



# 17479 - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

Cycle: 31, Proposal Category: GO  
(Availability Mode: SUPPORTED)

## INVESTIGATORS

<i>Name</i>	<i>Institution</i>
<b>Dr. Paul George Kalas (PI) (Contact)</b>	<b>University of California - Berkeley</b>
Dr. Grant Kennedy (CoI) (ESA Member)	University of Warwick
Dr. Brenda Matthews (CoI) (CSA Member)	National Research Council of Canada
Dr. Gaspard Duchene (CoI) (ESA Member)	Universite de Grenoble I
Prof. Mark Wyatt (CoI) (ESA Member)	University of Cambridge
Dr. Thomas M. Esposito (CoI)	University of California - Berkeley
Prof. Luca Matra (CoI) (ESA Member)	University of Dublin, Trinity College
Sebastian Marino (CoI) (ESA Member)	University of Exeter
Dr. Robert J De Rosa (CoI) (ESA Member)	European Southern Observatory - Chile
Aldo Garcia Sepulveda (CoI)	University of Hawaii

## VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(9) HD105211	STIS/CCD	1	11-Jul-2024 16:01:22.0	yes
02	(9) HD105211	STIS/CCD	1	11-Jul-2024 16:01:24.0	yes
03	(10) PSF-HD101132	STIS/CCD	1	11-Jul-2024 16:01:26.0	yes
04	(9) HD105211	STIS/CCD	1	11-Jul-2024 16:01:28.0	yes
05	(11) HD-170773	STIS/CCD	1	11-Jul-2024 16:01:30.0	yes

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
06	(11) HD-170773	STIS/CCD	1	11-Jul-2024 16:01:32.0	yes
07	(12) PSF-HD153377	STIS/CCD	1	11-Jul-2024 16:01:33.0	yes
08	(11) HD-170773	STIS/CCD	1	11-Jul-2024 16:01:34.0	yes

8 Total Orbits Used

## **ABSTRACT**

Compared to ALMA, JWST, and ground-based AO systems, HST stands out with its unparalleled ability to provide optical images of nearby debris disks at the highest resolution across wide angular scales. While scattered-light imaging has unveiled several dozen disks, most are either too distant or too small to reveal fine-scale features associated with planet-disk interactions. However, the largest disks surrounding the nearest stars present unique opportunities for detailed investigations, such as with Beta Pic, Fomalhaut, and AU Mic. Recent lower-resolution ALMA maps have identified two additional nearby disks as compelling candidates for HST imaging. Their belt-like morphologies at  $>5''$  radius suggest possible dynamical perturbations caused by sub-stellar objects orbiting within. In this proposal, we aim to conduct STIS coronagraphic observations of these targets to detect dust-scattered light from each debris belt at a resolution 4-20 times higher than that provided by ALMA. Our primary scientific objective is to identify predicted disk structures resulting from dynamic interactions with hypothesized planets. By precisely measuring the inner and outer belt radii, edge sharpness, stellocentric offsets, and azimuthal clumps, we can infer the masses and orbital elements of sub-stellar objects. The outcomes of this survey will pinpoint the most promising targets for future JWST observations, capable of directly detecting sub-Jupiter mass planets and resolving the thermal structure of each disk. When combined with HST data, the comprehensive multi-wavelength dataset will allow us to quantify the physical properties of constituent grains and examine their spatial variations.

## **OBSERVING DESCRIPTION**

This is a high-contrast imaging program to detect the dusty debris belts around HD 105211 and HD 170773 using reference and angular differential imaging. There are two PSF stars spectrally matched to the two science targets. Each science target is observed in 3 visits (orbits) with ORIENT constraints to place the debris belts away from the occulting elements and diffraction spikes. There is an ORIENT FROM command to achieve angular differential imaging. The PSF reference stars do not have any ORIENT constraints. In order to minimize PSF variations between orbits, each science target and its PSF reference star are observed in a sequence of orbits using a sequence constraint set to 3.8 orbits so that the 4 orbits are executed consecutively and without interruptions. HD 105211 and its PSF star HD 101132 are acquired behind both WEDGE1.8 and BAR5, whereas HD 170773 and its PSF star HD 153377 are acquired only behind WEDGEA1.0.

Proposal 17479 - HD 105211-Roll1 (01) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

