



18250 - Mapping an M dwarf flare across time and color: simultaneous observations in the FUV and NIR

Cycle: 33, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

INVESTIGATORS

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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) TRAPPIST-1 (2) UCAC4-425-132254	COS/FUV COS/NUV	6	19-May-2026 18:00:16.0	yes

6 Total Orbits Used

ABSTRACT

There is a deepening body of literature demonstrating that M dwarfs flare at ultraviolet, optical, and infrared wavelengths throughout their lifetimes. At the same time, M dwarf flares inhibit our interpretation of planetary transmission spectra. No exoplanet system demonstrates this fact better than TRAPPIST-1, where transmission spectra of rocky planets are rife with stellar contamination. Rather than dwell on stellar contamination as a problem, here we propose use it to uncover the time-dependent and panchromatic nature of low-mass stellar flares. To do so we propose to align HST

Proposal 18250 (STScI Edit Number: 2, Created: Tuesday, May 19, 2026, 5:00:17PM Eastern Standard Time) - Overview

with already approved JWST multi-cycle Program 6456/9256 to capture a TRAPPIST-1 flare simultaneously in the far ultraviolet (FUV) and near infrared (NIR). Given the stringent time constraints of the accepted JWST program, this is a golden opportunity to unlock flare behavior over time and at two anchor points across the electromagnetic spectrum. The only opportunity to make these observations is rapidly approaching and we require the DD option to make this critical link between M dwarf flares in the FUV and NIR. We are requesting 6 HST/COS orbits to connect the FUV and NIR behavior of a TRAPPIST-1 flare.

OBSERVING DESCRIPTION

We will observe TRAPPIST-1 for 6 orbits using COS/G130M/1222A simultaneously with the Obs 13 of JWST GO 9256.

Proposal 18250 - COS/G130M (01) - Mapping an M dwarf flare across time and color: simultaneous observations in the FUV and NIR

