

16273 - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Cycle: 28, Proposal Category: GO (Availability Mode: SUPPORTED)

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VISITS

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used		OP Current with Visit?
01	(1) ANDROMEDA-I	ACS/WFC	4	12-Nov-2021 19:00:31.0	yes
	ANY	WFC3/UVIS			

Proposal 16273 (STScI Edit Number: 1, Created: Friday, November 12, 2021 at 7:01:13 PM Eastern Standard Time) - Overview

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	d Last Orbit Planner Run	OP Current with Visit?
02	(1) ANDROMEDA-I ANY	ACS/WFC WFC3/UVIS	3	12-Nov-2021 19:00:34.0	yes
03	(1) ANDROMEDA-I ANY	ACS/WFC WFC3/UVIS	3	12-Nov-2021 19:00:37.0	yes
04	(2) ANDROMEDA-II ANY	ACS/WFC WFC3/UVIS	4	12-Nov-2021 19:00:40.0	yes
05	(3) ANDROMEDA-III ANY	ACS/WFC WFC3/UVIS	4	12-Nov-2021 19:00:43.0	yes
06	(3) ANDROMEDA-III ANY	ACS/WFC WFC3/UVIS	3	12-Nov-2021 19:00:46.0	yes
07	(4) ANDROMEDA-XV ANY	ACS/WFC WFC3/UVIS	4	12-Nov-2021 19:00:49.0	yes
08	(4) ANDROMEDA-XV ANY	ACS/WFC WFC3/UVIS	4	12-Nov-2021 19:00:52.0	yes
09	(5) ANDROMEDA-XVI ANY	ACS/WFC WFC3/UVIS	3	12-Nov-2021 19:00:55.0	yes
10	(6) ANDROMEDA-XXVIII ANY	ACS/WFC WFC3/UVIS	4	12-Nov-2021 19:00:58.0	yes
11	(6) ANDROMEDA-XXVIII ANY	ACS/WFC WFC3/UVIS	3	12-Nov-2021 19:01:00.0	yes
12	(6) ANDROMEDA-XXVIII ANY	ACS/WFC WFC3/UVIS	3	12-Nov-2021 19:01:03.0	yes
13	(7) ANDROMEDA-VII ANY	ACS/WFC WFC3/UVIS	3	12-Nov-2021 19:01:05.0	yes
14	(7) ANDROMEDA-VII ANY	ACS/WFC WFC3/UVIS	3	12-Nov-2021 19:01:08.0	yes
57	(4) ANDROMEDA-XV ANY	ACS/WFC WFC3/UVIS	2	12-Nov-2021 19:01:09.0	yes

Proposal 16273 (STScI Edit Number: 1, Created: Friday, November 12, 2021 at 7:01:13 PM Eastern Standard Time) - Overview

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
58	(2) ANDROMEDA-II	ACS/WFC	4	12-Nov-2021 19:01:12.0	yes
	ANY	WFC3/UVIS			

54 Total Orbits Used

ABSTRACT

Proper motions (PMs) from HST and Gaia have revolutionized the field of Galactic archaeology in the Milky Way (MW), but PM studies in the M31 system are still in their early stages. Gaia can only detect the brightest stars in star forming regions at the distance of M31, so HST is the only observatory currently capable of measuring PMs of M31 satellite dwarf spheroidals. We propose to obtain second epoch imaging of 7 M31 satellites (And I, II, III, VII, XV, XVI, XXVIII), targeting the same fields with earlier deep HST observations to measure PMs with uncertainties of 40-50 km/s. We will use the PM-based 6D phase space information of satellites to constrain the total M31 mass with uncertainties at the 30% level. We will also test the dynamical stability of the Great Plane of Andromeda using our PM results for And I, III, and XVI. This will provide clues to the origin of satellite planes observed around M31 as well as the MW. The orbits derived for individual satellites will allow us to disentangle the processes that have contributed to the quenching of star formation, connect our target galaxies to M31 tidal structures, and test the merger scenario of And II. Altogether, our proposed measurements will nearly triple the sample of M31 satellites with available PMs, dramatically improving our understanding of the M31 halo and its satellite system. A revised estimate for the mass of M31 will also improve our understanding of the dynamics in the Local Group (LG), and set an important benchmark for studies of satellite systems beyond the LG. Finally, the results from this program will inform us how representative the MW is in a cosmological context.

OBSERVING DESCRIPTION

We will observe 7 dwarf satellite galaxies of M31 using ACS/WFC and WFC3/UVIS. All of our target galaxies have deep ACS/WFC imaging data in the HST archive. All but And VII also have deep WFC3/UVIS imaging data observed as parallel fields. The dwarf galaxies And I, II, III, XV, XVI, and XXVIII were observed in 2013-2015 through HST programs GO-13028 and GO-13739 using the F475W and F814W filters. And VII was observed in 2006 through HST GO-10430 using the F435W and F555W filters.

In this program, Each target dwarf galaxy will be observed using the same telescope pointings and orientations as the first-epoch images to maximize the overlaps of both primary ACS/WFC and parallel WFC3/UVIS fields between the first- and second-epoch data. This will also minimize errors originating from imperfect CTE and geometric distortion corrections. To measure PMs, it is sufficient to observe only in one filter. We will image all

Proposal 16273 (STScI Edit Number: 1, Created: Friday, November 12, 2021 at 7:01:13 PM Eastern Standard Time) - Overview target galaxies, with the exception of And VII, using the F814W filter to measure PMs. F814W is found to give one of the best astrometric handles on background galaxies. For And VII, we will use the F606W filter which has a wider bandwidth than the F555W originally used in the first epoch, for creating high signal- to-noise (S/N) templates for background galaxies, i.e., unlike the other galaxies, we will use the second-epoch data to build templates for And VII. Individual exposure times will be half-orbit long, and we will use dithered patterns specially designed to maximize pixel-phase coverage.

Proposal 16273 - And1-V1 (01) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Proposal 16273, And1-V1 (01), scheduling

Sat Nov 13 00:01:13 GMT 202

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: SCHED 50%; ORIENT 201.4D TO 202.4 D; AFTER 01-JAN-2021:00:00:00; GROUP 01,02,03 WITHIN 15D

Comments: This is the first out of three visits for obtaining second-epoch images of Andromeda I. This visit spends 4 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel instruments. For proper motion measuring purpose, we require to match our telescope orientations to the first-epoch observations for both the primary and parallel fields. We have accordingly added the Visit Orientation Requirements. We have grouped Visits 01, 02, and 03 and specified these visits to be observed within a 15 day period so that all images can be treated as a single-epoch data for astrometric analyses. Our science requires that the time baseline between the previous first- and this cycle's second-epoch is at least 6 years apart (this is specified in the Phase 1 proposal). We therefore added a Timing Requirement of "AFTER 01-18N. 2021 - 00-00-00"

Ŋ	# Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
J je	(1) ANDROMEDA-I	RA: 00 45 42.6728 (11.4278033d)	Epoch of Position: 2015.5	V=12.7	Reference Frame: SIMBAD			
ar.	Dec: +38 02 22.27 (38.03952d)							
ΙĘ		Equinox: J2000						
Fixe	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.							

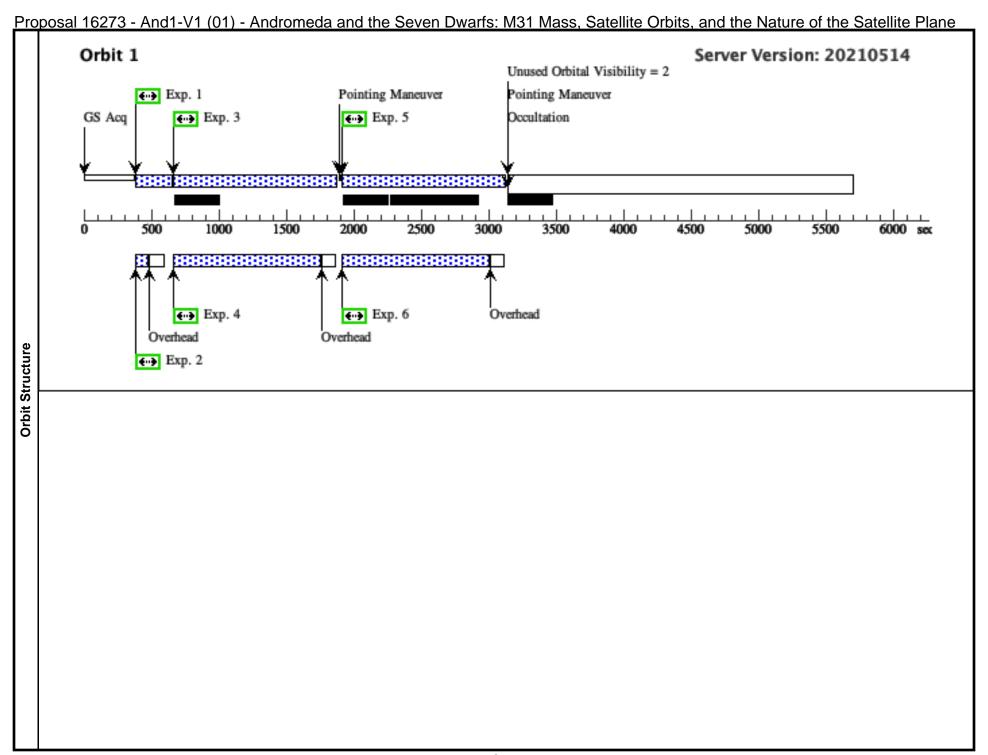
Proposal 16273 - And1-V1 (01) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

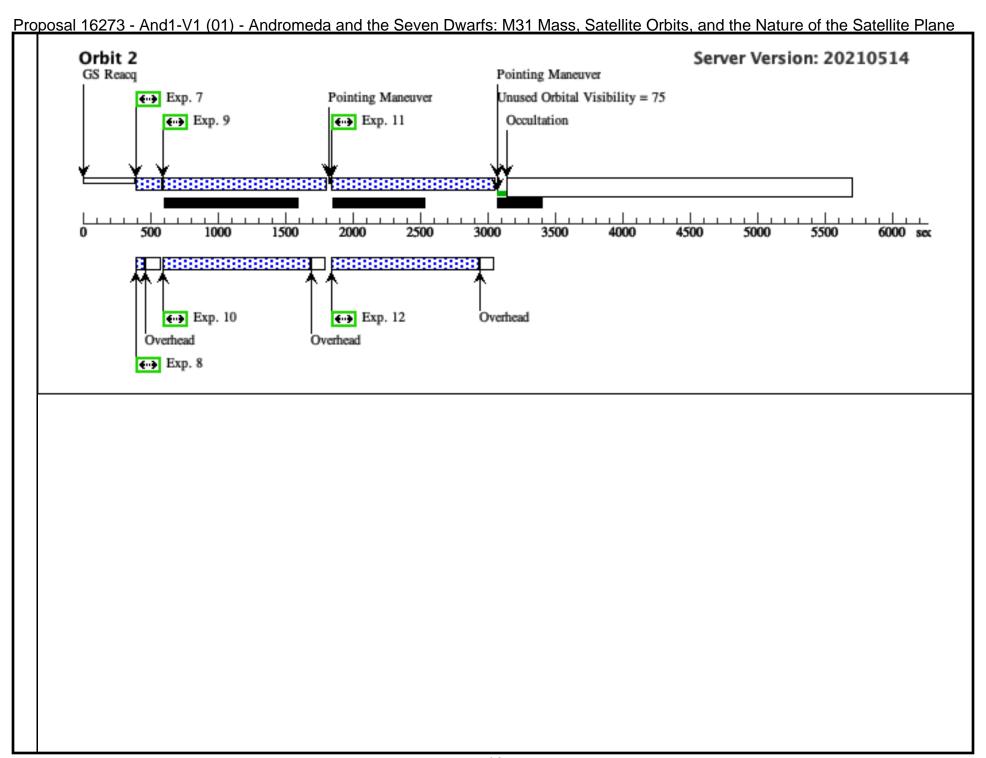
# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And1-V1 (01) Prime + Parallel Gro up 1-2 in Sequence 1	60 Secs (60 Secs) [==>]	[1]
2		WEGGANING A GOVIN	F01 4W	FY 4 GV 10 0		-6 Non-Int in And1- V1 (01)	co.g. (co.g.)	[1]
2	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And1-V1 (01) Prime + Parallel Gro	[==>]	
						up 1-2 in Sequence 1 -6 Non-Int in And1- V1 (01)		[1]
3	(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	t in And1-V1 (01)	1090 Secs (1090 Secs) [==>]	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And1- V1 (01)		[1]
4	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And1-V1 (01)	1090 Secs (1090 Secs)	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And1- V1 (01)	1/	[1]
5	(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.1740,0 .2350	Sequence 1-6 Non-In t in And1-V1 (01)	1090 Secs (1090 Secs)	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And1- V1 (01)	[/]	[1]
6	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And1-V1 (01)	1090 Secs (1090 Secs)	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And1- V1 (01)	1>1	[1]
7	(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3232,0 .1235	Sequence 7-12 Non-I nt in And1-V1 (01)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1- V1 (01)		[2]
8	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And1-V1 (01)	60 Secs (60 Secs) [==>]	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1- V1 (01)	[>]	[2]
9	(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3232,0 .1235	Sequence 7-12 Non-I nt in And1-V1 (01)	1090 Secs (1090 Secs)	
						Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 1-V1 (01)		[2]

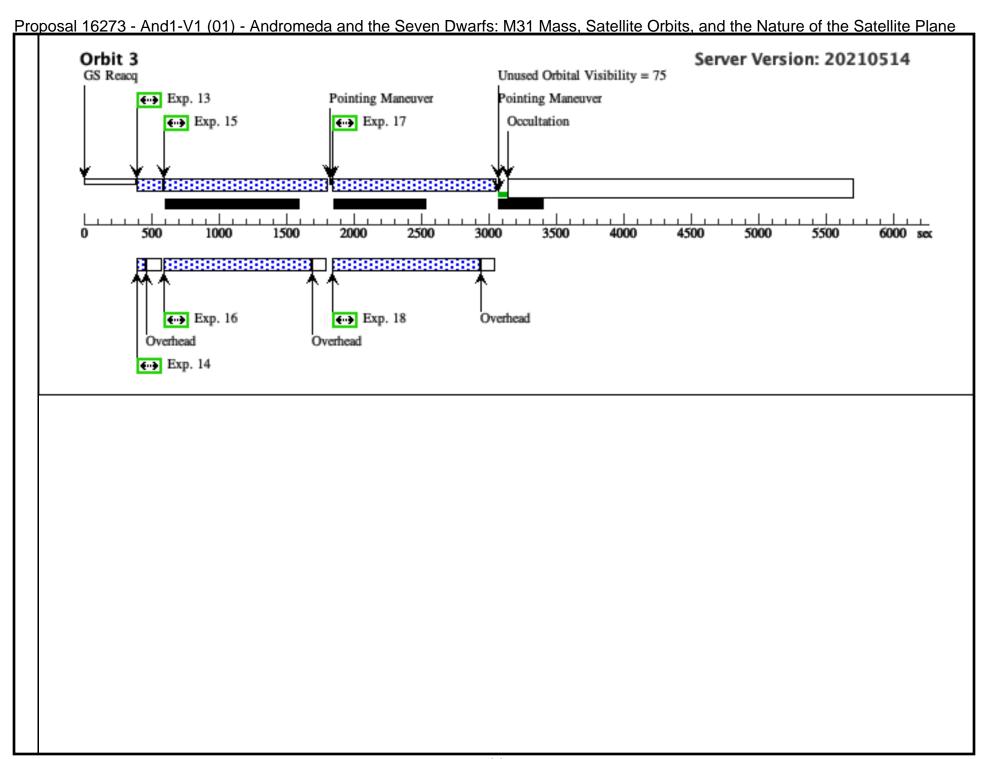
Proposal 16273 - And1-V1 (01) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 10 1090 Secs (1090 Secs) ANY WFC3/UVIS, ACCUM, F814W Sequence 7-12 Non-I UVIS-CENTER nt in And1-V1 (01) I = = > 1Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 1-V1 (01) 11 POS TARG 0.1005,0 Sequence 7-12 Non-I | 1090 Secs (1090 Secs) (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W .3305 nt in And1-V1 (01) [==>] Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d1-V1 (01) 12 Sequence 7-12 Non-I ANY WFC3/UVIS, ACCUM, F814W 1090 Secs (1090 Secs) **UVIS-CENTER** nt in And1-V1 (01) Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d1-V1 (01) 13 (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.5075,0 Sequence 13-18 Non 60 Secs (60 Secs) .0505 -Int in And1-V1 (01) I = = > 1Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd1-V1 (01) 14 Sequence 13-18 Non 60 Secs (60 Secs) ANY WFC3/UVIS, ACCUM. F814W FLASH=19.0 UVIS-CENTER -Int in And1-V1 (01) Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd1-V1 (01) 15 POS TARG 0.5075,0 Sequence 13-18 Non 1090 Secs (1090 Secs) (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W -Int in And1-V1 (01) .0505 I = = > 1Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd1-V1 (01) WFC3/UVIS, ACCUM, 16 ANY F814W Sequence 13-18 Non 1090 Secs (1090 Secs) -Int in And1-V1 (01) UVIS-CENTER Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd1-V1 (01) 17 (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.6815,0 Sequence 13-18 Non 1090 Secs (1090 Secs) -Int in And1-V1 (01) .2855 Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd1-V1 (01) 18 ANY WFC3/UVIS, ACCUM, F814W Sequence 13-18 Non 1090 Secs (1090 Secs) **UVIS-CENTER** -Int in And1-V1 (01) Prime + Parallel Gro up 17-18 in Sequenc e 13-18 Non-Int in A nd1-V1 (01) [3]

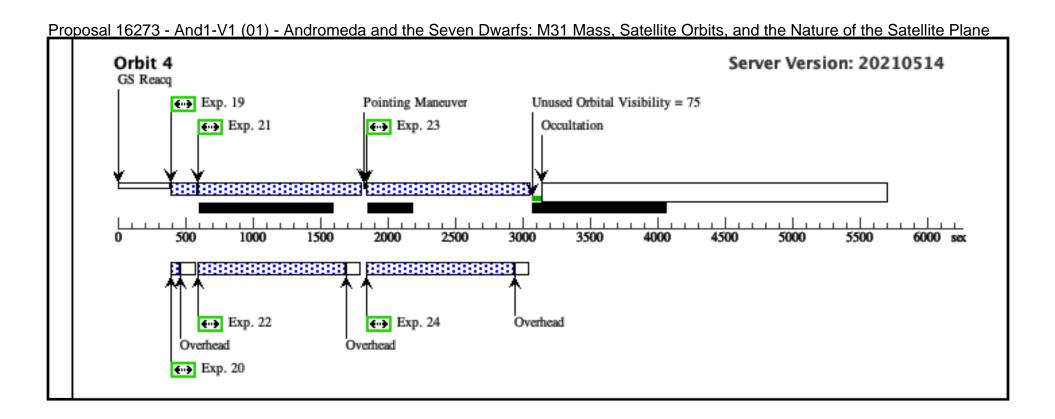
Proposal 16273 - And1-V1 (01) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.8300,0 Sequence 19-24 Non 60 Secs (60 Secs) .1735 -Int in And1-V1 (01) Prime + Parallel Gro up 19-20 in Sequenc e 19-24 Non-Int in A [4] nd1-V1 (01) 20 ANY WFC3/UVIS, ACCUM, F814W FLASH=19.0 Sequence 19-24 Non 60 Secs (60 Secs) -Int in And1-V1 (01) UVIS-CENTER *[==>]* Prime + Parallel Gro up 19-20 in Sequenc [4] e 19-24 Non-Int in A nd1-V1 (01) 21 POS TARG 0.8300,0 Sequence 19-24 Non (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W 1090 Secs (1090 Secs) .1735 -Int in And1-V1 (01) Prime + Parallel Gro up 21-22 in Sequenc e 19-24 Non-Int in A [4] nd1-V1 (01) 22 F814W 1090 Secs (1090 Secs) ANY WFC3/UVIS, ACCUM, Sequence 19-24 Non **UVIS-CENTER** -Int in And1-V1 (01) *[==>1* Prime + Parallel Gro up 21-22 in Sequenc [4] e 19-24 Non-Int in A nd1-V1 (01) 23 POS TARG 0.6080,0 Sequence 19-24 Non (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W 1090 Secs (1090 Secs) -Int in And1-V1 (01) .3810 Prime + Parallel Gro up 23-24 in Sequenc [4] e 19-24 Non-Int in A nd1-V1 (01) 24 Sequence 19-24 Non | 1090 Secs (1090 Secs) ANY WFC3/UVIS, ACCUM, F814W -Int in And1-V1 (01) UVIS-CENTER I = = > 1Prime + Parallel Gro up 23-24 in Sequenc e 19-24 Non-Int in A [4]

nd1-V1 (01)









Proposal 16273 - And1-V2 (02) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Proposal 16273, And1-V2 (02), scheduling

Sat Nov 13 00:01:13 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: SCHED 50%; SAME ORIENT AS 01; AFTER 01; GROUP 02,01,03 WITHIN 15D

Comments: This is the second out of three visits for obtaining second-epoch images of Andromeda I. This visit spends 3 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel

instruments.

S	# Name		Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
get	(1) ANDRO	MEDA-I	RA: 00 45 42.6728 (11.4278033d)	Epoch of Position: 2015.5	V=12.7	Reference Frame: SIMBAD
ar]	Dec: +38 02 22.27 (38.03952d)			
<u> </u>]	Equinox: J2000			
ĕΙ	Comments: This object	et was generated by	y the targetselector and retrieved from the SIMRA	D database		

Comments: I his object was generated by the targetselector and retrieved from the SIMBAD database.

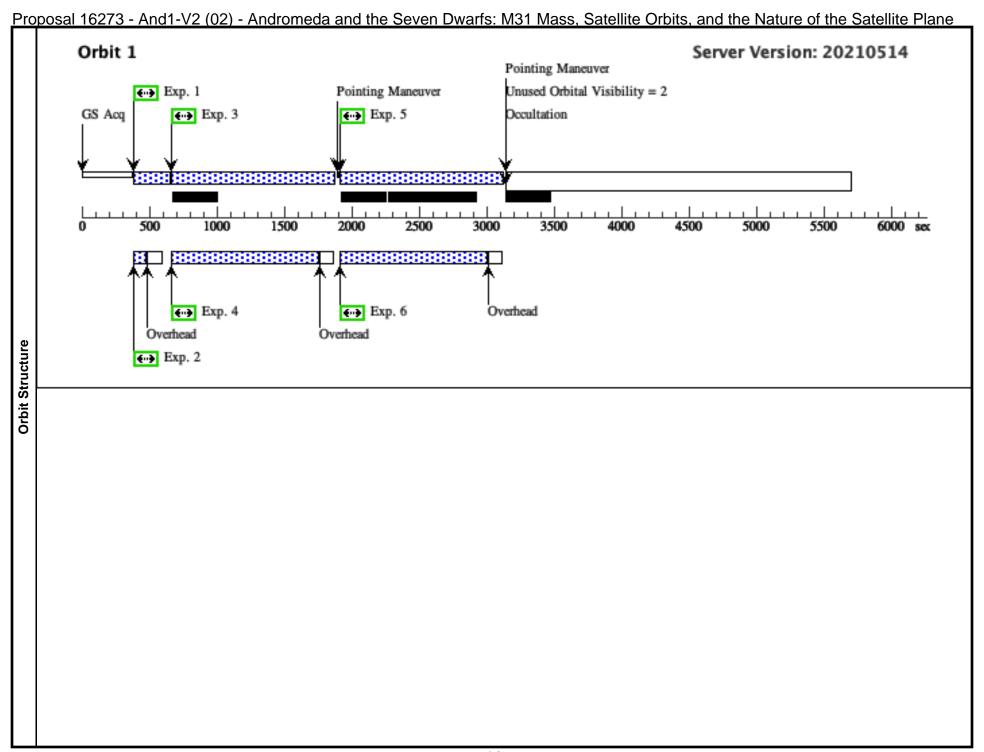
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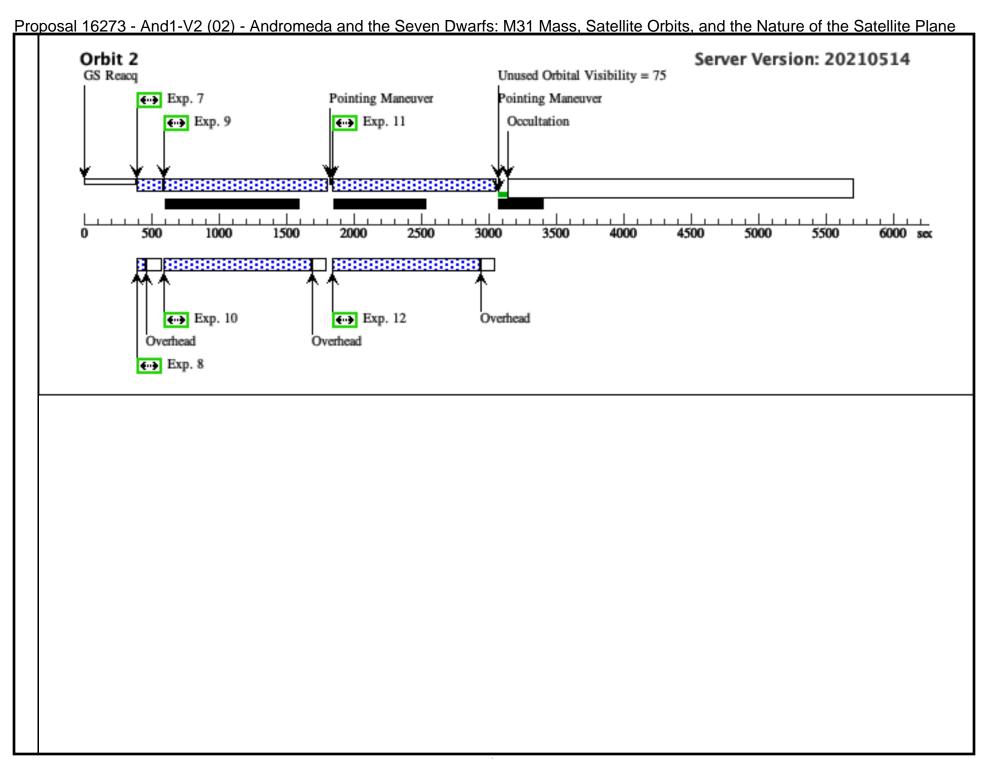
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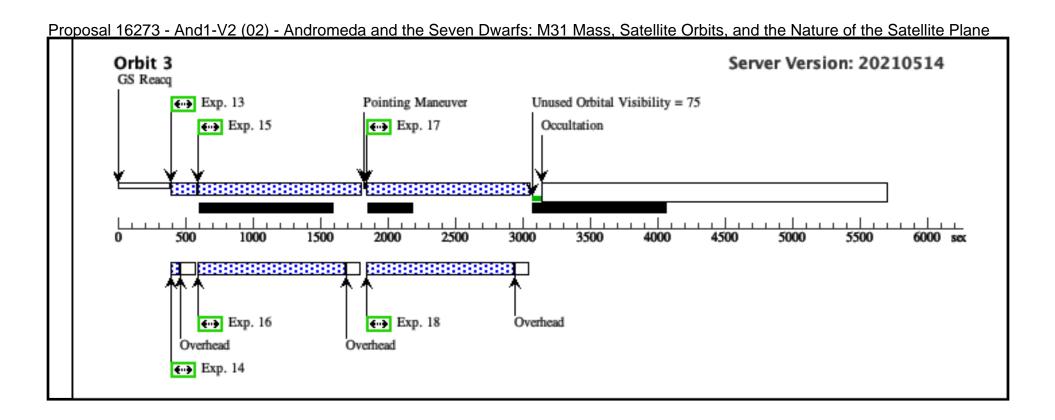
Proposal 16273 - And1-V2 (02) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W	·	POS TARG 1.0000,0 .0000	Sequence 1-6 Non-In t in And1-V2 (02) Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And1- V2 (02)	60 Secs (60 Secs) [==>]	[1]
2		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And1-V2 (02) Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And1- V2 (02)	60 Secs (60 Secs) [==>]	[1]
3		(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.0000,0 .0000	` /	1090 Secs (1090 Secs) [==>]	[1]
4		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W				1090 Secs (1090 Secs) [==>]	[1]
5		(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.1647,0 .0124	Sequence 1-6 Non-In t in And1-V2 (02) Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And1- V2 (02)	1090 Secs (1090 Secs) [==>]	[1]
6		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And1-V2 (02) Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And1- V2 (02)	1090 Secs (1090 Secs) [==>]	[1]
7		(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.3293,0 .0248	Sequence 7-12 Non-I nt in And1-V2 (02) Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1- V2 (02)	60 Secs (60 Secs) [==>]	[2]
8		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And1-V2 (02) Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1- V2 (02)	60 Secs (60 Secs) [==>]	[2]
9		(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.3293,0 .0248	Sequence 7-12 Non-I nt in And1-V2 (02) Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 1-V2 (02)	1090 Secs (1090 Secs) [==>]	[2]