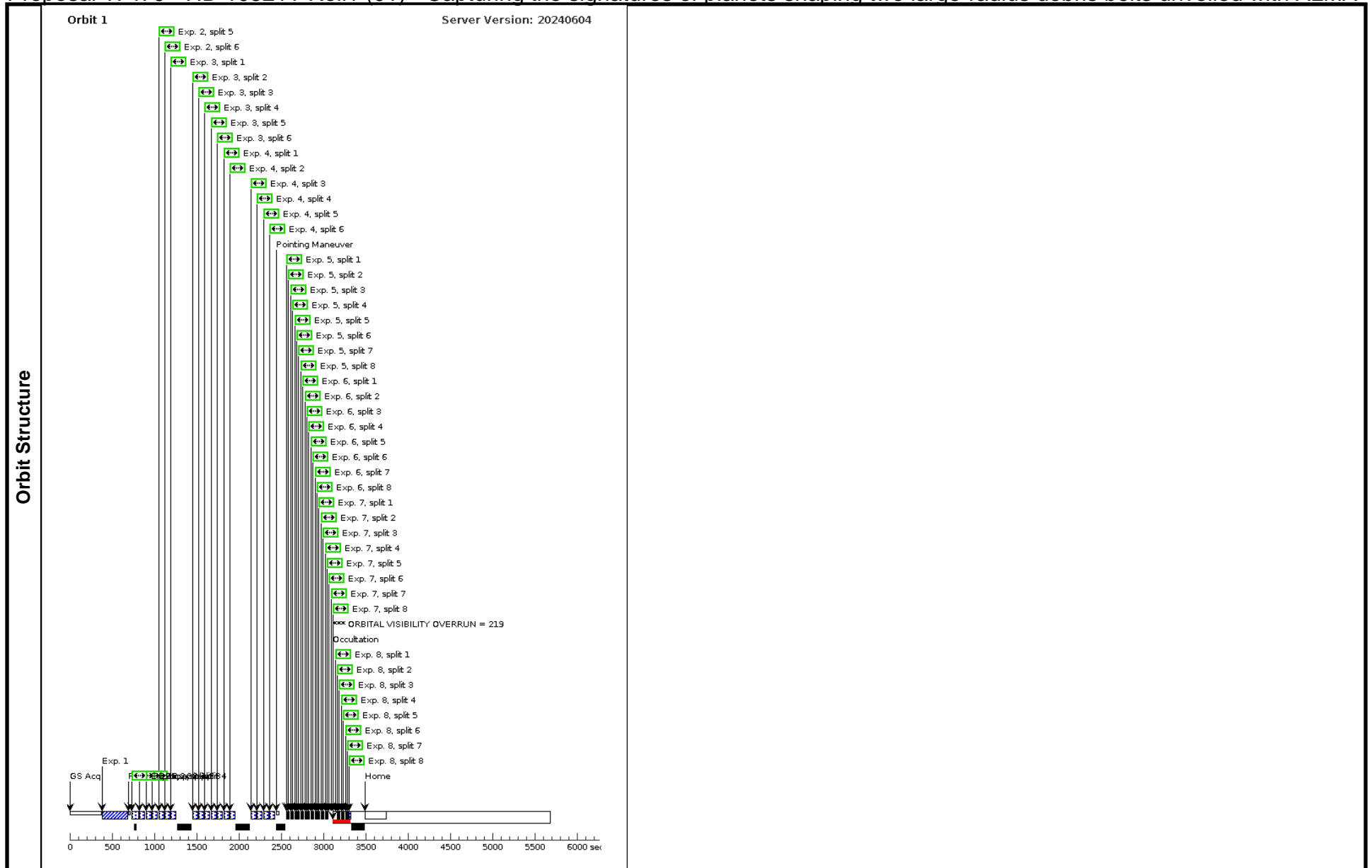
<b>Visit</b>	Proposal 17479, HD 105211-Roll1 (01), completed <span style="float: right;">Thu Jul 11 20:01:35 GMT 2024</span> <b>Diagnostic Status: Warning</b> Scientific Instruments: STIS/CCD Special Requirements: ORIENT 58D TO 60 D; ORIENT 240D TO 242 D; SEQ 01.02.03.04 WITHIN 3.8 Orbits																	
	<b>Diagnosics</b> (HD 105211-Roll1 (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN																	
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(9)</td> <td>HD105211</td> <td>                     RA: 12 06 52.8981 (181.7204087d)                      Dec: -64 36 49.43 (-64.61373d)                      Equinox: J2000                 </td> <td>                     Proper Motion RA: 34.27 mas/yr                      Proper Motion Dec: -36.901999919791706 mas/yr                      Parallax: 0.051"                      Epoch of Position: 2000.0                 </td> <td>V=4.136</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(9)	HD105211	RA: 12 06 52.8981 (181.7204087d) Dec: -64 36 49.43 (-64.61373d) Equinox: J2000	Proper Motion RA: 34.27 mas/yr Proper Motion Dec: -36.901999919791706 mas/yr Parallax: 0.051" Epoch of Position: 2000.0	V=4.136	Reference Frame: ICRS	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=STAR Description=[DISK, EXTRA-SOLAR PLANETARY SYSTEM]				
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous												
(9)	HD105211	RA: 12 06 52.8981 (181.7204087d) Dec: -64 36 49.43 (-64.61373d) Equinox: J2000	Proper Motion RA: 34.27 mas/yr Proper Motion Dec: -36.901999919791706 mas/yr Parallax: 0.051" Epoch of Position: 2000.0	V=4.136	Reference Frame: ICRS													

Proposal 17479 - HD 105211-Roll1 (01) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	ACQ	(9) HD105211	STIS/CCD, ACQ, F25ND5	MIRROR			4 Secs (4 Secs) [==>]	[1]
	2		(9) HD105211	STIS/CCD, ACCUM, WEDGE1.8	MIRROR	GAIN=4; CR-SPLIT=6		180 Secs (180 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)]	[1]
	3		(9) HD105211	STIS/CCD, ACCUM, WEDGE1.8	MIRROR	GAIN=4; CR-SPLIT=6		180 Secs (180 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)]	[1]
	4		(9) HD105211	STIS/CCD, ACCUM, WEDGE1.8	MIRROR	GAIN=4; CR-SPLIT=6		180 Secs (180 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)]	[1]
	5	BAR5	(9) HD105211	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=8; SIZEAXIS2=200		4.8 Secs (4.8 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]
	6	BAR5	(9) HD105211	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=8; SIZEAXIS2=200		4.8 Secs (4.8 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]

Proposal 17479 - HD 105211-Roll1 (01) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

7	BAR5	(9) HD105211	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=8; SIZEAXIS2=200	4.8 Secs (4.8 Secs)	[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]
8	BAR5	(9) HD105211	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=8; SIZEAXIS2=200	4.8 Secs (4.8 Secs)	[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]



Proposal 17479 - HD 105211-Roll2 (02) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

