11	03_0135	Croxall	NGC2146	06h18m37.71s	78d21m25.3s	10:13	48	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



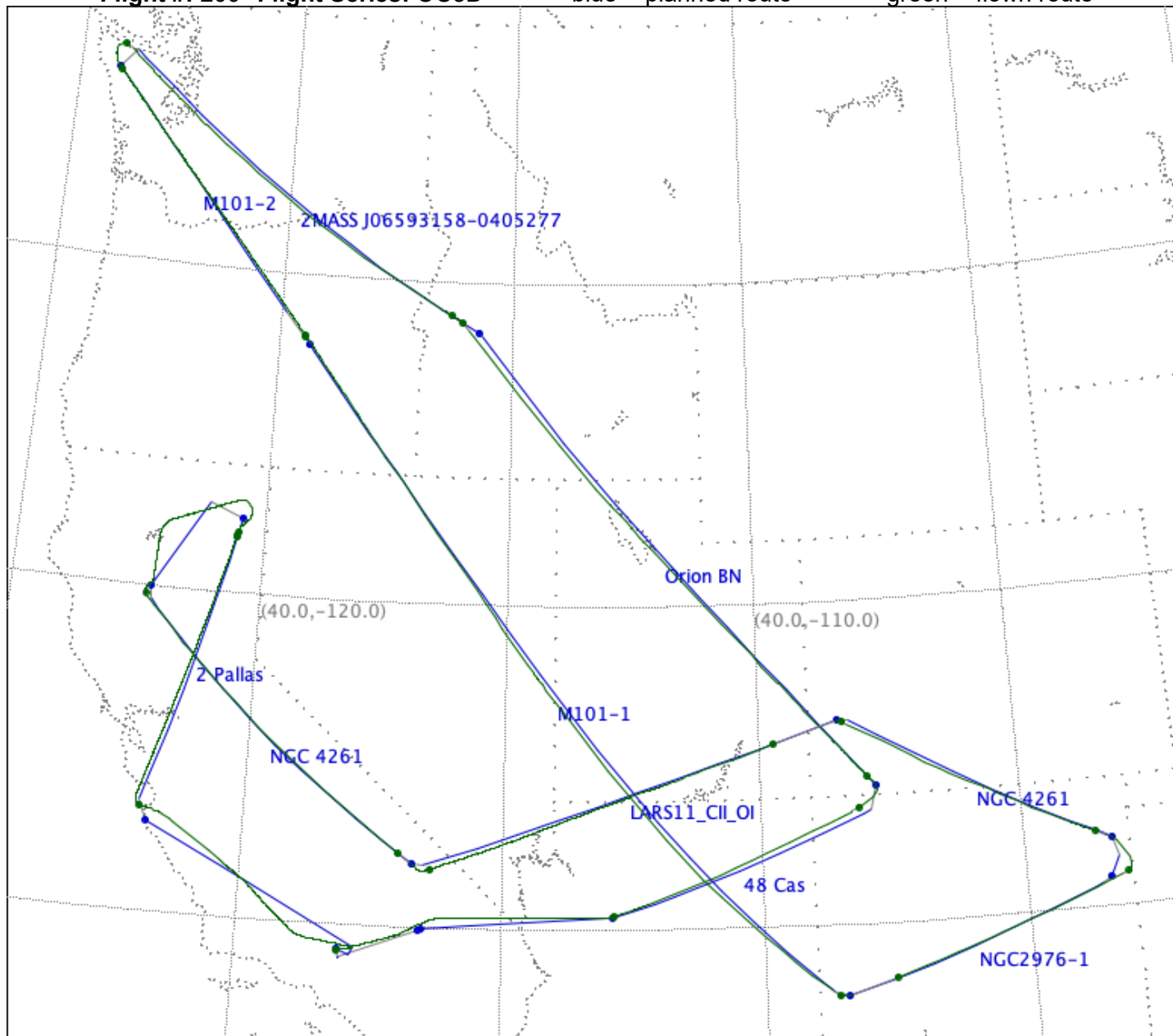
MISSION ID: 2015-03-13_FI_F200

Date: 2015-03-13 UT Instrument: FIFI-LS

Flight #: 200 Flight Series: OC3B

blue = planned route

green = flown route

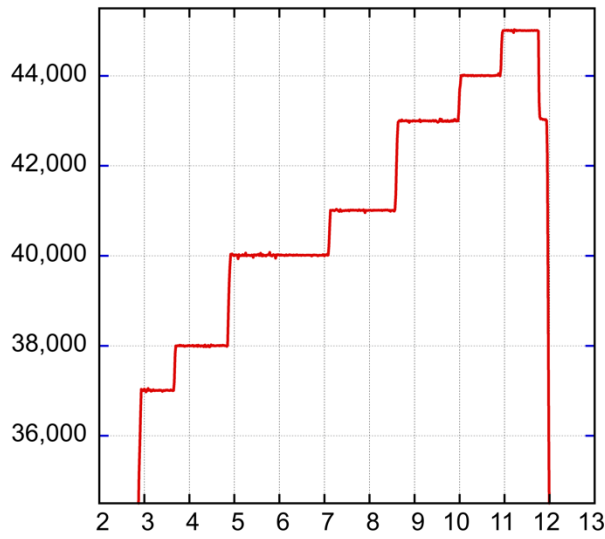


Flight notes: No irregularities.

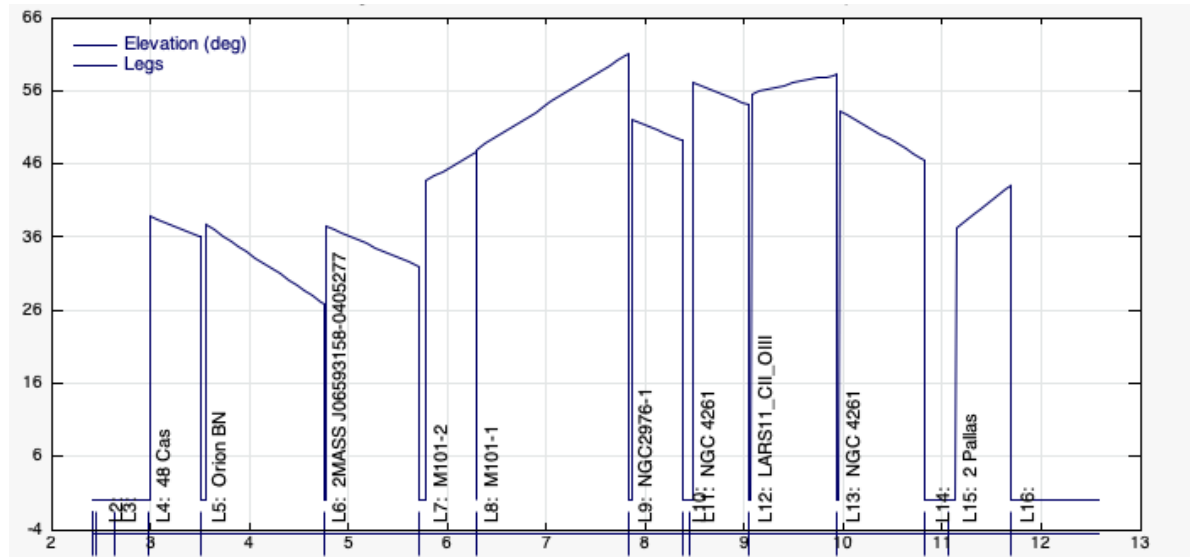
Flight 200 Mission ID 2015-03-13_FI_F200
 Palmdale to Palmdale Take off date UTC: 13-MAR-2015
 Departure UTC: 02:28 Arrival UTC: 12:25

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			48 Cas	02h01m57.45s	70d54m25.3s	3:03	31	
5	03_0044	Looney	Orion BN	05h35m14.00s	-05d22m22.0s	3:37	72	
6	75_0014	Discretionary	2MASS J06593158-0405277	06h59m31.59s	-04d05m27.8s	4:49	57	
7	03_0135	Croxall	M101-2	14h04m29.00s	54d23m46.0s	5:50	31	
8	03_0135	Croxall	M101-1	14h03m41.00s	54d19m01.3s	6:25	92	
9	03_0135	Croxall	NGC2976	09h47m08.11s	67d55m55.6s	7:55	31	
11	03_0141	Werner	NGC 4261	12h19m23.20s	05d49m31.0s	8:32	34	
12	03_0059	Hayes	LARS11 CII OIII	14h03m47.10s	06d28m15.0s	9:07	52	
13	03_0141	Werner	NGC 4261	12h19m23.20s	05d49m31.0s	10:01	52	
15	90_0033	Calibration	2 Pallas	17h45m17.56s	11d17m20.9s	11:12	33	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



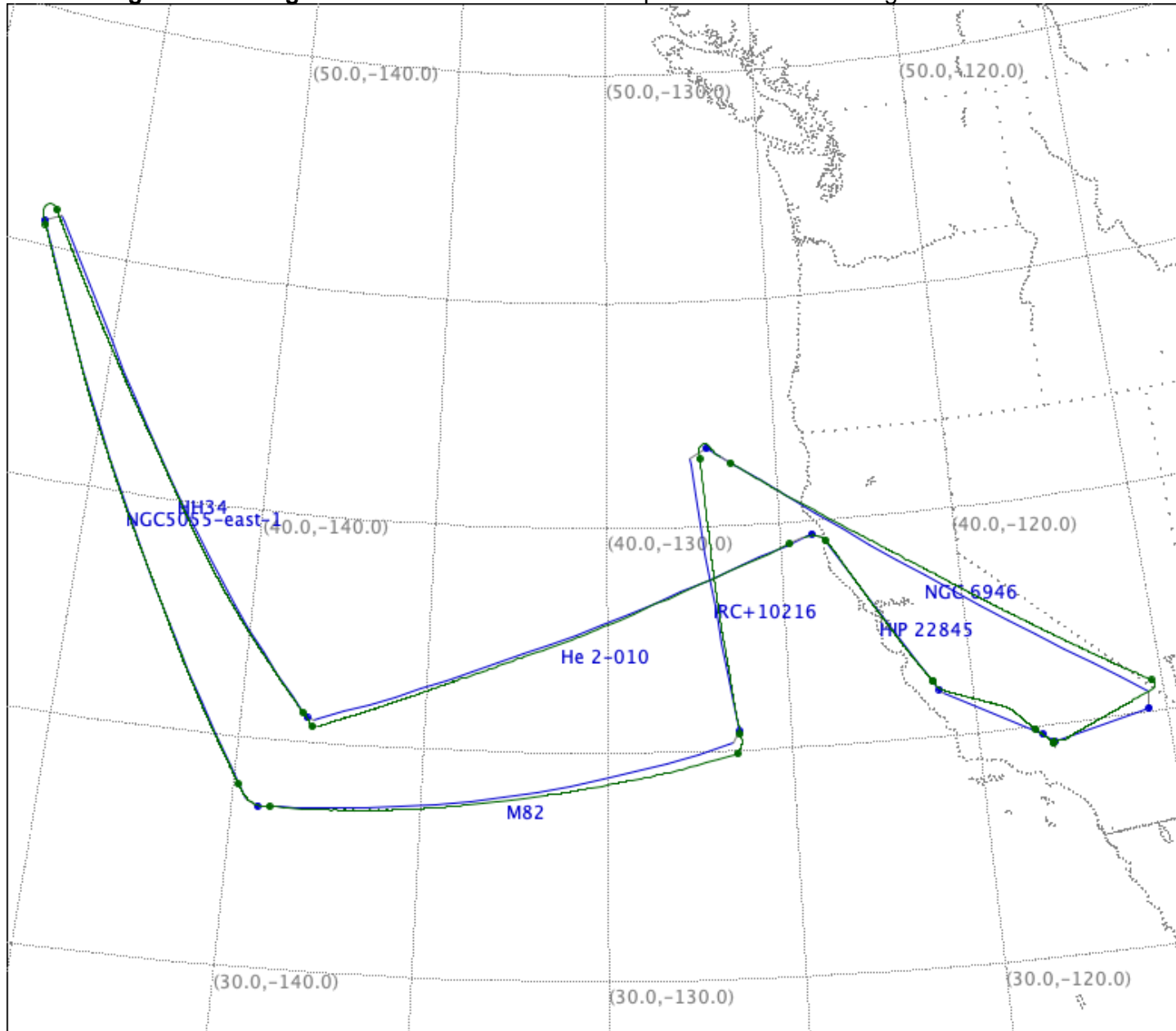
MISSION ID: 2015-03-18_FI_F201

Date: 2015-03-18 UT Instrument: FIFI-LS

Flight #: 201 Flight Series: OC3B

blue = planned route

green = flown route



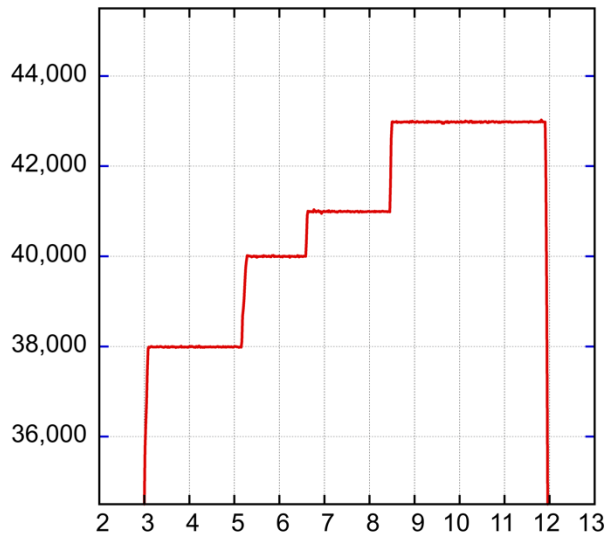
Flight notes:

Guiding (FPI, FFI) not working during flight do to telescope hardware issue. Sources drifted throughout flight.

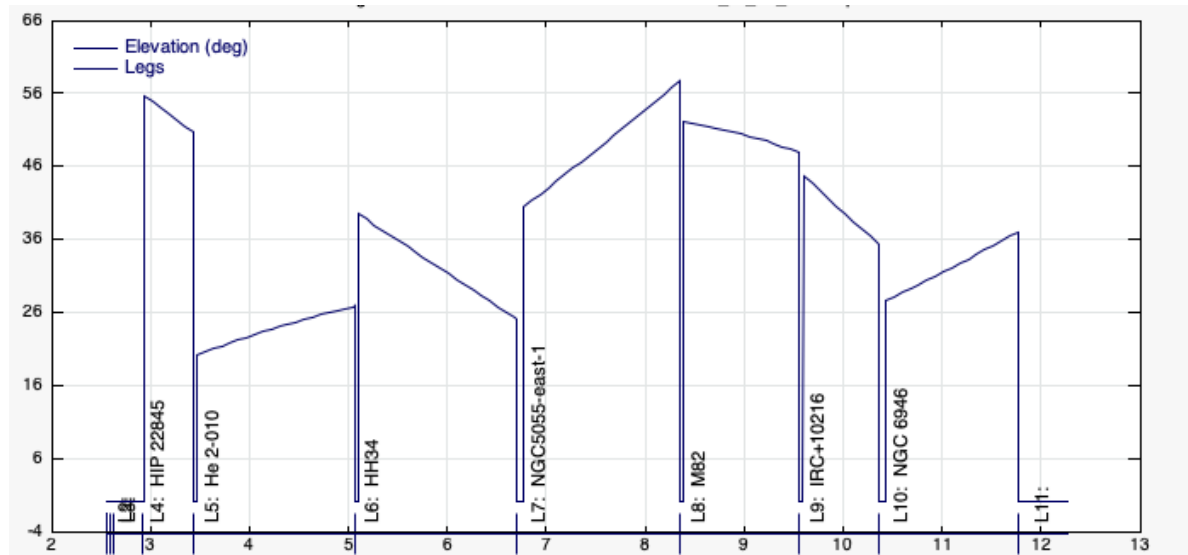
Flight 201 Mission ID 2015-03-18_FI_F201
 Palmdale to Palmdale Take off date UTC: 18-MAR-2015
 Departure UTC: 02:36 Arrival UTC: 10:21

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			HIP 22845	04h54m53.73s	10d09m03.0s	3:00	30	
5	87_0005	Consortium	He 2-010	08h36m15.13s	-26d24m33.8s	3:33	96	Incomplete data (see flight notes above)
6	03_0073	Eisloeffel	HH34	05h35m29.90s	-06d26m58.0s	5:10	96	Incomplete data (see flight notes above)
7	03_0087	Cormier	NGC5055-east	13h15m58.27s	42d01m38.4s	6:51	95	Incomplete data (see flight notes above)
8	87_0005	Consortium	M82	09h55m52.43s	69d40m46.9s	8:28	71	Incomplete data (see flight notes above)
9	90_0030	Calibration	IRC+10216	09h47m57.41s	13d16m43.6s	9:41	46	Incomplete data (see flight notes above)
10	87_0005	Consortium	NGC 6946	20h34m52.33s	60d09m13.2s	10:30	80	Incomplete data (see flight notes above)

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



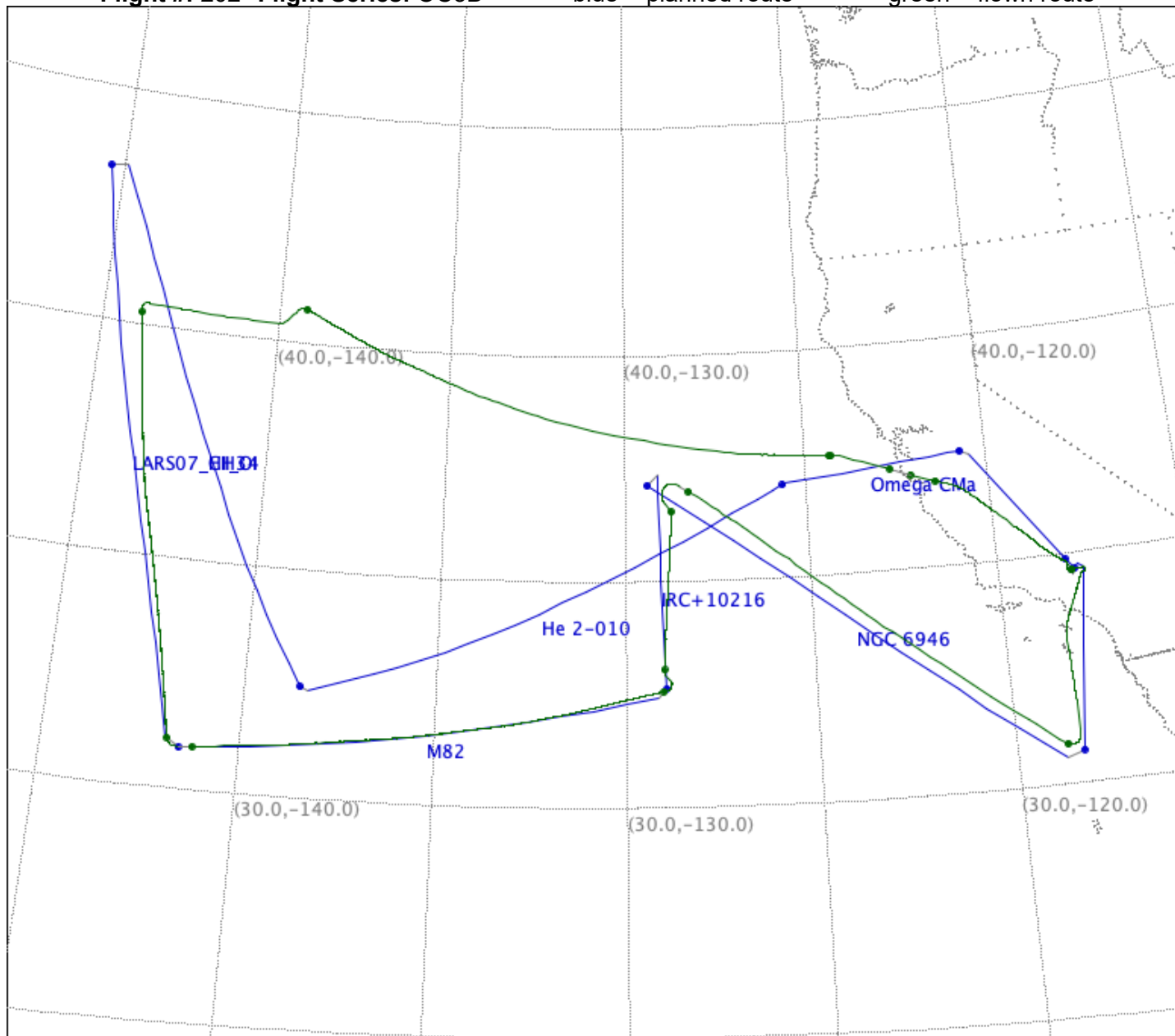
MISSION ID: 2015-03-19_FI_F202

Date: 2015-03-19 UT Instrument: FIFI-LS

Flight #: 202 Flight Series: OC3B

blue = planned route

green = flown route



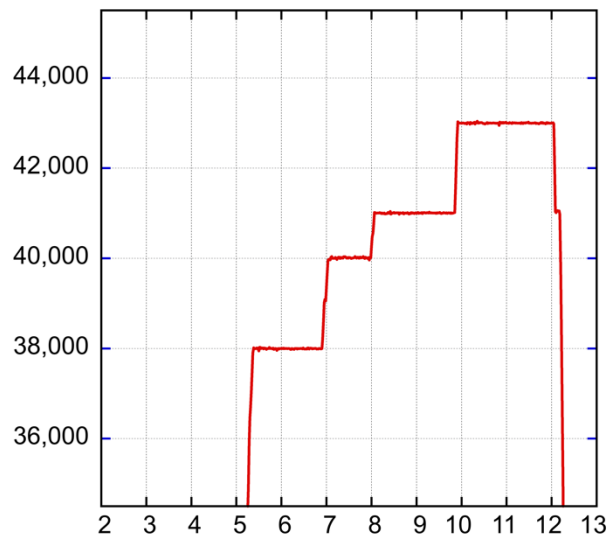
Flight notes:

Late departure led to loss of leg 6 and part of leg 7.

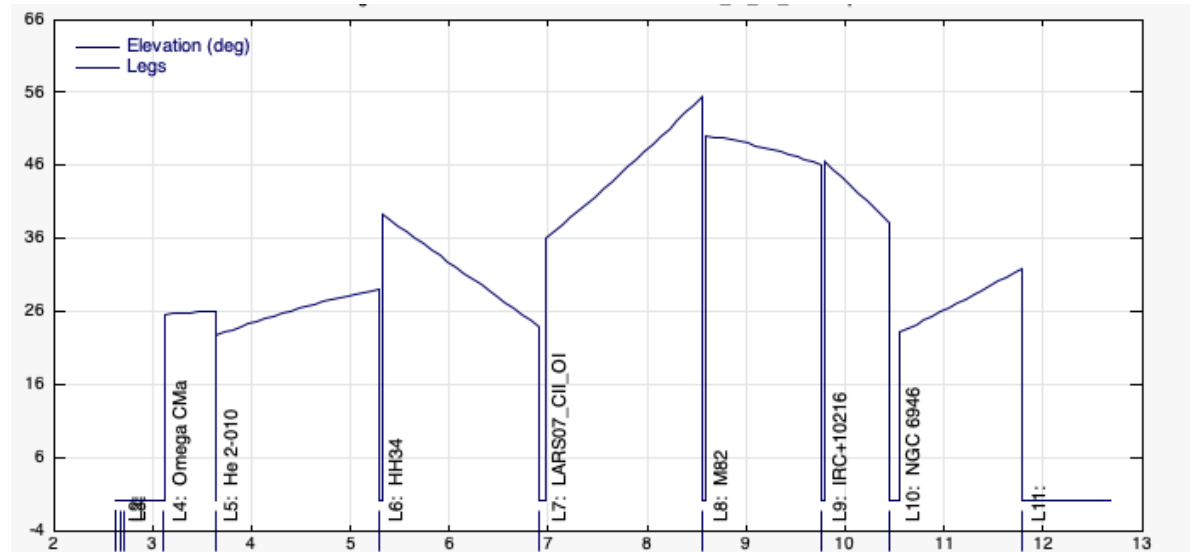
Flight 202 Mission ID 2015-03-19_FI_F202
 Palmdale to Palmdale Take off date UTC: 19-MAR-2015
 Departure UTC: 04:50 Arrival UTC: 12:47

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Omega CMa	07h14m48.65s	-26d46m21.6s	3:12	30	
5	87_0005	Consortium	He 2-010	08h36m15.13s	-26d24m33.8s	3:43	99	Turbulence.
6	03_0073	Eisloeffel	HH34	05h35m29.90s	-06d26m58.0s	5:23	95	Leg not flown due to late take-off
7	03_0059	Hayes	LARS07_CII_OI	13h16m03.90s	29d22m54.2s	7:03	95	Truncated leg due to late take-off
8	87_0005	Consortium	M82	09h55m52.43s	69d40m46.9s	8:40	70	
9	90_0030	Calibration	IRC+10216	09h47m57.41s	13d16m43.6s	9:52	39	
10	87_0005	Consortium	NGC 6946	20h34m52.33s	60d09m13.2s	10:37	74	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



MISSION ID: 2015-03-20_FI_F203

Date: 2015-03-20 UT Instrument: FIFI-LS

Flight #: 203 Flight Series: OC3B

blue = planned route

green = flown route

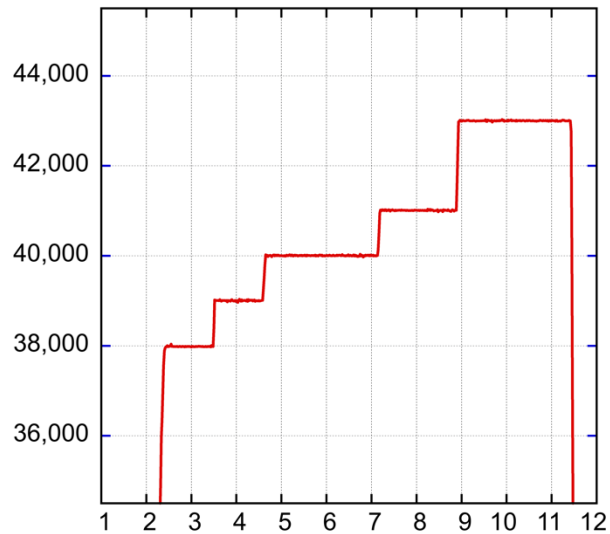


Flight notes: No irregularities.

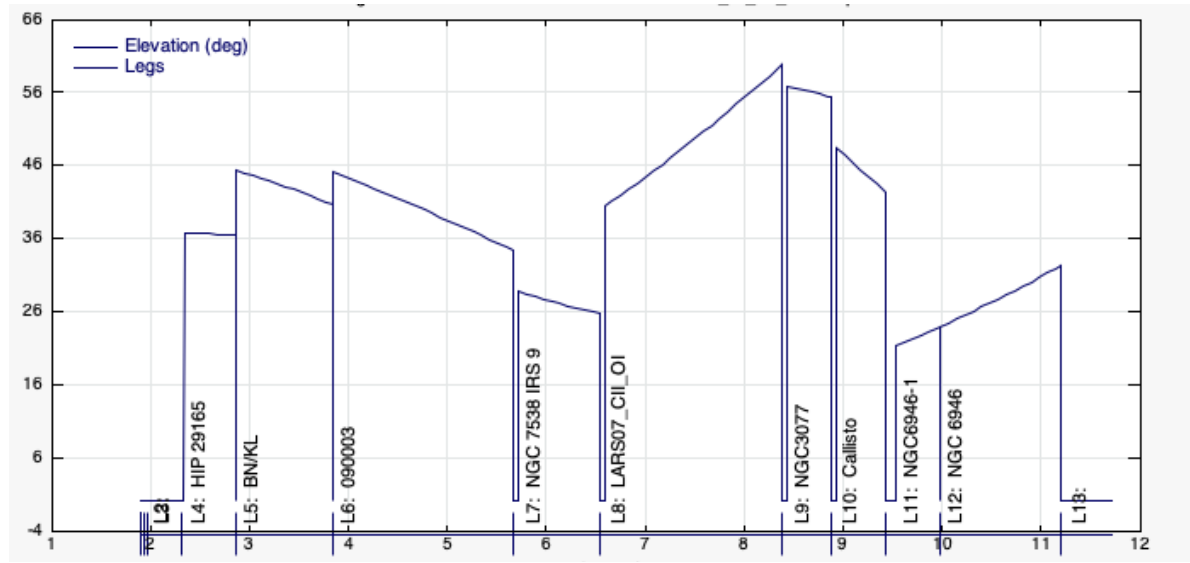
Flight 203 Mission ID 2015-03-20_FI_F203
 Palmdale to Palmdale Take off date UTC: 20-MAR-2015
 Departure UTC: 01:58 Arrival UTC: 11:55

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			HIP 29165	06h09m07.18s	-15d42m05.9s	2:26	31	
5	87_0002	Consortium	BN/KL	05h35m14.16s	-05d22m21.5s	2:57	59	
6	03_0066	Megeath	90003	05h42m45.26s	-01d16m13.9s	4:01	109	
7	03_0151	Blake	NGC 7538 IRS 9	23h14m01.63s	61d27m20.2s	5:49	49	
8	03_0059	Hayes	LARS07_CII_OI	13h16m03.90s	29d22m54.2s	6:41	108	
9	03_0135	Croxall	NGC3077	10h03m19.07s	68d44m02.1s	8:32	27	
10		Calibration	Callisto	09h02m29.34s	17d53m23.7s	9:02	30	FIFI-LS unable to properly control nods; target jumping around
11	03_0135	Croxall	NGC6946	20h35m25.00s	60d09m57.0s	9:38	27	
12	87_0005	Consortium	NGC 6946	20h34m52.33s	60d09m13.2s	10:10	74	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



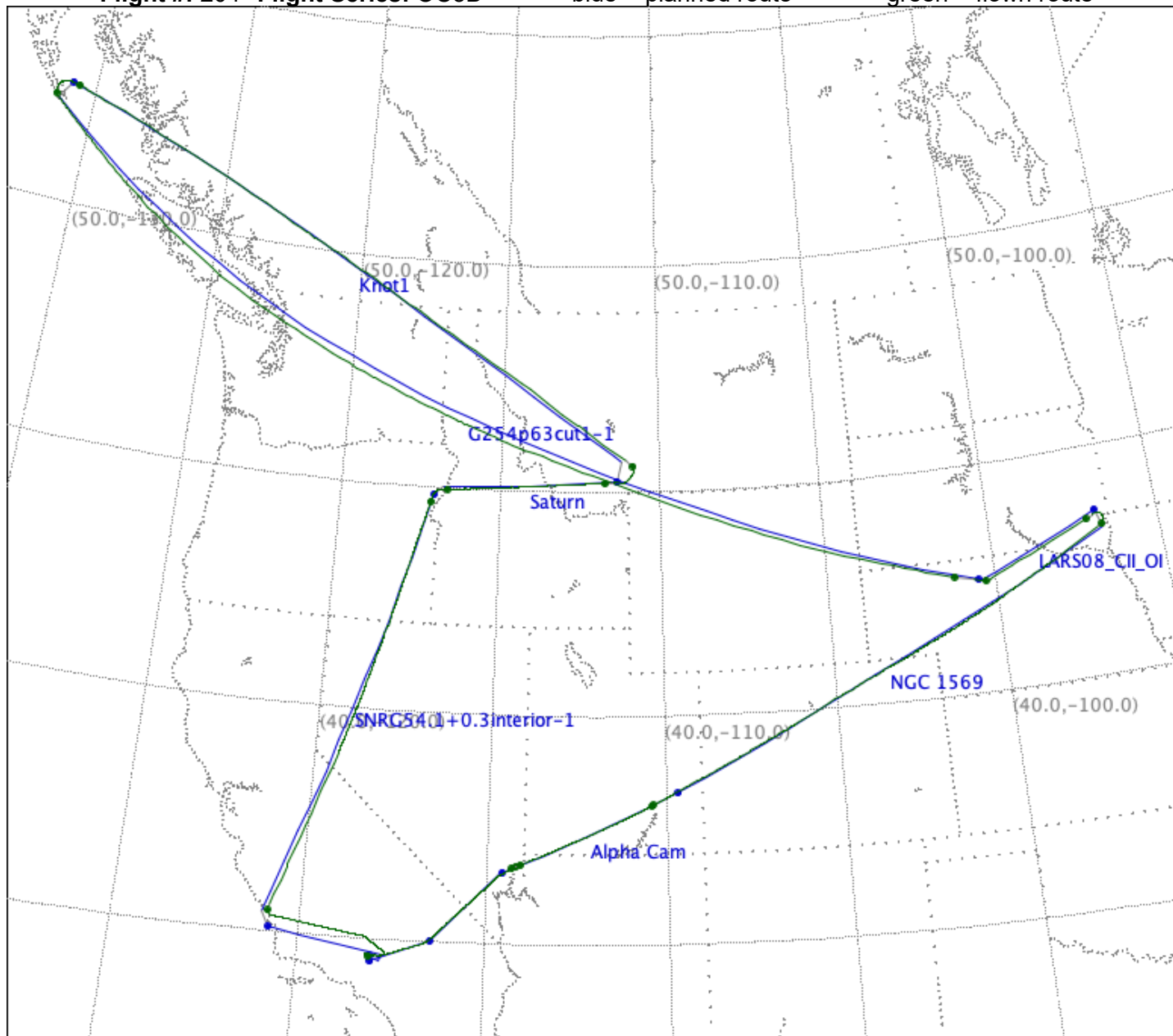
MISSION ID: 2015-03-25_FI_F204

Date: 2015-03-25 UT Instrument: FIFI-LS

Flight #: 204 Flight Series: OC3B

blue = planned route

green = flown route

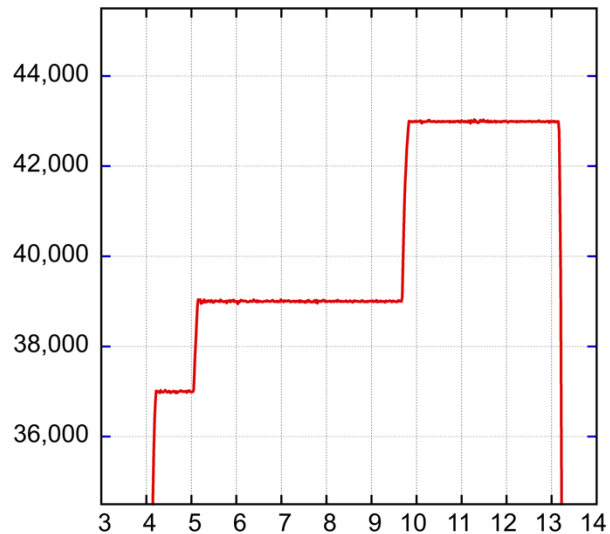


Flight notes: No irregularities.

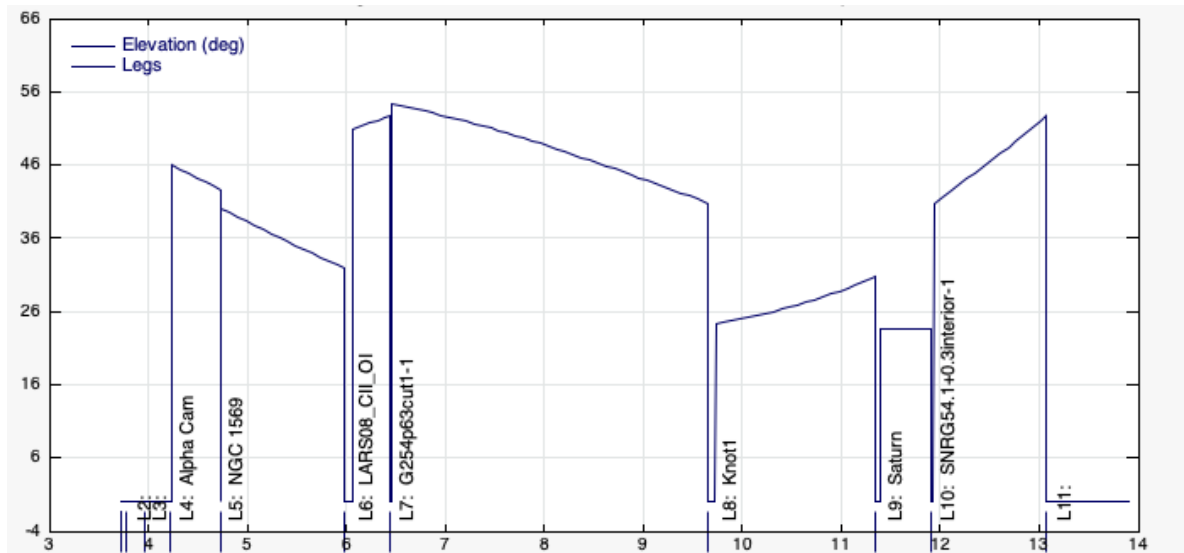
Flight 204 Mission ID 2015-03-25_FI_F204
 Palmdale to Palmdale Take off date UTC: 25-MAR-2015
 Departure UTC: 03:45 Arrival UTC: 13:34

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Alpha Cam	04h54m03.01s	66d20m33.6s	4:16	30	
5	87_0005	Consortium	NGC 1569	04h30m49.19s	64d50m52.5s	4:46	74.6	
6	03_0059	Hayes	LARS08_CII_OI	12h50m13.70s	07d34m44.2s	6:06	22.7	No data; software and telescope errors
7	03_0007	Reach	G254p63cut1	11h29m46.66s	07d34m48.0s	6:29	191.7	
8	03_0051	Tielens	CasA - Knot1	23h23m25.58s	58d49m59.4s	9:46	96.5	
9	90_0032	Calibration	Saturn	16h12m14.79s	-18d58m17.5s	11:26	30	Faulty ephemeris led to acquisition/guiding issues; some time lost
10	03_0101	Rho	SNRG54.1+0.3interior	19h30m28.00s	18d52m15.6s	11:58	68.2	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



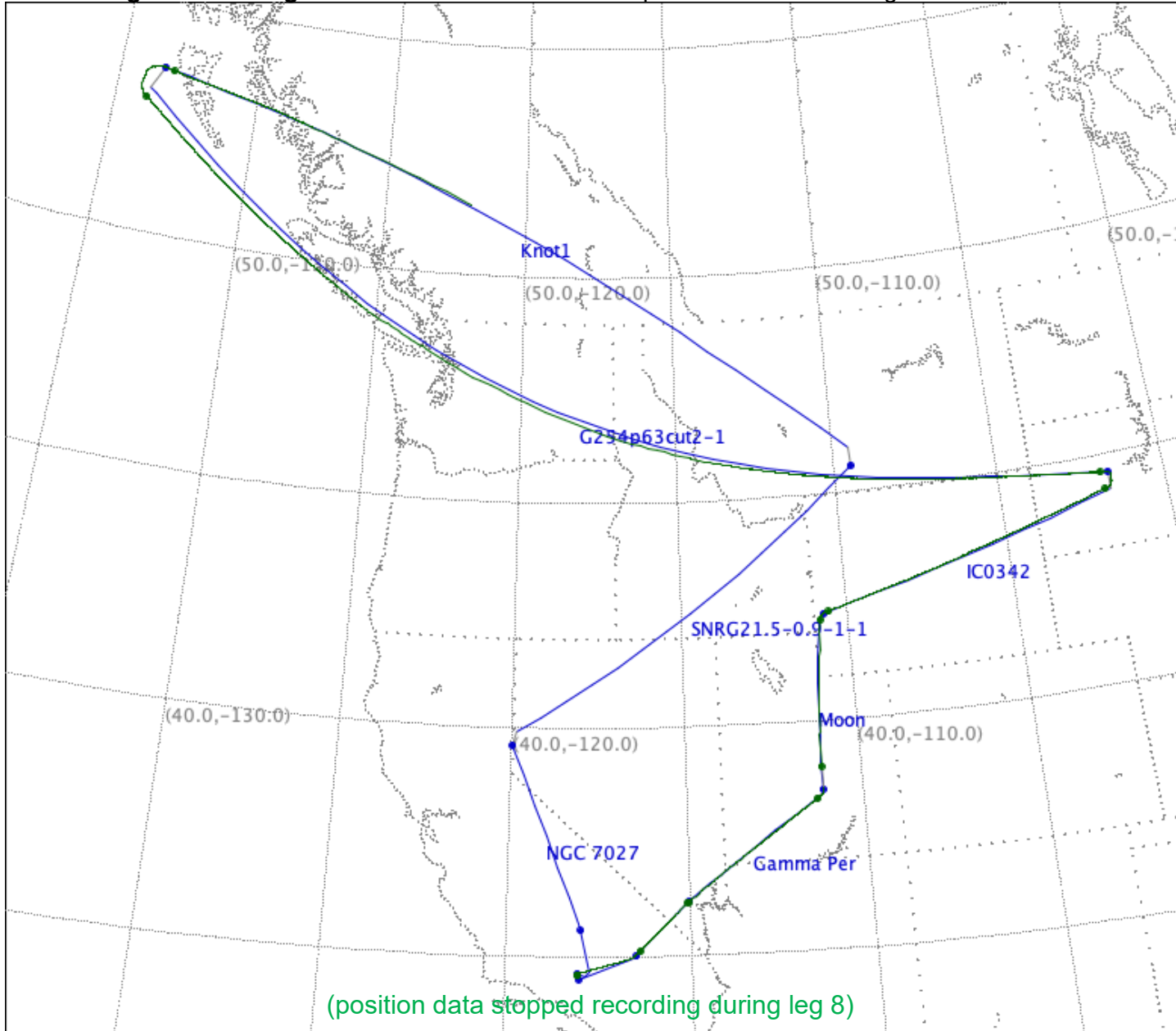
MISSION ID: 2015-03-26_FI_F205

Date: 2015-03-26 UT Instrument: FIFI-LS

Flight #: 205 Flight Series: OC3B

blue = planned route

green = flown route



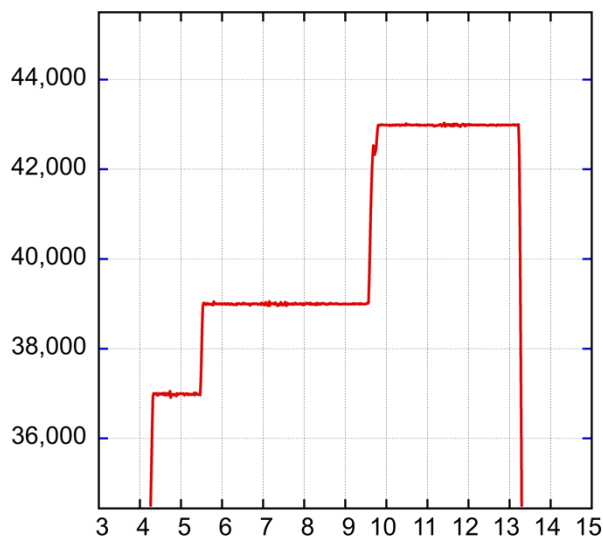
Flight notes:

Irrecoverable observatory control software error mid-flight halted observing early.

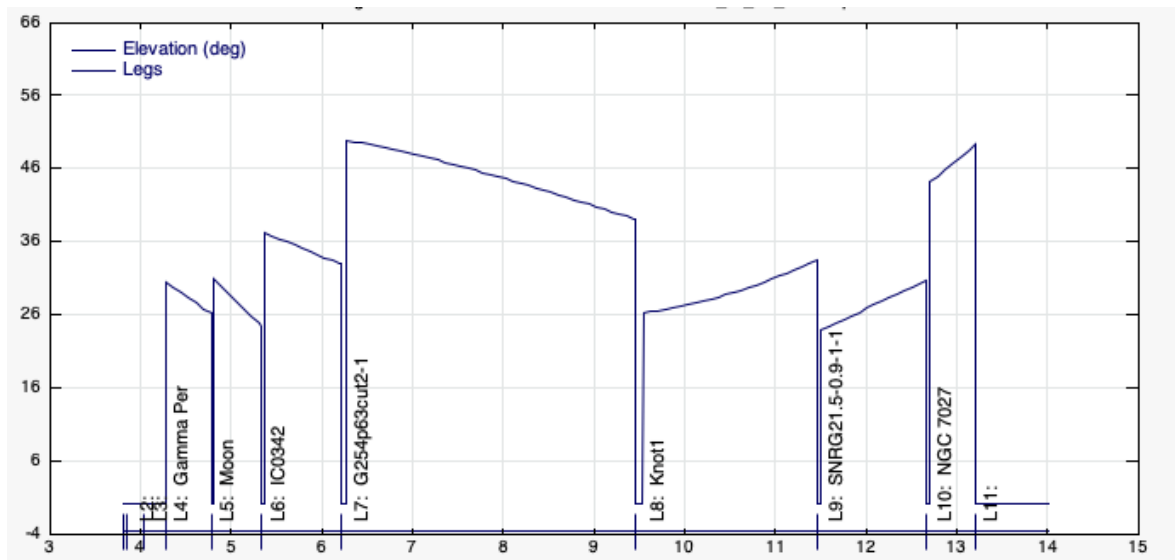
Flight 205 Mission ID 2015-03-26_FI_F205
 Palmdale to Palmdale Take off date UTC: 26-MAR-2015
 Departure UTC: 03:53 Arrival UTC: ~13:46

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Gamma Per	03h04m47.79s	53d30m23.2s	4:19	30	Turbulence.
5		engineering	Moon	05h23m15.84s	17d38m40.3s	4:51	32	
6	03_0135	Croxall	IC0342	03h46m48.50s	68d05m46.9s	5:25	51	
7	03_0007	Reach	G254p63cut2	11h24m23.30s	07d08m39.3s	6:19	191	
8	03_0051	Tielens	CasA - Knot1	23h23m25.58s	58d49m59.4s	9:35	115	40% in to leg an irrecoverable observatory control software error was encountered.
9	03_0101	Rho	SNRG21.5-0.9	18h33m33.27s	-10d34m04.3s	11:33	70	No data due to irrecoverable observatory control software error
10	90_0030	Calibration	NGC 7027	21h07m01.59s	42d14m10.2s	12:45	30	No data due to irrecoverable observatory control software error

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



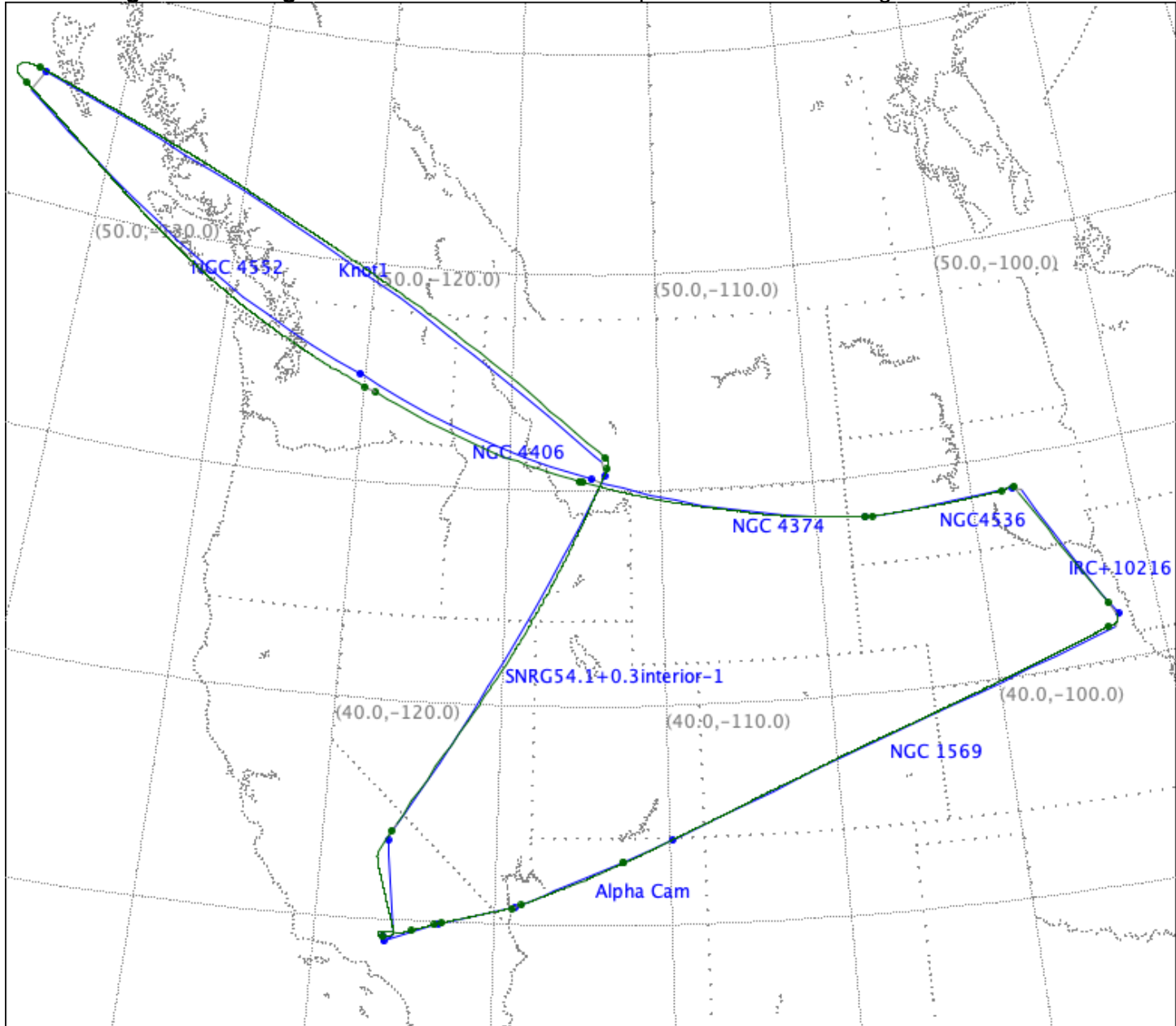
MISSION ID: 2015-03-27_FI_F206

Date: 2015-03-27 UT Instrument: FIFI-LS

Flight #: 206 Flight Series: OC3B

blue = planned route

green = flown route

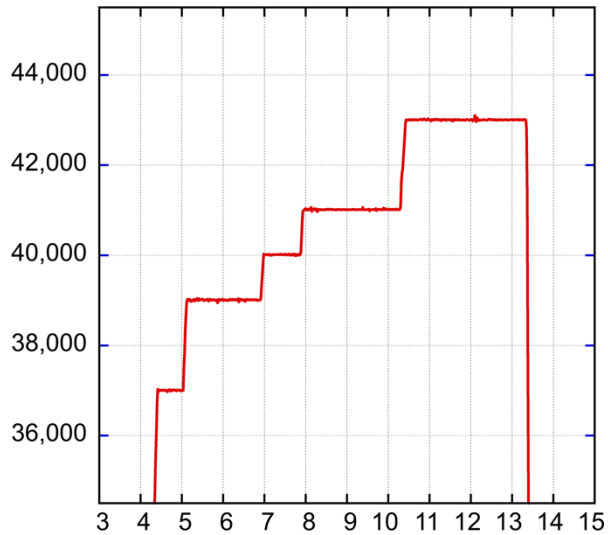


Flight notes: No irregularities.

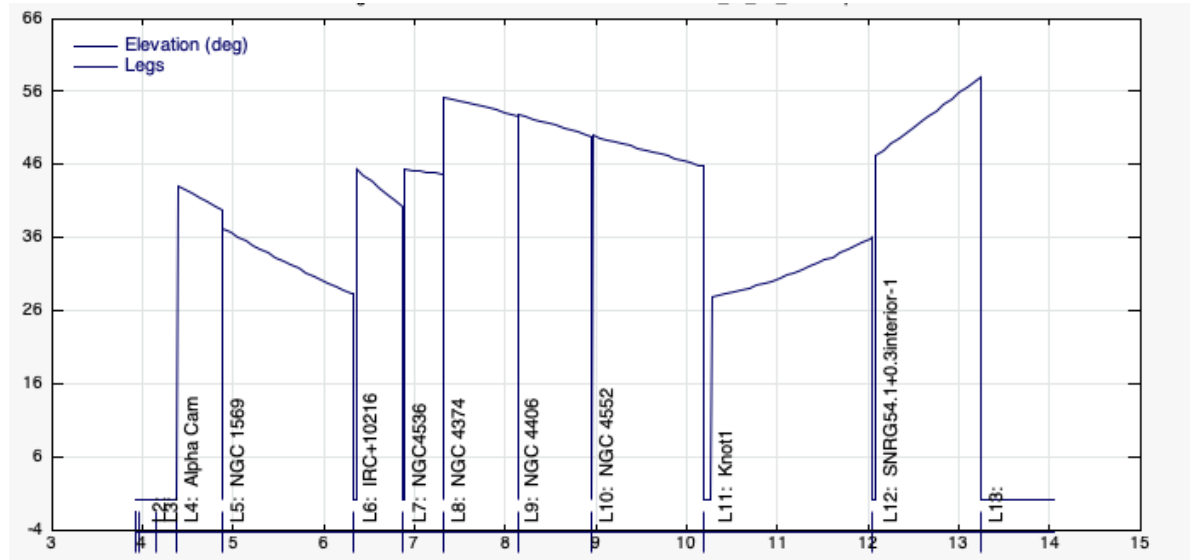
Flight 206 Mission ID 2015-03-27_FI_F206
 Palmdale to Palmdale Take off date UTC: 27-MAR-2015
 Departure UTC: 03:56 Arrival UTC: 13:44

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Alpha Cam	04h54m03.01s	66d20m33.6s	4:26	30	
5	87_0005	Consortium	NGC 1569	04h30m49.19s	64d50m52.5s	4:56	86	
6	90_0030	Calibration	IRC+10216	09h47m57.41s	13d16m43.6s	6:24	30	
7	03_0135	Croxall	NGC4536	12h34m27.05s	02d11m17.3s	6:56	26	
8	03_0141	Werner	NGC 4374	12h25m03.70s	12d53m13.0s	7:22	49	
9	03_0141	Werner	NGC 4406	12h26m11.70s	12d56m46.0s	8:13	49	
10	03_0141	Werner	NGC 4552	12h35m39.80s	12d33m23.0s	9:00	74	
11	03_0051	Tielens	CasA - Knot1	23h23m25.58s	58d49m59.4s	10:19	106	
12	03_0101	Rho	SNRG54.1+0.3interior	19h30m28.00s	18d52m15.6s	12:08	69	Last 10min of leg sky bright and guiding stability poor; last 5min observed without guiding

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



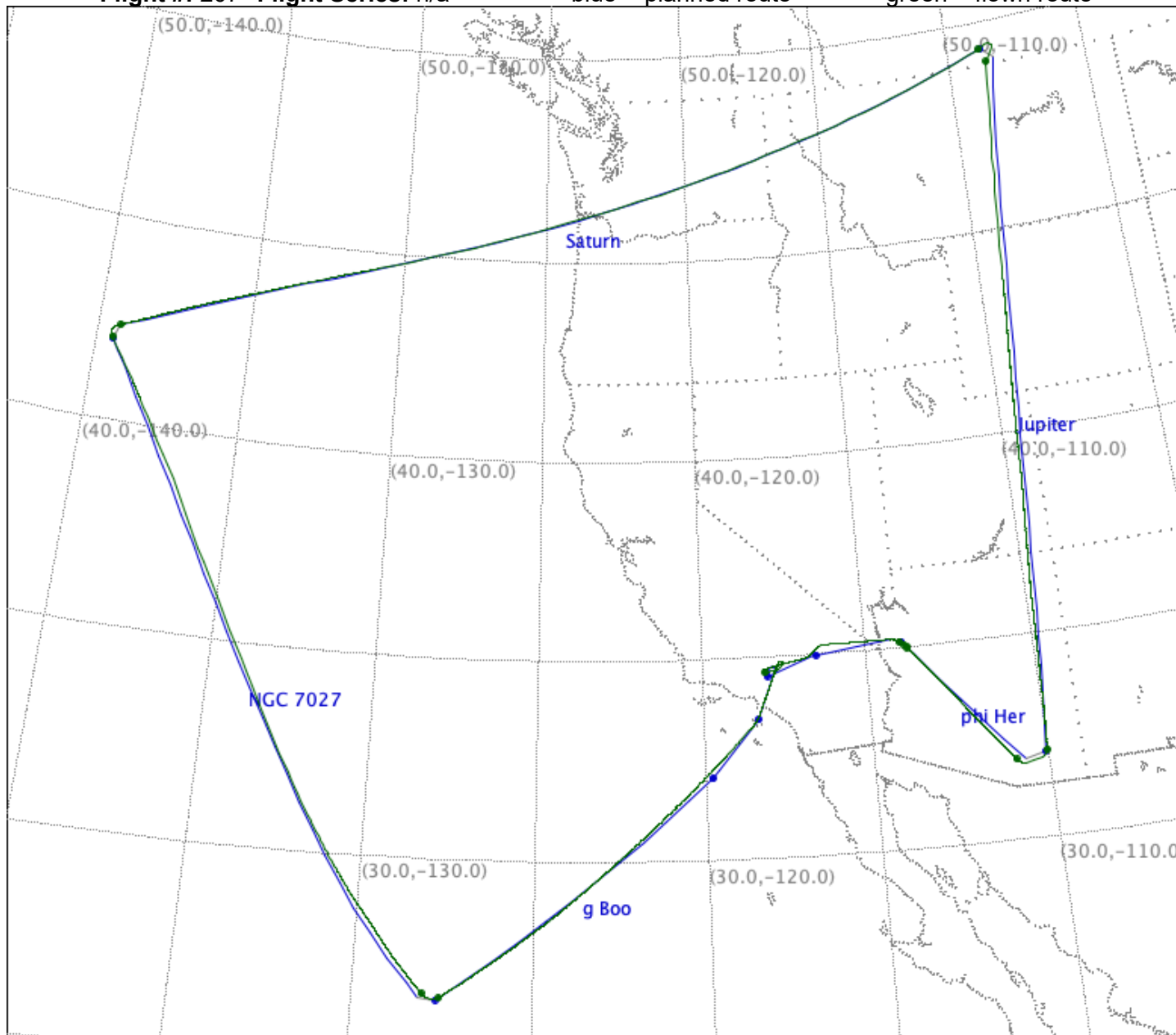
MISSION ID: 2015-05-14_GR_F207

Date: 2015-05-15 UT Instrument: GREAT

Flight #: 207 Flight Series: n/a

blue = planned route

green = flown route

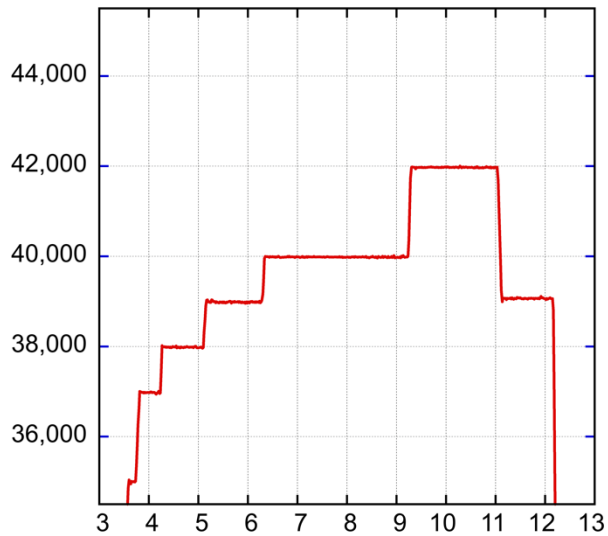


Flight notes:
UpGREAT commissioning flight. No science data.

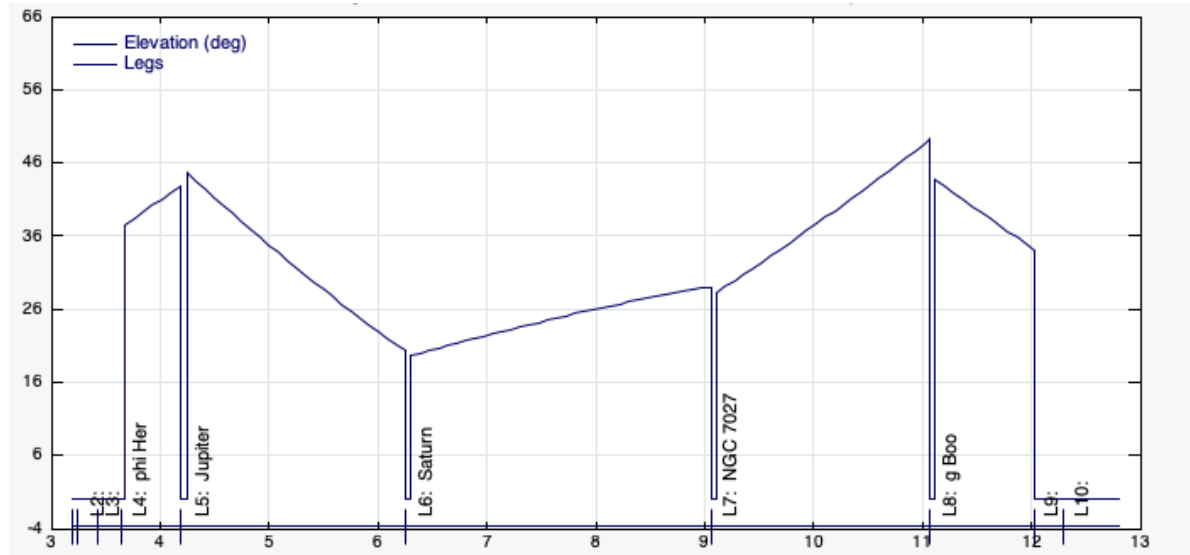
Flight 207 Mission ID 2015-05-14_GR_F207
 Palmdale to Palmdale Take off date UTC: 14-MAY-2015
 Departure UTC: 03:09 Arrival UTC: 12:41
 L1-LFA

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			phi Her	16h08m46.20s	44d56m06.3s	3:42	30	
5	94_0121	Testing	Jupiter	09h07m58.29s	17d25m06.5s	4:16	120	
6	94_0121	Testing	Saturn	16h01m44.65s	-18d25m36.6s	6:20	165	
7	90_0011	GREAT Commissioning	NGC 7027	21h07m01.59s	42d14m10.2s	9:08	118	
8	72_0001	V&V	g Boo	14h28m37.81s	49d50m41.5s	11:09	55	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



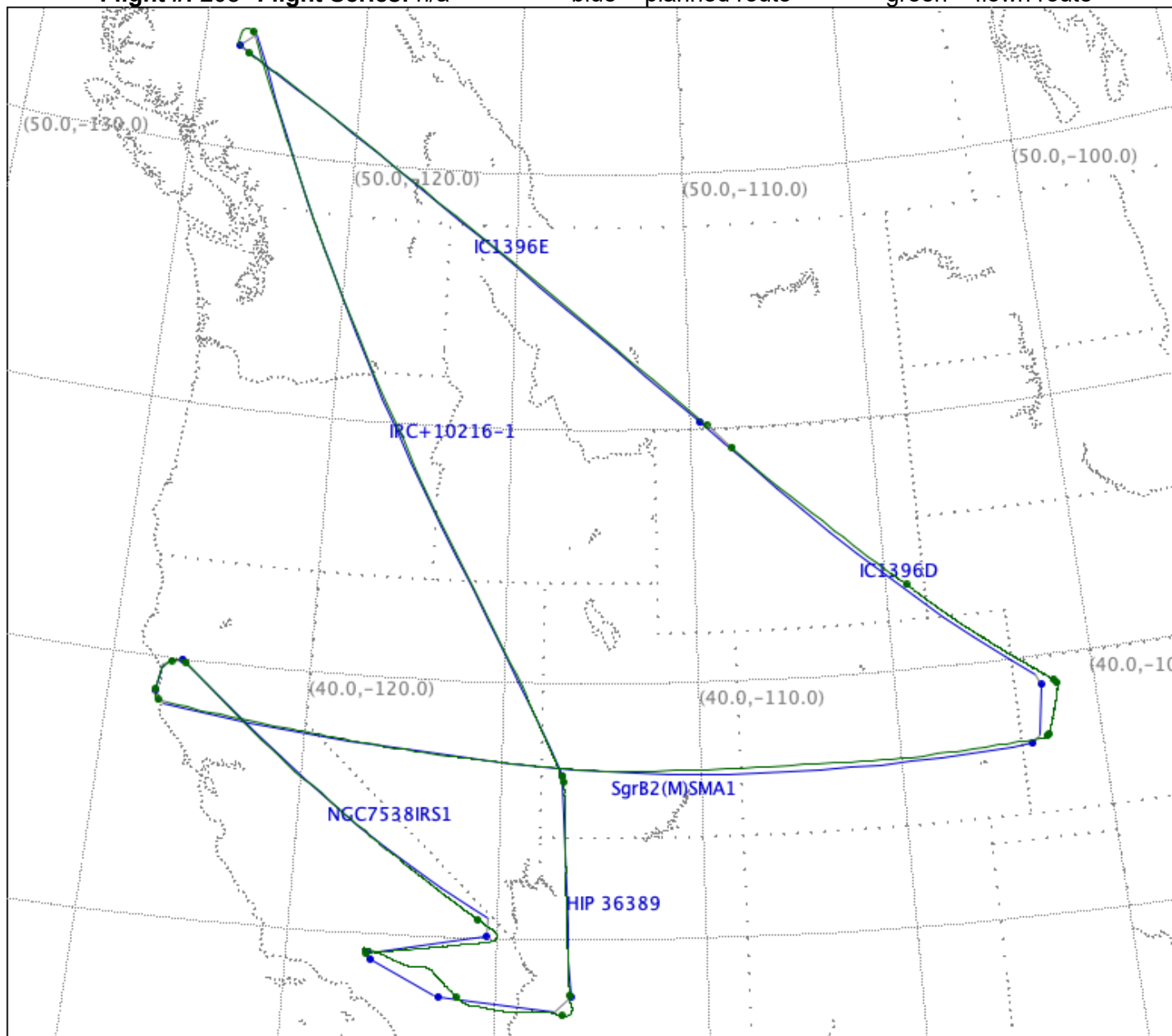
MISSION ID: 2015-05-20_GR_F208

Date: 2015-05-20 UT Instrument: GREAT

Flight #: 208 Flight Series: n/a

blue = planned route

green = flown route



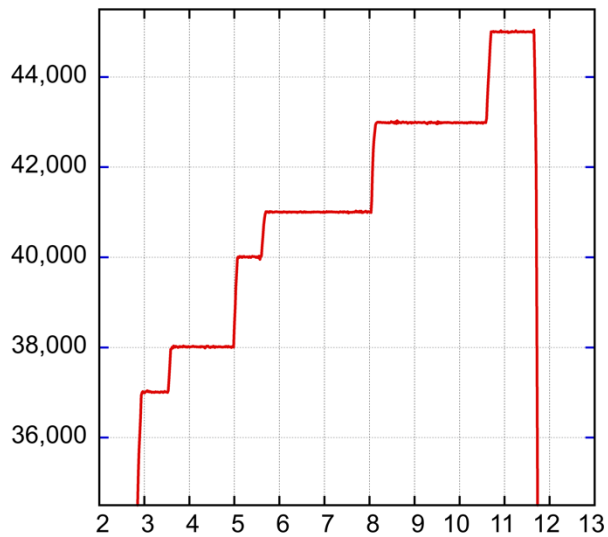
Flight notes:

UpGREAT commissioning flight. Some engineering and some science data.

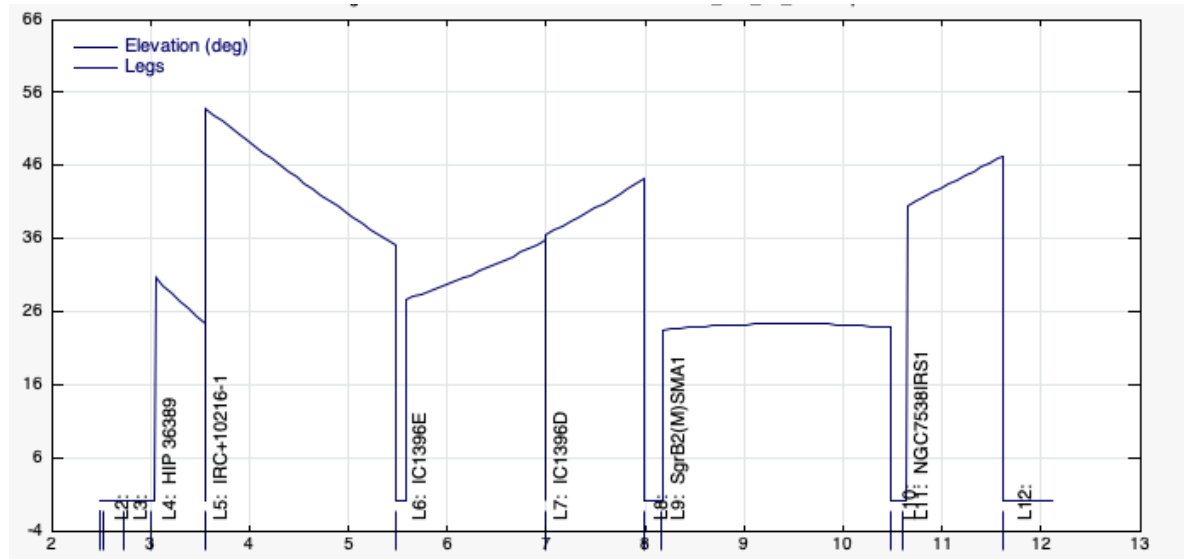
Flight 208 Mission ID 2015-05-20_GR_F208
 Palmdale to Palmdale Take off date UTC: 20-MAY-2015
 Departure UTC: 02:26 Arrival UTC: 12:10 Consortium flight L1-LFA

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			HIP 36389	07h29m18.80s	06d34m55.8s	3:05	30	
5	83_0006	GREAT Consortium	IRC+10216	09h47m57.40s	13d16m43.6s	3:35	115	
6	83_0006	GREAT Consortium	IC1396E	21h40m39.00s	58d16m48.0s	5:36	85	
7	83_0006	GREAT Consortium	IC1396D	21h33m08.00s	57d59m30.0s	7:02	60	
9	83_0006	GREAT Consortium	SgrB2(M)SMA1	17h47m20.16s	-28d23m04.5s	8:13	138	
11	83_0006	GREAT Consortium	NGC7538IRS1	23h13m45.37s	61d28m10.4s	10:41	58	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



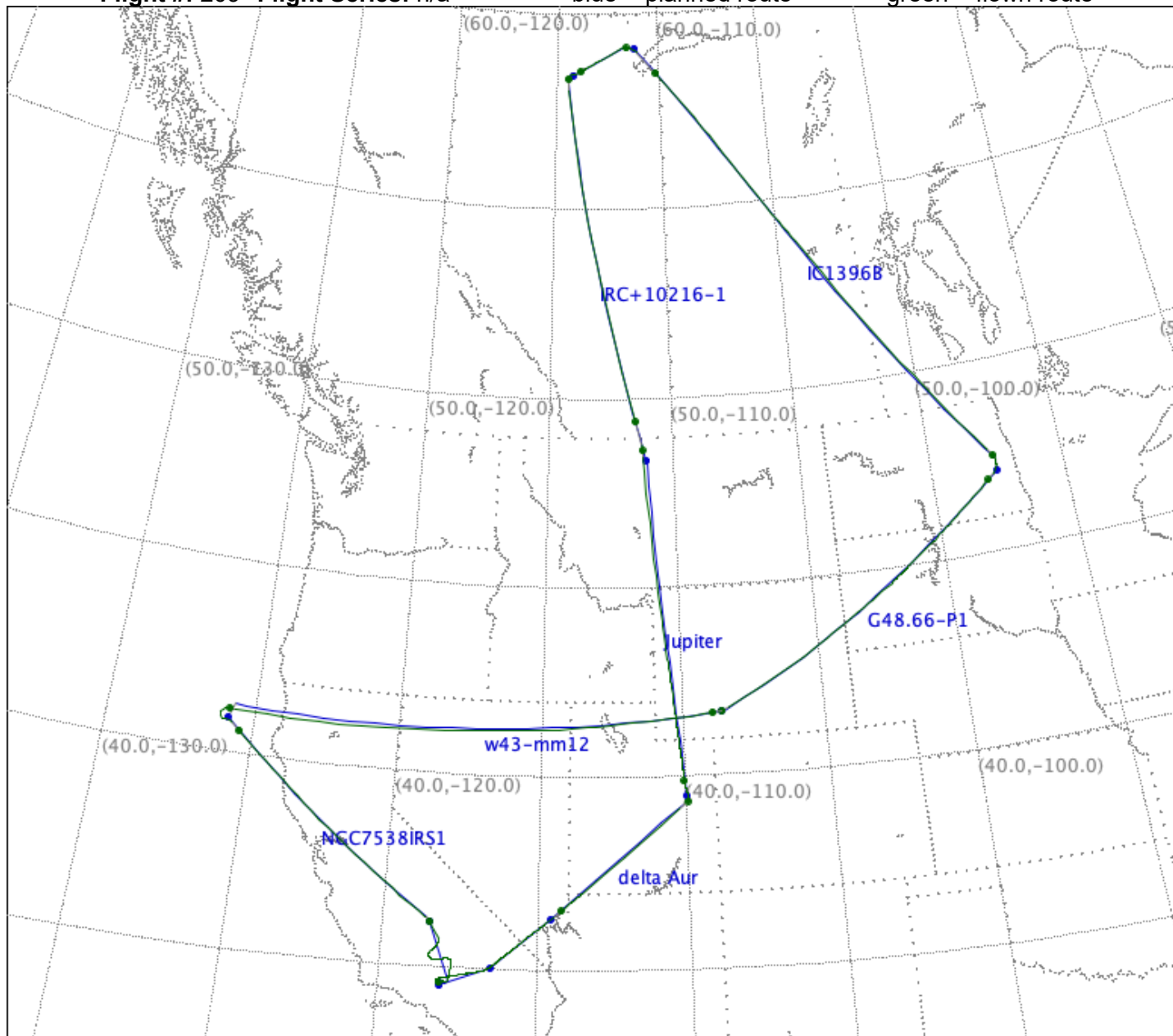
MISSION ID: 2015-05-21_GR_F209

Date: 2015-05-21 UT Instrument: GREAT

Flight #: 209 Flight Series: n/a

blue = planned route

green = flown route

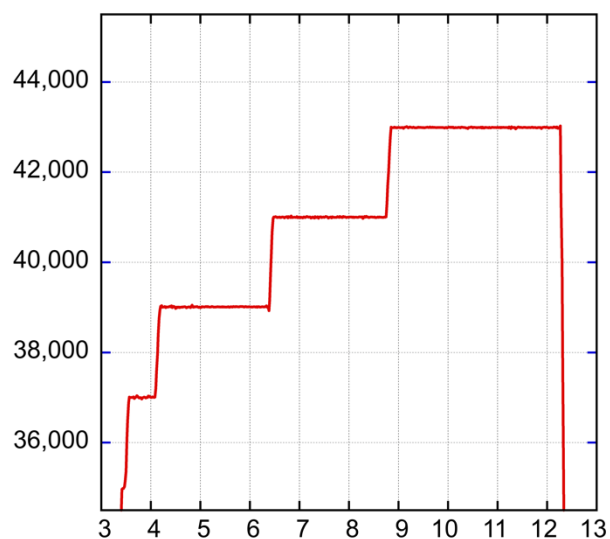


Flight notes:

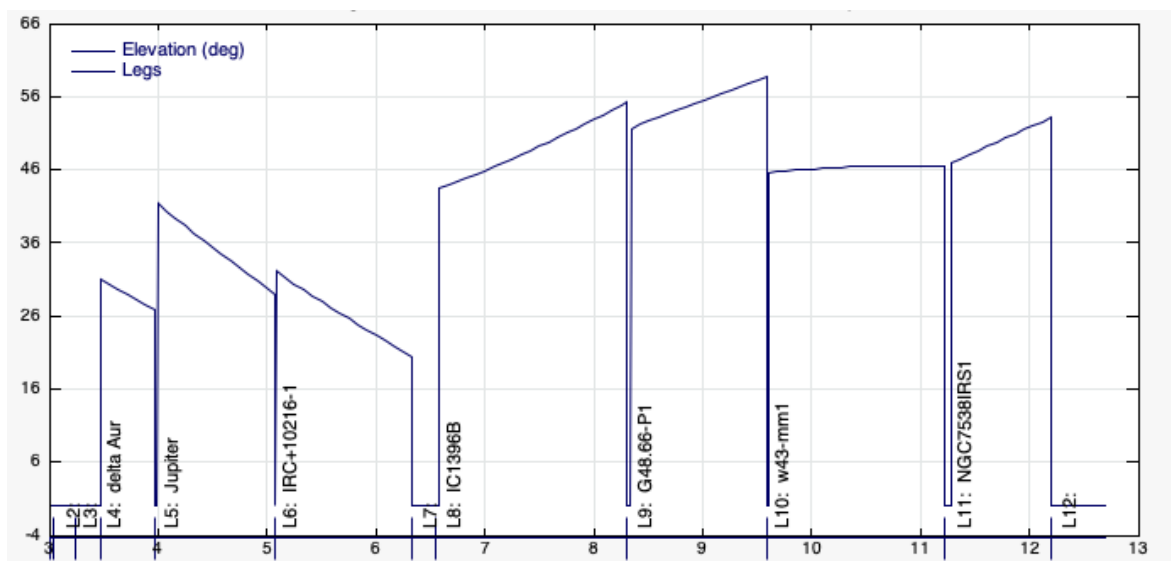
UpGREAT commissioning flight. Some engineering and some science data.

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			delta Aur	05h59m31.80s	54d17m02.7s	3:29	30	
5	94_0121	Testing	Jupiter	09h11m01.84s	17d11m07.7s	4:01	65	
6	83_0006	GREAT Consortium	IRC+10216	09h47m57.40s	13d16m43.6s	5:06	75	
8	83_0006	GREAT Consortium	IC1396B	21h34m13.00s	57d30m48.0s	6:36	103	
9	83_0006	GREAT Consortium	G48.66-P1	19h21m49.65s	13d49m31.3s	8:22	75	
10	03_0127	Gusdorf	w43-mm1	18h47m46.90s	-01d54m28.1s	9:37	97	
11	83_0006	GREAT Consortium	NGC7538IRS1	23h13m45.37s	61d28m10.4s	11:18	55	Dawn skies led to loss of guiding in last two min of leg

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



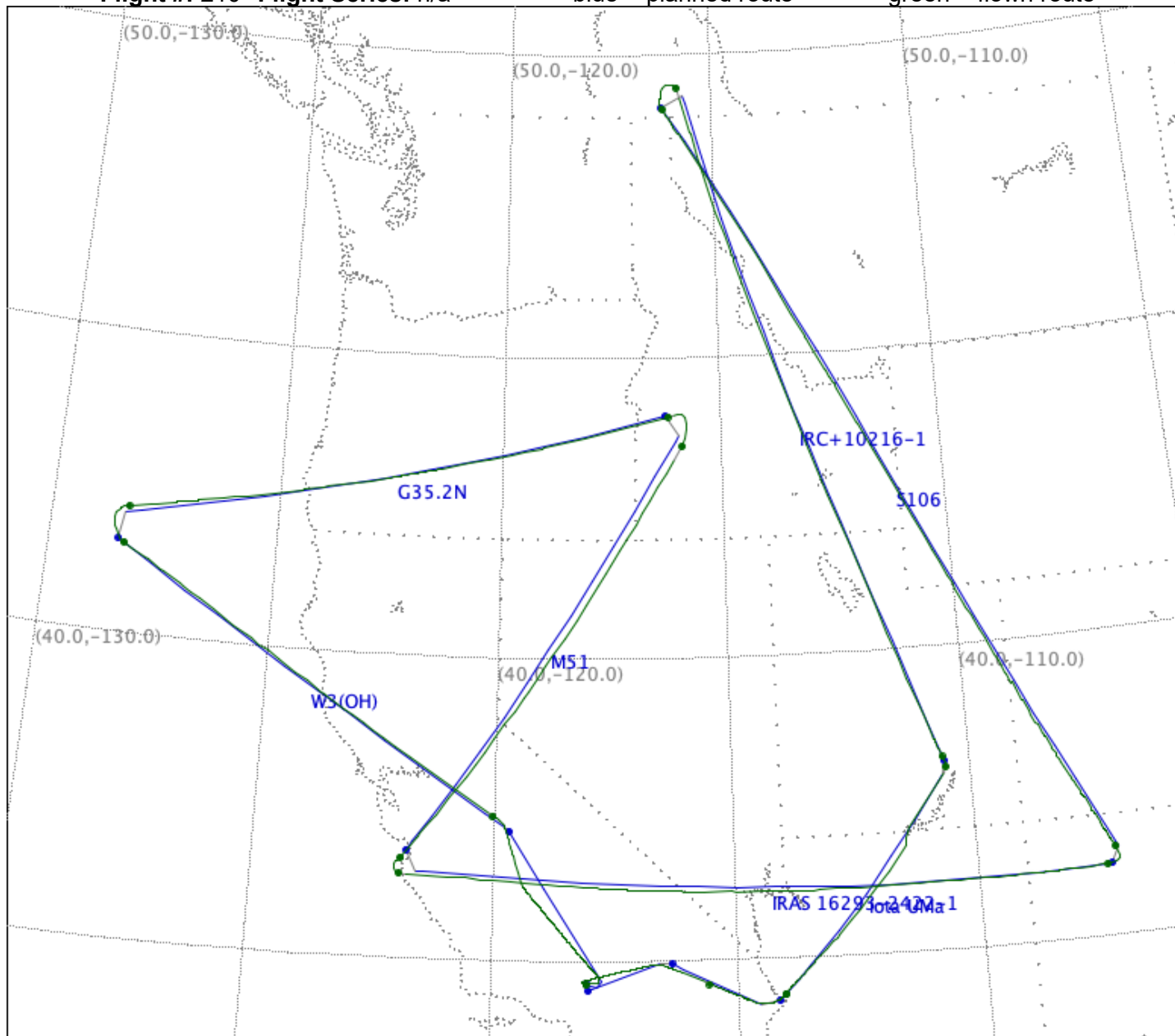
MISSION ID: 2015-05-22_GR_F210

Date: 2015-05-22 UT Instrument: GREAT

Flight #: 210 Flight Series: n/a

blue = planned route

green = flown route



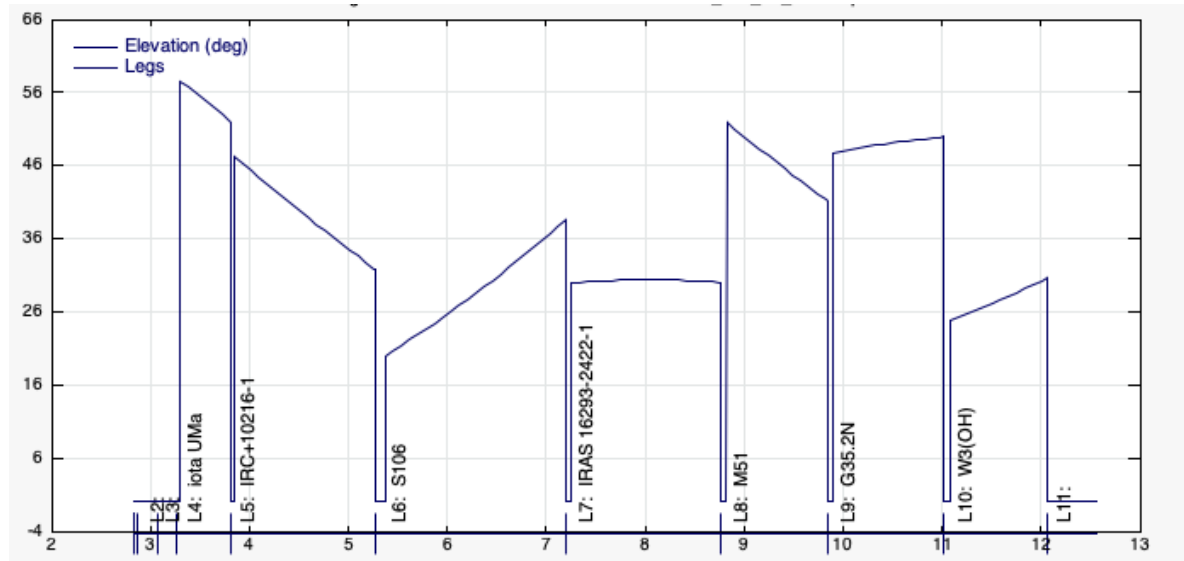
Flight notes:

UpGREAT commissioning flight. Some engineering and some science data.

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			iota UMa	08h59m12.10s	48d02m28.9s	3:20	31	
5	83_0006	GREAT Consortium	IRC+10216	09h47m57.40s	13d16m43.6s	3:53	86	40min lost fixing broken cable between instrument and telescope
6	83_0006	GREAT Consortium	S106	20h27m26.74s	37d22m47.9s	5:24	110	
7	03_0083	Schlemmer	IRAS 16293-2422	16h32m22.78s	-24d28m38.7s	7:17	91	
8	83_0006	GREAT Consortium	M51	13h29m52.53s	47d11m42.0s	8:52	61	
9	83_0006	GREAT Consortium	G35.2N	18h58m13.03s	01d40m36.1s	9:56	67	
10	83_0006	GREAT Consortium	W3(OH)	02h27m04.30s	61d52m25.0s	11:07	58	

Flown altitude (ft.) vs. time (UTC hrs.)

Planned target elevation (deg.) vs. time (UTC hrs.)



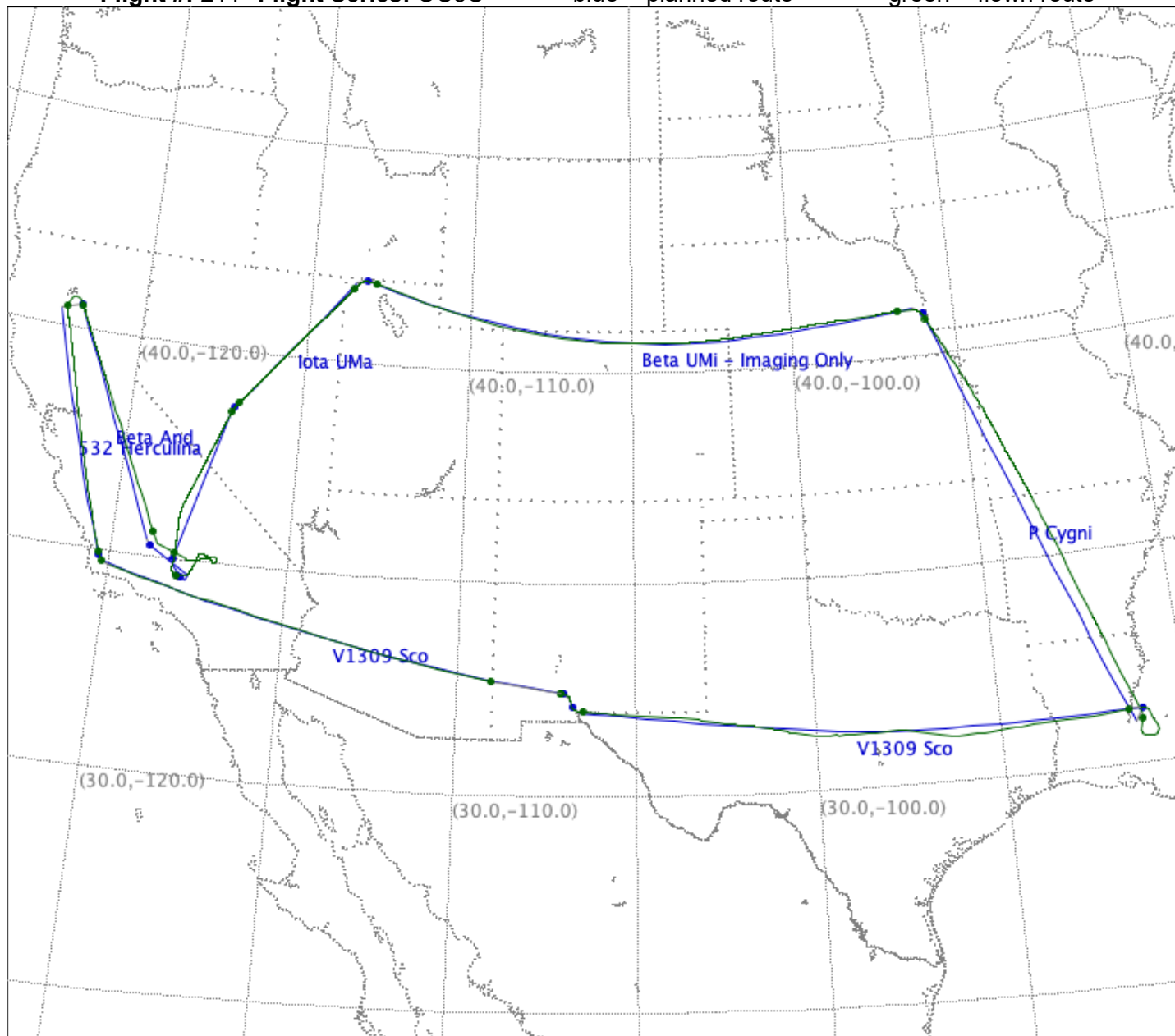
MISSION ID: 2015-05-29_FO_F211

Date: 2015-05-29 UT Instrument: FORCAST

Flight #: 211 Flight Series: OC3C

blue = planned route

green = flown route

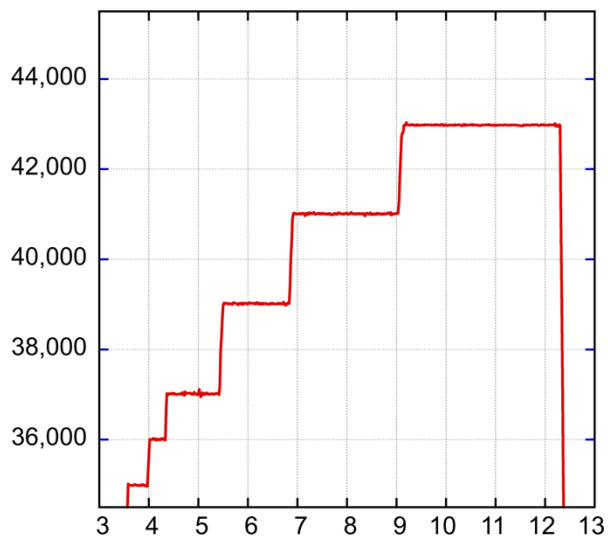


Flight notes: In-flight deviation around storms.

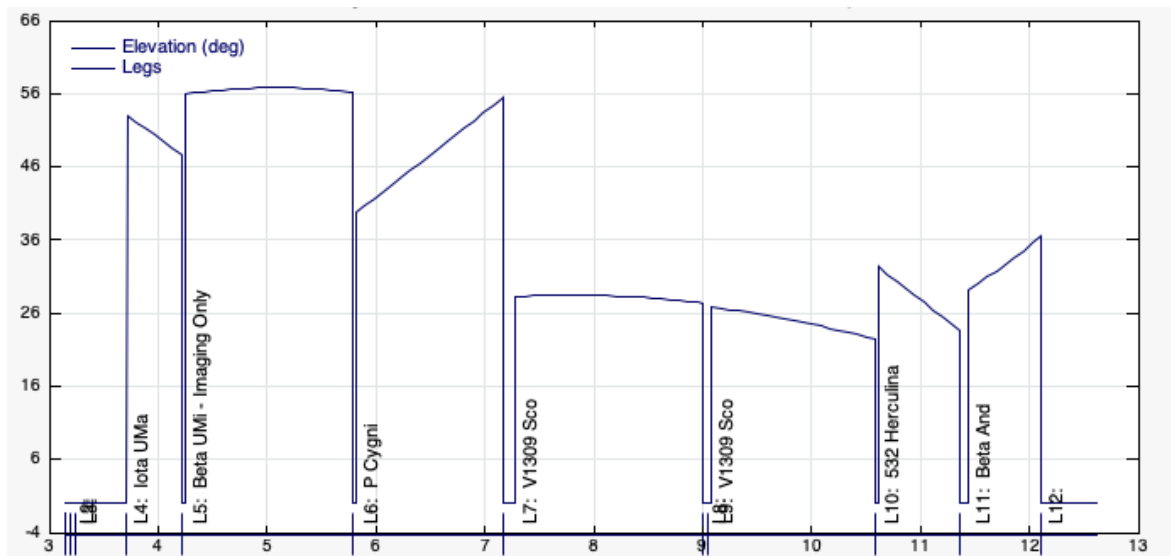
Flight 211 Mission ID 2015-05-29_FO_F211
 Palmdale to Palmdale Take off date UTC: 29-MAY-2015
 Departure UTC: 03:11 Arrival UTC: 12:42

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Iota UMa	08h59m12.50s	48d02m31.0s	3:48	30	
5	90_0013	Calibration	Beta UMi - Imaging Only	14h50m42.33s	74d09m19.8s	4:20	92	Engineering tests
6	03_0131	Smith	P Cygni	20h17m47.20s	38d01m58.5s	5:54	81	High water vapor.
7	03_0062	McCollum	V1309 Sco	17h57m33.02s	-30d43m10.4s	7:22	103	37min lost due to deviations around storms; 15min lost due to FORCAST software error
9	03_0062	McCollum	V1309 Sco	17h57m33.02s	-30d43m10.4s	9:10	91	
10	90_0052	Calibration	532 Herculina	15h45m50.30s	01d08m07.7s	10:42	45	Some guiding stability issues
11	90_0006	Calibration	Beta And	01h09m43.92s	35d37m14.0s	11:32	40	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



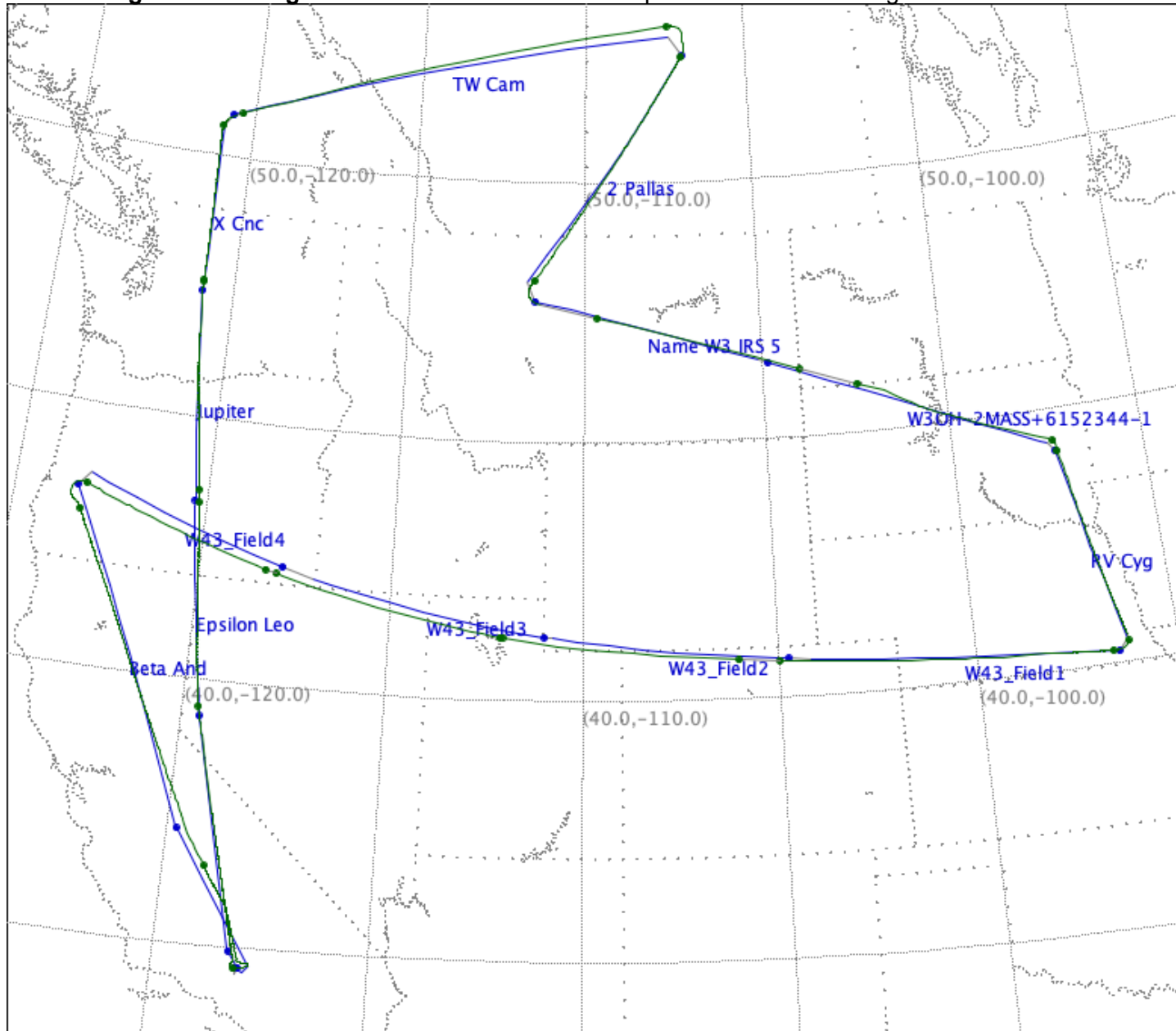
MISSION ID: 2015-05-30_FO_F212

Date: 2015-05-30 UT **Instrument:** FORCAST

Flight #: 212 **Flight Series:** OC3C

blue = planned route

green = flown route

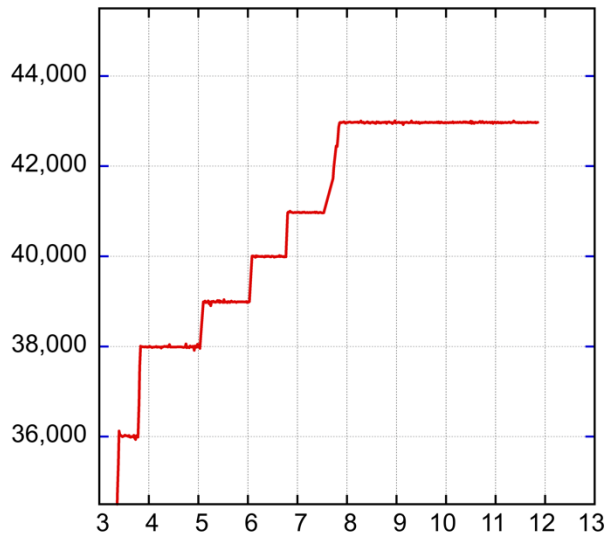


Flight notes: No irregularities.

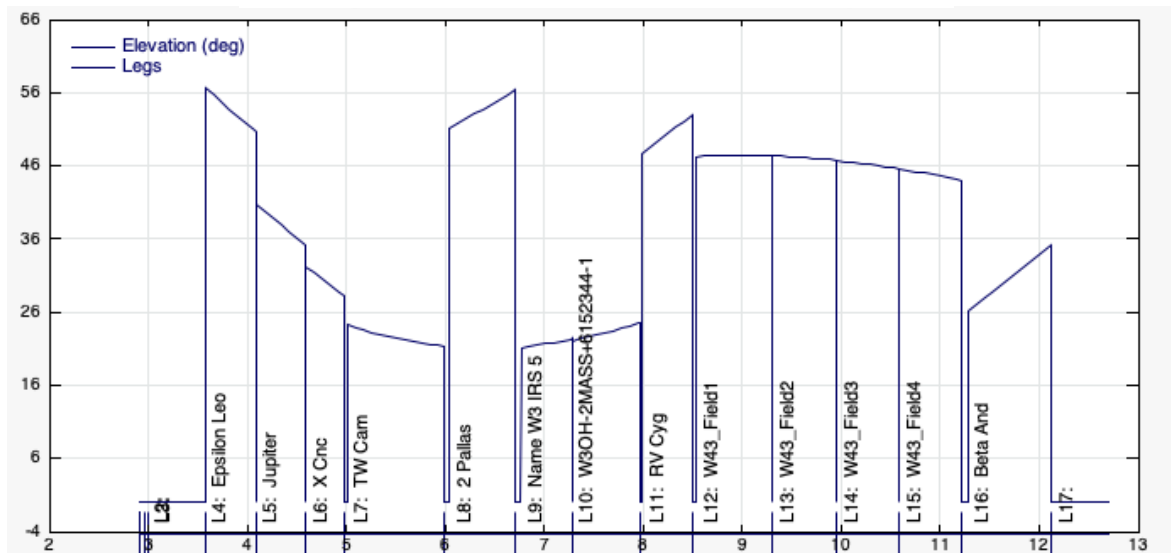
Flight 212 Mission ID 2015-05-30_FO_F212
 Palmdale to Palmdale Take off date UTC: 30-MAY-2015
 Departure UTC: 02:58 Arrival UTC: 12:45

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Epsilon Leo	09h45m51.00s	23d46m27.0s	3:39	31	Engineering data.
5			Jupiter	09h15m03.00s	16d52m38.0s	4:10	30	Engineering data.
6	03_0104	Sloan	X Cnc	08h55m22.88s	17d13m52.6s	4:40	23	
7	03_0022	Gehrz	TW Cam	04h20m47.62s	57d26m28.5s	5:05	59	
8	90_0049	Calibration	2 Pallas	17h43m06.53s	24d58m28.0s	6:08	40	
9	03_0064	Chiar	Name W3 IRS 5	02h25m40.54s	62d05m51.4s	6:51	31	Vignetting possible at beginning of leg
10	70_0301	GTO	W3OH-2MASS+6152344	02h27m08.87s	61d52m34.4s	7:23	41	Observatory control software crash; 31 min lost
11	03_0104	Sloan	RV Cyg	21h43m16.33s	38d01m03.0s	8:04	30	
12	03_0091	Bally	W43_Field1	18h47m45.83s	-01d55m24.2s	8:37	46	
13	03_0091	Bally	W43_Field2	18h47m37.42s	-01d55m13.7s	9:26	39	
14	03_0091	Bally	W43_Field3	18h47m40.53s	-01d57m42.2s	10:03	38	
15	03_0091	Bally	W43_Field4	18h47m29.62s	-01d57m15.2s	10:45	38	
16	90_0006	Calibration	Beta And	01h09m43.92s	35d37m14.0s	11:22	50	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



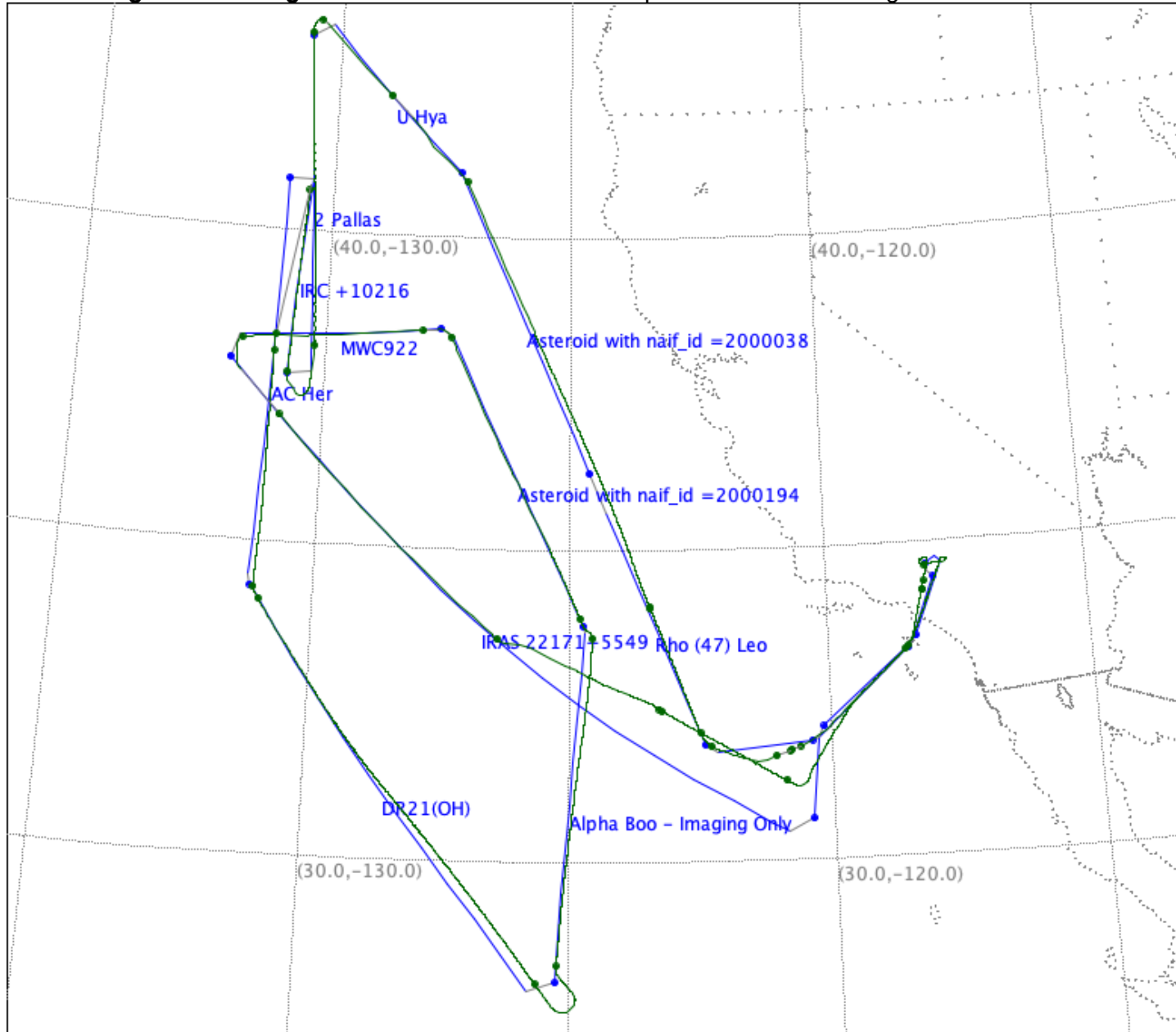
MISSION ID: 2015-06-03_FO_F214

Date: 2015-06-03 UT **Instrument:** FORCAST

Flight #: 214 **Flight Series:** OC3C

blue = planned route

green = flown route

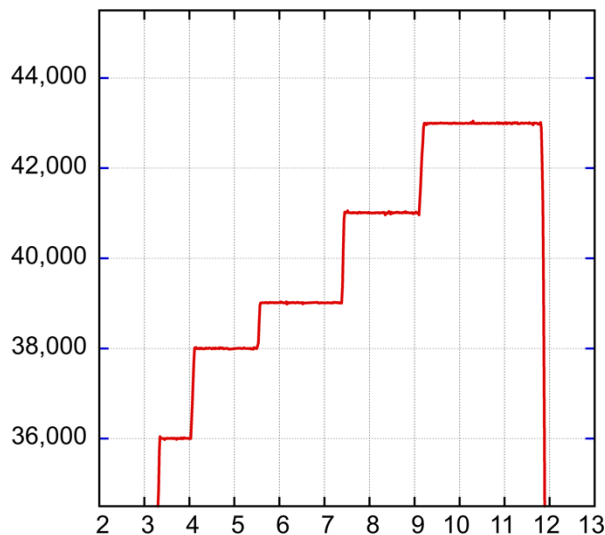


Flight notes: No irregularities.

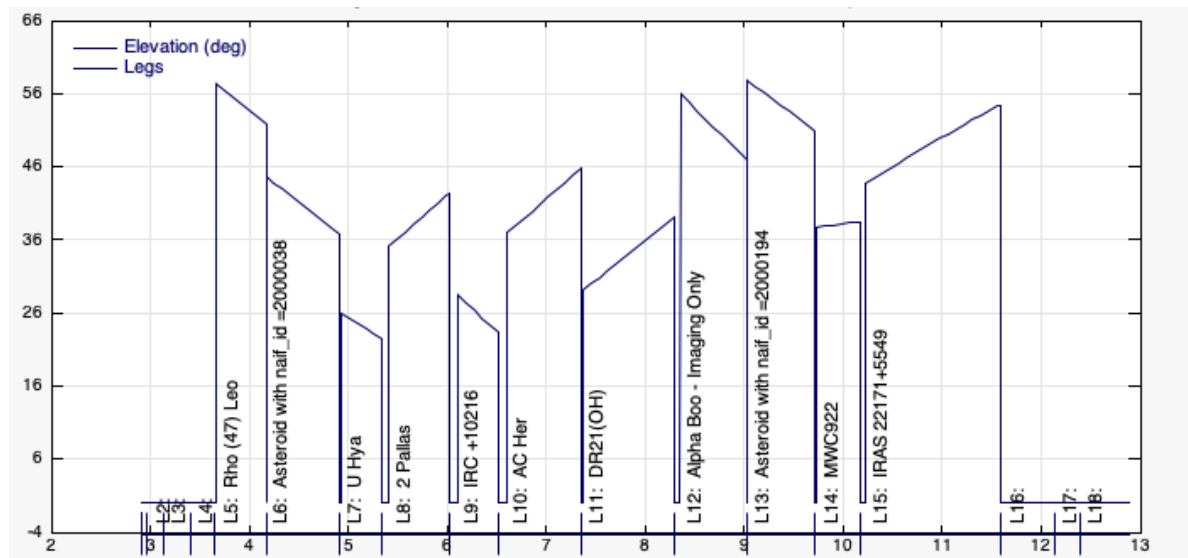
Flight 214 Mission ID 2015-06-03_FO_F214
 Palmdale to Palmdale Take off date UTC: 03-JUN-2015
 Departure UTC: 02:53 Arrival UTC: 12:19

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
5			Rho (47) Leo	10h32m49.00s	09d18m24.0s	3:46	30	
6	03_0114	McAdam	38 Leda	10h11m11.94s	04d34m38.2s	4:21	45	60% of leg lost due to nodding and guiding problems.
7	03_0104	Sloan	U Hya	10h37m33.27s	-13d23m04.3s	5:01	25	Nodding errors; some loss of time
8	90_0033	Calibration	2 Pallas	17h39m55.32s	25d14m29.5s	5:30	37	
9	03_0104	Sloan	IRC +10216	09h47m57.41s	13d16m43.6s	6:12	25	Reboot of observatory control software led to no data collected on leg.
10	03_0022	Gehrz	AC Her	18h30m16.24s	21d52m00.6s	6:42	45	Half of leg lost due to software reboot from prior leg.
11	03_0058	Hill	DR21(OH)	20h39m01.10s	42d22m52.0s	7:28	55	
12	90_0013	Calibration	Alpha Boo - Imaging Only	14h15m39.67s	19d10m56.7s	8:27	40	
13	03_0114	McAdam	Asteroid with naif_id =2000194 (Prokne)	15h39m51.84s	11d14m44.2s	9:08	40	
14	03_0079	Kraemer	MWC922	18h21m15.90s	-13d01m27.0s	9:49	26	
15	03_0109	Tan	IRAS 22171+5549	22h19m08.60s	56d05m02.0s	10:19	82	Air Traffic Control required deviation from plan; 20min lost.

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



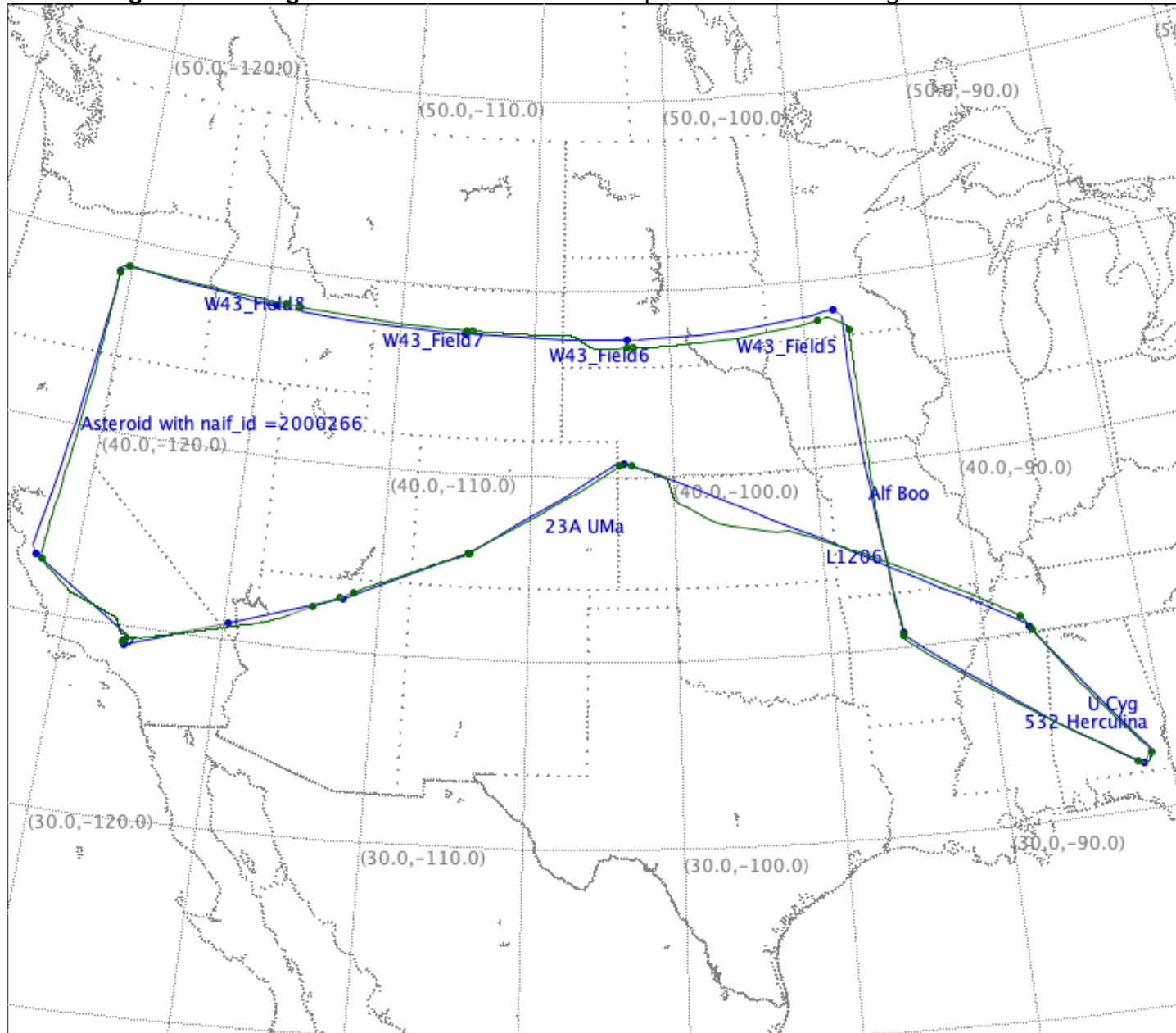
MISSION ID: 2015-06-04_FO_F215

Date: 2015-06-04 UT **Instrument:** FORCAST

Flight #: 215 **Flight Series:** OC3C

blue = planned route

green = flown route

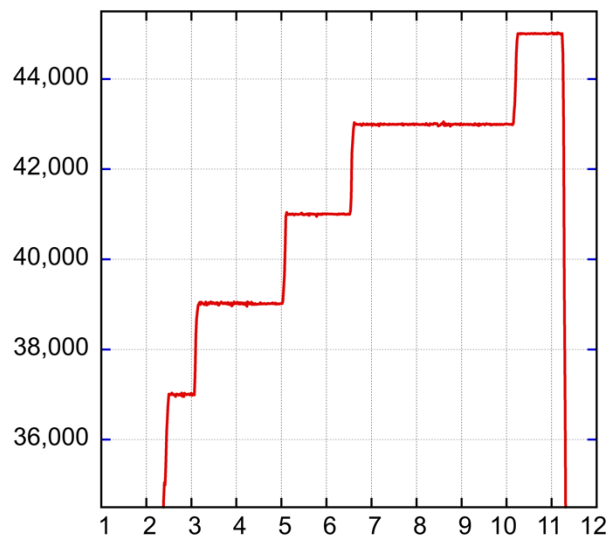


Flight notes: No irregularities.

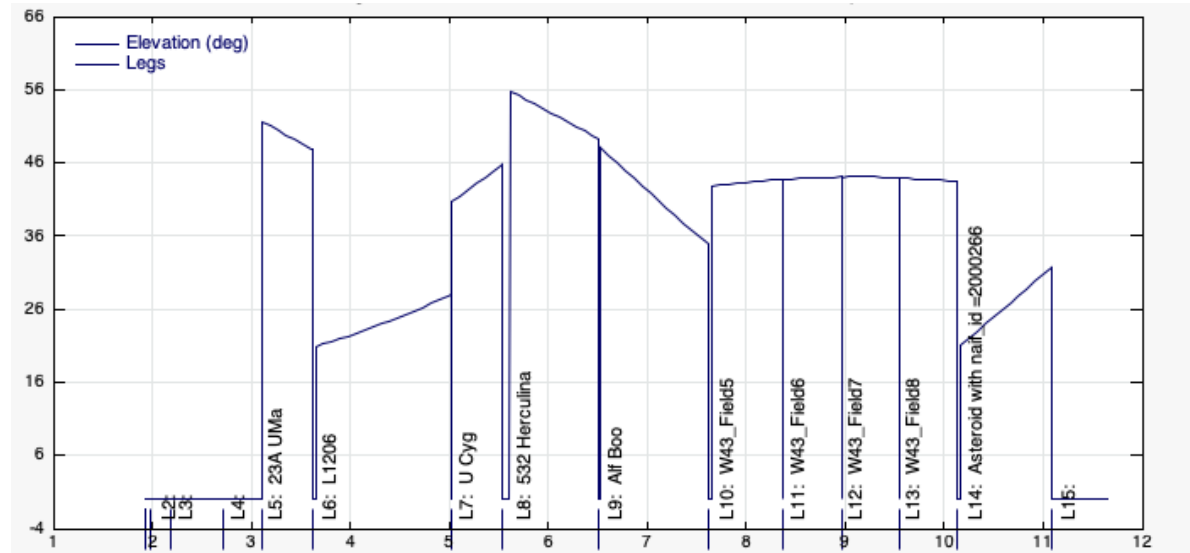
Flight 215 Mission ID 2015-06-04_FO_F215
 Palmdale to Palmdale Take off date UTC: 04-JUN-2015
 Departure UTC: 01:55 Arrival UTC: 11:42

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
5			23A UMa	09h31m32.00s	63d03m43.0s	3:06	31	
6	03_0109	Tan	L1206	22h28m51.41s	64d13m41.1s	3:39	82	40min lost to deviation around storms.
7	03_0104	Sloan	U Cyg	20h19m36.60s	47d53m39.1s	5:01	31	
8	90_0052	Calibration	532 Herculina	15h40m57.91s	00d37m10.2s	5:37	54	
9	90_0006	Calibration	Alf Boo	14h15m39.67s	19d10m56.7s	6:32	65	
10	03_0091	Bally	W43_Field5	18h47m28.02s	-01d55m33.2s	7:40	43	
11	03_0091	Bally	W43_Field6	18h47m31.52s	-01d59m12.2s	8:25	35	
12	03_0091	Bally	W43_Field7	18h47m37.92s	-02d00m48.2s	8:58	35	
13	03_0091	Bally	W43_Field8	18h48m13.55s	-02d06m36.2s	9:38	35	
14	03_0114	McAdam	Asteroid with naif_id =2000266	23h48m46.32s	12d18m59.0s	10:10	55	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



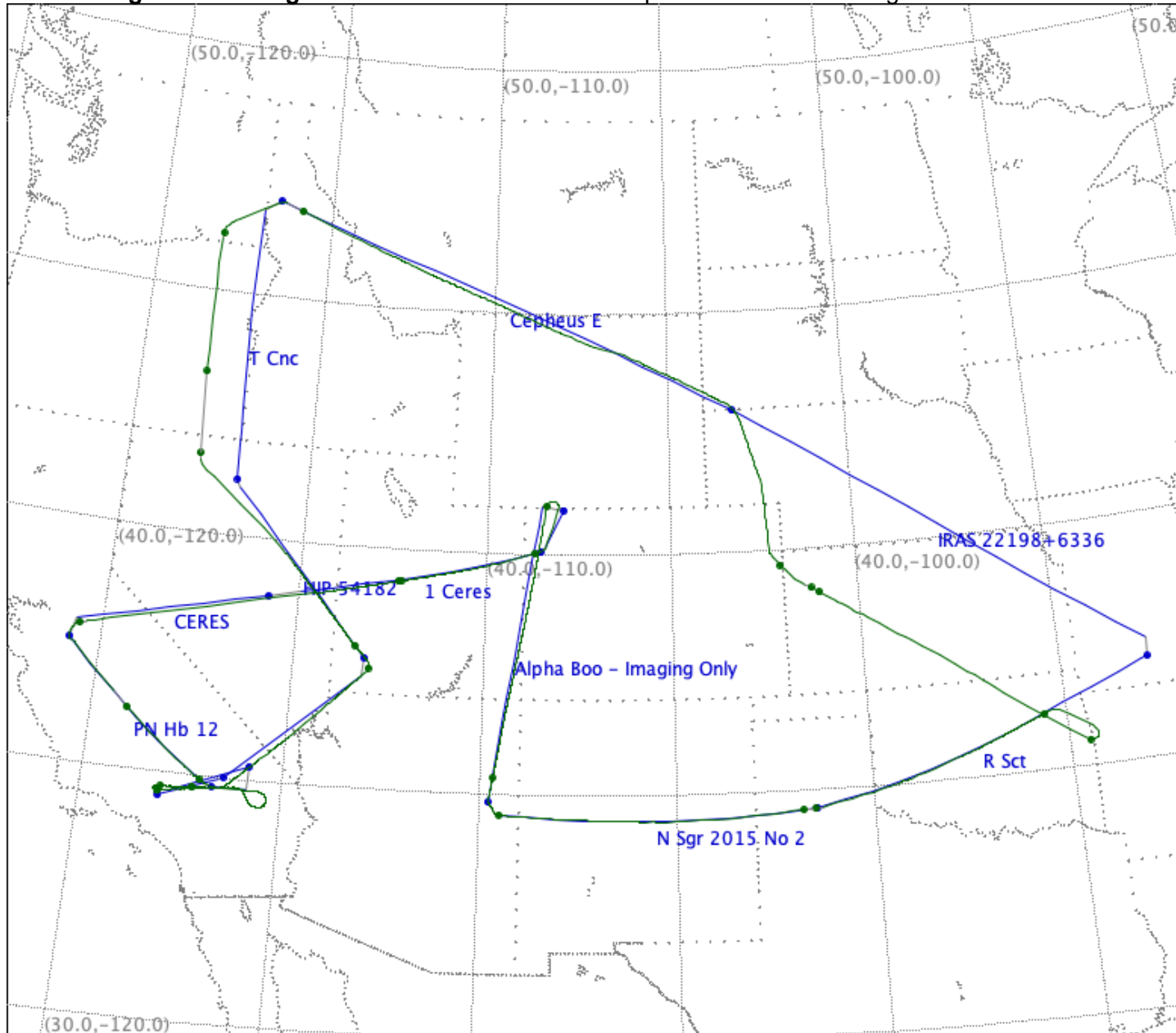
MISSION ID: 2015-06-05_FO_F216

Date: 2015-06-05 UT Instrument: FORCAST

Flight #: 216 Flight Series: OC3C

blue = planned route

green = flown route

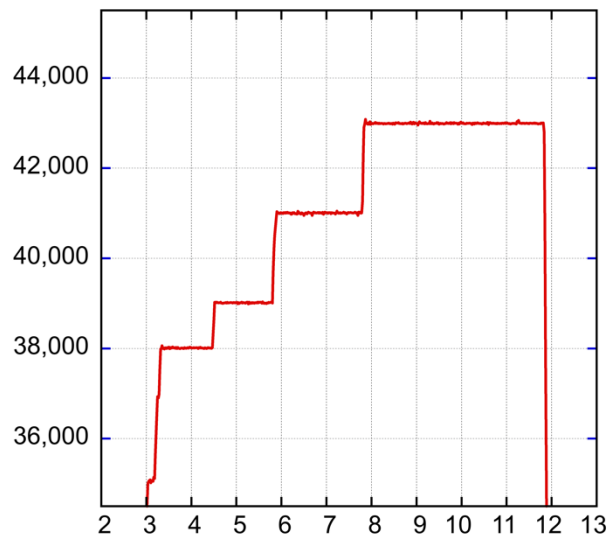


Flight notes: Significant deviations due to storms.

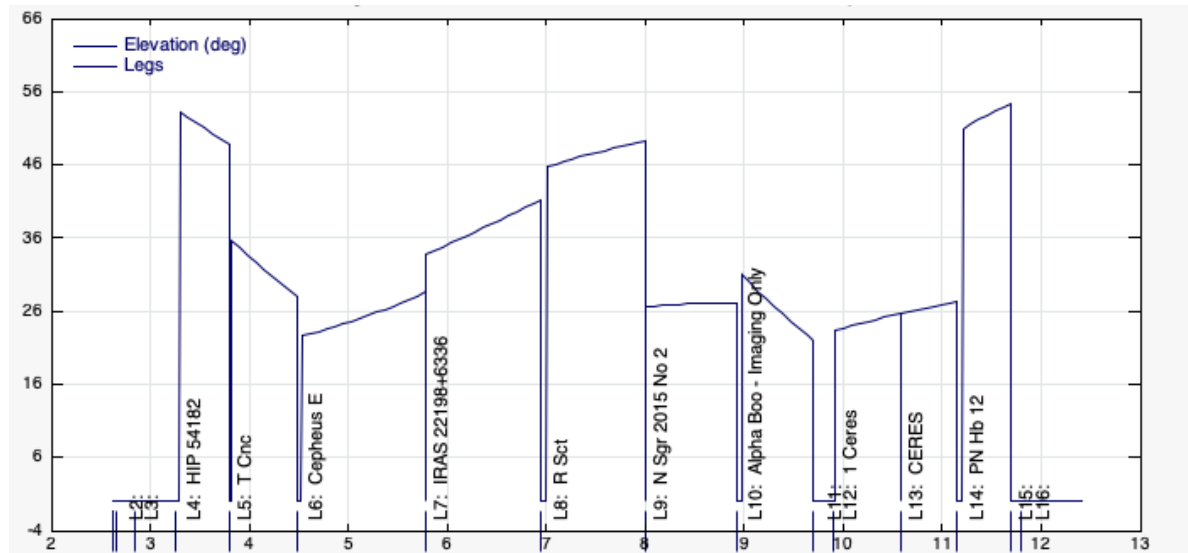
Flight 216 Mission ID 2015-06-05_FO_F216
 Palmdale to Palmdale Take off date UTC: 05-JUN-2015
 Departure UTC: 02:35 Arrival UTC: 12:23

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			HIP 54182	11h05m01.00s	07d20m09.6s	3:19	30	
5	03_0104	Sloan	T Cnc	08h56m40.15s	19d50m57.0s	3:50	40	Air Traffic Control mandated deviation.
6	03_0109	Tan	Cepheus E	23h03m13.60s	61d42m43.5s	4:33	75	Swapped order with Leg 7; deviation for storms – partial data
7	03_0109	Tan	IRAS 22198+6336	22h21m26.78s	63d51m37.6s	5:48	70	Swapped order with Leg 6; clouds at end.
8	03_0022	Gehrz	R Sct	18h47m28.95s	-05d42m18.5s	7:02	60	Recovery from storm deviation – partial data.
9	03_0020		N Sgr 2015 No 2	18h36m56.84s	-28d55m39.8s	8:02	55	
10	90_0013	Calibration	Alpha Boo - Imaging Only	14h15m39.67s	19d10m56.7s	9:00	43	
12	90_0048	Calibration	1 Ceres	20h54m19.76s	-25d12m46.1s	9:56	40	
13	03_0014	Vernazza	CERES	20h54m19.85s	-25d12m57.7s	10:41	34	
14	03_0079	Kraemer	PN Hb 12	23h26m14.81s	58d10m54.6s	11:14	29	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



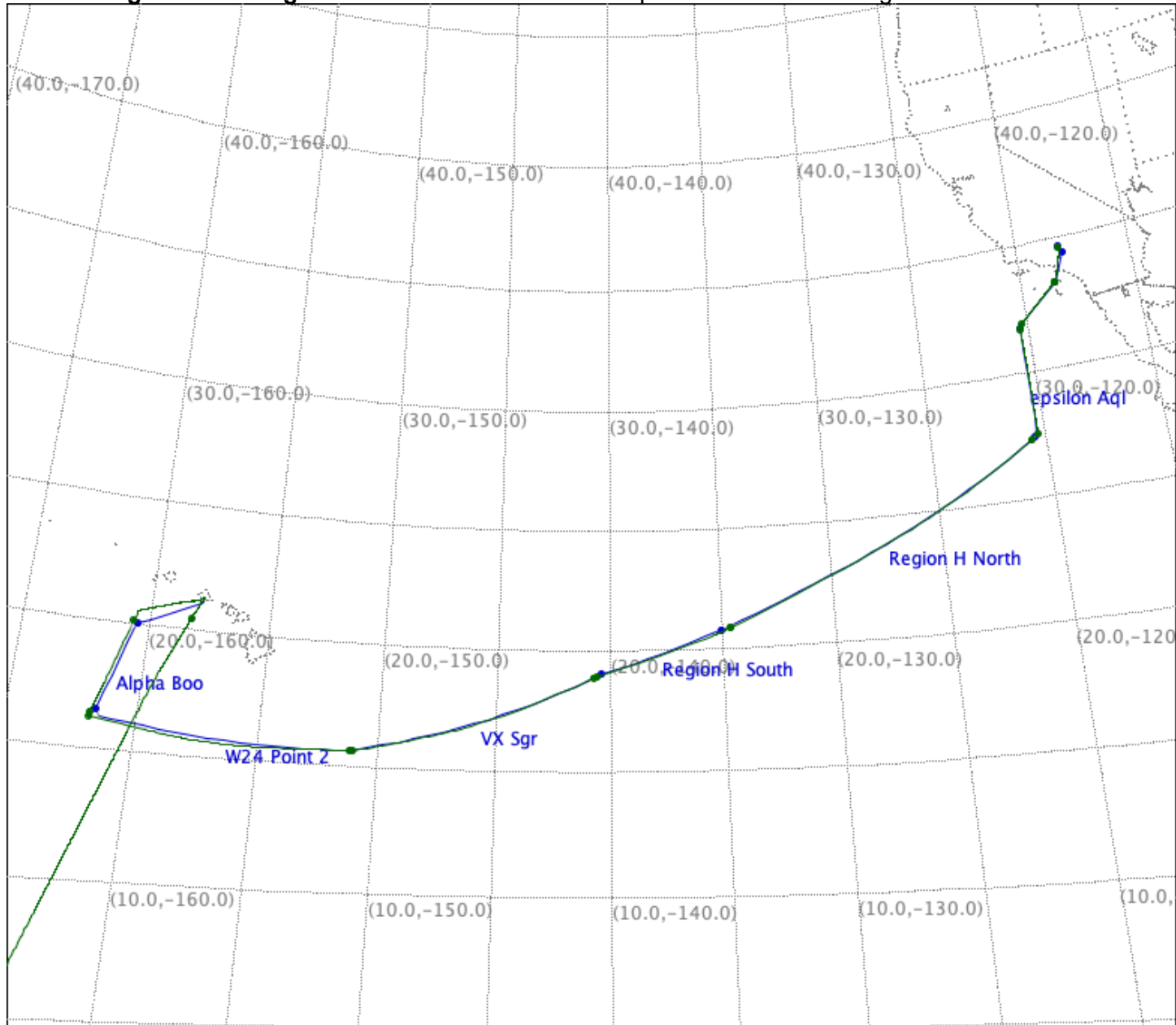
MISSION ID: 2015-06-13_FO_F217

Date: 2015-06-13 UT Instrument: FORCAST

Flight #: 217 Flight Series: OC3D

blue = planned route

green = flown route



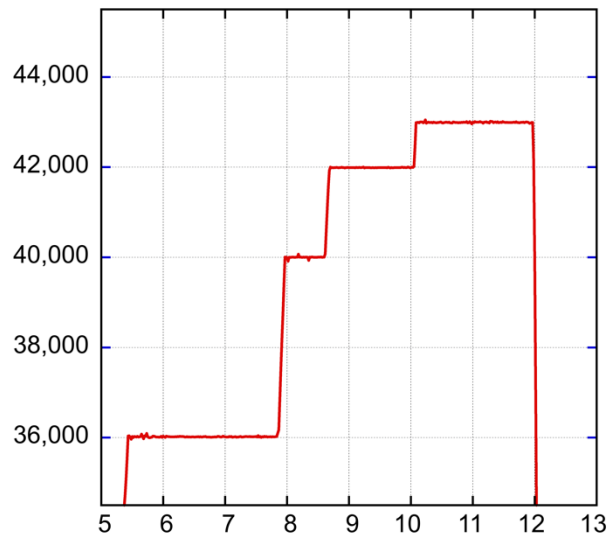
Flight notes:

Ferry flight from Palmdale, CA to Honolulu, HI. Science data collected in-route.

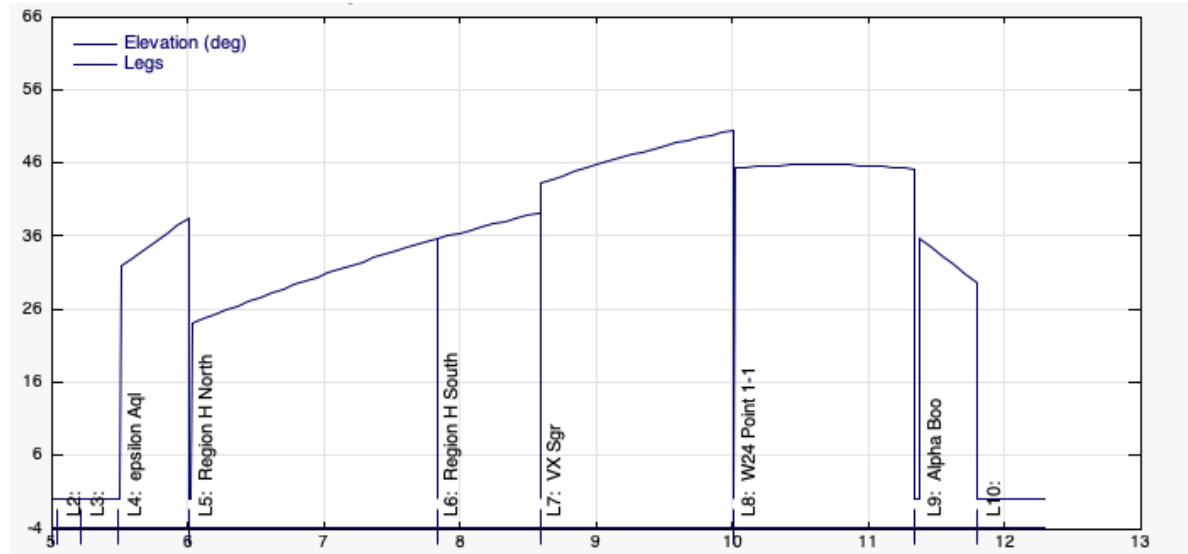
Flight 217 Mission ID 2015-06-13_FO_F217
 Palmdale to Take off date UTC: Departure UTC: Arrival UTC:
 Honolulu 13-Jun-2015 04:58 12:26

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			epsilon Aql	18h59m37.30s	15d04m04.7s	5:34	30	
5	70_0300	GTO	Region H North	17h45m38.66s	-28d52m29.4s	6:05	108	
6	70_0300	GTO	Region H South	17h45m30.65s	-28d55m29.0s	7:57	46	
7	03_0082	Humphreys	VX Sgr	18h08m04.05s	-22d13m26.6s	8:39	85	
8	03_0008	De Buizer	W24 Point 1	17h46m59.03s	-28d30m57.4s	10:04	79	Turbulence and variable backgrounds seen in data.
9	90_0056	Calibration	Alpha Boo	14h15m39.67s	19d10m56.7s	11:26	25	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)

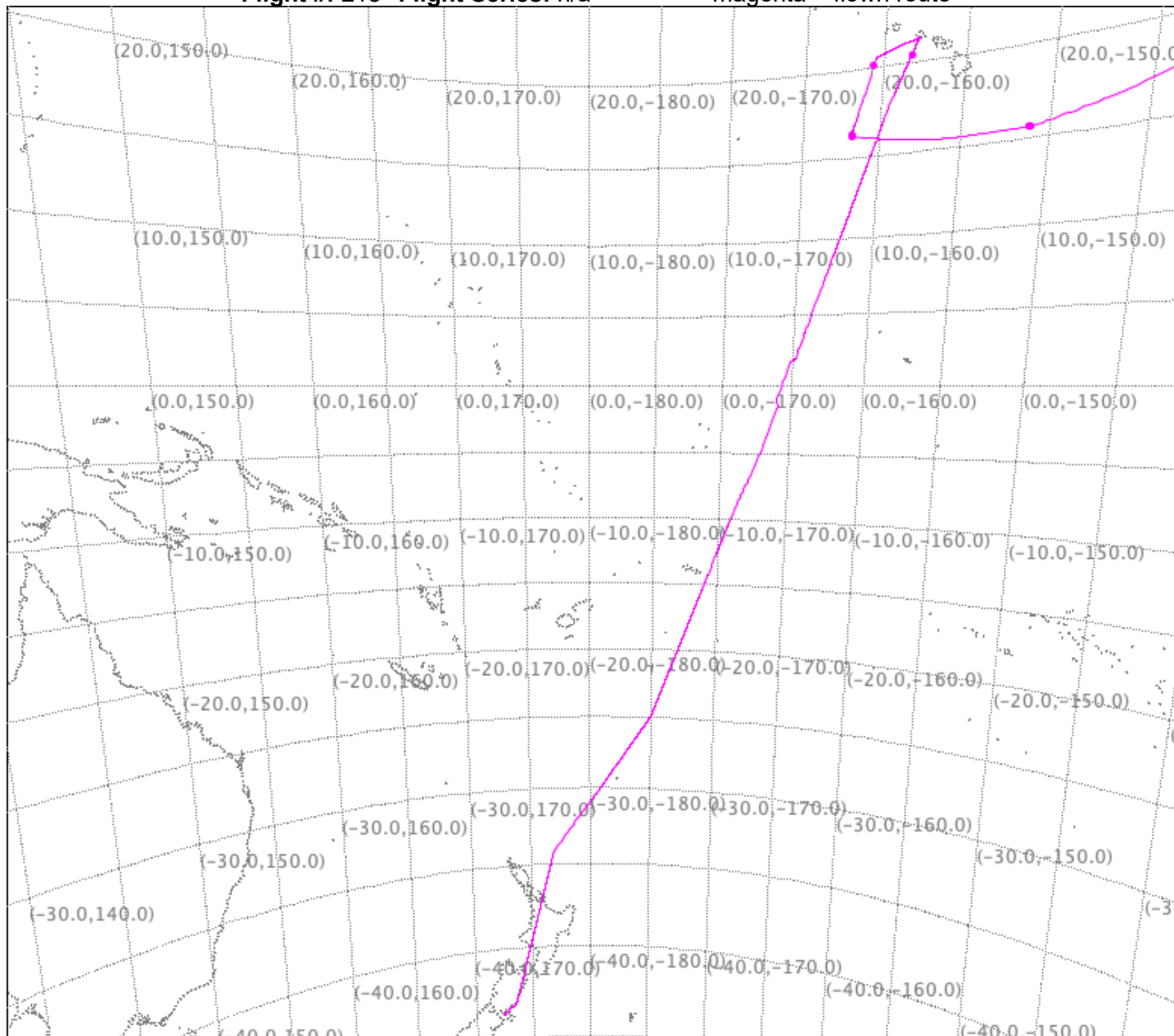


MISSION ID: 2015-06-13_NO_F218

Date: 2015-06-13 UT Instrument: n/a

Flight #: 218 Flight Series: n/a

magenta = flown route



Flight notes:

Ferry flight from Honolulu, HI to Christchurch, New Zealand. No science planned.