Proposal 16273 - And1-V2 (02) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 10 1090 Secs (1090 Secs) ANY WFC3/UVIS, ACCUM, F814W Sequence 7-12 Non-I UVIS-CENTER nt in And1-V2 (02) I = = > 1Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 1-V2 (02) 11 POS TARG 1.0747,0 Sequence 7-12 Non-I | 1090 Secs (1090 Secs) (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W .1294 nt in And1-V2 (02) [==>] Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d1-V2 (02) 12 Sequence 7-12 Non-I ANY WFC3/UVIS, ACCUM, F814W 1090 Secs (1090 Secs) **UVIS-CENTER** nt in And1-V2 (02) Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d1-V2 (02) 13 (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 1.2393,0 Sequence 13-18 Non 60 Secs (60 Secs) .1418 -Int in And1-V2 (02) I = = > 1Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd1-V2 (02) 14 Sequence 13-18 Non ANY WFC3/UVIS, ACCUM. F814W FLASH=19.0 60 Secs (60 Secs) UVIS-CENTER -Int in And1-V2 (02) Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd1-V2 (02) 15 (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 1.2393,0 Sequence 13-18 Non 1090 Secs (1090 Secs) -Int in And1-V2 (02) .1418 I==>1Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd1-V2 (02) WFC3/UVIS, ACCUM, 16 ANY F814W Sequence 13-18 Non 1090 Secs (1090 Secs) -Int in And1-V2 (02) UVIS-CENTER Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd1-V2 (02) 17 (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 1.4039,0 Sequence 13-18 Non 1090 Secs (1090 Secs) -Int in And1-V2 (02) .1541 Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd1-V2 (02) 18 ANY WFC3/UVIS, ACCUM, F814W Sequence 13-18 Non 1090 Secs (1090 Secs) **UVIS-CENTER** -Int in And1-V2 (02) Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd1-V2 (02)







Proposal 16273 - And1-V3 (03) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Proposal 16273, And1-V3 (03), scheduling Sat Nov 13 00:01:14 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: SCHED 50%; SAME ORIENT AS 01; AFTER 02; GROUP 03,01,02 WITHIN 15D

Comments: This is the third out of three visits for obtaining second-epoch images of Andromeda I. This visit spends 3 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel

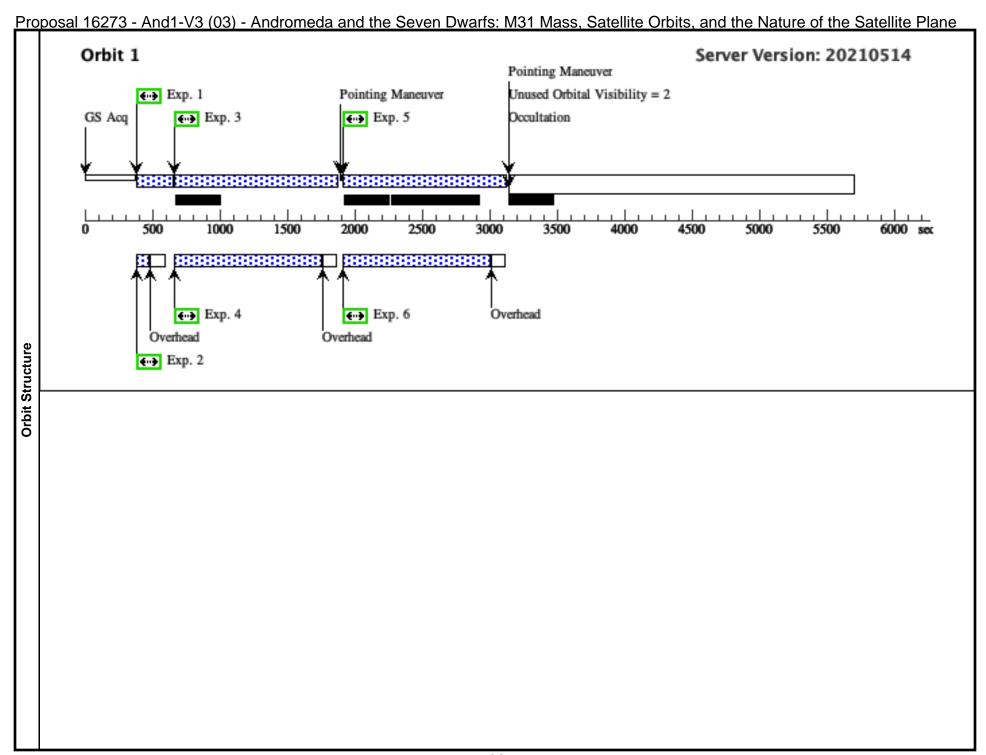
Ų	ç	# Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
وَ ا	2	(1) ANDROMEDA-I	RA: 00 45 42.6728 (11.4278033d)	Epoch of Position: 2015.5	V=12.7	Reference Frame: SIMBAD			
7.0	5	Dec: +38 02 22.27 (38.03952d)							
-	-	Equinox: J2000							
ة ا	و	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.							

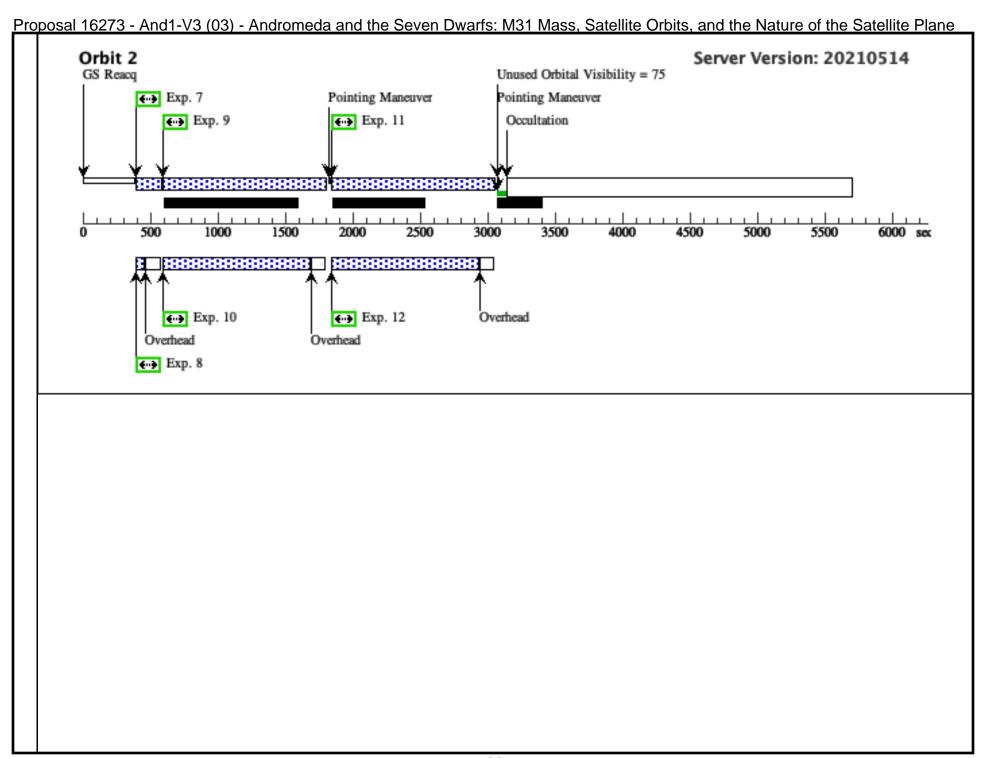
Category=GALAXY
Description=[DWARF SPHEROIDAL]

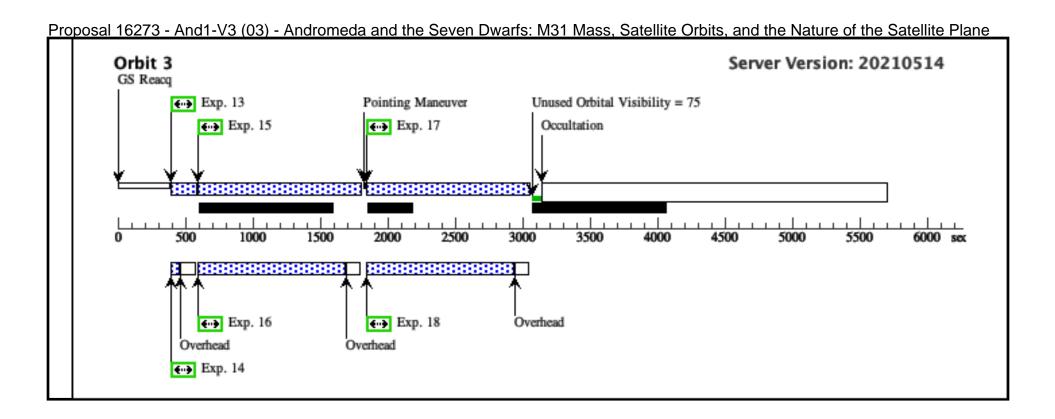
Proposal 16273 - And1-V3 (03) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,1 .0000	Sequence 1-6 Non-In t in And1-V3 (03) Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And1- V3 (03)	60 Secs (60 Secs) [==>]	[1]
2		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And1-V3 (03) Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And1- V3 (03)	60 Secs (60 Secs) [==>]	[1]
3		(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,1 .0000		1090 Secs (1090 Secs) [==>]	[1]
4		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W				1090 Secs (1090 Secs) [==>]	[1]
5		(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.1647,1 .0124	Sequence 1-6 Non-In t in And1-V3 (03) Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And1- V3 (03)	1090 Secs (1090 Secs) [==>]	[1]
6		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And1-V3 (03) Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And1- V3 (03)	1090 Secs (1090 Secs) [==>]	[1]
7		(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3293,1 .0248	Sequence 7-12 Non-I nt in And1-V3 (03) Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1- V3 (03)	[==>]	[2]
8		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And1-V3 (03) Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1- V3 (03)	[==>]	[2]
9		(1) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3293,1 .0248	Sequence 7-12 Non-I nt in And1-V3 (03) Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 1-V3 (03)	1090 Secs (1090 Secs) [==>]	[2]

Proposal 16273 - And1-V3 (03) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 10 Sequence 7-12 Non-I 1090 Secs (1090 Secs) ANY WFC3/UVIS, ACCUM, F814W UVIS-CENTER nt in And1-V3 (03) I = = > 1Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 1-V3 (03) 11 POS TARG 0.0747,1 Sequence 7-12 Non-I | 1090 Secs (1090 Secs) (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W .1294 nt in And1-V3 (03) [==>] Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d1-V3 (03) 12 Sequence 7-12 Non-I ANY WFC3/UVIS, ACCUM, F814W 1090 Secs (1090 Secs) **UVIS-CENTER** nt in And1-V3 (03) Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d1-V3 (03) 13 (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.2393,1 Sequence 13-18 Non 60 Secs (60 Secs) .1418 -Int in And1-V3 (03) I = = > 1Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd1-V3 (03) 14 Sequence 13-18 Non ANY WFC3/UVIS, ACCUM. F814W FLASH=19.0 60 Secs (60 Secs) UVIS-CENTER -Int in And1-V3 (03) Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd1-V3 (03) 15 (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.2393,1 Sequence 13-18 Non 1090 Secs (1090 Secs) -Int in And1-V3 (03) .1418 I==>1Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd1-V3 (03) 16 WFC3/UVIS, ACCUM, ANY F814W Sequence 13-18 Non 1090 Secs (1090 Secs) -Int in And1-V3 (03) UVIS-CENTER Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd1-V3 (03) 17 (1) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.4039,1 Sequence 13-18 Non 1090 Secs (1090 Secs) -Int in And1-V3 (03) .1541 Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd1-V3 (03) 18 ANY WFC3/UVIS, ACCUM, F814W Sequence 13-18 Non 1090 Secs (1090 Secs) **UVIS-CENTER** -Int in And1-V3 (03) Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd1-V3 (03)







Proposal 16273 - And2 (04) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Proposal 16273, And2 (04), failed Sat Nov 13 00:01:14 GMT 202.

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: SCHED 70%; ORIENT 174.5D TO 176.5 D; AFTER 01-JAN-2021:00:00:00

Comments: This is the visit for obtaining second-epoch images of Andromeda II. This visit spends 4 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel instruments. For proper motion measuring purpose, we required to match our telescope orientations to the first-epoch observations for both the primary and parallel fields. We have accordingly added the Visit Orientation Requirements. Our science requires that the time baseline between the previous first- and this cycle's second-epoch is at least 8 years apart (this is specified in the Phase 1 proposal). We therefore added a Timing Requirement of "AFTER 01-JAN-2021:00:00:00". Finally, we changed the schedulability requirement to 70 because there were no available windows for 60 and lower.

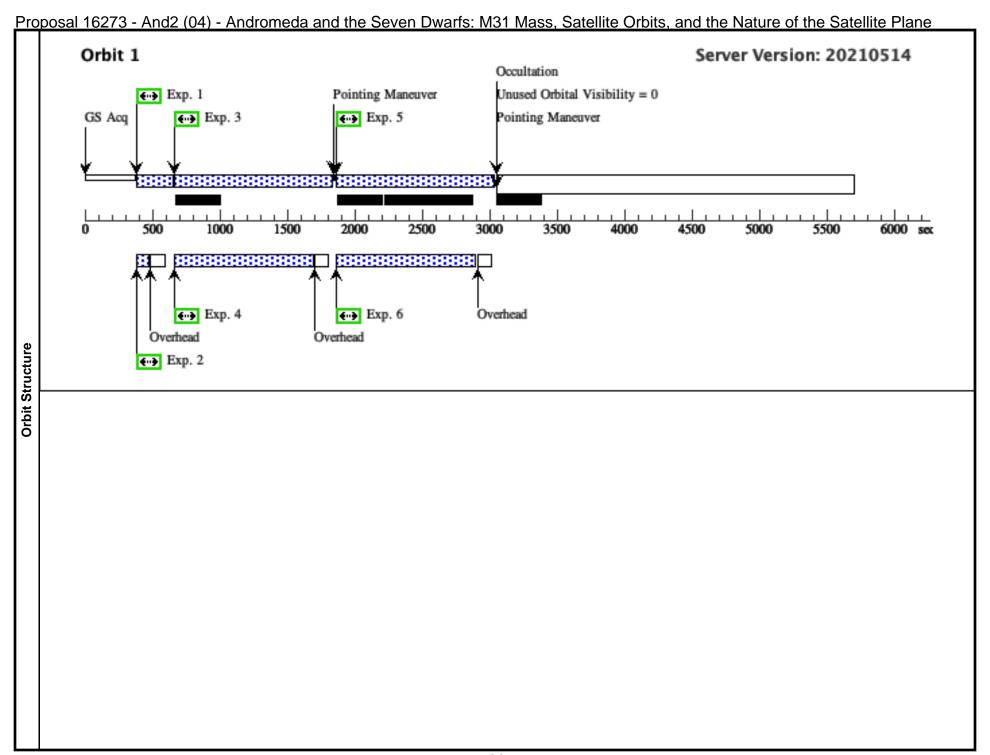
ts	# Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
gel		RA: 01 16 23.7701 (19.0990421d)	Epoch of Position: 2015.5	V=11.7	Reference Frame: SIMBAD			
a	Dec: +33 26 4.62 (33.43462d)							
ΙĘ		Equinox: J2000						
Ιğ	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.							
ΙŒ	Category=GALAXY							
ᆫ	Description=[DWARF SPHEROIDAL	<u>[[</u>						

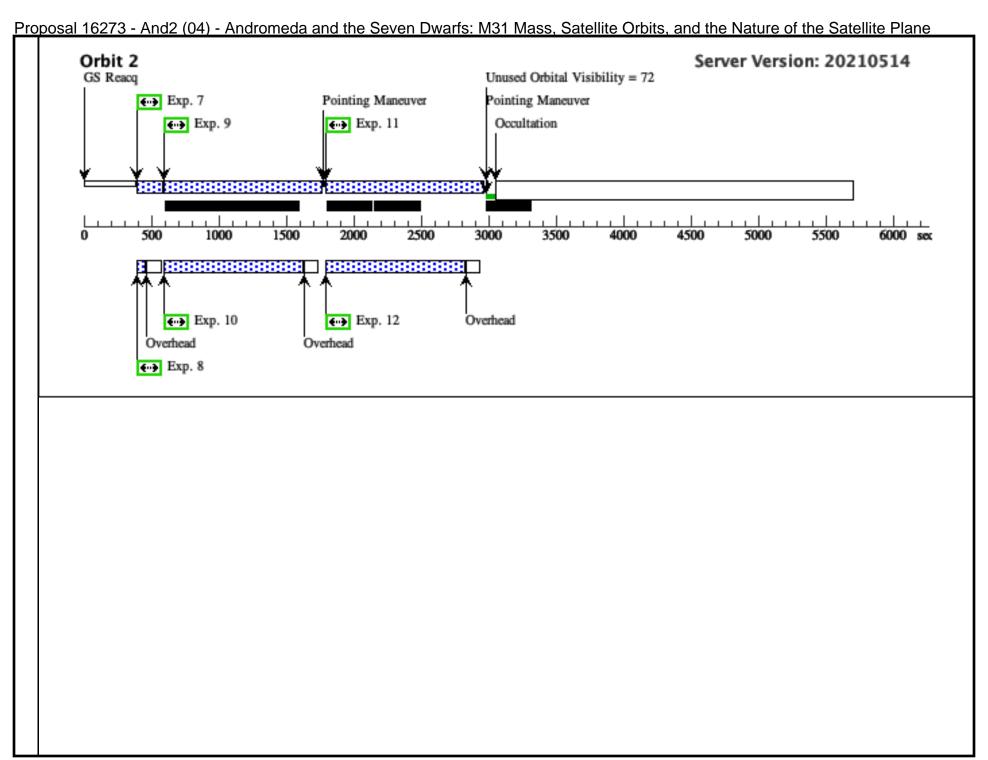
Proposal 16273 - And2 (04) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

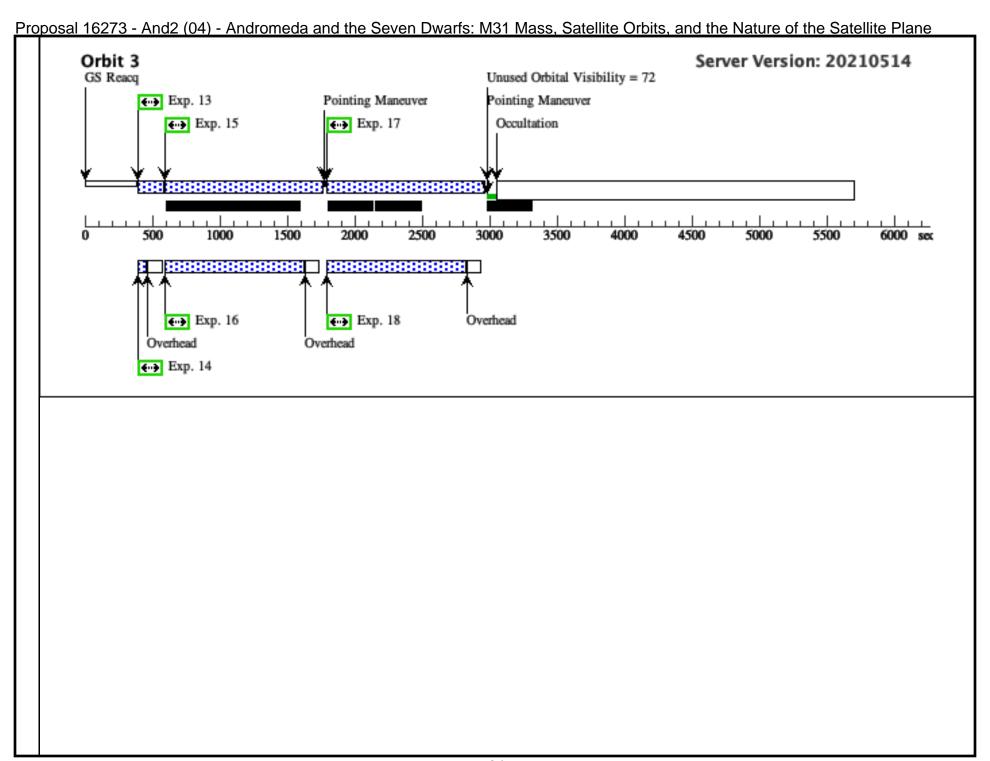
# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(2) ANDROMEDA-I I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And2 (04)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And2 (04)		[1]
2	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And2 (04)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And2 (04)		[1]
3	(2) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And2 (04)	1044 Secs (1044 Secs)	
	•				.0000	Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And2 (04)	[==>]	[1]
4	ANY	WFC3/UVIS, ACCUM,	F814W			Sequence 1-6 Non-In t in And2 (04)	1030 Secs (1030 Secs)	
		UVIS-CENTER				Prime + Parallel Gro	[==>]	
						up 3-4 in Sequence 1 -6 Non-Int in And2 (04)		[1]
5	(2) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.1740,0 .2350	Sequence 1-6 Non-In t in And2 (04)	1045 Secs (1045 Secs)	
	1				.2330	Prime + Parallel Gro	[==>]	
						up 5-6 in Sequence 1 -6 Non-Int in And2 (04)		[1]
6	ANY	WFC3/UVIS, ACCUM,	F814W			Sequence 1-6 Non-In t in And2 (04)	1030 Secs (1030 Secs)	
		UVIS-CENTER				Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And2 (04)	[==>]	[1]
7	(2) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3232,0 .1235	Sequence 7-12 Non-I nt in And2 (04)	60 Secs (60 Secs)	
	1				.1233	Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And2 (04)	[==>]	[2]
8	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And2 (04)		
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And2 (04)	[==>]	[2]
9	(2) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3232,0 .1235	Sequence 7-12 Non-I nt in And2 (04)	1045 Secs (1045 Secs)	
	•				.1233	Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 2 (04)	[==>]	[2]

