



11000 - Evaporating Disks

Cycle: 15, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
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VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(3) IC1396-TAIL	NIC2	2	29-May-2007 21:04:17.0	yes
02	(1) NGC2264-TAIL (5) NGC2264-TAIL-NIC1	NIC1 NIC2	2	29-May-2007 21:04:26.0	yes
03	(2) NGC2244-TAIL (6) NGC2244-TAIL-NIC1	NIC1 NIC2	1	29-May-2007 21:04:40.0	yes

5 Total Orbits Used

ABSTRACT

Evaporation in the vicinity of an O star disrupts protoplanetary disks, as seen in the Orion proplyds. We have found a number of evaporating disks with Spitzer, which are in some ways more dramatic and better oriented for detailed study than the proplyds ? they have cometary tails

extending up to 0.1 pc from the evaporation working surface. We will use Spitzer/IRS and HST/NICMOS to investigate these systems in more detail. We want to explore the excitation condition in the gas, both in the head and in the tail where possible. We will measure the effects of evaporation on the characteristic emission features of the dust. We also will use NICMOS to image them in detail, including mapping complex structures resolved in their tails at 24 microns

OBSERVING DESCRIPTION

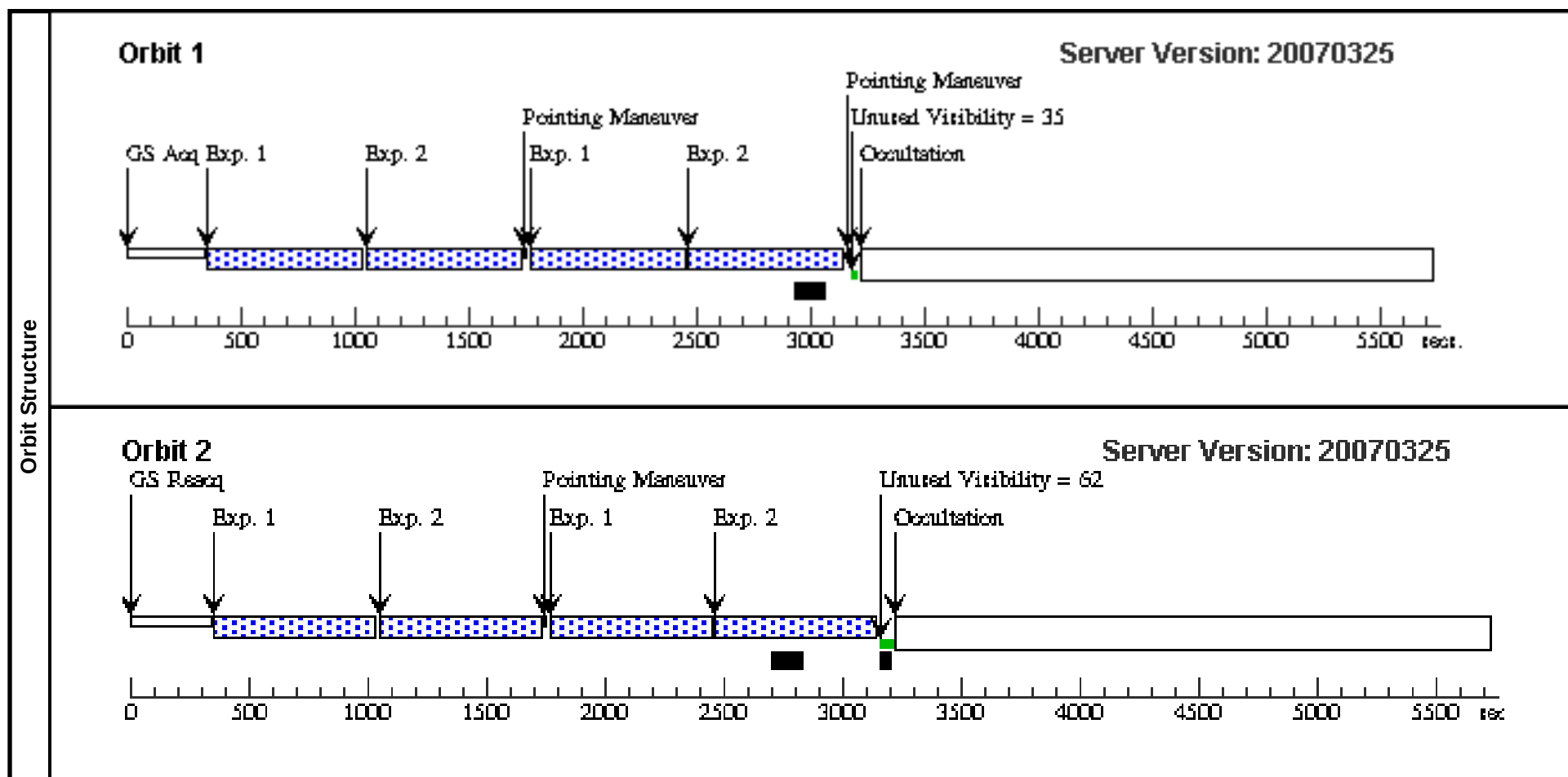
With HST, we will carry out observations using NICMOS/NIC2 and F164N, F166N, F187N, F190N, F212N, F215N filters. We will use two orbits for each of our closest objects (IC1396, NGC2264) to achieve the highest signal to noise ratio possible to study the structures of the tails in Pa alpha images. The remaining one orbit will be used for the thirdd (farthest object)