Flight 463
Honolulu to
Christchurch

Mission ID 2015-06-13_NO_F218
Take off date UTC:
13-JUN-2015

Departure UTC: Arrival UTC:
HH:MM HH:MM

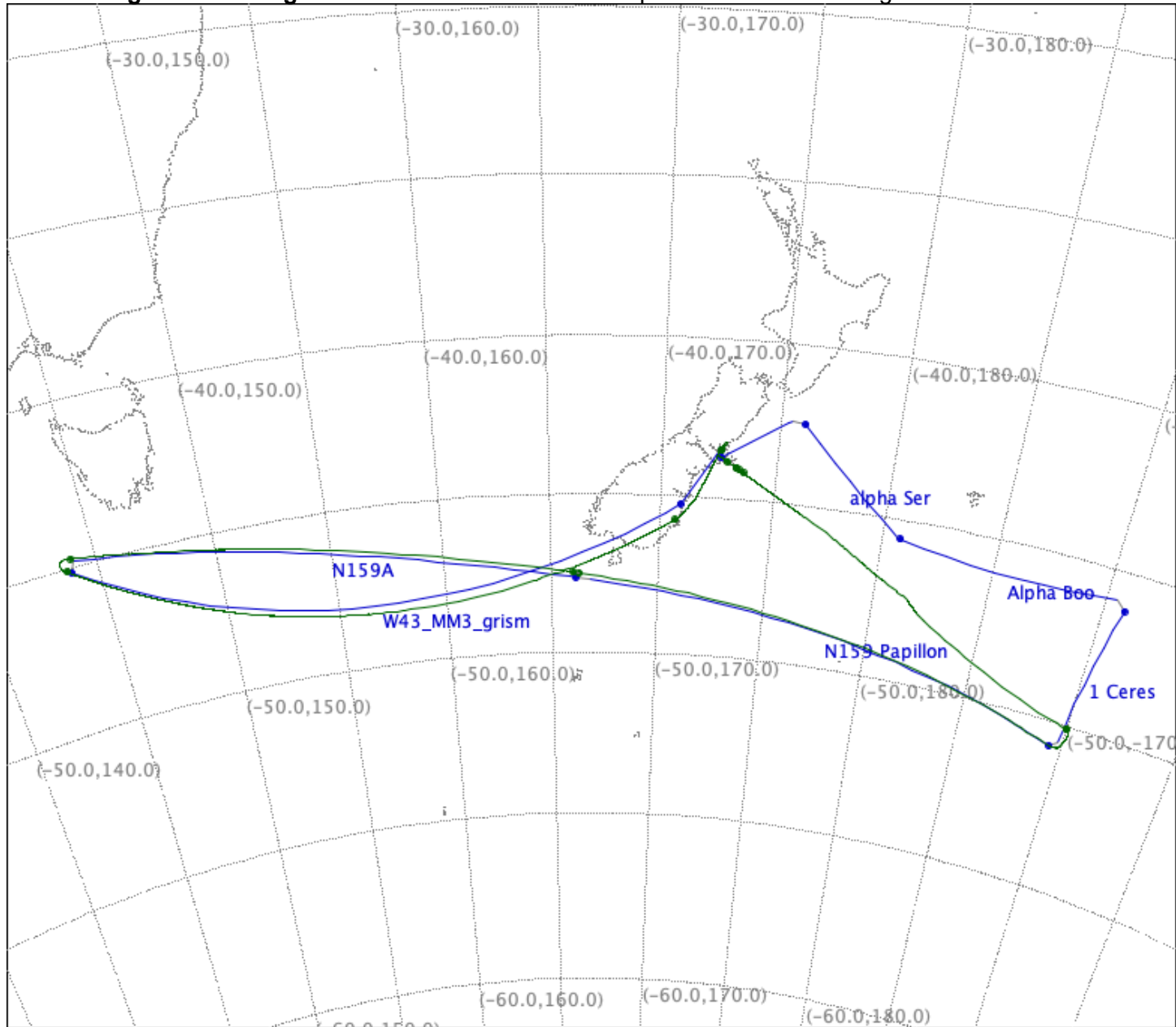
MISSION ID: 2015-06-19_FO_F219

Date: 2015-06-19 UT Instrument: FORCAST

Flight #: 219 Flight Series: OC3D

blue = planned route

green = flown route

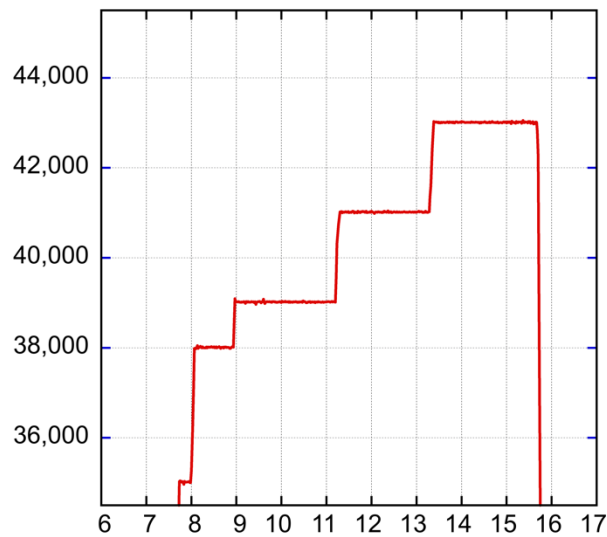


Flight notes:

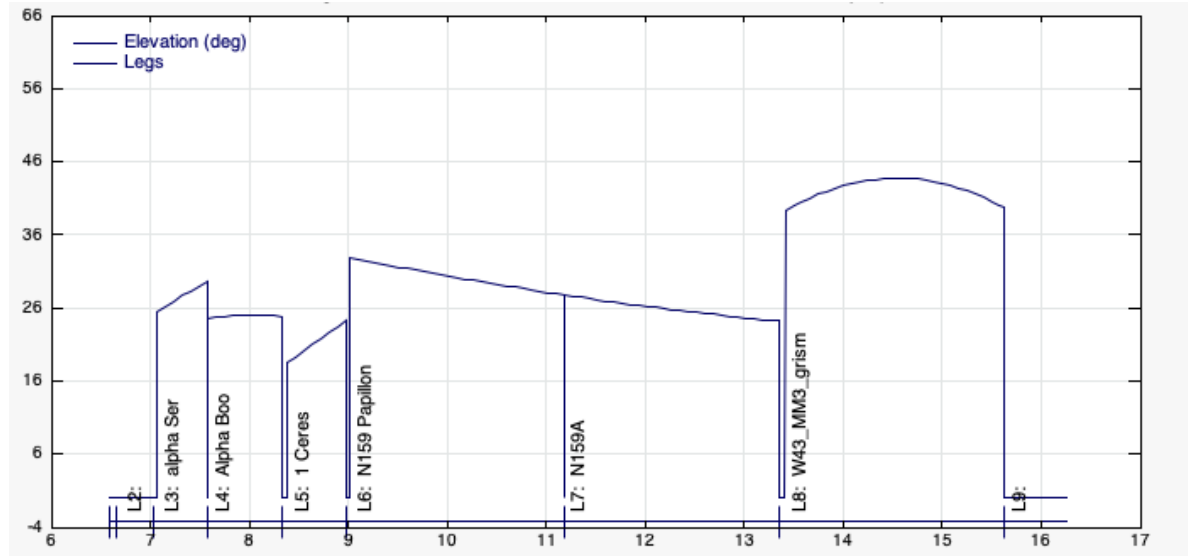
Late departure due to severe turbulence over Christchurch base.

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			alpha Ser	15h44m16.10s	06d25m32.6s	7:04	30	Leg not flown due to late take-off
4	90_0056	Calibration	Alpha Boo	14h15m39.67s	19d10m56.7s	7:35	45	Leg not flown due to late take-off
5	90_0059	Calibration	1 Ceres	~20h52m56.77s	~26d15m44.8s	8:23	35	Leg not flown due to late take-off
6	03_0049	Jones	N159 Papillon	05h40m05.00s	-69d44m45.0s	9:01	130	
7	03_0049	Jones	N159A	05h39m40.00s	-69d45m45.0s	11:14	130	
8	03_0091	Bally	W43_MM3_grism	18h47m41.78s	-02d00m20.2s	13:25	133	Acquisition took a long time.

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



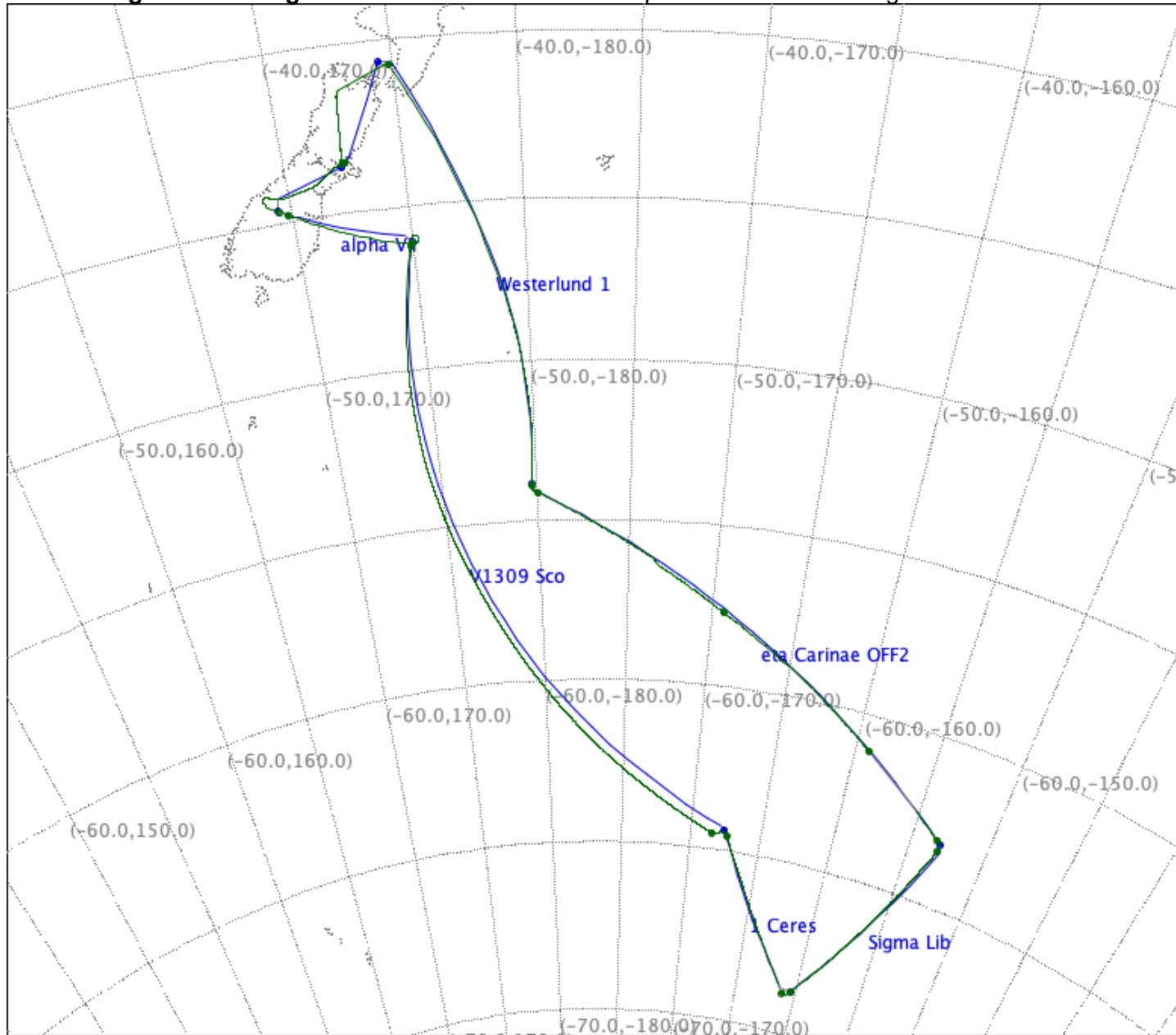
MISSION ID: 2015-06-24_FO_F220

Date: 2015-06-24 UT **Instrument:** FORCAST

Flight #: 220 **Flight Series:** OC3D

blue = planned route

green = flown route

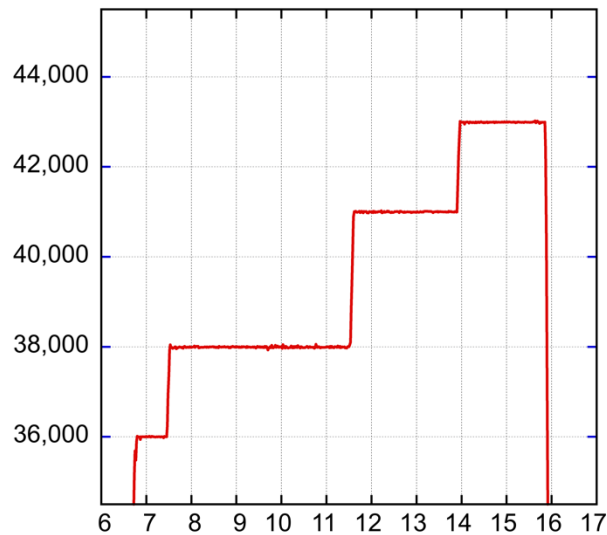


Flight notes: No irregularities.

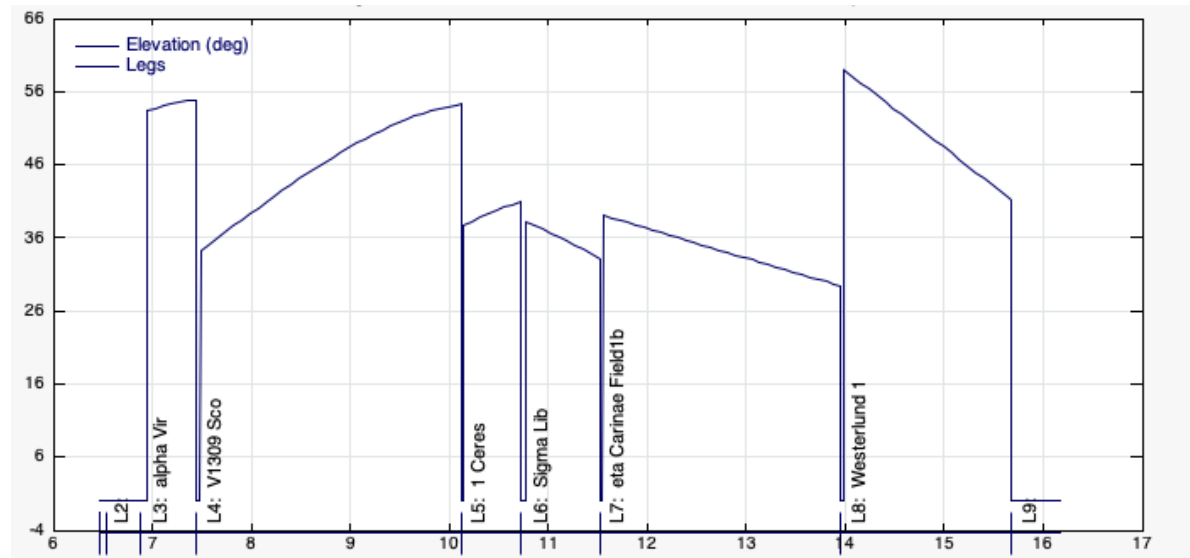
Flight 220 Mission ID 2015-06-24_FO_F220
 Christchurch-Christchurch Take off date UTC: 24-JUN-2015
 Departure UTC: 06:17 Arrival UTC: 16:22

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			alpha Vir	13h25m11.60s	-11d09m41.1s	6:56	30	
4	03_0062	McCollum	V1309 Sco	17h57m33.02s	-30d43m10.4s	7:29	158	Troubles acquiring led to loss of 20% of leg.
5	90_0059	Calibration	1 Ceres	20h50m51.73s	-26d52m16.0s	10:08	35	
6	90_0056	Calibration	Sigma Lib	15h04m04.22s	-25d16m55.1s	10:46	45	
7	03_0098	Morris	eta Carinae Field1b	10h45m08.15s	-59d39m14.6s	11:33	144	Observatory control software crash led to 20min loss on leg
8	03_0089	Kemper	Westerlund 1	16h47m04.69s	-45d51m23.8s	13:59	101	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



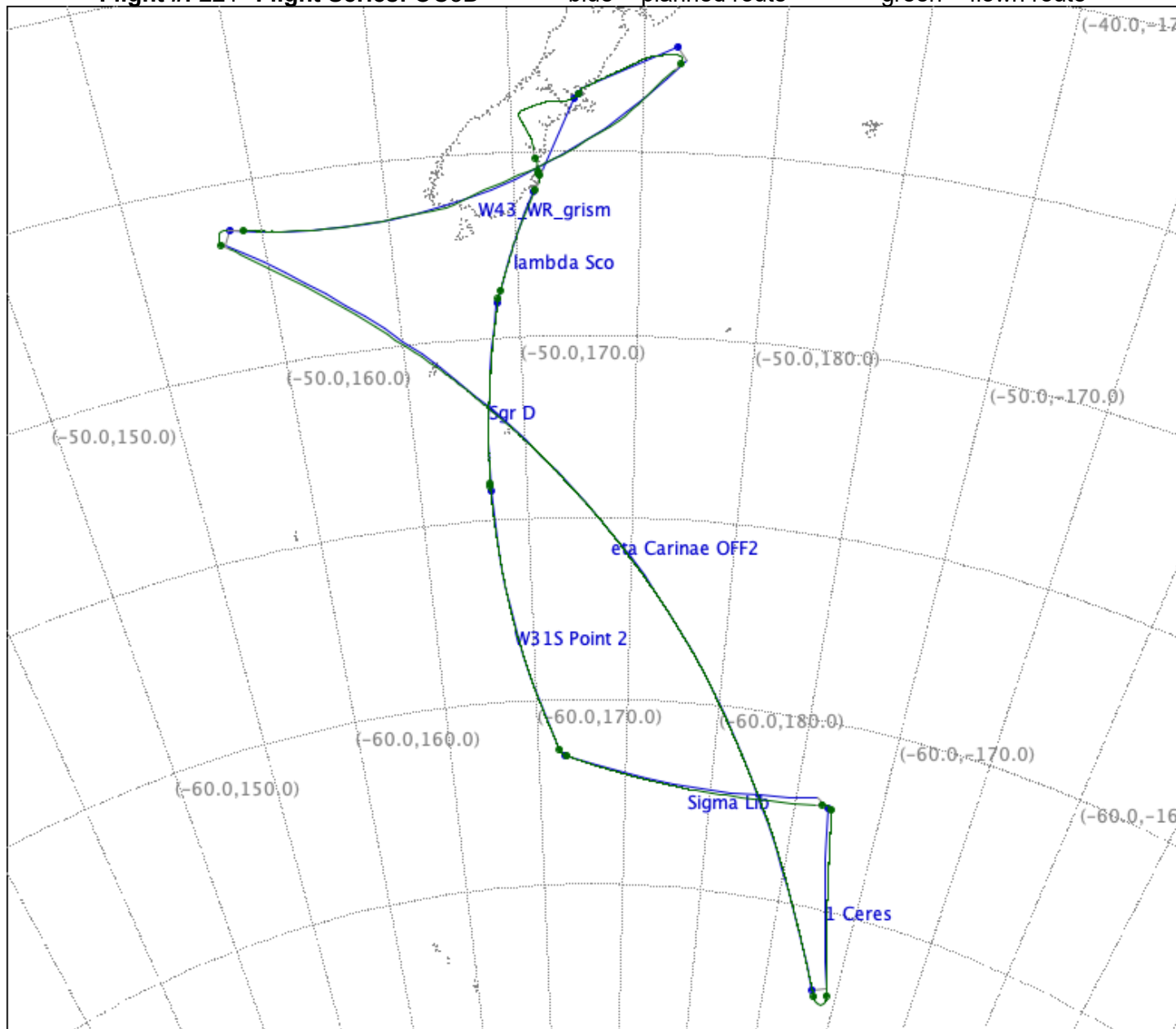
MISSION ID: 2015-06-25_FO_F221

Date: 2015-06-25 UT **Instrument:** FORCAST

Flight #: 221 **Flight Series:** OC3D

blue = planned route

green = flown route

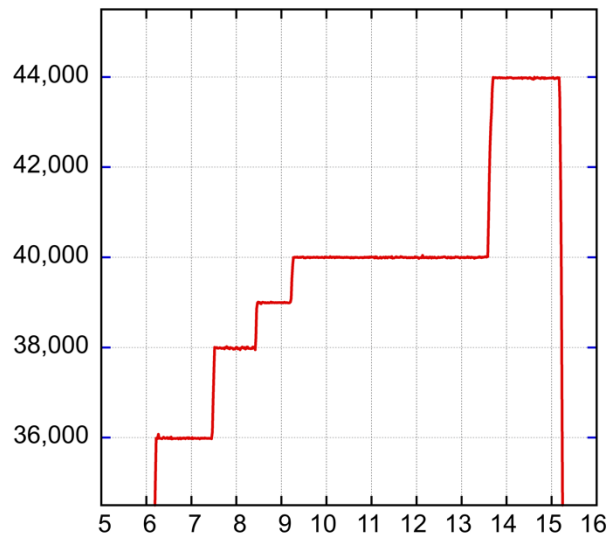


Flight notes: No irregularities.

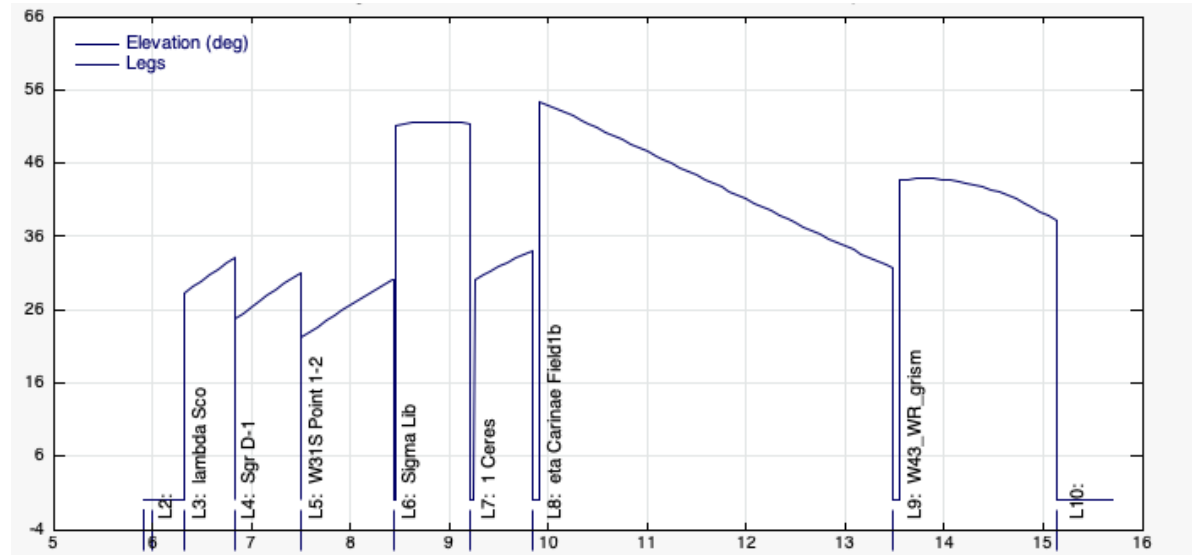
Flight 221 Mission ID 2015-06-25_FO_F221
 Christchurch-Christchurch Take off date UTC: 25-JUN-2015
 Departure UTC: 05:47 Arrival UTC: 15:42

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			lambda Sco	17h33m36.50s	-37d06m14.0s	6:24	30	
4	03_0008	De Buizer	Sgr D	17h48m40.50s	-28d01m06.9s	6:49	40	
5	03_0008	De Buizer	W31S Point 1	18h09m27.53s	-20d19m48.0s	7:30	56	
6	90_0056	Calibration	Sigma Lib	15h04m04.22s	-25d16m55.1s	8:27	45	Difficulties setting up pointing and setting up nodding; leg lost
7	90_0059	Calibration	1 Ceres	20h50m26.92s	-26d58m16.9s	9:15	35	
8	03_0098	Morris	eta Carinae Field1b	10h45m08.15s	-59d39m14.6s	9:54	214	
9	03_0091	Bally	W43_WR_grism	18h47m37.04s	-01d56m43.5s	13:33	95	Telescope went into standby mode and could not be revived; data taken only first 20min of leg

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



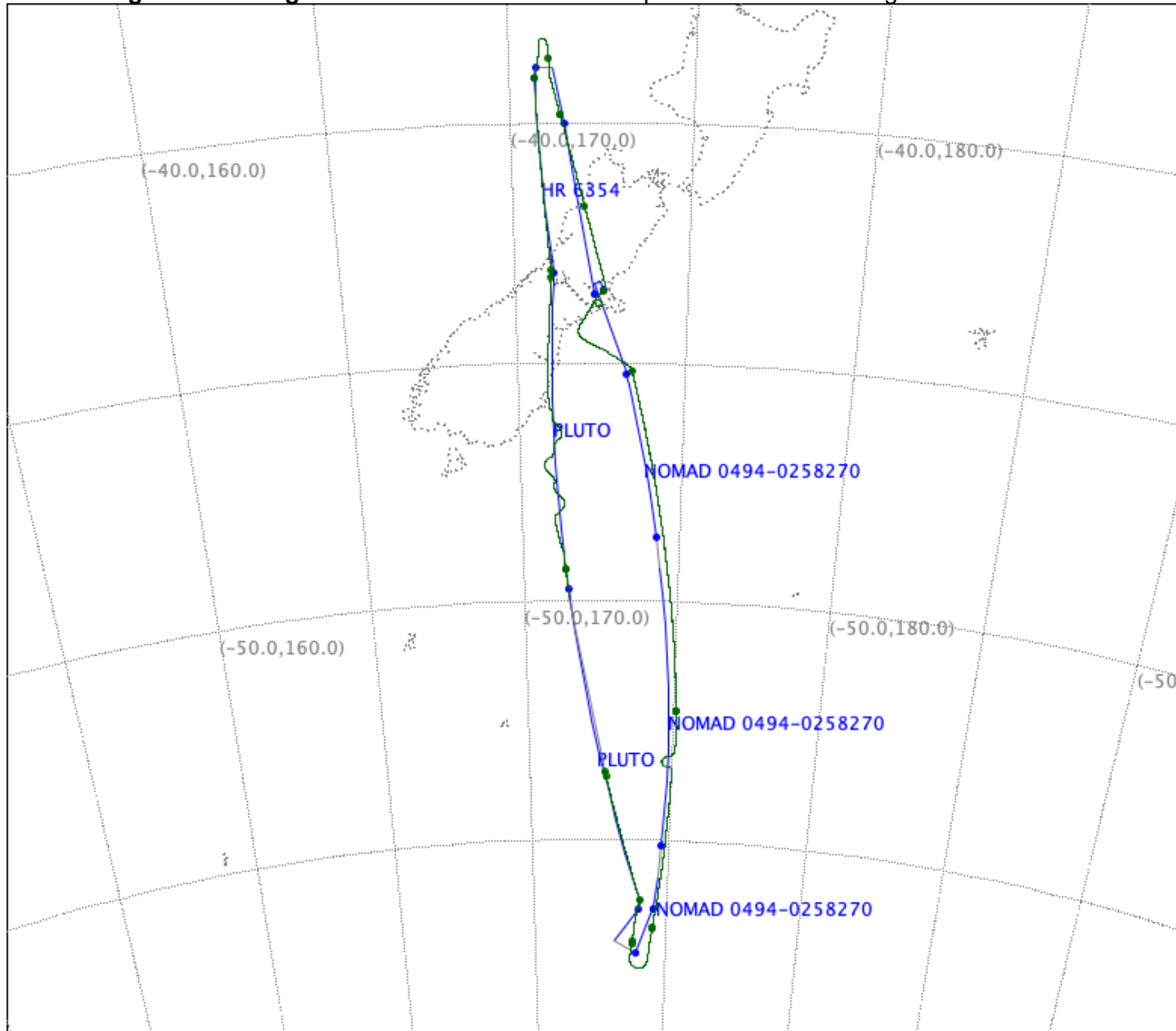
MISSION ID: 2015-06-28_FP_F222

Date: 2015-06-28 UT Instrument: FLITECAM + HIPO

Flight #: 222 Flight Series: OC3E

blue = planned route

green = flown route



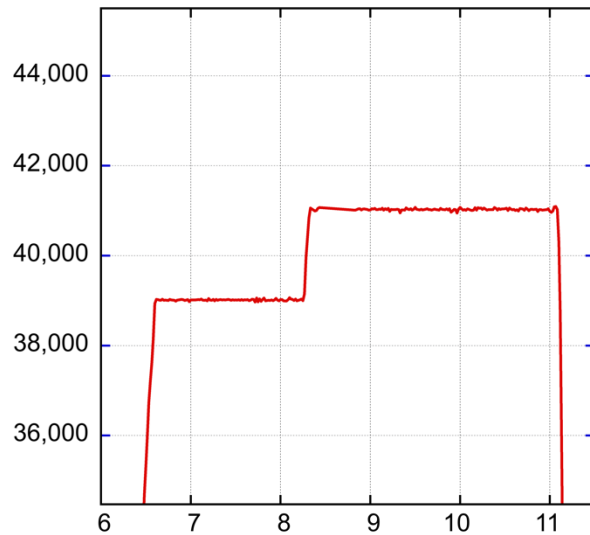
Flight notes:

Rehearsal for Pluto occultation flight with FLIPO. Mostly engineering data.

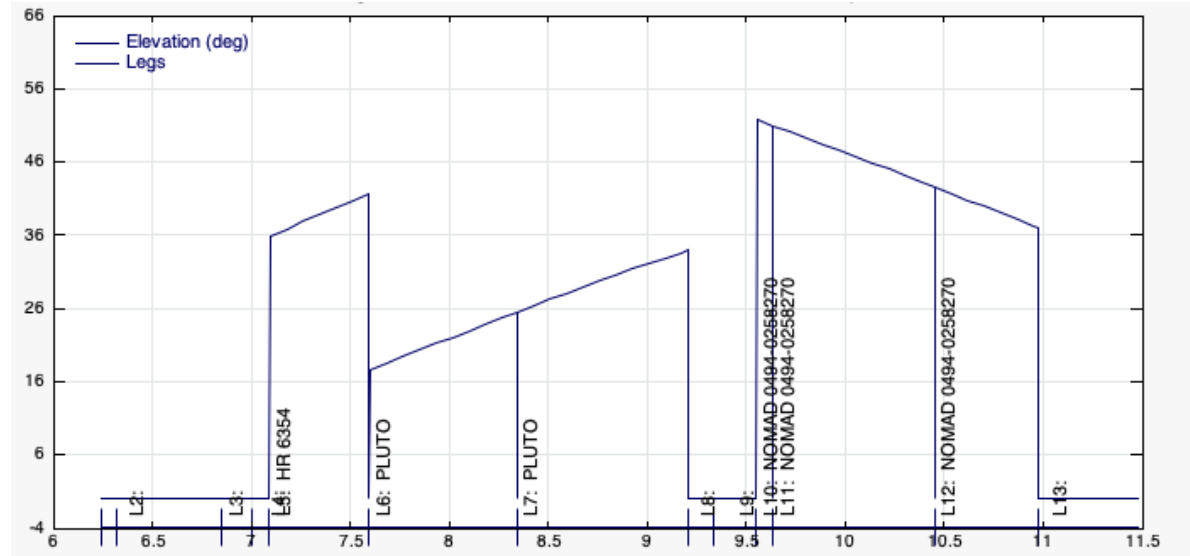
Flight 222 Mission ID 2015-06-28_FP_F222
 Christchurch-Christchurch Take off date UTC: 28-JUN-2015
 Departure UTC: 06:11 Arrival UTC: 11:30

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
5			HR 6354	17h06m53.22s	-26d30m46.9s	7:05	30	
6	02_0094	Person	PLUTO	19h00m58.05s	-20d41m20.8s	7:36	45	
7	02_0094	Person	PLUTO	19h00m57.79s	-20d41m21.4s	8:25	52	
10			NOMAD 0494-0258270	11h47m47.18s	-40d33m18.4s	9:33	5	
11			NOMAD 0494-0258270	11h47m47.18s	-40d33m18.4s	9:43	49	
12			NOMAD 0494-0258270	11h47m47.18s	-40d33m18.4s	10:32	32	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



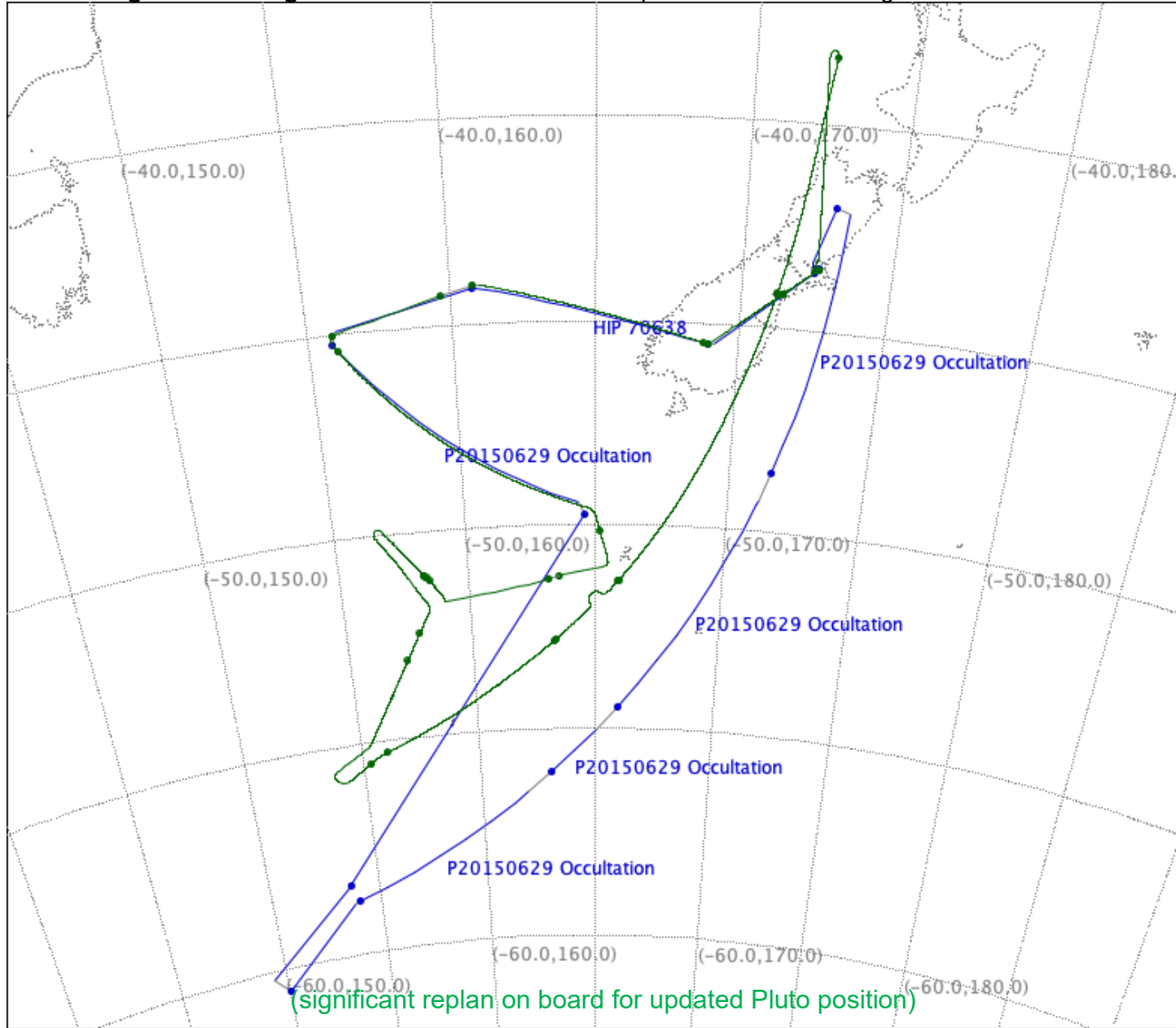
MISSION ID: 2015-06-29_FP_F223

Date: 2015-06-29 UT **Instrument:** FLITECAM + HIPO

Flight #: 223 **Flight Series:** OC3E

blue = planned route

green = flown route



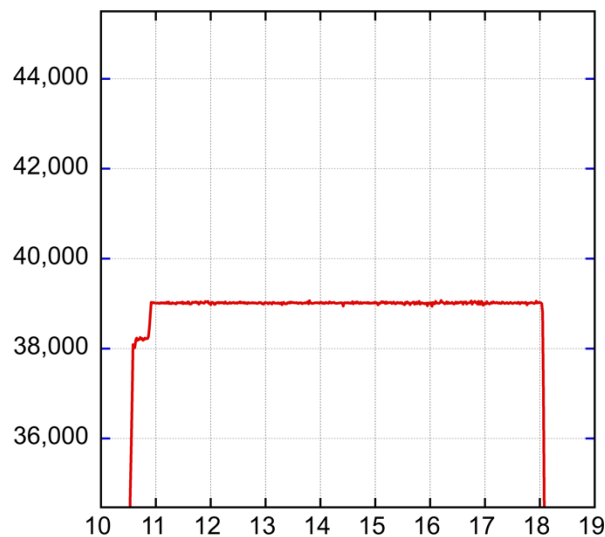
Flight notes:

Pluto occultation flight. Up-to-date position information for Pluto received while in-flight; significant in-flight replanning of route in order to be in proper position.

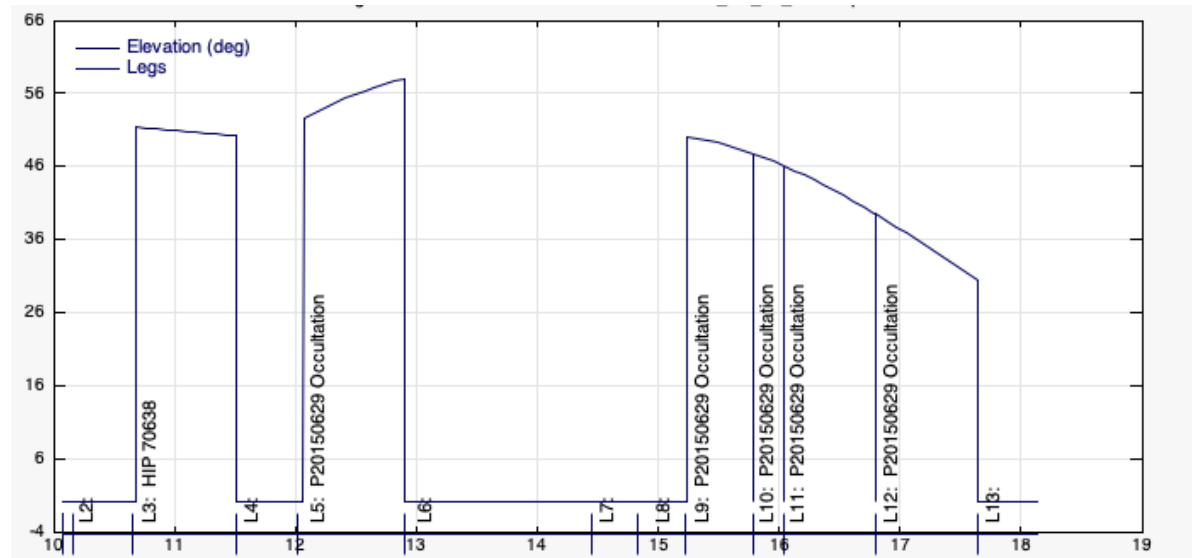
Flight 223 Mission ID 2015-06-29_FP_F223
 Christchurch-Christchurch Take off date UTC: 29-JUN-2015 Departure UTC: 10:09 Arrival UTC: 18:33

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			HIP 70638	14h26m55.20s	-83d40m04.0s	10:41	50	
5	03_0028	Person	P20150629 Occultation	19h00m49.48s	-20d41m40.8s	12:04	50	
9	03_0028	Person	P20150629 Occultation	19h00m49.48s	-20d41m40.8s	15:14	33	
10	03_0028	Person	P20150629 Occultation	19h00m49.48s	-20d41m40.8s	15:52	15	
11	03_0028	Person	P20150629 Occultation	19h00m49.48s	-20d41m40.8s	16:07	46	
12	03_0028	Person	P20150629 Occultation	19h00m49.48s	-20d41m40.8s	16:53	50	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



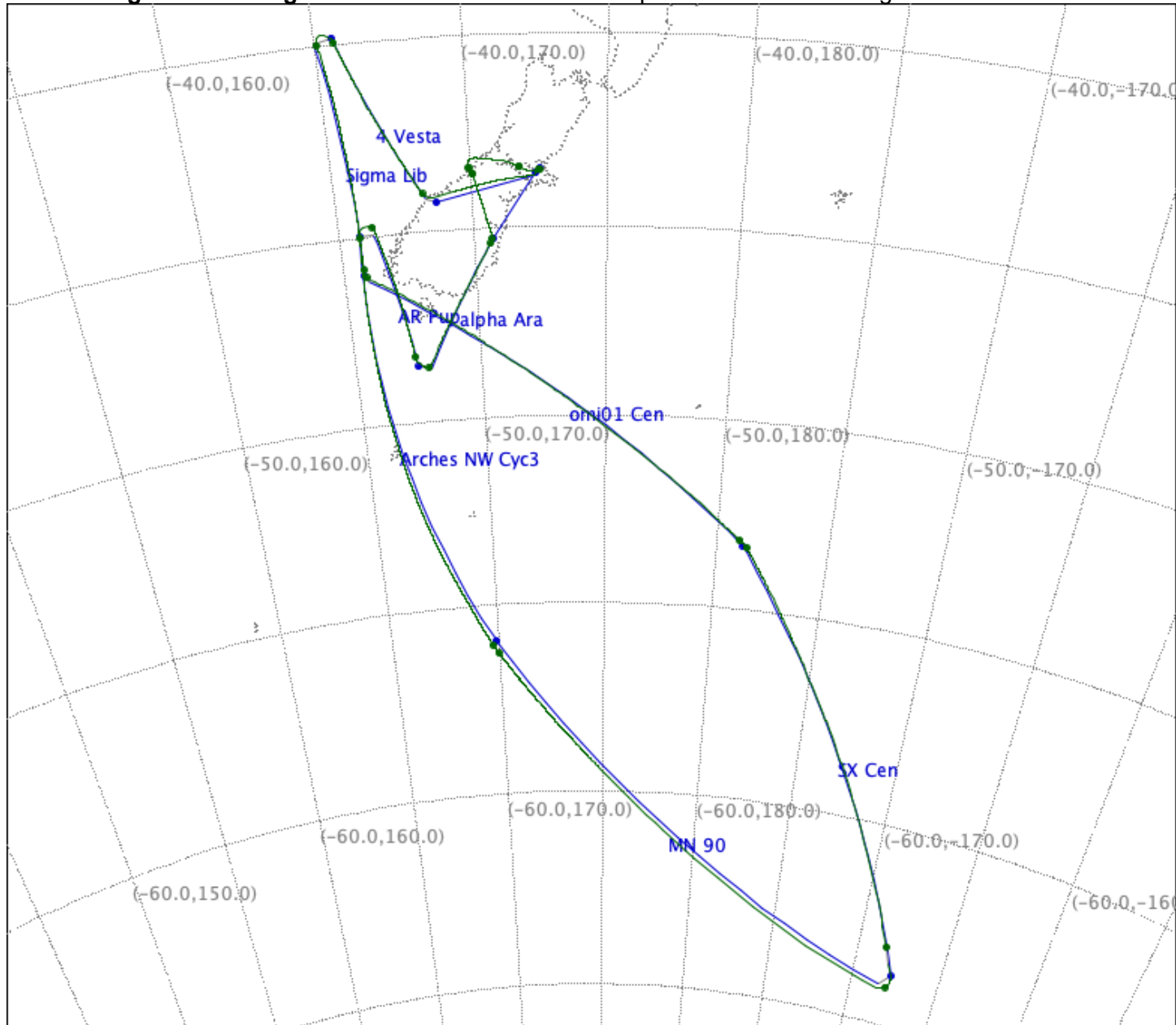
MISSION ID: 2015-07-03_FO_F224

Date: 2015-07-03 UT Instrument: FORCAST

Flight #: 224 Flight Series: OC3F

blue = planned route

green = flown route

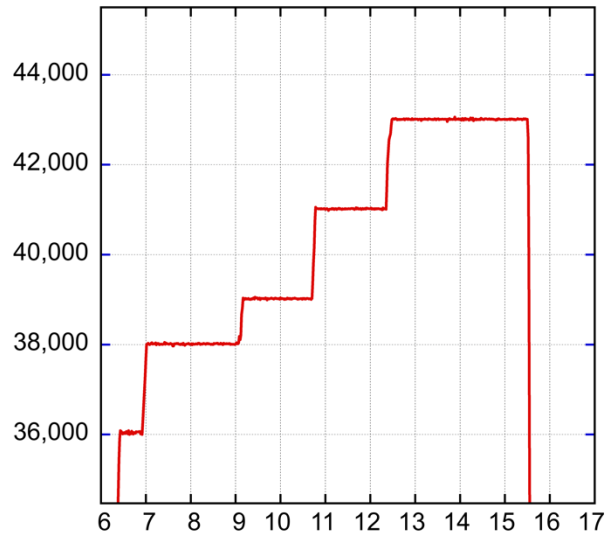


Flight notes: No irregularities.

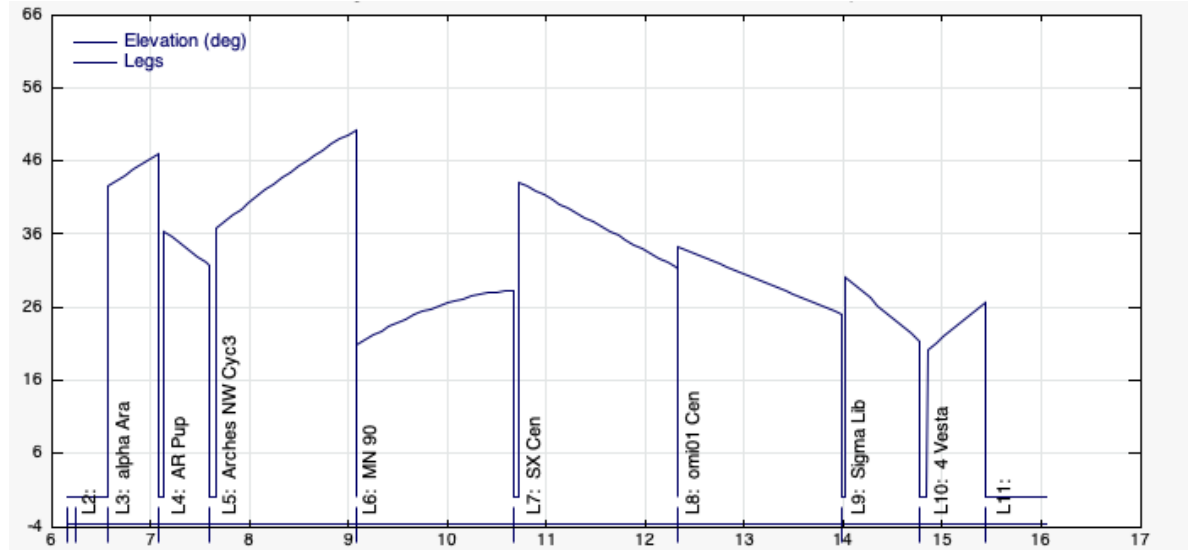
Flight 224 Mission ID 2015-07-03_FO_F224
 Christchurch-Christchurch Take off date UTC: 03-JUL-2015
 Departure UTC: 05:59 Arrival UTC: 15:57

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			alpha Ara	17h31m50.40s	-49d52m35.1s	6:34	30	
4	03_0022	Gehrz	AR Pup	08h03m01.65s	-36d35m47.9s	7:08	27	
5	70_0300	GTO	Arches NW Cyc3	17h45m34.93s	-28d46m25.0s	7:39	85	
6	03_0131	Smith	MN 90	18h45m55.94s	-03d08m29.7s	9:04	95	
7	03_0022	Gehrz	SX Cen	12h21m12.57s	-49d12m41.1s	10:43	96	
8	03_0022	Gehrz	omi01 Cen	11h31m46.07s	-59d26m31.4s	12:19	100	
9	90_0056	Calibration	Sigma Lib	15h04m04.22s	-25d16m55.1s	14:01	45	
10	90_0059	Calibration	4 Vesta	00h39m52.12s	-03d15m04.0s	14:51	35	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



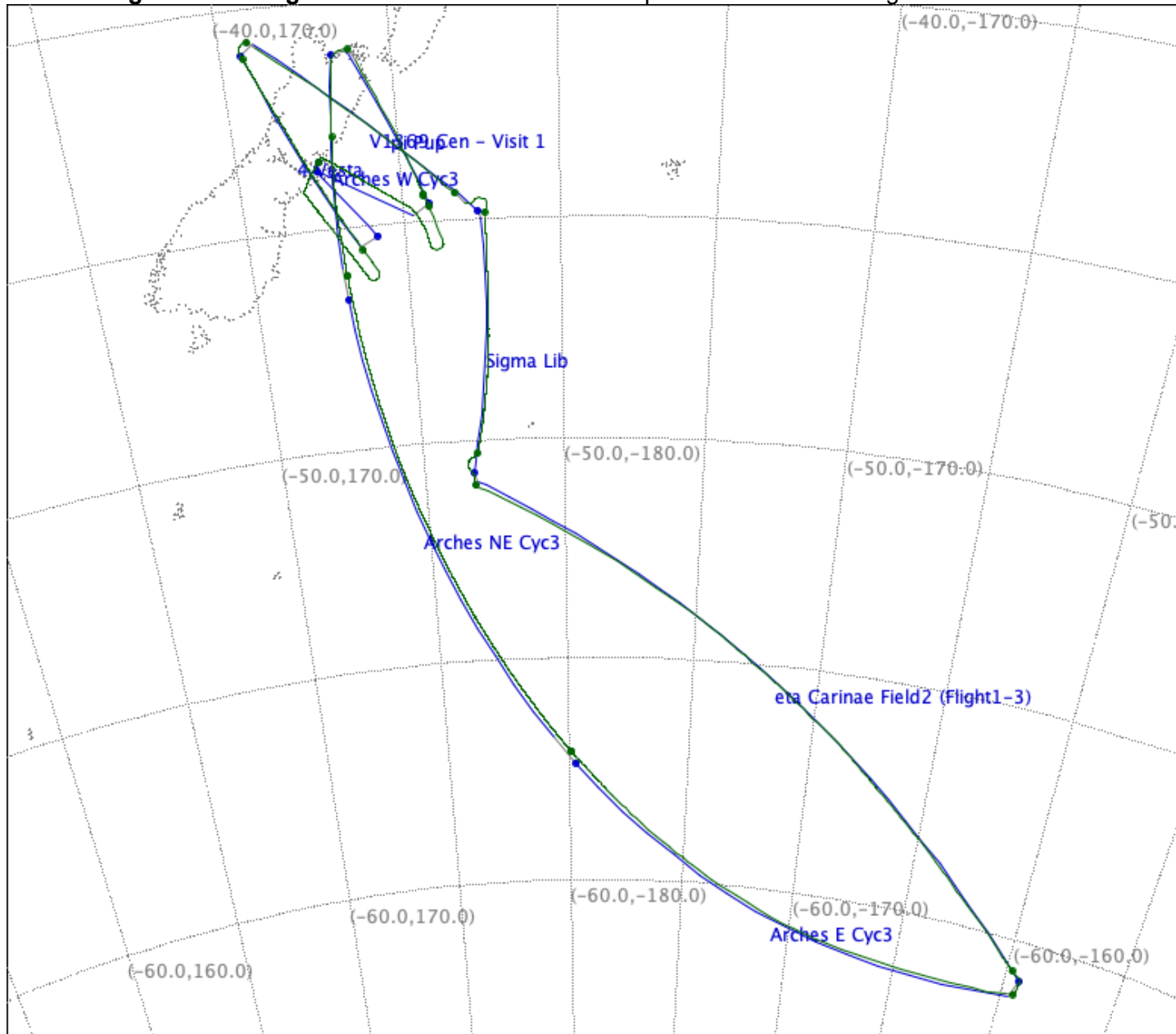
MISSION ID: 2015-07-04_FO_F225

Date: 2015-07-04 UT Instrument: FORCAST

Flight #: 225 Flight Series: OC3F

blue = planned route

green = flown route

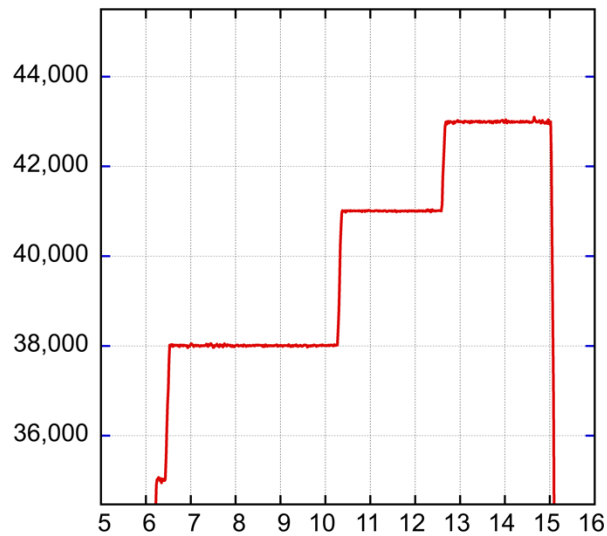


Flight notes: No irregularities.

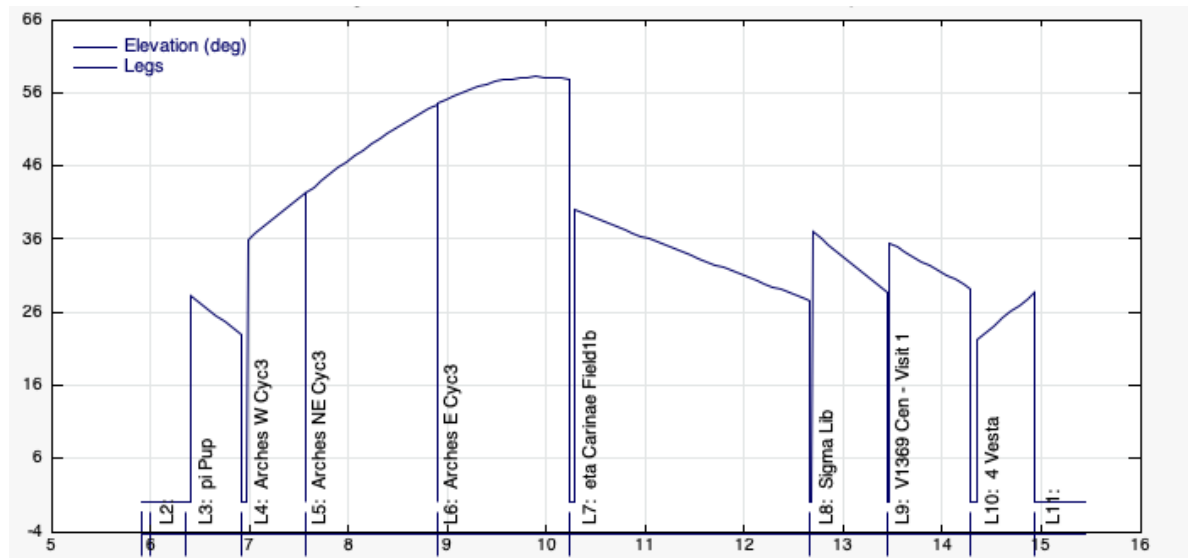
Flight 225 Mission ID 2015-07-04_FO_F225
 Christchurch-Christchurch Take off date UTC: 04-JUL-2015
 Departure UTC: 05:47 Arrival UTC: 15:39

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			pi Pup	07h17m08.60s	-37d05m50.9s	6:24	30	
4	70_0300	GTO	Arches W Cyc3	17h45m33.51s	-28d49m34.0s	6:58	35	
5	70_0300	GTO	Arches NE Cyc3	17h45m49.43s	-28d45m34.5s	7:38	80	Vignetting as Galactic Center transited.
6	70_0300	GTO	Arches E Cyc3	17h45m46.76s	-28d48m15.8s	8:58	80	
7	03_0098	Morris	eta Carinae Field1b	10h45m08.15s	-59d39m14.6s	10:17	142	
8	90_0056	Calibration	Sigma Lib	15h04m04.22s	-25d16m55.1s	12:41	45	
9	03_0110	Helton	V1369 Cen - Visit 1	13h54m47.00s	-59d09m08.0s	13:27	50	
10	90_0059	Calibration	4 Vesta	00h40m51.78s	-03d12m41.1s	14:21	35	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



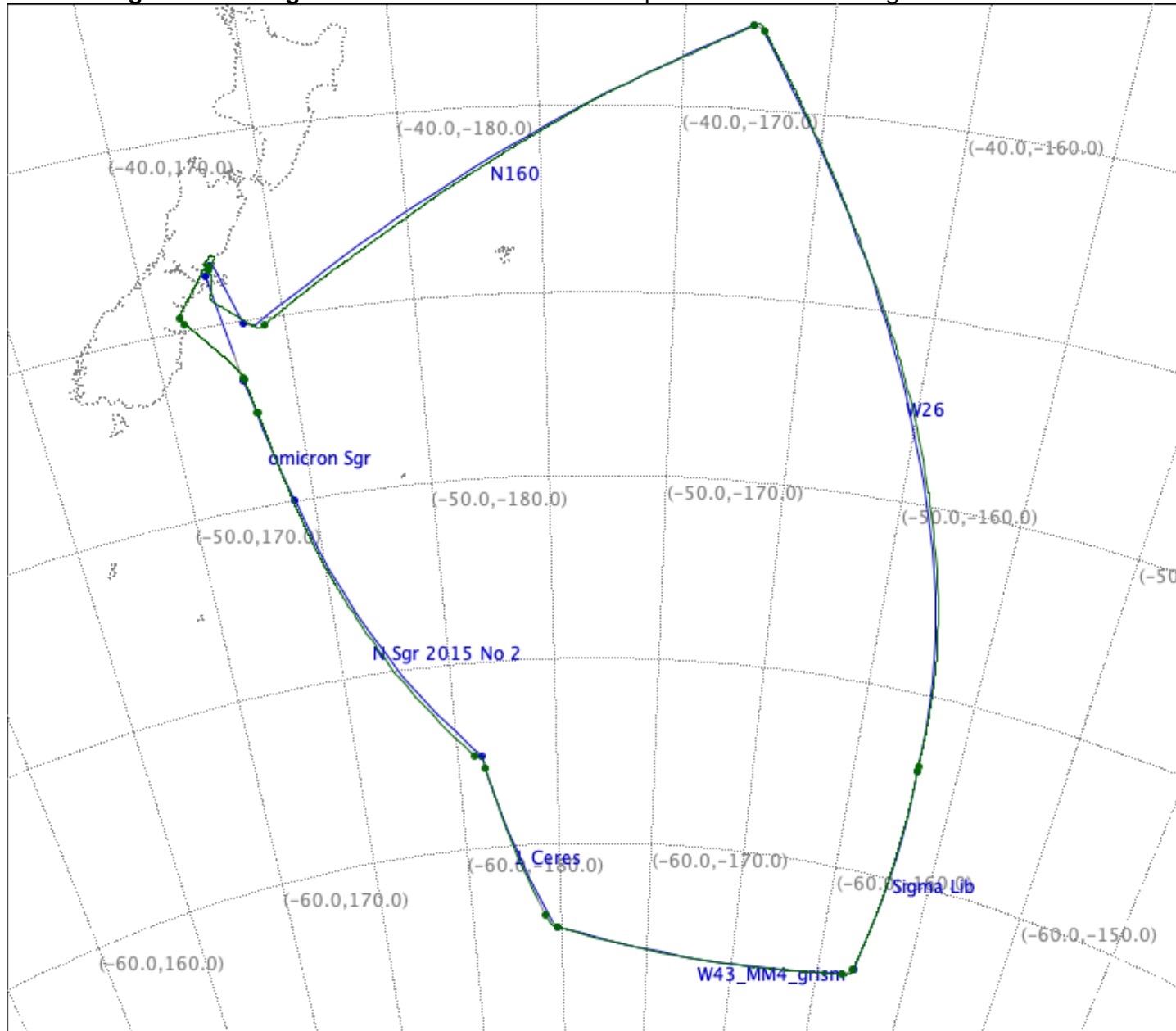
MISSION ID: 2015-07-06_FO_F226

Date: 2015-07-06 UT Instrument: FORCAST

Flight #: 226 Flight Series: OC3F

blue = planned route

green = flown route

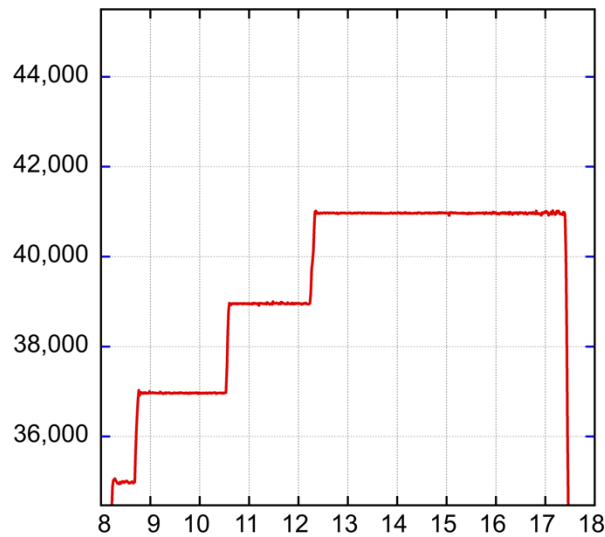


Flight notes:
No irregularities.

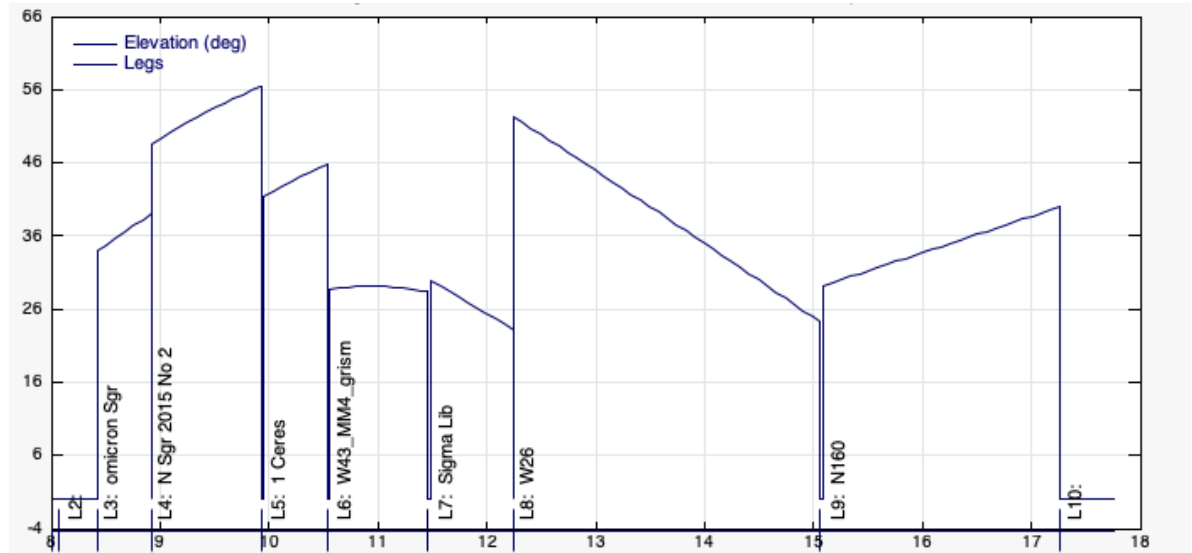
Flight 226 Mission ID 2015-07-06_FO_F226
 Christchurch-Christchurch Take off date UTC: 06-JUL-2015
 Departure UTC: 07:52 Arrival UTC: 17:52

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			omicron Sgr	19h04m41.10s	-21d44m30.4s	8:30	30	
4	03_0020	Gehrz	N Sgr 2015 No 2	18h36m56.84s	-28d55m39.8s	8:55	61	
5	90_0059	Calibration	1 Ceres	20h43m29.31s	-28d16m27.9s	9:57	35	
6	03_0091	Bally	W43_MM4_grism	18h47m38.62s	-01d57m45.8s	10:33	54	
7	90_0056	Calibration	Sigma Lib	15h04m04.22s	-25d16m55.1s	11:29	45	
8	03_0089	Kemper	W26	16h47m05.40s	-45d50m36.5s	12:14	169	
9	03_0049	Jones	N160	05h39m45.00s	-69d38m30.0s	15:05	130	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



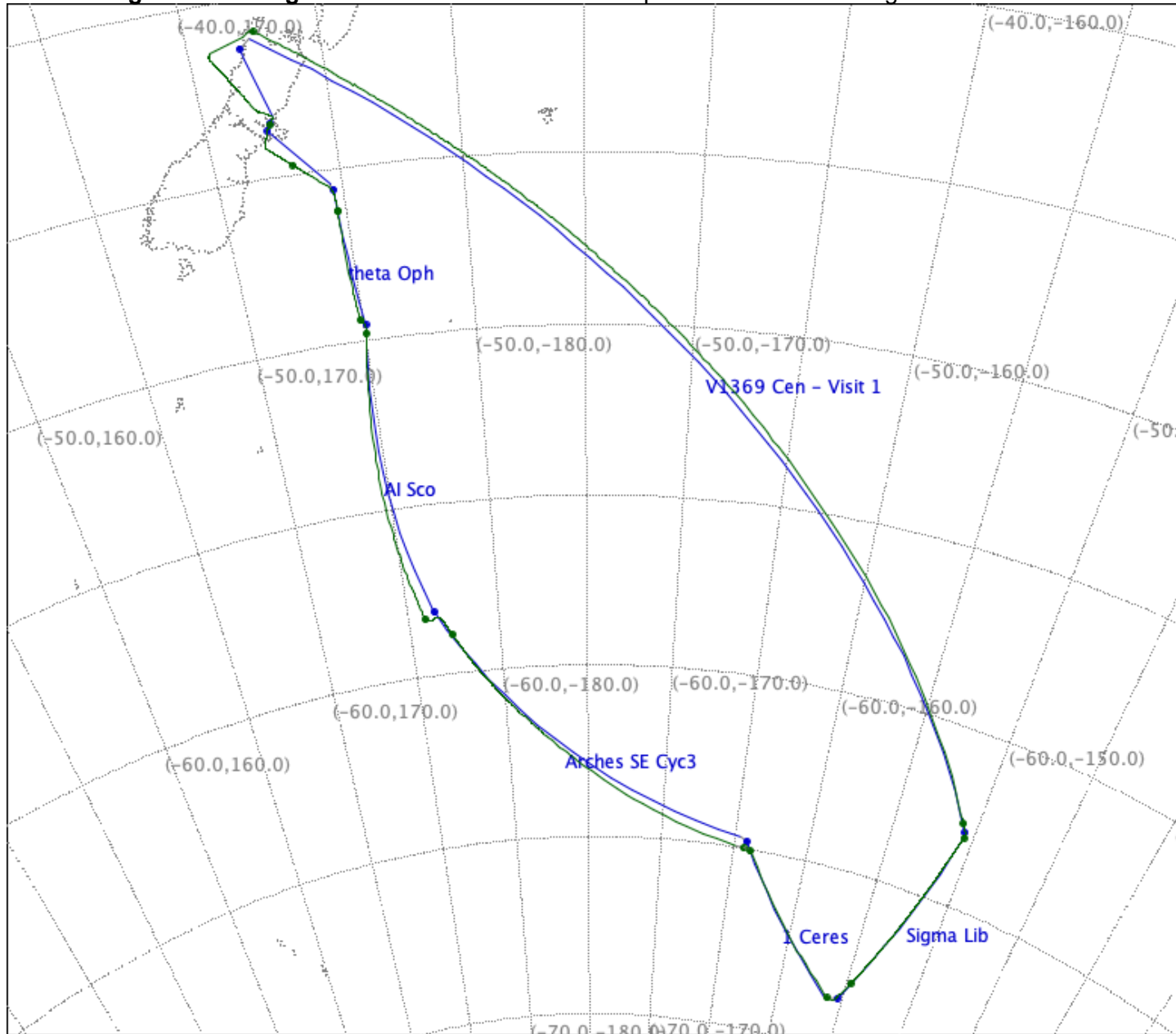
MISSION ID: 2015-07-07_FO_F227

Date: 2015-07-07 UT Instrument: FORCAST

Flight #: 227 Flight Series: OC3F

blue = planned route

green = flown route

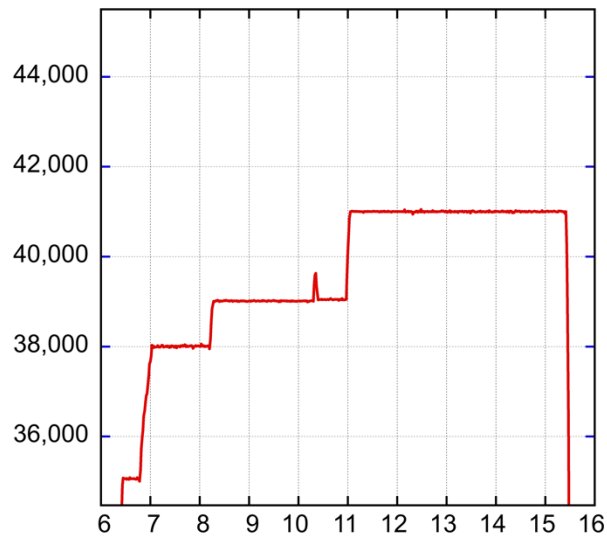


Flight notes:
No irregularities.

