



10517 - Imaging Astrometrically-Discovered Brown Dwarfs

Cycle: 14, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Dr. Steven Pravdo (PI)	Jet Propulsion Laboratory	spravdo@jpl.nasa.gov
Dr. Stuart B. Shaklan (CoI)	California Institute of Technology	shaklan@huey.jpl.nasa.gov
Dr. James Lloyd (CoI)	Cornell University	jpl@astro.cornell.edu

VISITS

<i>Visit</i>	<i>Targets</i>	<i>Configurations</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) GJ-802	NIC1	1	15-Aug-2006 21:00:56.0	yes
02	(1) GJ-802	NIC1	1	15-Aug-2006 21:01:11.0	yes
03	(3) G-244-49	NIC1	1	15-Aug-2006 21:01:21.0	yes
04	(3) G-244-49	NIC1	1	15-Aug-2006 21:01:30.0	yes
05	(4) GJ-1268	NIC1	1	15-Aug-2006 21:01:42.0	yes
06	(4) GJ-1268	NIC1	1	15-Aug-2006 21:01:51.0	yes
54	(3) G-244-49	NIC1	1	15-Aug-2006 21:01:59.0	yes

7 Total Orbits Used

ABSTRACT

We propose to image the astrometrically discovered companions of three M-dwarfs with NICMOS to more tightly constrain their masses and determine their stellar or sub-stellar natures. Each of these systems has been observed with a sensitive ground-based adaptive optics system and no companions have been detected. NICMOS results will eliminate an ambiguity in the astrometric mass measurements that arises because a companion that contributes significantly to the visible light reduces the motion of the center of light and mimics a small motion of the center of mass. In addition the astrometric measurements made with NICMOS will fix the scale of the system, distinguishing among possible orbits. Finally the color photometry will constrain the spectral types to within a couple of subtypes. When we measure the masses of astrophysical objects, we test and assist the development of the theoretical mass models. Models are based upon parameters such as age and metallicity. Determining the correct mass thus deepens our understanding of the fundamental physics of stars and substellar objects

OBSERVING DESCRIPTION

We will observe 3 targets for one orbit each in one roll orientation. Each orbit will be equally divided between F108N and F164N filters. We then will wait a minimum time interval for a another set of 3 orbits in a different roll orientation. The minimum time is 19, 75, or 111 days depending upon the source. For example, after 111 days all the sources can be observed, again for one orbit each, equally divided between F108N and F164N.