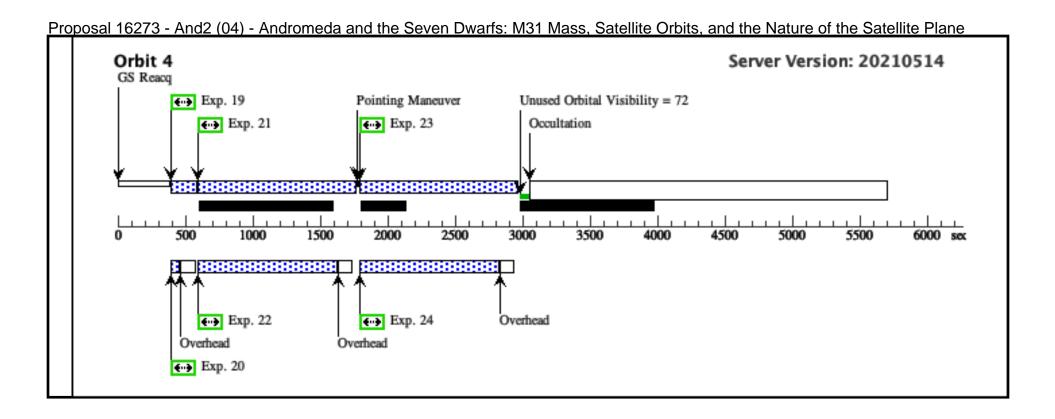
Proposal 16273 - And2 (04) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane Sequence 7-12 Non-I | 1030 Secs (1030 Secs) 10 ANY WFC3/UVIS, ACCUM, F814W UVIS-CENTER nt in And2 (04) f = = > 1Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 2(04)11 POS TARG 0.1005,0 Sequence 7-12 Non-I | 1045 Secs (1045 Secs) (2) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W .3305 nt in And2 (04) [==>] Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d2 (04) 12 ANY WFC3/UVIS, ACCUM, F814W Sequence 7-12 Non-I | 1030 Secs (1030 Secs) **UVIS-CENTER** nt in And2 (04) Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d2 (04) 13 POS TARG 0.5075,0 Sequence 13-18 Non 60 Secs (60 Secs) (2) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W .0505 -Int in And2 (04) *[==>1* Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd2 (04) 14 ANY WFC3/UVIS, ACCUM. F814W FLASH=19.0 Sequence 13-18 Non 60 Secs (60 Secs) UVIS-CENTER -Int in And2 (04) f==>1 Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd2 (04) 15 1045 Secs (1045 Secs) POS TARG 0.5075,0 Sequence 13-18 Non (2) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W .0505 -Int in And2 (04) [==>1 Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd2 (04) WFC3/UVIS, ACCUM, 16 ANY F814W Sequence 13-18 Non 1030 Secs (1030 Secs) UVIS-CENTER -Int in And2 (04) [==>1 Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd2 (04) 17 POS TARG 0.6815,0 Sequence 13-18 Non 1045 Secs (1045 Secs) (2) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W .2855 -Int in And2 (04) Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd2 (04) 18 ANY WFC3/UVIS, ACCUM, F814W Sequence 13-18 Non 1030 Secs (1030 Secs) **UVIS-CENTER** -Int in And2 (04) Prime + Parallel Gro up 17-18 in Sequenc e 13-18 Non-Int in A nd2 (04) [3]

Proposal 16273 - And2 (04) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane (2) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.8300,0 Sequence 19-24 Non 60 Secs (60 Secs) .1735 -Int in And2 (04) I = = > 1Prime + Parallel Gro up 19-20 in Sequenc [4] e 19-24 Non-Int in A nd2 (04) Sequence 19-24 Non 60 Secs (60 Secs) 20 ANY WFC3/UVIS, ACCUM, F814W FLASH=19.0 **UVIS-CENTER** -Int in And2 (04) [==>] Prime + Parallel Gro up 19-20 in Sequenc [4] e 19-24 Non-Int in A nd2 (04) 21 (2) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.8300,0 Sequence 19-24 Non 1045 Secs (1045 Secs) .1735 -Int in And2 (04) Prime + Parallel Gro up 21-22 in Sequenc e 19-24 Non-Int in A [4] nd2 (04) 22 ANY WFC3/UVIS, ACCUM, F814W Sequence 19-24 Non 1030 Secs (1030 Secs) **UVIS-CENTER** -Int in And2 (04) *[==>1* Prime + Parallel Gro up 21-22 in Sequenc [4] e 19-24 Non-Int in A nd2 (04) 23 POS TARG 0.6080,0 Sequence 19-24 Non (2) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W 1045 Secs (1045 Secs) .3810 -Int in And2 (04) *[==>]* Prime + Parallel Gro up 23-24 in Sequenc [4] e 19-24 Non-Int in A nd2 (04) 24 ANY WFC3/UVIS, ACCUM, F814W Sequence 19-24 Non 1030 Secs (1030 Secs) **UVIS-CENTER** -Int in And2 (04) I = = > 1Prime + Parallel Gro up 23-24 in Sequenc [4] e 19-24 Non-Int in A nd2 (04)









Proposal 16273 - And3-V1 (05) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Proposal 16273, And3-V1 (05), scheduling

Sat Nov 13 00:01:14 GMT 202

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 91.1D TO 91.1 D; AFTER 01-FEB-2021:00:00:00; GROUP 05,06 WITHIN 15D

Comments: This is the first out of two visits for obtaining second-epoch images of Andromeda V. This visit spends 4 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel instruments. For proper motion measuring purpose, we required to match our telescope orientations to the first-epoch observations for both the primary and parallel fields. We have accordingly added the Visit Orientation

Requirements. We have grouped Visits 05 and 06 and specified these visits to be observed within a 15 day period so that all images can be treated as a single-epoch data for astrometric analyses. Our science requires that the time baseline between the previous first- and this cycle's second-epoch is at least 7 years apart (this is specified in the Phase 1 proposal). We therefore added a Timing Requirement of "AFTER 01-FEB-

21.00.00.00'

П	y,	# Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous		
ľ	ger	(3) ANDROMEDA-III	RA: 00 35 30.7304 (8.8780433d)	Epoch of Position: 2015.5	V=14.4	Reference Frame: SIMBAD		
I.	ari		Dec: +36 30 14.41 (36.50400d)					
!	- 5		Equinox: J2000					
	Commenter This object was conserted by the taxostrologous and very said from the SIMPAD database							

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Category=GALAXY

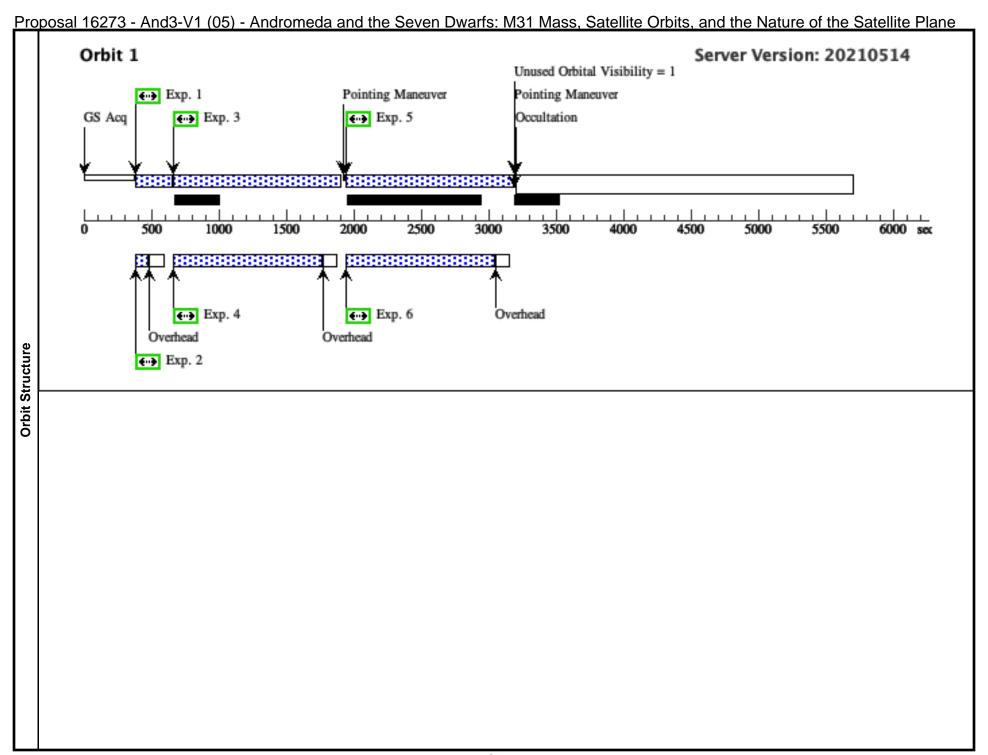
Description=[DWARF SPHEROIDAL]

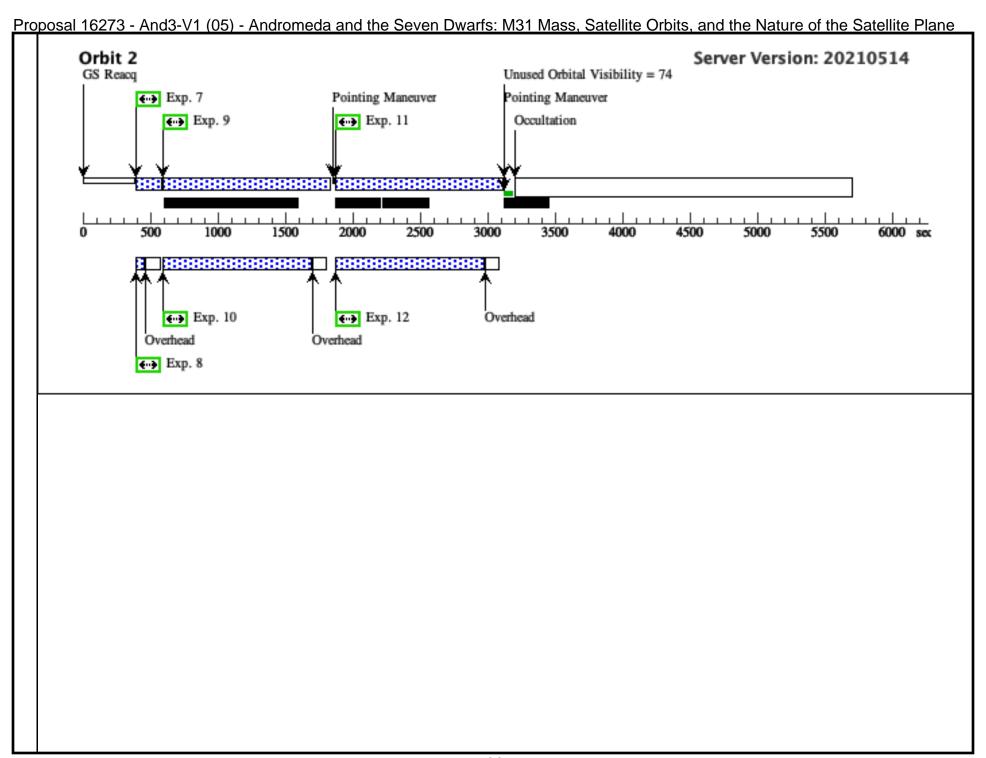
Proposal 16273 - And3-V1 (05) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

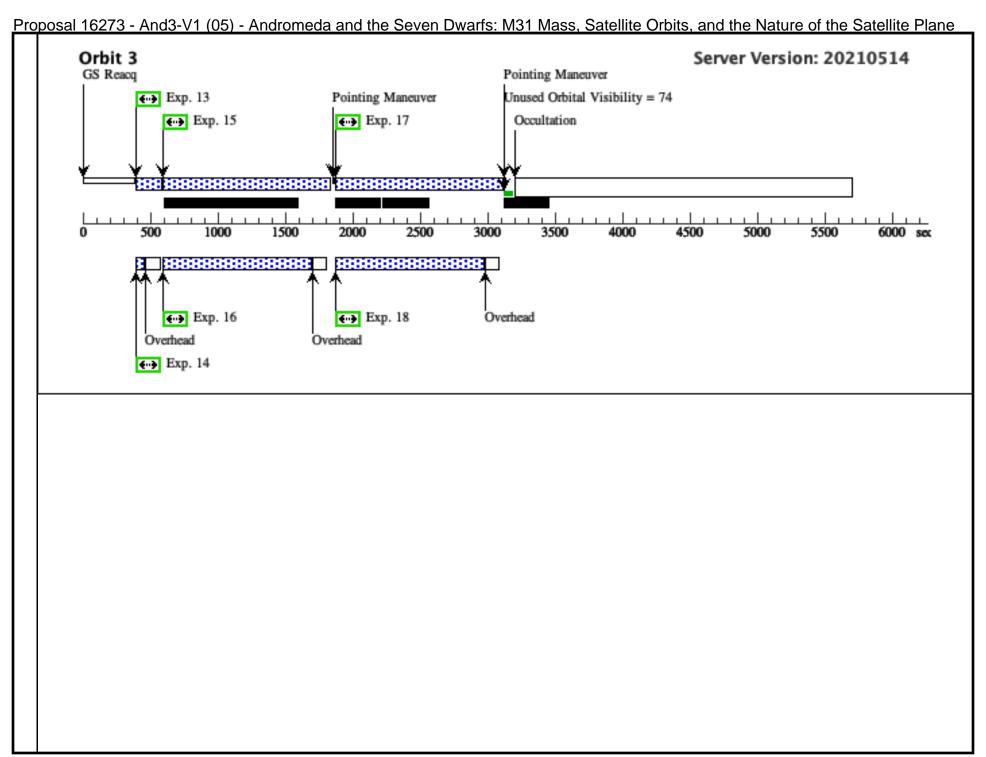
Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	(3) ANDROMEDA-I II	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And3-V1 (05) Prime + Parallel Gro	60 Secs (60 Secs) [==>]	F37
						up 1-2 in Sequence 1 -6 Non-Int in And3- V1 (05)		[1]
	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And3-V1 (05)	60 Secs (60 Secs) [==>]	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And3- V1 (05)		[1]
1	(3) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And3-V1 (05)	1118 Secs (1118 Secs) [==>]	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And3- V1 (05)		[1]
ļ	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And3-V1 (05)	1100 Secs (1100 Secs) [==>]	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And3- V1 (05)	[==>]	[1]
i	(3) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.1740,0 .2350	Sequence 1-6 Non-In t in And3-V1 (05)	1118 Secs (1118 Secs) [==>]	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And3- V1 (05)	[/]	[1]
5	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And3-V1 (05)	1100 Secs (1100 Secs)	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And3- V1 (05)	[/]	[1]
	(3) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3232,0 .1235	Sequence 7-12 Non-I nt in And3-V1 (05)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And3- V1 (05)	[/]	[2]
3	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And3-V1 (05)	60 Secs (60 Secs) [==>]	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And3- V1 (05)		[2]
)	(3) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3232,0 .1235	Sequence 7-12 Non-I nt in And3-V1 (05)	1118 Secs (1118 Secs) [==>]	
						Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 3-V1 (05)	[>]	[2]
				24		7-12 Non-Int in And		

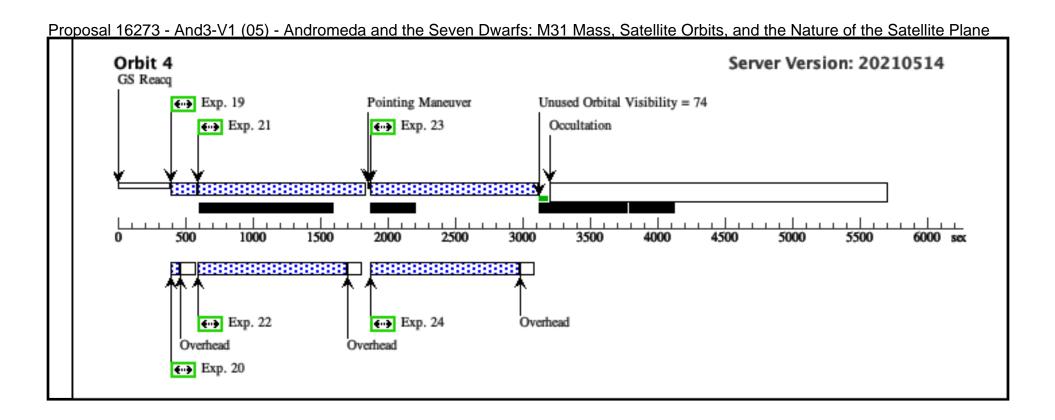
Proposal 16273 - And3-V1 (05) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 10 Sequence 7-12 Non-I | 1100 Secs (1100 Secs) ANY WFC3/UVIS, ACCUM, F814W UVIS-CENTER nt in And3-V1 (05) Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 3-V1 (05) 11 POS TARG 0.1005,0 Sequence 7-12 Non-I 1118 Secs (1118 Secs) (3) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W .3305 nt in And3-V1 (05) [==>] Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d3-V1 (05) 12 ANY WFC3/UVIS, ACCUM, F814W Sequence 7-12 Non-I 1100 Secs (1100 Secs) **UVIS-CENTER** nt in And3-V1 (05) Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d3-V1 (05) 13 POS TARG 0.5075,0 Sequence 13-18 Non (3) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W 60 Secs (60 Secs) .0505 -Int in And3-V1 (05) I = = > 1Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd3-V1 (05) 14 ANY WFC3/UVIS, ACCUM. F814W FLASH=19.0 Sequence 13-18 Non 60 Secs (60 Secs) UVIS-CENTER -Int in And3-V1 (05) Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd3-V1 (05) 15 POS TARG 0.5075,0 Sequence 13-18 Non | 1118 Secs (1118 Secs) (3) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W -Int in And3-V1 (05) .0505 I==>1Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd3-V1 (05) WFC3/UVIS, ACCUM, 16 ANY F814W Sequence 13-18 Non 1100 Secs (1100 Secs) -Int in And3-V1 (05) UVIS-CENTER Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd3-V1 (05) 17 (3) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.6815,0 Sequence 13-18 Non 1118 Secs (1118 Secs) -Int in And3-V1 (05) .2855 Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd3-V1 (05) 18 ANY WFC3/UVIS, ACCUM, F814W Sequence 13-18 Non 1100 Secs (1100 Secs) -Int in And3-V1 (05) UVIS-CENTER Prime + Parallel Gro up 17-18 in Sequenc e 13-18 Non-Int in A nd3-V1 (05) [3]

Proposal 16273 - And3-V1 (05) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane (3) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.8300,0 Sequence 19-24 Non 60 Secs (60 Secs) .1735 -Int in And3-V1 (05) Prime + Parallel Gro up 19-20 in Sequenc [4] e 19-24 Non-Int in A nd3-V1 (05) 20 ANY WFC3/UVIS, ACCUM, F814W FLASH=19.0 Sequence 19-24 Non 60 Secs (60 Secs) UVIS-CENTER -Int in And3-V1 (05) *[==>]* Prime + Parallel Gro up 19-20 in Sequenc [4] e 19-24 Non-Int in A nd3-V1 (05) POS TARG 0.8300,0 Sequence 19-24 Non 21 (3) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W 1118 Secs (1118 Secs) .1735 -Int in And3-V1 (05) Prime + Parallel Gro up 21-22 in Sequenc e 19-24 Non-Int in A [4] nd3-V1 (05) 22 ANY WFC3/UVIS, ACCUM, F814W Sequence 19-24 Non 1100 Secs (1100 Secs) **UVIS-CENTER** -Int in And3-V1 (05) *[==>1* Prime + Parallel Gro up 21-22 in Sequenc [4] e 19-24 Non-Int in A nd3-V1 (05) 23 (3) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.6080,0 Sequence 19-24 Non 1118 Secs (1118 Secs) -Int in And3-V1 (05) .3810 f = = > 1Prime + Parallel Gro up 23-24 in Sequenc [4] e 19-24 Non-Int in A nd3-V1 (05) 24 ANY WFC3/UVIS, ACCUM, F814W Sequence 19-24 Non | 1100 Secs (1100 Secs) -Int in And3-V1 (05) **UVIS-CENTER** I==>1Prime + Parallel Gro up 23-24 in Sequenc [4] e 19-24 Non-Int in A nd3-V1 (05)









Proposal 16273 - And3-V2 (06) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Proposal 16273, And3-V2 (06), scheduling

Sat Nov 13 00:01:14 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: SAME ORIENT AS 05; AFTER 05; GROUP 06,05 WITHIN 15D

Comments: This is the second out of two visits for obtaining second-epoch images of Andromeda V. This visit spends 3 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel

nstruments.

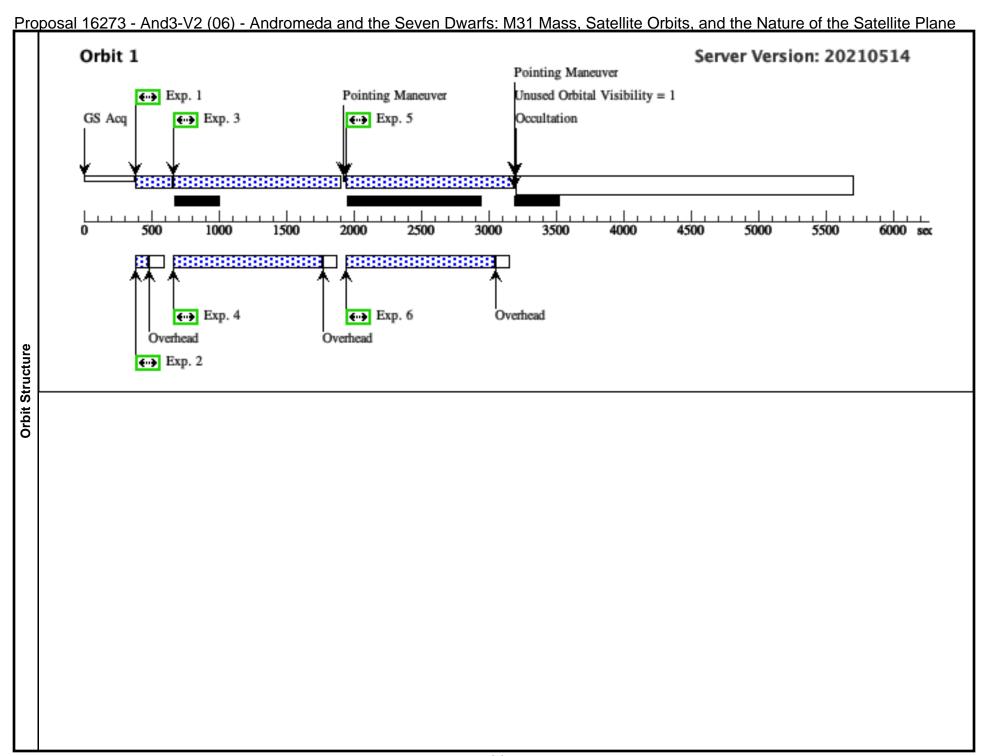
Ŋ	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
get	(3)	ANDROMEDA-III	RA: 00 35 30.7304 (8.8780433d)	Epoch of Position: 2015.5	V=14.4	Reference Frame: SIMBAD			
a.	Dec: +36 30 14.41 (36.50400d)								
ΙĘ	Equinox: J2000 Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=GALAXY Description=[DWARF SPHEROIDAL]								
Fixe									

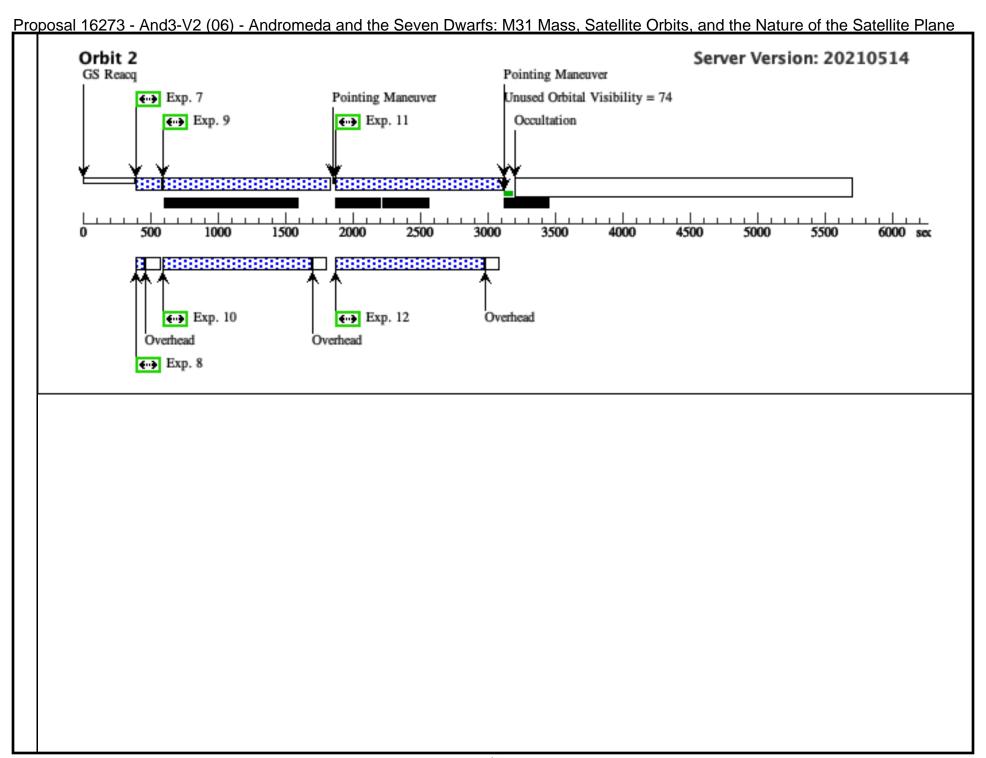
41

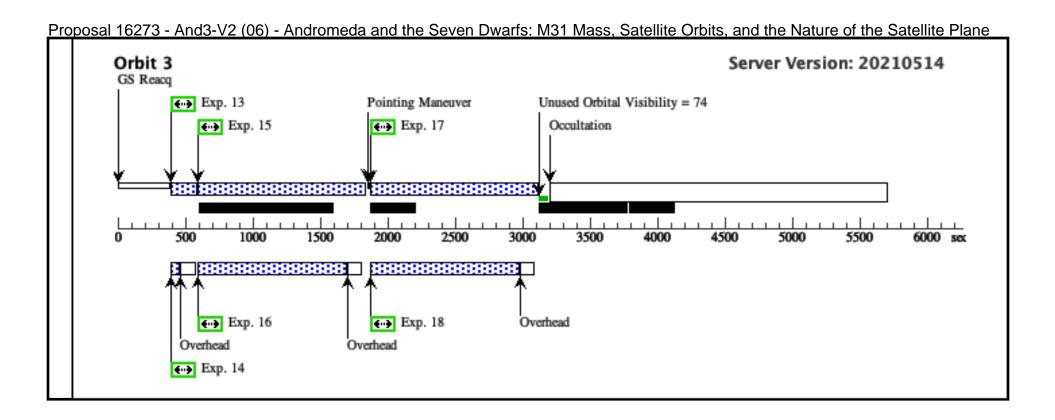
Proposal 16273 - And3-V2 (06) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(3) ANDROMEDA-I II	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.0000,0 .0000	Sequence 1-6 Non-In t in And3-V2 (06) Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And3- V2 (06)	60 Secs (60 Secs) [==>]	[1]
2	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And3-V2 (06) Prime + Parallel Gro	60 Secs (60 Secs) [==>]	[]
						up 1-2 in Sequence 1 -6 Non-Int in And3- V2 (06)		[1]
3	(3) ANDROMEDA-I II	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.0000,0 .0000	t in And3-V2 (06)	1118 Secs (1118 Secs) [==>]	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And3- V2 (06)		[1]
4	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And3-V2 (06)	1100 Secs (1100 Secs)	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And3- V2 (06)	1/	[1]
5	(3) ANDROMEDA-I II	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.1647,0 .0124	Sequence 1-6 Non-In t in And3-V2 (06)	1118 Secs (1118 Secs)	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And3- V2 (06)	[/]	[1]
6	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And3-V2 (06)	1100 Secs (1100 Secs)	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And3- V2 (06)	[/]	[1]
7	(3) ANDROMEDA-I II	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.3293,0 .0248	Sequence 7-12 Non-I nt in And3-V2 (06)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And3- V2 (06)	1/	[2]
8	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And3-V2 (06)	60 Secs (60 Secs) [==>]	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And3- V2 (06)	[/]	[2]
9	(3) ANDROMEDA-I II	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.3293,0 .0248	Sequence 7-12 Non-I nt in And3-V2 (06)	1118 Secs (1118 Secs)	
						Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 3-V2 (06)	1/	[2]