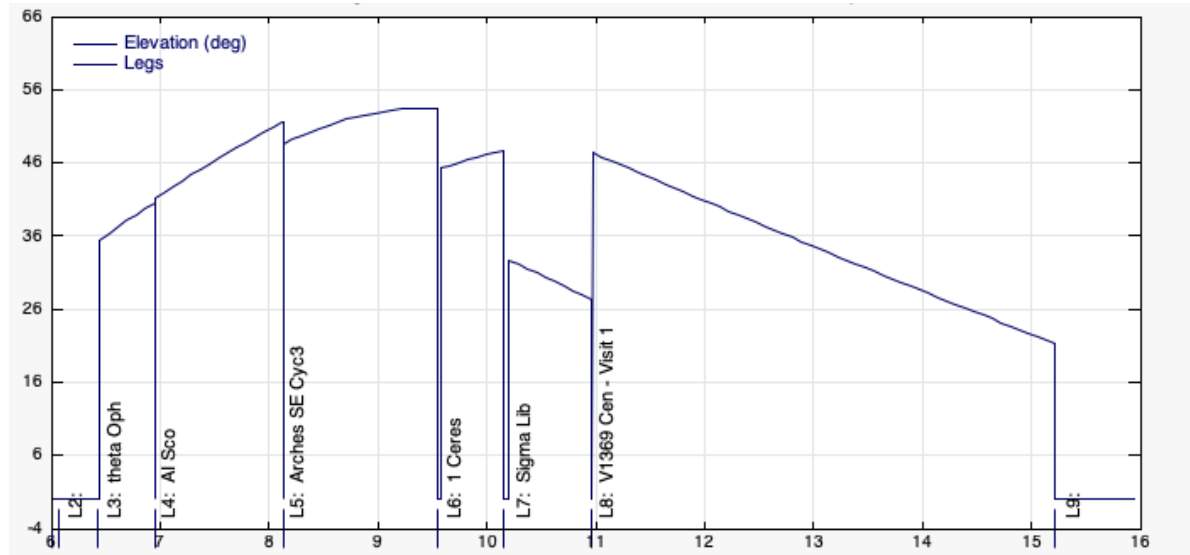
Flight 227 Mission ID 2015-07-07_FO_F227
 Christchurch-Christchurch Take off date UTC: 07-JUL-2015
 Departure UTC: 05:58 Arrival UTC: 16:02

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			theta Oph	17h22m00.60s	-24d59m58.6s	6:26	30	
4	03_0022	Gehrz	Al Sco	17h56m18.56s	-33d48m43.4s	6:57	71	
5	70_0300	GTO	Arches SE Cyc3	17h45m46.07s	-28d50m43.1s	8:08	85	
6	90_0059	Calibration	1 Ceres	20h42m46.31s	-28d23m03.7s	9:34	35	
7	90_0056	Calibration	Sigma Lib	15h04m04.22s	-25d16m55.1s	10:12	45	
8	03_0110	Helton	V1369 Cen - Visit 1	13h54m47.00s	-59d09m08.0s	10:58	255	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



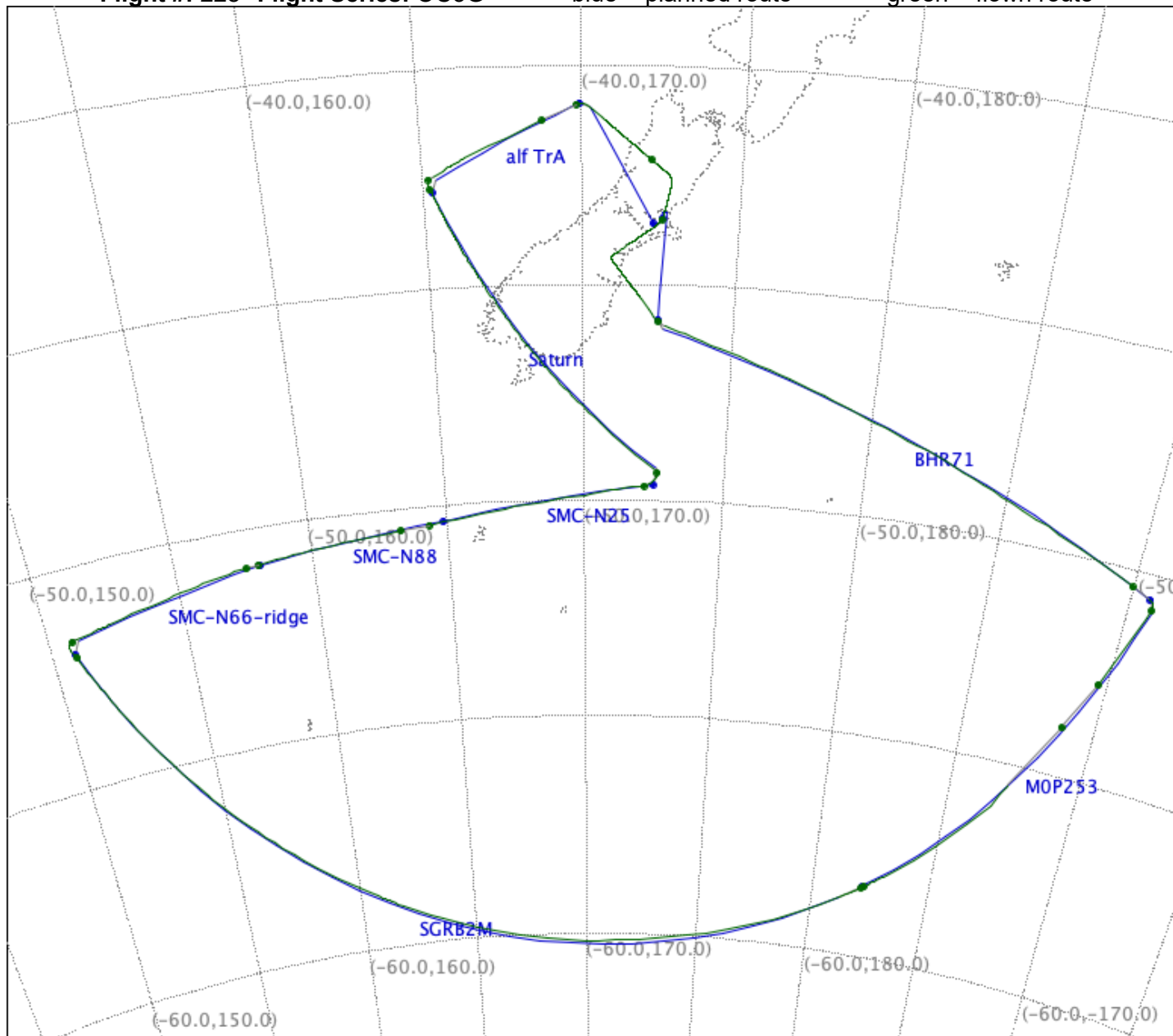
MISSION ID: 2015-07-13_GR_F228

Date: 2015-07-13 UT Instrument: GREAT

Flight #: 228 Flight Series: OC3G

blue = planned route

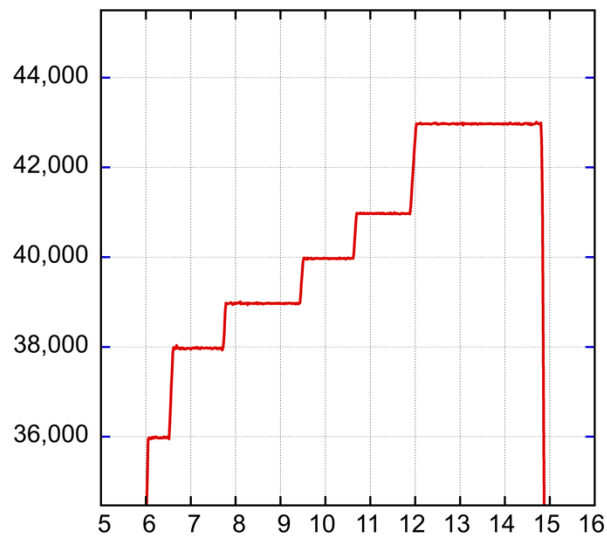
green = flown route



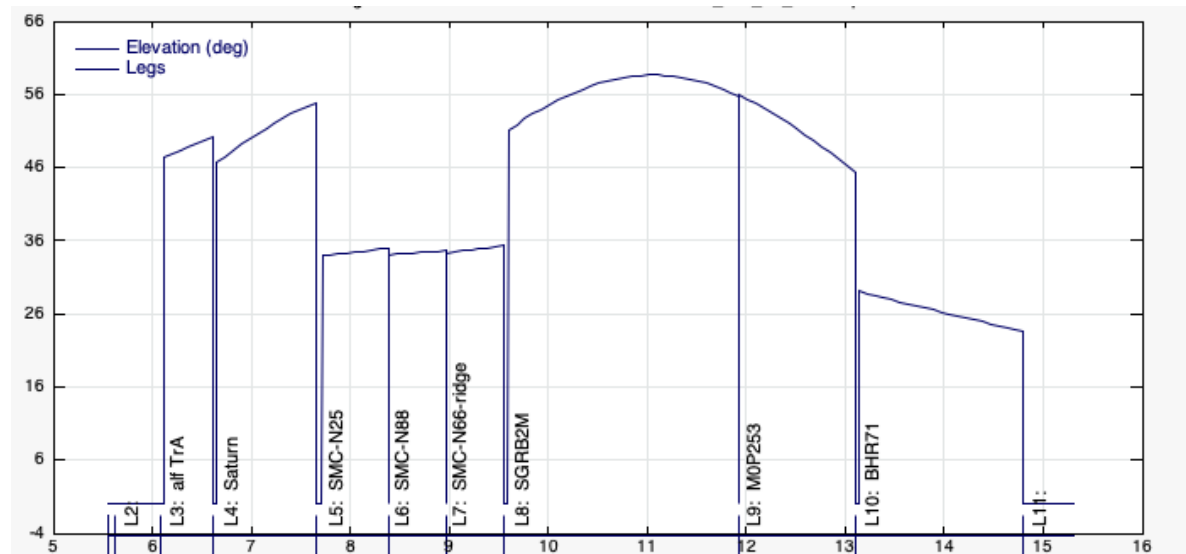
Flight notes: No irregularities.

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			alf TrA	16h48m39.90s	-69d01m39.8s	6:06	30	
4	94_0121	Testing	Saturn	15h46m35.05s	-17d47m40.0s	6:39	60	
5	83_0007	GREAT Consortium	SMC-N25	00h48m09.04s	-73d14m55.8s	7:42	40	
6	83_0007	GREAT Consortium	SMC-N88	01h24m11.37s	-73d09m08.5s	8:23	35	
7	83_0007	GREAT Consortium	SMC-N66-ridge	00h59m06.90s	-72d10m29.6s	8:58	35	
8	83_0007	GREAT Consortium	SGRB2M	17h47m20.16s	-28d23m04.5s	9:35	140	
9	83_0007	GREAT Consortium	M0P253	17h46m10.72s	-28d43m02.3s	11:59	70	Observatory control software crash – little data obtained on leg.
10	83_0007	GREAT Consortium	BHR71	12h01m36.82s	-65d08m50.2s	13:08	100	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



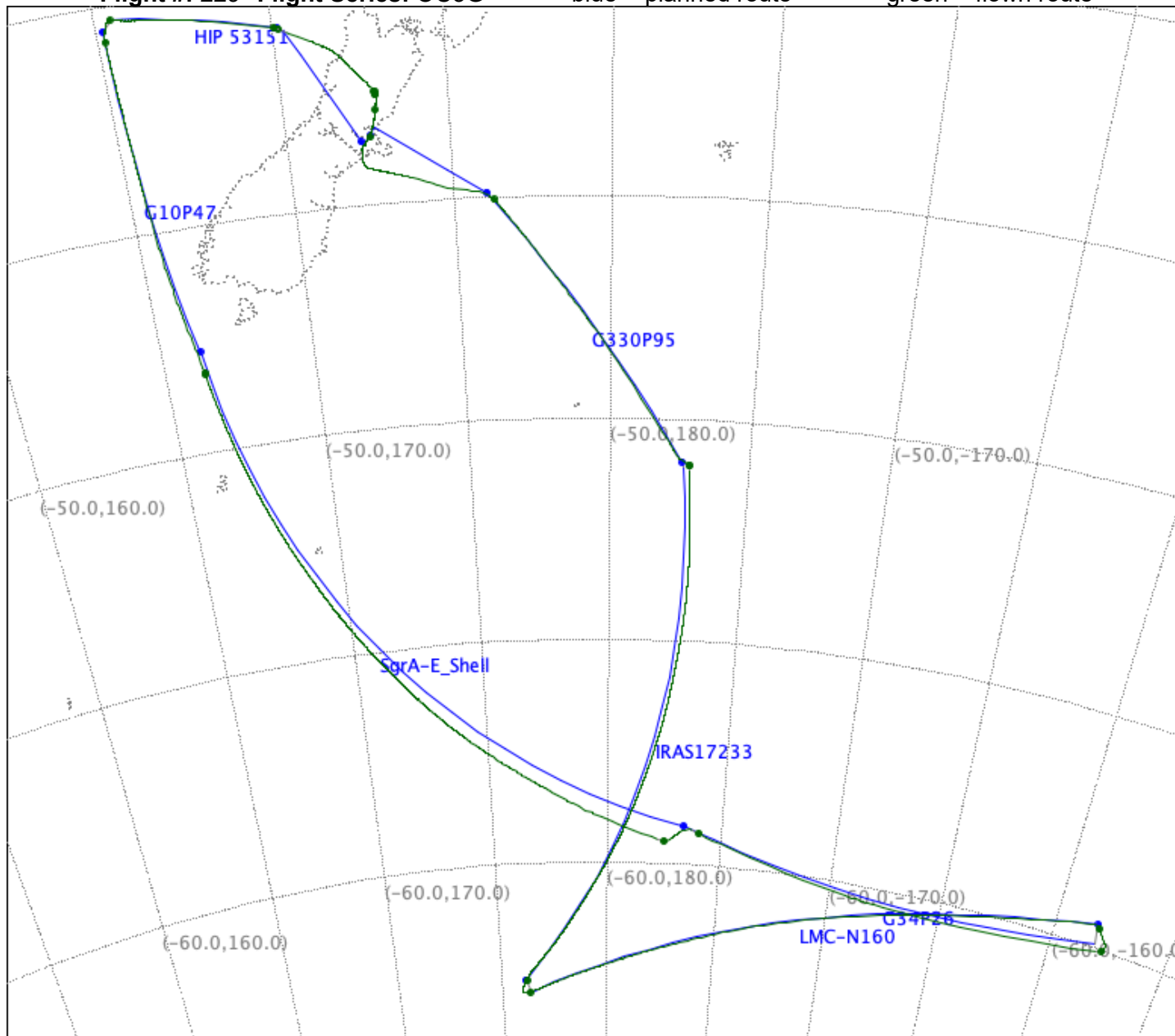
MISSION ID: 2015-07-14_GR_F229

Date: 2015-07-14 UT Instrument: GREAT

Flight #: 229 Flight Series: OC3G

blue = planned route

green = flown route



Flight notes: No irregularities.

Flight 229 Mission ID
Christchurch-
Christchurch

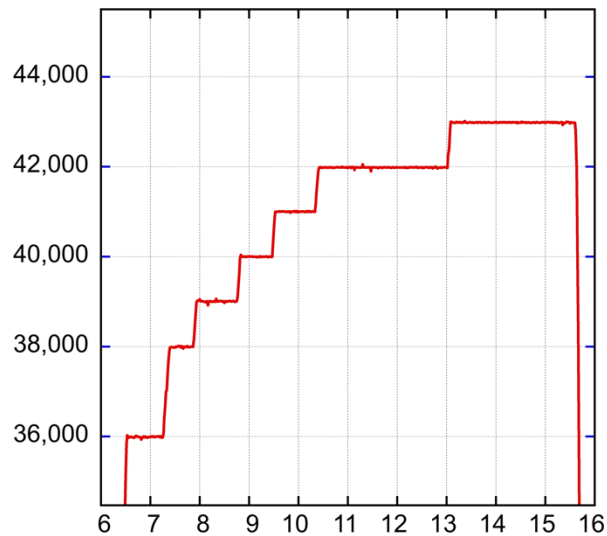
2015-07-14_GR_F229
Take off date UTC:
14-JUL-2015

Departure UTC: 06:04
Arrival UTC: 16:00

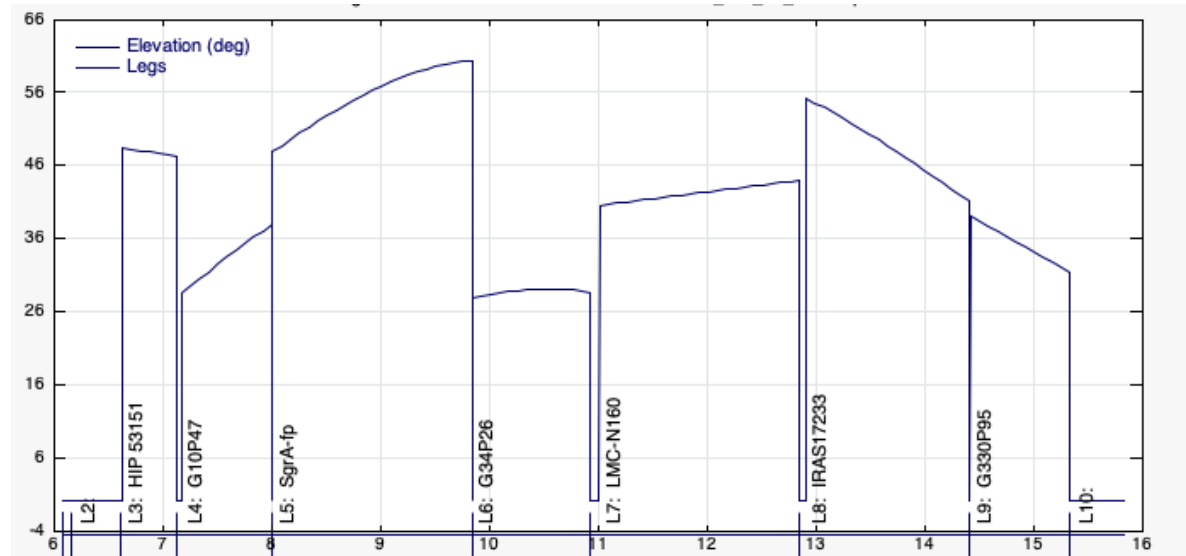
Consortium flight
H-L2

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			HIP 53151	10h52m28.63s	-79d33m34.0s	6:37	30	
4	83_0007	GREAT Consortium	G10P47	18h08m38.20s	-19d51m50.0s	7:10	50	
5	83_0007	GREAT Consortium	SgrA-fp	17h45m37.46s	-28d53m20.0s	8:00	110	Vignetting possible at end of leg.
6	83_0007	GREAT Consortium	G34P26	18h53m18.60s	01d14m58.0s	9:51	65	
7	83_0007	GREAT Consortium	LMC-N160	05h39m40.30s	-69d39m01.1s	11:00	110	
8	83_0007	GREAT Consortium	IRAS17233	17h26m42.45s	-36d09m18.0s	12:54	90	
9	83_0007	GREAT Consortium	G330P95	16h09m53.01s	-51d54m55.0s	14:25	55	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



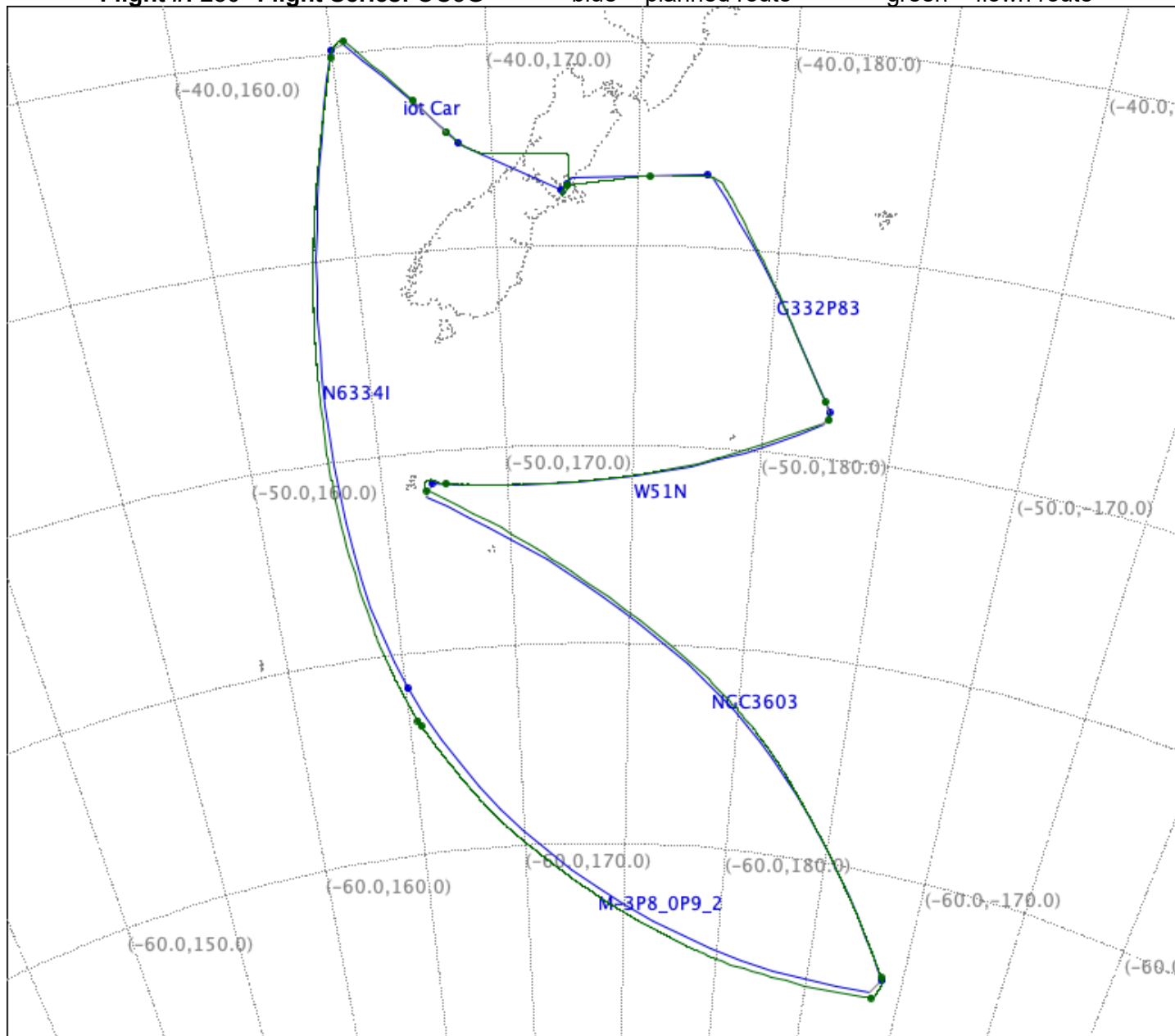
MISSION ID: 2015-07-15_GR_F230

Date: 2015-07-15 UT Instrument: GREAT

Flight #: 230 Flight Series: OC3G

blue = planned route

green = flown route

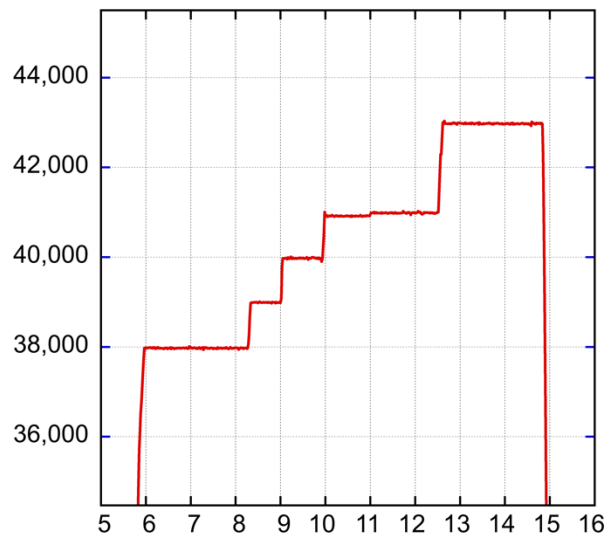


**Flight notes:
No irregularities.**

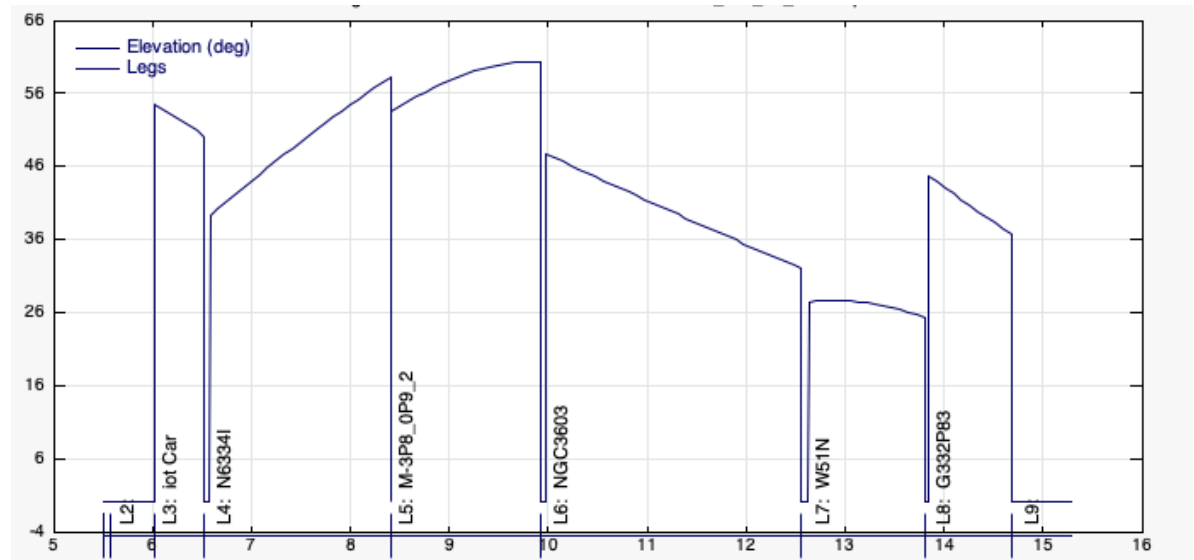
Flight 230 Mission ID 2015-07-15_GR_F230
 Christchurch-Christchurch Take off date UTC: 15-JUL-2015
 Departure UTC: 05:28 Arrival UTC: ~15:15 Consortium flight H-L2

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			iot Car	09h17m05.41s	-59d16m30.8s	6:01	30	
4	83_0007	GREAT Consortium	N6334I	17h20m53.44s	-35d46m57.9s	6:34	110	
5	83_0007	GREAT Consortium	M-3P8_OP9_2	17h32m29.81s	-31d39m59.2s	8:24	90	
6	83_0007	GREAT Consortium	NGC3603	11h15m15.10s	-61d17m35.0s	9:58	155	
7	83_0007	GREAT Consortium	W51N	19h23m40.05s	14d31m05.5s	12:37	70	
8	83_0007	GREAT Consortium	G332P83	16h20m10.65s	-50d53m17.6s	13:49	50	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



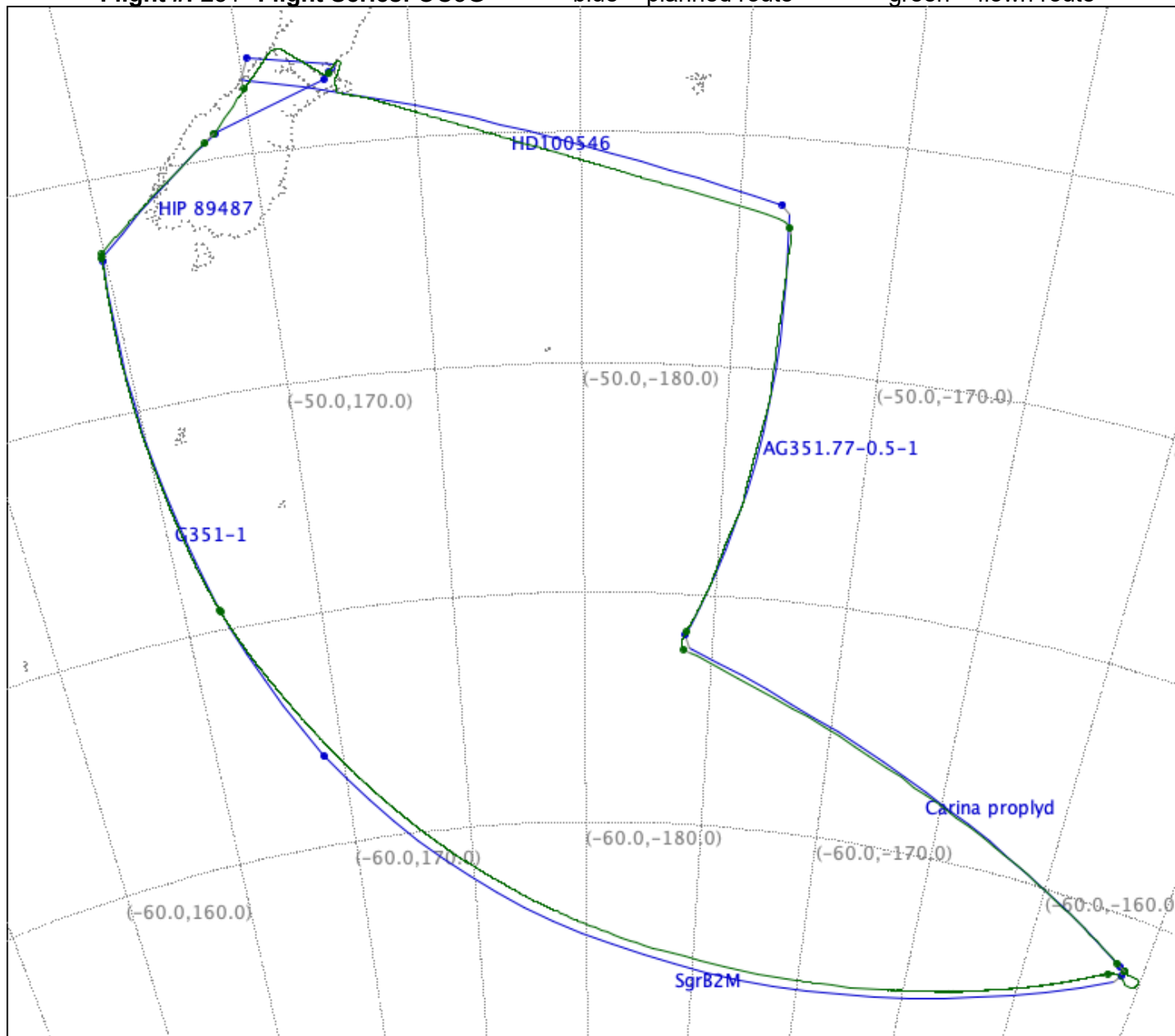
MISSION ID: 2015-07-19_GR_F231

Date: 2015-07-19 UT Instrument: GREAT

Flight #: 231 Flight Series: OC3G

blue = planned route

green = flown route

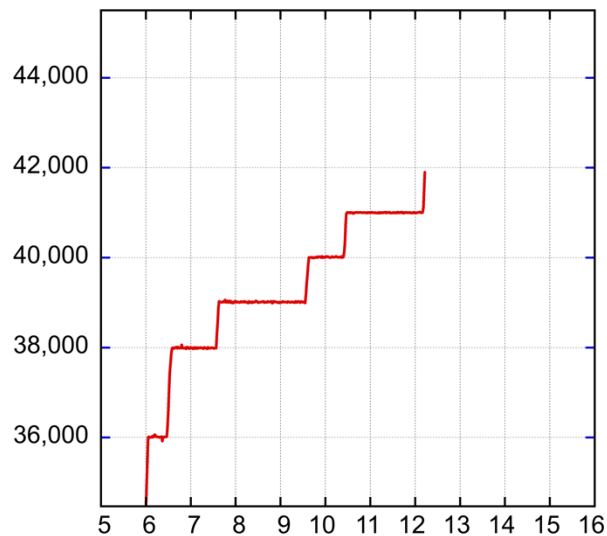


Flight notes:

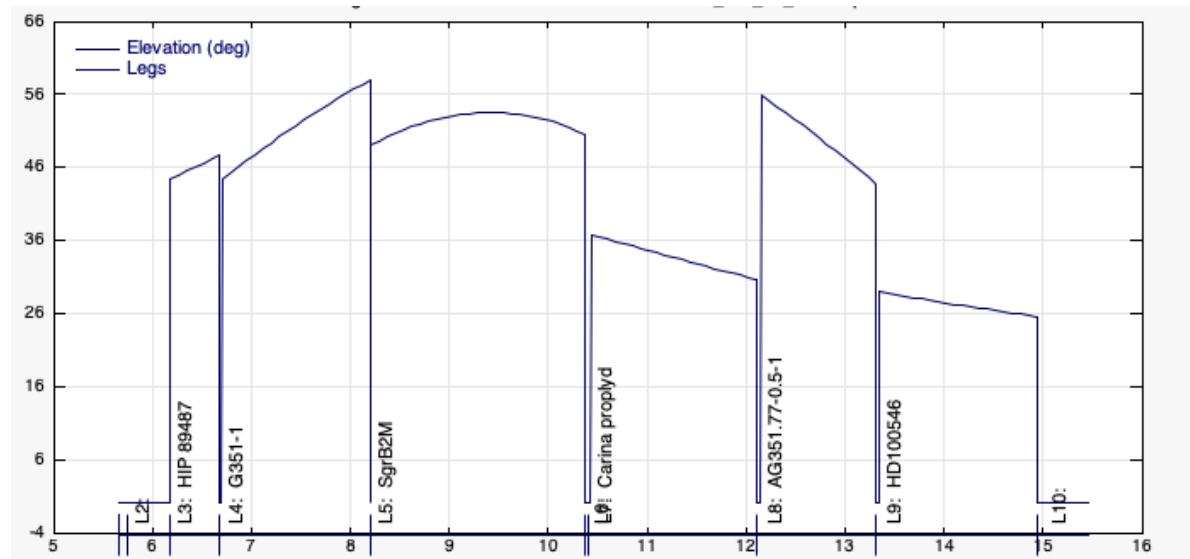
Irrecoverable telescope fault on leg 8 led to early return to Christchurch base.

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			HIP 89487	18h15m40.62s	-63d03m19.3s	6:11	30	
4	03_0102	CSENGERI	G351	17h26m25.44s	-36d04m46.2s	6:42	90	Faint target – early transition to next leg.
5	03_0088	Comito	SgrB2M	17h47m20.35s	-28d23m03.0s	8:12	130	
7	03_0138	Vicente	Carina proplyd	10h46m33.00s	-60d03m53.6s	10:25	101	
8	03_0112	Leurini	AG351.77-0.5	17h26m42.46s	-36d09m18.0s	12:09	70	Irrecoverable telescope fault; early return to base; 65% of data collected
9	03_0054	Guesten	HD100546	11h33m25.40s	-70d11m41.2s	13:21	96	No data; early return to base

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



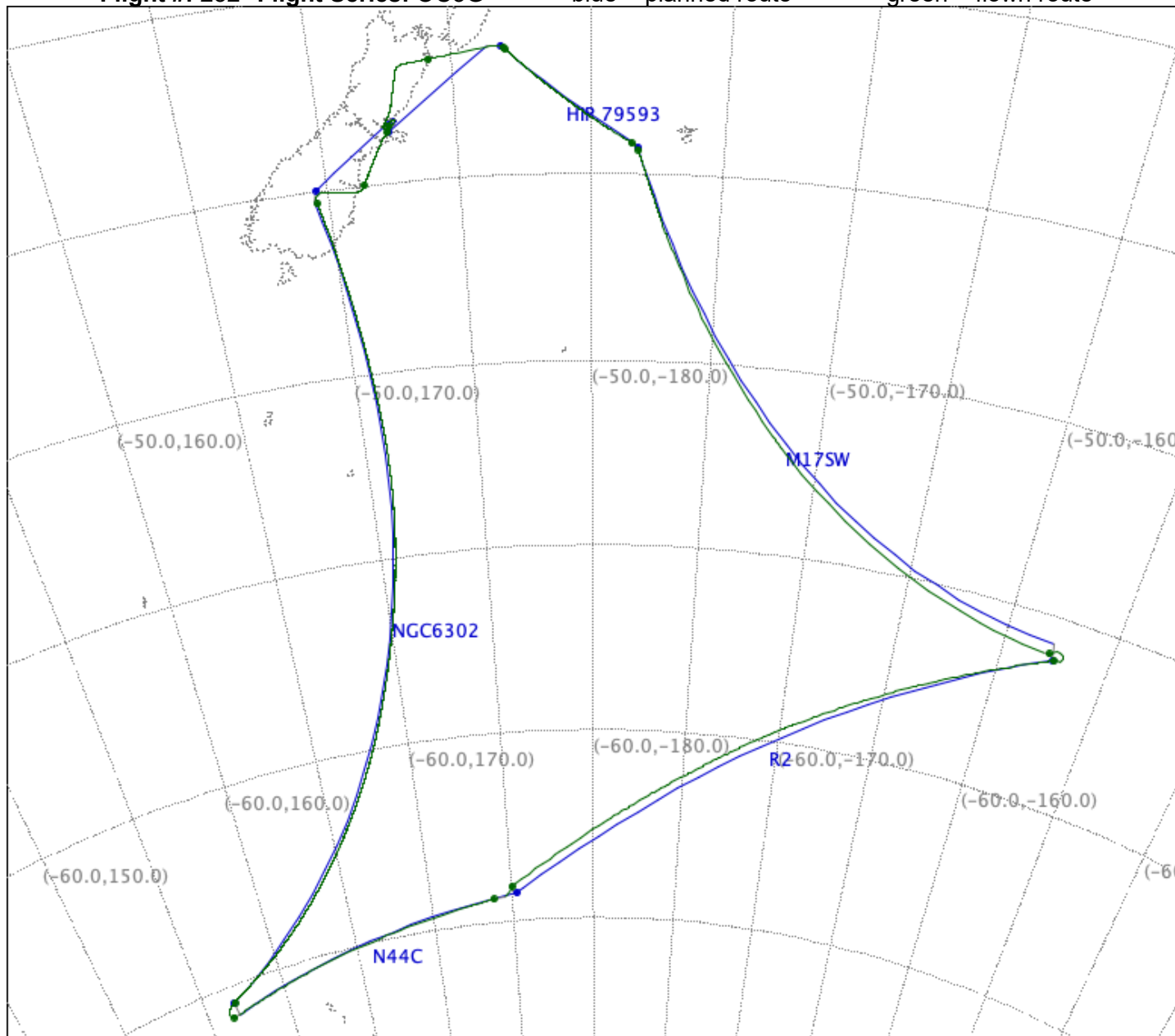
MISSION ID: 2015-07-21_GR_F232

Date: 2015-07-21 UT Instrument: GREAT

Flight #: 232 Flight Series: OC3G

blue = planned route

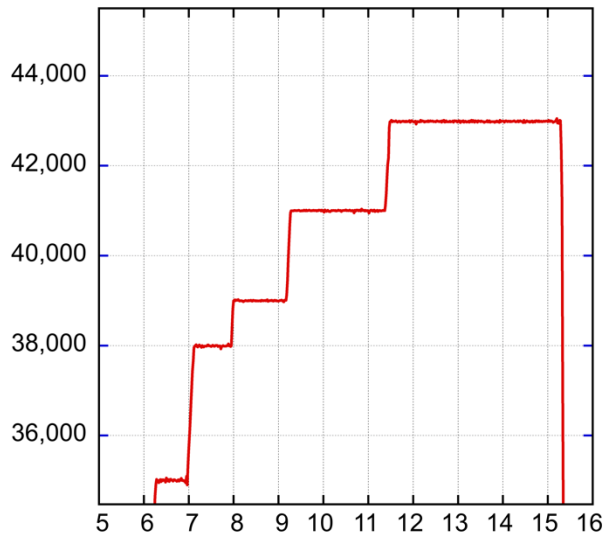
green = flown route



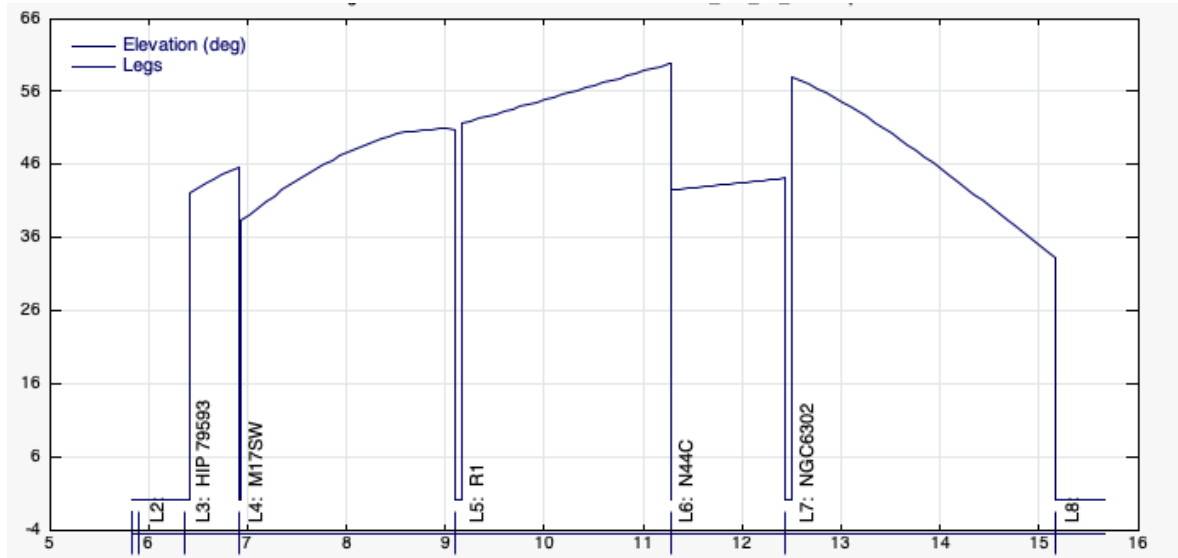
**Flight notes:
No irregularities.**

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
3			HIP 79593	16h14m20.74s	-03d41m39.6s	6:25	30	
4	03_0077	Perez-Beaupuits	M17SW	18h20m27.61s	-16d12m00.9s	6:56	130	Telescope movements appear to be slow; 50% reduction in efficiency on leg
5	03_0120	Herrera-Camus	R1	00h45m23.00s	-73d22m22.0s	9:10	126	
6	03_0116	Hughes	N44C	05h22m06.10s	-67d58m07.1s	11:17	69	
7	03_0094	Wiesemeyer	NGC6302	17h13m44.21s	-37d06m15.9s	12:30	159	Telescope movements appear to be slow; loss of efficiency

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)

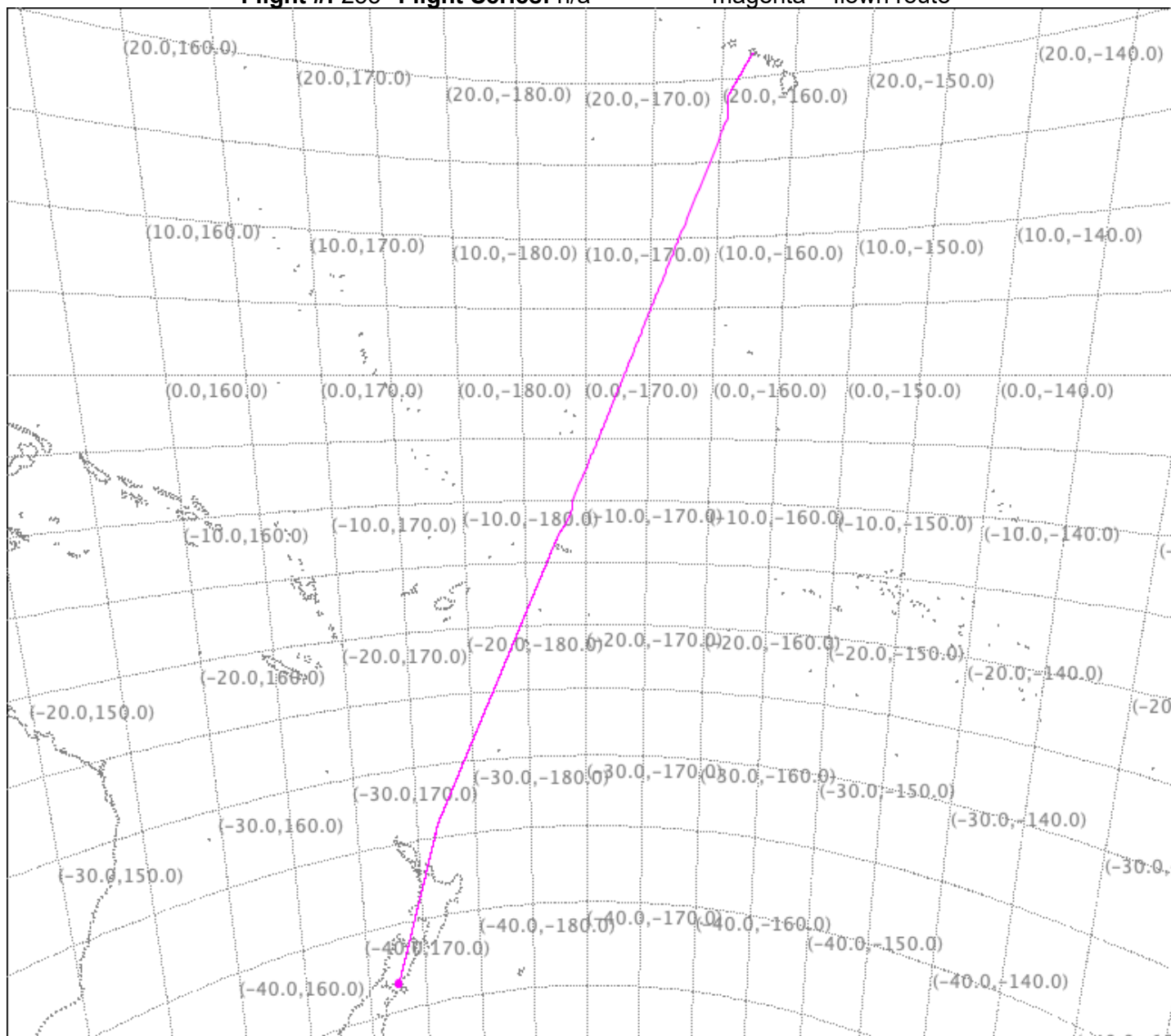


MISSION ID: 2015-07-24_NO_F233

Date: 2015-07-24 UT Instrument: n/a

Flight #: 233 Flight Series: n/a

magenta = flown route



Flight notes:

Ferry flight from Christchurch, New Zealand to Honolulu, HI. No science planned.

Flight 233
Christchurch
to Honolulu

Mission ID 2015-07-24_NO_F233
Take off date UTC:
24-JUL-2015

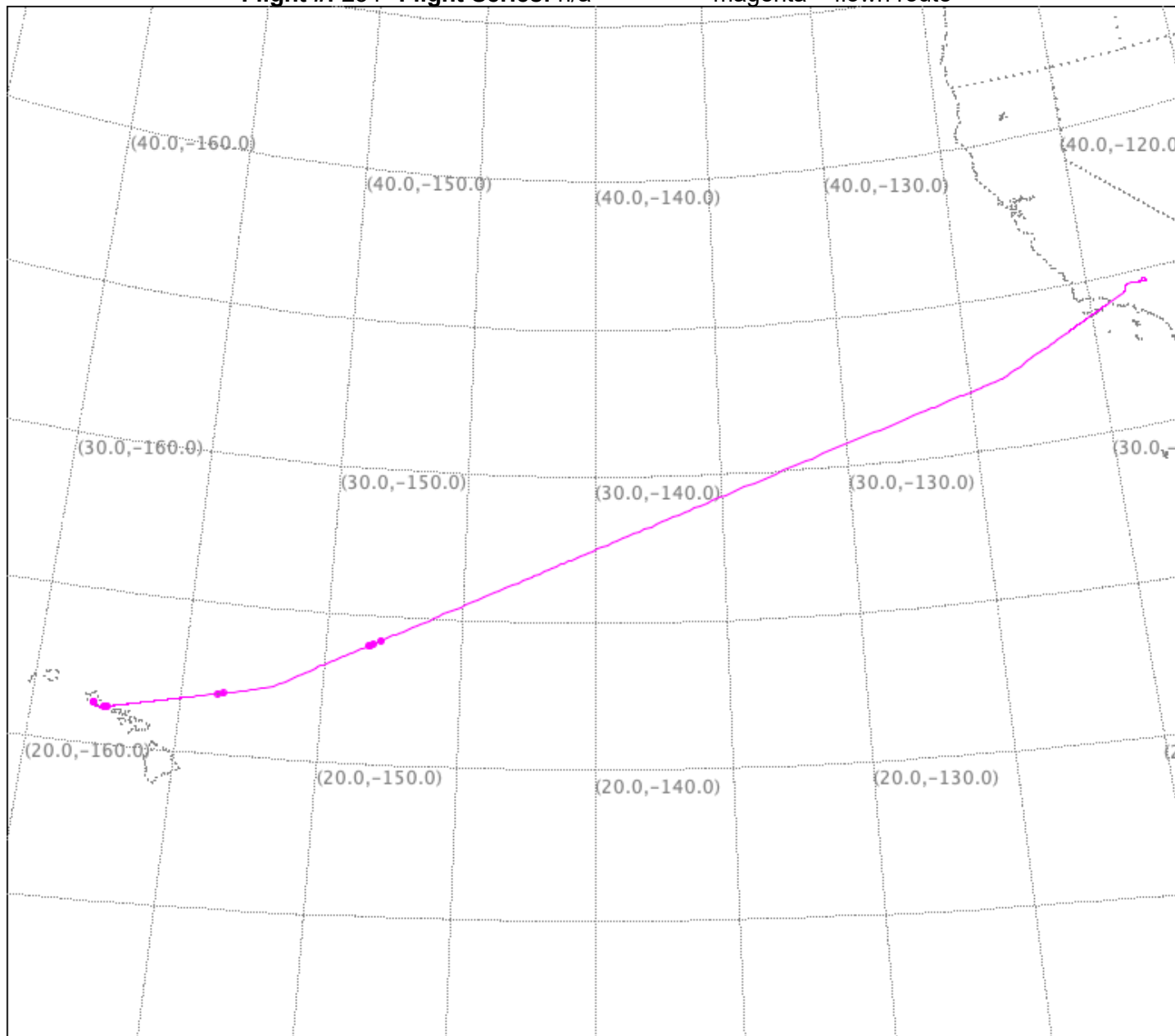
Departure UTC: 01:19
Arrival UTC: 10:17

MISSION ID: 2015-07-24_NO_F234

Date: 2015-07-24 UT **Instrument:** n/a

Flight #: 234 **Flight Series:** n/a

magenta = flown route



Flight notes:

Ferry flight from Honolulu, HI to Palmdale, CA. No science planned.

Flight 234
Honolulu to
Palmdale

Mission ID 2015-07-24_NO_F234
Take off date UTC:
24-JUL-2015

Departure UTC: 14:34
Arrival UTC: 19:20

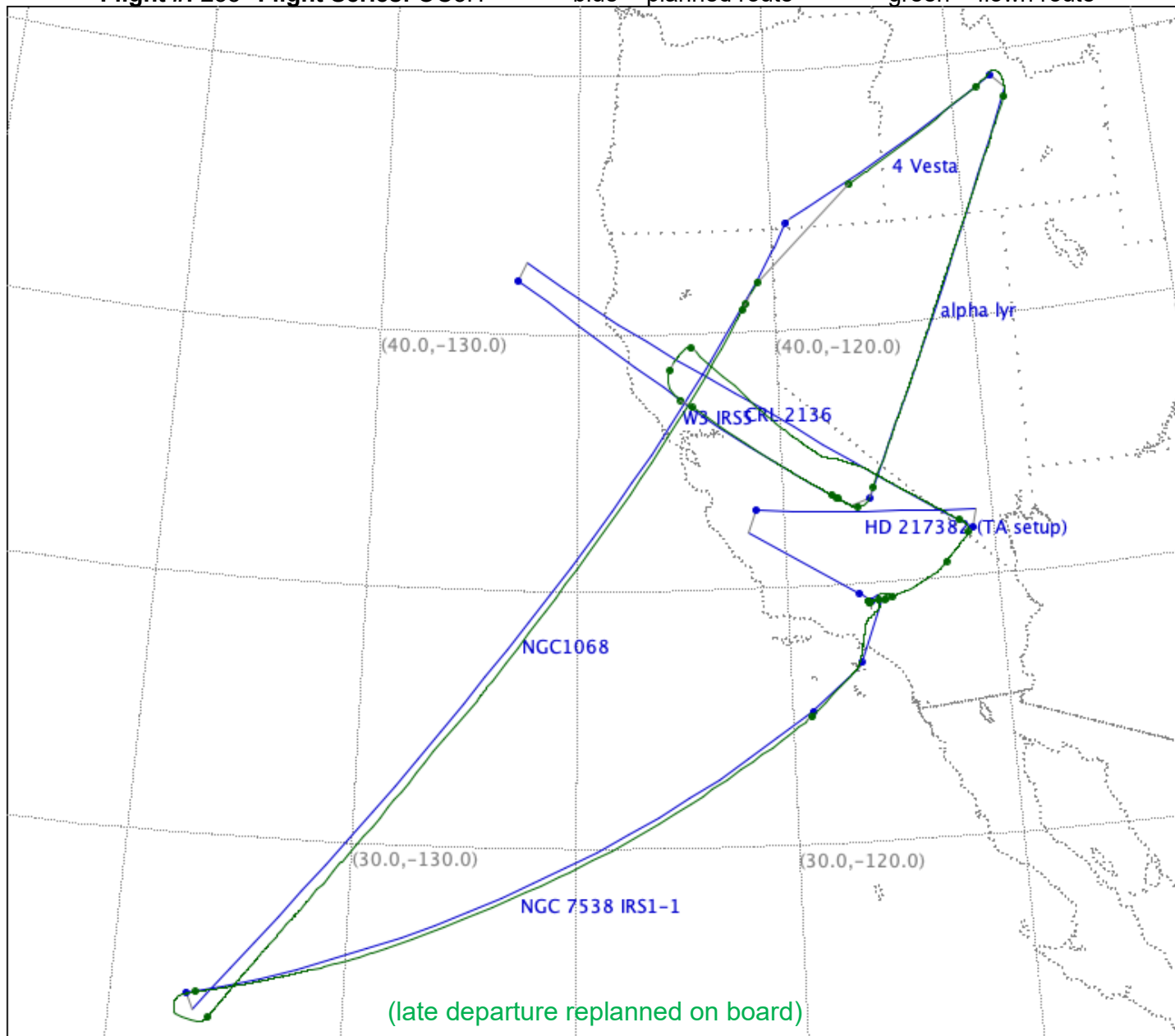
MISSION ID: 2015-09-02_EX_F235

Date: 2015-09-02 UT Instrument: EXES

Flight #: 235 Flight Series: OC3H

blue = planned route

green = flown route



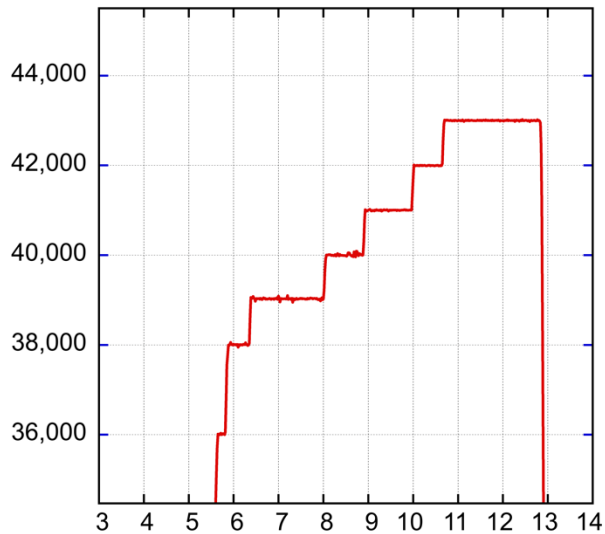
Flight notes:

EXES commissioning flight with some science. Late departure led to in-flight replanning of flight route and loss of first science leg.

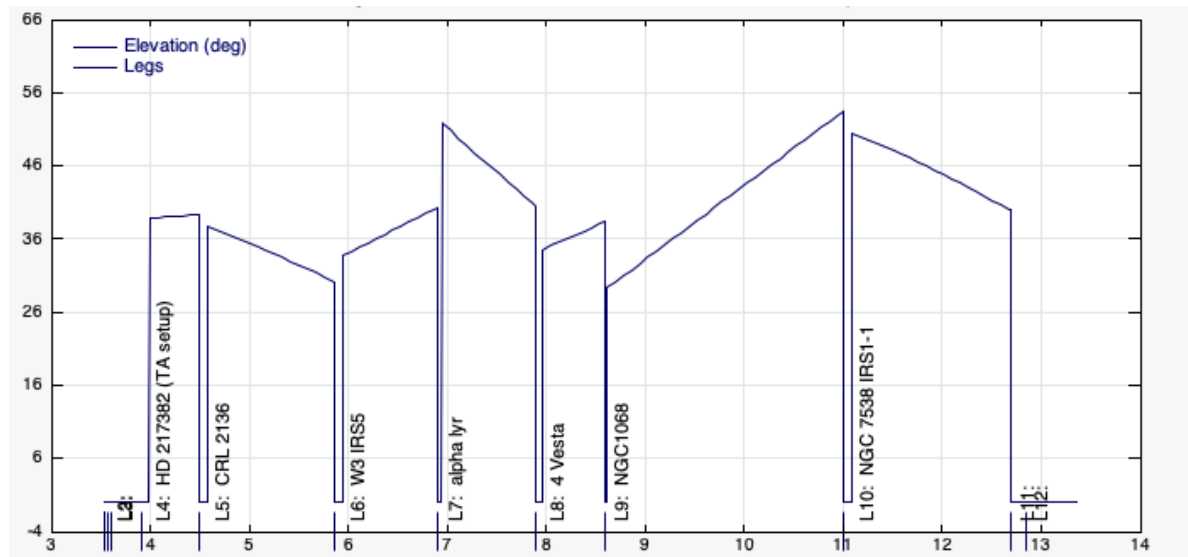
Flight 235 Mission ID 2015-09-02_EX_F235
 Palmdale to Palmdale Take off date UTC: 02-SEP-2015
 Departure UTC: 05:06 Arrival UTC: 13:17

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			HD 217382 (TA setup)	22h54m36.00s	84d20m47.0s	4:04	30	
5	03_0067	Goto	CRL 2136	18h22m26.59s	-13d30m15.7s	4:39	77	Leg not flown due to late take-off
6	86_0005	Commissioning	W3 IRS5	02h25m40.54s	62d05m51.4s	6:01	57	Leg only half as long as originally planned after reroute do to late take-off
7	86_0003	Commissioning	alpha lyr	18h36m56.34s	38d47m01.3s	7:01	57	
8	03_0065	Rangwala	4 Vesta	00h59m35.09s	-05d41m57.8s	8:02	38	Observatory control software crash, 15min lost
9	03_0065	Rangwala	NGC1068	02h42m40.77s	-00d00m47.8s	8:41	143	
10	86_0005	Commissioning	NGC 7538 IRS1	23h13m45.32s	61d28m11.7s	11:10	96	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



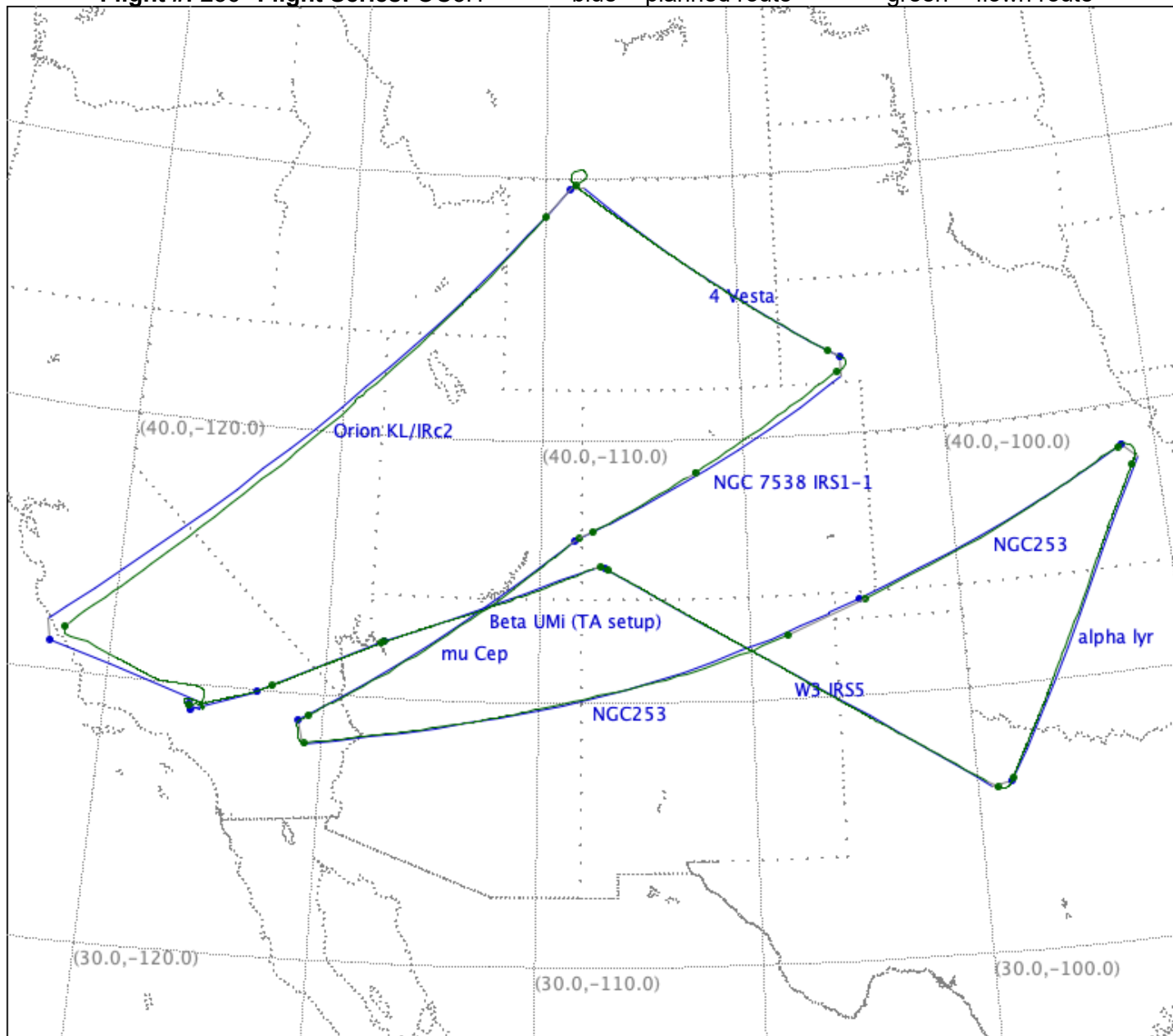
MISSION ID: 2015-09-03_EX_F236

Date: 2015-09-03 UT Instrument: EXES

Flight #: 236 Flight Series: OC3H

blue = planned route

green = flown route

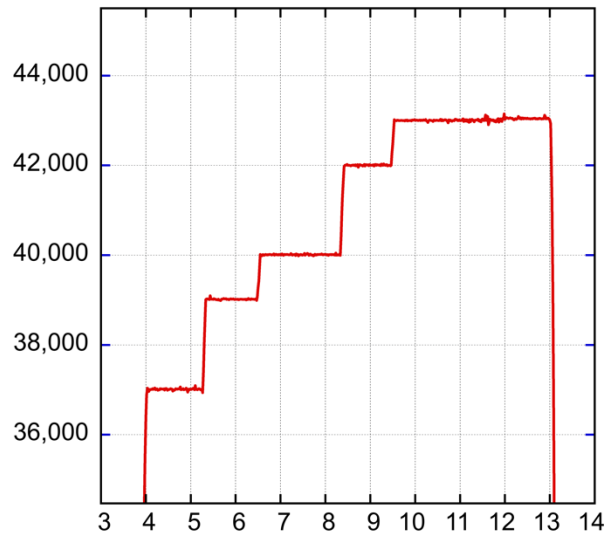


Flight notes: EXES commissioning flight with some science.