REAL TIME JUSTIFICATION

None

CALIBRATION JUSTIFICATION

None

ADDITIONAL COMMENTS

None

Proposal 10517 - Visit 01 - Imaging Astrometrically-Discovered Brown Dwarfs

Wed Aug 16 01:02:02 GMT 2006

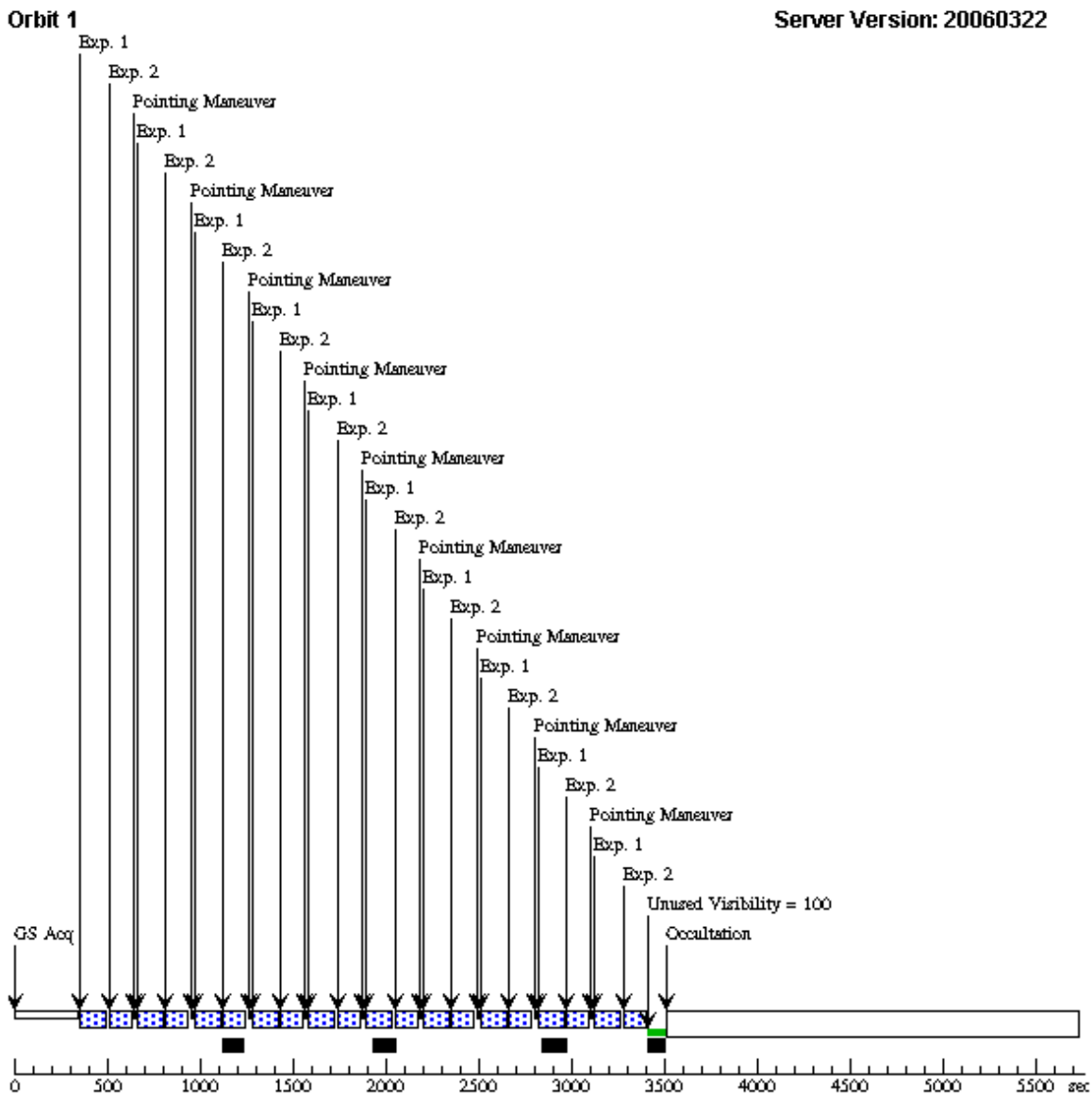
Visit	Proposal 10517, Visit 01 Diagnostic Status: Warning Scientific Instruments: NIC1 Special Requirements: (none)					
	Diagnostics	(Visit 01) Warning: COORDINATE-SOURCE OF OTHER-SOURCE FOR SMALL APERTURE				
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Patterns		#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=NIC-SPIRAL-DITH Coordinate Frame=POS-TARG Purpose=DITHER Pattern Orientation=0 Number Of Points=10 Angle Between Sides= Point Spacing=0.445 Center Pattern=false Line Spacing=		(1-2)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	GJ-802	RA: 20 43 19.7000 (310.8320833d) Dec: +55 21 1.50 (55.35042d) Equinox: J2000	Proper Motion RA: 0.1014s/yr Proper Motion Dec: 1.729"/yr Epoch of Position: 2004.8	V=14.67	Coordinate Source: SIMBAD
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>						

Proposal 10517 - Visit 01 - Imaging Astrometrically-Discovered Brown Dwarfs

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures	1 GJ 802 Roll 1 F108N	(1) GJ-802	NIC1, MULTIACCUM, NIC1	F108N	NSAMP=14; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]
	2 GJ 802 Roll 1 F164N	(1) GJ-802	NIC1, MULTIACCUM, NIC1	F164N	NSAMP=13; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]