Proposal 16273 - And3-V2 (06) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 10 Sequence 7-12 Non-I | 1100 Secs (1100 Secs) ANY WFC3/UVIS, ACCUM, F814W nt in And3-V2 (06) UVIS-CENTER f = = > 1Prime + Parallel Gro [2] up 9-10 in Sequence 7-12 Non-Int in And 3-V2 (06) 11 POS TARG 1.0747,0 Sequence 7-12 Non-I 1118 Secs (1118 Secs) (3) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W .1294 nt in And3-V2 (06) [==>] Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d3-V2 (06) 12 Sequence 7-12 Non-I ANY WFC3/UVIS, ACCUM, F814W 1100 Secs (1100 Secs) **UVIS-CENTER** nt in And3-V2 (06) Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d3-V2 (06) 13 (3) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 1.2393,0 Sequence 13-18 Non 60 Secs (60 Secs) .1418 -Int in And3-V2 (06) I = = > 1Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd3-V2 (06) 14 ANY WFC3/UVIS, ACCUM. F814W FLASH=19.0 Sequence 13-18 Non 60 Secs (60 Secs) -Int in And3-V2 (06) UVIS-CENTER Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd3-V2 (06) 15 POS TARG 1.2393,0 Sequence 13-18 Non 1118 Secs (1118 Secs) (3) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W -Int in And3-V2 (06) II .1418 I==>1Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd3-V2 (06) WFC3/UVIS, ACCUM, 16 ANY F814W Sequence 13-18 Non 1100 Secs (1100 Secs) -Int in And3-V2 (06) UVIS-CENTER Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd3-V2 (06) 17 POS TARG 1.4039,0 Sequence 13-18 Non 1118 Secs (1118 Secs) (3) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W -Int in And3-V2 (06) .1541 Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd3-V2 (06) 18 ANY WFC3/UVIS, ACCUM, F814W Sequence 13-18 Non 1100 Secs (1100 Secs) -Int in And3-V2 (06) **UVIS-CENTER** Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd3-V2 (06)







Proposal 16273 - And15-V1 (07) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Proposal 16273, And15-V1 (07), failed

Sat Nov 13 00:01:14 GMT 202

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: SCHED 70%; ORIENT 200.9D TO 200.9 D; AFTER 01-JAN-2021:00:00:00; GROUP 07,08 WITHIN 15D

Comments: This is the first out of two visits for obtaining second-epoch images of Andromeda XV. This visit spends 3 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel instruments. For proper motion measuring purpose, we required to match our telescope orientations to the first-epoch observations. We have accordingly added the Visit Orientation Requirements. We have grouped Visits 07 and 08 and specified these visits to be observed within a 15 day period so that all images can be treated as a single-epoch data for astrometric analyses. Our science requires that the time baseline between the previous first- and this cycle's second-epoch is at least 7 years apart (this is specified in the Phase 1 proposal). We therefore added a Timing Requirement of "AFTER 01-JAN-2021:00:00:00:00".

S	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(4)	ANDROMEDA-XV	RA: 01 14 18.5718 (18.5773825d)	Epoch of Position: 2015.5	V=14.6	Reference Frame: SIMBAD			
ar.		Dec: +38 07 2.97 (38.11749d)							
Ϊ́Ę		Equinox: J2000							
Fixed	Categ	Equinox: J2000 Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=GALAXY Description=[DWARF SPHEROIDAL]							

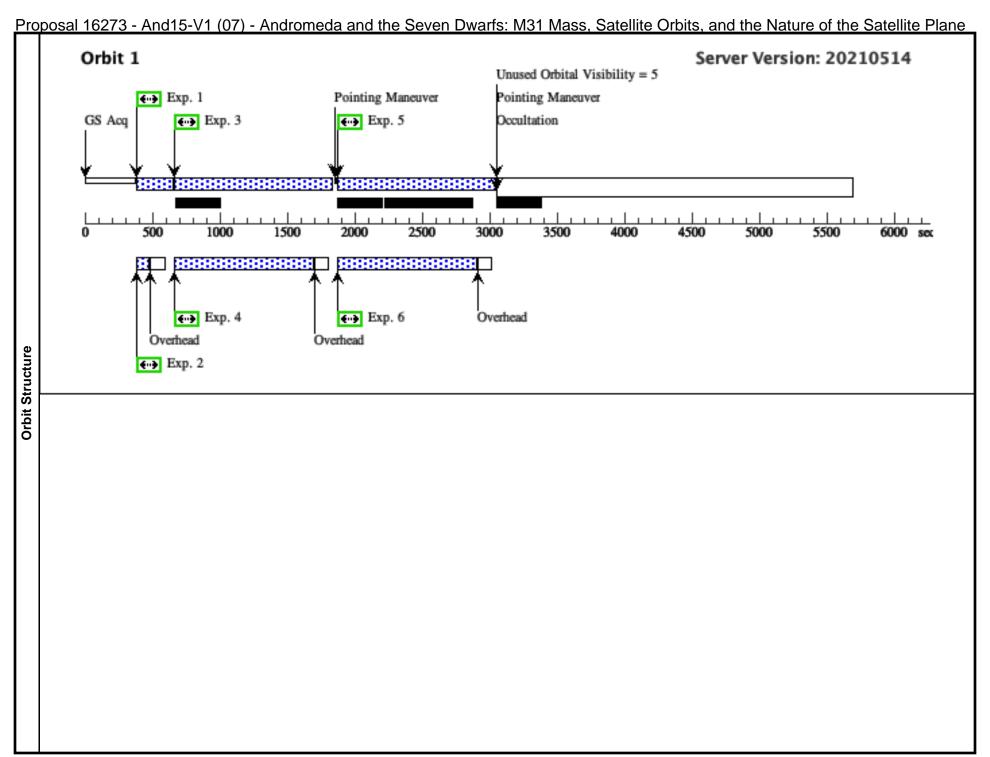
Proposal 16273 - And15-V1 (07) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

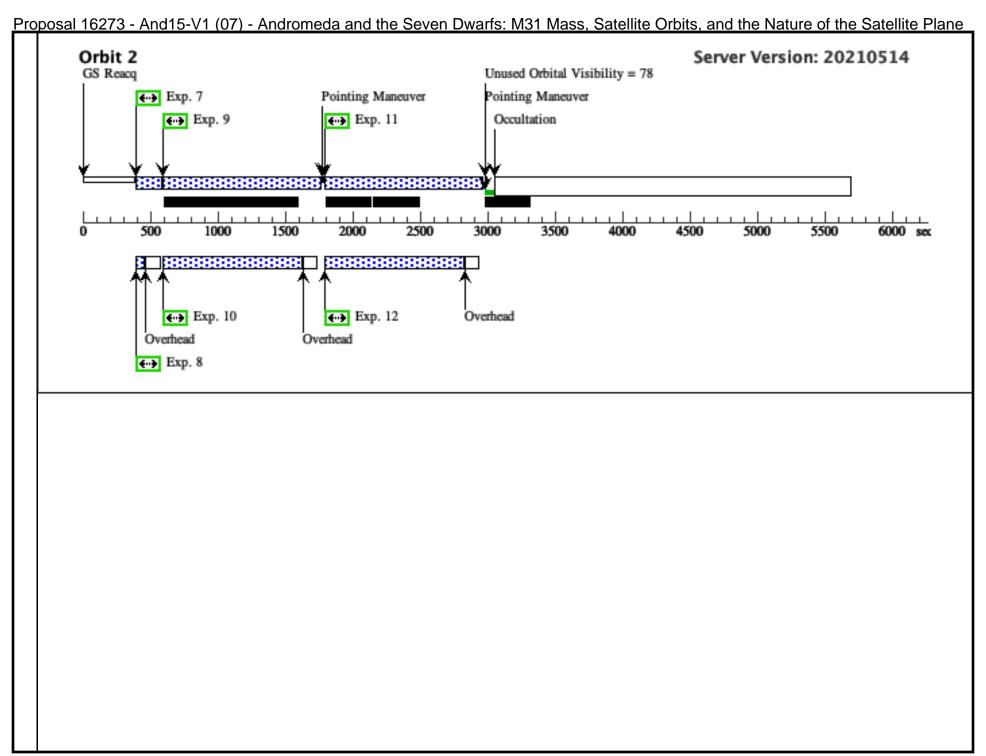
	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And15-V1 (07)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And15- V1 (07)	[==>]	[1]
2	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And15-V1 (07)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And15- V1 (07)	1>1	[1]
3	(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And15-V1 (07)	1045 Secs (1045 Secs)	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And15- V1 (07)	[==>]	[1]
4	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And15-V1 (07)	1030 Secs (1030 Secs)	
		0.10 02.012.0				Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And15- V1 (07)	[==>]	[1]
5	(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.2228,0 .1158	Sequence 1-6 Non-In t in And15-V1 (07)	1045 Secs (1045 Secs)	
					11.200	Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And15- V1 (07)	[==>]	[1]
6	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And15-V1 (07)	1030 Secs (1030 Secs)	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And15- V1 (07)	[==>]	[1]
7	(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0998,0 .2303	Sequence 7-12 Non-I nt in And15-V1 (07)		
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1 5-V1 (07)	[==>]	[2]
8	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And15-V1 (07)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1 5-V1 (07)	[==>]	[2]
9	(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0998,0 .2303	Sequence 7-12 Non-I nt in And15-V1 (07)	1045 Secs (1045 Secs)	
						Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 15-V1 (07)	[==>]	[2]

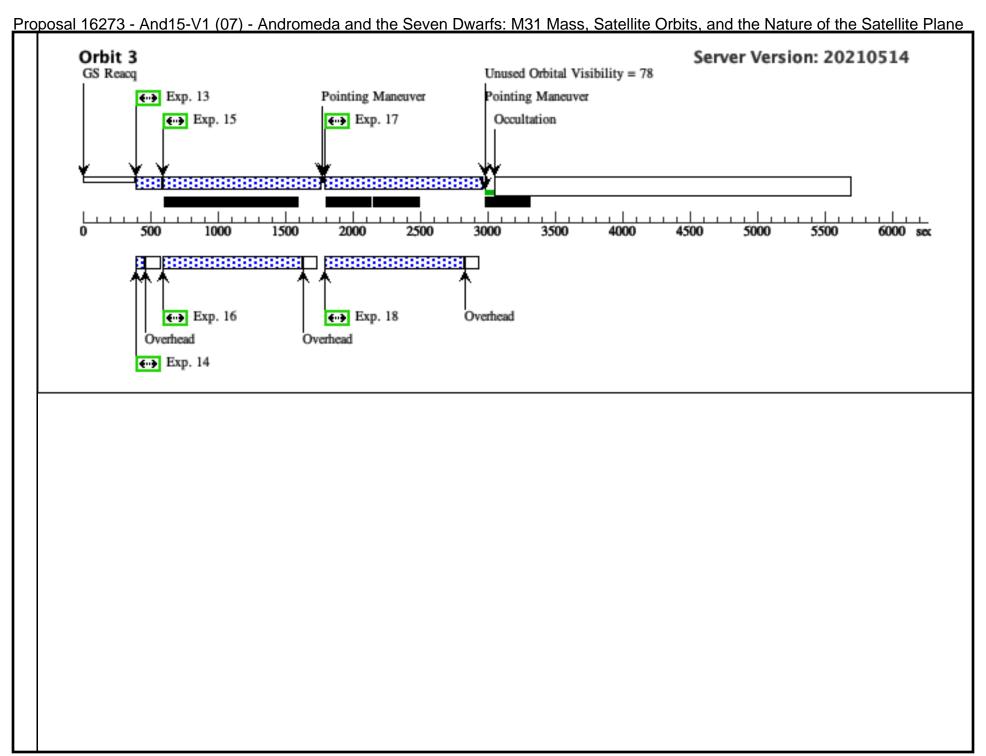
Proposal 16273 - And15-V1 (07) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 10 Sequence 7-12 Non-I 1030 Secs (1030 Secs) ANY WFC3/UVIS, ACCUM, F814W UVIS-CENTER nt in And15-V1 (07) Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 15-V1 (07) 11 POS TARG 0.3225,0 Sequence 7-12 Non-I 1045 Secs (1045 Secs) (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W .3460 nt in And15-V1 (07) [==>] Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d15-V1 (07) 12 Sequence 7-12 Non-I | 1030 Secs (1030 Secs) ANY WFC3/UVIS, ACCUM, F814W nt in And15-V1 (07) **UVIS-CENTER** Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d15-V1 (07) 13 (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.4075,0 Sequence 13-18 Non 60 Secs (60 Secs) -Int in And15-V1 (07 .0306 I = = > 1Prime + Parallel Gro [3] up 13-14 in Sequenc e 13-18 Non-Int in A nd15-V1 (07) 14 WFC3/UVIS, ACCUM, F814W FLASH=19.0 Sequence 13-18 Non 60 Secs (60 Secs) ANY UVIS-CENTER -Int in And15-V1 (07 I==>1Prime + Parallel Gro [3] up 13-14 in Sequenc e 13-18 Non-Int in A nd15-V1 (07) (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W XV 15 POS TARG 0.4075,0 Sequence 13-18 Non | 1045 Secs (1045 Secs) -Int in And15-V1 (07 .0306 *I==>1* Prime + Parallel Gro [3] up 15-16 in Sequenc e 13-18 Non-Int in A nd15-V1 (07) 16 ANY WFC3/UVIS, ACCUM, F814W Sequence 13-18 Non 1030 Secs (1030 Secs) -Int in And15-V1 (07 [==>]**UVIS-CENTER** Prime + Parallel Gro [3] up 15-16 in Sequenc e 13-18 Non-Int in A nd15-V1 (07) (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W 17 POS TARG 0.6304,0 Sequence 13-18 Non 1045 Secs (1045 Secs) -Int in And15-V1 (07 $I_{==>1}$ XV .1464 Prime + Parallel Gro up 17-18 in Sequenc e 13-18 Non-Int in A nd15-V1 (07) [3]

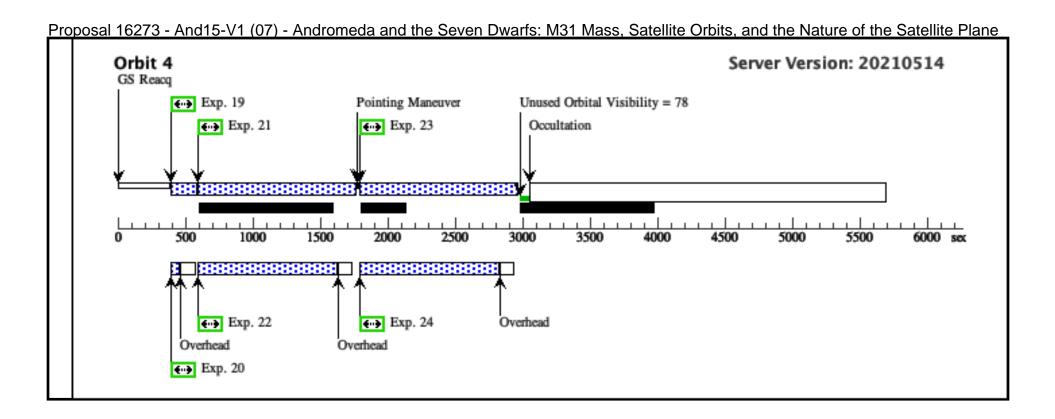
Proposal 16273 - And15-V1 (07) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 18 F814W Sequence 13-18 Non 1030 Secs (1030 Secs) ANY WFC3/UVIS, ACCUM, UVIS-CENTER -Int in And15-V1 (07 f = = > 1Prime + Parallel Gro [3] up 17-18 in Sequenc e 13-18 Non-Int in A nd15-V1 (07) 19 (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.5073,0 Sequence 19-24 Non 60 Secs (60 Secs) -Int in And 15-V1 (07) $I_{==>1}$.2609 Prime + Parallel Gro [4] up 19-20 in Sequenc e 19-24 Non-Int in A nd15-V1 (07) 20 ANY WFC3/UVIS, ACCUM, F814W FLASH=19.0 Sequence 19-24 Non 60 Secs (60 Secs) -Int in And15-V1 (07 UVIS-CENTER I ==>1Prime + Parallel Gro [4] up 19-20 in Sequenc e 19-24 Non-Int in A nd15-V1 (07) 21 (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.5073,0 Sequence 19-24 Non 1045 Secs (1045 Secs) -Int in And15-V1 (07 .2609 I==>1Prime + Parallel Gro [4] up 21-22 in Sequenc e 19-24 Non-Int in A nd15-V1 (07) 22 ANY WFC3/UVIS, ACCUM, F814W Sequence 19-24 Non | 1030 Secs (1030 Secs) -Int in And 15-V1 (07 I = > I**UVIS-CENTER** Prime + Parallel Gro [4] up 21-22 in Sequenc e 19-24 Non-Int in A nd15-V1 (07) (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W XV 23 POS TARG 0.7302.0 Sequence 19-24 Non 1045 Secs (1045 Secs) -Int in And15-V1 (07 .3767 *[==>]* Prime + Parallel Gro [4] up 23-24 in Sequenc e 19-24 Non-Int in A nd15-V1 (07) 24 ANY 1030 Secs (1030 Secs) WFC3/UVIS, ACCUM, F814W Sequence 19-24 Non UVIS-CENTER -Int in And15-V1 (07 [==>] Prime + Parallel Gro [4] up 23-24 in Sequenc

e 19-24 Non-Int in A nd15-V1 (07)









Proposal 16273 - And15-V2 (08) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Sat Nov 13 00:01:14 GMT 2021

Proposal 16273, And15-V2 (08), completed

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: SCHED 70%; SAME ORIENT AS 07; AFTER 01-JAN-2021:00:00:00; AFTER 07; GROUP 08,07 WITHIN 15D

Comments: This is the second out of two visits for obtaining second-epoch images of Andromeda XV. This visit spends 4 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel

Ś	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
l je	(4)	ANDROMEDA-XV	RA: 01 14 18.5718 (18.5773825d)	Epoch of Position: 2015.5	V=14.6	Reference Frame: SIMBAD			
ar	Dec: +38 07 2.97 (38.11749d)								
ΙĻ	Equinox: J2000								
Ιğ	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.								

Category=GALAXŸ

Description=[DWARF SPHEROIDAL]

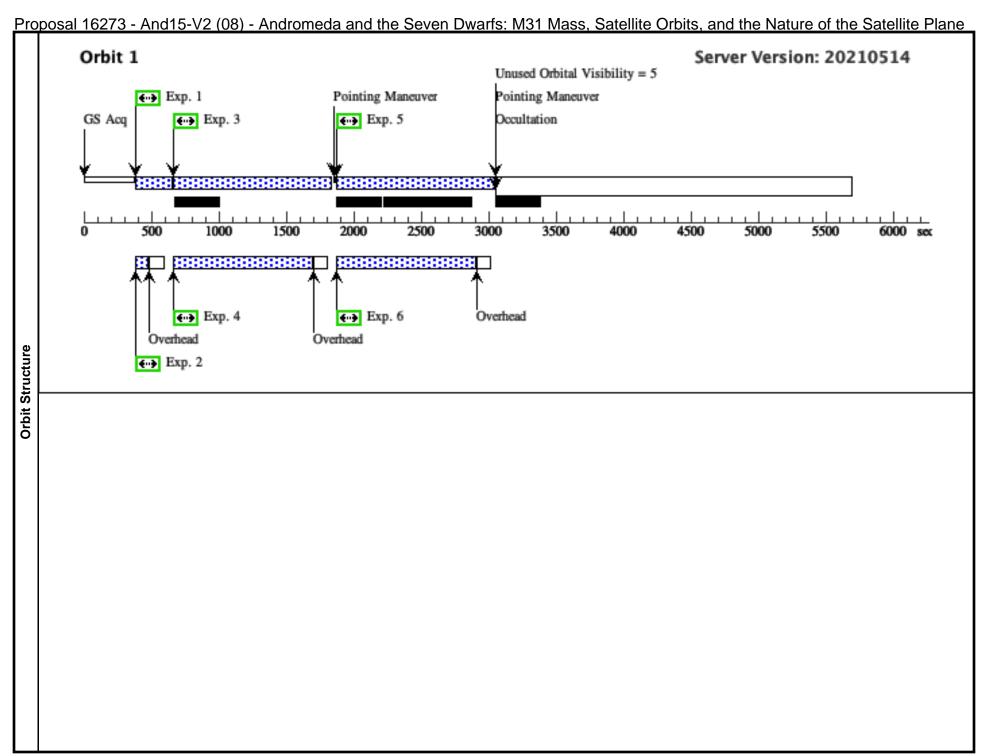
Proposal 16273 - And15-V2 (08) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