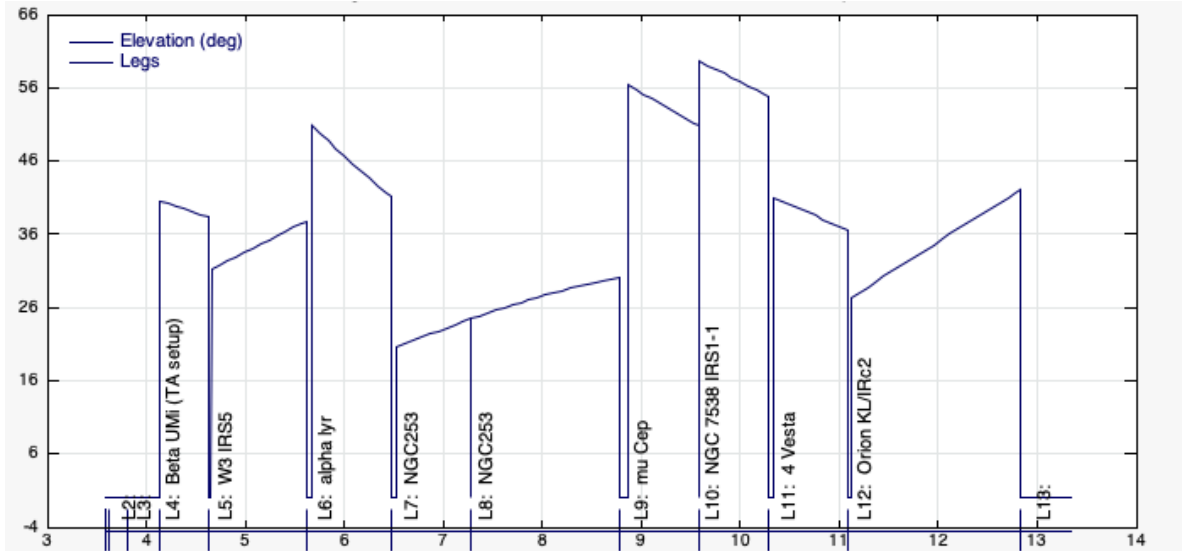
Flight 236 Mission ID 2015-09-03_EX_F236
 Palmdale to Palmdale Take off date UTC: 03-SEP-2015
 Departure UTC: 03:34 Arrival UTC: 13:28

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Beta UMi (TA setup)	14h50m42.00s	74d09m20.0s	4:09	30	
5	86_0005	Commissioning	W3 IRS5	02h25m40.54s	62d05m51.4s	4:41	58	
6	86_0003	Commissioning	alpha lyr	18h36m56.34s	38d47m01.3s	5:41	48	
7	03_0065	Rangwala	NGC253	00h47m33.12s	-25d17m17.6s	6:33	45	Data quality suspect on this leg due to EXES subarray readout difficulties
8	03_0065	Rangwala	NGC253	00h47m33.12s	-25d17m17.6s	7:18	90	
9	86_0005	Commissioning	mu Cep	21h43m30.46s	58d46m48.2s	8:53	43	
10	86_0005	Commissioning	NGC 7538 IRS1	23h13m45.32s	61d28m11.7s	9:36	42	
11	03_0065	Rangwala	4 Vesta	00h59m02.64s	-05d49m29.9s	10:21	45	
12	03_0126	Lee	Orion KL/IRc2	05h35m14.50s	-05d22m30.0s	11:08	103	"Turbulence" (autopilot induced) led to trouble acquiring target; 1hr lost

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



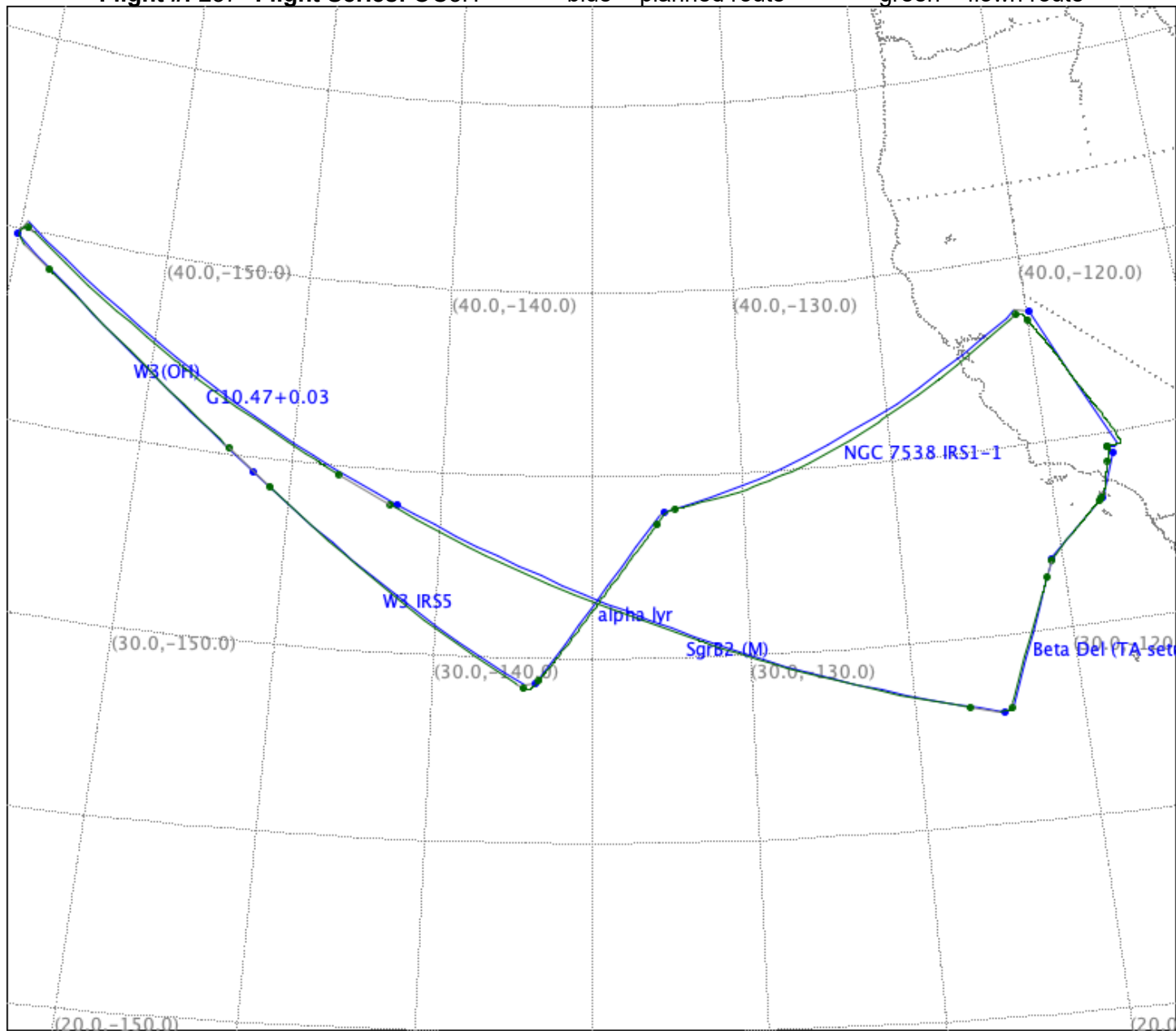
MISSION ID: 2015-09-04_EX_F237

Date: 2015-09-04 UT Instrument: EXES

Flight #: 237 Flight Series: OC3H

blue = planned route

green = flown route

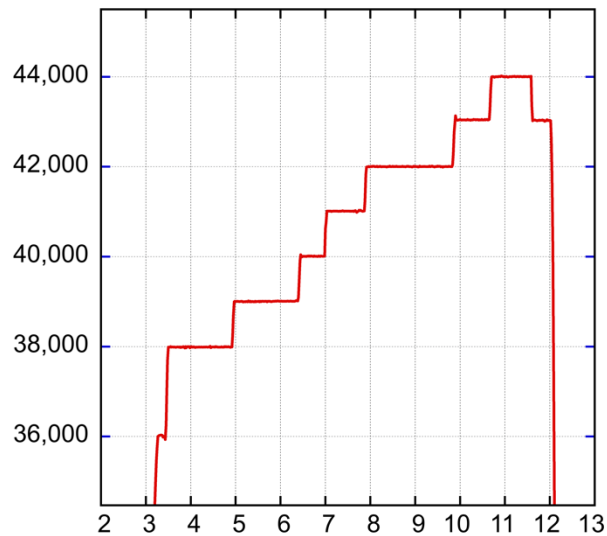


Flight notes: EXES commissioning flight with some science.

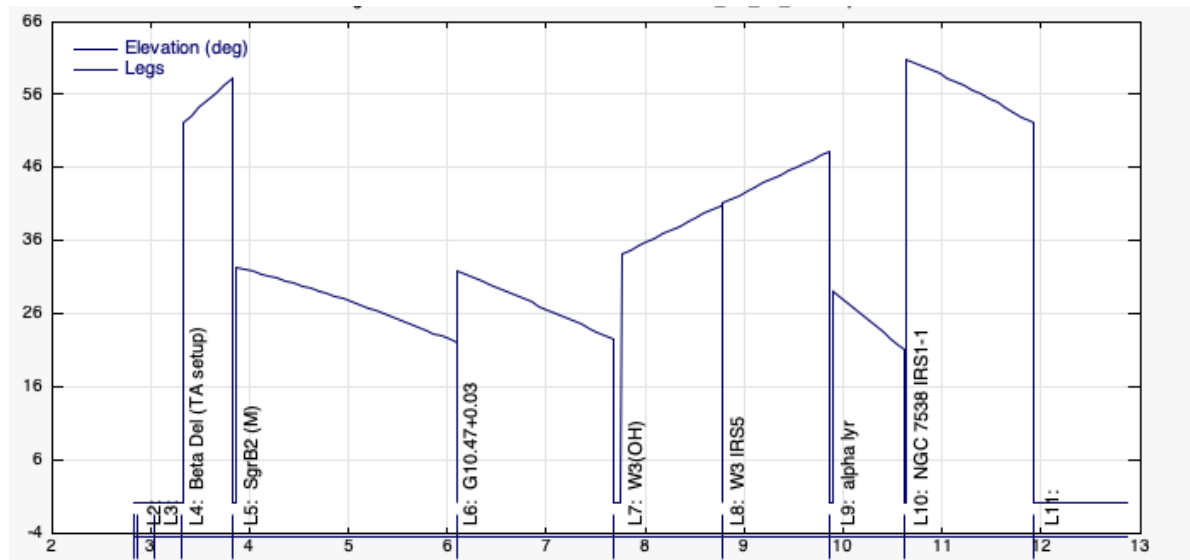
Flight 237 Mission ID 2015-09-04_EX_F237
 Palmdale to Palmdale Take off date UTC: 04-SEP-2015
 Departure UTC: 02:47 Arrival UTC: 12:41

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Beta Del (TA setup)	20h37m33.00s	14d35m41.0s	3:23	30	
5	03_0126	Lee	SgrB2 (M)	17h47m20.14s	-28d23m04.3s	3:56	134	45min lost to EXES computer issues.
6	03_0100	Linz	G10.47+0.03	18h08m38.23s	-19d51m50.3s	6:10	95	
7	03_0080	Menten	W3(OH)	02h27m03.82s	61d52m25.2s	7:50	61	
8	86_0005	Commissioning	W3 IRS5	02h25m40.54s	62d05m51.4s	8:51	65	
9	86_0001	Commissioning	alpha lyr	18h36m56.34s	38d47m01.3s	9:58	43	
10	86_0005	Commissioning	NGC 7538 IRS1	23h13m45.32s	61d28m11.7s	10:42	77	In the middle of this leg, air traffic control required us to descend to 43kft

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



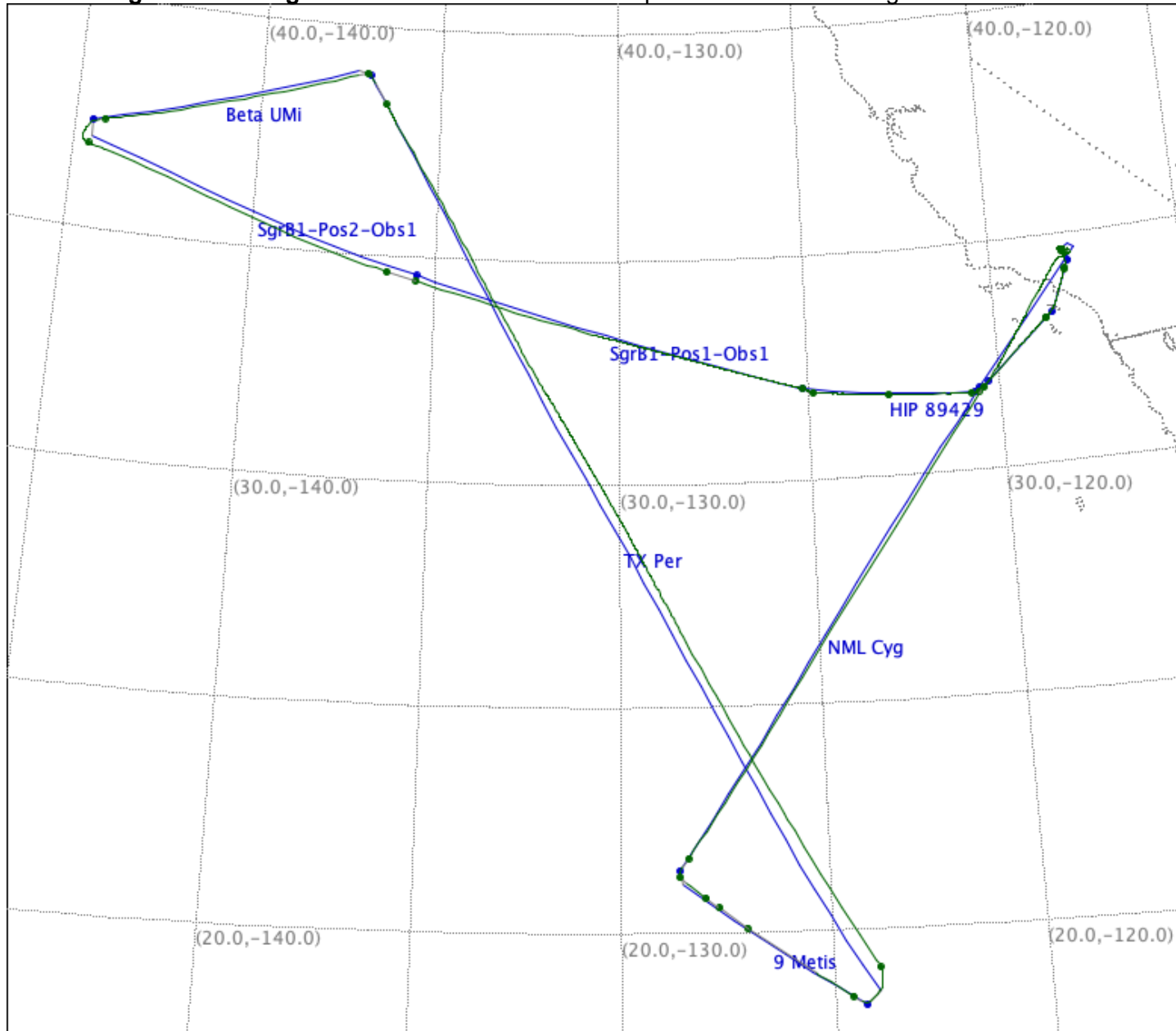
MISSION ID: 2015-09-11_FO_F238

Date: 2015-09-11 UT Instrument: FORCAST

Flight #: 238 Flight Series: OC3I

blue = planned route

green = flown route

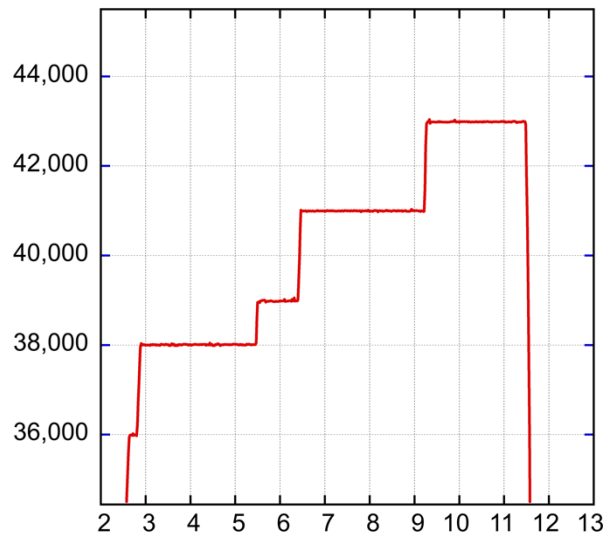


Flight notes: No irregularities.

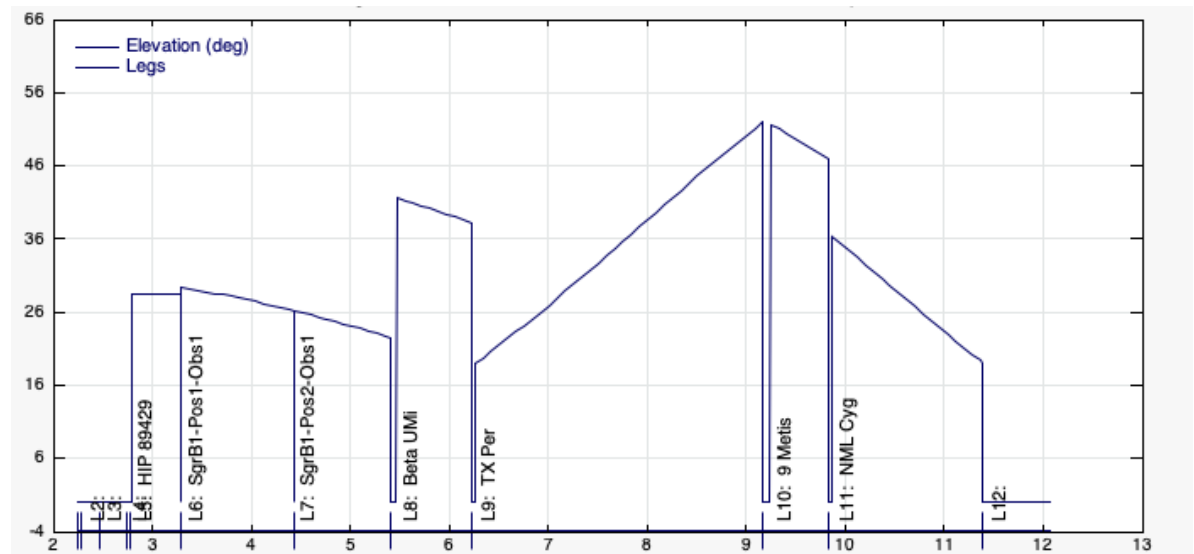
Flight 238 Mission ID 2015-09-11_FO_F238
 Palmdale to Palmdale Take off date UTC: 11-SEP-2015
 Departure UTC: 02:11 Arrival UTC: 12:06

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
5			HIP 89429	18h15m05.11s	-29d49m22.8s	2:51	30	
6	03_0130	Cotera	SgrB1-Pos1-Obs1	17h47m09.99s	-28d31m05.5s	3:21	68.3	
7	03_0130	Cotera	SgrB1-Pos2-Obs1	17h47m00.00s	-28d32m22.8s	4:30	58.3	
8	90_0056	Calibration	Beta UMi	14h50m42.33s	74d09m19.8s	5:32	45	
9	03_0022	Gehrz	TX Per	02h48m00.43s	36d58m01.9s	6:19	175.1	
10	90_0059	Calibration	9 Metis	23h07m29.17s	-16d05m38.2s	9:18	35	Observatory control software crash led to loss of entire leg.
11	03_0082	Humphreys	NML Cyg	20h46m25.54s	40d06m59.4s	9:56	91.4	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



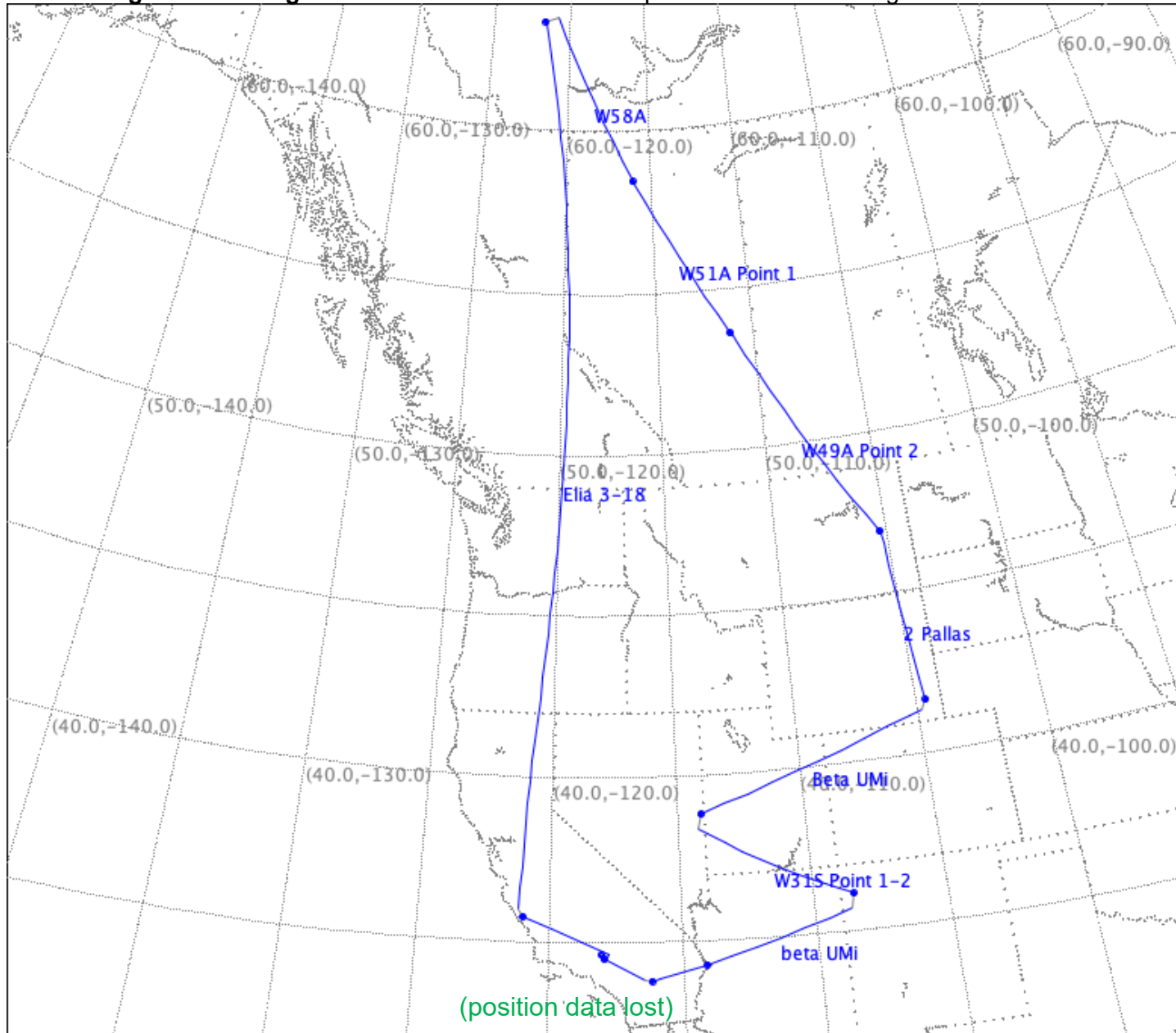
MISSION ID: 2015-09-16_FO_F239

Date: 2015-09-16 UT Instrument: FORCAST

Flight #: 239 Flight Series: OC3I

blue = planned route

green = flown route

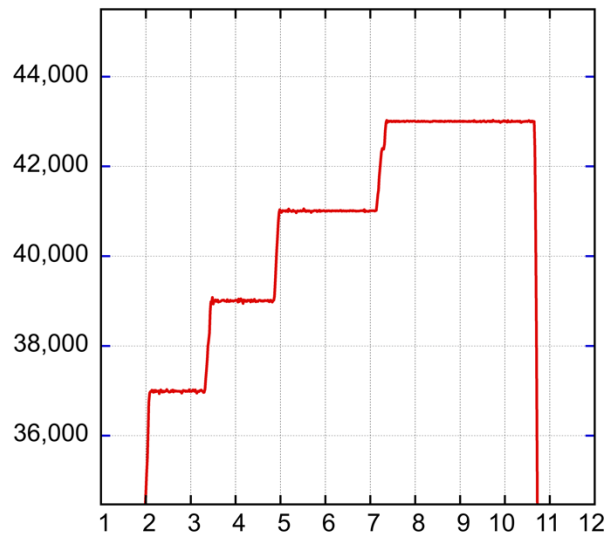


Flight notes:
No irregularities. (Nichelle Nichols on board!)

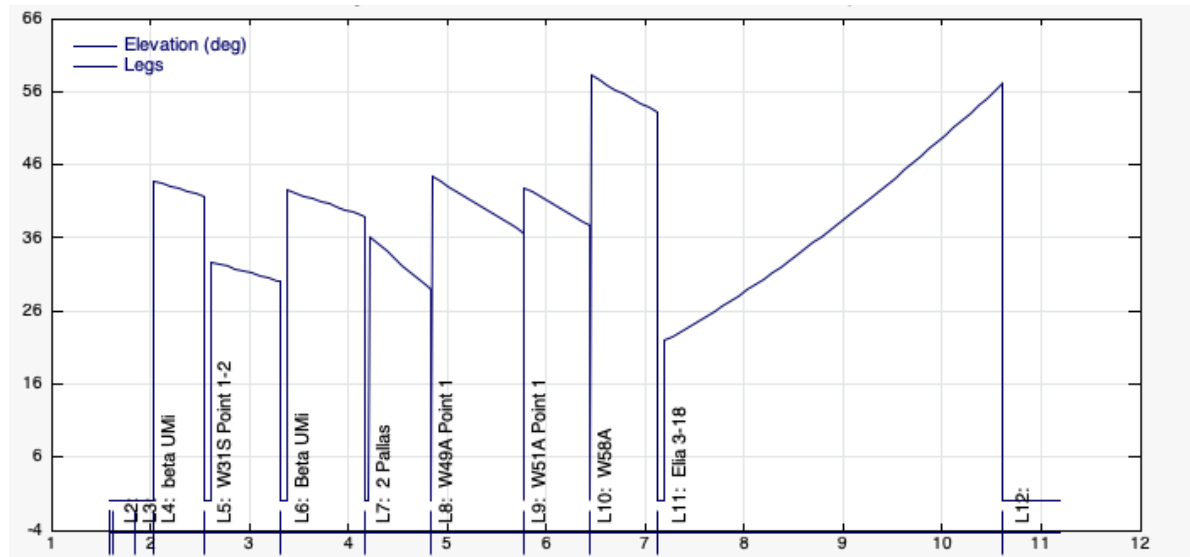
Flight 239 Mission ID 2015-09-16_FO_F239
 Palmdale to Palmdale Take off date UTC: 16-SEP-2015
 Departure UTC: 01:31 Arrival UTC: 11:03

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			beta UMi	14h50m42.33s	74d09m19.8s	2:04	30	
5	03_0008	De Buizer	W31S Point 1	18h09m27.53s	-20d19m48.0s	2:38	42.5	
6	90_0056	Calibration	Beta UMi	14h50m42.33s	74d09m19.8s	3:25	47.5	
7	90_0059	Calibration	2 Pallas	17h16m04.86s	11d47m29.1s	4:14	37	
8	03_0008	De Buizer	W49A Point 2	19h10m19.85s	09d07m08.2s	4:52	56	
9	03_0008	De Buizer	W51A Point 1	19h23m42.63s	14d30m32.8s	5:48	40.1	
10	03_0008	De Buizer	W58A	20h01m47.39s	33d32m22.8s	6:28	40.1	
11	03_0064	Chiar	Elia 3-18	04h39m55.75s	25d45m02.0s	7:13	205	Very faint target and no suitable guide stars for FPI; guiding stability poor throughout observations

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



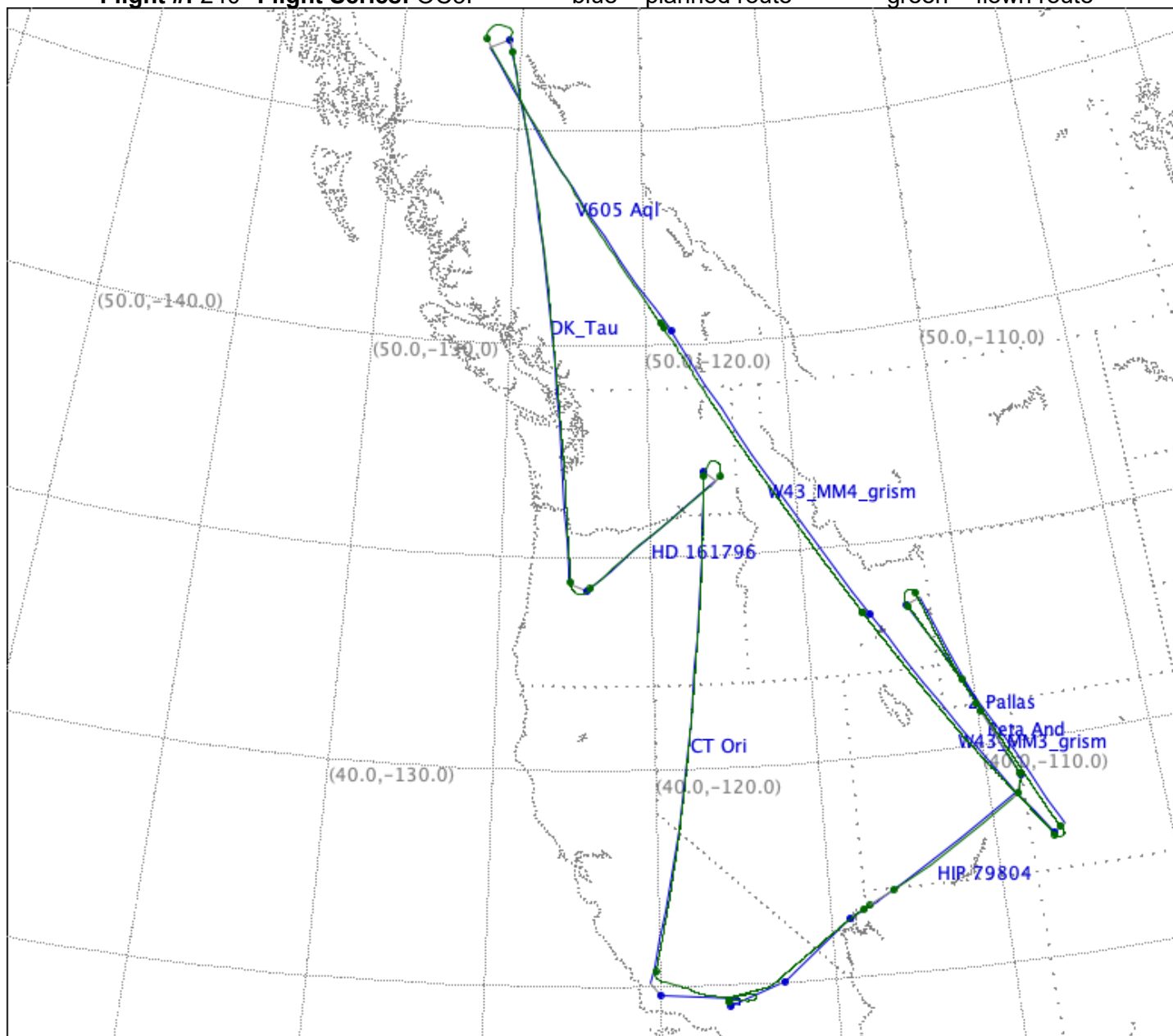
MISSION ID: 2015-09-17_FO_F240

Date: 2015-09-17 UT **Instrument:** FORCAST

Flight #: 240 **Flight Series:** OC3I

blue = planned route

green = flown route

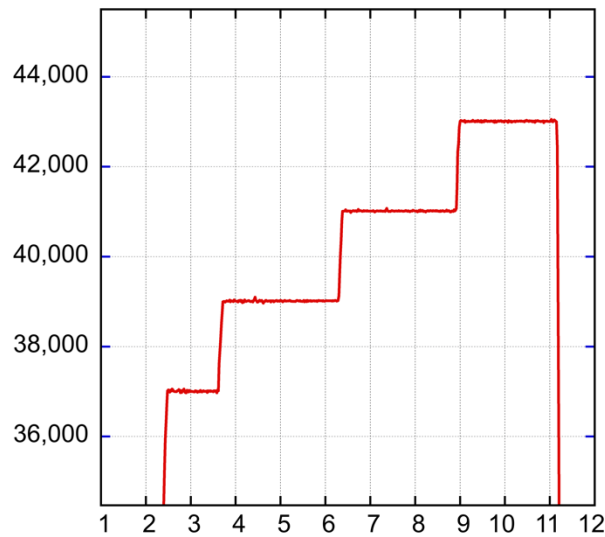


Flight notes: No irregularities.

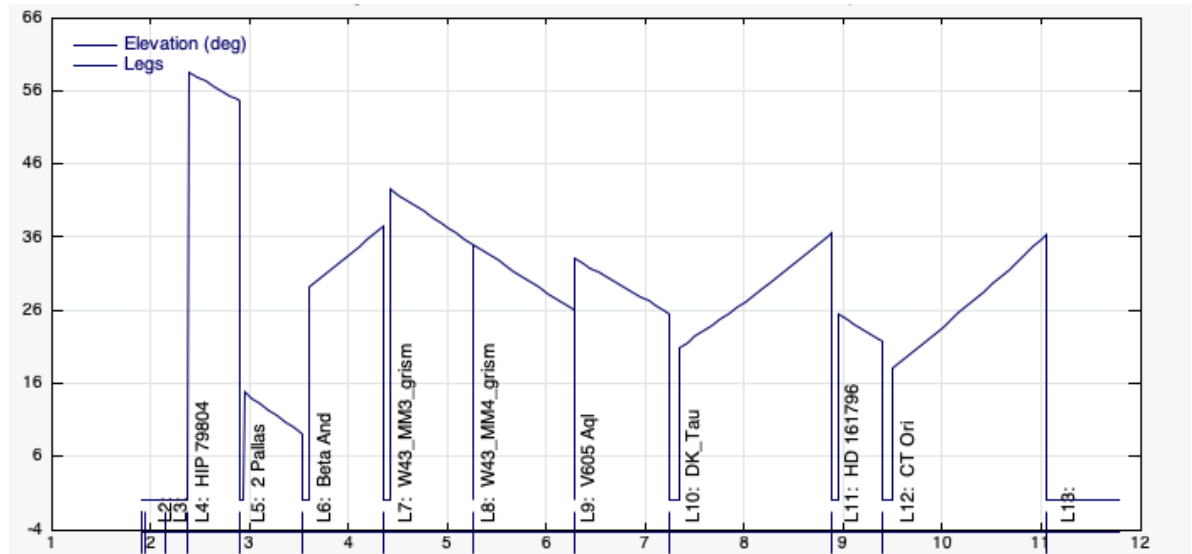
Flight 240 Mission ID 2015-09-17_FO_F240
 Palmdale to Palmdale Take off date UTC: 17-SEP-2015
 Departure UTC: 01:58 Arrival UTC: 11:34

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			HIP 79804	16h17m15.35s	59d45m18.1s	2:24	31	
5	90_0059	Calibration	2 Pallas	17h16m43.16s	11d37m40.9s	2:57	35	
6	90_0056	Calibration	Beta And	01h09m43.92s	35d37m14.0s	3:37	45	
7	03_0091	Bally	W43_MM3_grism	18h47m41.78s	-02d00m20.2s	4:26	50	
8	03_0091	Bally	W43_MM4_grism	18h47m38.62s	-01d57m45.8s	5:16	61	
9	03_0024	Evans	V605 Aql	19h18m20.48s	01d46m59.6s	6:18	58	
10	70_0300	GTO	DK_Tau	04h30m44.25s	26d01m24.5s	7:21	92.6	
11	03_0079	Kraemer	HD 161796	17h44m55.47s	50d02m39.5s	8:58	27.2	
12	03_0022	Gehrz	CT Ori	06h09m57.99s	09d52m31.8s	9:31	93.1	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



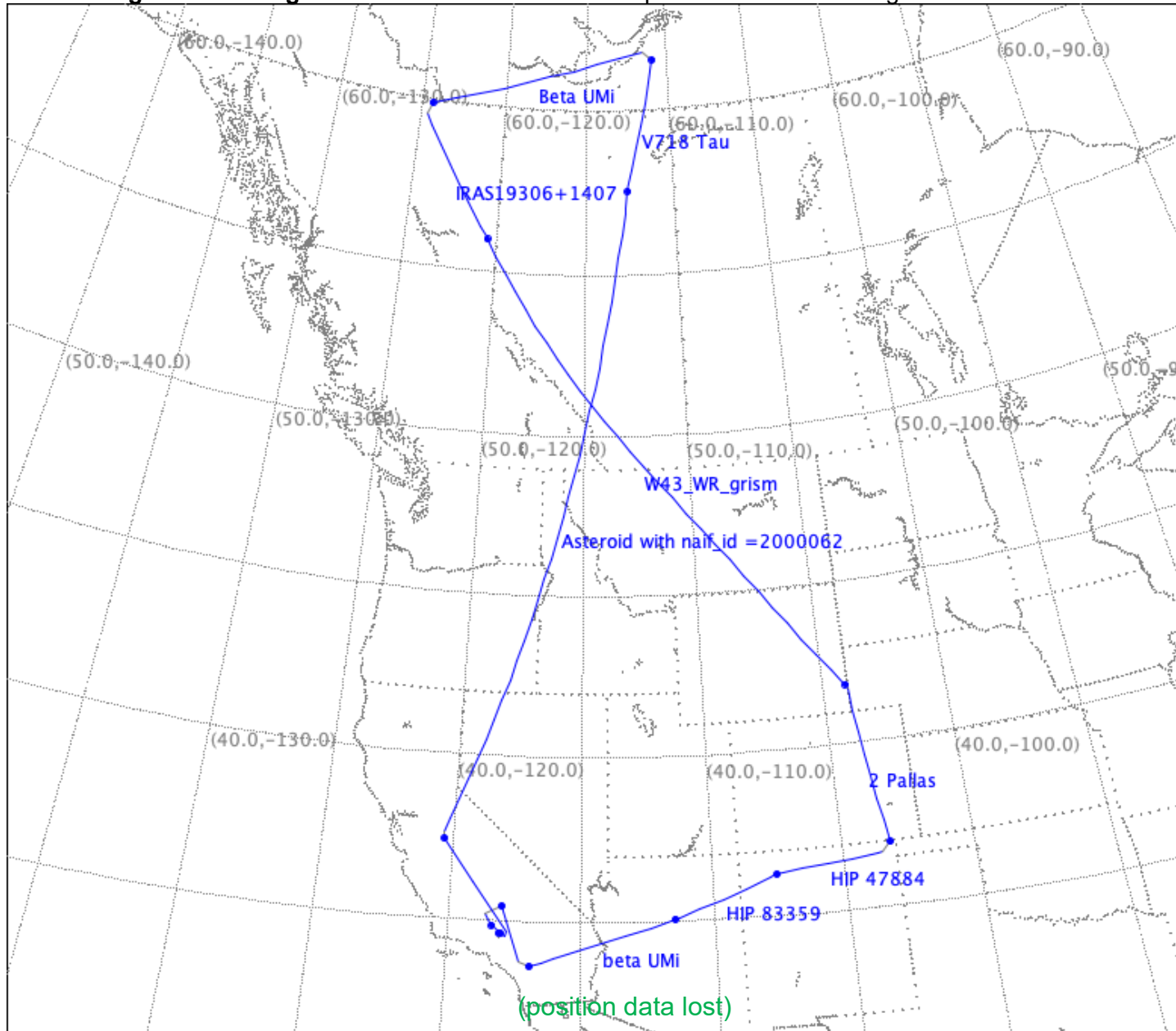
MISSION ID: 2015-09-18_FO_F241

Date: 2015-09-18 UT Instrument: FORCAST

Flight #: 241 Flight Series: OC3I

blue = planned route

green = flown route

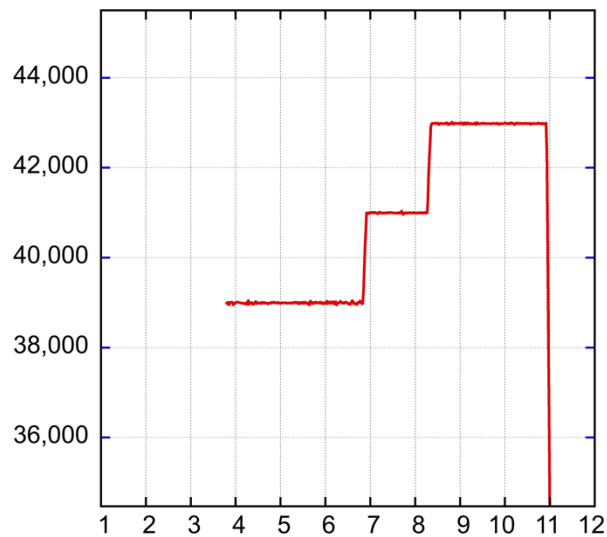


Flight notes: No irregularities.

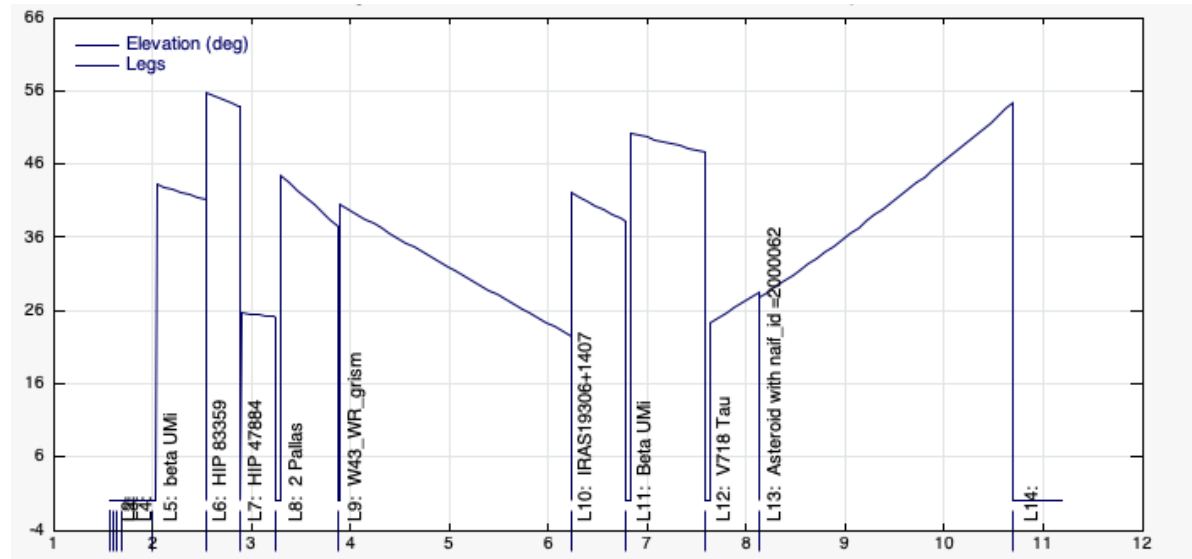
Flight 241 Mission ID 2015-09-18_FO_F241
 Palmdale to Palmdale Take off date UTC: 18-SEP-2015
 Departure UTC: 01:39 Arrival UTC: 11:20

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
5			beta UMi	14h50m42.33s	74d09m19.8s	2:08	30	
6		engineering	HIP 83359	17h02m15.75s	64d36m02.7s	2:38	21	
7		engineering	HIP 47884	09h45m31.00s	78d08m04.9s	3:00	21	
8	90_0059	Calibration	2 Pallas	17h17m27.54s	11d26m36.6s	3:24	35	Last 10min of leg lost having to deviate around storms
9	03_0091	Bally	W43_WR_grism	18h47m37.04s	-01d56m43.5s	4:00	139.8	Observatory control software crash; 20min lost
10	03_0079	Kraemer	IRAS19306+1407	19h32m55.08s	14d13m36.9s	6:19	33	
11	90_0056	Calibration	Beta UMi	14h50m42.33s	74d09m19.8s	6:55	45	
12	03_0104	Sloan	V718 Tau	04h31m21.94s	17d39m10.4s	7:44	29.8	
13	03_0114	McAdam	Asteroid with naif_id =2000062	04h49m35.98s	19d54m15.0s	8:14	153.5	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



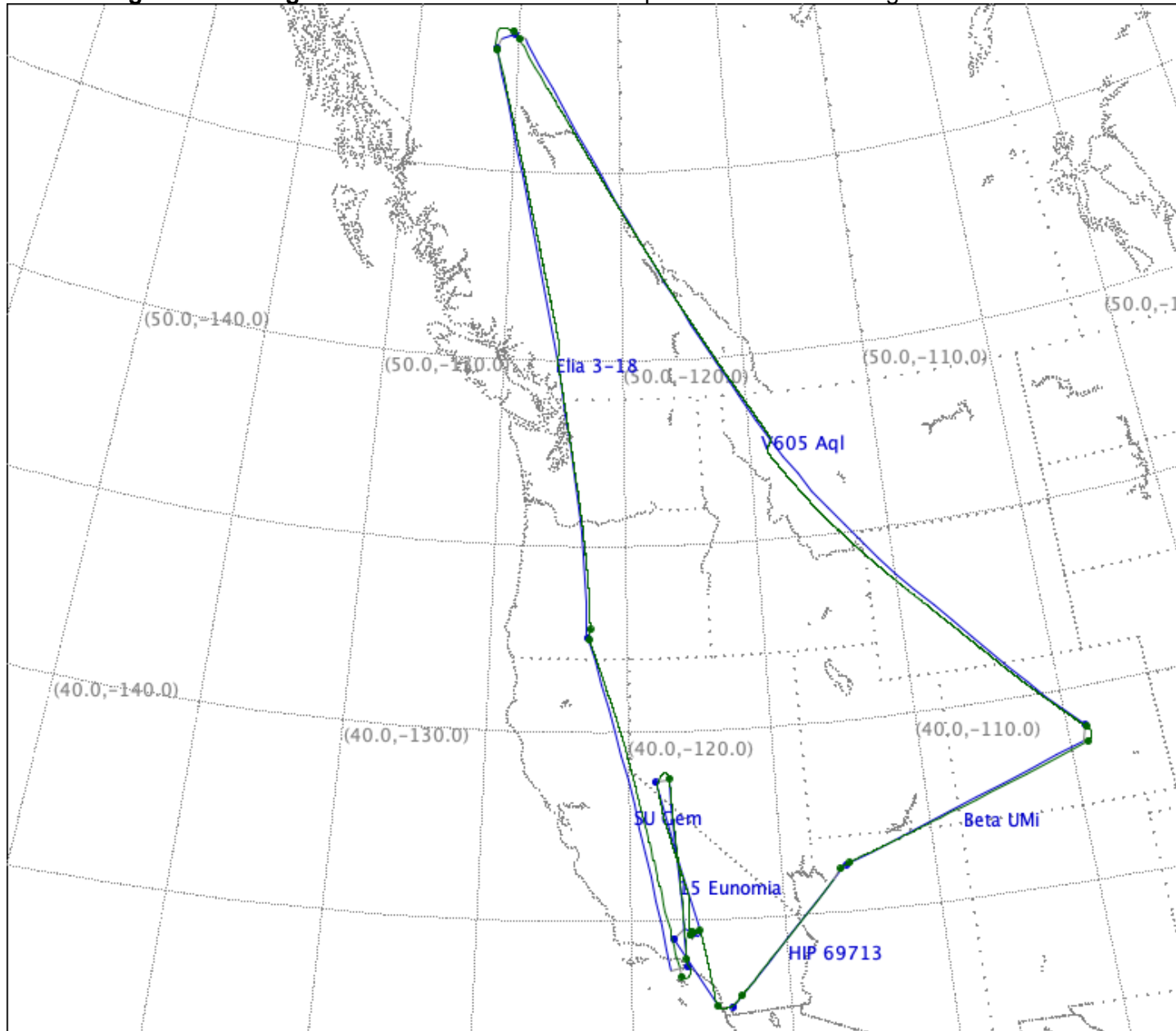
MISSION ID: 2015-09-22_FO_F242

Date: 2015-09-22 UT Instrument: FORCAST

Flight #: 242 Flight Series: OC3I

blue = planned route

green = flown route

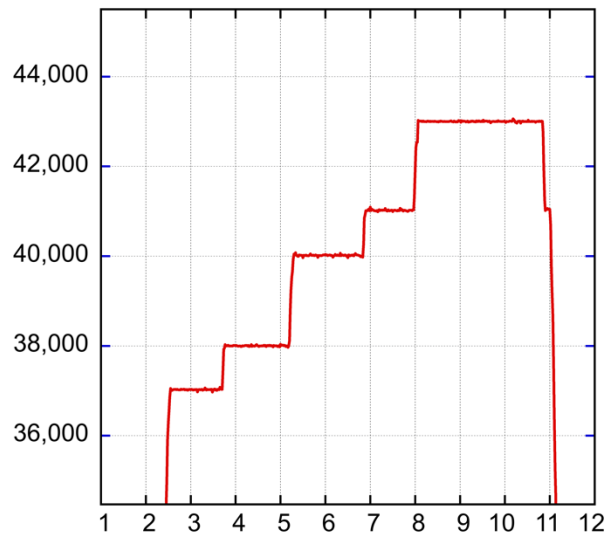


**Flight notes:
No irregularities.**

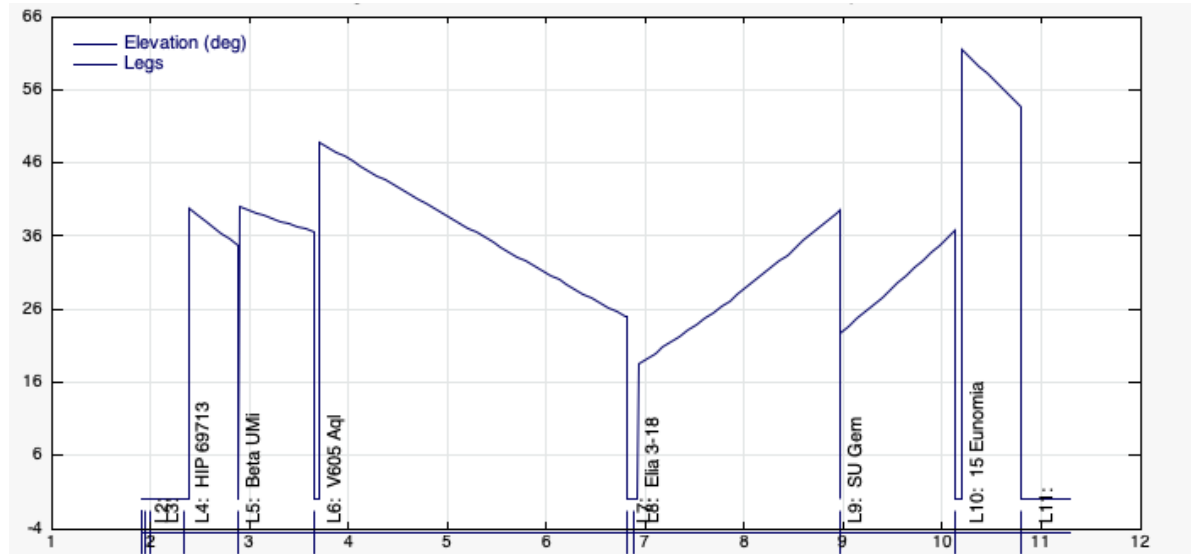
Flight 242 Mission ID 2015-09-22_FO_F242
 Palmdale to Palmdale Take off date UTC: 22-SEP-2015
 Departure UTC: 01:59 Arrival UTC: 11:37

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			HIP 69713	14h16m09.93s	51d22m02.0s	2:28	30	
5	90_0056	Calibration	Beta UMi	14h50m42.33s	74d09m19.8s	2:58	45	
6	03_0024	Evans	V605 Aql	19h18m20.48s	01d46m59.6s	3:47	186	
8	03_0064	Chiar	Elia 3-18	04h39m55.75s	25d45m02.0s	7:00	122	Very faint target and no suitable guide stars for FPI; guiding stability poor throughout observations
9	03_0022	Gehrz	SU Gem	06h14m00.02s	27d42m12.2s	9:03	69.3	
10	90_0059	Calibration	15 Eunomia	00h10m49.04s	23d21m59.0s	10:17	35	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



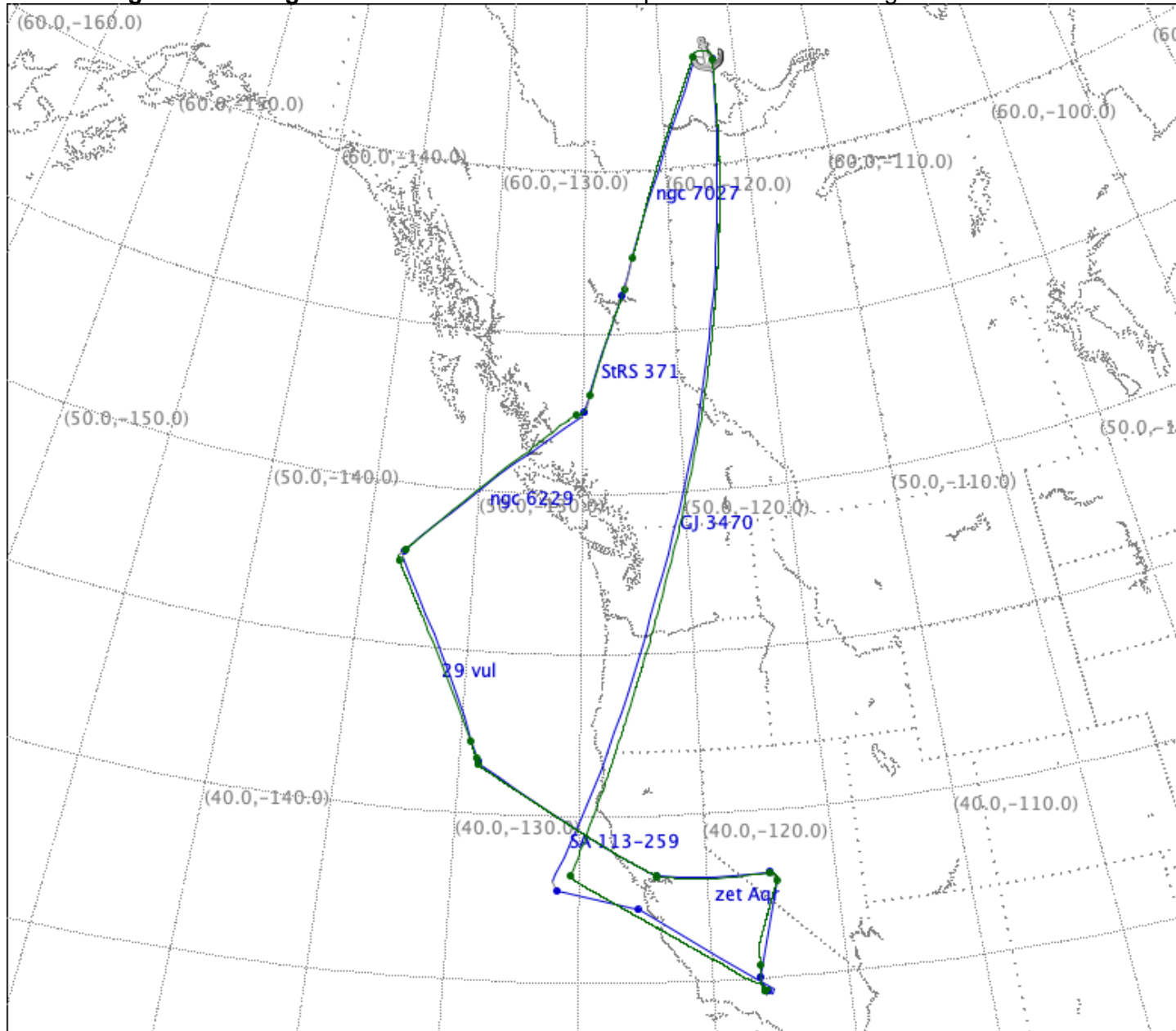
MISSION ID: 2015-09-29_FC_F243

Date: 2015-09-29 UT Instrument: FLITECAM

Flight #: 243 Flight Series: OC3J

blue = planned route

green = flown route

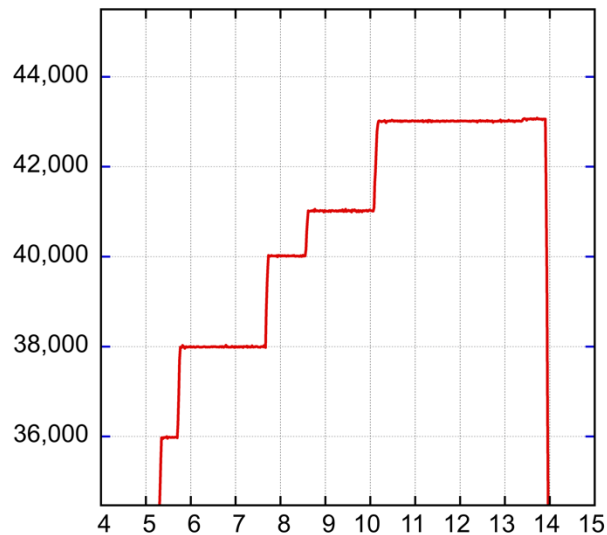


Flight notes: No irregularities.

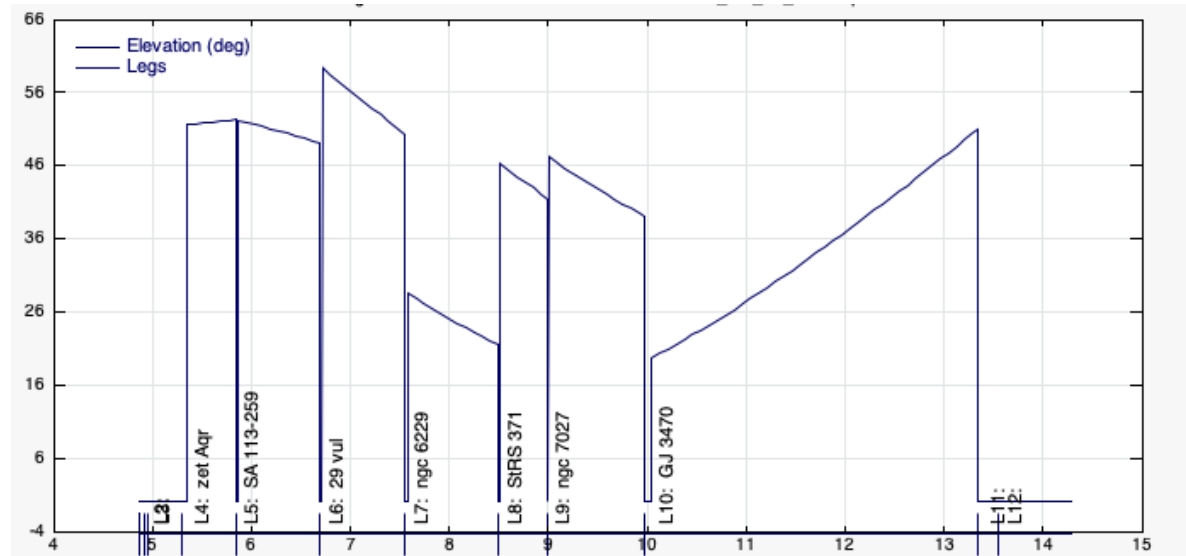
Flight 243 Mission ID 2015-09-29_FC_F243
 Palmdale to Palmdale Take off date UTC: 29-SEP-2015
 Departure UTC: 04:55 Arrival UTC: 14:18

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			zet Aqr	22h28m49.91s	-00d01m11.8s	5:26	30	
5	90_0004	Calibration	SA 113-259	21h41m44.84s	00d17m40.0s	5:57	50	
6		calibration	29 vul	20h38m31.34s	21d12m04.2s	6:48	50	
7		engineering	ngc 6229	16h46m58.64s	47d31m36.4s	7:40	55	
8	03_0072	Chiar	StRS 371	20h33m23.98s	40d36m43.9s	8:36	29.2	
9		calibration	ngc 7027	21h07m01.59s	42d14m10.2s	9:05	58	
10	03_0052	Angerhausen	GJ 3470	07h59m05.87s	15d23m29.5s	10:08	197.3	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



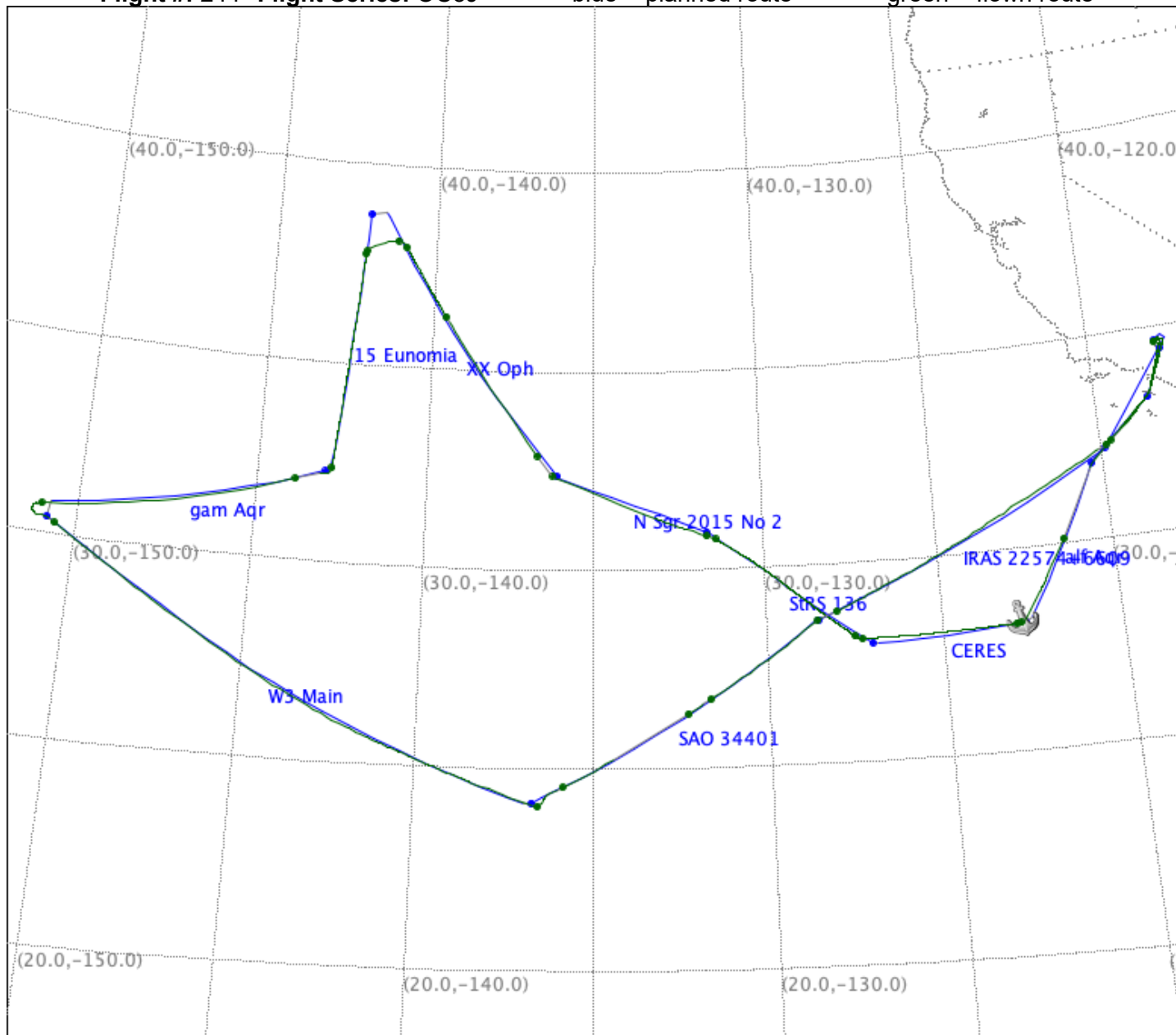
MISSION ID: 2015-10-01_FC_F244

Date: 2015-10-01 UT Instrument: FLITECAM

Flight #: 244 Flight Series: OC3J

blue = planned route

green = flown route



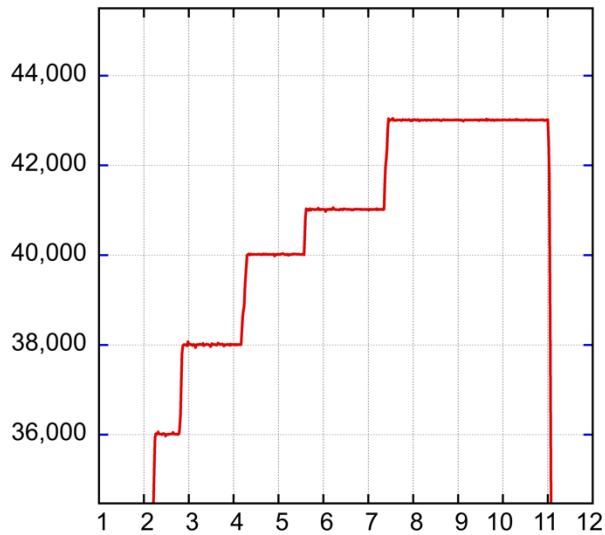
Flight notes:

Slightly late departure; several legs reduced slightly.

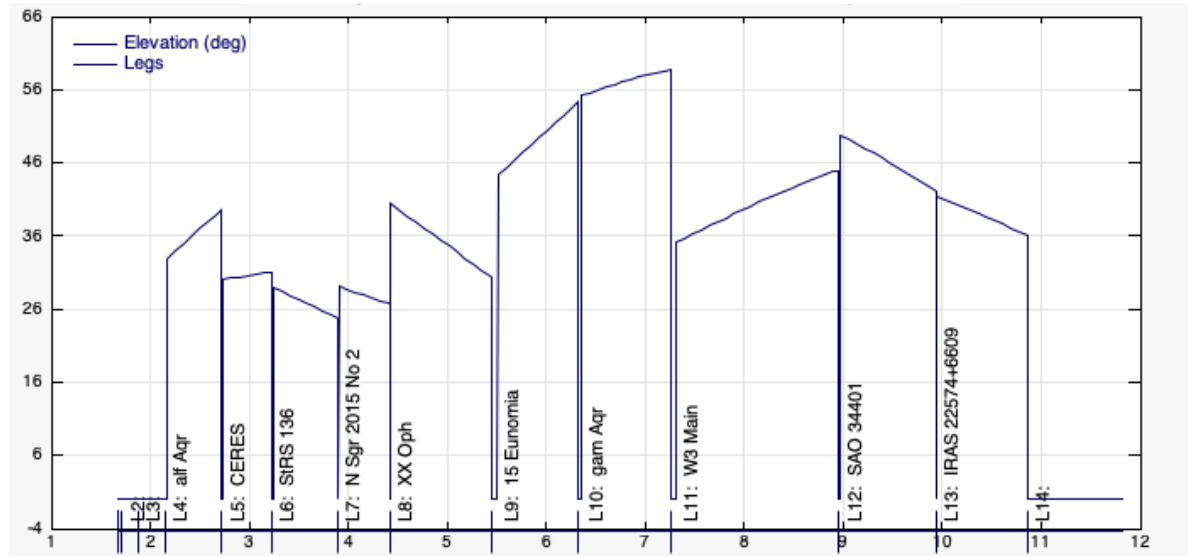
Flight 244 Mission ID 2015-10-01_FC_F244
 Palmdale to Palmdale Take off date UTC: 01-OCT-2015
 Departure UTC: 01:48 Arrival UTC: 11:24

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			alf Aqr	22h05m47.04s	-00d19m11.5s	2:15	33	
5	03_0084	Rivkin	CERES	19h59m17.88s	-31d04m26.4s	2:49	29.4	9min lost due to late take-off
6	03_0072	Chiar	StRS 136	17h47m56.08s	-29d11m44.0s	3:20	39.2	10min lost due to late take-off
7	03_0020	Gehrz	N Sgr 2015 No 2	18h36m56.84s	-28d55m39.8s	3:59	31	5min lost due to late take-off; Turbulence.
8	03_0032	Peeters	XX Oph	17h43m56.50s	-06d16m08.8s	4:31	61	10min lost due to late take-off
9	03_0084	Rivkin	15 Eunomia	00h02m43.29s	23d04m14.2s	5:36	48.8	5min lost due to late take-off
10		calibration	gam Aqr	22h21m39.38s	-01d23m14.4s	6:26	54	
11	70_0302	GTO	W3 Main	02h25m36.50s	62d04m36.7s	7:24	98	
12	90_0004	Calibration	SAO 34401	22h23m42.24s	55d12m25.1s	9:03	58	Observatory control software crash; 20min lost
13	03_0032	Peeters	IRAS 22574+6609	22h59m18.36s	66d25m48.2s	10:02	54.8	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



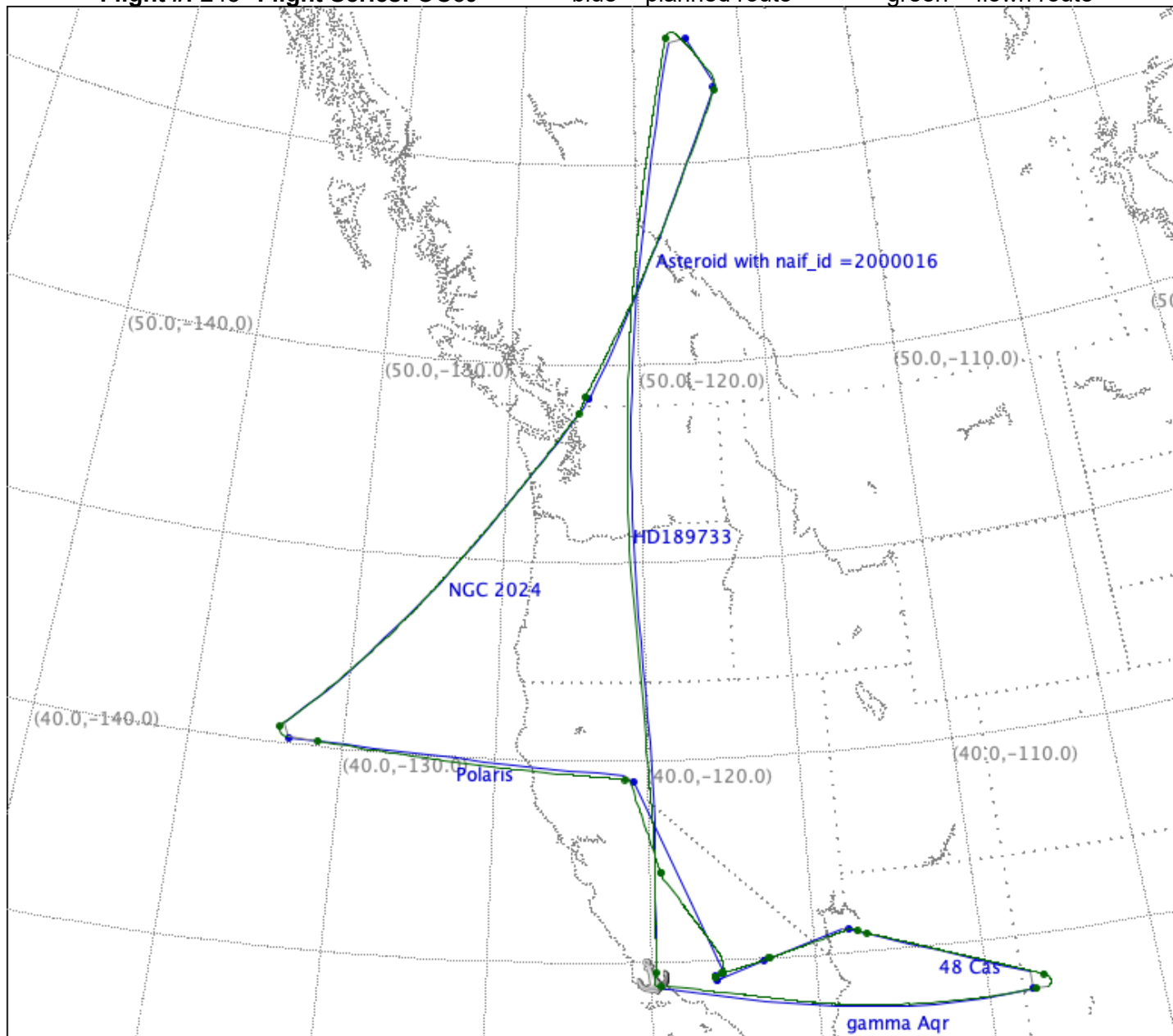
MISSION ID: 2015-10-02_FC_F245

Date: 2015-10-02 UT Instrument: FLITECAM

Flight #: 245 Flight Series: OC3J

blue = planned route

green = flown route

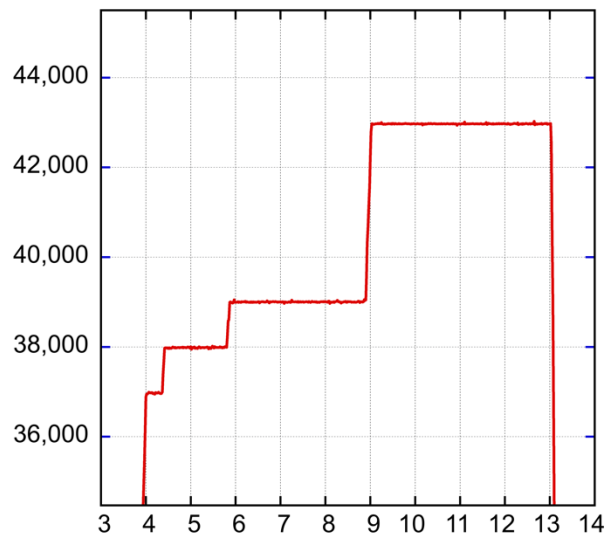


Flight notes:
No irregularities (some turbulence).