Tue May 19 22:00:17 GMT 2026

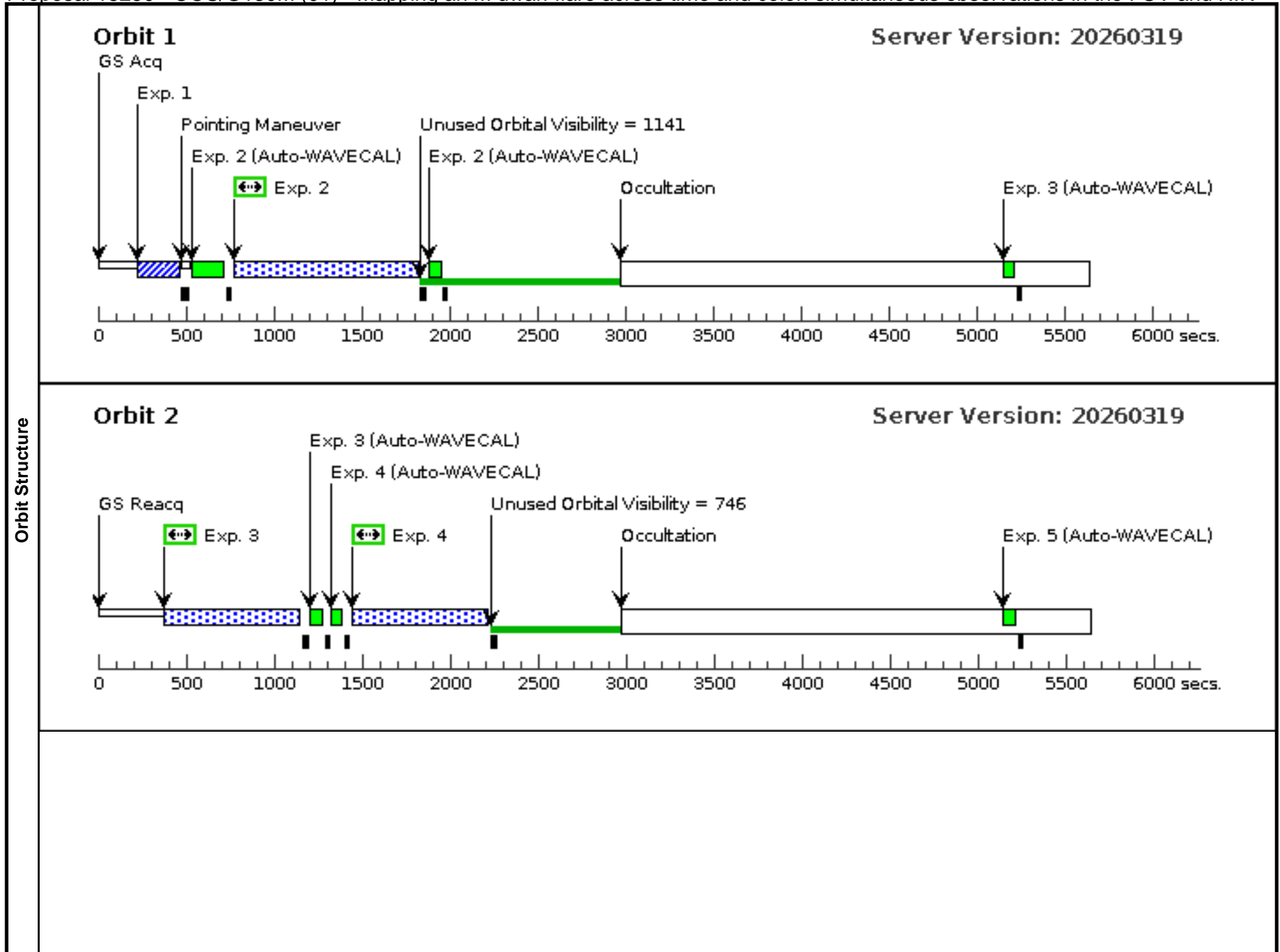
Visit	Proposal 18250, COS/G130M (01), implementation					
	Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: BETWEEN 06-JUN-2026:12:15:00 AND 06-JUN-2026:13:15:00					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	TRAPPIST-1	RA: 23 06 30.3652 (346.6265217d) Dec: -05 02 36.70 (-5.04353d) Equinox: J2000	Proper Motion RA: 930.788 mas/yr Proper Motion Dec: -479.0375409528 mas/yr Parallax: 0.0802123" Epoch of Position: 2016	V=18.798	Reference Frame: ICRS
<i>Comments: Updated by PI from Gaia DR3.</i>						
<i>Category=STAR</i>						
<i>Description=[BROWN DWARF]</i>						
<i>Extended=NO</i>						
(2)	UCAC4-425-132254	RA: 23 06 36.0092 (346.6500383d) Dec: -05 02 21.60 (-5.03933d) Equinox: J2000	Proper Motion RA: -3.3699446 mas/yr Proper Motion Dec: -5.272569275 mas/yr Parallax: 6.65E-4" Epoch of Position: 2016	V=14.97	Reference Frame: ICRS	
<i>Comments: Updated by PI from Gaia DR3.</i>						
<i>Category=STAR</i>						
<i>Description=[K V-IV]</i>						
<i>Extended=NO</i>						