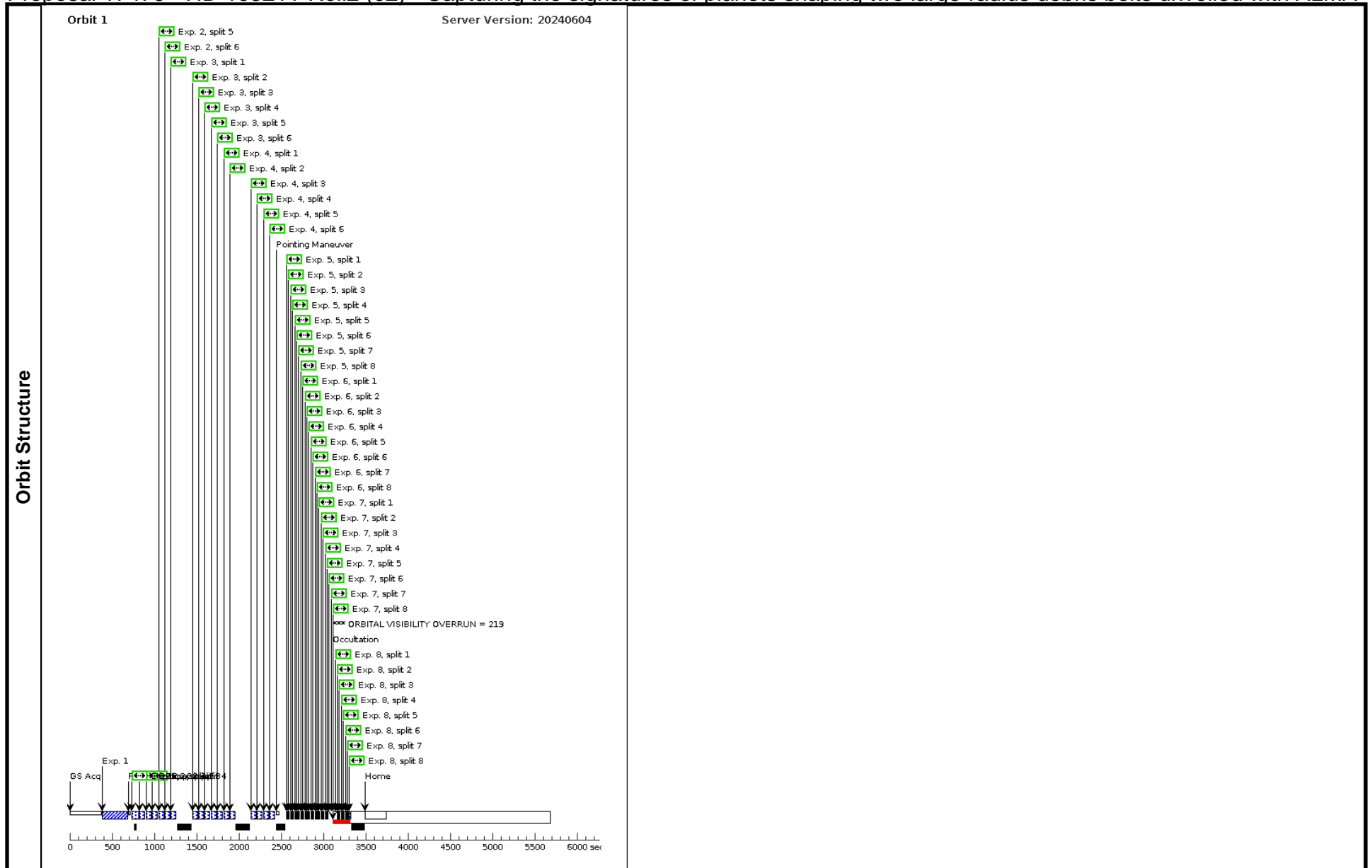
<b>Visit</b>	Proposal 17479, HD 105211-Roll2 (02), completed <span style="float: right;">Thu Jul 11 20:01:35 GMT 2024</span> <b>Diagnostic Status: Warning</b> Scientific Instruments: STIS/CCD Special Requirements: ORIENT 28D TO 30D FROM 01																
	<b>Diagnosics</b> (HD 105211-Roll2 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN																
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(9)</td> <td>HD105211</td> <td>RA: 12 06 52.8981 (181.7204087d) Dec: -64 36 49.43 (-64.61373d) Equinox: J2000</td> <td>Proper Motion RA: 34.27 mas/yr Proper Motion Dec: -36.901999919791706 mas/yr Parallax: 0.051" Epoch of Position: 2000.0</td> <td>V=4.136</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(9)	HD105211	RA: 12 06 52.8981 (181.7204087d) Dec: -64 36 49.43 (-64.61373d) Equinox: J2000	Proper Motion RA: 34.27 mas/yr Proper Motion Dec: -36.901999919791706 mas/yr Parallax: 0.051" Epoch of Position: 2000.0	V=4.136	Reference Frame: ICRS
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous											
(9)	HD105211	RA: 12 06 52.8981 (181.7204087d) Dec: -64 36 49.43 (-64.61373d) Equinox: J2000	Proper Motion RA: 34.27 mas/yr Proper Motion Dec: -36.901999919791706 mas/yr Parallax: 0.051" Epoch of Position: 2000.0	V=4.136	Reference Frame: ICRS												
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=STAR Description=[DISK, EXTRA-SOLAR PLANETARY SYSTEM]																	

Proposal 17479 - HD 105211-Roll2 (02) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	ACQ	(9) HD105211	STIS/CCD, ACQ, F25ND5	MIRROR			4 Secs (4 Secs) [==>]	[1]
	2		(9) HD105211	STIS/CCD, ACCUM, WEDGE1.8	MIRROR	GAIN=4; CR-SPLIT=6		180 Secs (180 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)]	[1]
	3		(9) HD105211	STIS/CCD, ACCUM, WEDGE1.8	MIRROR	GAIN=4; CR-SPLIT=6		180 Secs (180 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)]	[1]
	4		(9) HD105211	STIS/CCD, ACCUM, WEDGE1.8	MIRROR	GAIN=4; CR-SPLIT=6		180 Secs (180 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)]	[1]
	5	BAR5	(9) HD105211	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=8; SIZEAXIS2=200		4.8 Secs (4.8 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]
	6	BAR5	(9) HD105211	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=8; SIZEAXIS2=200		4.8 Secs (4.8 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]

Proposal 17479 - HD 105211-Roll2 (02) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

7	BAR5	(9) HD105211	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=8; SIZEAXIS2=200	4.8 Secs (4.8 Secs)	[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]
8	BAR5	(9) HD105211	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=8; SIZEAXIS2=200	4.8 Secs (4.8 Secs)	[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]