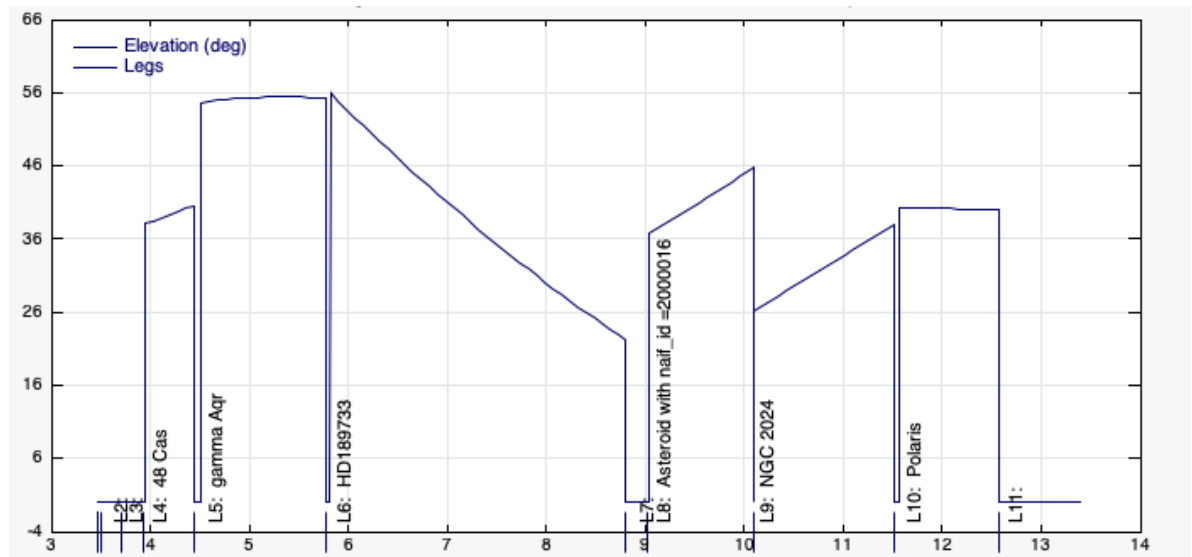
Flight 245 Mission ID 2015-10-02_FC_F245
 Palmdale to Palmdale Take off date UTC: 02-OCT-2015
 Departure UTC: 03:26 Arrival UTC: 13:25

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			48 Cas	02h01m57.45s	70d54m25.3s	3:57	30	
5	90_0069	Calibration	gamma Aqr	22h21m39.38s	-01d23m14.4s	4:31	76	
6	03_0037	swain	HD189733	20h00m43.70s	22d42m39.1s	5:50	179	
8	02_0066	Rivkin	Asteroid with naif_id =2000016 (Psyche)	05h27m19.65s	19d26m56.0s	9:03	62.8	
9	70_0302	GTO	NGC 2024	05h41m40.15s	-01d54m23.5s	10:06	85	
10		engineering	Polaris	02h31m49.09s	89d15m50.8s	11:35	60	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



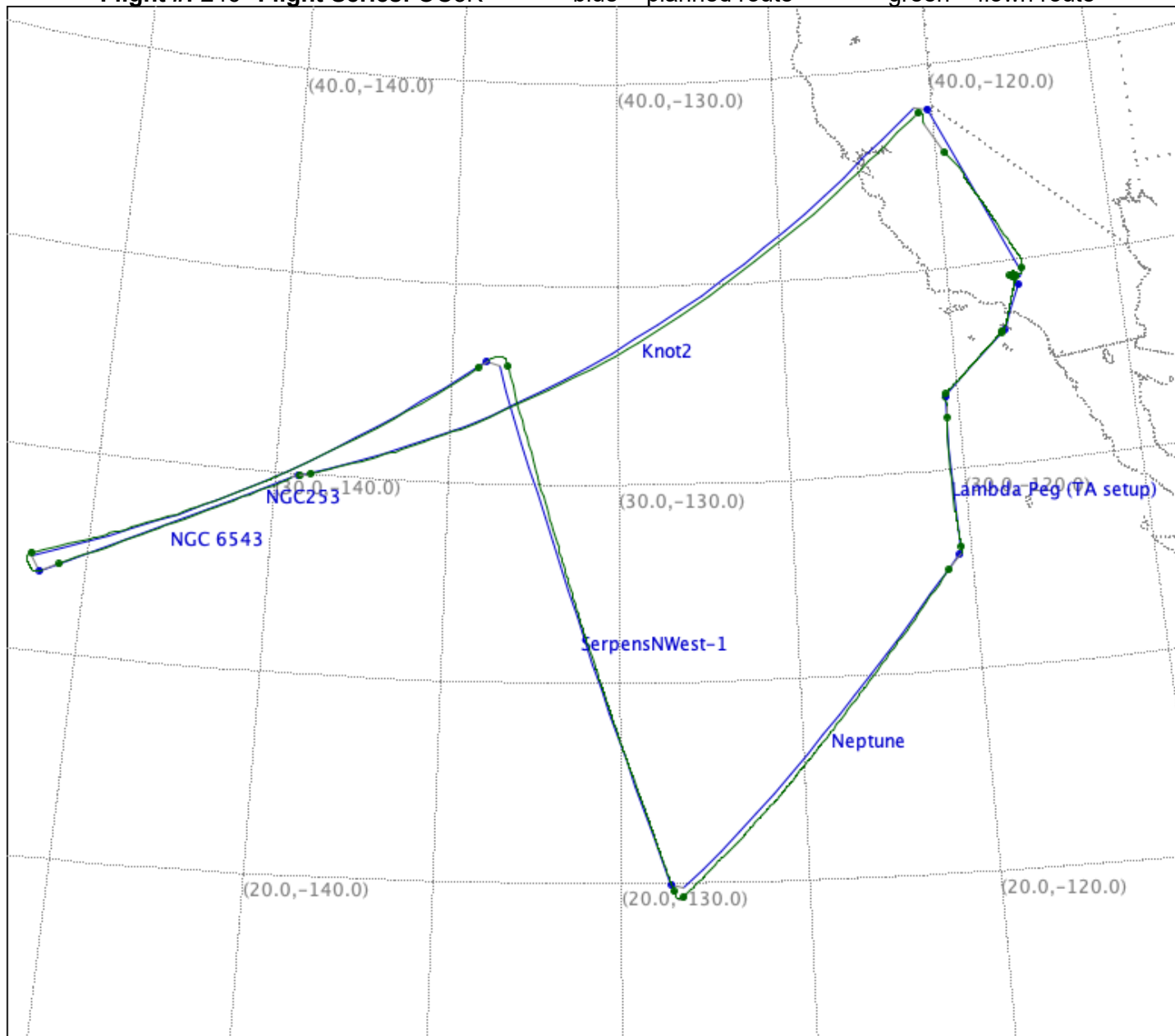
MISSION ID: 2015-10-14_FI_F246

Date: 2015-10-14 UT Instrument: FIFI-LS

Flight #: 246 Flight Series: OC3K

blue = planned route

green = flown route

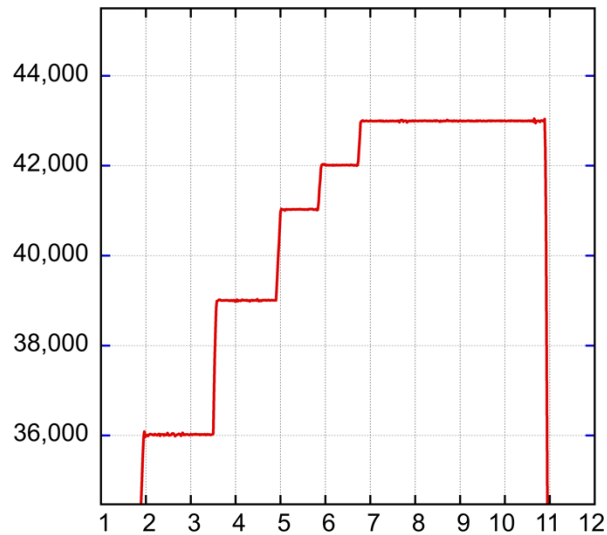


Flight notes: Held to low altitude early.

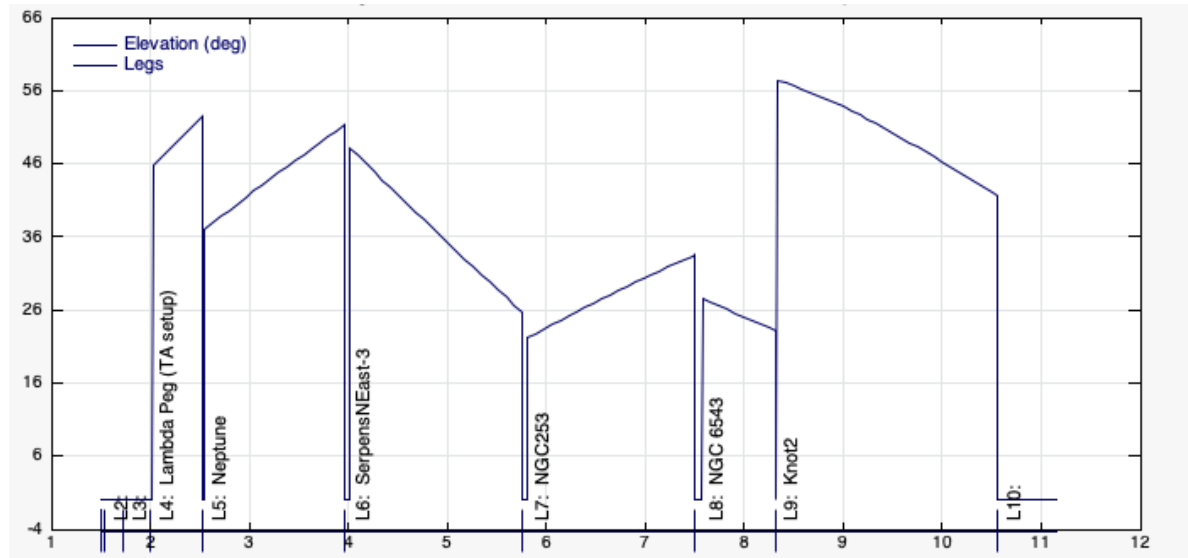
Flight 246 Mission ID 2015-10-14_FI_F246
 Palmdale to Palmdale Take off date UTC: 14-OCT-2015
 Departure UTC: ~01:30 Arrival UTC: 11:32

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Lambda Peg (TA setup)	22h46m32.00s	23d33m46.0s	2:05	30	
5	90_0032	Calibration	Neptune	22h36m37.26s	-09d38m50.1s	2:36	85	Held to low altitude (36k ft) by air traffic control most of leg. Water vapor high.
6	03_0043	Looney	SerpensNWest	18h29m54.00s	-02d01m23.0s	4:04	105	
7	87_0005	Consortium	NGC253	00h47m33.13s	-25d17m19.7s	5:52	101	
8	90_0030	Calibration	NGC 6543	17h58m33.42s	66d37m59.5s	7:38	45	
9	03_0051	Tielens	Knot2	23h23m24.10s	58d50m25.8s	8:23	133	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



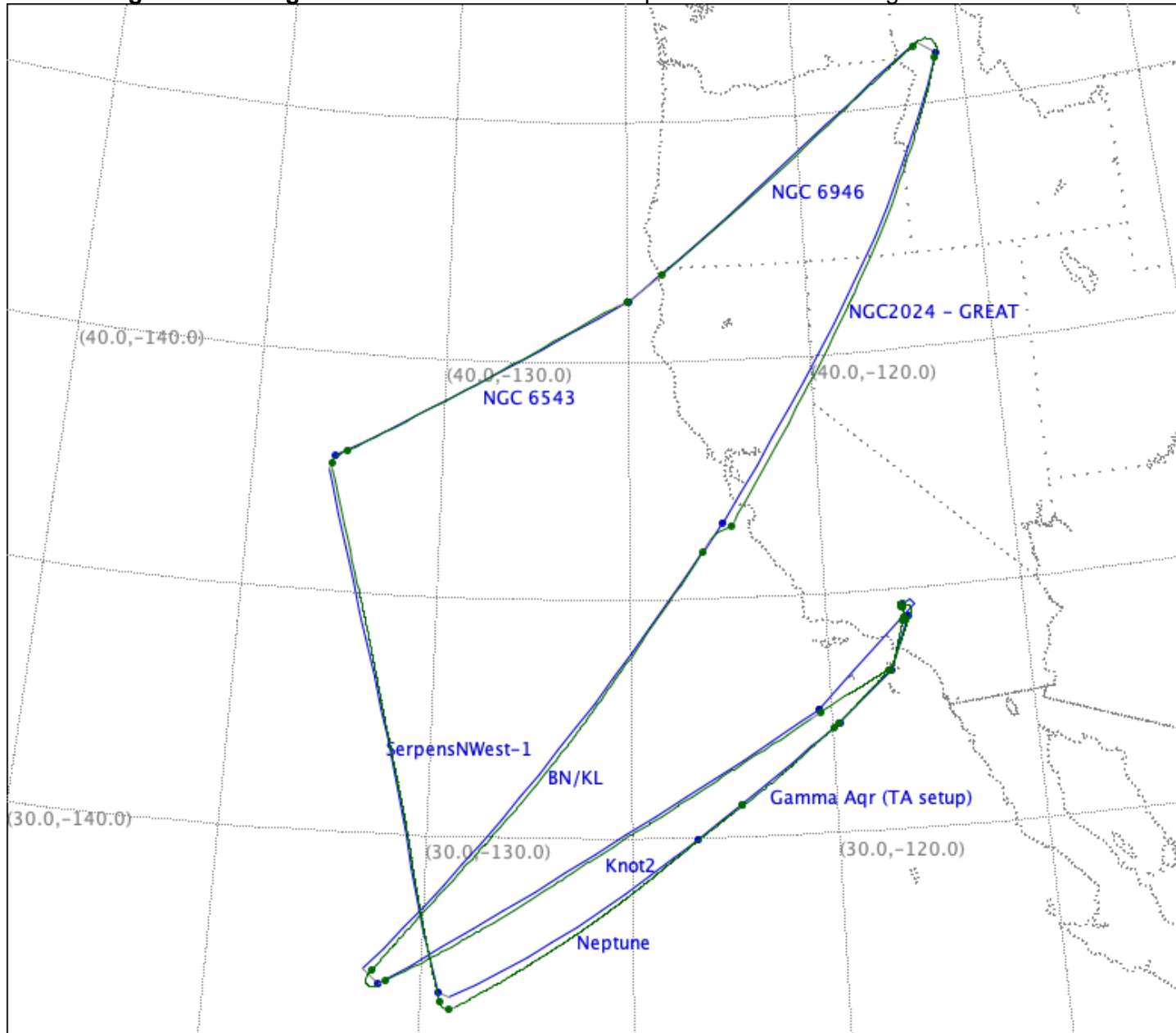
MISSION ID: 2015-10-15_FI_F247

Date: 2015-10-15 UT Instrument: FIFI-LS

Flight #: 247 Flight Series: OC3K

blue = planned route

green = flown route



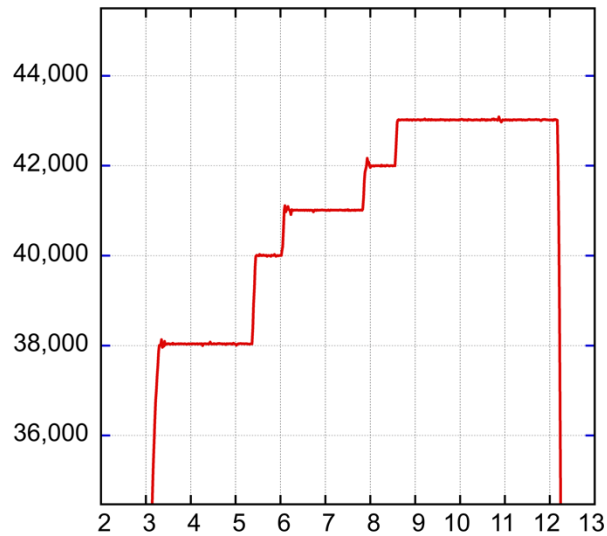
Flight notes:

No observing log for this flight.

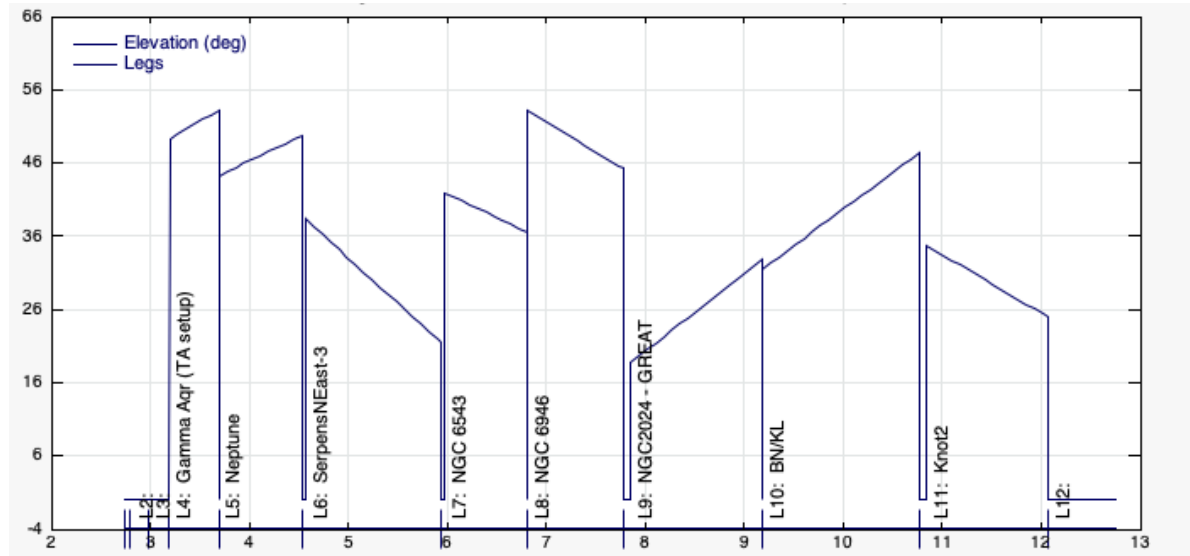
Flight 247 Mission ID 2015-10-15_FI_F247
 Palmdale to Palmdale Take off date UTC: 15-OCT-2015
 Departure UTC: ~02:45 Arrival UTC: ~12:38

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Gamma Aqr (TA setup)	22h21m40.00s	-01d23m14.0s	3:15	30	
5	90_0032	Calibration	Neptune	22h36m33.02s	-09d39m14.5s	3:45	50	
6	03_0043	Looney	SerpensNWest-1	18h29m54.00s	-02d01m23.0s	4:37	82	
7	90_0030	Calibration	NGC 6543	17h58m33.42s	66d37m59.5s	6:02	50	
8	87_0005	Consortium	NGC 6946	20h34m52.33s	60d09m13.2s	6:52	58	
9	87_0004	Consortium	NGC2024 - GREAT	05h41m45.20s	-01d55m45.0s	7:54	80	
10	87_0002	Consortium	BN/KL	05h35m14.16s	-05d22m21.5s	9:14	95	
11	03_0051	Tielens	Knot2	23h23m24.10s	58d50m25.8s	10:54	73	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



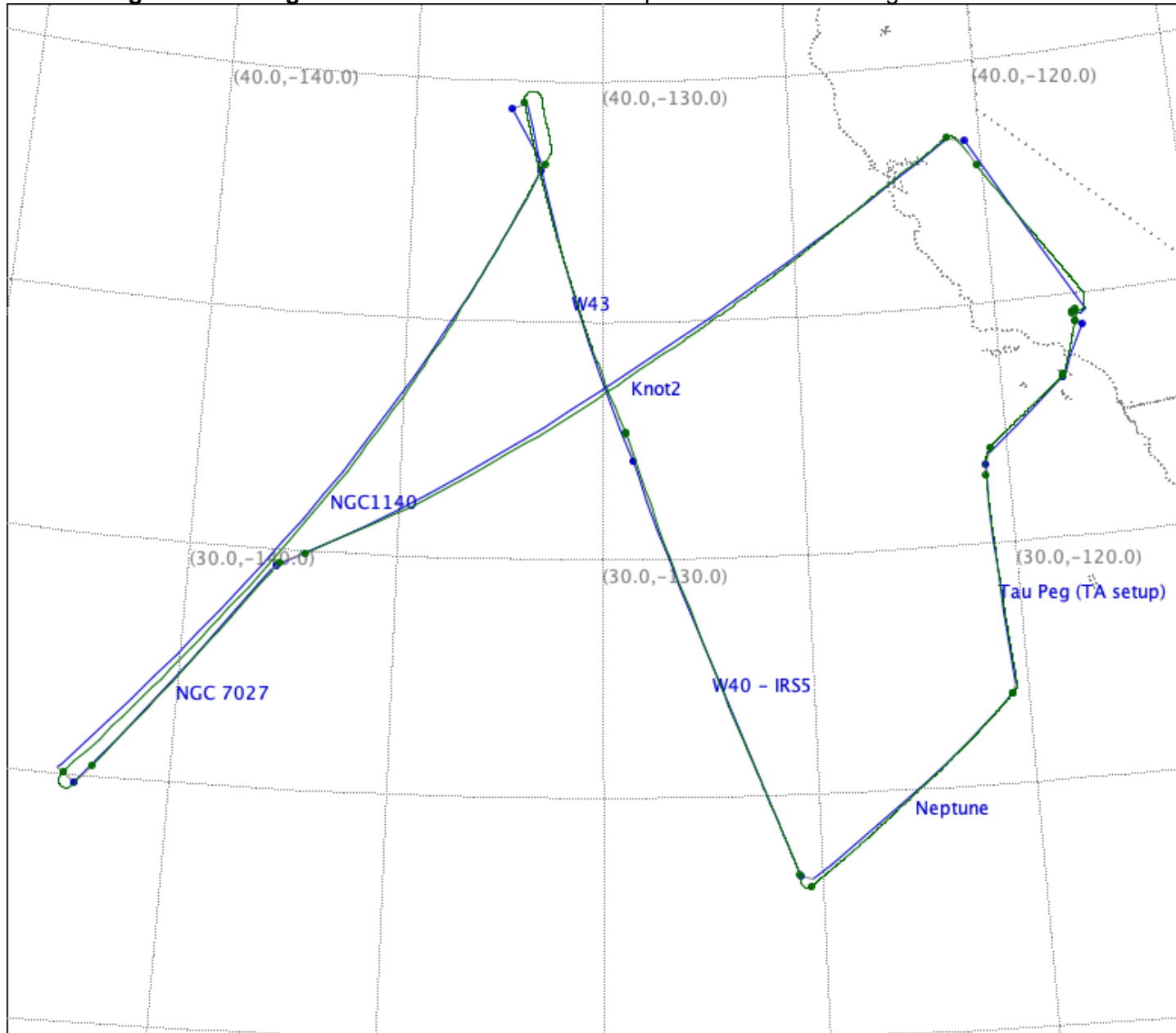
MISSION ID: 2015-10-21_FI_F248

Date: 2015-10-21 UT Instrument: FIFI-LS

Flight #: 248 Flight Series: OC3K

blue = planned route

green = flown route

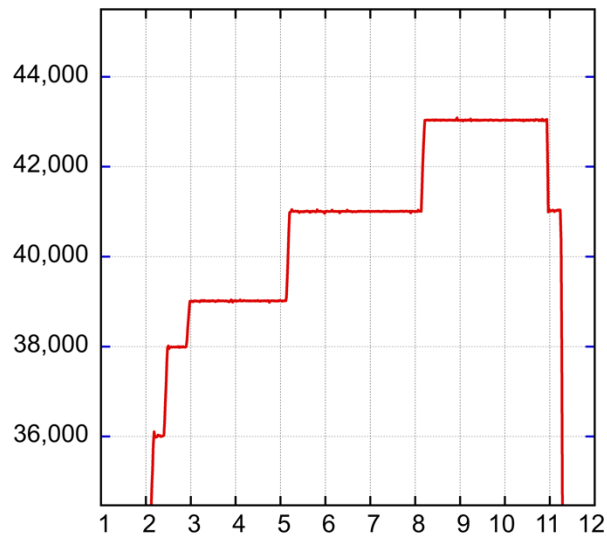


Flight notes: No irregularities.

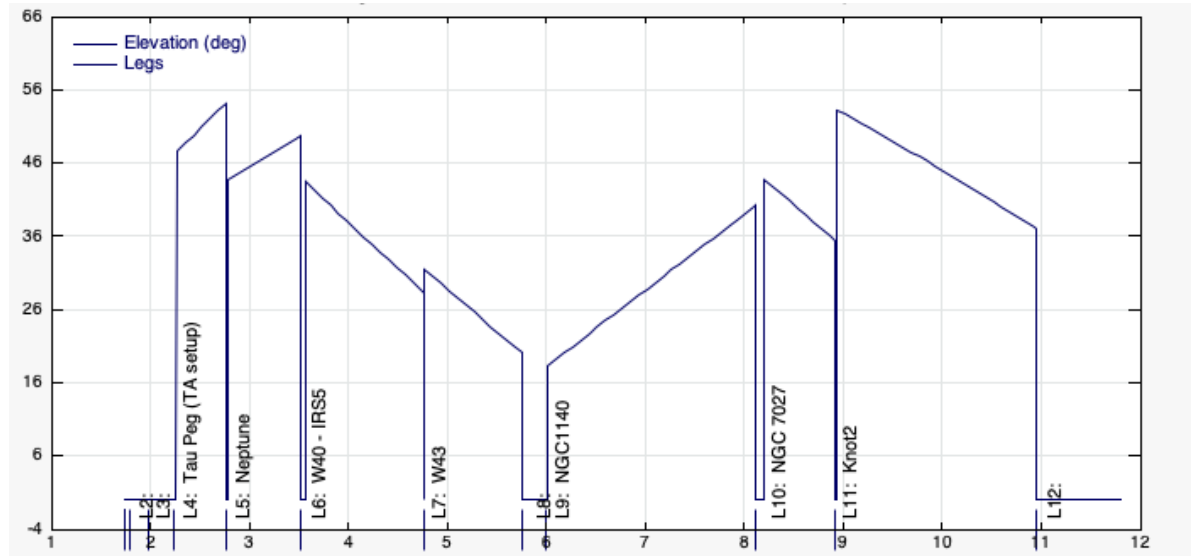
Flight 248 Mission ID 2015-10-21_FI_F248
 Palmdale to Palmdale Take off date UTC: 21-OCT-2015
 Departure UTC: 01:42 Arrival UTC: 11:38

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Tau Peg (TA setup)	23h20m38.00s	23d44m25.0s	2:18	30	
5	90_0032_05	Calibration	Neptune	22h36m10.82s	-09d41m21.6s	2:50	44	
6	87_0008_01	Consortium	W40 - IRS5	18h31m14.82s	-02d03m49.8s	3:36	72	
7	87_0007_01	Consortium	W43	18h47m32.40s	-01d56m31.2s	4:48	59	
9	87_0005_09	Consortium	NGC1140	02h54m33.54s	-10d01m42.6s	6:03	126	
10	90_0030_08	Calibration	NGC 7027	21h07m01.59s	42d14m10.2s	8:14	43	
11	03_0051_02	Tielens	Knot2	23h23m24.10s	58d50m25.8s	8:58	121	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



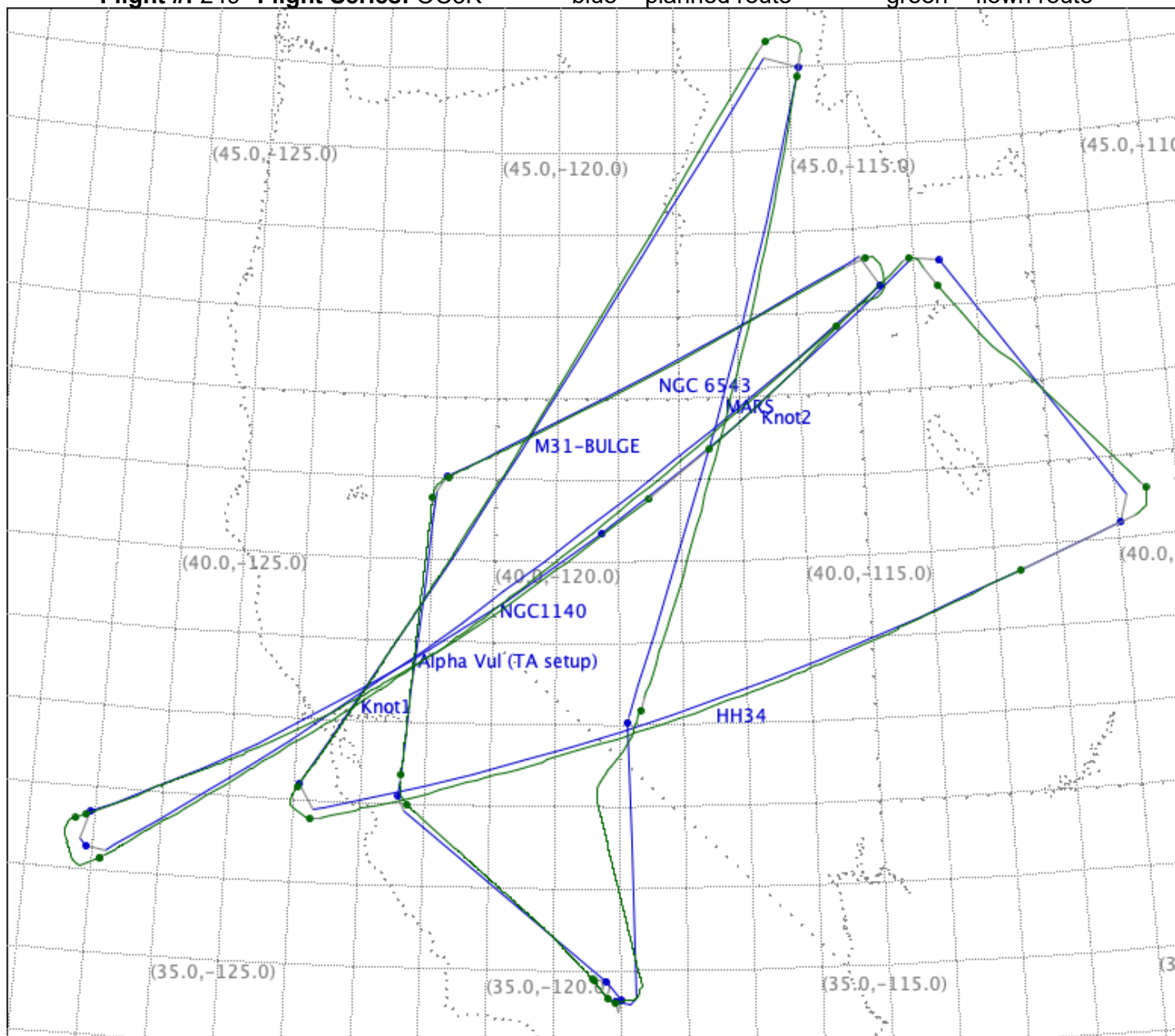
MISSION ID: 2015-10-22_FI_F249

Date: 2015-10-22 UT Instrument: FIFI-LS

Flight #: 249 Flight Series: OC3K

blue = planned route

green = flown route

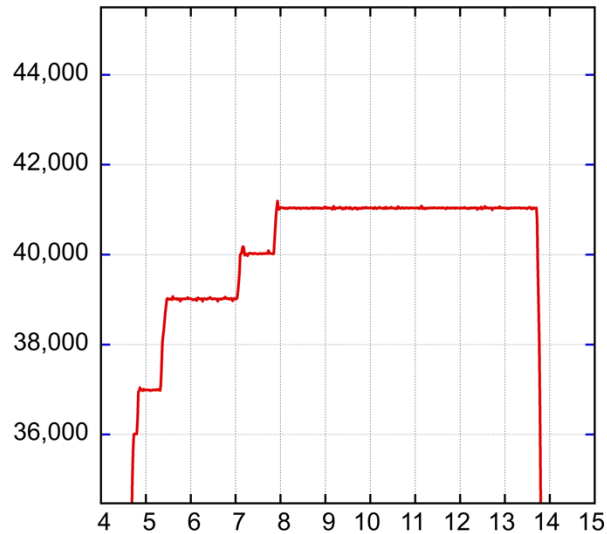


Flight notes: No irregularities.

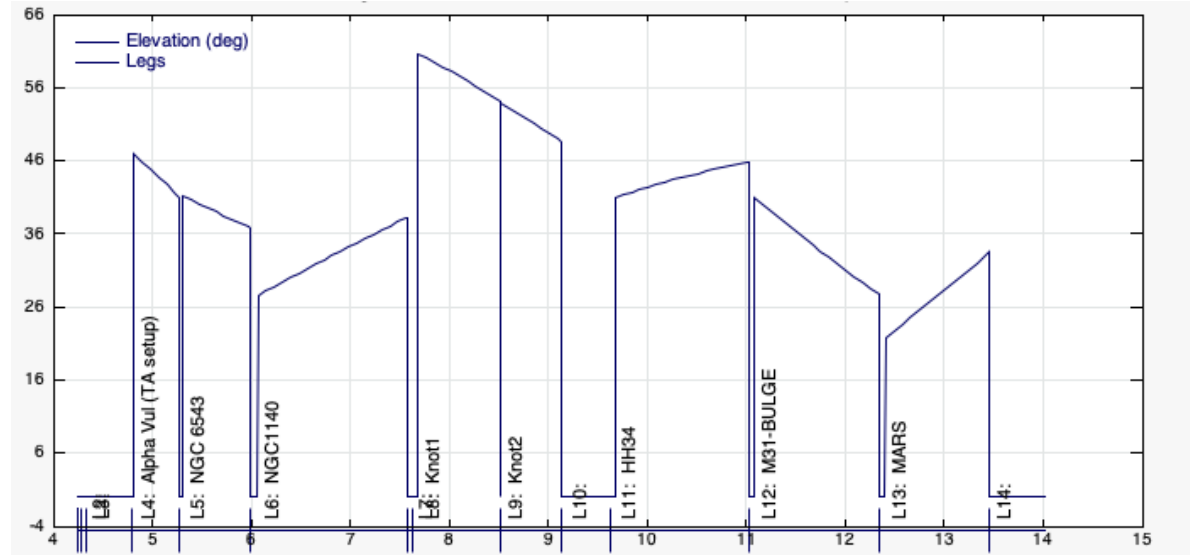
Flight 249 Mission ID 2015-10-22_FI_F249
 Palmdale to Palmdale Take off date UTC: 22-OCT-2015
 Departure UTC: 04:18 Arrival UTC: 14:12

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Alpha Vul (TA setup)	19h28m42.00s	24d39m52.0s	4:52	28	
5	90_0030	Calibration	NGC 6543	17h58m33.42s	66d37m59.5s	5:22	41	
6	87_0005	Consortium	NGC1140	02h54m33.54s	-10d01m42.6s	6:08	91	
8	03_0051	Tielens	CasA - Knot1	23h23m25.58s	58d49m59.4s	7:45	50	
9	03_0051	Tielens	Knot2	23h23m24.10s	58d50m25.8s	8:35	37	
11	03_0073	Eisloeffel	HH34	05h35m29.90s	-06d26m58.0s	9:44	81	
12	03_0121	Kapala	M31-BULGE	00h42m43.29s	41d17m21.3s	11:09	75	
13	03_0151	Blake	MARS	11h13m32.44s	06d27m29.5s	12:28	63	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



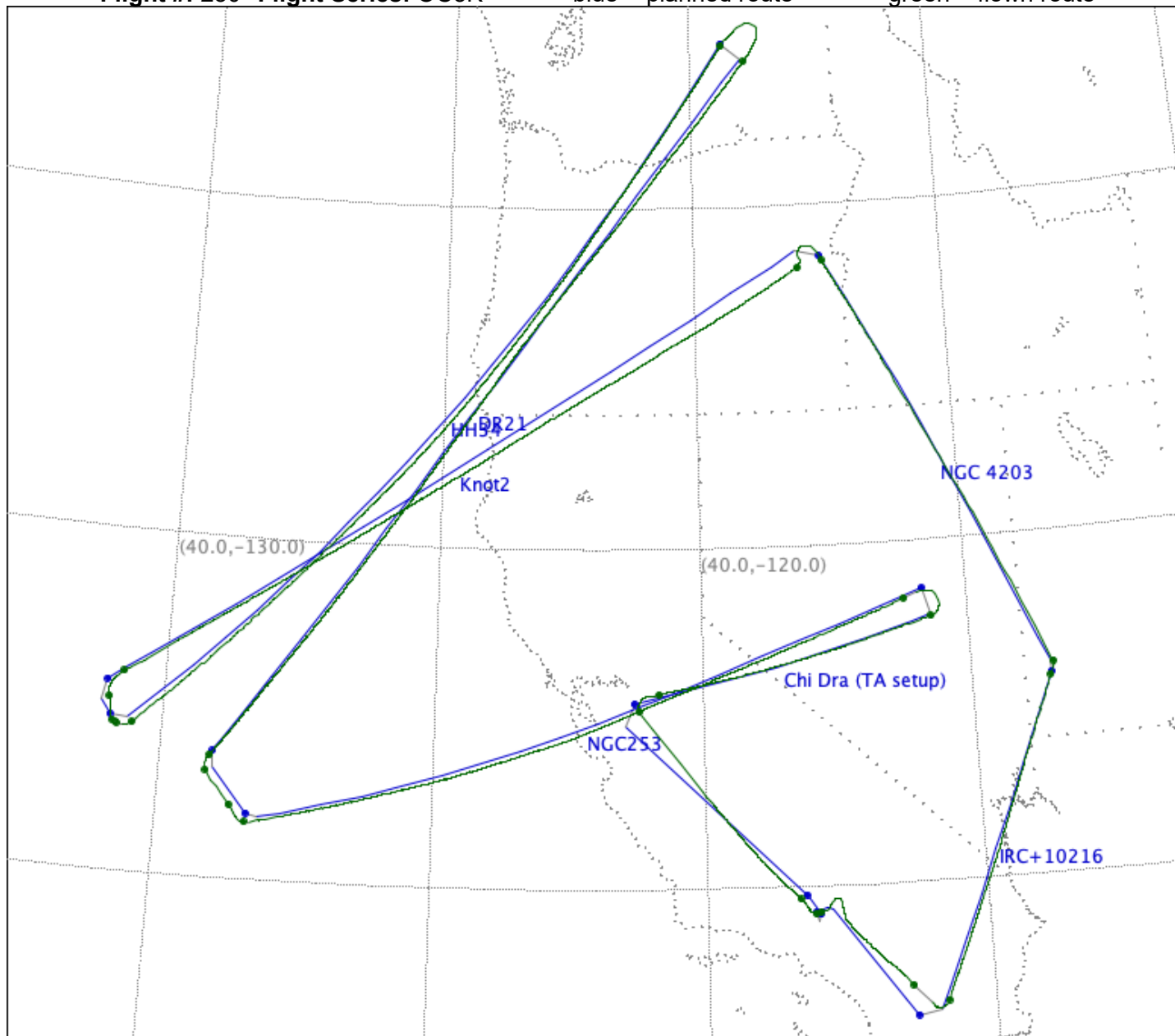
MISSION ID: 2015-10-23_FI_F250

Date: 2015-10-23 UT Instrument: FIFI-LS

Flight #: 250 Flight Series: OC3K

blue = planned route

green = flown route

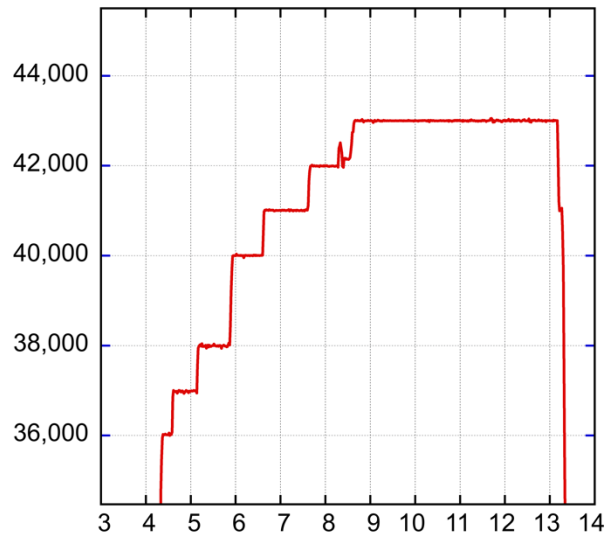


Flight notes:
No irregularities.

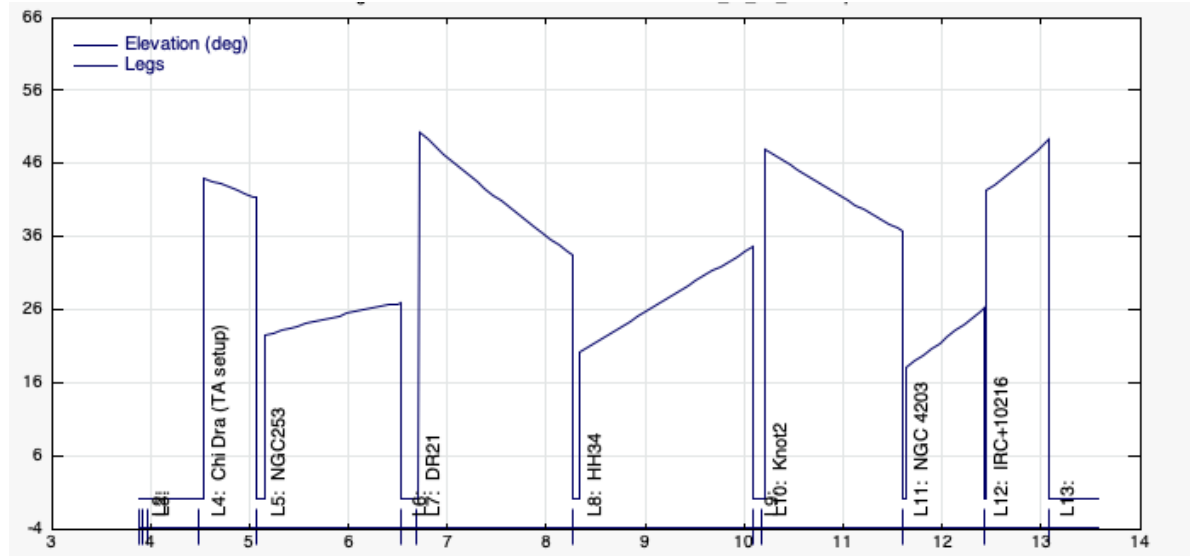
Flight 250 Mission ID 2015-10-23_FI_F250
 Palmdale to Palmdale Take off date UTC: 23-OCT-2015
 Departure UTC: 03:59 Arrival UTC: 13:40

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Chi Dra (TA setup)	18h21m03.40s	72d43m58.0s	4:36	32	
5	03_0065	Rangwala	NGC253	00h47m33.12s	-25d17m17.6s	5:13	83	
7	87_0001	Consortium	DR21	20h39m01.01s	42d22m50.2s	6:47	93	
8	03_0073	Eisloeffel	HH34	05h35m29.90s	-06d26m58.0s	8:24	105	
10	03_0051	Tielens	Knot2	23h23m24.10s	58d50m25.8s	10:16	83	
11	03_0141	Werner	NGC 4203	12h15m05.10s	33d11m50.4s	11:42	47.5	
12	90_0030	Calibration	IRC+10216	09h47m57.41s	13d16m43.6s	12:31	38	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



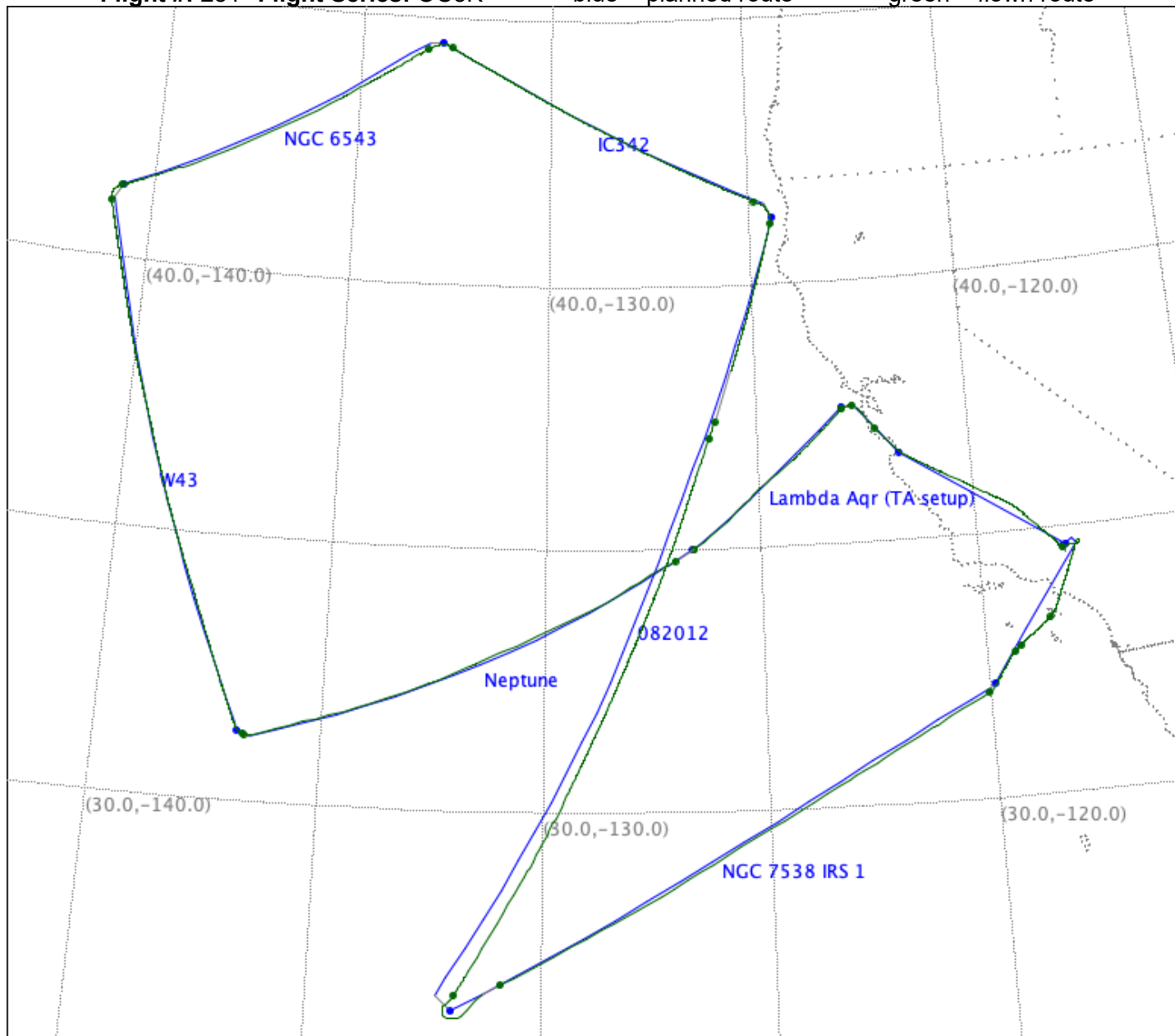
MISSION ID: 2015-10-27_FI_F251

Date: 2015-10-27 UT Instrument: FIFI-LS

Flight #: 251 Flight Series: OC3K

blue = planned route

green = flown route



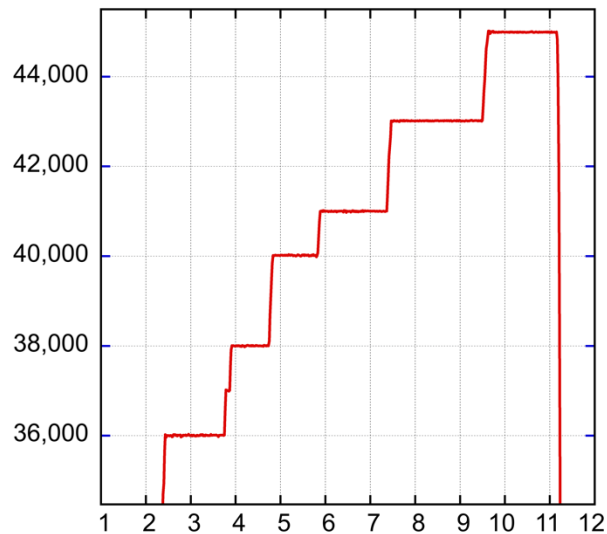
Flight notes:

Held to low altitude by Air Traffic Control early in flight.

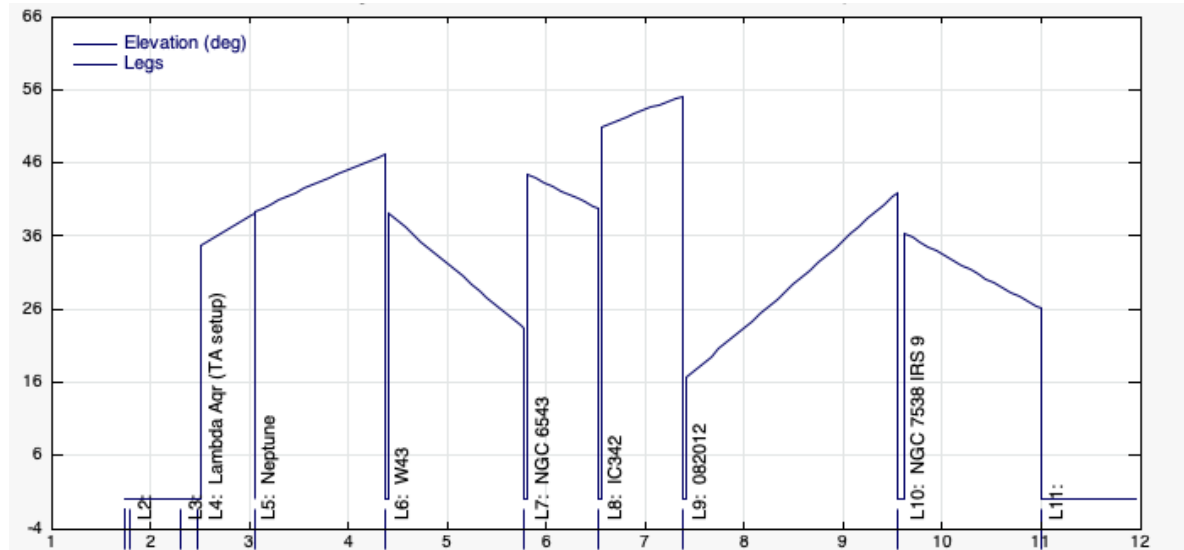
Flight 251 Mission ID 2015-10-27_FI_F251
 Palmdale to Palmdale Take off date UTC: 27-OCT-2015
 Departure UTC: 01:51 Arrival UTC: 11:34

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Lambda Aqr (TA setup)	22h52m37.00s	-07d34m46.0s	2:35	32	
5	90_0032	Calibration	Neptune	22h35m52.09s	-09d43m07.3s	3:07	79	Telescope not ready at beginning of leg; Air traffic control is holding us at low altitude (36k ft), clouds forced halt of observations – limited data on leg.
6	87_0007	Consortium	W43	18h47m32.40s	-01d56m31.2s	4:28	82	
7	90_0030	Calibration	NGC 6543	17h58m33.42s	66d37m59.5s	5:53	43	
8	87_0005	Consortium	IC342	03h46m48.51s	68d05m46.0s	6:37	49	
9	03_0066	Megeath	82012	05h41m24.92s	-02d18m07.0s	7:29	128	
10	03_0151	Blake	NGC 7538 IRS 1	23h13m45.32s	61d28m11.7s	9:41	83	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



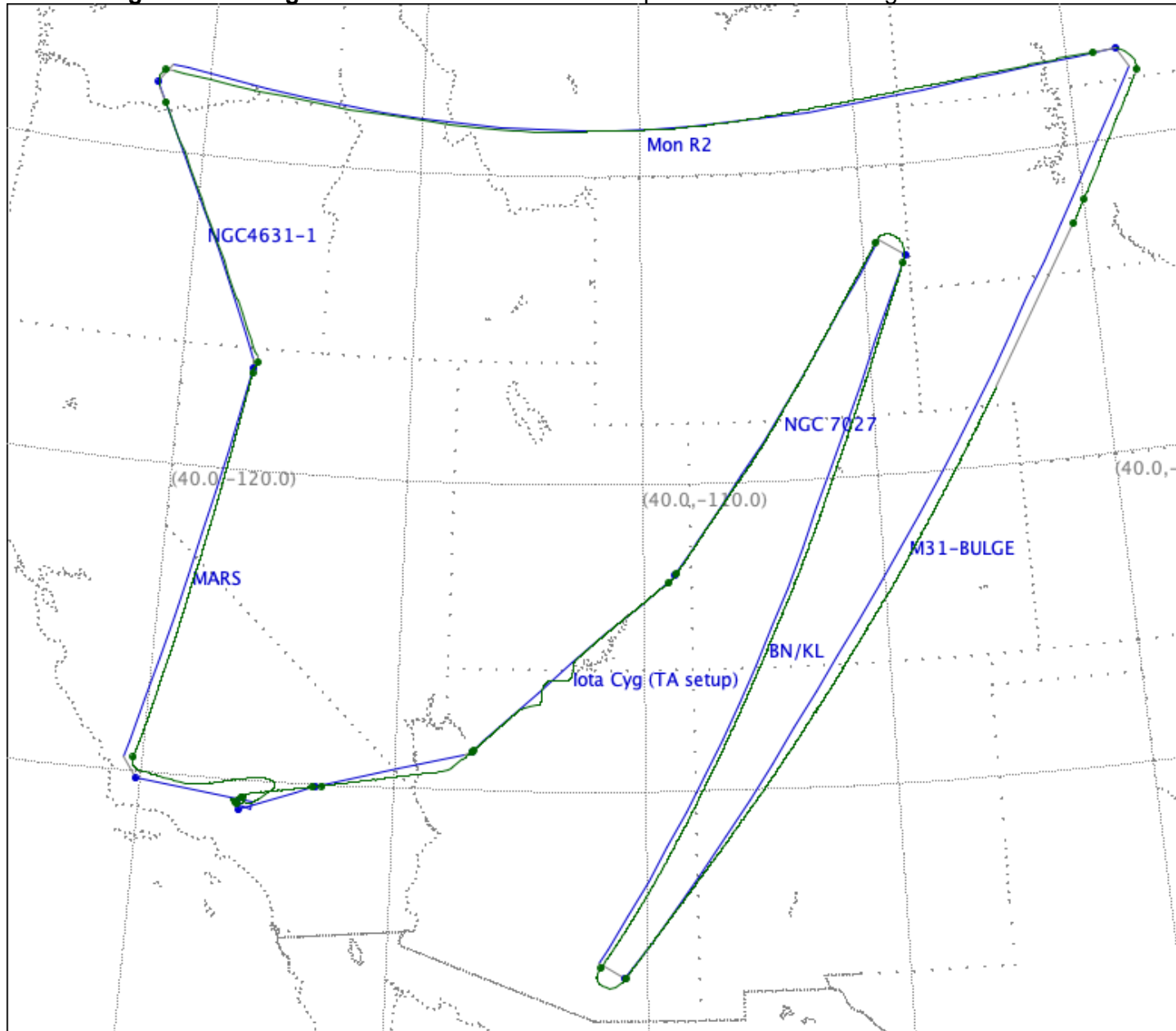
MISSION ID: 2015-10-28_FI_F252

Date: 2015-10-28 UT Instrument: FIFI-LS

Flight #: 252 Flight Series: OC3K

blue = planned route

green = flown route

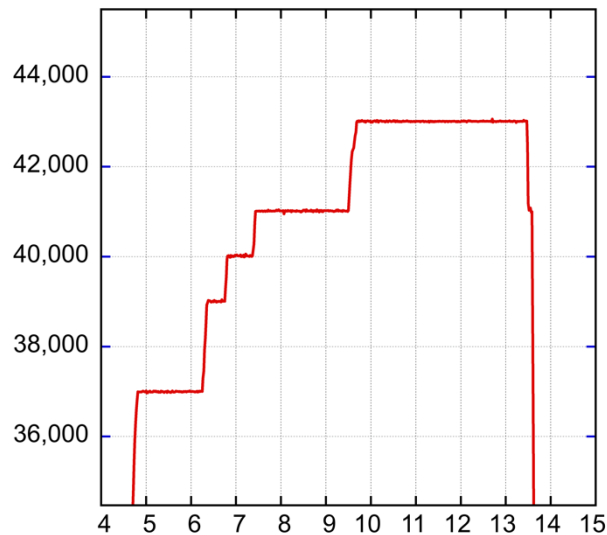


Flight notes:
No irregularities.

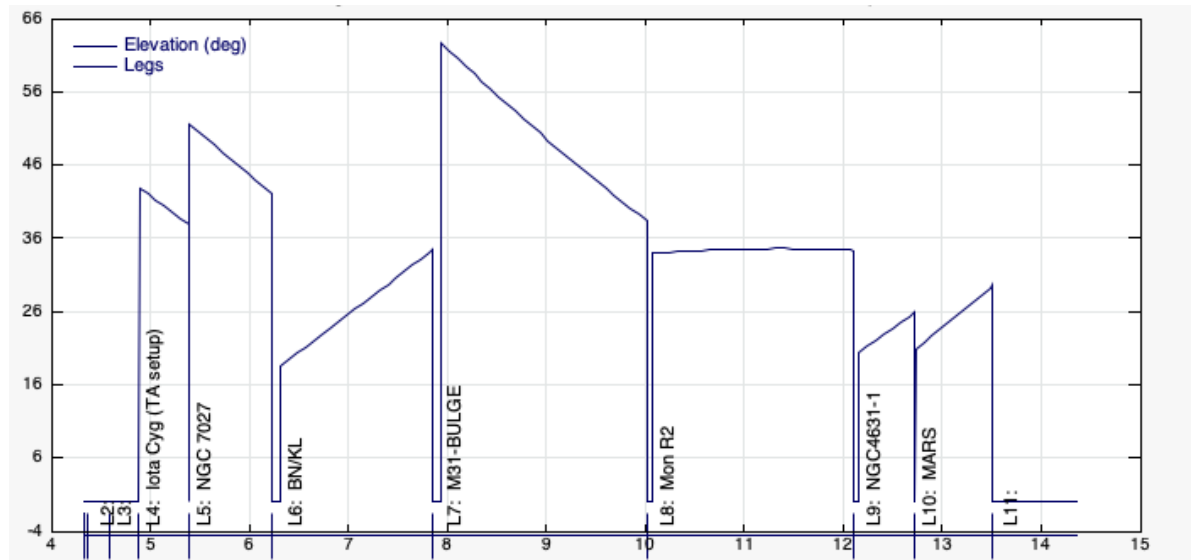
Flight 252 Mission ID 2015-10-28_FI_F252
 Palmdale to Palmdale Take off date UTC: 28-OCT-2015
 Departure UTC: 04:18 Arrival UTC: 13:59

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			Iota Cyg (TA setup)	19h29m42.00s	51d43m49.0s	4:53	30	Clouds.
5	90_0030	Calibration	NGC 7027	21h07m01.59s	42d14m10.2s	5:24	50	
6	87_0002	Consortium	BN/KL	05h35m14.16s	-05d22m21.5s	6:19	92	
7	03_0121	Kapala	M31-BULGE	00h42m43.29s	41d17m21.3s	7:56	125	
8	87_0006	Consortium	Mon R2	06h07m46.60s	-06d22m59.0s	10:04	122	
9	03_0135	Croxall	NGC4631	12h42m10.98s	32d32m38.0s	12:10	33	
10	03_0151	Blake	MARS	11h27m08.66s	05d02m17.3s	12:44	47	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



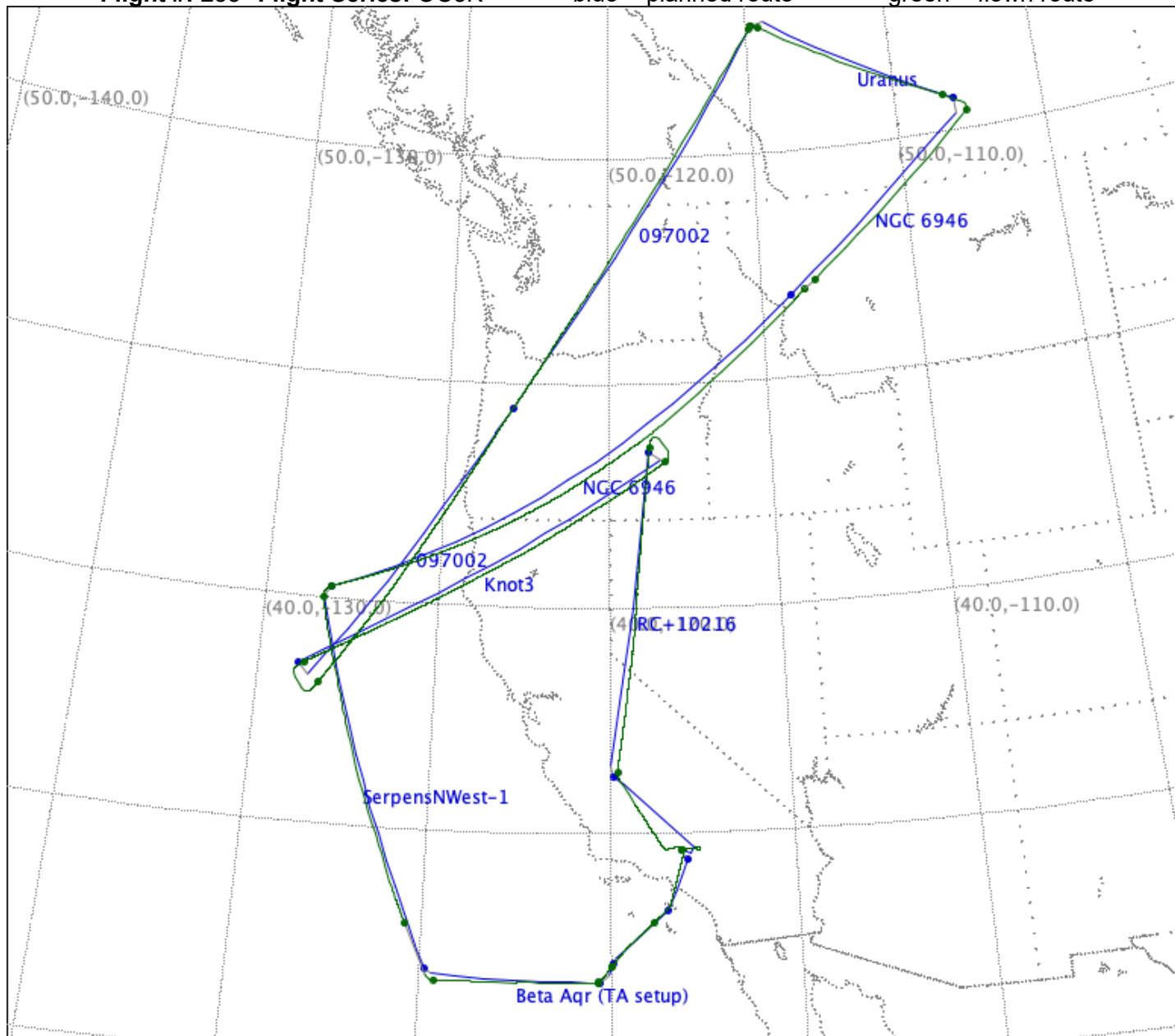
MISSION ID: 2015-10-29_FI_F253

Date: 2015-10-29 UT Instrument: FIFI-LS

Flight #: 253 Flight Series: OC3K

blue = planned route

green = flown route

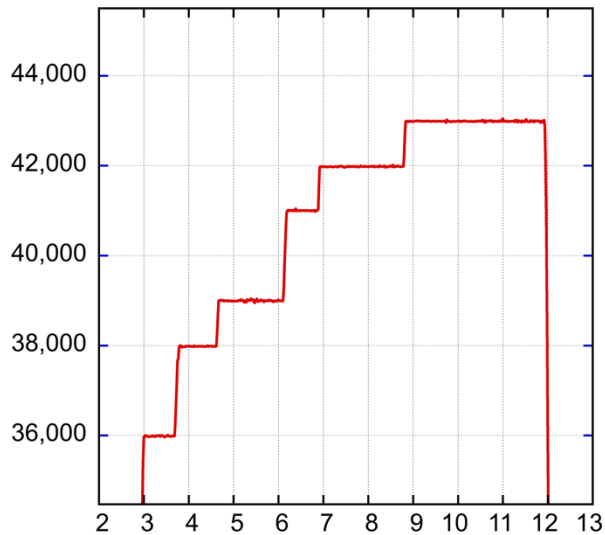


Flight notes: No irregularities.