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#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	Orbit 1 - K d warf ACQ (COS.ta.233 9133)	(2) UCAC4-425-132	COS/NUV, ACQ/IMAGE, PSA	MIRRORA			13 Secs (13 Secs) [==>]	[1]
	2	Orbit 1 - Ex p 1 (COS.sp.233 6402)	(1) TRAPPIST-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=55 43; SEGMENT=BOTH; FP-POS=3		1000 Secs (1000 Secs) [==>]	[1]
	3	Orbit 2 - Ex p 1 (COS.sp.233 6405)	(1) TRAPPIST-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=55 43; SEGMENT=BOTH; FP-POS=3		720 Secs (720 Secs) [==>]	[2]
	4	Orbit 2 - Ex p 2 (COS.sp.233 6405)	(1) TRAPPIST-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=55 43; SEGMENT=BOTH; FP-POS=3		720 Secs (720 Secs) [==>]	[2]
	5	Orbit 3 - Ex p 1 (COS.sp.233 6405)	(1) TRAPPIST-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=55 43; SEGMENT=BOTH; FP-POS=3		842 Secs (842 Secs) [==>]	[3]
	6	Orbit 3 - Ex p 2 (COS.sp.233 6405)	(1) TRAPPIST-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=55 43; SEGMENT=BOTH; FP-POS=3		842 Secs (842 Secs) [==>]	[3]
	7	Orbit 4 - K d warf ACQ (COS.ta.233 9133)	(2) UCAC4-425-132	COS/NUV, ACQ/IMAGE, PSA	MIRRORA			13 Secs (13 Secs) [==>]	[4]
	8	Orbit 4 - Ex p 1 (COS.sp.233 6405)	(1) TRAPPIST-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=55 43; SEGMENT=BOTH; FP-POS=4		870 Secs (870 Secs) [==>]	[4]
	9	Orbit 4 - Ex p 2 (COS.sp.233 6405)	(1) TRAPPIST-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=55 43; SEGMENT=BOTH; FP-POS=4		870 Secs (870 Secs) [==>]	[4]
	10	Orbit 5 - Ex p 1 (COS.sp.233 6405)	(1) TRAPPIST-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=55 43; SEGMENT=BOTH; FP-POS=4		1093 Secs (1093 Secs) [==>]	[5]
	11	Orbit 5 - Ex p 2 (COS.sp.233 6405)	(1) TRAPPIST-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=55 43; SEGMENT=BOTH; FP-POS=4		1093 Secs (1093 Secs) [==>]	[5]
	12	Orbit 6 - Ex p 1 (COS.sp.233 6405)	(1) TRAPPIST-1	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=55 43; SEGMENT=BOTH; FP-POS=4		1093 Secs (1093 Secs) [==>]	[6]

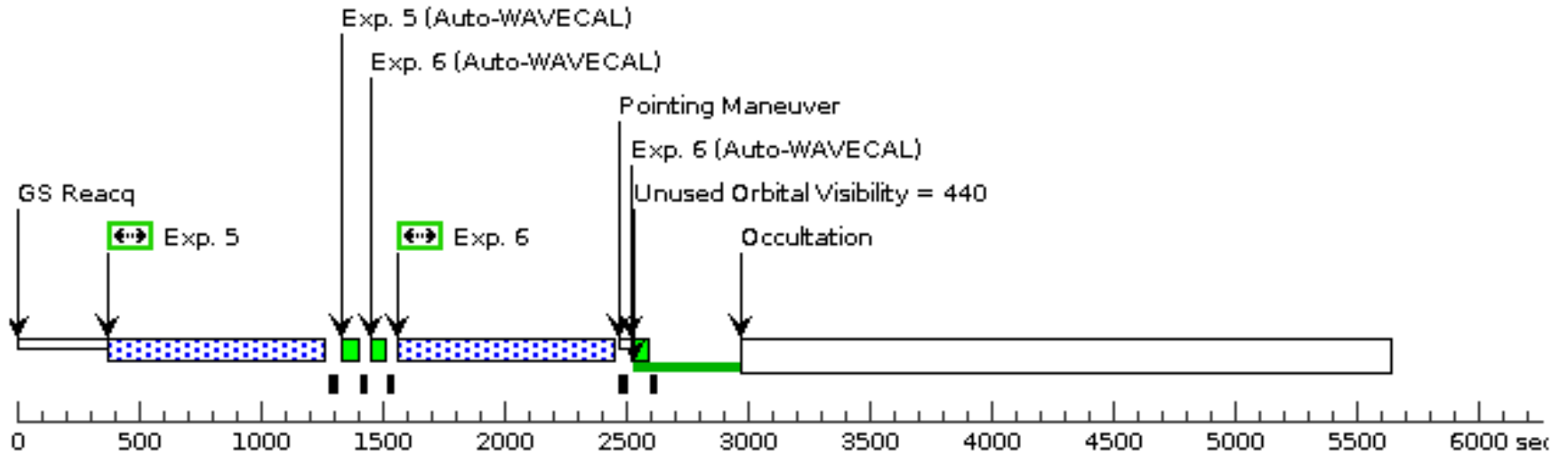
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13	Orbit 6 - Ex (1) TRAPPIST-1 p 2 (COS.sp.233 6405)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=55 43; SEGMENT=BOTH; FP-POS=4	1093 Secs (1093 Secs) [==>]	[6]
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Orbit 3

Server Version: 20260319



Orbit 4

Server Version: 20260319