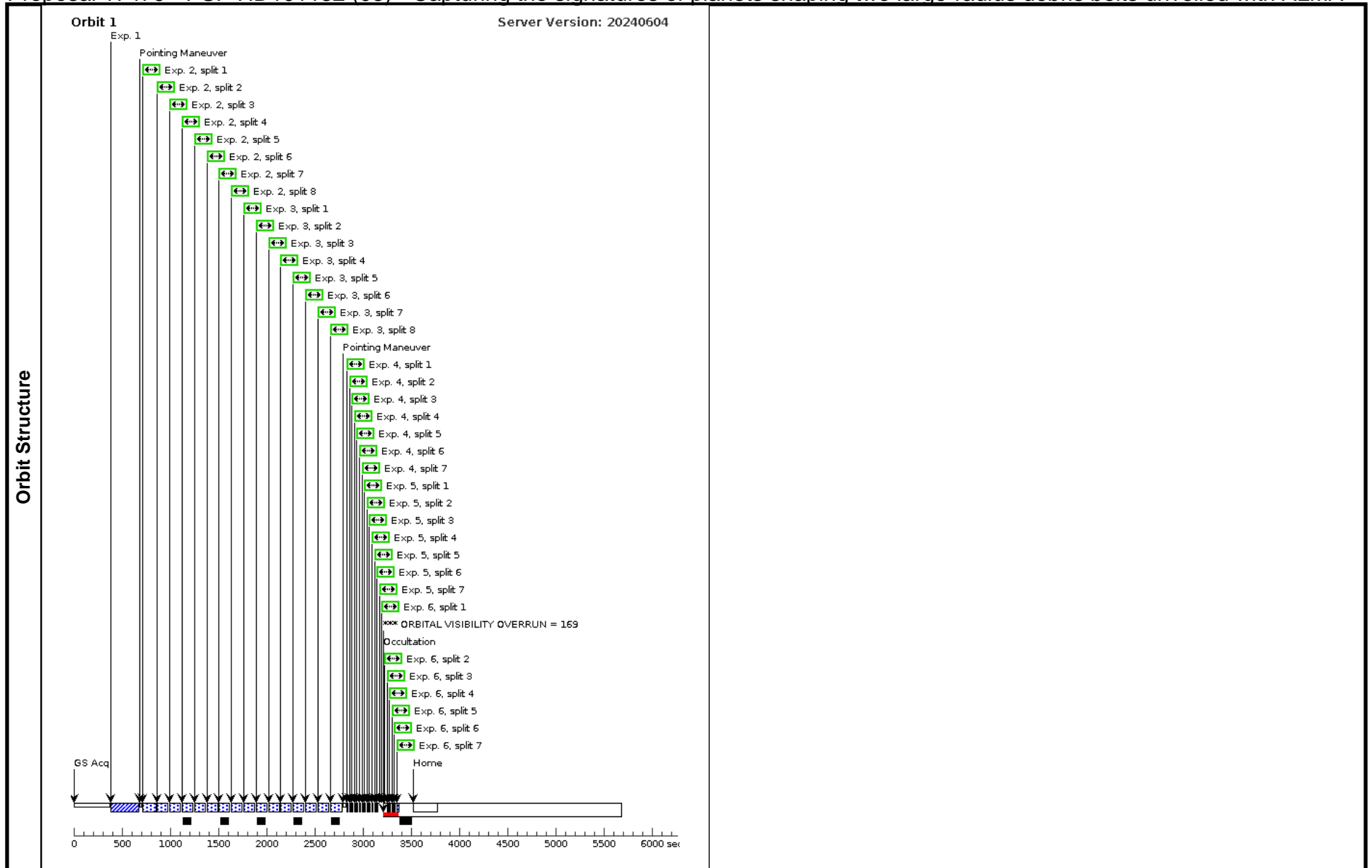


Proposal 17479 - PSF-HD101132 (03) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

<b>Visit</b>	Proposal 17479, PSF-HD101132 (03), completed <span style="float: right;">Thu Jul 11 20:01:36 GMT 2024</span> <b>Diagnostic Status: Warning</b> Scientific Instruments: STIS/CCD Special Requirements: (none)																
	<b>Diagnosics</b> (PSF-HD101132 (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN																
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(10)</td> <td>PSF-HD101132</td> <td>RA: 11 37 15.6420 (174.3151750d) Dec: -75 53 47.52 (-75.89653d) Equinox: J2000</td> <td>Proper Motion RA: -129.612 mas/yr Proper Motion Dec: -3.63700 mas/yr Parallax: 0.024" Epoch of Position: 2000.0</td> <td>V=5.637</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(10)	PSF-HD101132	RA: 11 37 15.6420 (174.3151750d) Dec: -75 53 47.52 (-75.89653d) Equinox: J2000	Proper Motion RA: -129.612 mas/yr Proper Motion Dec: -3.63700 mas/yr Parallax: 0.024" Epoch of Position: 2000.0	V=5.637	Reference Frame: ICRS
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous											
(10)	PSF-HD101132	RA: 11 37 15.6420 (174.3151750d) Dec: -75 53 47.52 (-75.89653d) Equinox: J2000	Proper Motion RA: -129.612 mas/yr Proper Motion Dec: -3.63700 mas/yr Parallax: 0.024" Epoch of Position: 2000.0	V=5.637	Reference Frame: ICRS												
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=STAR Description=[F3-F9]																	

Proposal 17479 - PSF-HD101132 (03) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	ACQ	(10) PSF-HD101132	STIS/CCD, ACQ, F25ND3	MIRROR			0.2 Secs (0.2 Secs) [==>]	[1]
	2		(10) PSF-HD101132	STIS/CCD, ACCUM, WEDGE1.8	MIRROR	GAIN=4; CR-SPLIT=8		672 Secs (672 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]
	3		(10) PSF-HD101132	STIS/CCD, ACCUM, WEDGE1.8	MIRROR	GAIN=4; CR-SPLIT=8		672 Secs (672 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]
	4	BAR5	(10) PSF-HD101132	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=7; SIZEAXIS2=200		15.4 Secs (15.4 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)]	[1]
	5	BAR5	(10) PSF-HD101132	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=7; SIZEAXIS2=200		15.4 Secs (15.4 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)]	[1]
	6	BAR5	(10) PSF-HD101132	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=7; SIZEAXIS2=200		15.4 Secs (15.4 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)]	[1]



Proposal 17479 - HD 105211-Roll3 (04) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