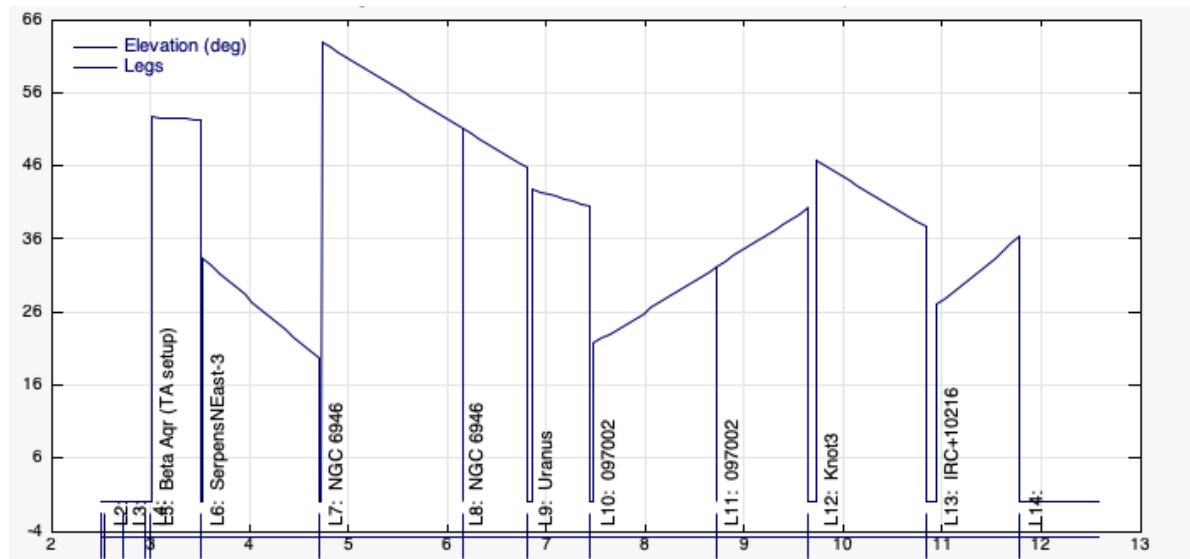
Flight 253 Mission ID 2015-10-29_FI_F253
 Palmdale to Palmdale Take off date UTC: 29-OCT-2015
 Departure UTC: 02:28 Arrival UTC: ~12:22

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
5			Beta Aqr (TA setup)	21h31m33.50s	-05d34m16.3s	3:04	29	
6	03_0043	Looney	SerpensNWest	18h29m54.00s	-02d01m23.0s	3:35	70	
7	87_0005	Consortium	NGC 6946	20h34m52.33s	60d09m13.2s	4:47	85	
8	87_0005	Consortium	NGC 6946	20h34m52.33s	60d09m13.2s	6:12	39	
9	90_0033	Calibration	Uranus	01h05m55.58s	06d17m22.9s	6:54	35	
10	03_0066	Megeath	97002	05h48m07.71s	00d33m51.8s	7:31	75	
11	03_0066	Megeath	97002	05h48m07.71s	00d33m51.8s	8:46	55	
12	03_0051	Tielens	Knot3	23h23m17.52s	58d50m04.4s	9:46	67	
13	90_0030	Calibration	IRC+10216	09h47m57.41s	13d16m43.6s	11:00	50	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



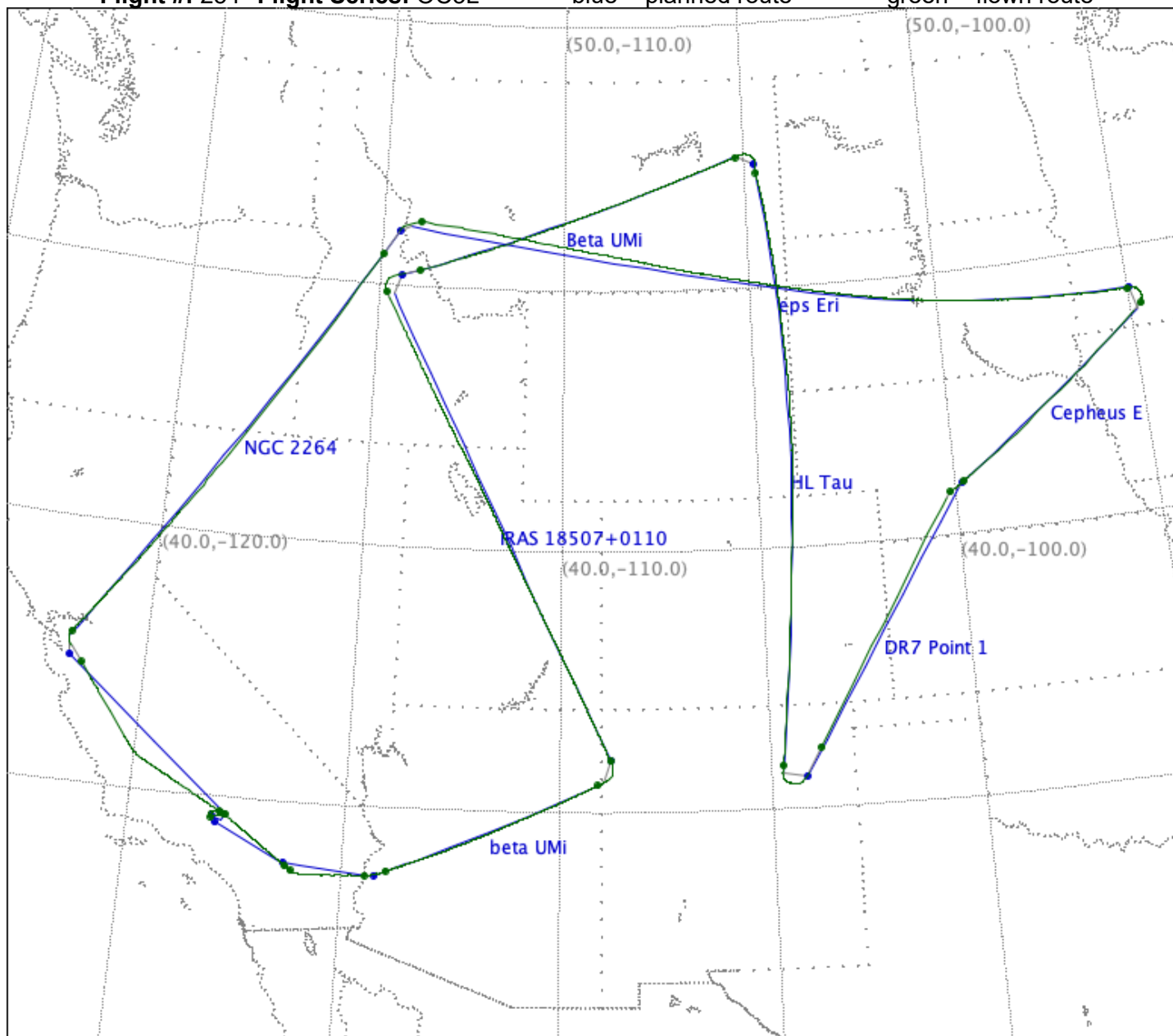
MISSION ID: 2015-11-04_FO_F254

Date: 2015-11-04 UT Instrument: FORCAST

Flight #: 254 Flight Series: OC3L

blue = planned route

green = flown route

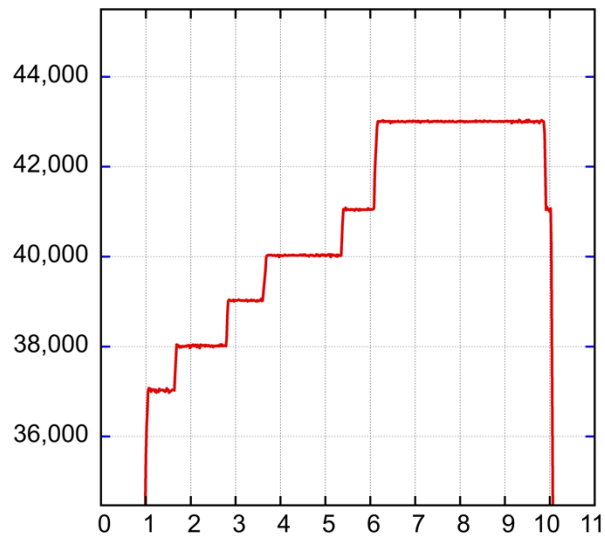


Flight notes: No irregularities.

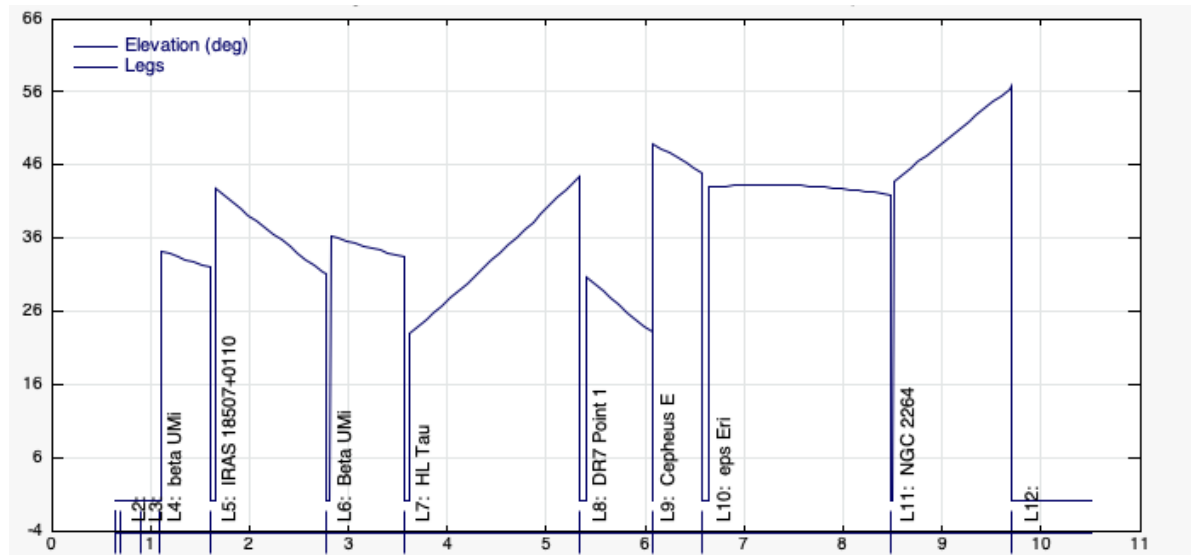
Flight 254 Mission ID 2015-11-04_FO_F254
 Palmdale to Palmdale Take off date UTC: 04-NOV-2015
 Departure UTC: 00:37 Arrival UTC: 10:30

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			beta UMi	14h50m42.33s	74d09m19.8s	1:08	30	
5	03_0056	Klein	IRAS 18507+0110	18h53m17.80s	01d15m00.0s	1:42	66.8	
6	90_0056	Calibration	Beta UMi	14h50m42.33s	74d09m19.8s	2:51	45	
7	03_0064	Chiar	HL Tau	04h31m38.44s	18d13m57.7s	3:39	103	
8	03_0008	De Buizer	DR7 Point 1	20h28m12.81s	40d52m38.5s	5:27	40	
9	03_0109	Tan	Cepheus E	23h03m13.60s	61d42m43.5s	6:07	30	
10	03_0092	Su	eps Eri	03h32m55.84s	-09d27m29.7s	6:41	110	
11	03_0139	Principe	NGC 2264	06h41m05.01s	09d35m09.2s	8:33	71.7	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



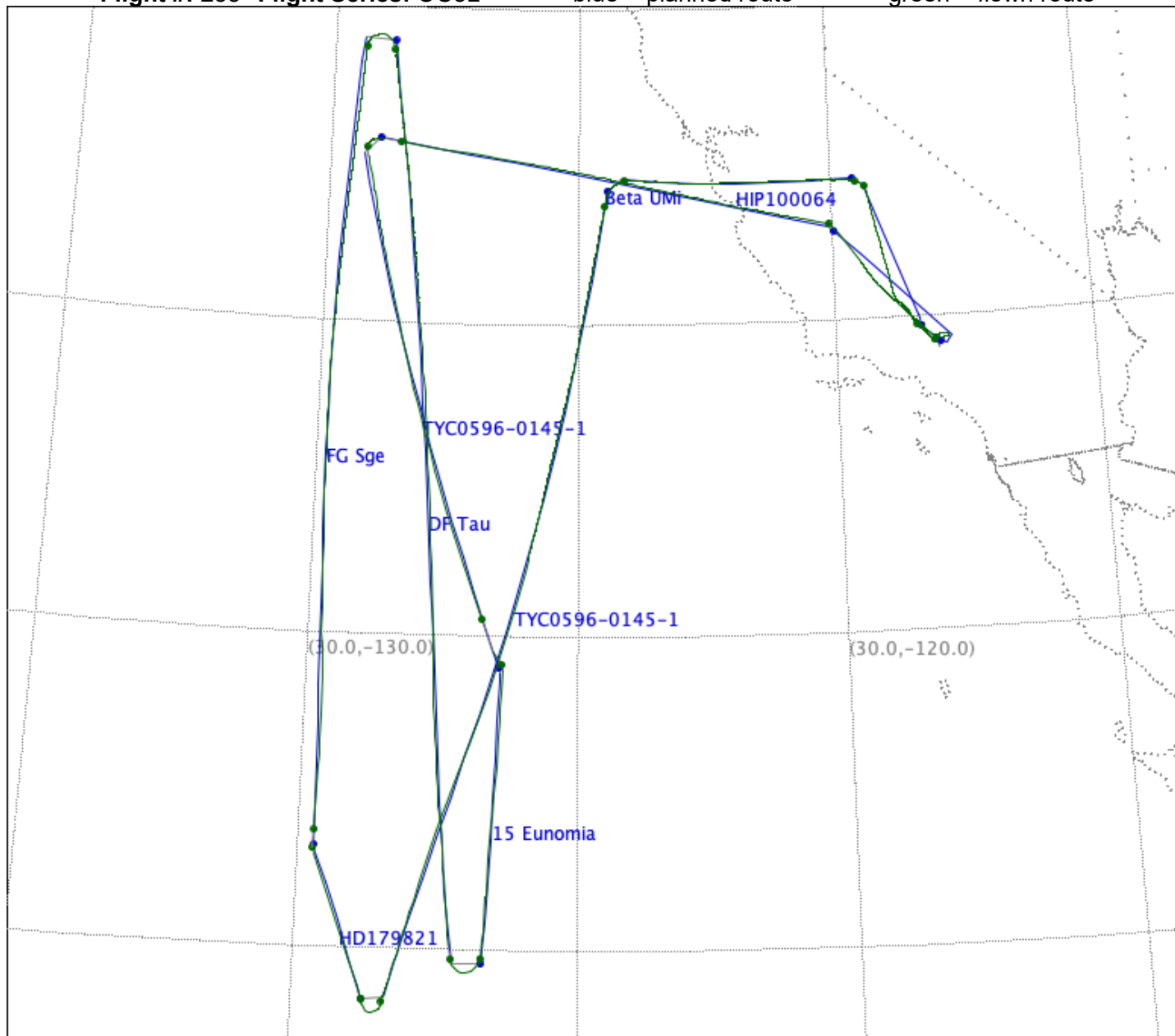
MISSION ID: 2015-11-05_FO_F255

Date: 2015-11-05 UT **Instrument:** FORCAST

Flight #: 255 **Flight Series:** OC3L

blue = planned route

green = flown route

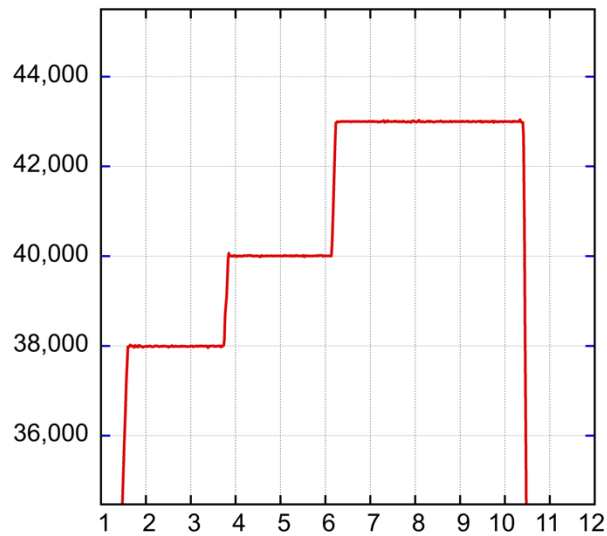


Flight notes: No irregularities.

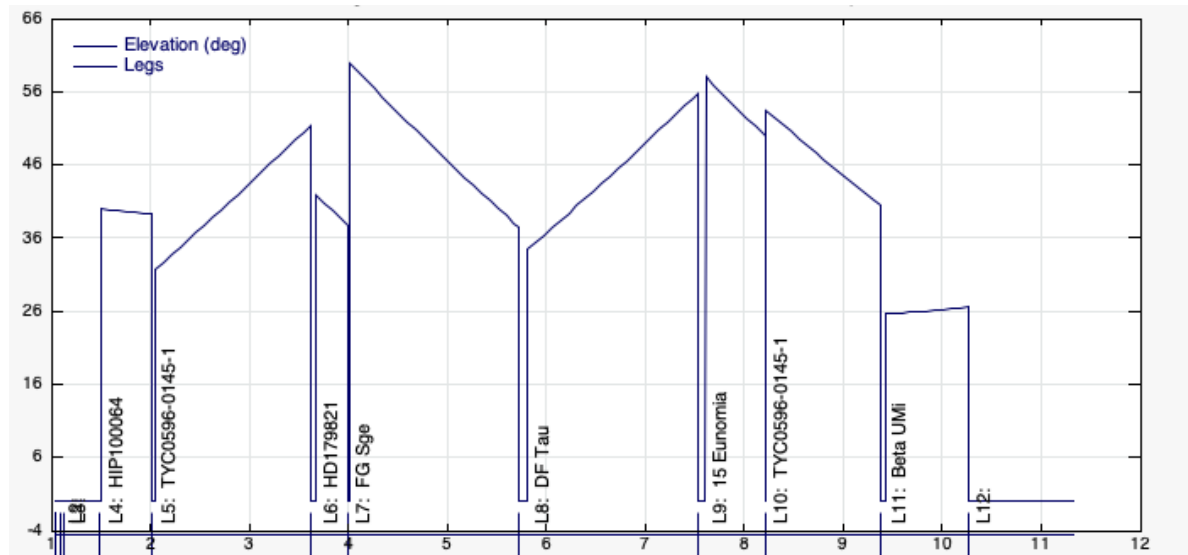
Flight 255 Mission ID 2015-11-05_FO_F255
 Palmdale to Palmdale Take off date UTC: 05-NOV-2015
 Departure UTC: 01:08 Arrival UTC: 10:46

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			HIP100064	20h18m03.26s	-12d32m41.5s	1:36	30	
5	03_0099	Song	TYC0596-0145	00h29m18.60s	09d52m30.9s	2:09	94.2	Problems with guider camera (FPI) led to a 50min loss on leg
6	03_0079	Kraemer	HD179821	19h13m58.61s	00d07m31.9s	3:47	19.4	
7	03_0024	Evans	FG Sge	20h11m56.05s	20d20m04.4s	4:07	102.9	
8	70_0301	GTO	DF Tau	04h27m02.79s	25d42m22.4s	5:54	103.2	
9	90_0059	Calibration	15 Eunomia	23h42m42.72s	19d24m58.8s	7:42	36	
10	03_0099	Song	TYC0596-0145	00h29m18.60s	09d52m30.9s	8:19	69	
11	90_0056	Calibration	Beta UMi	14h50m42.33s	74d09m19.8s	9:31	50	Observatory control software crash; 10min lost

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



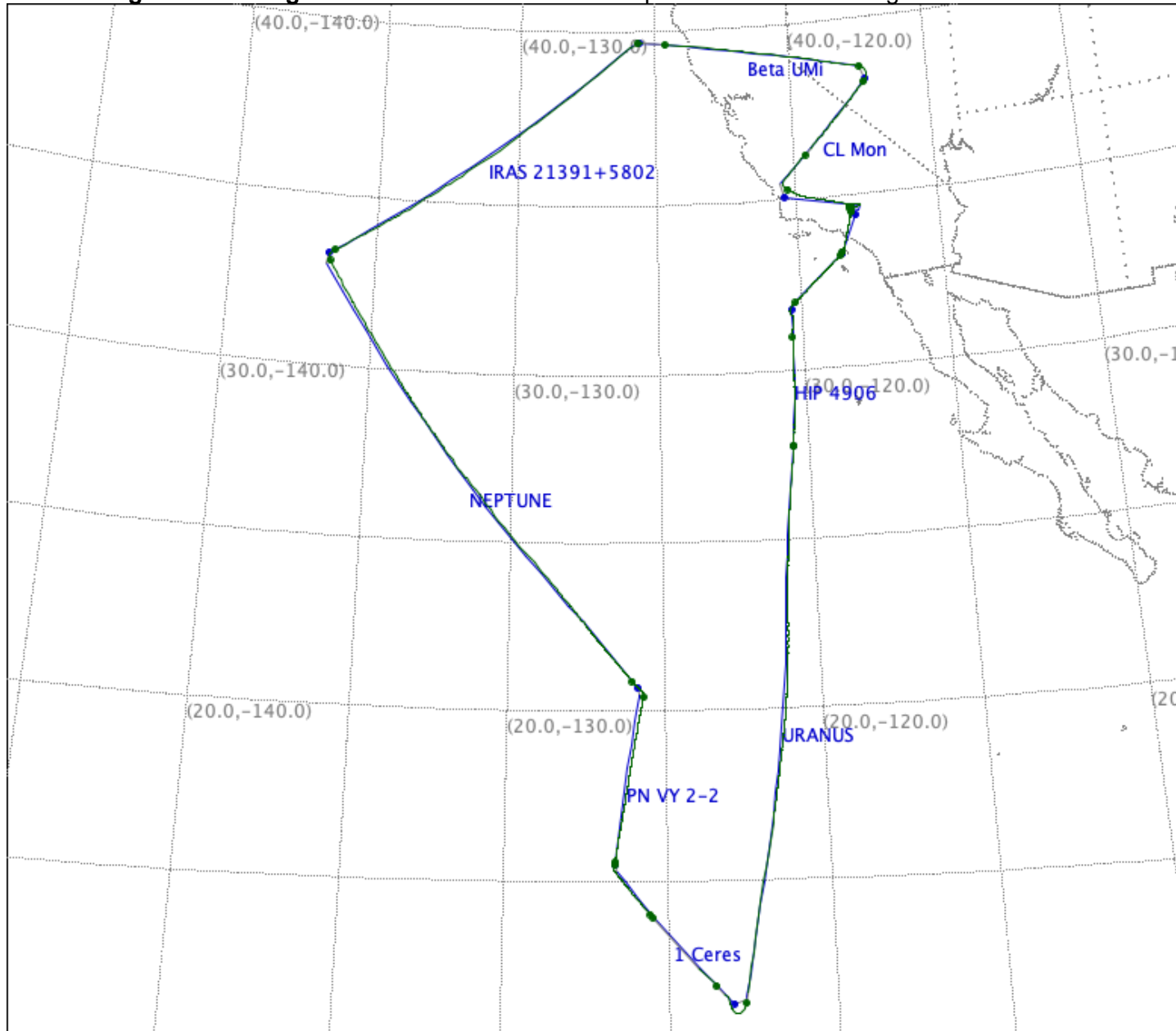
MISSION ID: 2015-11-06_FO_F256

Date: 2015-11-06 UT **Instrument:** FORCAST

Flight #: 256 **Flight Series:** OC3L

blue = planned route

green = flown route

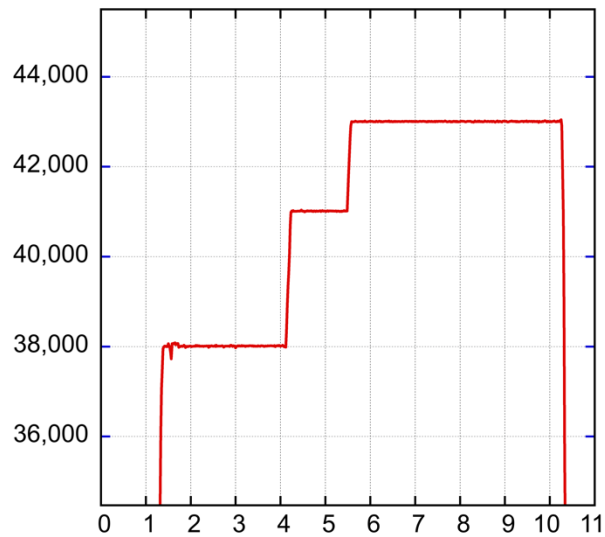


Flight notes: No irregularities.

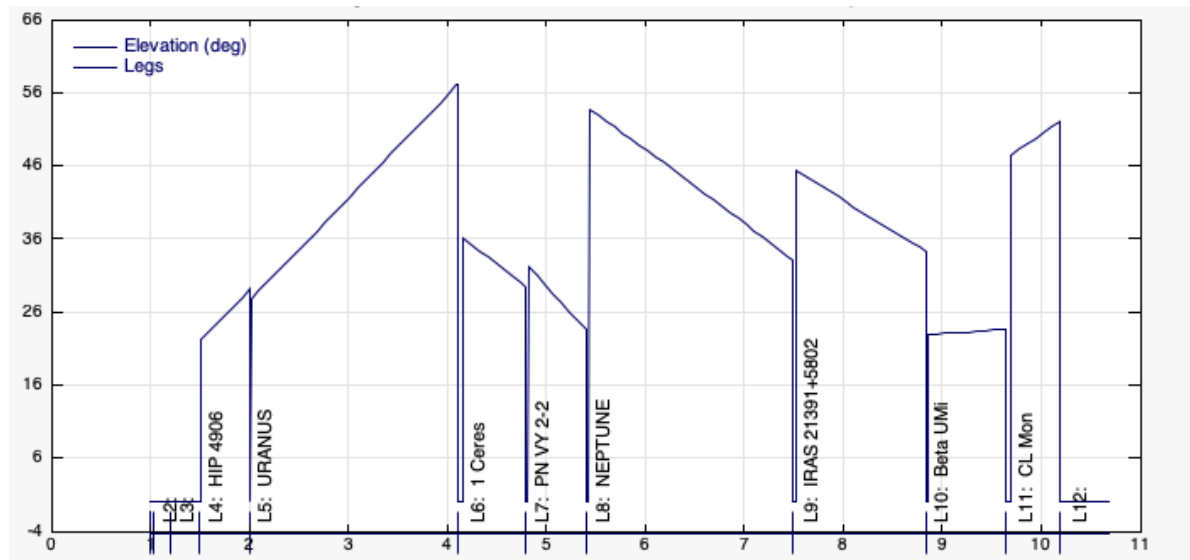
Flight 256 Mission ID 2015-11-06_FO_F256
 Palmdale to Palmdale Take off date UTC: 06-NOV-2015
 Departure UTC: 00:57 Arrival UTC: 10:46

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			HIP 4906	01h02m56.61s	07d53m24.5s	1:35	30	
5	03_0030	Orton	URANUS	01h04m51.10s	06d10m55.5s	2:05	125.6	pointing stability poor with drifts/jumps up to 5"; early end of leg due to turbulence and clouds
6	90_0059	Calibration	1 Ceres	20h26m13.26s	-28d40m26.9s	4:14	38	15min lost to observatory control software crash
7	03_0079	Kraemer	PN VY 2	19h24m22.22s	09d53m56.3s	4:53	35.6	
8	03_0030	Orton	NEPTUNE	22h35m30.00s	-09d45m08.1s	5:30	122.8	
9	03_0109	Tan	IRAS 21391+5802	21h40m42.40s	58d16m10.0s	7:36	78.5	
10	90_0056	Calibration	Beta UMi	14h50m42.33s	74d09m19.8s	8:55	47	
11	03_0104	Sloan	CL Mon	06h55m36.70s	06d22m43.3s	9:46	29.3	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



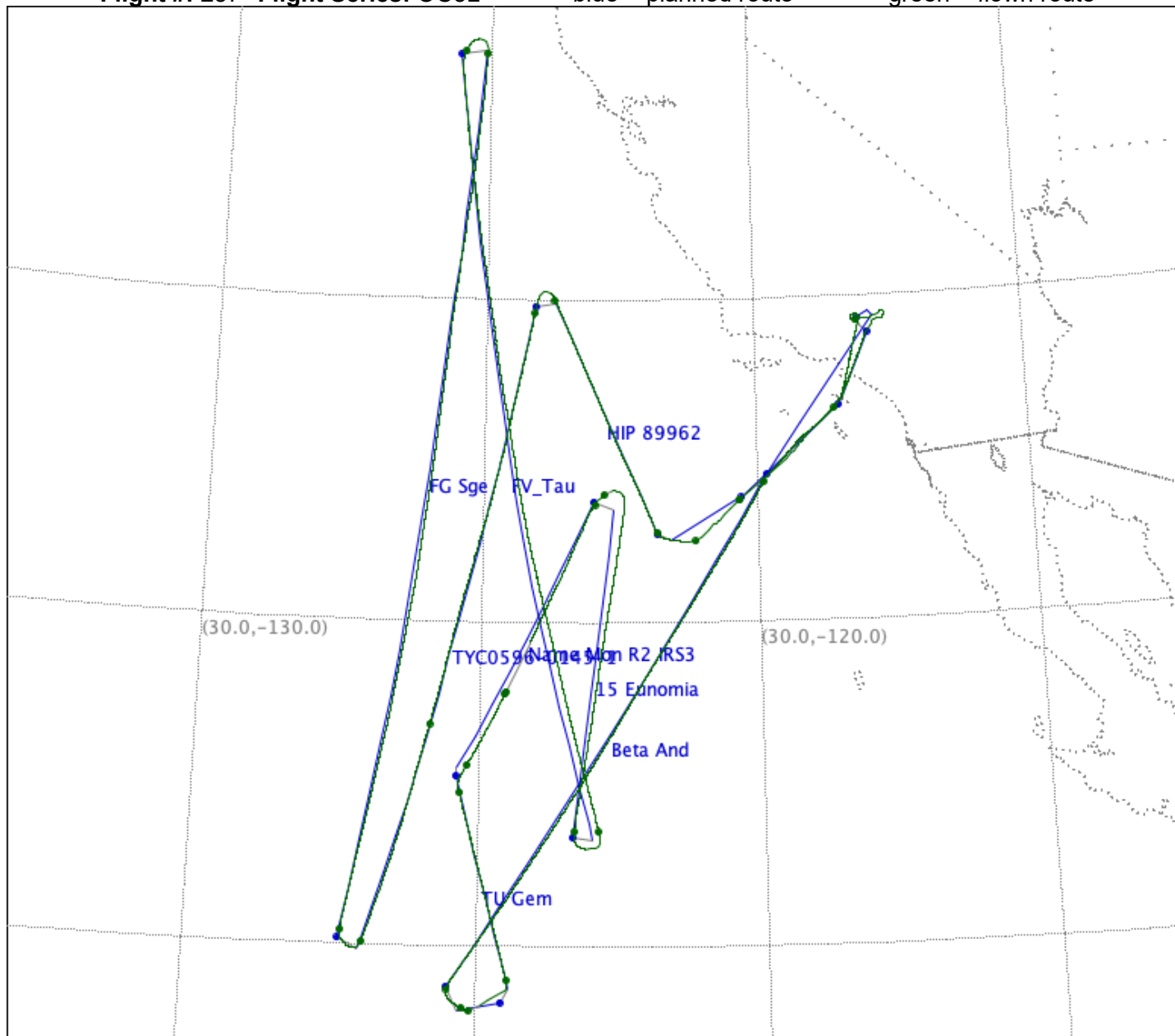
MISSION ID: 2015-11-10_FO_F257

Date: 2015-11-10 UT Instrument: FORCAST

Flight #: 257 Flight Series: OC3L

blue = planned route

green = flown route

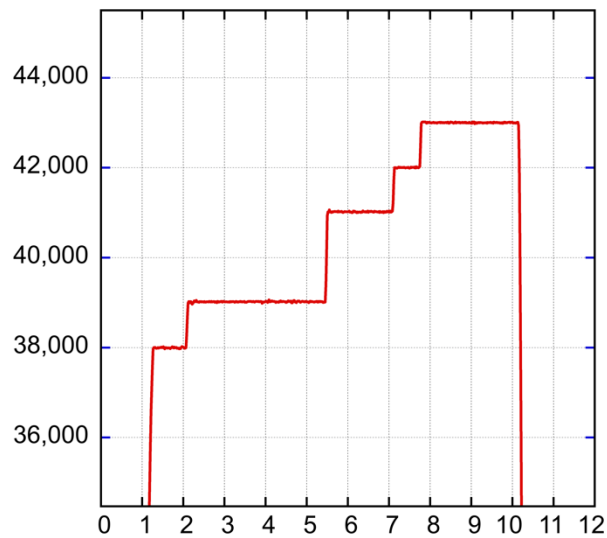


Flight notes: No irregularities.

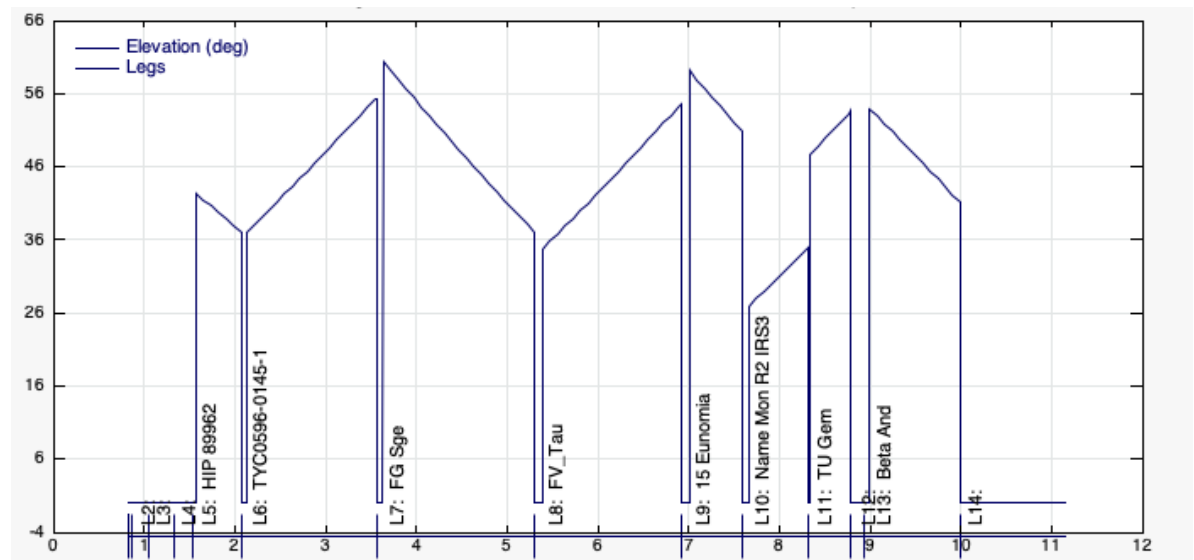
Flight 257 Mission ID 2015-11-10_FO_F257
 Palmdale to Palmdale Take off date UTC: 10-NOV-2015
 Departure UTC: 00:49 Arrival UTC: 10:39

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
5			HIP 89962	18h21m18.60s	-02d53m55.8s	1:42	30	
6	03_0099	Song	TYC0596-0145	00h29m18.60s	09d52m30.9s	2:16	86	
7	03_0024	Evans	FG Sge	20h11m56.05s	20d20m04.4s	3:46	100	
8	70_0300	GTO	FV_Tau	04h26m53.53s	26d06m54.4s	5:31	92	
9	90_0059	Calibration	15 Eunomia	23h42m52.75s	18d51m44.9s	7:08	35	
10	03_0064	Chiar	Mon R2 IRS3	06h07m48.00s	-06d23m06.0s	7:47	40	
11	03_0104	Sloan	TU Gem	06h10m53.10s	26d00m53.4s	8:28	26.8	
13	03_0056	Calibration	Beta And	01h09m43.92s	35d37m14.0s	9:07	60	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



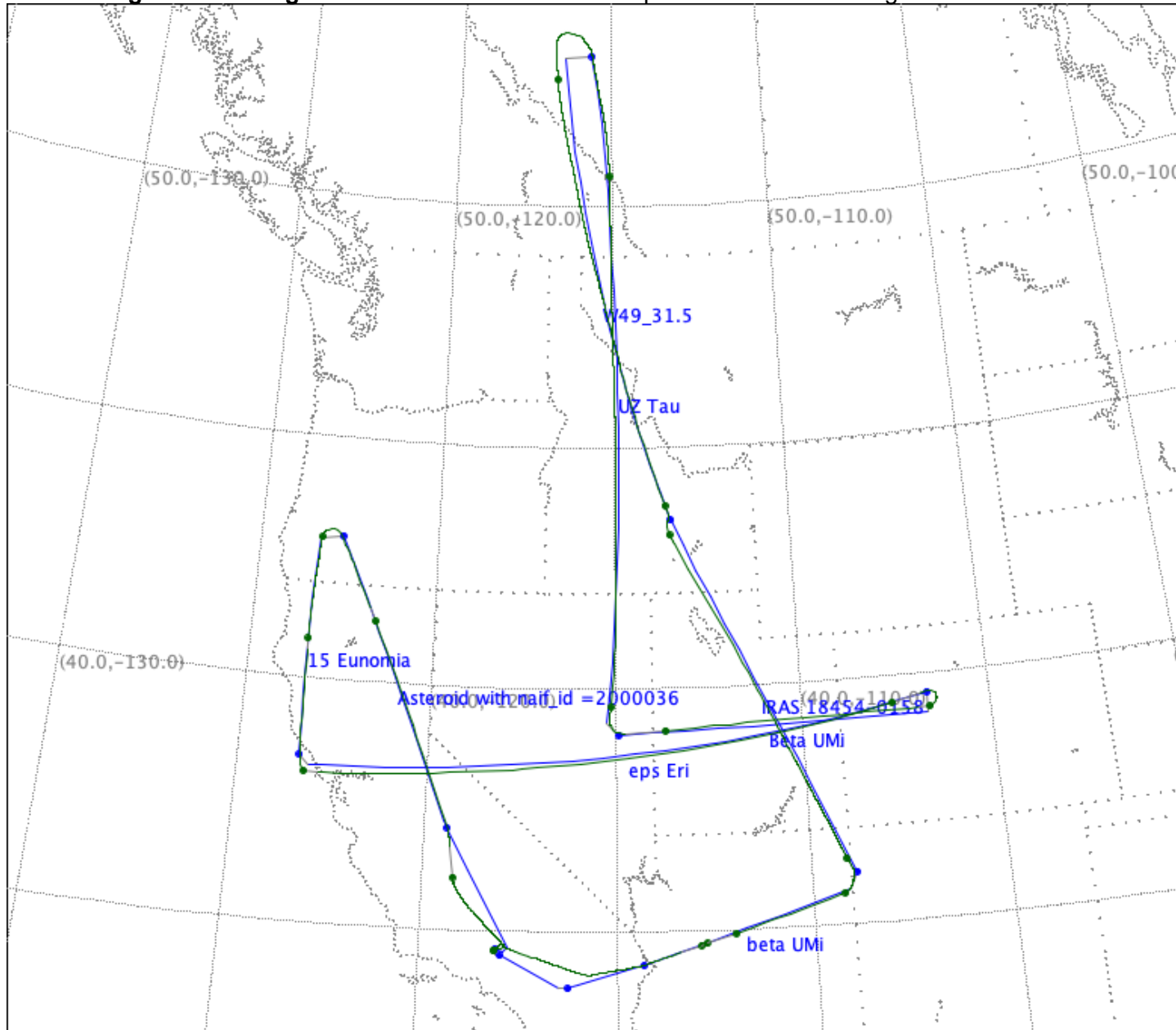
MISSION ID: 2015-11-13_FO_F258

Date: 2015-11-13 UT Instrument: FORCAST

Flight #: 258 Flight Series: OC3L

blue = planned route

green = flown route

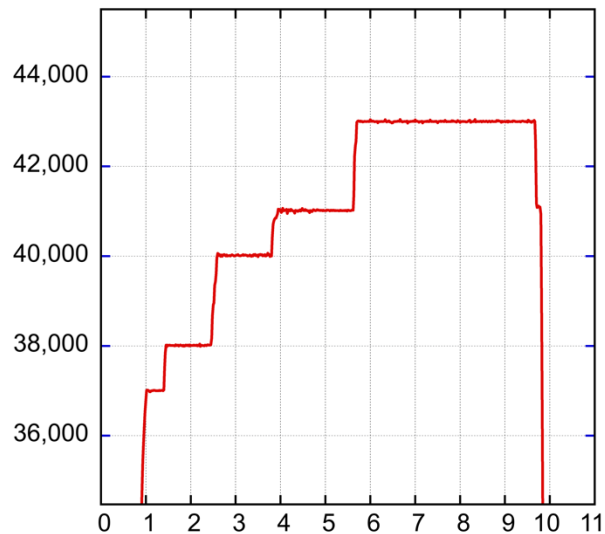


Flight notes: No irregularities.

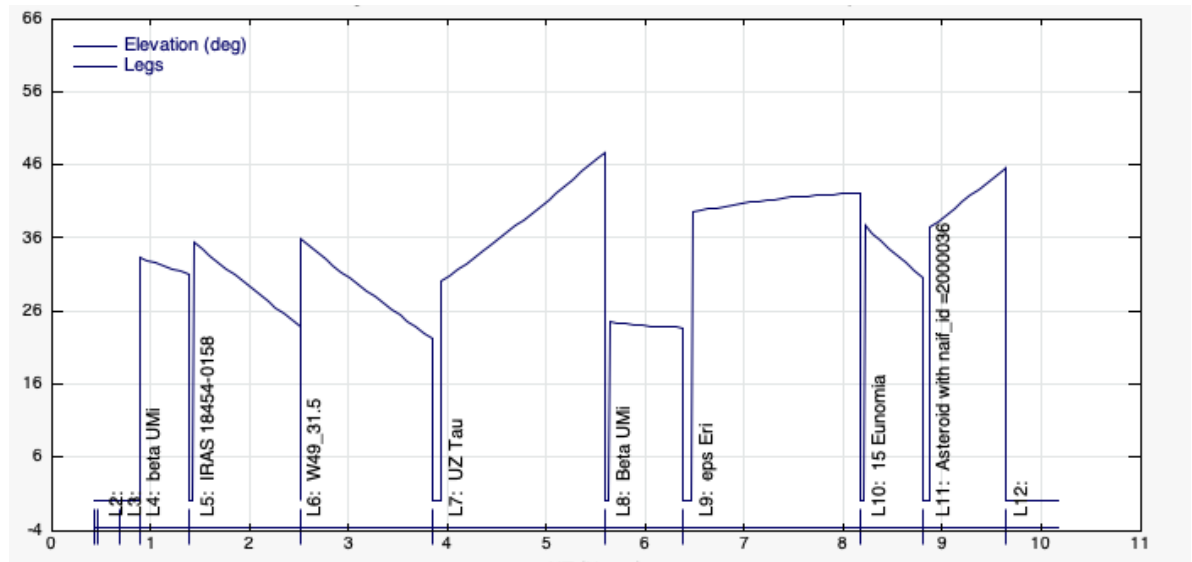
Flight 258 Mission ID 2015-11-13_FO_F258
 Palmdale to Palmdale Take off date UTC: 13-NOV-2015
 Departure UTC: 00:26 Arrival UTC: 10:10

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			beta UMi	14h50m42.33s	74d09m19.8s	0:56	30	
5	03_0056	Klein	IRAS 18454-0158	18h47m55.79s	-01d53m34.0s	1:28	64.7	
6	03_0013	Brandner	W49_31.5	19h10m15.66s	09d06m16.3s	2:33	80	Turbulence.
7	70_0300	GTO	UZ Tau	04h32m43.02s	25d52m30.9s	3:58	99	Turbulence.
8	90_0056	Calibration	Beta UMi	14h50m42.33s	74d09m19.8s	5:40	45	
9	03_0092	Su	eps Eri	03h32m55.84s	-09d27m29.7s	6:31	102	
10	90_0059	Calibration	15 Eunomia	23h43m23.90s	18d32m56.7s	8:15	35	
11	03_0114	McAdam	Asteroid with naif_id =2000036 (Atalante)	09h04m37.85s	41d20m55.6s	8:54	46	Problems with guiding led to issues keeping source if the FORCAST spectroscopic slit

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



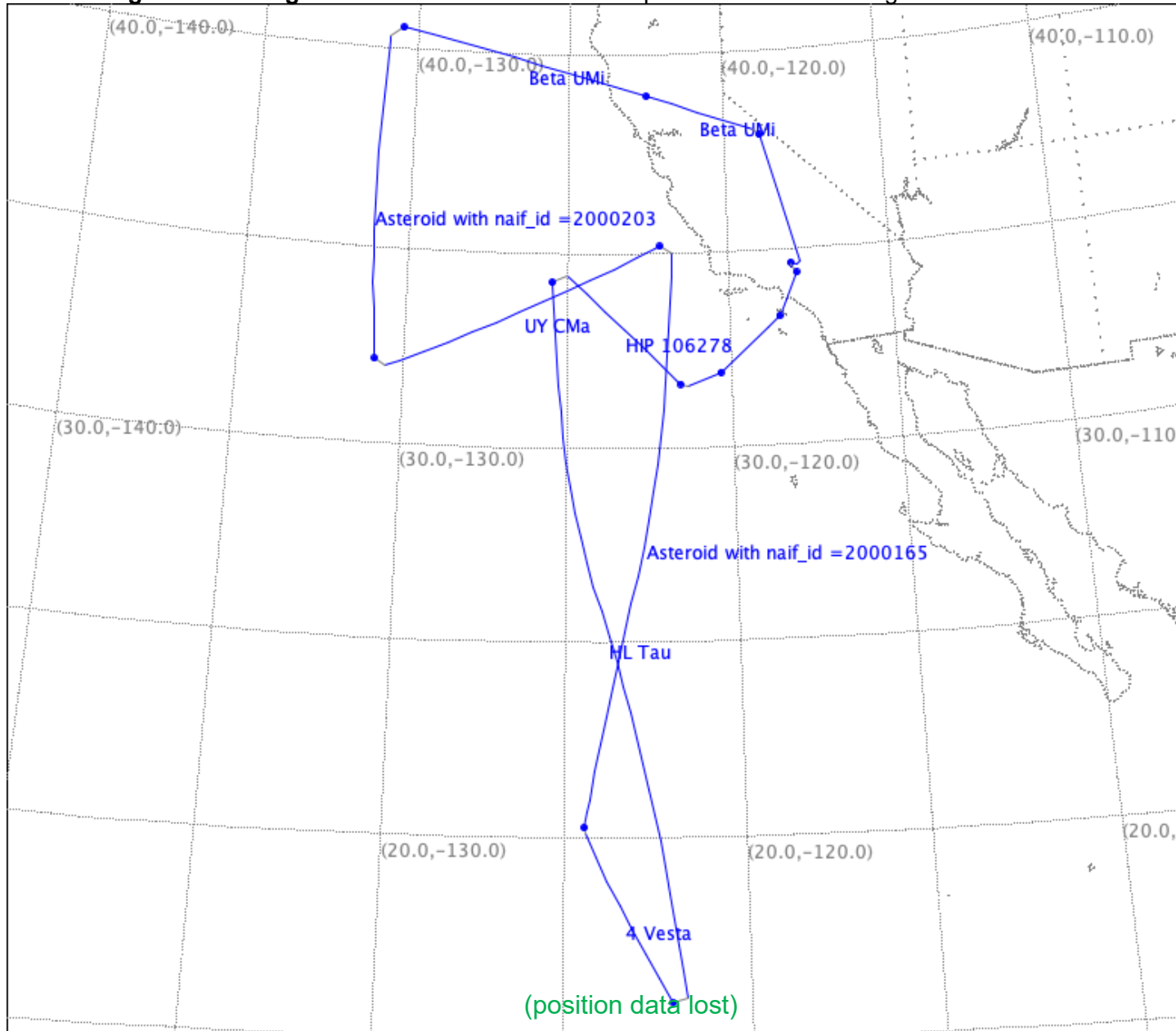
MISSION ID: 2015-11-14_FO_F259

Date: 2015-11-14 UT **Instrument:** FORCAST

Flight #: 259 **Flight Series:** OC3L

blue = planned route

green = flown route



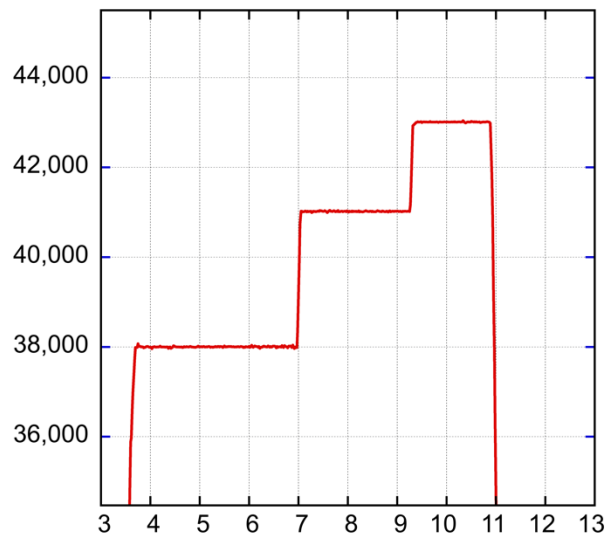
Flight notes:

Weather compromised data on most legs. Early return to Palmdale base during leg 10 due to aircraft issue.

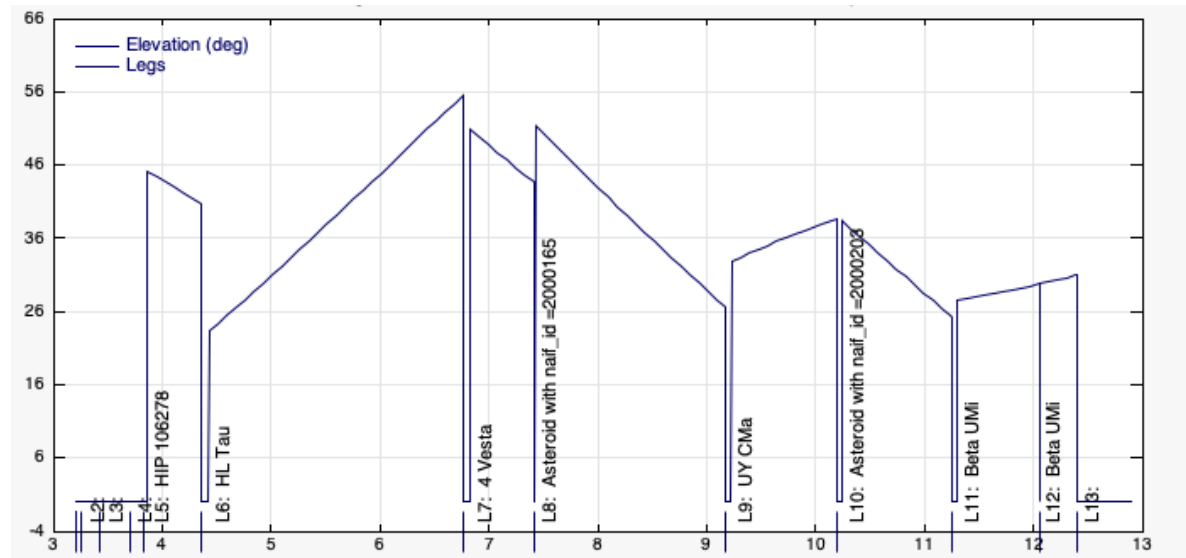
Flight 259 Mission ID 2015-11-14_FO_F259
 Palmdale to Palmdale Take off date UTC: 14-NOV-2015
 Departure UTC: 03:12 Arrival UTC: 12:44

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
5			HIP 106278	21h31m33.53s	-05d34m16.2s	3:55	30	
6	03_0064	Chiar	HL Tau	04h31m38.44s	18d13m57.7s	4:29	140	Clouds; difficulty acquiring and staying on target; high water vapor; 50% of data is useful.
7	90_0059	Calibration	4 Vesta	00h10m11.83s	-09d54m30.6s	6:53	35	Lost all but last 18min due to clouds; data quality questionable.
8	03_0114	McAdam	Asteroid with naif_id =2000165 (Loreley)	23h55m44.82s	15d20m51.3s	7:29	104.4	Saturated images due to clouds; 45min loss of data collection time
9	03_0022	Gehrz	UY CMa	06h18m16.37s	-17d02m34.7s	9:17	58	May have set up pointing in wrong chop beam.
10	03_0114	McAdam	Asteroid with naif_id =2000203 (Pompeia)	01h27m38.47s	13d05m28.3s	10:17	60.8	Guiding stability issues; halfway through leg observations end due to broken aircraft fuel heater; early return to base.
11	90_0056	Calibration	Beta UMi	14h50m42.33s	74d09m19.8s	11:21	45	Leg not flown; early return to base
12	90_0056	Calibration	Beta UMi	14h50m42.33s	74d09m19.8s	12:06	21	Leg not flown; early return to base

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



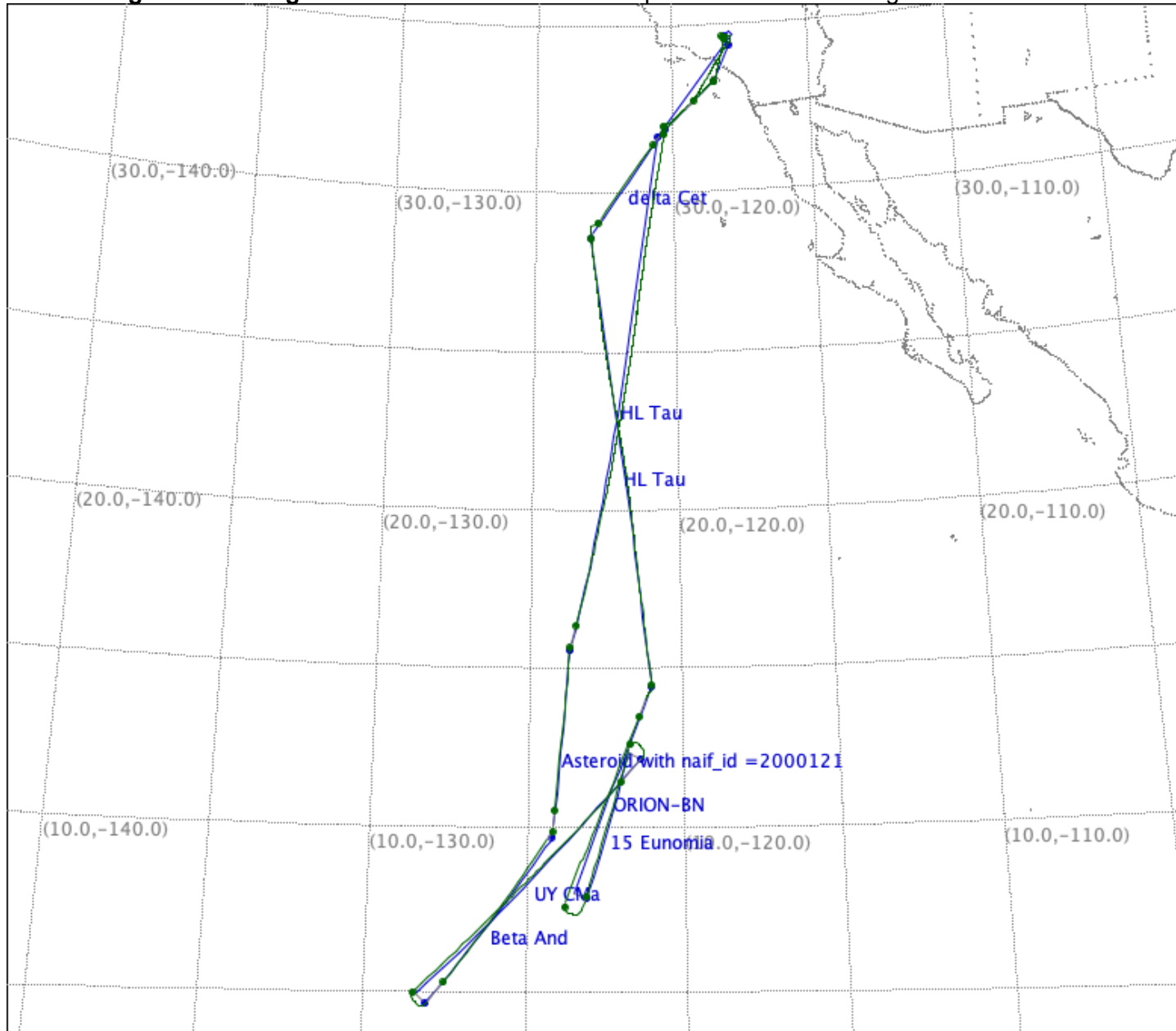
MISSION ID: 2015-11-19_FO_F260

Date: 2015-11-19 UT Instrument: FORCAST

Flight #: 260 Flight Series: OC3L

blue = planned route

green = flown route

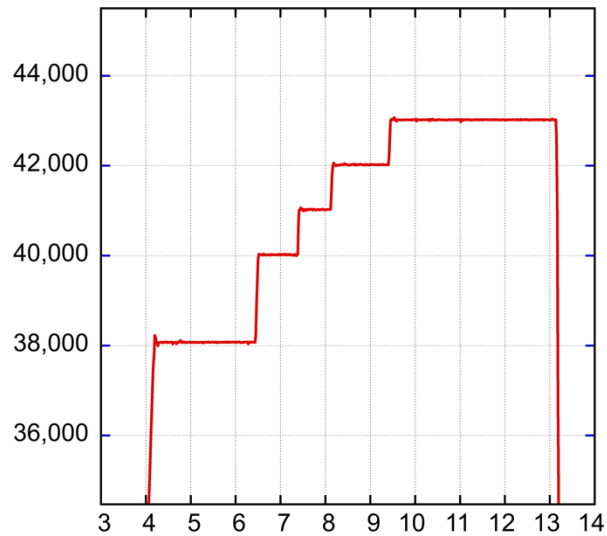


Flight notes: No irregularities.

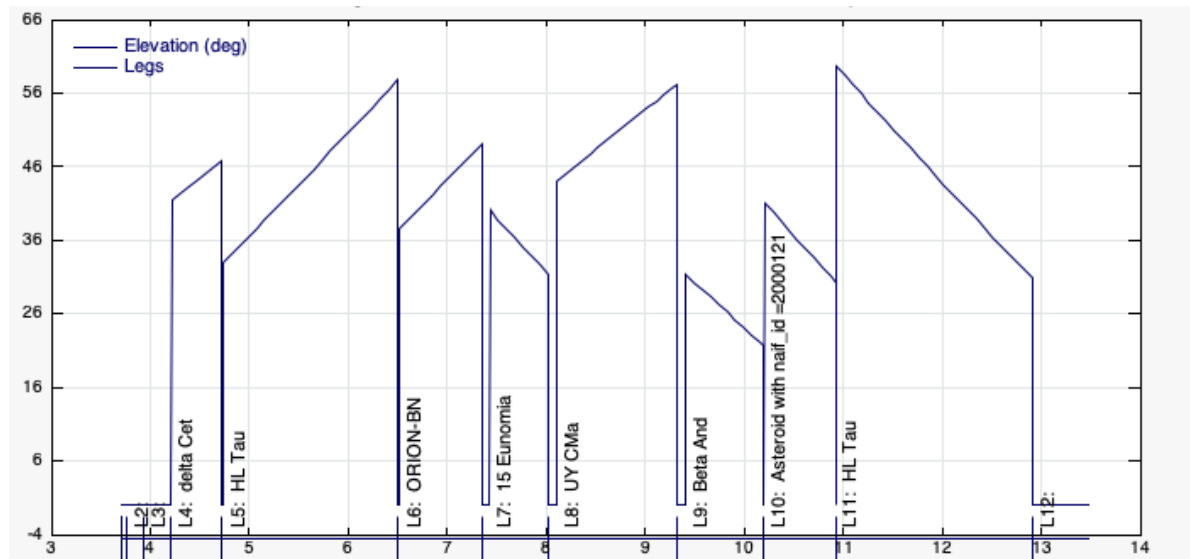
Flight 260 Mission ID 2015-11-19_FO_F260
 Palmdale to Palmdale Take off date UTC: 19-NOV-2015
 Departure UTC: 03:40 Arrival UTC: 13:35

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			delta Cet	02h39m28.96s	00d19m42.6s	4:15	30	
5	03_0064	Chiar	HL Tau	04h31m38.44s	18d13m57.7s	4:47	106	Target drift slowly off slit over leg
6	70_0301	GTO	ORION-BN	05h35m14.11s	-05d22m22.7s	6:33	49.9	Problems setting up chopping; 60% loss on leg.
7	90_0059	Calibration	15 Eunomia	23h45m18.54s	17d59m57.9s	7:28	35	
8	03_0022	Gehrz	UY CMa	06h18m16.37s	-17d02m34.7s	8:09	73	
9	90_0056	Calibration	Beta And	01h09m43.92s	35d37m14.0s	9:27	47	
10	03_0114	McAdam	Asteroid with naif_id =2000121 (Hermione)	02h33m23.26s	09d28m22.1s	10:15	43	
11	03_0064	Chiar	HL Tau	04h31m38.44s	18d13m57.7s	10:58	119	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



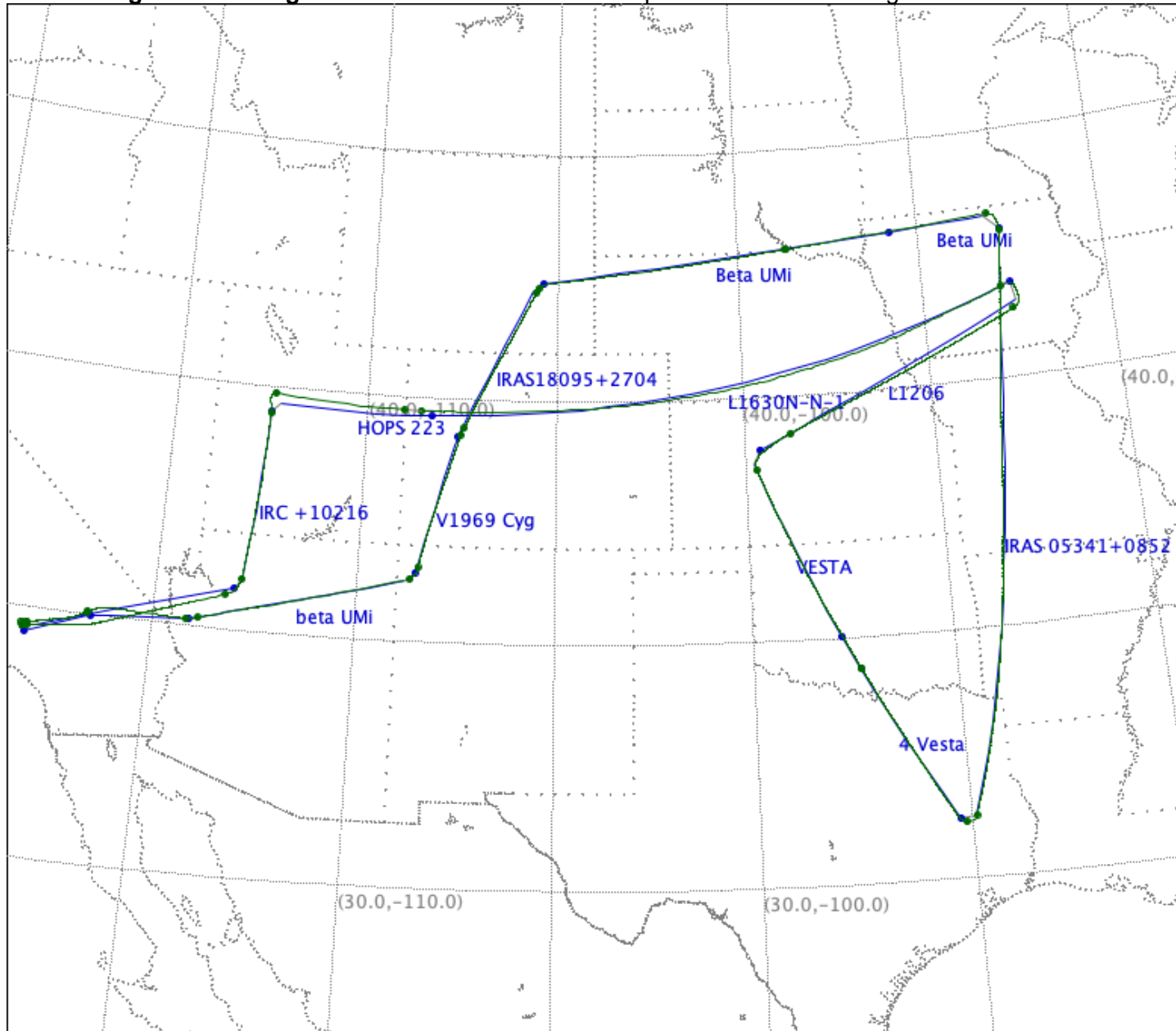
MISSION ID: 2015-11-20_FO_F261

Date: 2015-11-20 UT **Instrument:** FORCAST

Flight #: 261 **Flight Series:** OC3L

blue = planned route

green = flown route

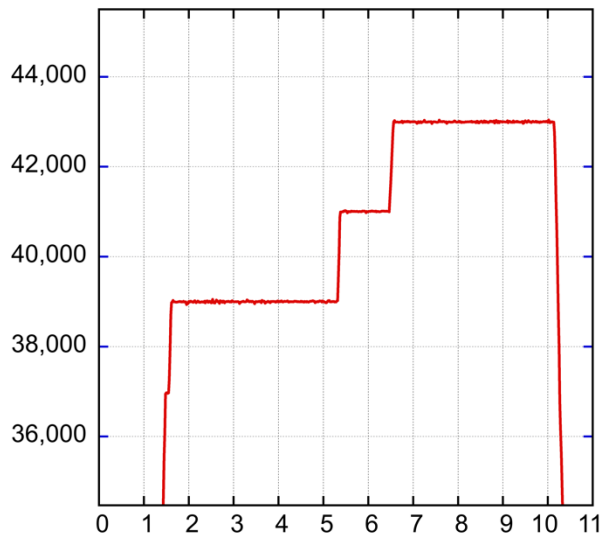


Flight notes: No irregularities.