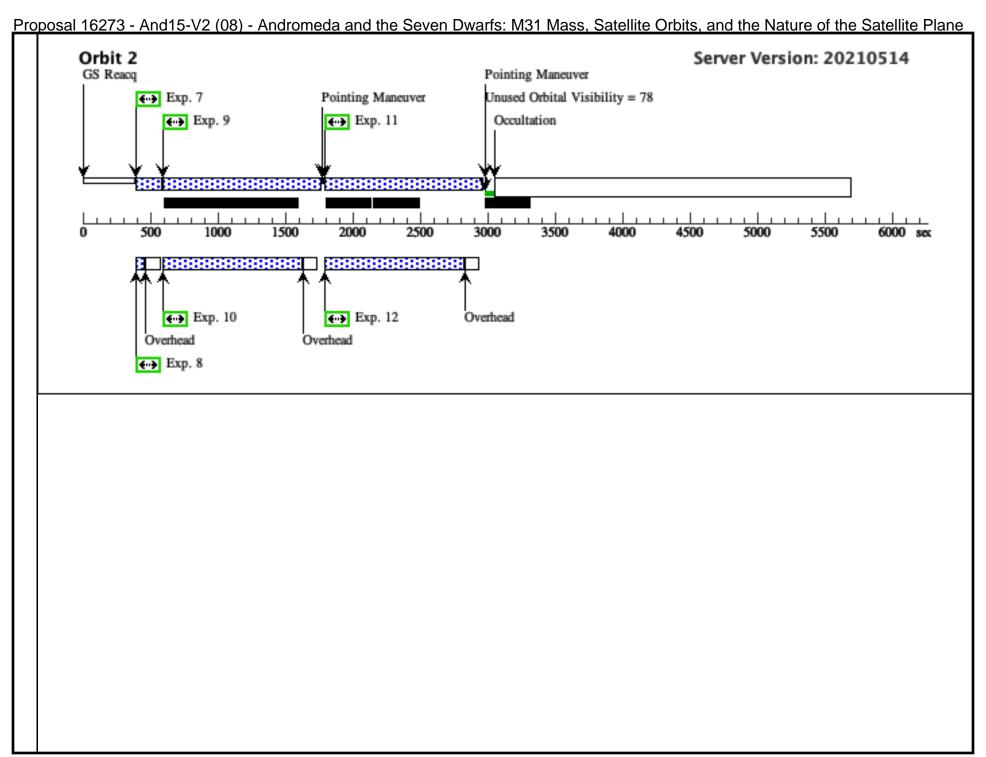
Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0018,0 .4085	t in And15-V2 (08)	60 Secs (60 Secs) [==>]	
					Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And15- V2 (08)		[1]
ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And15-V2 (08)		
					Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And15- V2 (08)	1/	[1]
(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0018,0 .4085	Sequence 1-6 Non-In t in And15-V2 (08)		
					Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And15- V2 (08)	[==>]	[1]
ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W				` ′	
					Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And15- V2 (08)	[==>]	[1]
(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.2246,0 .5243	Sequence 1-6 Non-In t in And15-V2 (08)		
					Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And15- V2 (08)	[==>]	[1]
ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W				` '	
					Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And15- V2 (08)	[==>]	[1]
(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.1017,0 .6388	Sequence 7-12 Non-I nt in And15-V2 (08)		
					Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1 5-V2 (08)	[==>]	[2]
ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And15-V2 (08)		
					Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1 5-V2 (08)	[/]	[2]
(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.1017,0 .6388	Sequence 7-12 Non-I nt in And15-V2 (08)		
					Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And	_==>J	[2]
	(4) ANDROMEDA-XV (4) ANDROMEDA-XV ANY (4) ANDROMEDA-XV ANY (4) ANDROMEDA-XV ANY	(4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER WFC3/UVIS, ACCUM, WFCENTER (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER ANY WFC3/UVIS, ACCUM, UVIS-CENTER (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER ANY WFC3/UVIS, ACCUM, UVIS-CENTER (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER ANY WFC3/UVIS, ACCUM, UVIS-CENTER (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER	ANY WFC3/UVIS. ACCUM, WFCENTER F814W (4) ANDROMEDA- XV WFC3/UVIS. ACCUM, WFCENTER F814W ANY WFC3/UVIS. ACCUM, WFCENTER F814W (4) ANDROMEDA- XV (4) ANDROMEDA- XCS/WFC, ACCUM, WFCENTER F814W ANY WFC3/UVIS. ACCUM, WFCENTER F814W ANY WFC3/UVIS. ACCUM, WFCENTER F814W (4) ANDROMEDA- XCS/WFC, ACCUM, WFCENTER F814W (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W ANY WFC3/UVIS. ACCUM, WFCENTER F814W (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W	(4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W ANY WFC3/UVIS, ACCUM, WFCENTER F814W (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W ANY WFC3/UVIS, ACCUM, WFCENTER F814W (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W ANY WFC3/UVIS, ACCUM, WFCENTER F814W (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W	(4) ANDROMEDA-XV ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.0018.0 A085 ANY WFC3/UVIS, ACCUM, UVIS-CENTER F814W FLASH=19.0 (4) ANDROMEDA-XV ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.0018.0 A085 ANY WFC3/UVIS, ACCUM, WFCENTER F814W POS TARG 0.0018.0 A085 (4) ANDROMEDA-XV ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.2246.0 A085 (4) ANDROMEDA-XV ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.1017.0 A088 (4) ANDROMEDA-XV WFC3/UVIS, ACCUM, WFCENTER F814W FLASH=19.0 A088 (4) ANDROMEDA-XV ACS/WFC, ACCUM, WFCENTER F814W FLASH=19.0 A088	(4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.0018.0 Sequence 1-6 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, F814W FLASH=19.0 Sequence 1-6 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, WFCENTER F814W PLASH=19.0 Sequence 1-6 Non-In in And 15-V2 (08) (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.0018.0 Sequence 1-6 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, F814W POS TARG 0.0018.0 Sequence 1-6 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, F814W Sequence 1-6 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, WFCENTER F814W POS TARG 0.0246.0 Sequence 1-6 Non-In in And 15-V2 (08) (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.0246.0 Sequence 1-6 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, F814W POS TARG 0.0246.0 Sequence 1-6 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, F814W POS TARG 0.0246.0 Sequence 1-6 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, F814W POS TARG 0.0246.0 Sequence 1-6 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, F814W POS TARG 0.0246.0 Sequence 1-6 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, F814W POS TARG 0.0117.0 Sequence 1-6 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, WFCENTER F814W POS TARG 0.0117.0 Sequence 1-7 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, WFCENTER F814W POS TARG 0.0117.0 Sequence 1-7 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, WFCENTER F814W POS TARG 0.01017.0 Sequence 1-7 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, WFCENTER F814W POS TARG 0.01017.0 Sequence 1-7 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, WFCENTER F814W POS TARG 0.01017.0 Sequence 1-7 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, WFCENTER F814W POS TARG 0.01017.0 Sequence 1-7 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, WFCENTER F814W POS TARG 0.01017.0 Sequence 1-7 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, WFCENTER F814W POS TARG 0.01017.0 Sequence 1-7 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, WFCENTER F814W POS TARG 0.01017.0 Sequence 1-7 Non-In in And 15-V2 (08) ANY WFC3UVIS, ACCUM, WFCENTER F814W POS TARG 0.01017.0 Sequence 1-7	ANDROMEDA- ACSAWFC, ACCUM, WFCENTER F814W POS TARG 0.0018.0 Sequence 1-6 Non-In to A018 Y-2 (08)

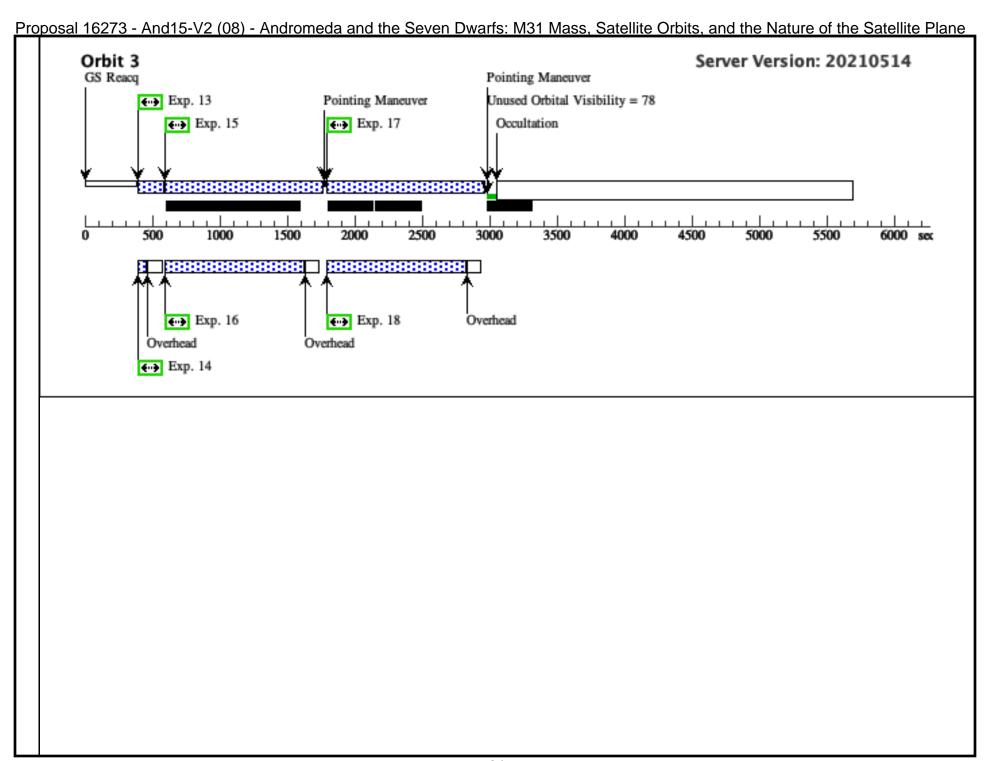
Proposal 16273 - And15-V2 (08) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 10 Sequence 7-12 Non-I 1030 Secs (1030 Secs) ANY WFC3/UVIS, ACCUM, F814W UVIS-CENTER nt in And15-V2 (08) I = = > 1Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 15-V2 (08) 11 POS TARG 0.3244,0 Sequence 7-12 Non-I | 1045 Secs (1045 Secs) (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W .7545 nt in And15-V2 (08) I = = > 1Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d15-V2 (08) 12 Sequence 7-12 Non-I ANY WFC3/UVIS, ACCUM, F814W 1030 Secs (1030 Secs) nt in And15-V2 (08) **UVIS-CENTER** Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d15-V2 (08) 13 (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.4093,0 Sequence 13-18 Non 60 Secs (60 Secs) -Int in And15-V2 (08 .4392 I = = > 1Prime + Parallel Gro [3] up 13-14 in Sequenc e 13-18 Non-Int in A nd15-V2 (08) 14 WFC3/UVIS, ACCUM, F814W FLASH=19.0 Sequence 13-18 Non 60 Secs (60 Secs) ANY UVIS-CENTER -Int in And15-V2 (08 [I = = > 1Prime + Parallel Gro [3] up 13-14 in Sequenc e 13-18 Non-Int in A nd15-V2 (08) (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W XV 15 POS TARG 0.4093,0 Sequence 13-18 Non | 1045 Secs (1045 Secs) -Int in And15-V2 (08 I==>1.4392 Prime + Parallel Gro [3] up 15-16 in Sequenc e 13-18 Non-Int in A nd15-V2 (08) 16 ANY WFC3/UVIS, ACCUM, F814W Sequence 13-18 Non 1030 Secs (1030 Secs) -Int in And15-V2 (08 I==>1**UVIS-CENTER** Prime + Parallel Gro [3] up 15-16 in Sequenc e 13-18 Non-Int in A nd15-V2 (08) (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W 17 POS TARG 0.6322,0 Sequence 13-18 Non 1045 Secs (1045 Secs) -Int in And15-V2 (08 I==>1XV .5550 Prime + Parallel Gro up 17-18 in Sequenc e 13-18 Non-Int in A nd15-V2 (08) [3]

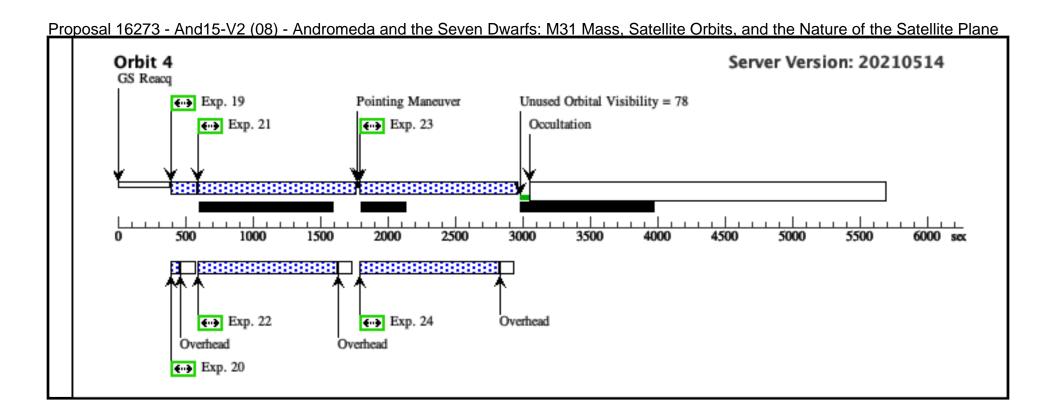
Proposal 16273 - And15-V2 (08) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 18 F814W Sequence 13-18 Non 1030 Secs (1030 Secs) ANY WFC3/UVIS, ACCUM, UVIS-CENTER -Int in And15-V2 (08 f = = > 1Prime + Parallel Gro [3] up 17-18 in Sequenc e 13-18 Non-Int in A nd15-V2 (08) 19 (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.5091,0 Sequence 19-24 Non 60 Secs (60 Secs) -Int in And15-V2 (08 $I_{==>1}$.6695 Prime + Parallel Gro [4] up 19-20 in Sequenc e 19-24 Non-Int in A nd15-V2 (08) 20 ANY WFC3/UVIS, ACCUM, F814W FLASH=19.0 Sequence 19-24 Non 60 Secs (60 Secs) -Int in And15-V2 (08 UVIS-CENTER I==>1Prime + Parallel Gro [4] up 19-20 in Sequenc e 19-24 Non-Int in A nd15-V2 (08) 21 (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.5091,0 Sequence 19-24 Non 1045 Secs (1045 Secs) -Int in And15-V2 (08 .6695 I = = > 1Prime + Parallel Gro [4] up 21-22 in Sequenc e 19-24 Non-Int in A nd15-V2 (08) 22 ANY WFC3/UVIS, ACCUM, F814W Sequence 19-24 Non | 1030 Secs (1030 Secs) -Int in And 15-V2 (08 I = > I**UVIS-CENTER** Prime + Parallel Gro [4] up 21-22 in Sequenc e 19-24 Non-Int in A nd15-V2 (08) (4) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W XV 23 POS TARG 0.7320.0 Sequence 19-24 Non 1045 Secs (1045 Secs) -Int in And15-V2 (08 [==>].7852 Prime + Parallel Gro [4] up 23-24 in Sequenc e 19-24 Non-Int in A nd15-V2 (08) 24 ANY WFC3/UVIS, ACCUM, F814W Sequence 19-24 Non 1030 Secs (1030 Secs) -Int in And15-V2 (08 [==>]UVIS-CENTER Prime + Parallel Gro [4] up 23-24 in Sequenc e 19-24 Non-Int in A

nd15-V2 (08)









Proposal 16273 - And16 (09) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Proposal 16273, And16 (09), scheduling

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 100.0D TO 100.0 D; AFTER 01-JAN-2021:00:00:00

Comments: This is the visit for obtaining second-epoch images of Andromeda XVI. This visit spends 3 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel instruments. For proper motion measuring purpose, we required to match our telescope orientations to the first-epoch observations for both the primary and parallel fields. We have accordingly added the Visit Orientation Requirements. Our science requires that the time baseline between the previous first- and this cycle's second-epoch is at least 8 years apart (this is specified in the Phase 1 proposal). We therefore added a Timing Requirement of "AFTER 01-JAN-2021:00:00:00".

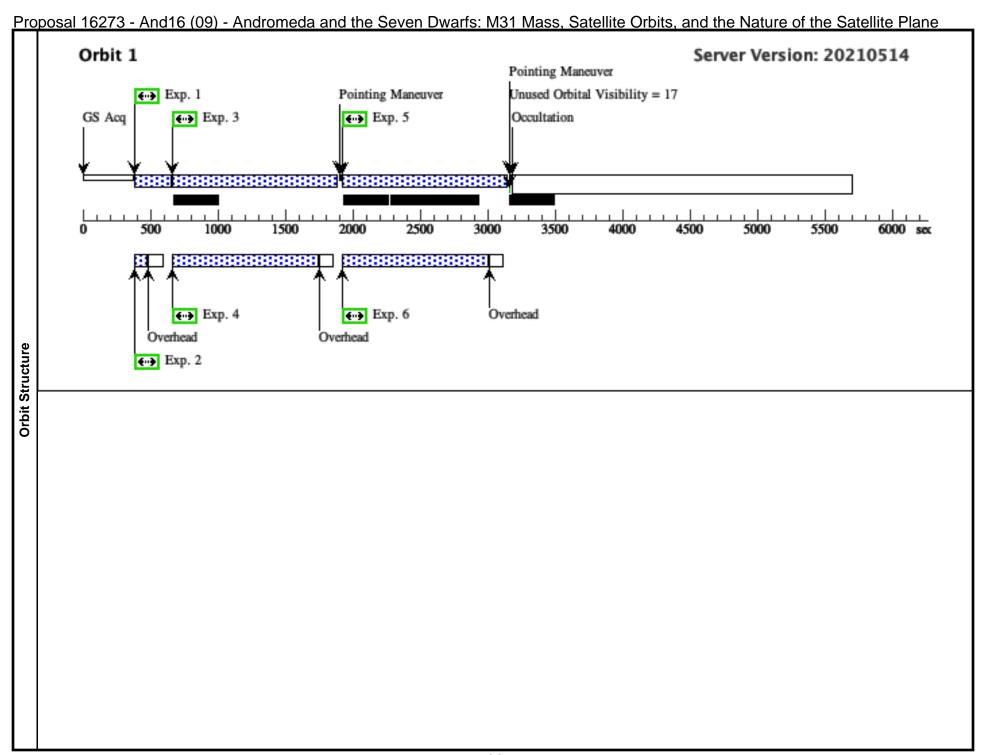
Sat Nov 13 00:01:14 GMT 2021

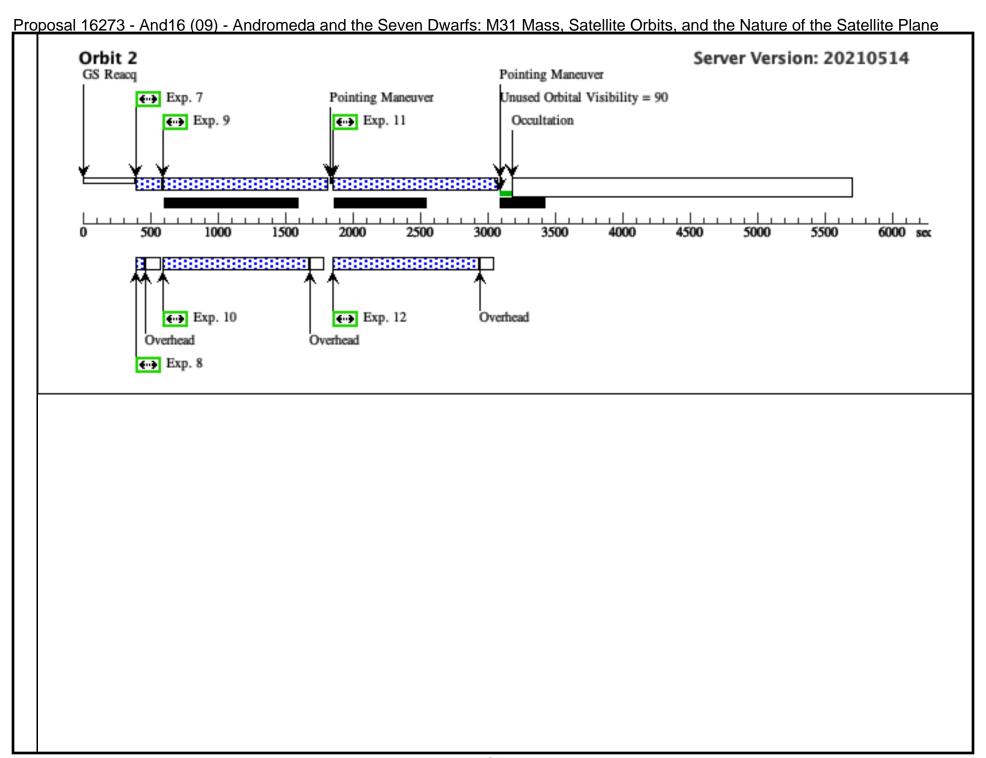
ဟု	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(5)	ANDROMEDA-XVI	RA: 00 59 32.4165 (14.8850687d)	Epoch of Position: 2015.5	V=14.4	Reference Frame: SIMBAD			
a.			Dec: +32 23 37.86 (32.39385d)						
15		Equinox: J2000							
Fixed	Cate	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=GALAXY Description=[DWARF SPHEROIDAL]							

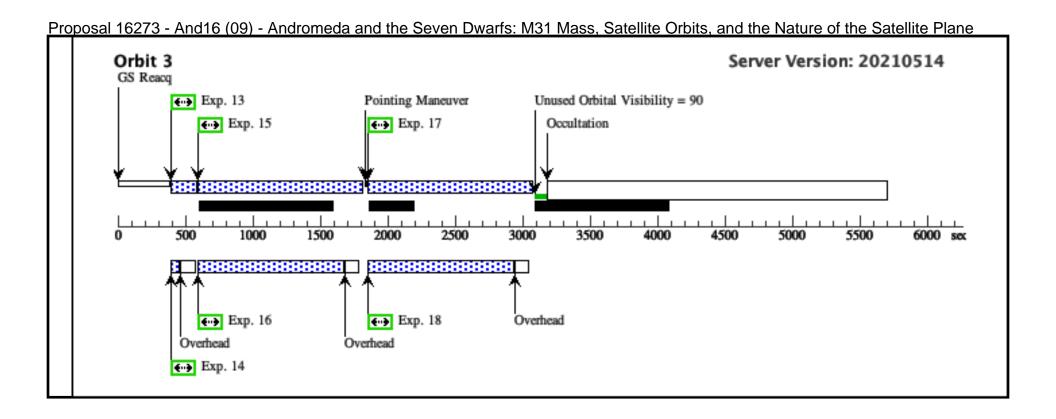
Proposal 16273 - And16 (09) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(5) ANDROMEDA- XVI	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And16 (09)	60 Secs (60 Secs) [==>]	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And16 (09)		[1]
2	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And16 (09)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And16 (09)		[1]
3	(5) ANDROMEDA- XVI	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And16 (09)	1100 Secs (1100 Secs)	
	AVI				.5000	Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And16 (09)	[==>]	[1]
4	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And16 (09)	1080 Secs (1080 Secs)	
		OVIS-CLIVIER				Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And16 (09)	[==>]	[1]
5	(5) ANDROMEDA- XVI	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.1647,0 .0124	Sequence 1-6 Non-In t in And16 (09)	1100 Secs (1100 Secs)	
	AVI				.0124	Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And16 (09)	[==>]	[1]
6	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And16 (09)	1080 Secs (1080 Secs)	
		0.12 02.112.1				Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And16 (09)	[==>]	[1]
7	(5) ANDROMEDA- XVI	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3293,0 .0248	Sequence 7-12 Non-I nt in And16 (09)	, , ,	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1 6 (09)	[==>]	[2]
8	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And16 (09)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1 6 (09)	[>]	[2]
9	(5) ANDROMEDA- XVI	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3293,0 .0248	Sequence 7-12 Non-I nt in And16 (09)	1100 Secs (1100 Secs)	
						Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 16 (09)	[==>]	[2]

Proposal 16273 - And16 (09) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane Sequence 7-12 Non-I | 1080 Secs (1080 Secs) 10 ANY WFC3/UVIS, ACCUM, F814W UVIS-CENTER nt in And16 (09) f = = > 1Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 16 (09) 11 (5) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.0747,0 Sequence 7-12 Non-I | 1100 Secs (1100 Secs) .1294 nt in And16 (09) [==>] Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d16 (09) 12 Sequence 7-12 Non-I ANY WFC3/UVIS, ACCUM, F814W 1080 Secs (1080 Secs) **UVIS-CENTER** nt in And16 (09) Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d16 (09) 13 (5) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.2393,0 Sequence 13-18 Non 60 Secs (60 Secs) .1418 -Int in And16 (09) *[==>1* Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd16 (09) 14 ANY WFC3/UVIS, ACCUM. F814W FLASH=19.0 Sequence 13-18 Non 60 Secs (60 Secs) UVIS-CENTER -Int in And16 (09) f==>1 Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd16 (09) 15 (5) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.2393,0 Sequence 13-18 Non 1100 Secs (1100 Secs) XVI .1418 -Int in And16 (09) I = = > 1Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd16 (09) 16 WFC3/UVIS, ACCUM, ANY F814W Sequence 13-18 Non 1080 Secs (1080 Secs) UVIS-CENTER -Int in And16 (09) [==>1 Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd16 (09) (5) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W 17 POS TARG 0.4039,0 Sequence 13-18 Non 1100 Secs (1100 Secs) ΧVΙ .1541 -Int in And16 (09) I = = > 1Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd16 (09) 18 ANY WFC3/UVIS, ACCUM, F814W Sequence 13-18 Non 1080 Secs (1080 Secs) **UVIS-CENTER** -Int in And16 (09) Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd16 (09)







Proposal 16273 - And28-V1 (10) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Proposal 16273, And28-V1 (10), completed Sat Nov 13 00:01:15 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 39.3D TO 39.3 D; GROUP 10,11,12 WITHIN 15D

Comments: This is the first out of two visits for obtaining second-epoch images of Andromeda XVIII. This visit spends 4 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel instruments. For proper motion measuring purpose, we required to match our telescope orientations to the first-epoch observations for both the primary and parallel fields. We have accordingly added the Visit Orientation Requirements. We have grouped Visits 10, 11, and 12 and specified these visits to be observed within a 15 day period so that all images can be treated as a single-epoch data for astrometric analyses.

y.	#	# Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	6		RA: 22 32 41.3374 (338.1722392d)	Epoch of Position: 2015.5	V=15.6	Reference Frame: SIMBAD			
a.		Dec: +31 12 58.48 (31.21624d)							
۱Ę		Equinox: J2000							
l ğ		Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.							
Ιĉ	- (Category=GALAXY							
Ц.	1	Description=[DWARF SPHEROIDAL]	1						

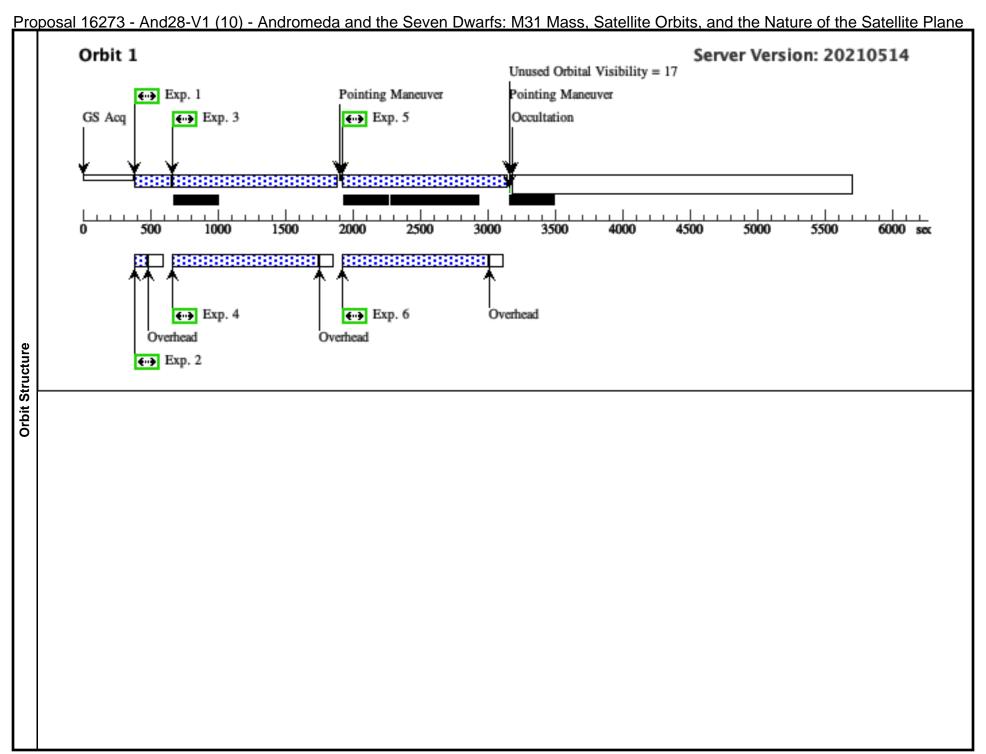
Proposal 16273 - And28-V1 (10) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