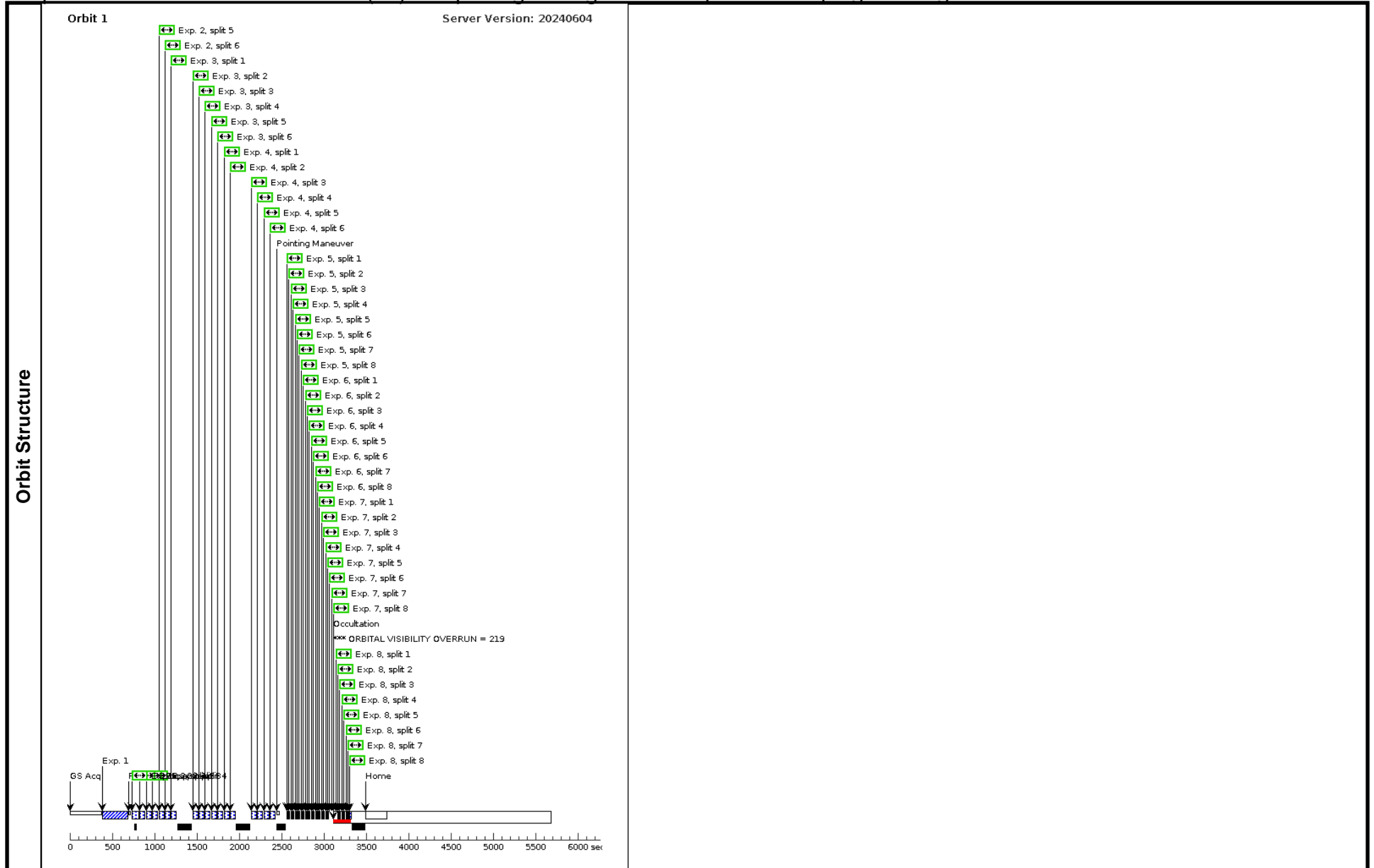
<b>Visit</b>	Proposal 17479, HD 105211-Roll3 (04), completed <span style="float: right;">Thu Jul 11 20:01:36 GMT 2024</span> <b>Diagnostic Status: Warning</b> Scientific Instruments: STIS/CCD Special Requirements: ORIENT 15D TO 16D FROM 01																
	<b>Diagnosics</b> (HD 105211-Roll3 (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN																
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(9)</td> <td>HD105211</td> <td>                     RA: 12 06 52.8981 (181.7204087d)                      Dec: -64 36 49.43 (-64.61373d)                      Equinox: J2000                 </td> <td>                     Proper Motion RA: 34.27 mas/yr                      Proper Motion Dec: -36.901999919791706 mas/yr                      Parallax: 0.051"                      Epoch of Position: 2000.0                 </td> <td>V=4.136</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(9)	HD105211	RA: 12 06 52.8981 (181.7204087d) Dec: -64 36 49.43 (-64.61373d) Equinox: J2000	Proper Motion RA: 34.27 mas/yr Proper Motion Dec: -36.901999919791706 mas/yr Parallax: 0.051" Epoch of Position: 2000.0	V=4.136	Reference Frame: ICRS
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous											
(9)	HD105211	RA: 12 06 52.8981 (181.7204087d) Dec: -64 36 49.43 (-64.61373d) Equinox: J2000	Proper Motion RA: 34.27 mas/yr Proper Motion Dec: -36.901999919791706 mas/yr Parallax: 0.051" Epoch of Position: 2000.0	V=4.136	Reference Frame: ICRS												
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=STAR Description=[DISK, EXTRA-SOLAR PLANETARY SYSTEM]																	

Proposal 17479 - HD 105211-Roll3 (04) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	ACQ	(9) HD105211	STIS/CCD, ACQ, F25ND5	MIRROR			4 Secs (4 Secs) [==>]	[1]
	2		(9) HD105211	STIS/CCD, ACCUM, WEDGE1.8	MIRROR	GAIN=4; CR-SPLIT=6		180 Secs (180 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)]	[1]
	3		(9) HD105211	STIS/CCD, ACCUM, WEDGE1.8	MIRROR	GAIN=4; CR-SPLIT=6		180 Secs (180 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)]	[1]
	4		(9) HD105211	STIS/CCD, ACCUM, WEDGE1.8	MIRROR	GAIN=4; CR-SPLIT=6		180 Secs (180 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)]	[1]
	5	BAR5	(9) HD105211	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=8; SIZEAXIS2=200		4.8 Secs (4.8 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]
	6	BAR5	(9) HD105211	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=8; SIZEAXIS2=200		4.8 Secs (4.8 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]

Proposal 17479 - HD 105211-Roll3 (04) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

7	BAR5	(9) HD105211	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=8; SIZEAXIS2=200	4.8 Secs (4.8 Secs)	[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]
8	BAR5	(9) HD105211	STIS/CCD, ACCUM, BAR5	MIRROR	GAIN=4; CR-SPLIT=8; SIZEAXIS2=200	4.8 Secs (4.8 Secs)	[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] [==>(Split 5)] [==>(Split 6)] [==>(Split 7)] [==>(Split 8)]	[1]