That is why we divided the orbits the following way. Using our 24 fluxes we calculated the exposure times needed to reach a signal to noise ratio of 100 in the F212N, F215N, F164N and F166N filters (about 100s each) and distributed the remaining time for the Pa alpha and its continuum filter. This should provide enough signal to detect the structure in the tail in the case of IC1396 in spite of a complex and high background due to the leftovers of the HII region. It will let us search for structure in the tails of the other objects.

We are going to use dithered observations to effectively remove the detector artifacts and possible cosmic ray hits. Considering the nearby bright O star and the extended nature of our objects we need to carefully select the pointing and the dither pattern. We plan to place our object's "head" as near the edge of the detector which is closer to the O star as it is allowed by the pointing accuracy and use a four point linear dither pattern in the case of IC1396 and NGC2264. This way we can make sure that we capture the whole tail structure and get as little scattered light from the bright source as possible. In case of NGC2244 we reduced the number of dithers to two in order to enable longer observing time which gives higher S/N.

Proposal 11000 - Visit 01 - Evaporating Disks

Visit	Proposal 11000, Visit 01										Wed May 30 01:04:42 GMT 2007			
	Diagnostic Status: Warning													
	Scientific Instruments: NIC2													
	Special Requirements: ORIENT 40.0D TO 50.0 D													
Diagnostics	(Visit 01) Warning: PATTERN POSITION OUTSIDE APERTURE													
Patterns	#	Primary Pattern					Secondary Pattern					Exposures		
	(1)	Pattern Type=NIC-XSTRIP-DITH Coordinate Frame=POS-TARG Purpose=DITHER Pattern Orientation=0 Number Of Points=4 Angle Between Sides= Point Spacing=4 Center Pattern=false Line Spacing=										(1-2)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous					
	(3)	IC1396-TAIL	RA: 21 38 57.9757 (324.7415654d) Dec: +57 30 50.20 (57.51394d) Equinox: J2000				V=(?) K =13.6		Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit			
	1	(3) IC1396-TAIL	NIC2, MULTIACCUM, NIC2	F187N	NSAMP=23; SAMP-SEQ=SPARS 32	GS ACQ SCENARI O BASE1TNS	Pattern 1-2 (1)	[==>(Pattern 1)]		[1]				
								[==>(Pattern 2)]						
								[==>(Pattern 3)]		[2]				
								[==>(Pattern 4)]						
	2	(3) IC1396-TAIL	NIC2, MULTIACCUM, NIC2	F190N	NSAMP=23; SAMP-SEQ=SPARS 32		Pattern 1-2 (1)	[==>(Pattern 1)]		[1]				
[==>(Pattern 2)]														
[==>(Pattern 3)]								[2]						
[==>(Pattern 4)]														