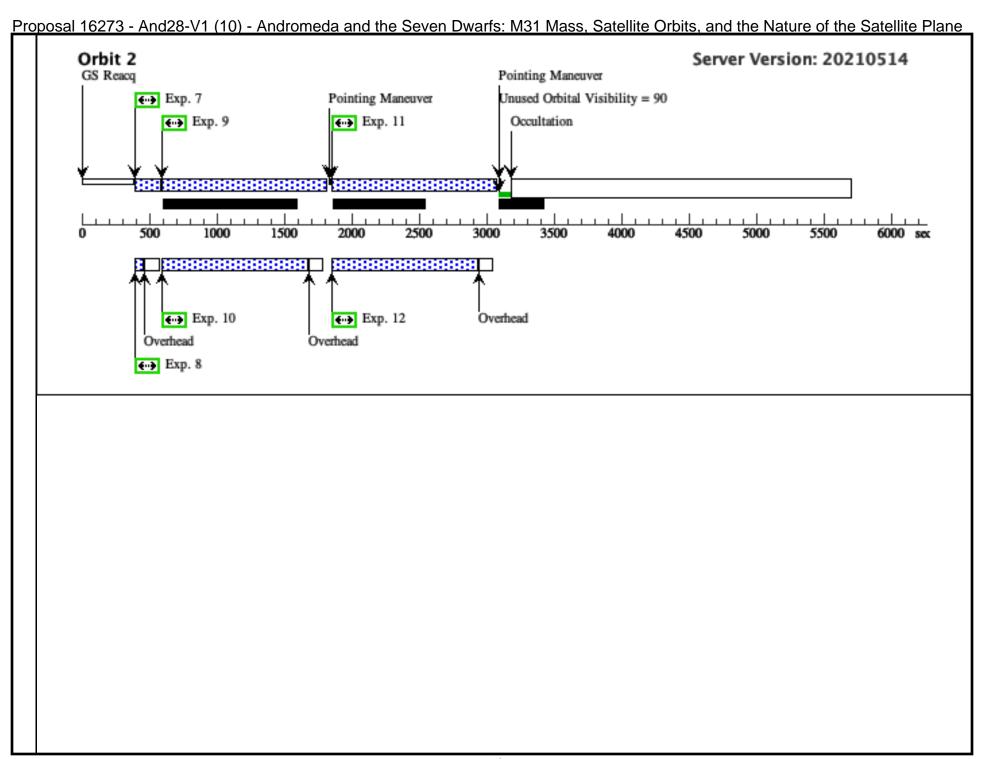
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And28-V1 (10) Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And28- V1 (10)	60 Secs (60 Secs) [==>]	[1]
2		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And28-V1 (10) Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And28- V1 (10)	60 Secs (60 Secs) [==>]	[1]
3		(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And28-V1 (10) Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And28- V1 (10)	1100 Secs (1100 Secs) [==>]	[1]
4		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W				1080 Secs (1080 Secs) [==>]	[1]
5		(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.1740,0 .2350	Sequence 1-6 Non-In t in And28-V1 (10) Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And28- V1 (10)	1100 Secs (1100 Secs) [==>]	[1]
6		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And28-V1 (10) Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And28- V1 (10)	1080 Secs (1080 Secs) [==>]	[1]
7		(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3232,0 .1235	Sequence 7-12 Non-I nt in And28-V1 (10) Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And2 8-V1 (10)	60 Secs (60 Secs) [==>]	[2]
8		ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And28-V1 (10) Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And2 8-V1 (10)	60 Secs (60 Secs) [==>]	[2]
9		(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3232,0 .1235	Sequence 7-12 Non-I nt in And28-V1 (10) Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 28-V1 (10)	1100 Secs (1100 Secs) [==>]	[2]

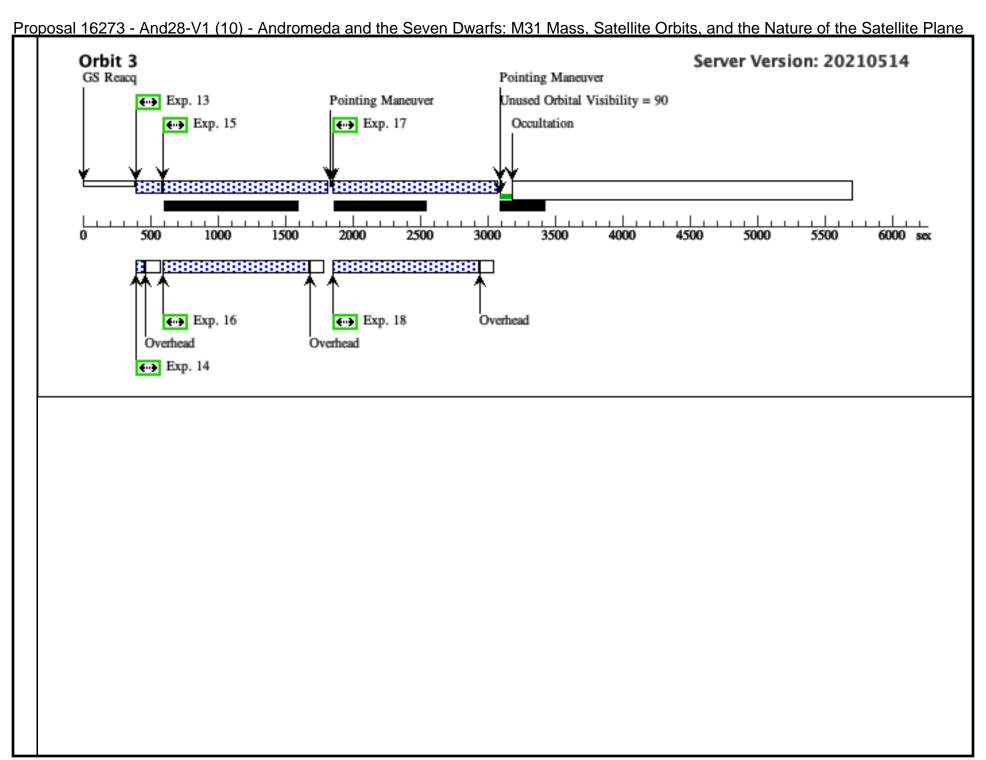
Proposal 16273 - And28-V1 (10) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane Sequence 7-12 Non-I | 1080 Secs (1080 Secs) 10 ANY WFC3/UVIS, ACCUM, F814W nt in And28-V1 (10) UVIS-CENTER Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 28-V1 (10) 11 (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.1005,0 Sequence 7-12 Non-I | 1100 Secs (1100 Secs) XXVIII .3305 nt in And28-V1 (10) *[==>]* Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d28-V1 (10) 12 Sequence 7-12 Non-I ANY WFC3/UVIS, ACCUM, F814W 1080 Secs (1080 Secs) nt in And28-V1 (10) **UVIS-CENTER** Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d28-V1 (10) 13 (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.5075,0 Sequence 13-18 Non 60 Secs (60 Secs) XXVIII -Int in And28-V1 (10 .0505 Prime + Parallel Gro [3] up 13-14 in Sequenc e 13-18 Non-Int in A nd28-V1 (10) 14 WFC3/UVIS, ACCUM, F814W FLASH=19.0 Sequence 13-18 Non 60 Secs (60 Secs) ANY -Int in And28-V1 (10 I==>JUVIS-CENTER Prime + Parallel Gro [3] up 13-14 in Sequenc e 13-18 Non-Int in A nd28-V1 (10) 15 POS TARG 0.5075,0 Sequence 13-18 Non | 1100 Secs (1100 Secs) (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W -Int in And28-V1 (10 f==>1XXVIII .0505 Prime + Parallel Gro [3] up 15-16 in Sequenc e 13-18 Non-Int in A nd28-V1 (10) 16 ANY WFC3/UVIS, ACCUM, F814W Sequence 13-18 Non 1080 Secs (1080 Secs) -Int in And28-V1 (10 [==>]**UVIS-CENTER** Prime + Parallel Gro [3] up 15-16 in Sequenc e 13-18 Non-Int in A nd28-V1 (10) 17 (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.6815,0 Sequence 13-18 Non 1100 Secs (1100 Secs) -Int in And28-V1 (10 $I_{==>1}$ XXVIII .2855 Prime + Parallel Gro up 17-18 in Sequenc e 13-18 Non-Int in A nd28-V1 (10) [3]

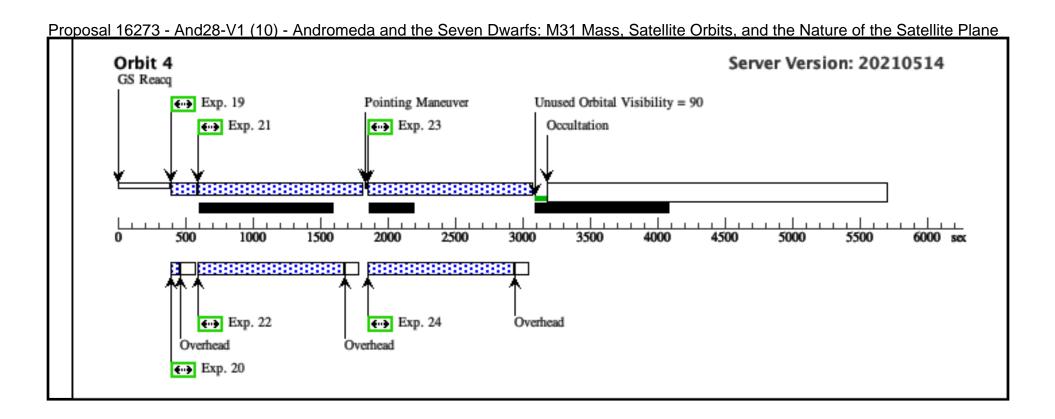
Proposal 16273 - And28-V1 (10) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane Sequence 13-18 Non | 1080 Secs (1080 Secs) 18 WFC3/UVIS, ACCUM, F814W ANY -Int in And28-V1 (10 f==>1UVIS-CENTER Prime + Parallel Gro [3] up 17-18 in Sequenc e 13-18 Non-Int in A nd28-V1 (10) 19 (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.8300,0 Sequence 19-24 Non 60 Secs (60 Secs) -Int in And28-V1 (10 I==>1XXVIII .1735 Prime + Parallel Gro [4] up 19-20 in Sequenc e 19-24 Non-Int in A nd28-V1 (10) 20 ANY WFC3/UVIS, ACCUM. F814W FLASH=19.0 Sequence 19-24 Non 60 Secs (60 Secs) -Int in And28-V1 (10 I==>1UVIS-CENTER Prime + Parallel Gro [4] up 19-20 in Sequenc e 19-24 Non-Int in A nd28-V1 (10) 21 (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.8300,0 Sequence 19-24 Non | 1100 Secs (1100 Secs) -Int in And28-V1 (10 [==>]XXVIII .1735 Prime + Parallel Gro [4] up 21-22 in Sequenc e 19-24 Non-Int in A nd28-V1 (10) 22 ANY WFC3/UVIS, ACCUM, F814W Sequence 19-24 Non | 1080 Secs (1080 Secs) -Int in And28-V1 (10 I==> I**UVIS-CENTER** Prime + Parallel Gro [4] up 21-22 in Sequenc e 19-24 Non-Int in A nd28-V1 (10) 23 POS TARG 0.6080,0 Sequence 19-24 Non | 1100 Secs (1100 Secs) (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W -Int in And28-V1 (10 I==>1XXVIII .3810 Prime + Parallel Gro [4] up 23-24 in Sequenc e 19-24 Non-Int in A nd28-V1 (10) 24 ANY WFC3/UVIS, ACCUM, F814W Sequence 19-24 Non | 1080 Secs (1080 Secs) -Int in And28-V1 (10 I = > IUVIS-CENTER Prime + Parallel Gro [4] up 23-24 in Sequenc e 19-24 Non-Int in A

nd28-V1 (10)









Proposal 16273 - And28-V2 (11) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Sat Nov 13 00:01:15 GMT 2021

Proposal 16273, And28-V2 (11), completed

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: SAME ORIENT AS 10; AFTER 10; GROUP 11,10,12 WITHIN 15D

Comments: This is the second out of two visits for obtaining second-epoch images of Andromeda V. This visit spends 3 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel

Ţ	S F	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
13	ger	(6)	ANDROMEDA-XXVIII	RA: 22 32 41.3374 (338.1722392d)	Epoch of Position: 2015.5	V=15.6	Reference Frame: SIMBAD
	<u>a</u>			Dec: +31 12 58.48 (31.21624d)			

Equinox: J2000

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=GALAXY
Description=[DWARF SPHEROIDAL]

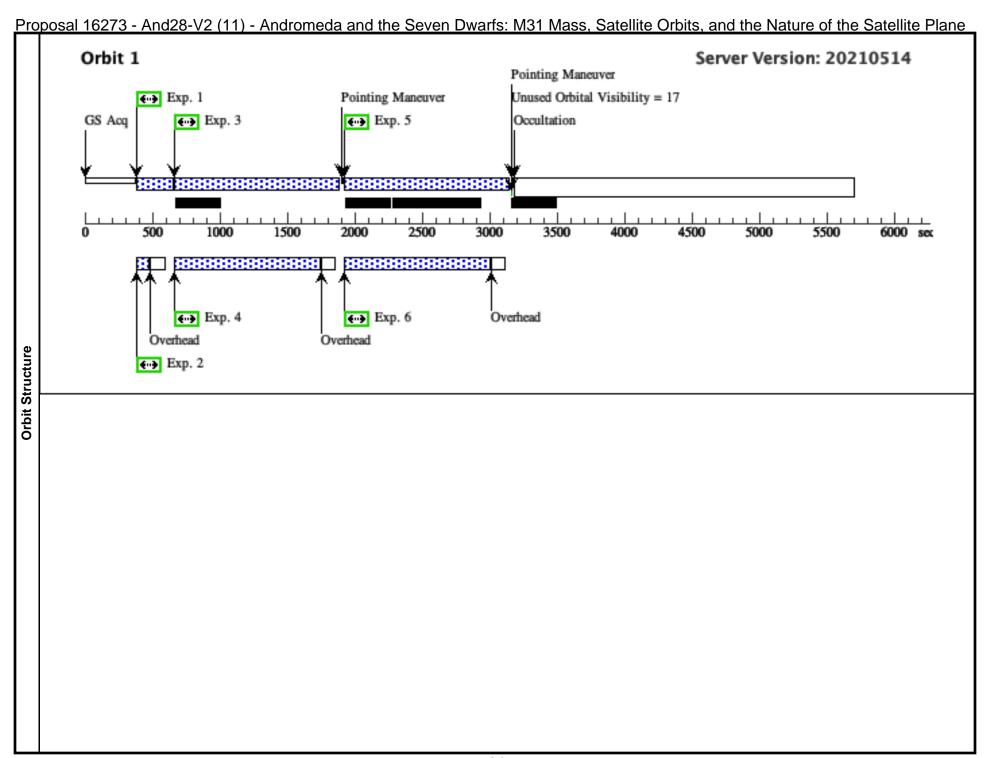
Proposal 16273 - And28-V2 (11) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

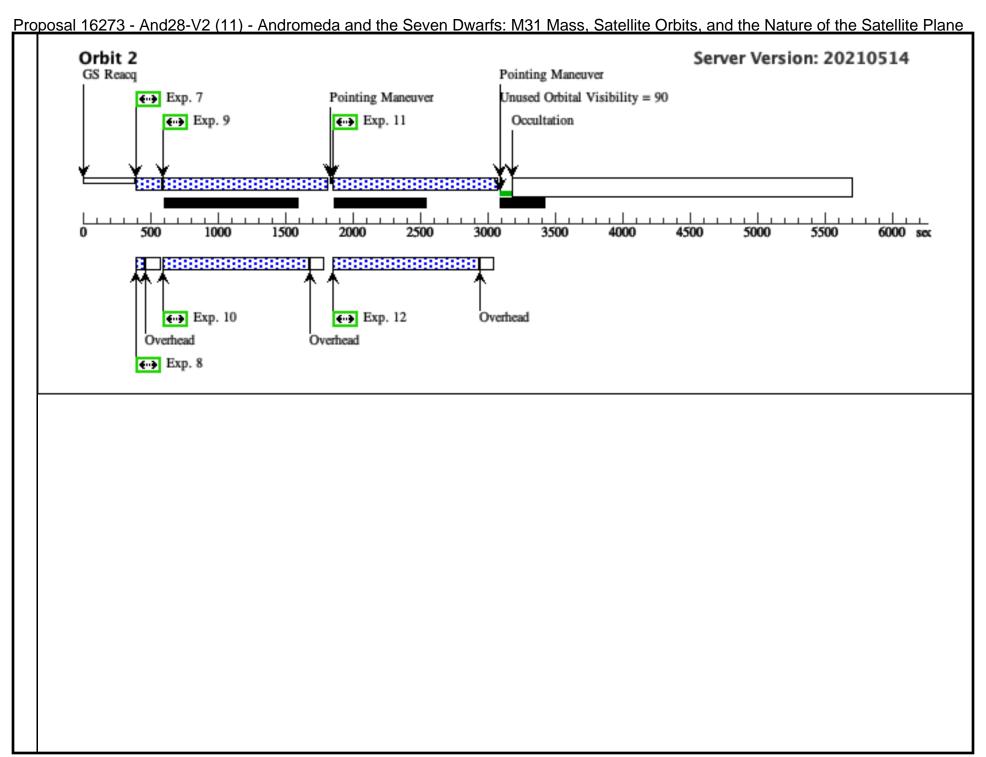
	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.0000,0 .0000	Sequence 1-6 Non-In t in And28-V2 (11) Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And28-	60 Secs (60 Secs) [==>]	[1]
2	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		V2 (11) Sequence 1-6 Non-In t in And28-V2 (11)	60 Secs (60 Secs) $I = > I$	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And28- V2 (11)	1/	[1]
3	(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.0000,0 .0000	Sequence 1-6 Non-In t in And28-V2 (11)	1100 Secs (1100 Secs)	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And28- V2 (11)	[>]	[1]
4	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And28-V2 (11)	1080 Secs (1080 Secs)	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And28- V2 (11)	[>]	[1]
5	(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.1647,0 .0124	Sequence 1-6 Non-In t in And28-V2 (11)	1100 Secs (1100 Secs)	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And28- V2 (11)	[==>]	[1]
6	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And28-V2 (11)	1080 Secs (1080 Secs)	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And28- V2 (11)	[>]	[1]
7	(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.3293,0 .0248	Sequence 7-12 Non-I nt in And28-V2 (11)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And2 8-V2 (11)	[>]	[2]
8	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And28-V2 (11)	60 Secs (60 Secs) [==>]	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And2 8-V2 (11)	1/	[2]
9	(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 1.3293,0 .0248	Sequence 7-12 Non-I nt in And28-V2 (11)	1100 Secs (1100 Secs)	
						Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 28-V2 (11)	11>1	[2]

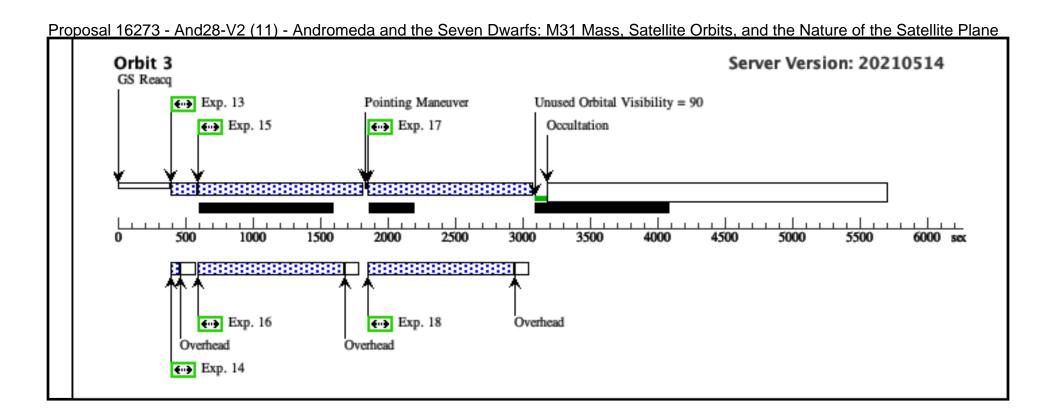
Proposal 16273 - And28-V2 (11) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 10 Sequence 7-12 Non-I 1080 Secs (1080 Secs) ANY WFC3/UVIS, ACCUM, F814W UVIS-CENTER nt in And28-V2 (11) Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 28-V2 (11) 11 POS TARG 1.0747,0 Sequence 7-12 Non-I | 1100 Secs (1100 Secs) (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W XXVIII .1294 nt in And28-V2 (11) I==>1Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d28-V2 (11) 12 Sequence 7-12 Non-I ANY WFC3/UVIS, ACCUM, F814W 1080 Secs (1080 Secs) nt in And28-V2 (11) **UVIS-CENTER** Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d28-V2 (11) 13 (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 1.2393,0 Sequence 13-18 Non 60 Secs (60 Secs) XXVIII -Int in And28-V2 (11 .1418 I = = > 1Prime + Parallel Gro [3] up 13-14 in Sequenc e 13-18 Non-Int in A nd28-V2 (11) 14 WFC3/UVIS, ACCUM, F814W FLASH=19.0 Sequence 13-18 Non 60 Secs (60 Secs) ANY UVIS-CENTER -Int in And28-V2 (11 I = = > 1Prime + Parallel Gro [3] up 13-14 in Sequenc e 13-18 Non-Int in A nd28-V2 (11) 15 POS TARG 1.2393,0 Sequence 13-18 Non | 1100 Secs (1100 Secs) (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W -Int in And28-V2 (11 f==>1XXVIII .1418 Prime + Parallel Gro [3] up 15-16 in Sequenc e 13-18 Non-Int in A nd28-V2 (11) 16 ANY WFC3/UVIS, ACCUM, F814W Sequence 13-18 Non 1080 Secs (1080 Secs) -Int in And28-V2 (11 [==>]**UVIS-CENTER** Prime + Parallel Gro [3] up 15-16 in Sequenc e 13-18 Non-Int in A nd28-V2 (11) 17 (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 1.4039,0 Sequence 13-18 Non 1100 Secs (1100 Secs) -Int in And28-V2 (11 $I_{f==>1}$ XXVIII .1541 Prime + Parallel Gro up 17-18 in Sequenc e 13-18 Non-Int in A nd28-V2 (11) [3]

Proposal 16273 - And28-V2 (11) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

18	ANY	WFC3/UVIS, ACCUM,	F814W	Sequence 13-18 Non 1080 Secs (1080 Secs)	
		UVIS-CENTER		-Int in And28-V2 (11] [==>]	
				Prime + Parallel Gro up 17-18 in Sequenc e 13-18 Non-Int in A nd28-V2 (11)	[3]







Proposal 16273 - And28-V3 (12) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Sat Nov 13 00:01:15 GMT 202

Proposal 16273, And28-V3 (12), completed

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: SAME ORIENT AS 10; AFTER 11; GROUP 12,10,11 WITHIN 15D

Comments: This is the second out of two visits for obtaining second-epoch images of Andromeda V. This visit spends 3 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel

S	#	† Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
gel	(6	6) ANDROMEDA-XXVIII	RA: 22 32 41.3374 (338.1722392d)	Epoch of Position: 2015.5	V=15.6	Reference Frame: SIMBAD
٦ď			Dec: +31 12 58.48 (31.21624d)			
ΙË						

Equinox: J2000

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=GALAXY
Description=[DWARF SPHEROIDAL]

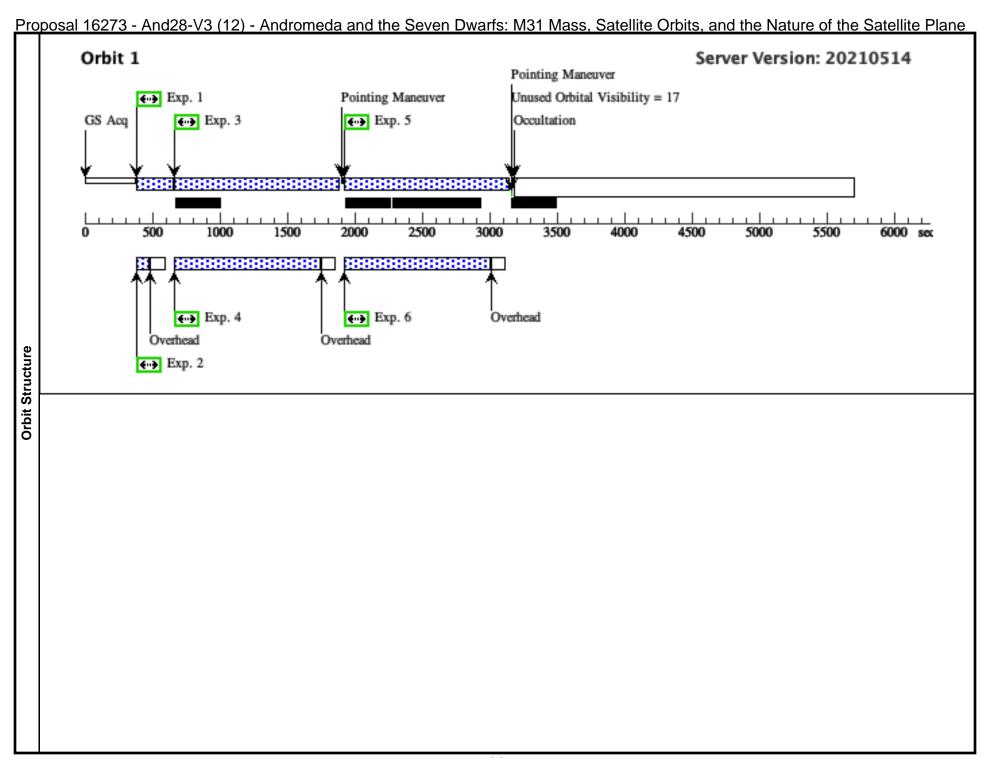
Proposal 16273 - And28-V3 (12) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