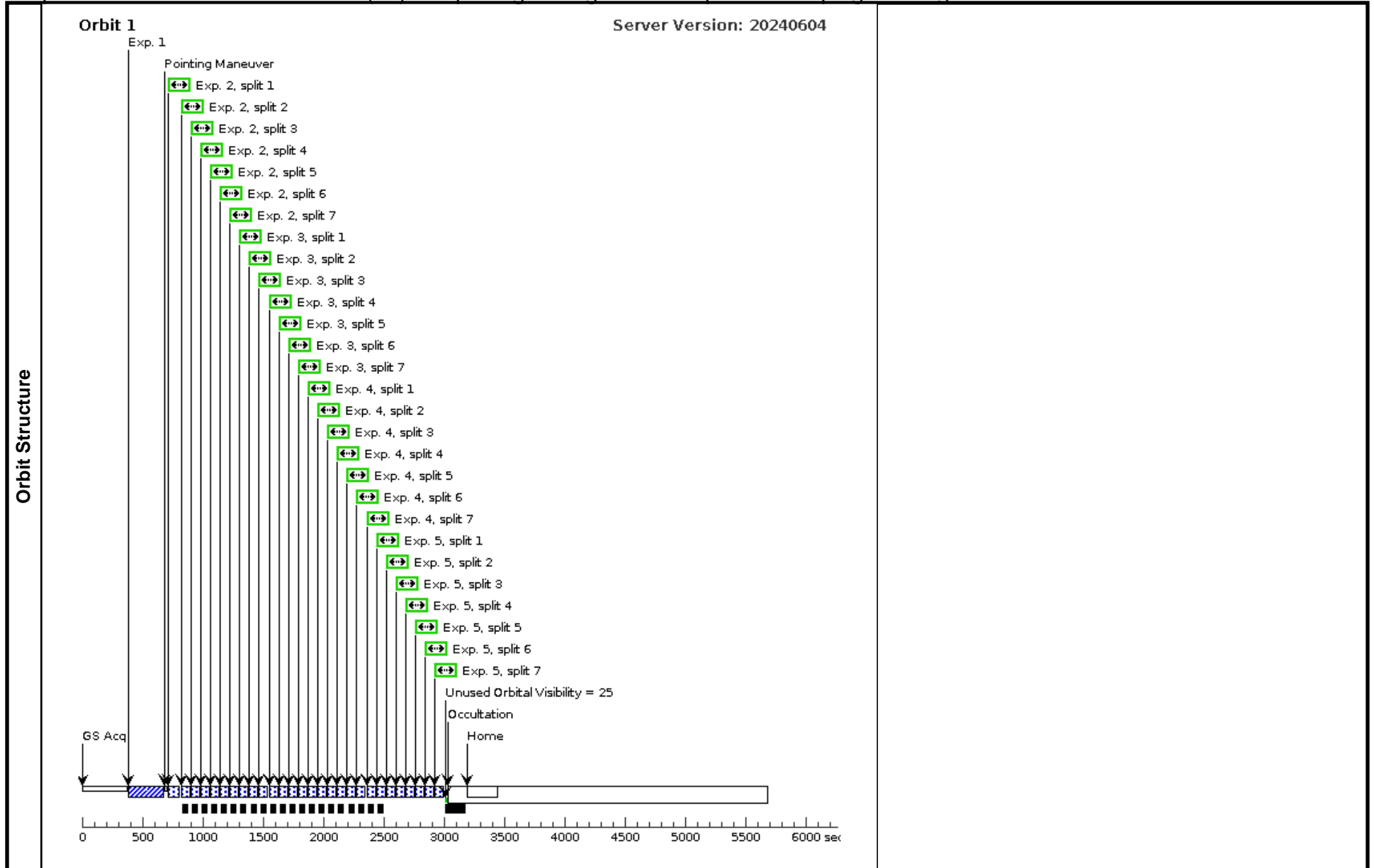


Proposal 17479 - HD 170773-Roll1 (05) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

<b>Visit</b>	Proposal 17479, HD 170773-Roll1 (05), pi <span style="float: right;">Thu Jul 11 20:01:36 GMT 2024</span> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: STIS/CCD Special Requirements: ORIENT 270D TO 271 D; SEQ 05,06,07,08 WITHIN 3.8 Orbits					
	<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>
(11)		HD-170773	RA: 18 33 0.9167 (278.2538196d) Dec: -39 53 31.28 (-39.89202d) Equinox: J2000	Proper Motion RA: 86.353 mas/yr Proper Motion Dec: -79.9269 mas/yr Parallax: 0.027" Epoch of Position: 2000.0	V=6.217	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=STAR Description=[DISK, EXTRA-SOLAR PLANETARY SYSTEM, F3-F9]						

Proposal 17479 - HD 170773-Roll1 (05) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	(11) HD-170773	STIS/CCD, ACQ, F25ND3	MIRROR				0.2 Secs (0.2 Secs)	
								[==>]	[1]
	2	(11) HD-170773	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR	GAIN=4; CR-SPLIT=7			266 Secs (259 Secs)	
								[==>37.0 Secs (Split 1)] [==>37.0 Secs (Split 2)] [==>37.0 Secs (Split 3)] [==>37.0 Secs (Split 4)] [==>37.0 Secs (Split 5)] [==>37.0 Secs (Split 6)] [==>37.0 Secs (Split 7)]	[1]
	3	(11) HD-170773	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR	GAIN=4; CR-SPLIT=7			266 Secs (259 Secs)	
							[==>37.0 Secs (Split 1)] [==>37.0 Secs (Split 2)] [==>37.0 Secs (Split 3)] [==>37.0 Secs (Split 4)] [==>37.0 Secs (Split 5)] [==>37.0 Secs (Split 6)] [==>37.0 Secs (Split 7)]	[1]	
	4	(11) HD-170773	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR	GAIN=4; CR-SPLIT=7			266 Secs (259 Secs)	
							[==>37.0 Secs (Split 1)] [==>37.0 Secs (Split 2)] [==>37.0 Secs (Split 3)] [==>37.0 Secs (Split 4)] [==>37.0 Secs (Split 5)] [==>37.0 Secs (Split 6)] [==>37.0 Secs (Split 7)]	[1]	
	5	(11) HD-170773	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR	GAIN=4; CR-SPLIT=7			266 Secs (259 Secs)	
							[==>37.0 Secs (Split 1)] [==>37.0 Secs (Split 2)] [==>37.0 Secs (Split 3)] [==>37.0 Secs (Split 4)] [==>37.0 Secs (Split 5)] [==>37.0 Secs (Split 6)] [==>37.0 Secs (Split 7)]	[1]	