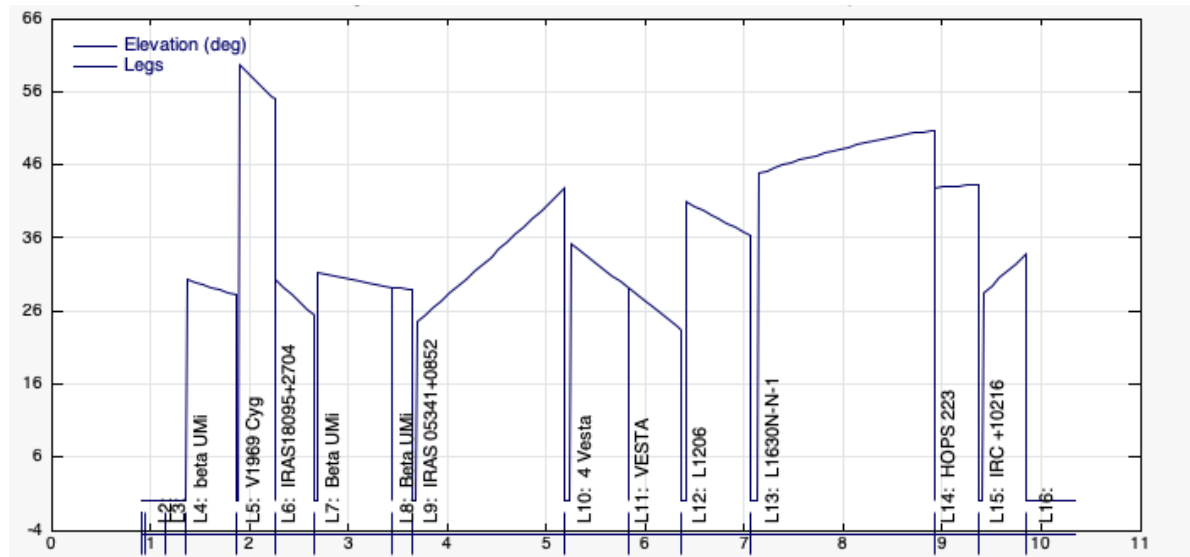
Flight 261 Mission ID 2015-11-20_FO_F261
 Palmdale to Palmdale Take off date UTC: 20-NOV-2015
 Departure UTC: 00:55 Arrival UTC: 10:45

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			beta UMi	14h50m42.33s	74d09m19.8s	1:25	30	
5	03_0104	Sloan	V1969 Cyg	20h09m14.25s	31d25m44.9s	1:57	21.3	
6	03_0079	Kraemer	IRAS18095+2704	18h11m30.67s	27d05m15.6s	2:18	24.2	
7	90_0056	Calibration	Beta UMi	14h50m42.33s	74d09m19.8s	2:44	45	
8	90_0056	Calibration	Beta UMi	14h50m42.33s	74d09m19.8s	3:29	12	
9	03_0032	Peeters	IRAS 05341+0852	05h36m55.05s	08d54m08.7s	3:44	90	
10	90_0059	Calibration	4 Vesta	00h10m08.12s	-09d29m33.1s	5:17	35	
11	03_0014	Vernazza	VESTA	00h10m08.12s	-09d29m33.1s	5:52	32.5	
12	03_0109	Tan	L1206	22h28m51.41s	64d13m41.1s	6:27	39	
13	03_0139	Principe	L1630N-N	05h46m08.09s	-00d10m43.3s	7:11	106.7	
14	03_0143	Fischer	HOPS 223	05h42m48.46s	-08d16m34.5s	8:58	27.3	
15	03_0104	Sloan	IRC +10216	09h47m57.41s	13d16m43.6s	9:27	25.9	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



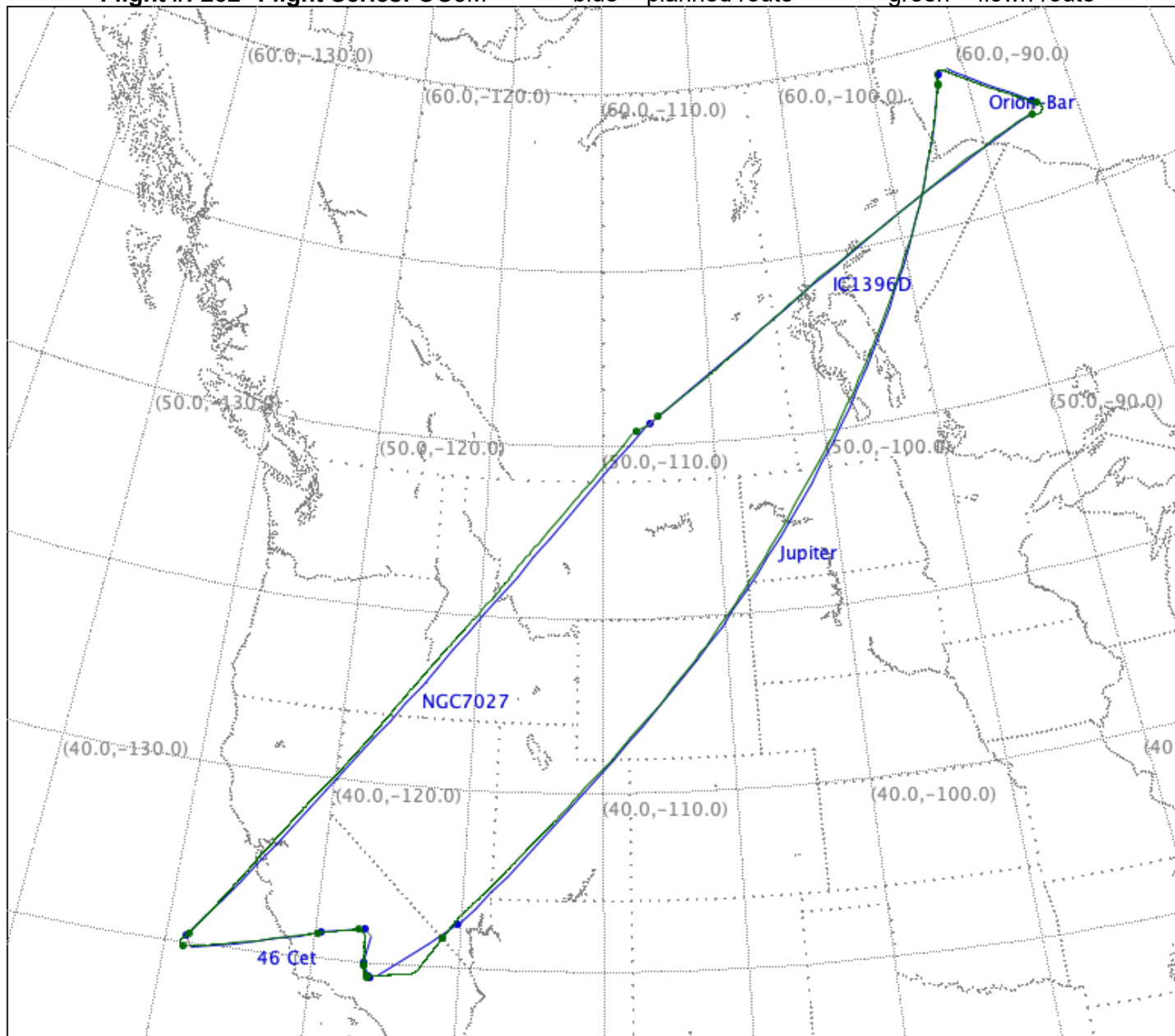
MISSION ID: 2015-12-05_GR_F262

Date: 2015-12-05 UT Instrument: GREAT

Flight #: 262 Flight Series: OC3M

blue = planned route

green = flown route

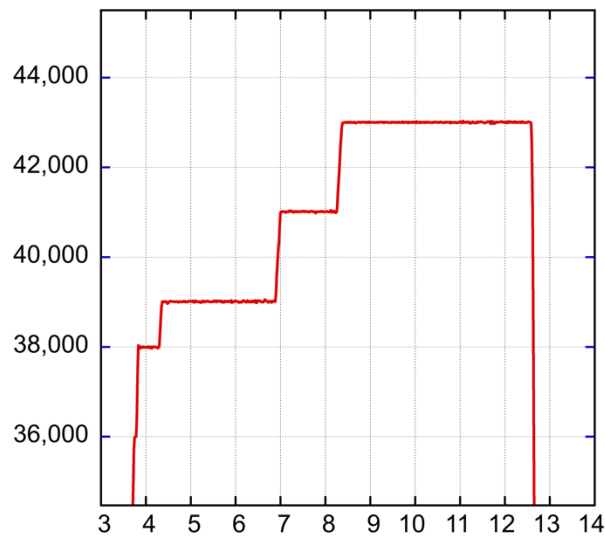


**Flight notes:
No irregularities.**

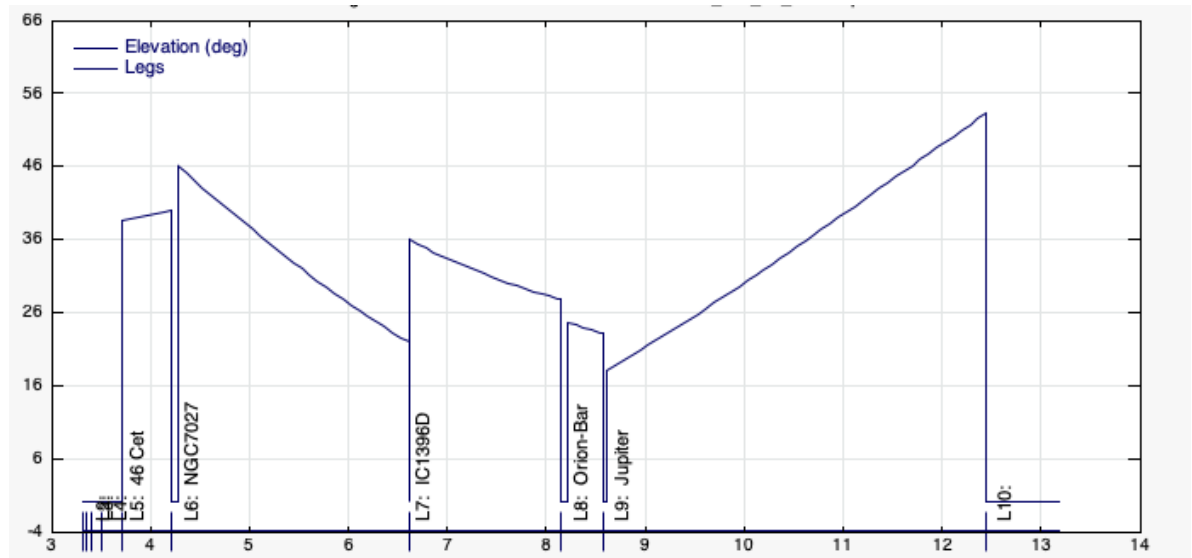
Flight 262 Mission ID 2015-12-05_GR_F262
 Palmdale to Palmdale Take off date UTC: 05-DEC-2015
 Departure UTC: 03:22 Arrival UTC: 12:51 Consortium flight L1-LFA

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
5			46 Cet	01h25m37.24s	-14d35m55.7s	3:48	30	Turbulence.
6	83_0008	GREAT Consortium	NGC7027	21h07m01.59s	42d14m10.2s	4:22	140	
7	83_0008	GREAT Consortium	IC1396D	21h33m08.00s	57d59m30.0s	6:42	92	
8	83_0008	GREAT Consortium	Orion-Bar	05h35m20.80s	-05d25m17.0s	8:18	21.5	
9			Jupiter	11h29m17.77s	04d31m49.8s	8:42	230	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



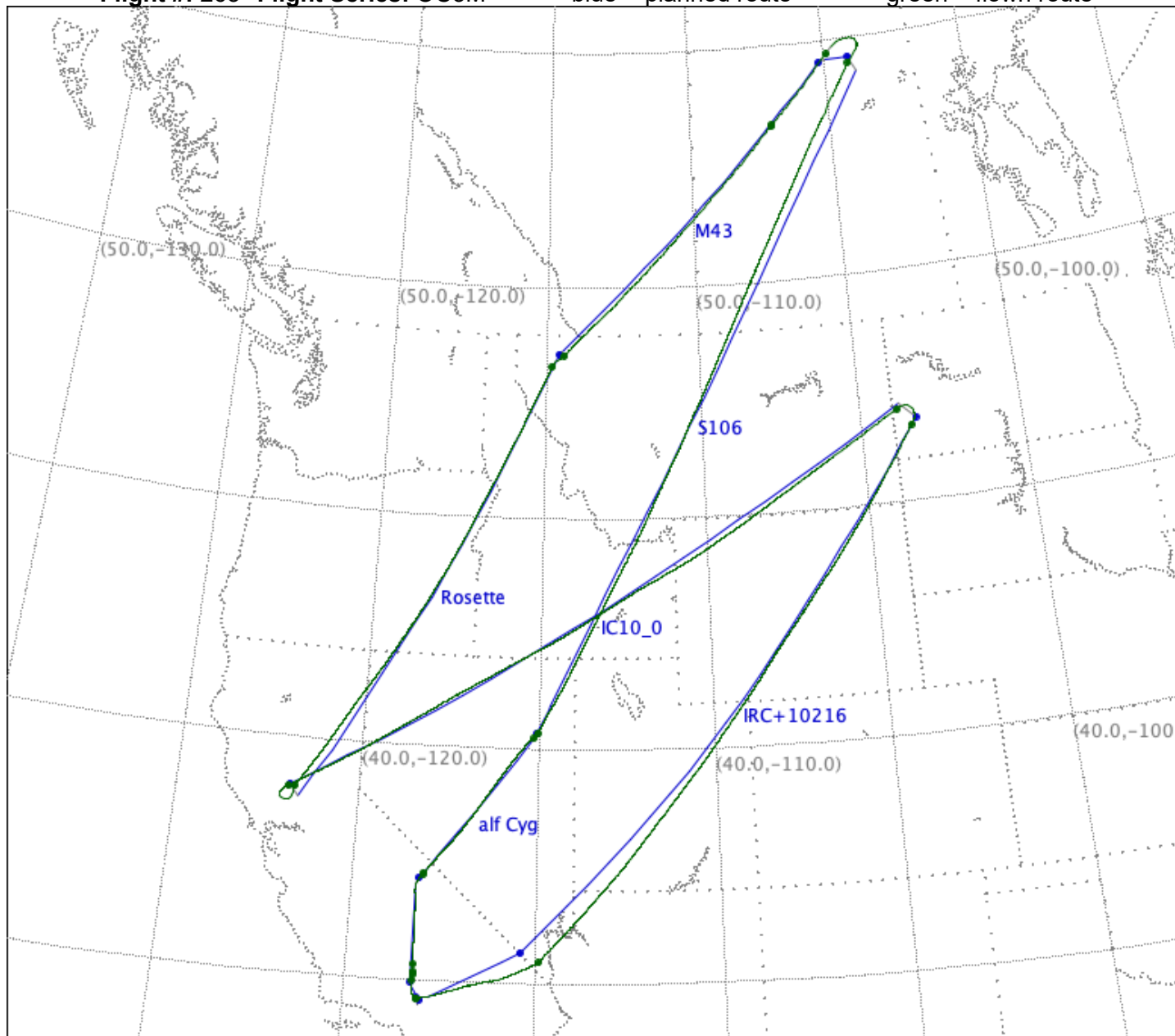
MISSION ID: 2015-12-08_GR_F263

Date: 2015-12-08 UT Instrument: GREAT

Flight #: 263 Flight Series: OC3M

blue = planned route

green = flown route

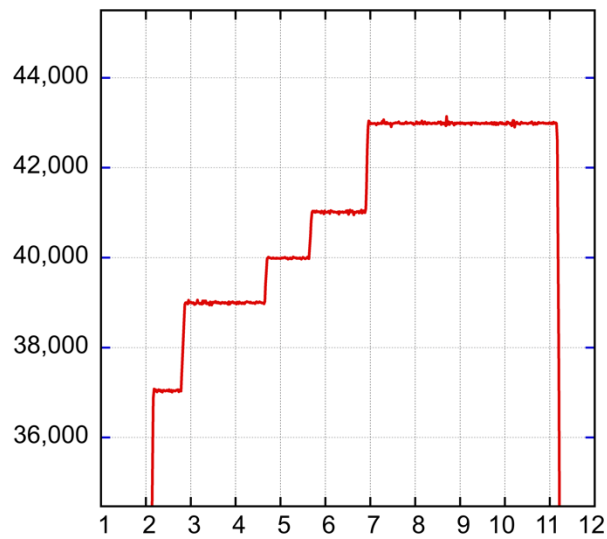


Flight notes:
No irregularities.

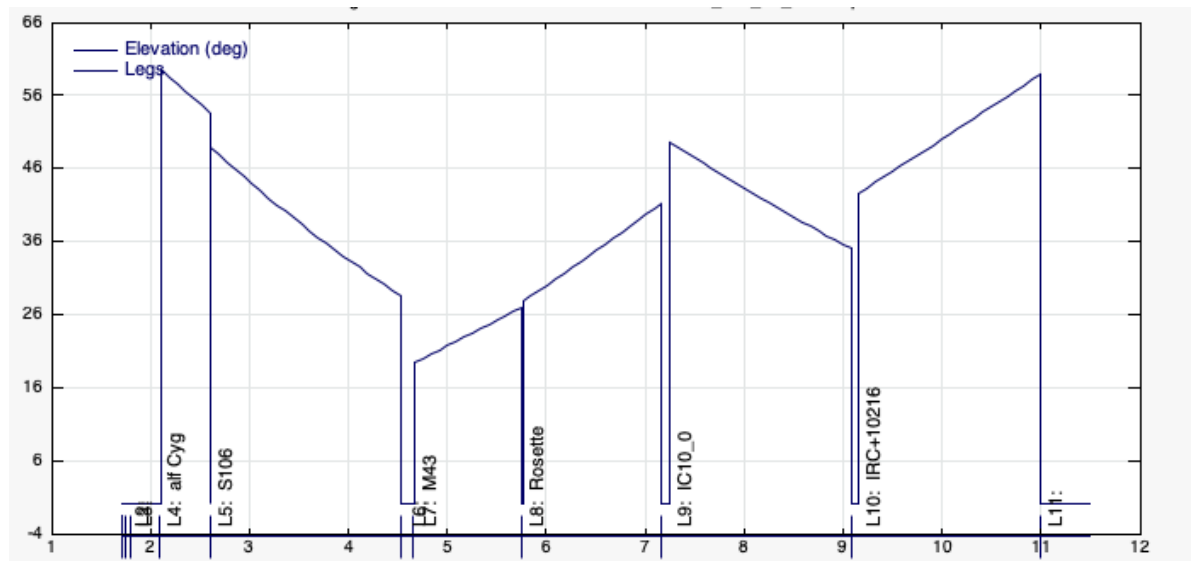
Flight 263 Mission ID 2015-12-08_GR_F263
 Palmdale to Palmdale Take off date UTC: 08-DEC-2015
 Departure UTC: 01:47 Arrival UTC: 11:33 Consortium flight L1-LFA

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			alf Cyg	20h41m25.92s	45d16m49.2s	2:11	30	
5	83_0008	GREAT Consortium	S106	20h27m26.74s	37d22m47.9s	2:42	115	
7	83_0008	GREAT Consortium	M43	05h35m31.36s	-05d16m02.6s	4:45	65	
8	83_0008	GREAT Consortium	Rosette	06h34m07.00s	04d25m37.0s	5:51	84	
9	83_0008	GREAT Consortium	IC10_0	00h20m27.74s	59d17m38.3s	7:20	110	
10	83_0008	GREAT Consortium	IRC+10216	09h47m57.40s	13d16m43.6s	9:14	110	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



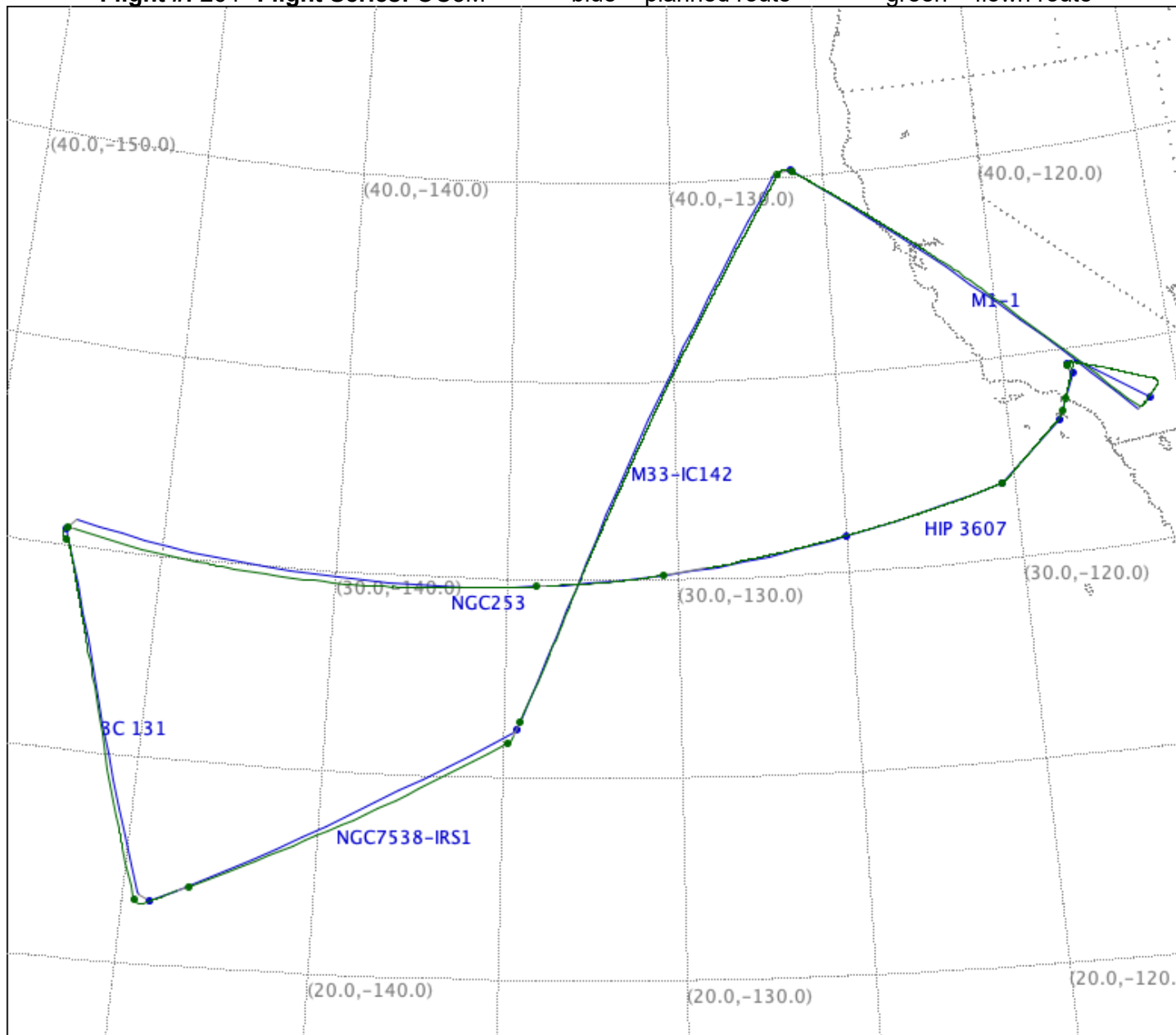
MISSION ID: 2015-12-09_GR_F264

Date: 2015-12-09 UT Instrument: GREAT

Flight #: 264 Flight Series: OC3M

blue = planned route

green = flown route



Flight notes: No irregularities.

Flight 264 Mission ID
Palmdale to Palmdale

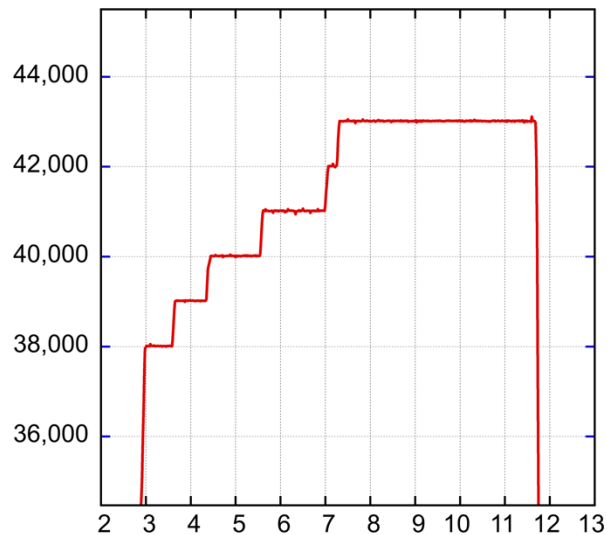
2015-12-09_GR_F264
Take off date UTC:
09-DEC-2015

Departure UTC: 02:28
Arrival UTC: 12:12

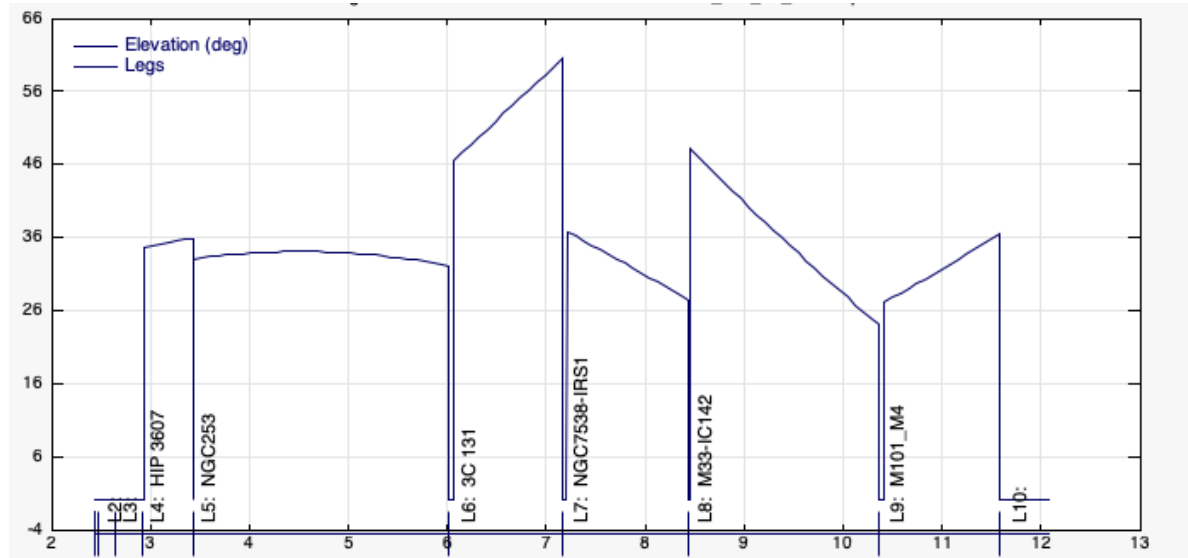
L1-LFA

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			HIP 3607	00h46m11.75s	-22d31m19.6s	2:58	30	
5	03_0039	Harris	NGC253	00h47m33.12s	-25d17m17.6s	3:28	155	GREAT having issues controlling telescope; 50% of leg lost solving
6	03_0012	Goldsmith	3C 131	04h53m23.30s	31d29m25.0s	6:06	65.7	
7	03_0040	Herpin	NGC7538-IRS1	23h13m45.30s	61d28m10.0s	7:14	74	
8	03_0005	Buchbender	M33-IC142	01h33m55.20s	30d45m23.7s	8:29	114	
9	04_0151	Bolatto	M1	14h04m29.00s	54d23m51.0s	10:26	70	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



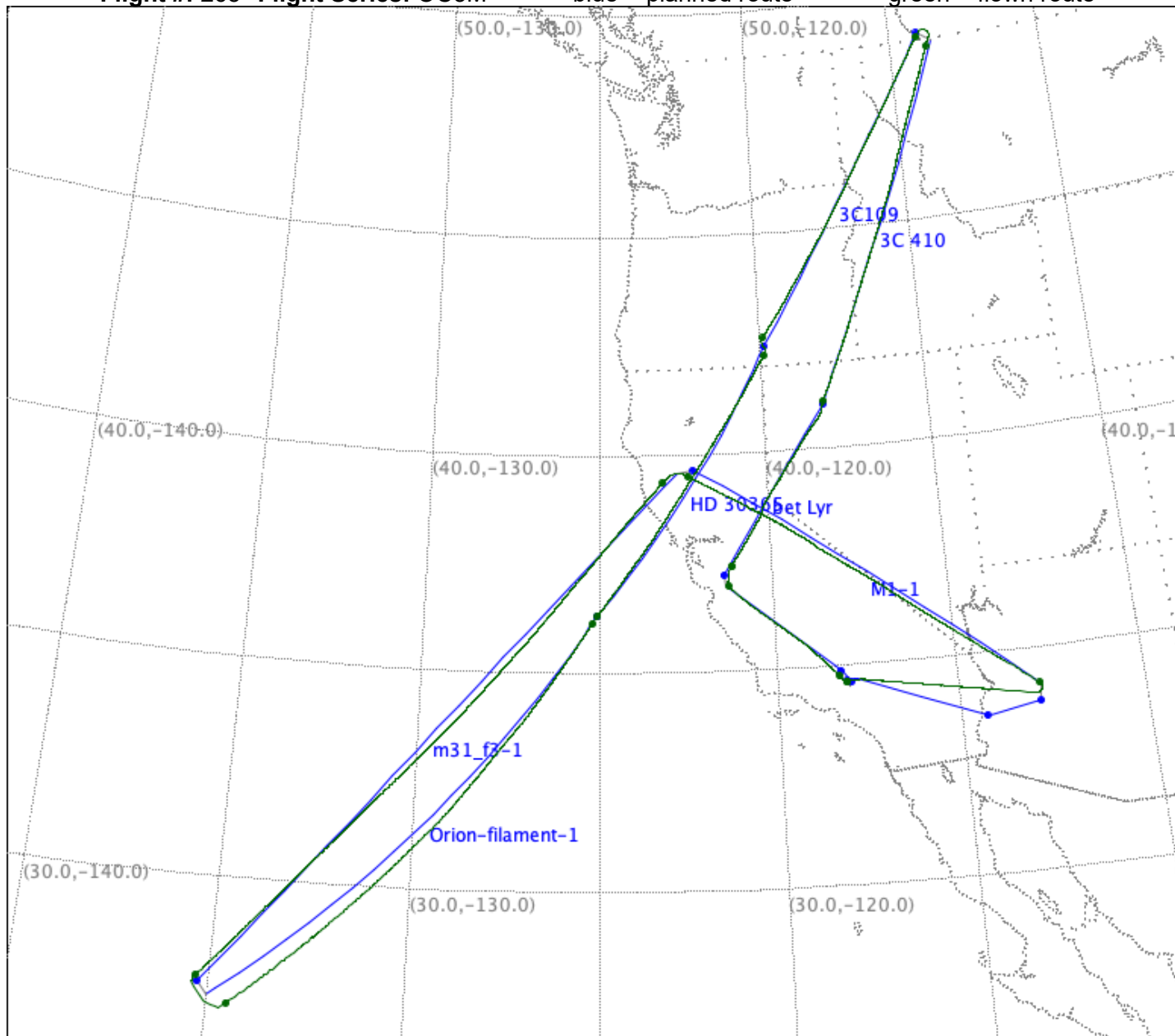
MISSION ID: 2015-12-10_GR_F265

Date: 2015-12-10 UT Instrument: GREAT

Flight #: 265 Flight Series: OC3M

blue = planned route

green = flown route



Flight notes: No irregularities.

Flight 265 Mission ID
Palmdale to Palmdale

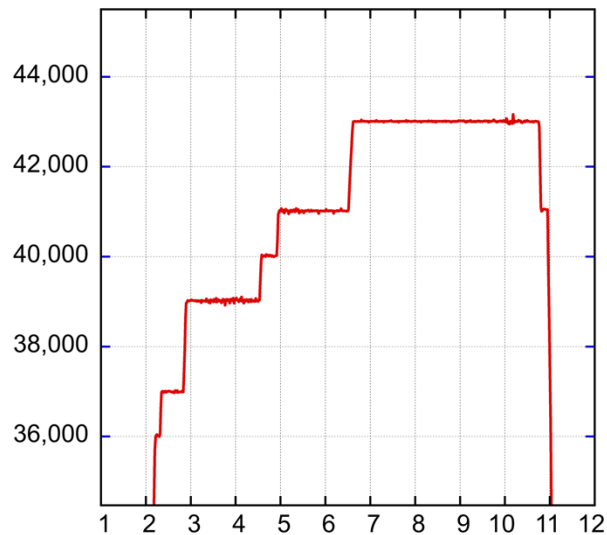
2015-12-10_GR_F265
Take off date UTC:
10-DEC-2015

Departure UTC: 01:49
Arrival UTC: 11:39

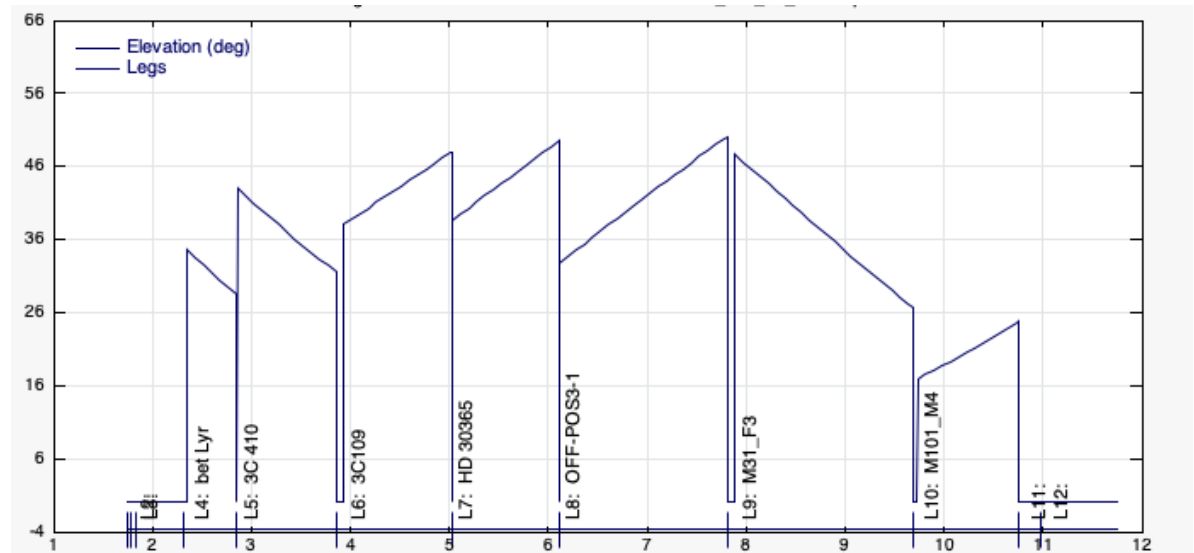
L1-LFA

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			bet Lyr	18h50m04.80s	33d21m45.6s	2:25	30	
5	03_0012	Goldsmith	3C 410	20h20m06.50s	29d42m14.0s	2:56	60	
6	03_0012	Goldsmith	3C109	04h13m40.40s	11d12m14.0s	4:00	65.7	
7		engineering	HD 30365	04h47m17.92s	05d47m17.6s	5:06	65	
8	03_0085	Suri	Orion-filament	05h34m45.41s	-04d55m13.9s	6:11	102	
9	04_0128	Kapala	m31_f3	00h44m32.17s	41d52m20.3s	7:58	108	Turbulence.
10	04_0151	Bolatto	M1	14h04m29.00s	54d23m51.0s	9:48	61	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



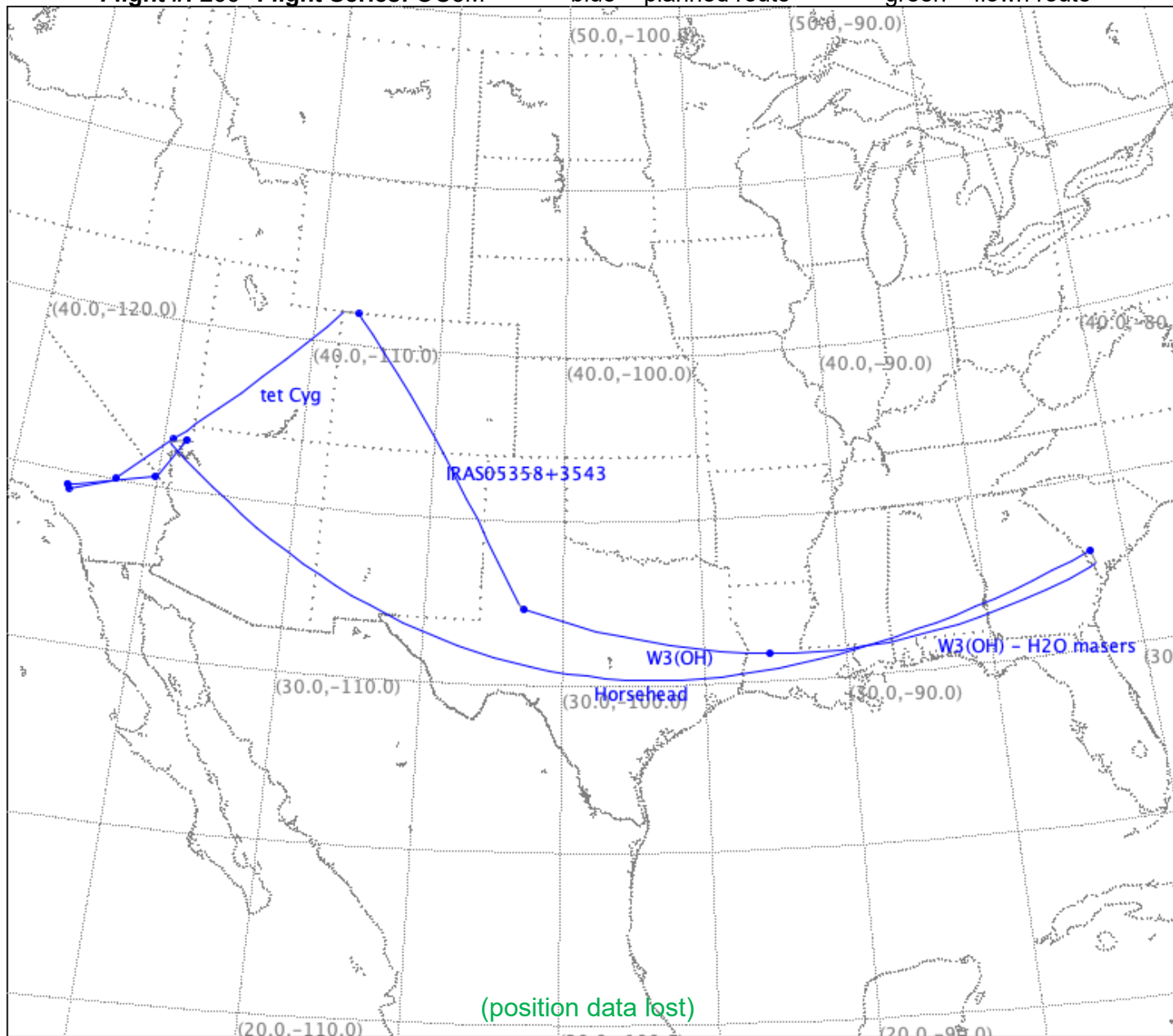
MISSION ID: 2015-12-11_GR_F266

Date: 2015-12-11 UT Instrument: GREAT

Flight #: 266 Flight Series: OC3M

blue = planned route

green = flown route



**Flight notes:
No irregularities.**

Flight 266 Mission ID
Palmdale to Palmdale

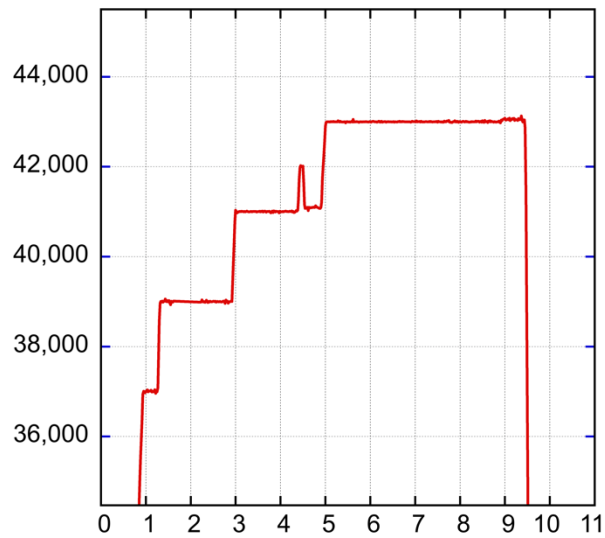
2015-12-11_GR_F266
Take off date UTC:
11-DEC-2015

Departure UTC: 00:27
Arrival UTC: 10:00

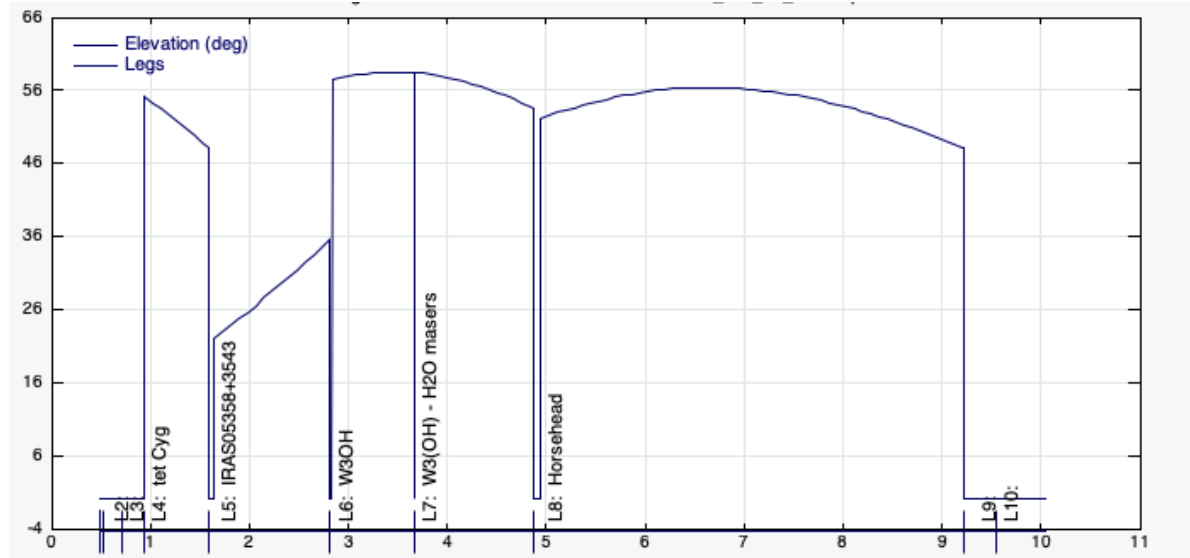
L1-LFA

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			tet Cyg	19h36m26.53s	50d13m16.0s	0:57	39	
5	03_0040_01	Herpin	IRAS05358+3543	05h39m13.10s	35d45m50.0s	1:39	70	Observatory control software crash led to 75% loss of leg.
6	04_0020_04	Neufeld	W3(OH)	02h27m03.82s	61d52m24.6s	2:51	50	
7	04_0023_03	Neufeld	W3(OH) - H2O masers	02h27m04.69s	61d52m25.5s	3:41	17.7	Turbulence.
8	75_0015_01	Discretionary	Horsehead	05h40m54.27s	-02d28m00.0s	4:57	256	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



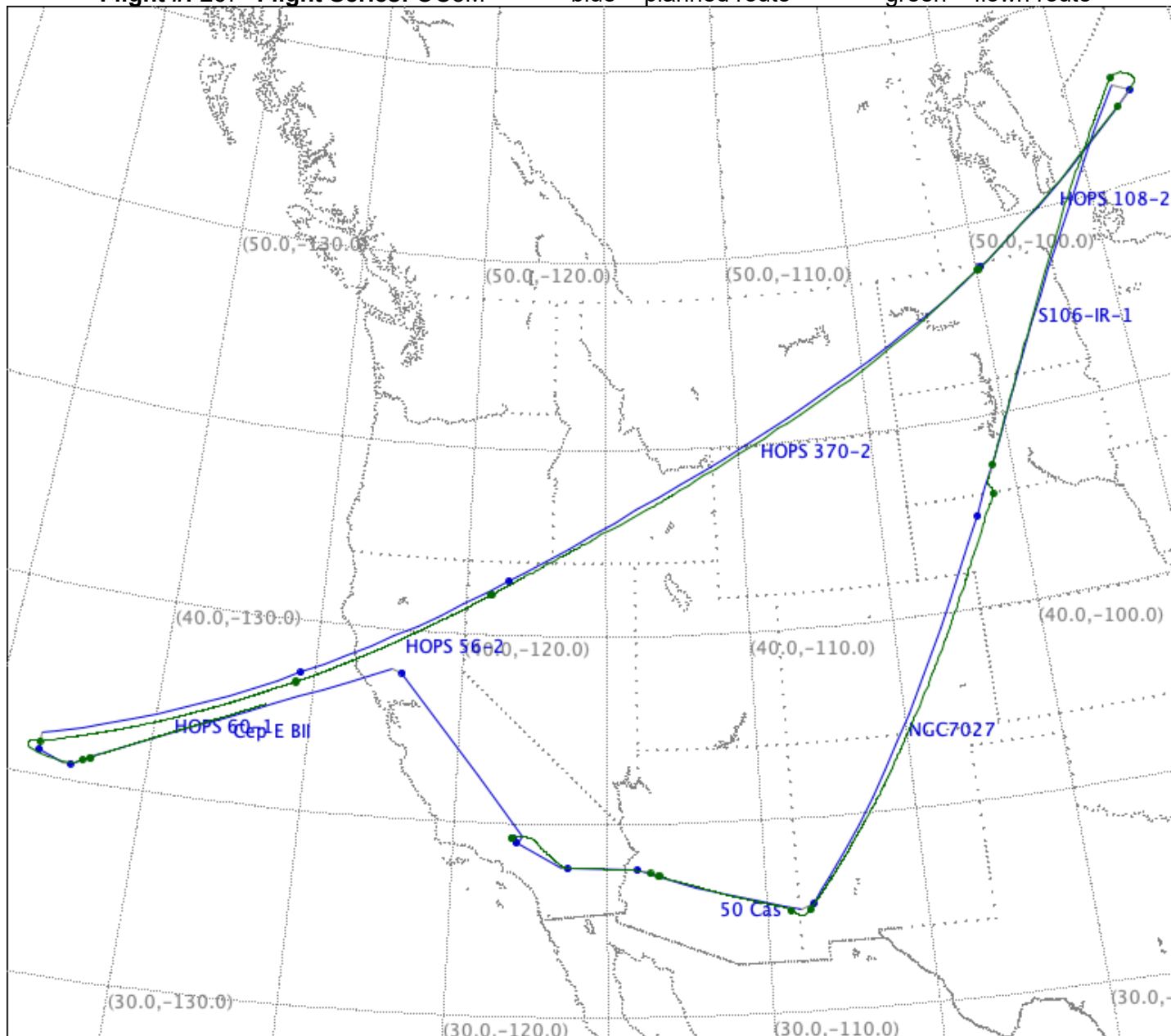
MISSION ID: 2015-12-15_GR_F267

Date: 2015-12-15 UT Instrument: GREAT

Flight #: 267 Flight Series: OC3M

blue = planned route

green = flown route



Flight notes: No irregularities.

Flight 267 Mission ID
Palmdale to Palmdale

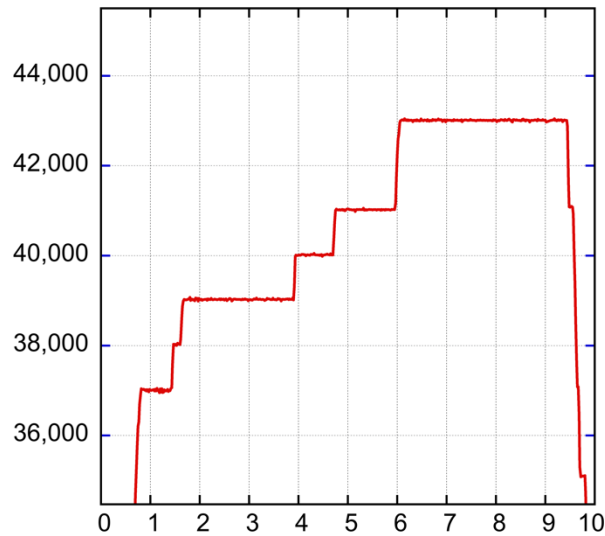
2015-12-15_GR_F267
Take off date UTC:
15-DEC-2015

Departure UTC: 00:16
Arrival UTC: 10:20

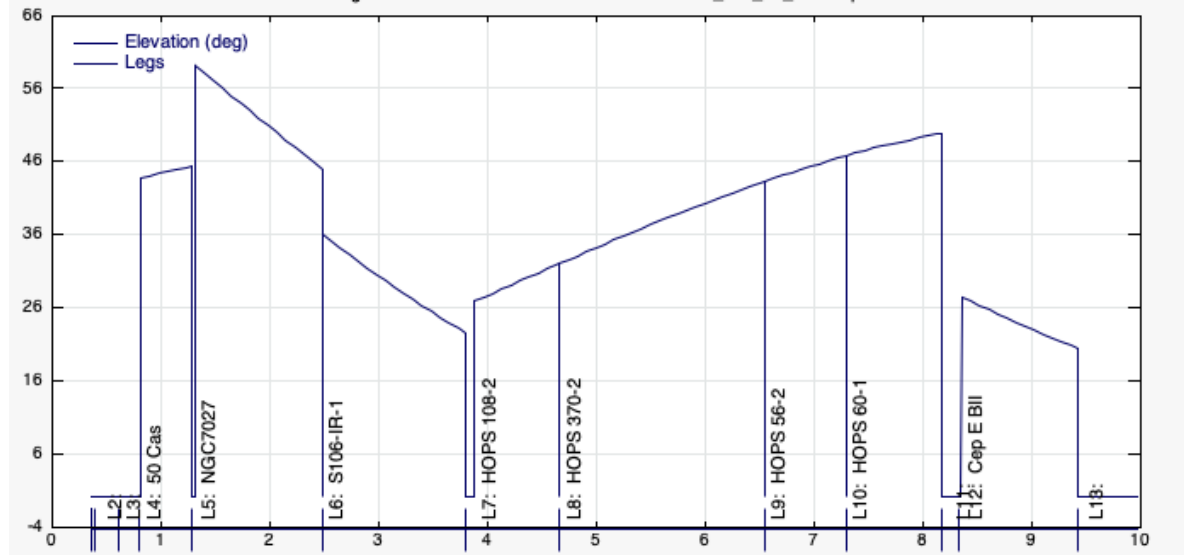
H-L2

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			50 Cas	02h03m26.11s	72d25m16.7s	0:50	28	
5			NGC7027	21h07m01.59s	42d14m10.2s	1:21	70	
6	03_0095	Schneider	S106-IR	20h27m26.74s	37d22m47.9s	2:31	78.6	
7	03_0097	Megeath	HOPS 108	05h35m27.07s	-05d10m00.4s	3:55	46.8	
8	03_0097	Megeath	HOPS 370	05h35m27.63s	-05d09m33.5s	4:41	113	
9	03_0097	Megeath	HOPS 56	05h35m19.47s	-05d15m32.7s	6:34	45	
10	03_0097	Megeath	HOPS 60	05h35m23.33s	-05d12m03.1s	7:19	53	
12	04_0144	Gusdorf	Cep E BII	23h03m11.59s	61d42m03.5s	8:23	64	Observatory control software crash led to 50% loss of leg.

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



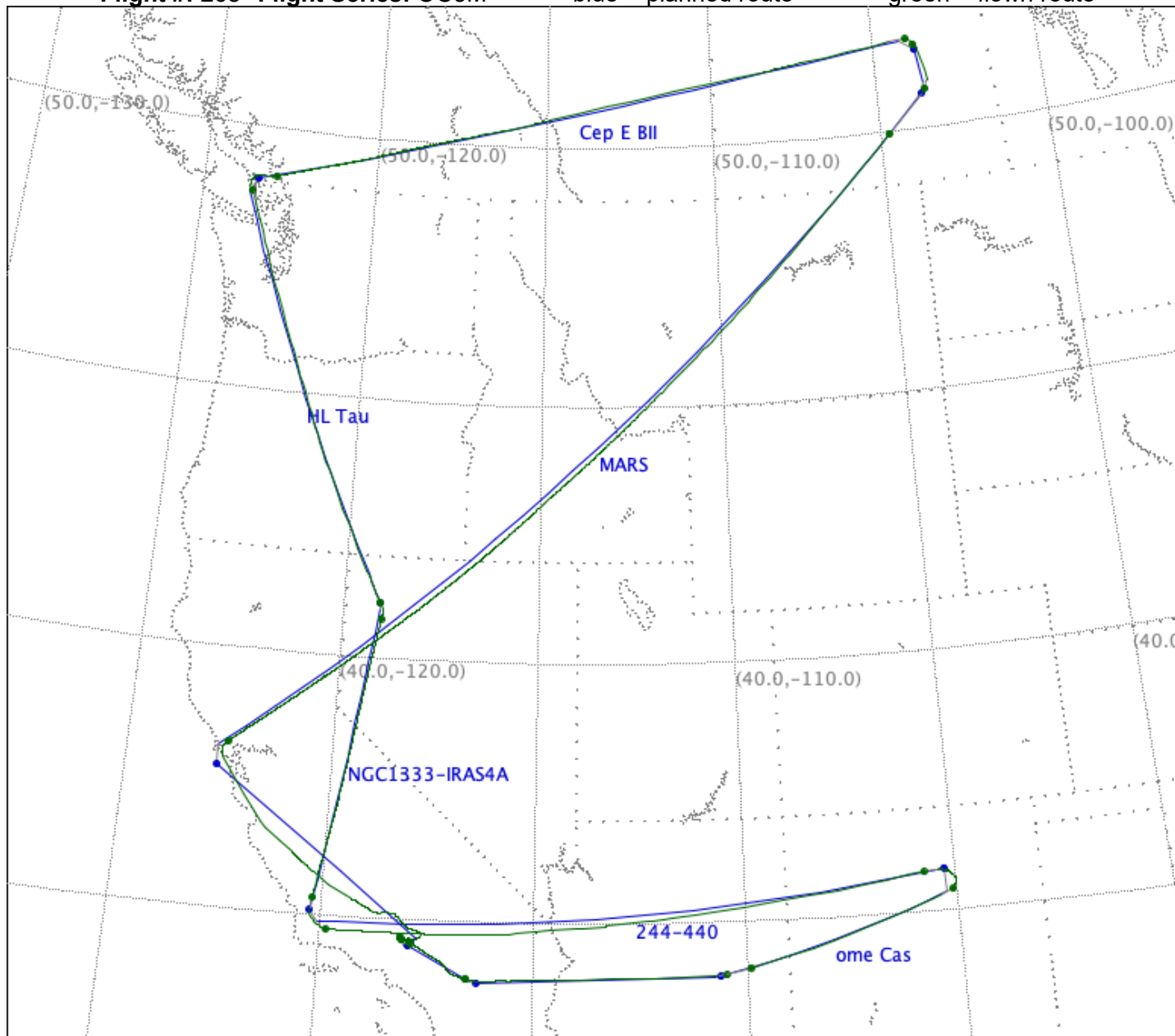
MISSION ID: 2015-12-16_GR_F268

Date: 2015-12-16 UT Instrument: GREAT

Flight #: 268 Flight Series: OC3M

blue = planned route

green = flown route



**Flight notes:
No irregularities.**

Flight 268 Mission ID
Palmdale to Palmdale

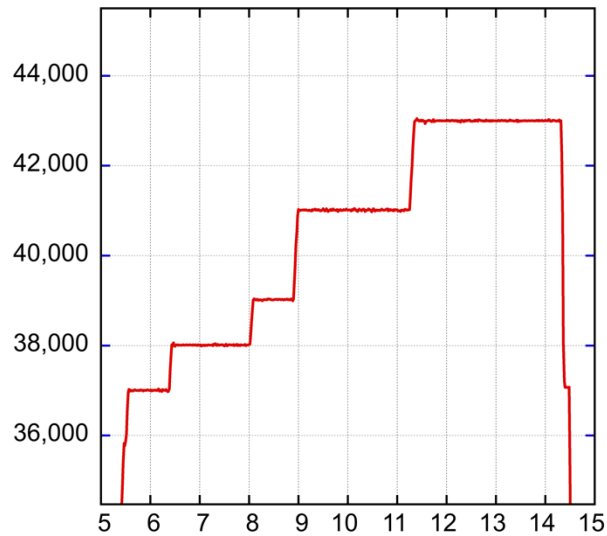
2015-12-16_GR_F268
Take off date UTC:
16-DEC-2015

Departure UTC: 05:00
Arrival UTC: 14:50

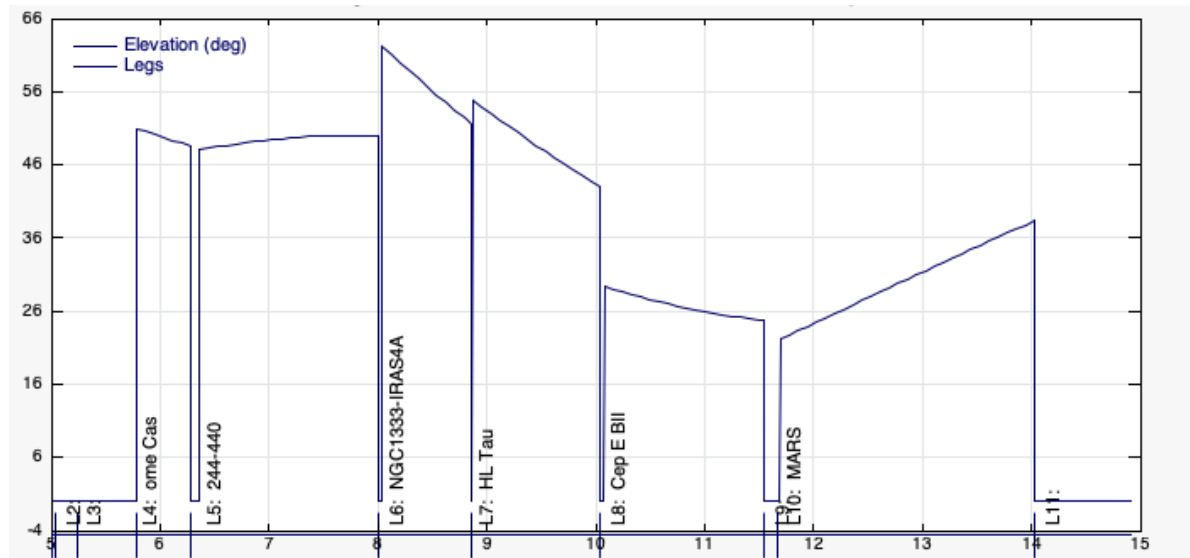
H-L2

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			ome Cas	01h56m00.03s	68d41m06.9s	5:49	30	
5	03_0138	Vicente	244-440	05h35m24.40s	-05d24m38.5s	6:24	98	
6	03_0140	Kristensen	NGC1333-IRAS4A	03h29m10.50s	31d13m30.9s	8:05	49	Turbulence at beginning of leg sent telescope into standby; minor loss of time
7	03_0054	Guesten	HL Tau	04h31m38.44s	18d13m57.7s	8:54	70	
8	04_0144	Gusdorf	Cep E BII	23h03m11.59s	61d42m03.5s	10:07	88	
10	03_0113	Hartogh	MARS	13h14m31.90s	-06d16m54.8s	11:44	140	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



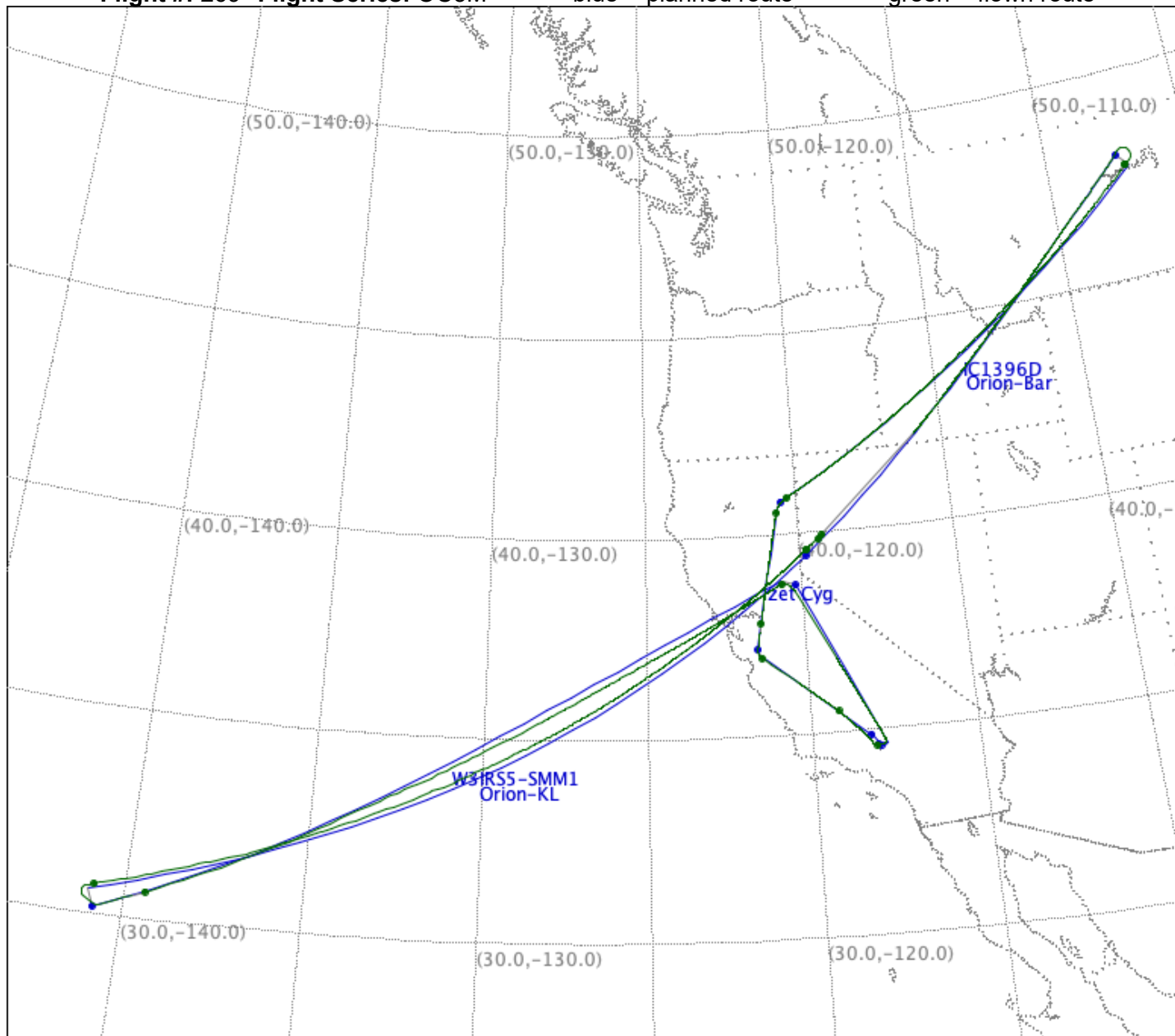
MISSION ID: 2015-12-17_GR_F269

Date: 2015-12-17 UT Instrument: GREAT

Flight #: 269 Flight Series: OC3M

blue = planned route

green = flown route

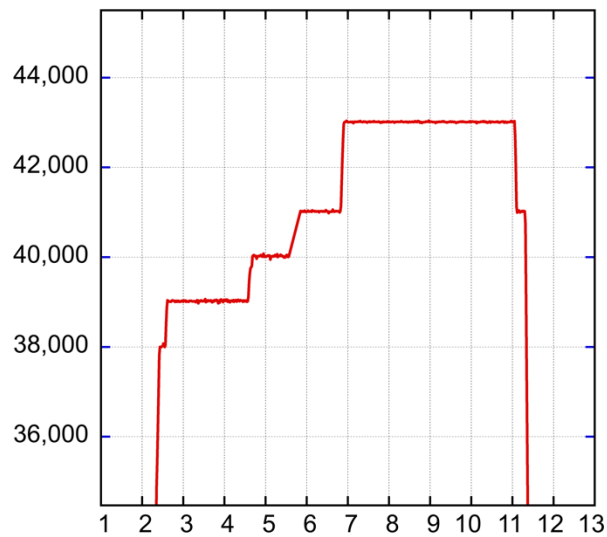


Flight notes: No irregularities.

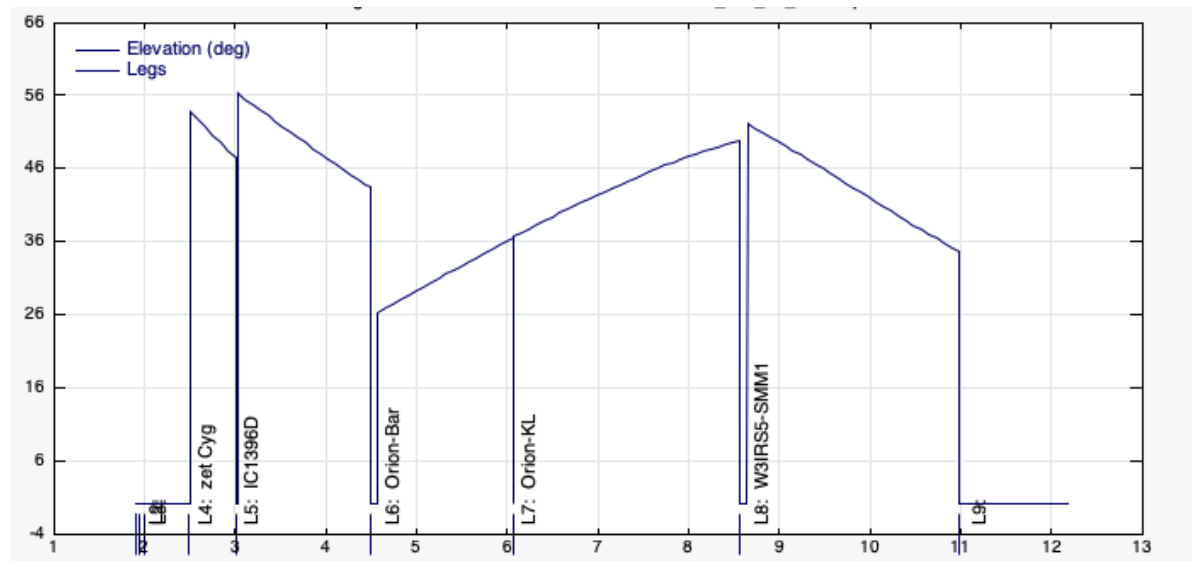
Flight 269 Mission ID 2015-12-17_GR_F269
 Palmdale to Palmdale Take off date UTC: 17-DEC-2015
 Departure UTC: 02:00 Arrival UTC: 11:45 Consortium flight H-L2

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			zet Cyg	21h12m56.19s	30d13m36.9s	2:35	30	
5	83_0008_02	GREAT Consortium	IC1396D	21h33m08.00s	57d59m30.0s	3:06	88	
6	83_0008_03	GREAT Consortium	Orion-Bar	05h35m20.80s	-05d25m17.0s	4:39	90	Observatory control software crash led to 50% loss of leg.
7	83_0008_10	GREAT Consortium	Orion-KL	05h35m14.30s	-05d22m33.7s	6:09	149	
8	83_0008_11	GREAT Consortium	W3IRS5-SMM1	02h25m40.78s	62d05m52.6s	8:43	140	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)



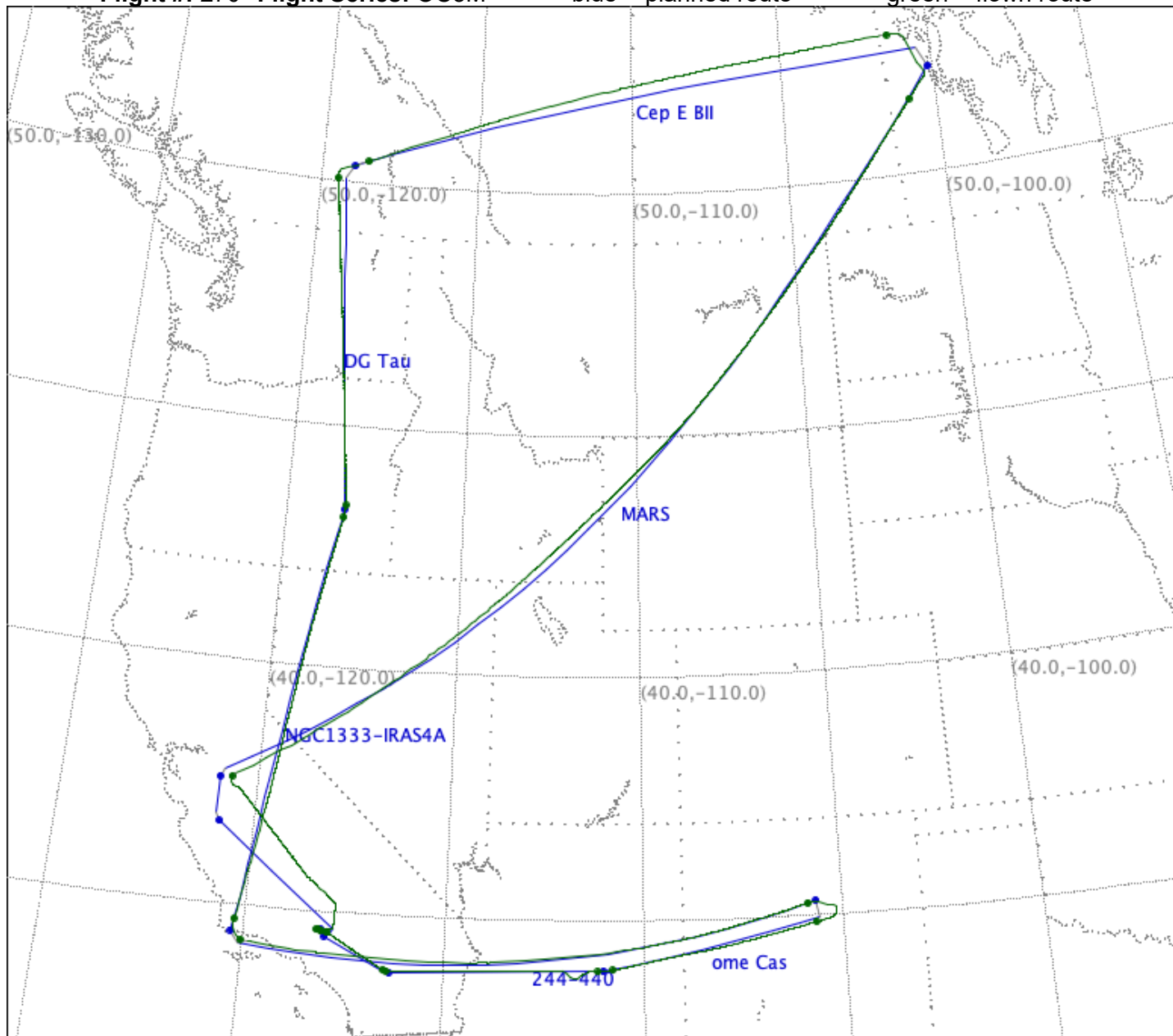
MISSION ID: 2015-12-18_GR_F270

Date: 2015-12-18 UT Instrument: GREAT

Flight #: 270 Flight Series: OC3M

blue = planned route

green = flown route



**Flight notes:
No irregularities.**

Flight 270 Mission ID
Palmdale to Palmdale

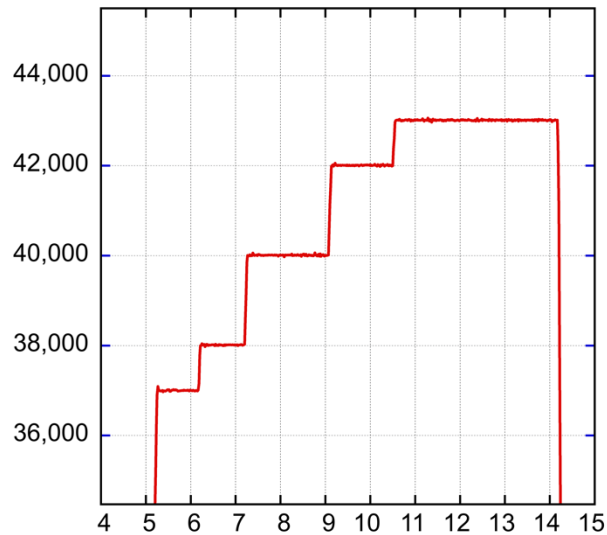
2015-12-18_GR_F270
Take off date UTC:
18-DEC-2015

Departure UTC: 04:48
Arrival UTC: 14:41

H-L2

Leg	Plan ID	PI Name	Target Name	RA (2000)	Dec (2000)	Start time	Leg time	Leg notes
4			ome Cas	01h56m00.03s	68d41m06.9s	5:39	33	Turbulence.
5	03_0138	Vicente	244-440	05h35m24.40s	-05d24m38.5s	6:17	95	Turbulence.
6	03_0140	Kristensen	NGC1333-IRAS4A	03h29m10.50s	31d13m30.9s	7:54	63.5	
7	03_0054	Guesten	DG Tau	04h27m04.70s	26d06m16.3s	8:58	50	
8	04_0144	Gusdorf	Cep E BII	23h03m11.59s	61d42m03.5s	9:51	80	
9	03_0113	Hartogh	MARS	13h18m48.57s	-06d42m36.9s	11:14	165	

Flown altitude (ft.) vs. time (UTC hrs.)



Planned target elevation (deg.) vs. time (UTC hrs.)