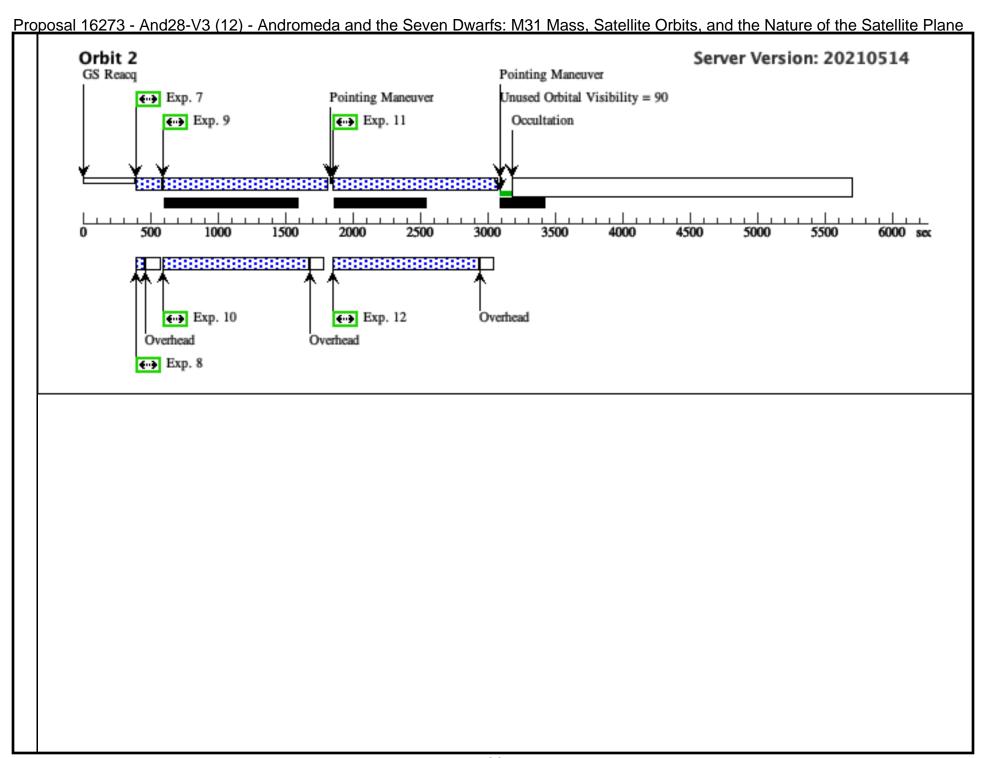
(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	E014W/	·				
AAVIII		F014W		POS TARG 0.0000,1 .0000	Sequence 1-6 Non-In t in And28-V3 (12)	60 Secs (60 Secs) [==>]	
					Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And28- V3 (12)		[1]
ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0			` '	
					Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And28- V3 (12)	[==>]	[1]
	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,1	Sequence 1-6 Non-In t in And28-V3 (12)		
					Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And28- V3 (12)	[==>]	[1]
ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W				, ,	
					Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And28- V3 (12)	[==>]	[1]
(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.1647,1 .0124		,	
					Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And28- V3 (12)	[==>]	[1]
ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W				,	
					Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And28- V3 (12)	[==>]	[1]
(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3293,1 .0248	Sequence 7-12 Non-I nt in And28-V3 (12)	` ,	
					Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And2 8-V3 (12)	[==>]	[2]
ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And28-V3 (12)		
					Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And2 8-V3 (12)	[2]	[2]
(6) ANDROMEDA- XXVIII	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3293,1 .0248	Sequence 7-12 Non-I nt in And28-V3 (12)	` '	
					Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 28-V3 (12)	[==>]	[2]
	(6) ANDROMEDA-XXVIII ANY (6) ANDROMEDA-XXVIII ANY (6) ANDROMEDA-XXVIII ANY	(6) ANDROMEDA-XXVIII ANY WFC3/UVIS, ACCUM, WFCENTER (6) ANDROMEDA-XXVIII ANY WFC3/UVIS, ACCUM, WFCENTER WFC3/UVIS, ACCUM, WFCENTER (6) ANDROMEDA-XXVIII ANY WFC3/UVIS, ACCUM, WFCENTER WFC3/UVIS, ACCUM, WFCENTER ANY WFC3/UVIS, ACCUM, WFCENTER ANY ACS/WFC, ACCUM, WFCENTER	(6) ANDROMEDA- XCS/WFC, ACCUM, WFCENTER F814W MYCS/UVIS, ACCUM, WFCENTER F814W (6) ANDROMEDA- XCS/WFC, ACCUM, WFCENTER F814W ANY WFCS/UVIS, ACCUM, WFCENTER F814W (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W ANY WFCS/UVIS, ACCUM, WFCENTER F814W ANY WFCS/UVIS, ACCUM, WFCENTER F814W (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W	(6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W ANY WFC3/UVIS, ACCUM, WFCENTER F814W (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W ANY WFC3/UVIS, ACCUM, WFCENTER F814W (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W ANY WFC3/UVIS, ACCUM, WFCENTER F814W ANY WFC3/UVIS, ACCUM, WFCENTER F814W (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W	(6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.0000,1 ANY WFC3/UVIS, ACCUM, UVIS-CENTER F814W POS TARG 0.1647,1 ANY WFC3/UVIS, ACCUM, WFCENTER F814W POS TARG 0.1647,1 ANY WFC3/UVIS, ACCUM, WFCENTER F814W POS TARG 0.3293,1 (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.3293,1 ANY WFC3/UVIS, ACCUM, F814W FLASH=19.0 (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.3293,1	1-2 in Sequence	ANY WFC3UVIS, ACCUM, WFCENTER F814W FLASH=19.0 Sequence 1-6 Non-In in AndB-N-3 (12)

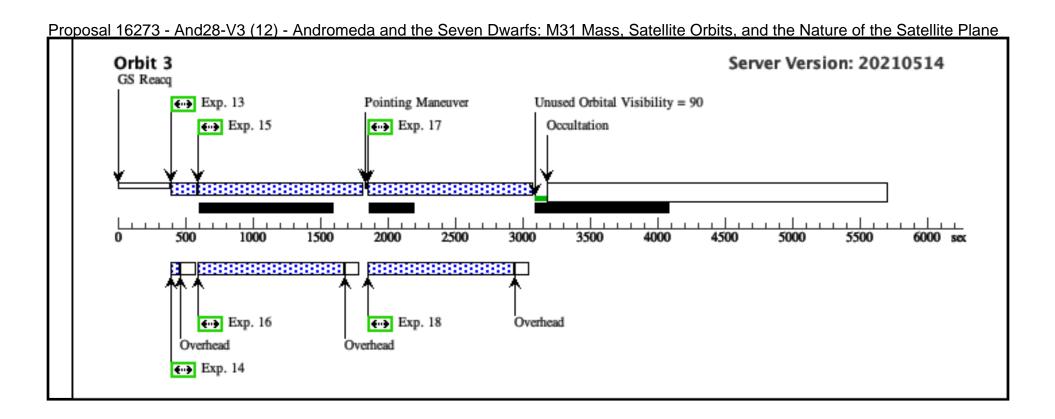
Proposal 16273 - And28-V3 (12) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 10 Sequence 7-12 Non-I 1080 Secs (1080 Secs) ANY WFC3/UVIS, ACCUM, F814W nt in And28-V3 (12) UVIS-CENTER I = = > 1Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 28-V3 (12) 11 POS TARG 0.0747,1 Sequence 7-12 Non-I | 1100 Secs (1100 Secs) (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W XXVIII .1294 nt in And28-V3 (12) I = = > 1Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d28-V3 (12) 12 Sequence 7-12 Non-I ANY WFC3/UVIS, ACCUM, F814W 1080 Secs (1080 Secs) nt in And28-V3 (12) **UVIS-CENTER** Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d28-V3 (12) 13 (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.2393,1 Sequence 13-18 Non 60 Secs (60 Secs) -Int in And28-V3 (12 I = > JXXVIII .1418 Prime + Parallel Gro [3] up 13-14 in Sequenc e 13-18 Non-Int in A nd28-V3 (12) 14 WFC3/UVIS, ACCUM, F814W FLASH=19.0 Sequence 13-18 Non 60 Secs (60 Secs) ANY -Int in And28-V3 (12 I==>1UVIS-CENTER Prime + Parallel Gro [3] up 13-14 in Sequenc e 13-18 Non-Int in A nd28-V3 (12) 15 POS TARG 0.2393,1 Sequence 13-18 Non | 1100 Secs (1100 Secs) (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W -Int in And28-V3 (12 f==>1XXVIII .1418 Prime + Parallel Gro [3] up 15-16 in Sequenc e 13-18 Non-Int in A nd28-V3 (12) 16 ANY WFC3/UVIS, ACCUM, F814W Sequence 13-18 Non 1080 Secs (1080 Secs) -Int in And28-V3 (12 [==>]**UVIS-CENTER** Prime + Parallel Gro [3] up 15-16 in Sequenc e 13-18 Non-Int in A nd28-V3 (12) 17 (6) ANDROMEDA- ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.4039,1 Sequence 13-18 Non 1100 Secs (1100 Secs) -Int in And28-V3 (12 $I_{f==>1}$ XXVIII .1541 Prime + Parallel Gro up 17-18 in Sequenc e 13-18 Non-Int in A nd28-V3 (12) [3]

Proposal 16273 - And28-V3 (12) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

18	ANY	WFC3/UVIS, ACCUM,	F814W	Sequence 13-18 Non 1080 Secs (1080 Secs)	
		UVIS-CENTER		-Int in And28-V3 (12) $I = > J$	
				Prime + Parallel Gro up 17-18 in Sequenc e 13-18 Non-Int in A nd28-V3 (12)	[3]







Proposal 16273 - And7-V1 (13) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Proposal 16273, And7-V1 (13), scheduling Sat Nov 13 00:01:15 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 251.7D TO 251.7 D; GROUP 13,14 WITHIN 15D

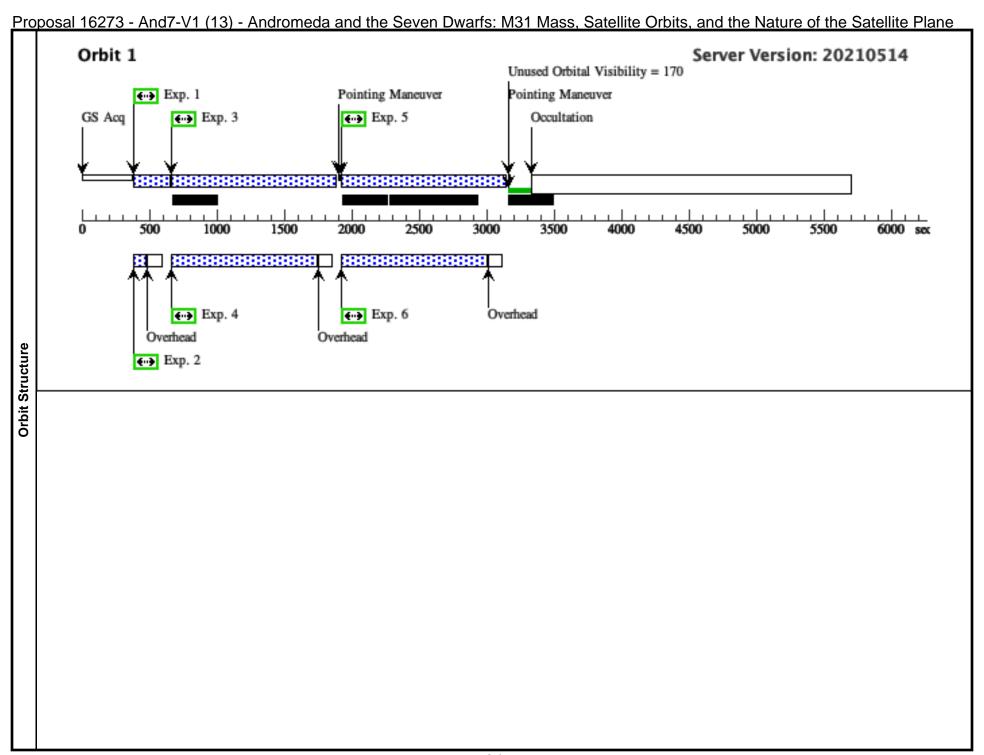
Comments: This is the first out of two visits for obtaining second-epoch images of Andromeda VII. This visit spends 3 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel instruments. For proper motion measuring purpose, we required to match our telescope orientations to the first-epoch observations for both the primary and parallel fields. We have accordingly added the Visit Orientation Requirements. We have grouped Visits 13 and 14 and specified these visits to be observed within a 15 day period so that all images can be treated as a single-epoch data for astrometric analyses.

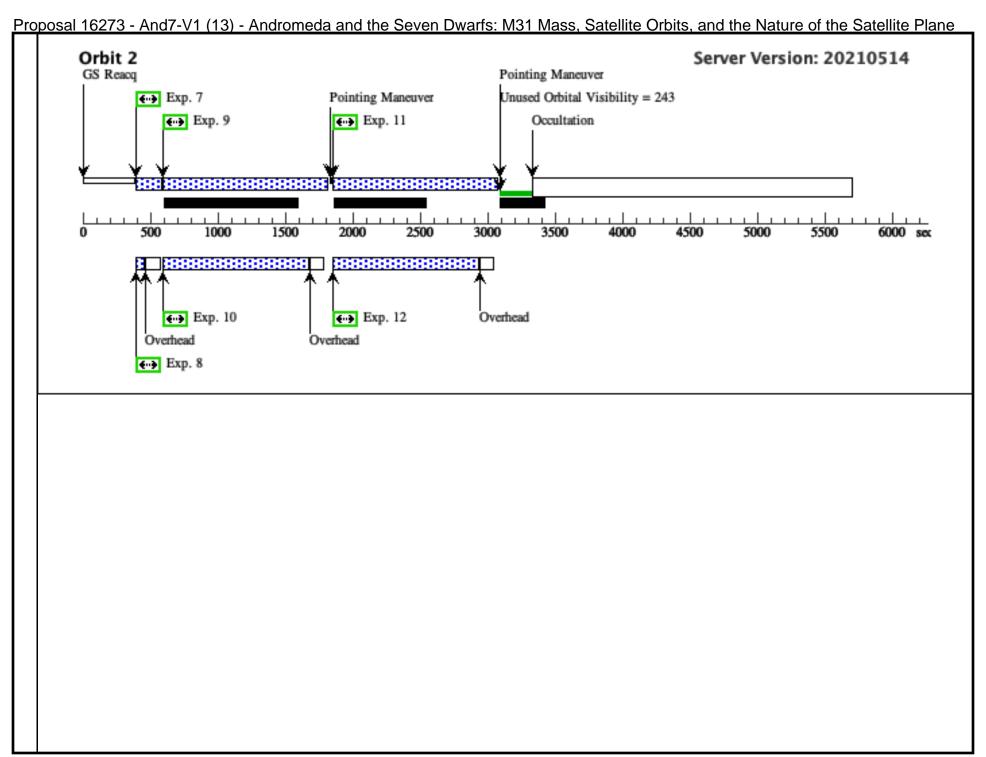
ιŅ	# Na	ame	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
J E	(7) AN	NDROMEDA-VII	RA: 23 26 30.8178 (351.6284075d)	Epoch of Position: 2015.5	V=11.8	Reference Frame: SIMBAD
a C			Dec: +50 41 33.25 (50.69257d)			
15			Equinox: J2000			
	Category=GAL		by the targetselector and retrieved from the SIMB.	AD database.		

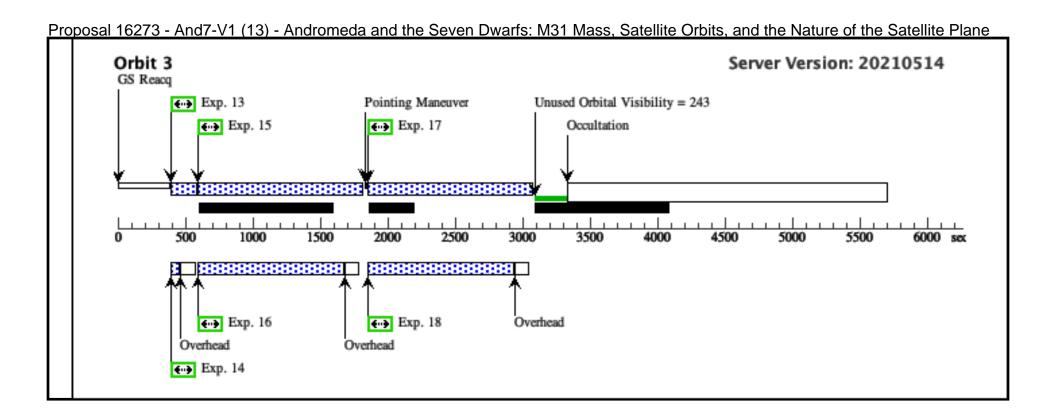
Proposal 16273 - And7-V1 (13) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
(7) ANDROMEDA- VII	ACS/WFC, ACCUM, WFC	F606W		POS TARG 0.0000,0 .0000	t in And7-V1 (13)	60 Secs (60 Secs) [==>]	
					Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And7- V1 (13)		[1]
ANY	WFC3/UVIS, ACCUM, UVIS	F606W	FLASH=19.0		Sequence 1-6 Non-In t in And7-V1 (13)		
					Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And7- V1 (13)		[1]
(7) ANDROMEDA- VII	ACS/WFC, ACCUM, WFC	F606W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And7-V1 (13)		
					Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And7- V1 (13)	[==>]	[1]
ANY	WFC3/UVIS, ACCUM, UVIS	F606W				` '	
					Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And7- V1 (13)	[==>]	[1]
(7) ANDROMEDA- VII	ACS/WFC, ACCUM, WFC	F606W		POS TARG 0.1740,0 .1850	Sequence 1-6 Non-In t in And7-V1 (13)	,	
					Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And7- V1 (13)	[==>]	[1]
ANY	WFC3/UVIS, ACCUM, UVIS	F606W				` ′	
					Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And7- V1 (13)	[==>]	[1]
(7) ANDROMEDA- VII	ACS/WFC, ACCUM, WFC	F606W		POS TARG 0.3232,0 .1235	Sequence 7-12 Non-I nt in And7-V1 (13)	· · · · · · · · · · · · · · · · · · ·	
					Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And7- V1 (13)	[>]	[2]
ANY	WFC3/UVIS, ACCUM, UVIS	F606W	FLASH=19.0		Sequence 7-12 Non-I nt in And7-V1 (13)	,	
					Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And7- V1 (13)	[>]	[2]
(7) ANDROMEDA- VII	ACS/WFC, ACCUM, WFC	F606W		POS TARG 0.3232,0 .1235	Sequence 7-12 Non-I nt in And7-V1 (13)	` '	
					Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 7-V1 (13)	1/	[2]
	ANY (7) ANDROMEDA-VII ANY (7) ANDROMEDA-VII ANY (7) ANDROMEDA-VII ANY	(7) ANDROMEDA-VII ANY WFC3/UVIS, ACCUM, UVIS (7) ANDROMEDA-VII ANY WFC3/UVIS, ACCUM, UVIS (7) ANDROMEDA-VII ANY WFC3/UVIS, ACCUM, WFC (7) ANDROMEDA-VII ANY WFC3/UVIS, ACCUM, UVIS (7) ANDROMEDA-VII ANY WFC3/UVIS, ACCUM, WFC (7) ANDROMEDA-VII ANY WFC3/UVIS, ACCUM, WFC	(7) ANDROMEDA- VII WFC3/UVIS, ACCUM, WFC F606W (7) ANDROMEDA- VII WFC3/UVIS, ACCUM, WFC F606W (7) ANDROMEDA- ACS/WFC, ACCUM, WFC F606W (7) ANDROMEDA- VII F606W (7) ANDROMEDA- ACS/WFC, ACCUM, WFC F606W	(7) ANDROMEDA- ACS/WFC, ACCUM, WFC ANY WFC3/UVIS, ACCUM, UVIS F606W (7) ANDROMEDA- ACS/WFC, ACCUM, WFC ANY WFC3/UVIS, ACCUM, UVIS F606W (7) ANDROMEDA- ACS/WFC, ACCUM, WFC VII ANY WFC3/UVIS, ACCUM, WFC F606W (7) ANDROMEDA- ACS/WFC, ACCUM, WFC ANY WFC3/UVIS, ACCUM, UVIS F606W (7) ANDROMEDA- ACS/WFC, ACCUM, WFC (7) ANDROMEDA- ACS/WFC, ACCUM, WFC F606W (7) ANDROMEDA- ACS/WFC, ACCUM, WFC F606W (7) ANDROMEDA- ACS/WFC, ACCUM, WFC F606W	(7) ANDROMEDA- VII ACS/WFC, ACCUM, WFC F606W POS TARG 0.0000,0000 ANY WFC3/UVIS, ACCUM, UVIS F606W FLASH=19.0 (7) ANDROMEDA- VII ACS/WFC, ACCUM, WFC F606W POS TARG 0.0000,0 ANY WFC3/UVIS, ACCUM, UVIS F606W POS TARG 0.1740,0 (7) ANDROMEDA- VII ACS/WFC, ACCUM, WFC F606W POS TARG 0.1740,0 (7) ANDROMEDA- VII ACS/WFC, ACCUM, WFC F606W POS TARG 0.3232,0 (7) ANDROMEDA- VII WFC3/UVIS, ACCUM, UVIS F606W FLASH=19.0 (7) ANDROMEDA- VII ACS/WFC, ACCUM, WFC F606W POS TARG 0.3232,0	(7) ANDROMEDA- ACS/WFC, ACCUM, WFC	Column Column

Proposal 16273 - And7-V1 (13) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 10 1080 Secs (1080 Secs) ANY WFC3/UVIS, ACCUM, UVIS F606W Sequence 7-12 Non-I nt in And7-V1 (13) I = = > 1Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 7-V1 (13) 11 (7) ANDROMEDA- ACS/WFC, ACCUM, WFC POS TARG 0.1005,0 Sequence 7-12 Non-I | 1100 Secs (1100 Secs) F606W VII .3305 nt in And7-V1 (13) *[==>]* Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d7-V1 (13) 12 ANY Sequence 7-12 Non-I WFC3/UVIS, ACCUM, UVIS F606W 1080 Secs (1080 Secs) nt in And7-V1 (13) Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d7-V1 (13) 13 (7) ANDROMEDA- ACS/WFC, ACCUM, WFC F606W POS TARG 0.5030,0 Sequence 13-18 Non 60 Secs (60 Secs) .0460 -Int in And7-V1 (13) I = = > 1Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd7-V1 (13) 14 Sequence 13-18 Non ANY WFC3/UVIS, ACCUM, UVIS F606W FLASH=19.0 60 Secs (60 Secs) -Int in And7-V1 (13) Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd7-V1 (13) 15 (7) ANDROMEDA- ACS/WFC, ACCUM, WFC F606W POS TARG 0.5030,0 Sequence 13-18 Non | 1100 Secs (1100 Secs) -Int in And7-V1 (13) VII .0460 I==>1Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd7-V1 (13) 16 ANY WFC3/UVIS, ACCUM, UVIS F606W Sequence 13-18 Non 1080 Secs (1080 Secs) -Int in And7-V1 (13) Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd7-V1 (13) 17 (7) ANDROMEDA- ACS/WFC, ACCUM, WFC F606W POS TARG 0.6770,0 Sequence 13-18 Non 1100 Secs (1100 Secs) -Int in And7-V1 (13) ΫÍΙ .2310 Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd7-V1 (13) 18 ANY WFC3/UVIS, ACCUM, UVIS F606W Sequence 13-18 Non 1080 Secs (1080 Secs) -Int in And7-V1 (13) Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd7-V1 (13)







Proposal 16273 - And7-V2 (14) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

Proposal 16273, And7-V2 (14), scheduling

Sat Nov 13 00:01:15 GMT 2021

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: SAME ORIENT AS 13; AFTER 13; GROUP 14,13 WITHIN 15D

Comments: This is the second out of two visits for obtaining second-epoch images of Andromeda VII. This visit spends 3 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel

instruments.

