15003 - Stellar Occultation by 2014 MU69

Cycle: 24, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) STAR20170717	FGS	2	28-Jun-2017 21:00:35.0	yes

2 Total Orbits Used

ABSTRACT

We propose to observe the July 17, 2017 stellar occultation by the Kuiper Belt object 2014 MU69, the close flyby target of the extended New Horizons mission. Our proposed program will constrain the possibility of rings or other debris near 2014 MU69 better than any other available probe of the system. This is a mission support proposal. Only HST can guarantee cloud-free observations of this event with a large aperture telescope.

OBSERVING DESCRIPTION

We plan to observe the 2014 MU69 July 17, 2017 stellar occultation star during 2 orbits using the FGS instrument in TRANS mode with the F583W filter. The start time optimizes the phasing of the observation with the central time of the occultation, ensuring that enough time is available for initial target acquisition and instrument configuration. The first orbit will include two exposures: 1) 5 scans with scan length of 2 arcsec, and 2) 89 scans with scan length of 0.4 arcsec. Exposure #1 will be used as a check for stellar binarity. Exposure #2 begins the primary measurement of target photometry. The second orbit will only include one exposure, 110 scans with scan length of 0.4 arcsec. This exposure (Exposure #3) will continue monitoring of target photometry.

Visit

Proposal 15003, Visit 01 Thu Jun 29 01:00:36 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: FGS

Special Requirements: BETWEEN 17-JUL-2017:01:44:00 AND 17-JUL-2017:03:20:00

Diagnostics

(Visit 01) Warning (Orbit Planner): SHORT FGS SCAN LENGTH MAY SIGNAL PROBLEMS

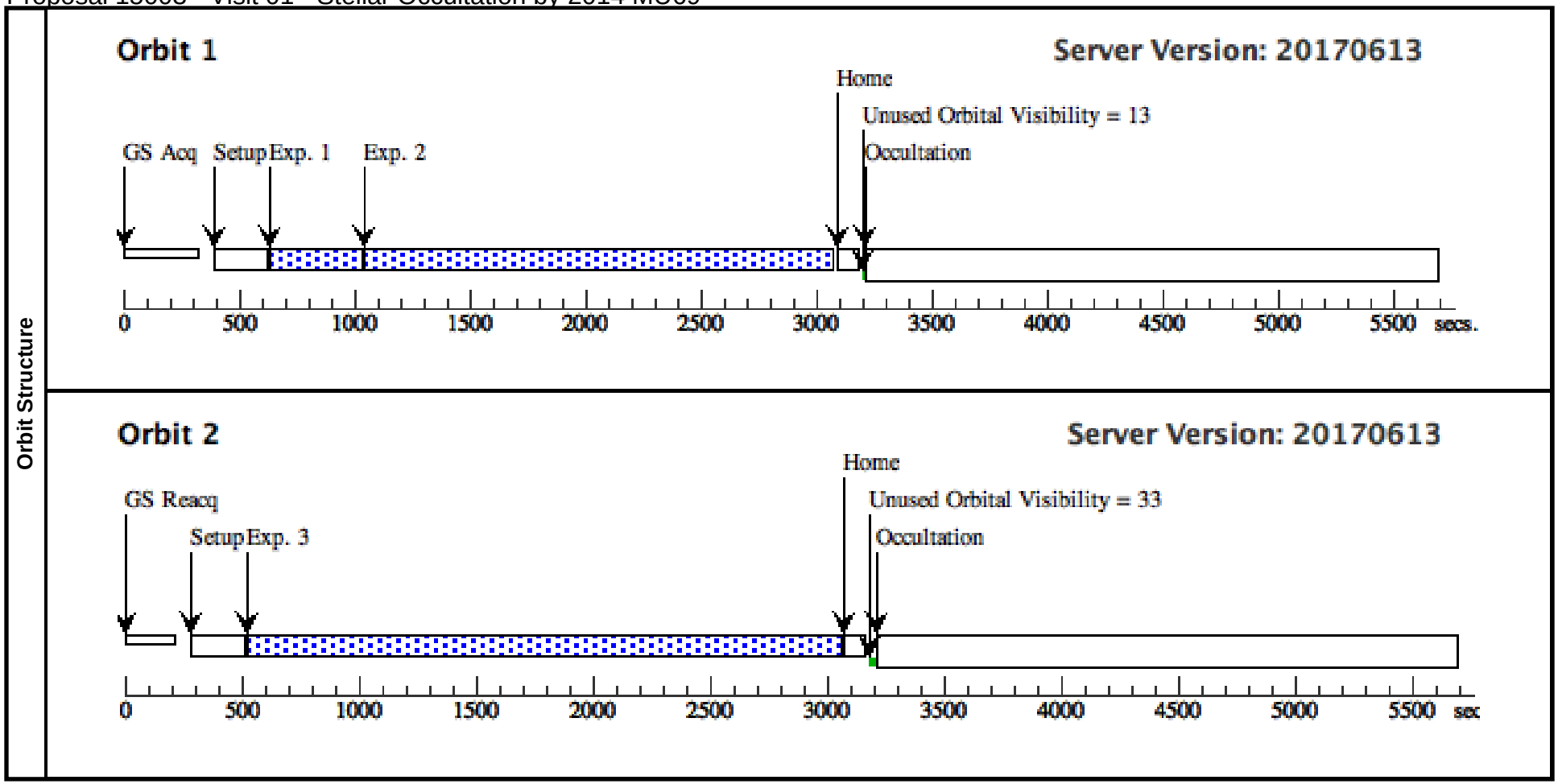
(Visit 01) Warning (Orbit Planner): SHORT FGS SCAN LENGTH MAY SIGNAL PROBLEMS

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	STAR20170717	RA: 19 00 8.2915 (285.0345479d) Dec: -20 39 37.97 (-20.66055d) Equinox: J2000		V=12.5+/-0.1 G-band mag = 12.602	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) STAR20170717	FGS, TRANS, 1	F583W	SCANS=5		Sequence 1-2 Non-Int in Visit 01	250 Secs (250 Secs)	
								[==>]	***[1]***
2		(1) STAR20170717	FGS, TRANS, 1	F583W	SCANS=89		Sequence 1-2 Non-Int in Visit 01	890 Secs (890 Secs)	
								[==>]	***[1]***
3		(1) STAR20170717	FGS, TRANS, 1	F583W	SCANS=110			1100 Secs (1100 Secs)	
								[==>]	***[2]***


Orbit Structure
Orbit 1
Server Version: 20170613
Home
Unused Orbital Visibility = 13
GS Acq
Setup
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.
Orbit 2
Server Version: 20170613
Home
Unused Orbital Visibility = 33
GS Reacq
Setup
Exp. 3
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec