



15598 - Probing the Hill Sphere of 2014 MU69

Cycle: 25, Proposal Category: GO/DD

(Availability Mode: AVAILABLE)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Dr. Joshua Kammer (PI) (Contact)	Southwest Research Institute	jkammer@swri.edu
Dr. Tracy M Becker (CoI)	Southwest Research Institute	tbecker@swri.edu
Dr. Kurt David Retherford (CoI)	Southwest Research Institute	kretherford@swri.edu
Dr. S. Alan Stern (CoI)	Southwest Research Institute	astern@swri.edu
Dr. John R. Spencer (CoI)	Southwest Research Institute	spencer@boulder.swri.edu
Dr. Marc W. Buie (CoI)	Southwest Research Institute	buie@boulder.swri.edu
Dr. Catherine Olkin (CoI)	Southwest Research Institute	colkin@boulder.swri.edu
Dr. Amanda S. Bosh (CoI)	Massachusetts Institute of Technology	asbosh@mit.edu
Dr. Lawrence H. Wasserman (CoI)	Lowell Observatory	l.h.wasserman@lowell.edu

VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) STAR20180804	FGS	1	09-Jul-2018 19:03:47.0	yes

1 Total Orbits Used

ABSTRACT

We propose to observe the August 4, 2018 stellar occultation by the Kuiper Belt object 2014 MU69, the close flyby target of the extended New Horizons mission. HST is the best guaranteed probe of the debris environment near 2014 MU69. The 0.025 second time resolution of the FGS instrument using the F583W filter in TRANS mode will provide sufficient capability to search for rings and other spatially large debris signatures. We propose to execute this program only if HST is in position to probe much closer to 2014 MU69 than observed by our previous program 15003.

OBSERVING DESCRIPTION

We plan to observe the 2014 MU69 August 4, 2018 stellar occultation star during 1 orbit 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 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.

Visit	Proposal 15598, Visit 01, implementation Diagnostic Status: Warning Scientific Instruments: FGS Special Requirements: BETWEEN 04-AUG-2018:00:24:00 AND 04-AUG-2018:02:24:00
	(Visit 01) Warning (Orbit Planner): SHORT FGS SCAN LENGTH MAY SIGNAL PROBLEMS

Diagnostics	(Visit 01) Warning (Orbit Planner): SHORT FGS SCAN LENGTH MAY SIGNAL PROBLEMS
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Fixed Targets	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>STAR20180804</td> <td>RA: 19 04 21.4786 (286.0894942d) Dec: -20 35 36.55 (-20.59349d) Equinox: J2000</td> <td></td> <td>V=13.3+/-0.1 G-band mag = 13.36</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	STAR20180804	RA: 19 04 21.4786 (286.0894942d) Dec: -20 35 36.55 (-20.59349d) Equinox: J2000		V=13.3+/-0.1 G-band mag = 13.36	Reference Frame: ICRS
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Comments: Category=STAR Description=[UNDESIGNATED]													

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) STAR20180804	FGS, TRANS, 1	F583W	SCANS=89	GS ACQ SCENARI O ONEB1B3	Sequence 1-2 Non-Int in Visit 01	890 Secs (890 Secs) [==>]	[1]
	2		(1) STAR20180804	FGS, TRANS, 1	F583W	SCANS=5		Sequence 1-2 Non-Int in Visit 01	250 Secs (250 Secs) [==>]	[1]