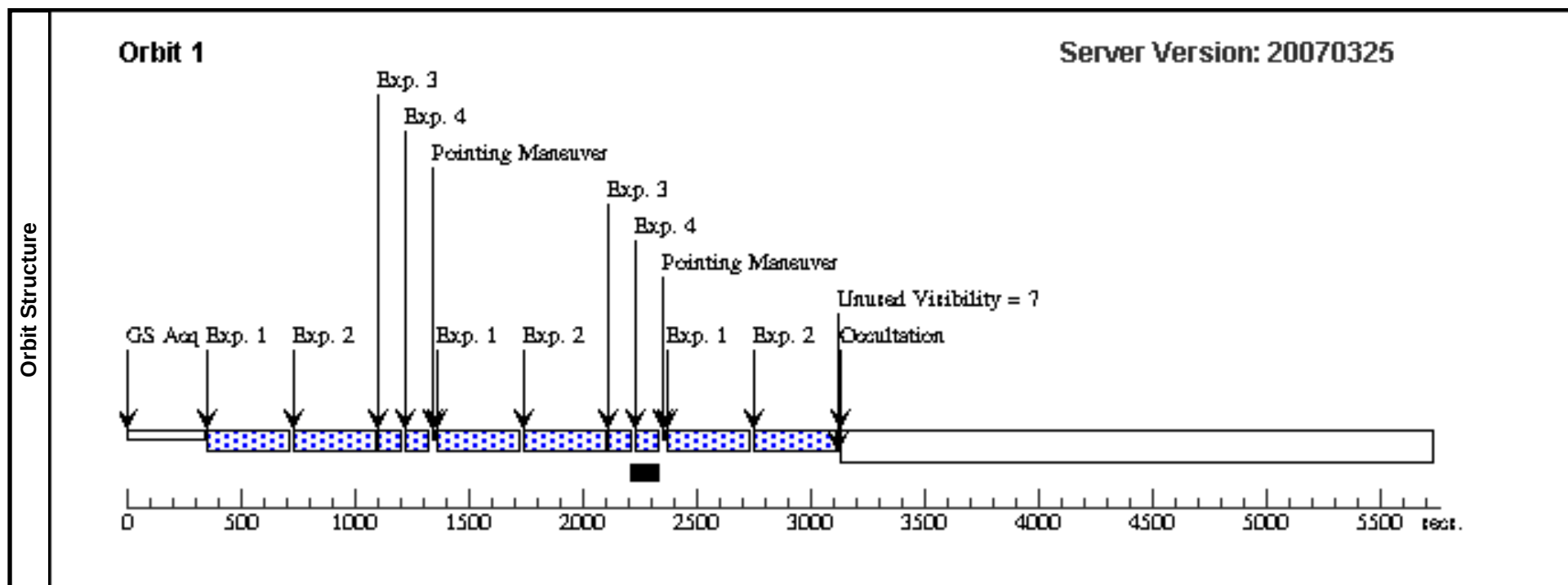


Proposal 11000 - Visit 02 - Evaporating Disks

Visit	Proposal 11000, Visit 02, completed										Wed May 30 01:04:43 GMT 2007		
	Diagnostic Status: Warning												
	Scientific Instruments: NIC2, NIC1												
	Special Requirements: ORIENT 0.0D TO 1.0 D												
Diagnostics	(Visit 02) Warning: PATTERN POSITION OUTSIDE APERTURE												
	(Visit 02) Warning: PATTERN POSITION OUTSIDE APERTURE												
Patterns	#	Primary Pattern					Secondary Pattern					Exposures	
	(1)	Pattern Type=NIC-XSTRIP-DITH Purpose=DITHER Number Of Points=4 Point Spacing=4 Line Spacing=			Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=false							(1-4)	
	(2)	Pattern Type=NIC-XSTRIP-DITH Purpose=DITHER Number Of Points=4 Point Spacing=2 Line Spacing=			Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=false							(5-6)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections			Fluxes		Miscellaneous			
	(1)	NGC2264-TAIL	RA: 06 41 2.7308 (100.2613783d) Dec: +09 52 37.42 (9.87706d) Equinox: J2000					V=(?) K = 13.5		Reference Frame: ICRS			
	(5)	NGC2264-TAIL-NIC1	RA: 06 41 2.1945 (100.2591438d) Dec: +09 52 40.94 (9.87804d) Equinox: J2000					V=(?) K = 13.5		Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit		
	1		(1) NGC2264-TAIL	NIC2, MULTIACCUM, NIC2	F187N	NSAMP=13; SAMP-SEQ=SPARS 32	GS ACQ SCENARI O BASE1TNS	Pattern 1-4 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1] [2]		
	2		(1) NGC2264-TAIL	NIC2, MULTIACCUM, NIC2	F190N	NSAMP=13; SAMP-SEQ=SPARS 32		Pattern 1-4 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1] [2]		