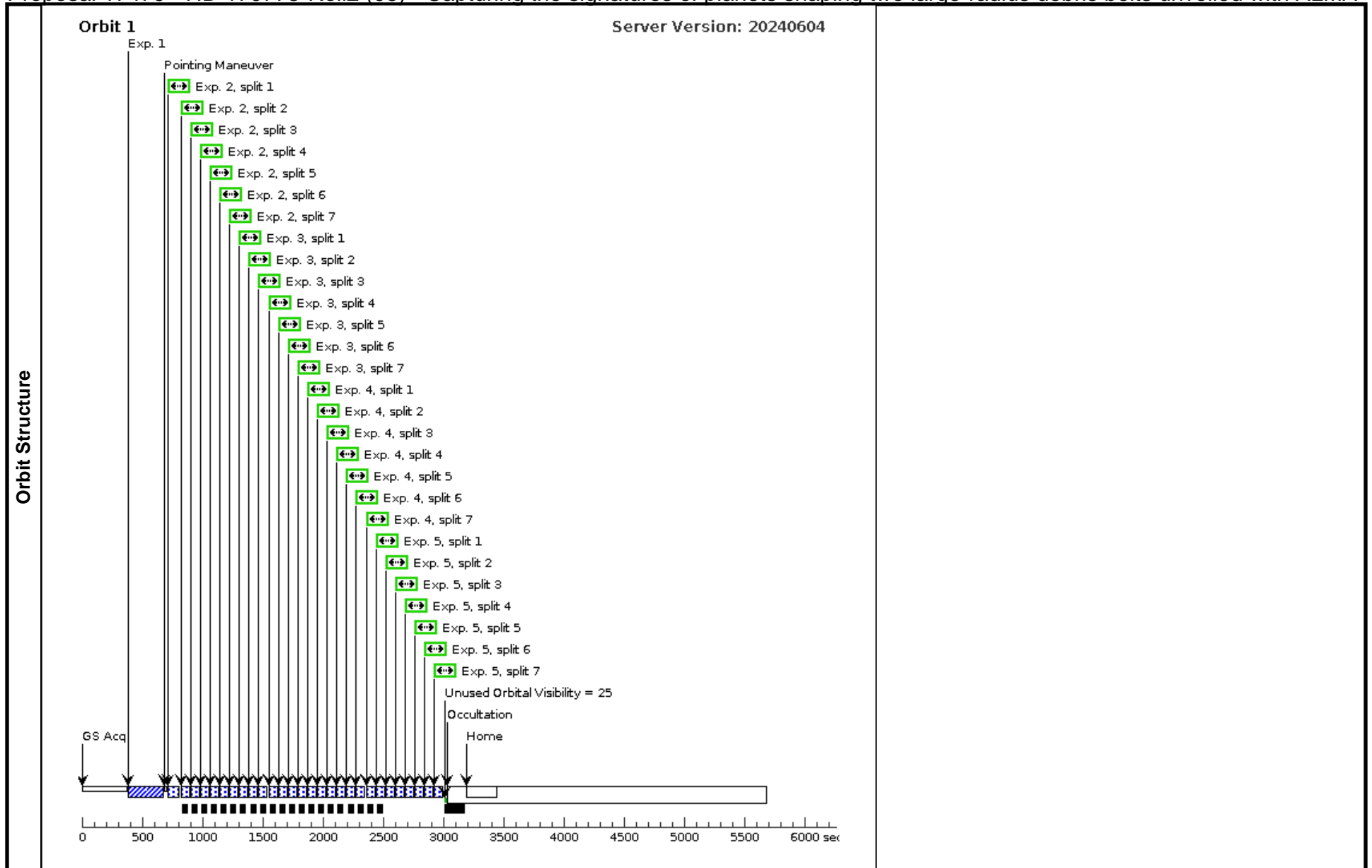


Proposal 17479 - HD 170773-Roll2 (06) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

<b>Visit</b>	Proposal 17479, HD 170773-Roll2 (06), pi <span style="float: right;">Thu Jul 11 20:01:36 GMT 2024</span> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: STIS/CCD Special Requirements: ORIENT 28D TO 30D FROM 05					
	<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>
(11)		HD-170773	RA: 18 33 0.9167 (278.2538196d) Dec: -39 53 31.28 (-39.89202d) Equinox: J2000	Proper Motion RA: 86.353 mas/yr Proper Motion Dec: -79.9269 mas/yr Parallax: 0.027" Epoch of Position: 2000.0	V=6.217	Reference Frame: ICRS
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=STAR Description=[DISK, EXTRA-SOLAR PLANETARY SYSTEM, F3-F9]						

Proposal 17479 - HD 170773-Roll2 (06) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

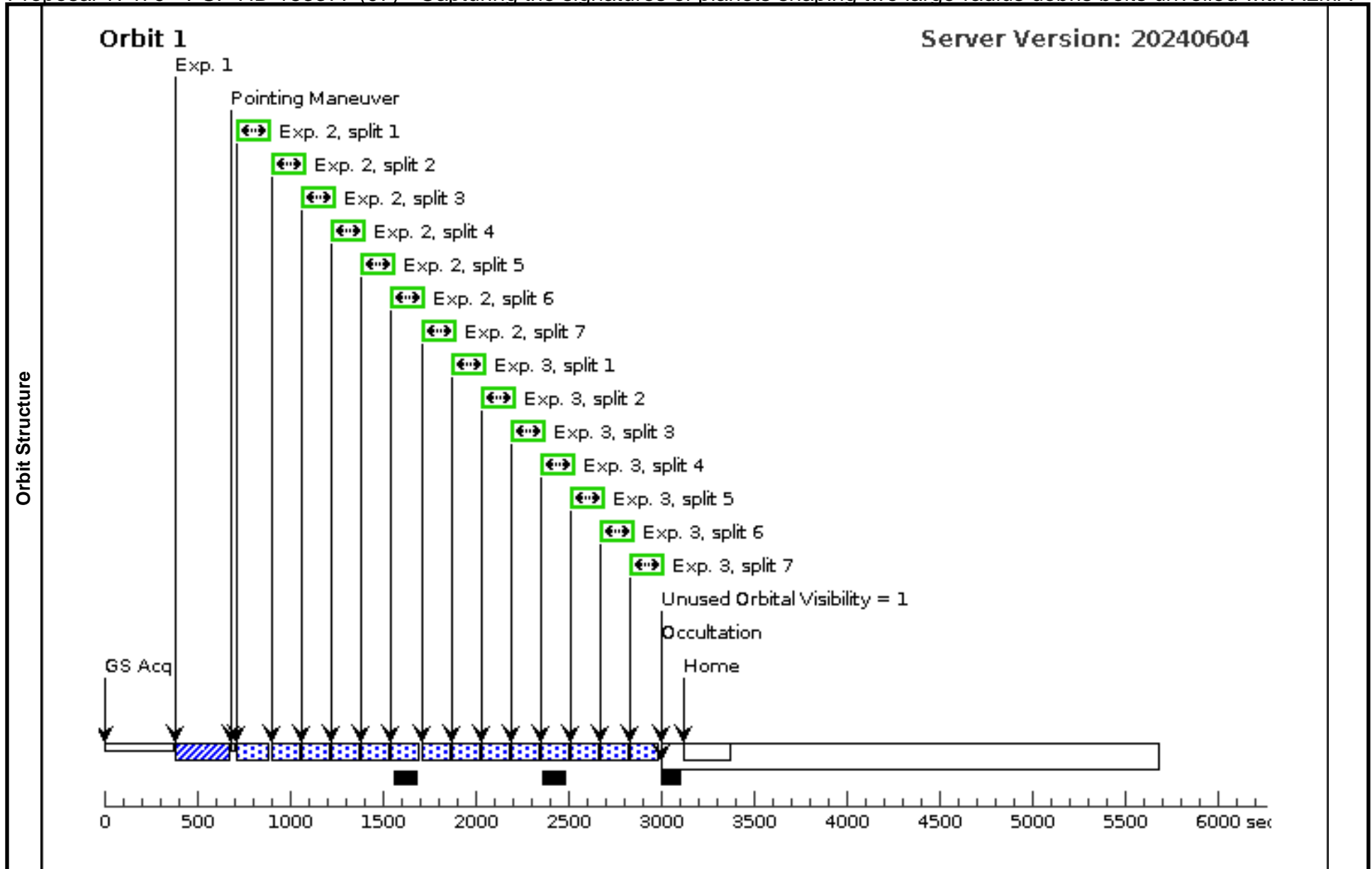
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	ACQ	(11) HD-170773	STIS/CCD, ACQ, F25ND3	MIRROR				0.2 Secs (0.2 Secs)	
									[==>]	[1]
	2		(11) HD-170773	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR	GAIN=4; CR-SPLIT=7			266 Secs (259 Secs)	
									[==>37.0 Secs (Split 1)] [==>37.0 Secs (Split 2)] [==>37.0 Secs (Split 3)] [==>37.0 Secs (Split 4)] [==>37.0 Secs (Split 5)] [==>37.0 Secs (Split 6)] [==>37.0 Secs (Split 7)]	[1]
	3		(11) HD-170773	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR	GAIN=4; CR-SPLIT=7			266 Secs (259 Secs)	
									[==>37.0 Secs (Split 1)] [==>37.0 Secs (Split 2)] [==>37.0 Secs (Split 3)] [==>37.0 Secs (Split 4)] [==>37.0 Secs (Split 5)] [==>37.0 Secs (Split 6)] [==>37.0 Secs (Split 7)]	[1]
	4		(11) HD-170773	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR	GAIN=4; CR-SPLIT=7			266 Secs (259 Secs)	
									[==>37.0 Secs (Split 1)] [==>37.0 Secs (Split 2)] [==>37.0 Secs (Split 3)] [==>37.0 Secs (Split 4)] [==>37.0 Secs (Split 5)] [==>37.0 Secs (Split 6)] [==>37.0 Secs (Split 7)]	[1]
	5		(11) HD-170773	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR	GAIN=4; CR-SPLIT=7			266 Secs (259 Secs)	
								[==>37.0 Secs (Split 1)] [==>37.0 Secs (Split 2)] [==>37.0 Secs (Split 3)] [==>37.0 Secs (Split 4)] [==>37.0 Secs (Split 5)] [==>37.0 Secs (Split 6)] [==>37.0 Secs (Split 7)]	[1]	