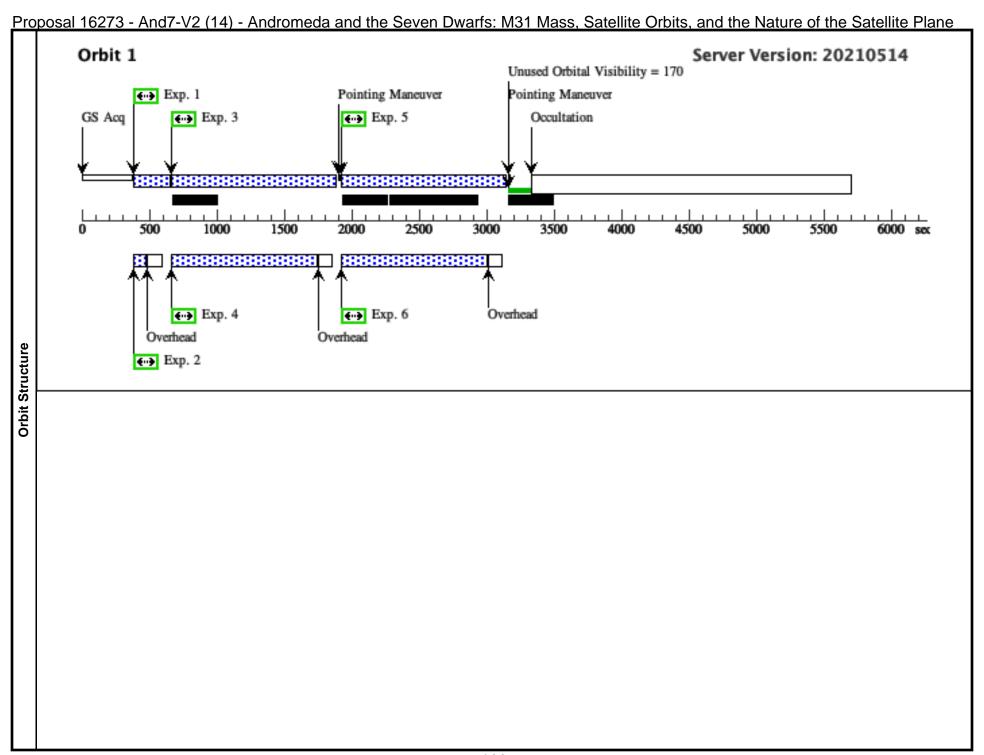
S	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous		
ge	(7)	ANDROMEDA-VII	RA: 23 26 30.8178 (351.6284075d)	Epoch of Position: 2015.5	V=11.8	Reference Frame: SIMBAD		
a <u>r</u>			Dec: +50 41 33.25 (50.69257d)					
Ϊ̈́̈́			Equinox: J2000					
ĕ	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.							

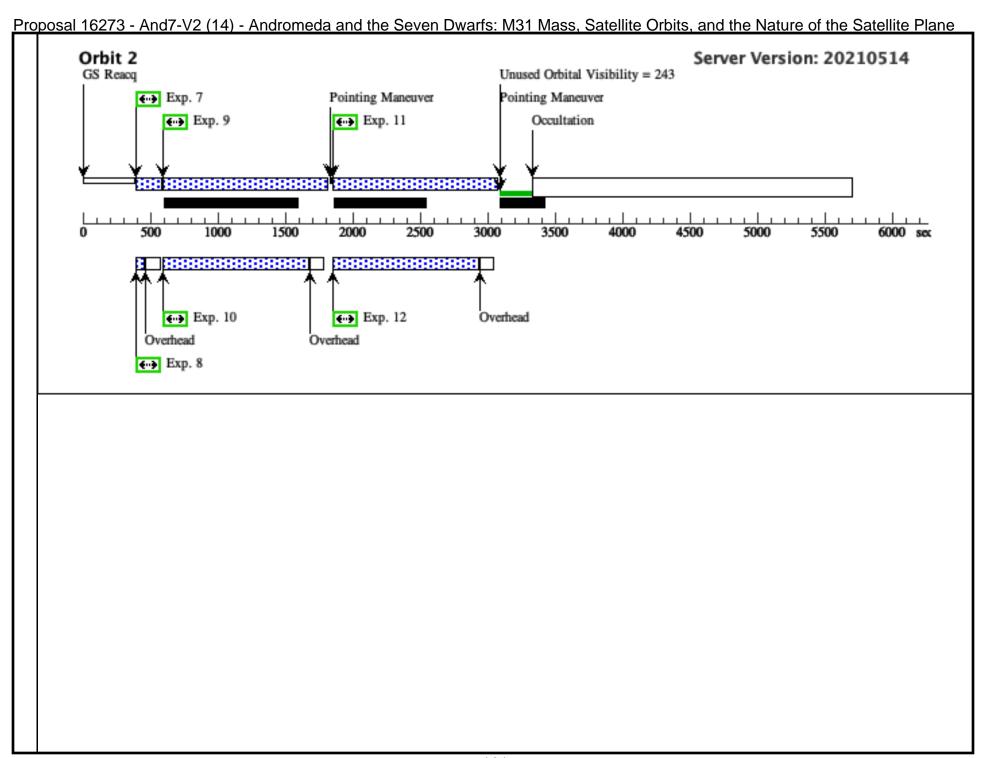
Category=GALAXY
Description=[DWARF SPHEROIDAL]

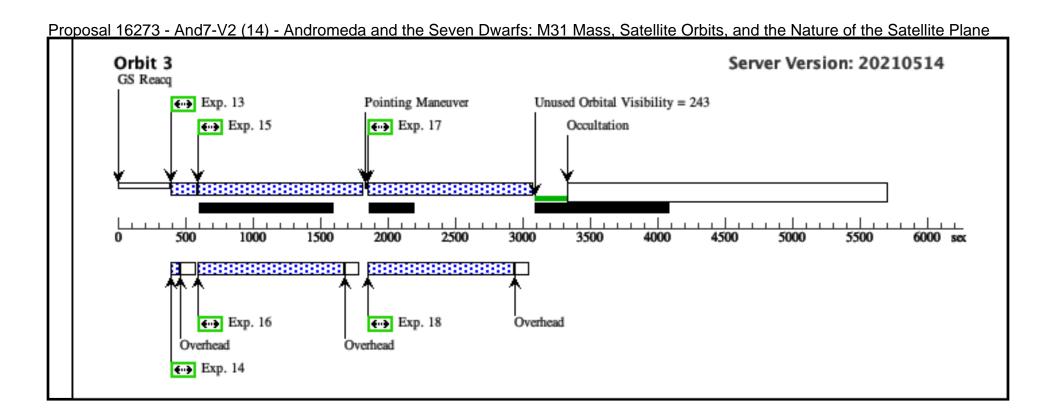
Proposal 16273 - And7-V2 (14) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane

	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(7) ANDROMEDA- VII	ACS/WFC, ACCUM, WFC	F606W		POS TARG 0.8262,0 .1695	Sequence 1-6 Non-In t in And7-V2 (14)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And7- V2 (14)		[1]
2	ANY	WFC3/UVIS, ACCUM, UVIS	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And7-V2 (14)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And7- V2 (14)		[1]
3	(7) ANDROMEDA- VII	ACS/WFC, ACCUM, WFC	F606W		POS TARG 0.8262,0 .1695	Sequence 1-6 Non-In t in And7-V2 (14)	1100 Secs (1100 Secs)	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And7- V2 (14)	[>]	[1]
4	ANY	WFC3/UVIS, ACCUM, UVIS	F814W			Sequence 1-6 Non-In t in And7-V2 (14)	1080 Secs (1080 Secs)	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And7- V2 (14)	[==>]	[1]
5	(7) ANDROMEDA- VII	ACS/WFC, ACCUM, WFC	F606W		POS TARG 0.6035,0 .3765	Sequence 1-6 Non-In t in And7-V2 (14)	1100 Secs (1100 Secs)	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And7- V2 (14)	[==>]	[1]
6	ANY	WFC3/UVIS, ACCUM, UVIS	F814W			Sequence 1-6 Non-In t in And7-V2 (14)	1080 Secs (1080 Secs)	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And7- V2 (14)	[==>]	[1]
7	(7) ANDROMEDA- VII	ACS/WFC, ACCUM, WFC	F606W		POS TARG 0.1180,0 .5180	Sequence 7-12 Non-I nt in And7-V2 (14)	60 Secs (60 Secs)	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And7- V2 (14)	[==>]	[2]
8	ANY	WFC3/UVIS, ACCUM, UVIS	F814W	FLASH=19.0		Sequence 7-12 Non-I nt in And7-V2 (14)	60 Secs (60 Secs) [==>]	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And7- V2 (14)	[/]	[2]
9	(7) ANDROMEDA- VII	ACS/WFC, ACCUM, WFC	F606W		POS TARG 0.1180,0 .5180	Sequence 7-12 Non-I nt in And7-V2 (14)	1100 Secs (1100 Secs)	
						Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 7-V2 (14)	[1/]	[2]

Proposal 16273 - And7-V2 (14) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite Plane 10 WFC3/UVIS, ACCUM, UVIS 1080 Secs (1080 Secs) ANY F814W Sequence 7-12 Non-I nt in And7-V2 (14) I = = > 1Prime + Parallel Gro up 9-10 in Sequence [2] 7-12 Non-Int in And 7-V2 (14) 11 (7) ANDROMEDA- ACS/WFC, ACCUM, WFC POS TARG 0.2920,0 Sequence 7-12 Non-I | 1100 Secs (1100 Secs) F606W VII .7030 nt in And7-V2 (14) *[==>]* Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d7-V2 (14) 12 ANY Sequence 7-12 Non-I WFC3/UVIS, ACCUM, UVIS F814W 1080 Secs (1080 Secs) nt in And7-V2 (14) Prime + Parallel Gro up 11-12 in Sequenc [2] e 7-12 Non-Int in An d7-V2 (14) 13 (7) ANDROMEDA- ACS/WFC, ACCUM, WFC POS TARG 0.4412,0 Sequence 13-18 Non F606W 60 Secs (60 Secs) .6415 -Int in And7-V2 (14) I = = > 1Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd7-V2 (14) 14 Sequence 13-18 Non ANY WFC3/UVIS, ACCUM, UVIS F814W FLASH=19.0 60 Secs (60 Secs) -Int in And7-V2 (14) Prime + Parallel Gro up 13-14 in Sequenc [3] e 13-18 Non-Int in A nd7-V2 (14) 15 (7) ANDROMEDA- ACS/WFC, ACCUM, WFC F606W POS TARG 0.4412,0 Sequence 13-18 Non 1100 Secs (1100 Secs) -Int in And7-V2 (14) VII .6415 I==>1Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd7-V2 (14) 16 ANY WFC3/UVIS, ACCUM, UVIS F814W Sequence 13-18 Non 1080 Secs (1080 Secs) -Int in And7-V2 (14) Prime + Parallel Gro up 15-16 in Sequenc [3] e 13-18 Non-Int in A nd7-V2 (14) 17 (7) ANDROMEDA- ACS/WFC, ACCUM, WFC F606W POS TARG 0.2185,0 Sequence 13-18 Non 1100 Secs (1100 Secs) -Int in And7-V2 (14) ΫÍΙ .8485 Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd7-V2 (14) 18 ANY WFC3/UVIS, ACCUM, UVIS F814W Sequence 13-18 Non 1080 Secs (1080 Secs) -Int in And7-V2 (14) Prime + Parallel Gro up 17-18 in Sequenc [3] e 13-18 Non-Int in A nd7-V2 (14)







Proposal 16273 - And15-V1-REOBS (57) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satell...

Proposal 16273, And15-V1-REOBS (57), implementation

Diagnostic Status: No Diagnostics

Description=[DWARF SPHEROIDAL]

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: SCHED 80%; ORIENT 199.9D TO 201.9 D

Comments: This is the visit for re-observing Andromeda XV due to guide star acquisition failure. This visit spends 2 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel instruments. For proper motion measuring purpose, we required to match our telescope orientations to the first-epoch observations. We have accordingly added the Visit Orientation Requirements.

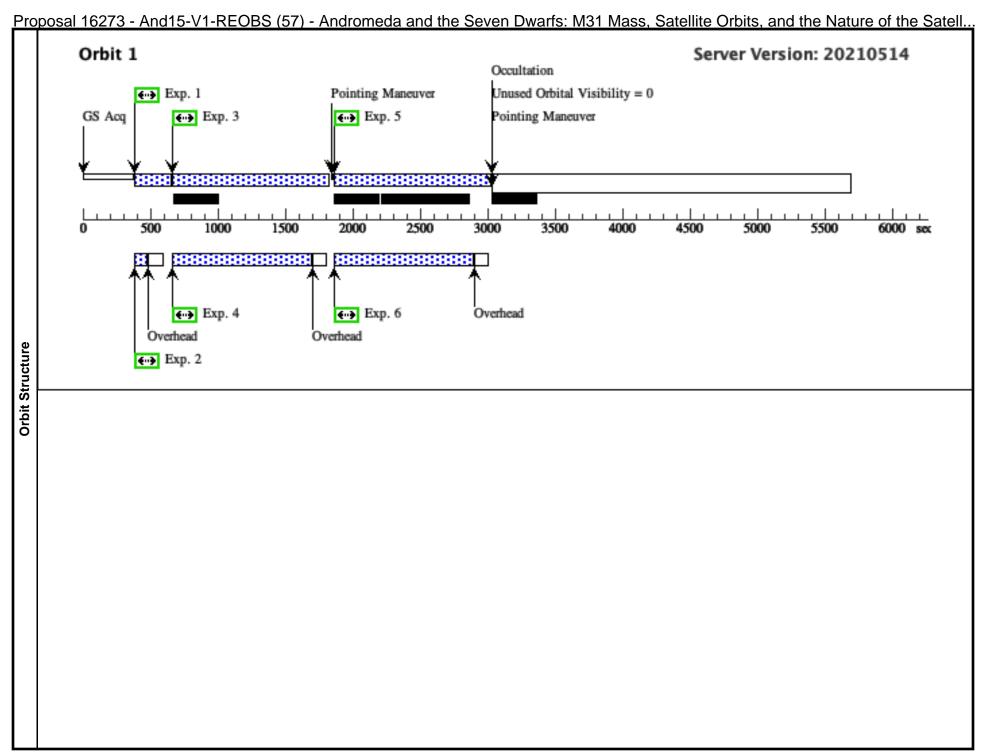
Sat Nov 13 00:01:15 GMT 202

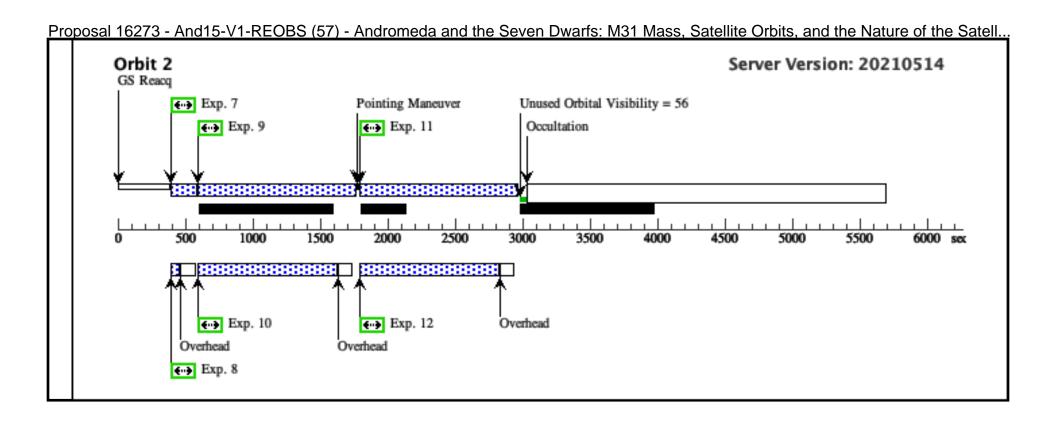
Ŋ	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous		
get	(4)	ANDROMEDA-XV	RA: 01 14 18.5718 (18.5773825d)	Epoch of Position: 2015.5	V=14.6	Reference Frame: SIMBAD		
a.			Dec: +38 07 2.97 (38.11749d)					
١Ę			Equinox: J2000					
<u>X</u>	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=GALAXY							

Proposal 16273 - And15-V1-REOBS (57) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satell...

# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbi
1	(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And15-V1-REO BS (57)	60 Secs (60 Secs) [==>]	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And15- V1-REOBS (57)		[1]
2	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And15-V1-REO BS (57)	60 Secs (60 Secs) [==>]	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And15- V1-REOBS (57)		[1]
3	(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0000,0 .0000	Sequence 1-6 Non-In t in And15-V1-REO BS (57)	1036 Secs (1036 Secs) [==>]	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And15- V1-REOBS (57)		[1]
4	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And15-V1-REO BS (57)	1030 Secs (1030 Secs) [==>]	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And15- V1-REOBS (57)		[1]
5	(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.2228,0 .1158	Sequence 1-6 Non-In t in And15-V1-REO BS (57)	1037 Secs (1037 Secs) [==>]	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And15- V1-REOBS (57)		[1]
6	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			t in And15-V1-REO	1030 Secs (1030 Secs) [==>]	
						BS (57) Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And15- V1-REOBS (57)		[1]
7	(4) ANDROMEDA- XV	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0998,0 .2303	Sequence 7-12 Non-I nt in And15-V1-RE OBS (57)	60 Secs (60 Secs) [==>]	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1 5-V1-REOBS (57)		[2]
8	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		nt in And15-V1-RE	60 Secs (60 Secs) [==>]	
						OBS (57) Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And1 5-V1-REOBS (57)		[2]

9		ACS/WFC, ACCUM, WFCENTER	F814W	POS TARG 0.0998,0	Sequence 7-12 Non-I	1045 Secs (1045 Secs)	
XV	XV			.2303	nt in And15-V1-RE OBS (57)	[==>]	
					Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 15-V1-REOBS (57)		[2]
10	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W		Sequence 7-12 Non-I nt in And15-V1-RE OBS (57)	1030 Secs (1030 Secs)	
						[==>]	
					Prime + Parallel Gro up 9-10 in Sequence		[2]
					7-12 Non-Int in And		
11	(4) ANDROMEDA-	- ACS/WFC, ACCUM, WFCENTER	F814W	POS TARG 0.3225,0	15-V1-REOBS (57) .0 Sequence 7-12 Non-I nt in And15-V1-RE OBS (57)	1045 Secs. (1045 Secs.)	
11	XV			.3460		[==>]	
					Prime + Parallel Gro up 11-12 in Sequenc		[2
					e 7-12 Non-Int in An d15-V1-REOBS (57)		
12	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W		Sequence 7-12 Non-I nt in And15-V1-RE OBS (57)	1030 Secs (1030 Secs)	
						[==>]	
					Prime + Parallel Gro up 11-12 in Sequenc e 7-12 Non-Int in An		[2





Proposal 16273 - And2-REOBS (58) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite P..

Proposal 16273, And2-REOBS (58)

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: SCHED 80%; ORIENT 174.5D TO 176.5 D; AFTER 01-JAN-2021:00:00:00

Comments: This is the visit for re-observing Andromeda II due to guide star acquisition failure. This visit spends 4 orbits in total with ACS/WFC being the primary and the WFC3/UVIS being the parallel instruments. For proper motion measuring purpose, we required to match our telescope orientations to the first-epoch observations. We have accordingly added the Visit Orientation Requirements.

Sat Nov 13 00:01:15 GMT 202

s	1	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
l je	(2)	ANDROMEDA-II	RA: 01 16 23.7701 (19.0990421d)	Epoch of Position: 2015.5	V=11.7	Reference Frame: SIMBAD			
a.			Dec: +33 26 4.62 (33.43462d)						
ΙĘ			Equinox: J2000						
Fixe	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=GALAXY								
	Description=[DWARF SPHEROIDAL]								

Proposal 16273 - And2-REOBS (58) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite P...

# Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Regs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(2) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W			Sequence 1-6 Non-In	60 Secs (60 Secs)	
	Ι				.0000	t in And2-REOBS (5 8)	[==>]	
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And2- REOBS (58)		[1]
2	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 1-6 Non-In t in And2-REOBS (5 8)		
						Prime + Parallel Gro up 1-2 in Sequence 1 -6 Non-Int in And2- REOBS (58)		[1]
3	(2) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W			Sequence 1-6 Non-In	1000 Secs (1000 Secs)	
	1				.0000	t in And2-REOBS (5 8)	[==>]	
						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And2- REOBS (58)		[1]
4	ANY	WFC3/UVIS, ACCUM,	F814W			Sequence 1-6 Non-In	1030 Secs (1030 Secs)	
		UVIS-CENTER				t in And2-REOBS (5 8)	[==>]	
5						Prime + Parallel Gro up 3-4 in Sequence 1 -6 Non-Int in And2- REOBS (58)		[1]
5	(2) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.1740,0	Sequence 1-6 Non-In	1000 Secs (1000 Secs)	
	1				.2350	t in And2-REOBS (5 8)	[==>]	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And2- REOBS (58)		[1]
6	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 1-6 Non-In t in And2-REOBS (5 8)	1030 Secs (1030 Secs)	
							[==>]	
						Prime + Parallel Gro up 5-6 in Sequence 1 -6 Non-Int in And2- REOBS (58)		[1]
7	(2) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.3232,0	Sequence 7-12 Non-I	60 Secs (60 Secs)	
	1				.1235	nt in And2-REOBS (58)	[==>]	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And2- REOBS (58)		[2]
8	ANY	WFC3/UVIS, ACCUM,	F814W	FLASH=19.0		Sequence 7-12 Non-I		
		UVIS-CENTER				nt in And2-REOBS (58)	[==>]	
						Prime + Parallel Gro up 7-8 in Sequence 7 -12 Non-Int in And2- REOBS (58)		[2]

9	(2) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W				1000 Secs (1000 Secs)	
	I				.1235	nt in And2-REOBS (58)	[==>]	
						Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 2-REOBS (58)		[2]
10	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W				1030 Secs (1030 Secs) [==>]	
						Prime + Parallel Gro up 9-10 in Sequence 7-12 Non-Int in And 2-REOBS (58)		[2
11	(2) ANDROMEDA-I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.1005,0 .3305	ntin And DEODE (1000 Secs (1000 Secs)	
	1				.5505		[==>]	
						Prime + Parallel Gro up 11-12 in Sequenc e 7-12 Non-Int in An d2-REOBS (58)		[2
12	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 7-12 Non-I nt in And2-REOBS (58)	1030 Secs (1030 Secs)	
							[==>]	
						Prime + Parallel Gro up 11-12 in Sequenc e 7-12 Non-Int in An d2-REOBS (58)		[2
13	(2) ANDROMEDA-I I	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.5075,0 .0505	Sequence 13-18 Non -Int in And2-REOBS (58)	60 Secs (60 Secs) [==>]	
						Prime + Parallel Gro up 13-14 in Sequenc e 13-18 Non-Int in A nd2-REOBS (58)		[3
14	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=19.0		Sequence 13-18 Non -Int in And2-REOBS	` ′	
		UVIS-CENTER				(58)	[==>]	
						Prime + Parallel Gro up 13-14 in Sequenc e 13-18 Non-Int in A nd2-REOBS (58)		[3
15	(2) ANDROMEDA-I I	I ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.5075,0 .0505	Sequence 13-18 Non -Int in And2-REOBS		
					.0303	(58)	[==>]	
						Prime + Parallel Gro up 15-16 in Sequenc e 13-18 Non-Int in A nd2-REOBS (58)		[3
16	ANY	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W			Sequence 13-18 Non -Int in And2-REOBS (58)	1030 Secs (1030 Secs) [==>]	
						Prime + Parallel Gro up 15-16 in Sequenc e 13-18 Non-Int in A nd2-REOBS (58)		Į.

Proposal 16273 - And2-REOBS (58) - Andromeda and the Seven Dwarfs: M31 Mass, Satellite Orbits, and the Nature of the Satellite P. (2) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.6815,0 Sequence 13-18 Non 1000 Secs (1000 Secs) .2855 -Int in And2-REOBS I = = > 1(58)Prime + Parallel Gro [3] up 17-18 in Sequenc e 13-18 Non-Int in A nd2-REOBS (58) ANY Sequence 13-18 Non 18 WFC3/UVIS, ACCUM, F814W 1030 Secs (1030 Secs) UVIS-CENTER -Int in And2-REOBS I = = > 1(58)Prime + Parallel Gro [3] up 17-18 in Sequenc e 13-18 Non-Int in A nd2-REOBS (58) 19 (2) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W POS TARG 0.8300,0 Sequence 19-24 Non 60 Secs (60 Secs) .1735 -Int in And2-REOBS I = = > 1Prime + Parallel Gro [4] up 19-20 in Sequenc e 19-24 Non-Int in A nd2-REOBS (58) 20 ANY WFC3/UVIS, ACCUM, F814W FLASH=19.0 Sequence 19-24 Non 60 Secs (60 Secs) **UVIS-CENTER** -Int in And2-REOBS I = = > 1Prime + Parallel Gro [4] up 19-20 in Sequenc e 19-24 Non-Int in A nd2-REOBS (58) 21 POS TARG 0.8300,0 Sequence 19-24 Non | 1000 Secs (1000 Secs) (2) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W -Int in And2-REOBS .1735 [==>1 (58)Prime + Parallel Gro [4] up 21-22 in Sequenc e 19-24 Non-Int in A nd2-REOBS (58) 22 ANY WFC3/UVIS, ACCUM. F814W Sequence 19-24 Non 1030 Secs (1030 Secs) **UVIS-CENTER** -Int in And2-REOBS [==>1 Prime + Parallel Gro [4] up 21-22 in Sequenc e 19-24 Non-Int in A nd2-REOBS (58) 23 POS TARG 0.6080,0 Sequence 19-24 Non 1000 Secs (1000 Secs) (2) ANDROMEDA-I ACS/WFC, ACCUM, WFCENTER F814W .3810 -Int in And2-REOBS [==>] (58)Prime + Parallel Gro [4] up 23-24 in Sequenc e 19-24 Non-Int in A nd2-REOBS (58) 24 ANY WFC3/UVIS, ACCUM, F814W Sequence 19-24 Non | 1030 Secs (1030 Secs) UVIS-CENTER -Int in And2-REOBS [==>1 (58)Prime + Parallel Gro [4] up 23-24 in Sequenc e 19-24 Non-Int in A nd2-REOBS (58)