Proposal 11000 - Visit 02 - Evaporating Disks

Exposures (continued)	#	Label	Target	Config, Mode, Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	3		(1) NGC2264-TAIL	NIC2, MULTIACCUM, NIC2	F215N	NSAMP=8; SAMP-SEQ=SPARS 16		Pattern 1-4 (1)	[==>(Pattern 1)] [==>(Pattern 2)]	[1]
									[==>(Pattern 3)] [==>(Pattern 4)]	[2]
	4		(1) NGC2264-TAIL	NIC2, MULTIACCUM, NIC2	F216N	NSAMP=8; SAMP-SEQ=SPARS 16		Pattern 1-4 (1)	[==>(Pattern 1)] [==>(Pattern 2)]	[1]
									[==>(Pattern 3)] [==>(Pattern 4)]	[2]
	5		(5) NGC2264-TAIL- NIC1	NIC1, MULTIACCUM, NIC1	F164N	NSAMP=11; SAMP-SEQ=SPARS 16		Pattern 5-6 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[2]
	6		(5) NGC2264-TAIL- NIC1	NIC1, MULTIACCUM, NIC1	F166N	NSAMP=11; SAMP-SEQ=SPARS 16		Pattern 5-6 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[2]





Proposal 11000 - Visit 03 - Evaporating Disks

Visit	Proposal 11000, Visit 03, completed										Wed May 30 01:04:44 GMT 2007		
	Diagnostic Status: No Diagnostics												
	Scientific Instruments: NIC2, NIC1												
	Special Requirements: ORIENT 270.0D TO 270.0 D												
Patterns	#	Primary Pattern					Secondary Pattern					Exposures	
	(3)	Pattern Type=NIC-XSTRIP-DITH Purpose=DITHER Number Of Points=2 Point Spacing=8 Line Spacing=			Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=false							(1-4)	
	(4)	Pattern Type=NIC-XSTRIP-DITH Purpose=DITHER Number Of Points=2 Point Spacing=4 Line Spacing=			Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=false							(5-6)	
Fixed Targets	#	Name		Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous			
	(2)	NGC2244-TAIL		RA: 06 31 54.2670 (97.9761125d) Dec: +04 56 27.19 (4.94089d) Equinox: J2000				V=(?) K =13.1		Reference Frame: ICRS			
	(6)	NGC2244-TAIL-NIC1		RA: 06 31 54.3867 (97.9766112d) Dec: +04 56 26.26 (4.94063d) Equinox: J2000				V=(?) K =13.1		Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture		Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit	
	1	(2) NGC2244-TAIL	NIC2, MULTIACCUM, NIC2	F187N		NSAMP=19; SAMP-SEQ=SPARS 16	GS ACQ SCENARI O BASE1TNS	Pattern 1-4 (3)	[==>(Pattern 1)] [==>(Pattern 2)]		[1]		
	2	(2) NGC2244-TAIL	NIC2, MULTIACCUM, NIC2	F190N		NSAMP=19; SAMP-SEQ=SPARS 16		Pattern 1-4 (3)	[==>(Pattern 1)] [==>(Pattern 2)]		[1]		
	3	(2) NGC2244-TAIL	NIC2, MULTIACCUM, NIC2	F215N		NSAMP=11; SAMP-SEQ=SPARS 16		Pattern 1-4 (3)	[==>(Pattern 1)] [==>(Pattern 2)]		[1]		
	4	(2) NGC2244-TAIL	NIC2, MULTIACCUM, NIC2	F216N		NSAMP=11; SAMP-SEQ=SPARS 16		Pattern 1-4 (3)	[==>(Pattern 1)] [==>(Pattern 2)]		[1]		
	5	(6) NGC2244-TAIL-NIC1	NIC1, MULTIACCUM, NIC1	F164N		NSAMP=12; SAMP-SEQ=SPARS 16		Pattern 5-6 (4)	[==>(Pattern 1)] [==>(Pattern 2)]		[1]		
	6	(6) NGC2244-TAIL-NIC1	NIC1, MULTIACCUM, NIC1	F166N		NSAMP=12; SAMP-SEQ=SPARS 16		Pattern 5-6 (4)	[==>(Pattern 1)] [==>(Pattern 2)]		[1]		