Proposal 17479 - PSF-HD 153377 (07) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

Thu Jul 11 20:01:36 GMT 2024

Visit	Proposal 17479, PSF-HD 153377 (07), pi Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(12)	PSF-HD153377	RA: 16 59 21.5073 (254.8396138d) Dec: -01 41 15.62 (-1.68767d) Equinox: J2000	Proper Motion RA: 28.481 mas/yr Proper Motion Dec: -1.2589 mas/yr Parallax: 0.015" Epoch of Position: 2000.0	V=7.54	Reference Frame: ICRS				
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=STAR Description=[F3-F9]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	ACQ	(12) PSF-HD153377	STIS/CCD, ACQ, F25ND3	MIRROR				1 Secs (1 Secs)	
									[==>]	[1]
	2		(12) PSF-HD153377	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR		GAIN=4; CR-SPLIT=7		805 Secs (819 Secs)	
								[==>117.0 Secs (Split 1)] [==>117.0 Secs (Split 2)] [==>117.0 Secs (Split 3)] [==>117.0 Secs (Split 4)] [==>117.0 Secs (Split 5)] [==>117.0 Secs (Split 6)] [==>117.0 Secs (Split 7)]	[1]	
3		(12) PSF-HD153377	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR		GAIN=4; CR-SPLIT=7		805 Secs (819 Secs)		
								[==>117.0 Secs (Split 1)] [==>117.0 Secs (Split 2)] [==>117.0 Secs (Split 3)] [==>117.0 Secs (Split 4)] [==>117.0 Secs (Split 5)] [==>117.0 Secs (Split 6)] [==>117.0 Secs (Split 7)]	[1]	



Proposal 17479 - HD 170773-Roll3 (08) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

<b>Visit</b>	Proposal 17479, HD 170773-Roll3 (08), pi <span style="float: right;">Thu Jul 11 20:01:36 GMT 2024</span> Diagnostic Status: No Diagnostics Scientific Instruments: STIS/CCD Special Requirements: ORIENT 14D TO 15D FROM 05					
	<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>
(11)		HD-170773	RA: 18 33 0.9167 (278.2538196d) Dec: -39 53 31.28 (-39.89202d) Equinox: J2000	Proper Motion RA: 86.353 mas/yr Proper Motion Dec: -79.9269 mas/yr Parallax: 0.027" Epoch of Position: 2000.0	V=6.217	Reference Frame: ICRS
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=STAR Description=[DISK, EXTRA-SOLAR PLANETARY SYSTEM, F3-F9]						

Proposal 17479 - HD 170773-Roll3 (08) - Capturing the signatures of planets shaping two large-radius debris belts unveiled with ALMA

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	ACQ	(11) HD-170773	STIS/CCD, ACQ, F25ND3	MIRROR					0.2 Secs (0.2 Secs)	
										[==>]	[1]
	2		(11) HD-170773	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR	GAIN=4; CR-SPLIT=7				266 Secs (259 Secs)	
										[==>37.0 Secs (Split 1)] [==>37.0 Secs (Split 2)] [==>37.0 Secs (Split 3)] [==>37.0 Secs (Split 4)] [==>37.0 Secs (Split 5)] [==>37.0 Secs (Split 6)] [==>37.0 Secs (Split 7)]	[1]
	3		(11) HD-170773	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR	GAIN=4; CR-SPLIT=7				266 Secs (259 Secs)	
									[==>37.0 Secs (Split 1)] [==>37.0 Secs (Split 2)] [==>37.0 Secs (Split 3)] [==>37.0 Secs (Split 4)] [==>37.0 Secs (Split 5)] [==>37.0 Secs (Split 6)] [==>37.0 Secs (Split 7)]	[1]	
4		(11) HD-170773	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR	GAIN=4; CR-SPLIT=7				266 Secs (259 Secs)		
									[==>37.0 Secs (Split 1)] [==>37.0 Secs (Split 2)] [==>37.0 Secs (Split 3)] [==>37.0 Secs (Split 4)] [==>37.0 Secs (Split 5)] [==>37.0 Secs (Split 6)] [==>37.0 Secs (Split 7)]	[1]	
5		(11) HD-170773	STIS/CCD, ACCUM, WEDGEA1.8	MIRROR	GAIN=4; CR-SPLIT=7				266 Secs (259 Secs)		
									[==>37.0 Secs (Split 1)] [==>37.0 Secs (Split 2)] [==>37.0 Secs (Split 3)] [==>37.0 Secs (Split 4)] [==>37.0 Secs (Split 5)] [==>37.0 Secs (Split 6)] [==>37.0 Secs (Split 7)]	[1]	