Server Version: 20060322

Orbit Structure



Proposal 10517 - Visit 02 - Imaging Astrometrically-Discovered Brown Dwarfs

Wed Aug 16 01:02:03 GMT 2006

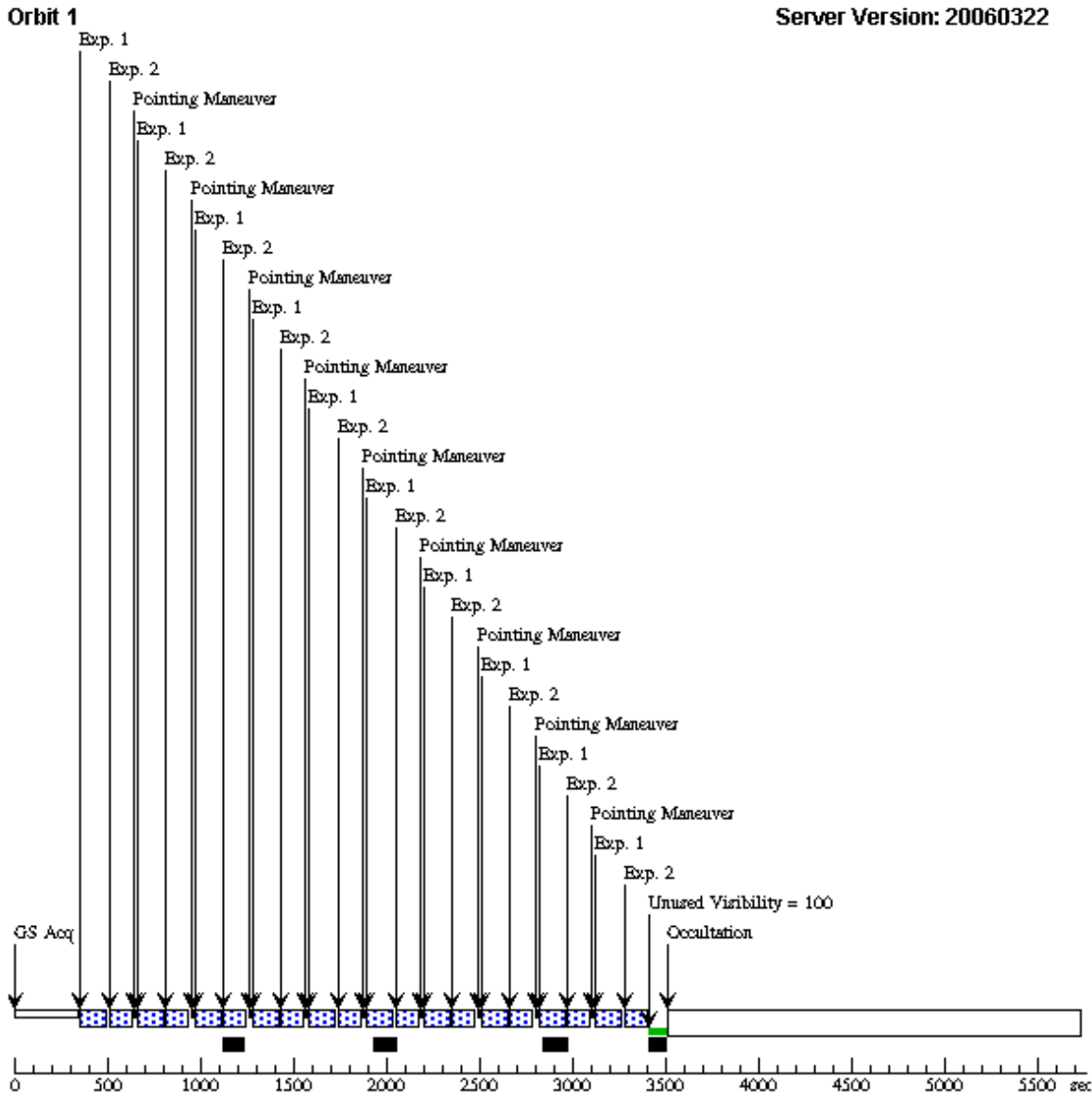
Visit	Proposal 10517, Visit 02 Diagnostic Status: Warning Scientific Instruments: NIC1 Special Requirements: ORIENT 25.0D TO 65.0D FROM 01; AFTER 01 BY 19 D TO 300 D					
	Diagnostics	(Visit 02) Warning: COORDINATE-SOURCE OF OTHER-SOURCE FOR SMALL APERTURE				
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Patterns		#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=NIC-SPIRAL-DITH Coordinate Frame=POS-TARG Purpose=DITHER Pattern Orientation=0 Number Of Points=10 Angle Between Sides= Point Spacing=0.445 Center Pattern=false Line Spacing=		(1-2)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	GJ-802	RA: 20 43 19.7000 (310.8320833d) Dec: +55 21 1.50 (55.35042d) Equinox: J2000	Proper Motion RA: 0.1014s/yr Proper Motion Dec: 1.729"/yr Epoch of Position: 2004.8	V=14.67	Coordinate Source: SIMBAD
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>						

Proposal 10517 - Visit 02 - Imaging Astrometrically-Discovered Brown Dwarfs

	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures	1	GJ 802 Roll 2 F108N	(1) GJ-802	NIC1, MULTIACCUM, NIC1	F108N	NSAMP=14; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]
	2	GJ 802 Roll 2 F164N	(1) GJ-802	NIC1, MULTIACCUM, NIC1	F164N	NSAMP=13; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]

Server Version: 20060322

Orbit Structure



Proposal 10517 - Visit 03 - Imaging Astrometrically-Discovered Brown Dwarfs

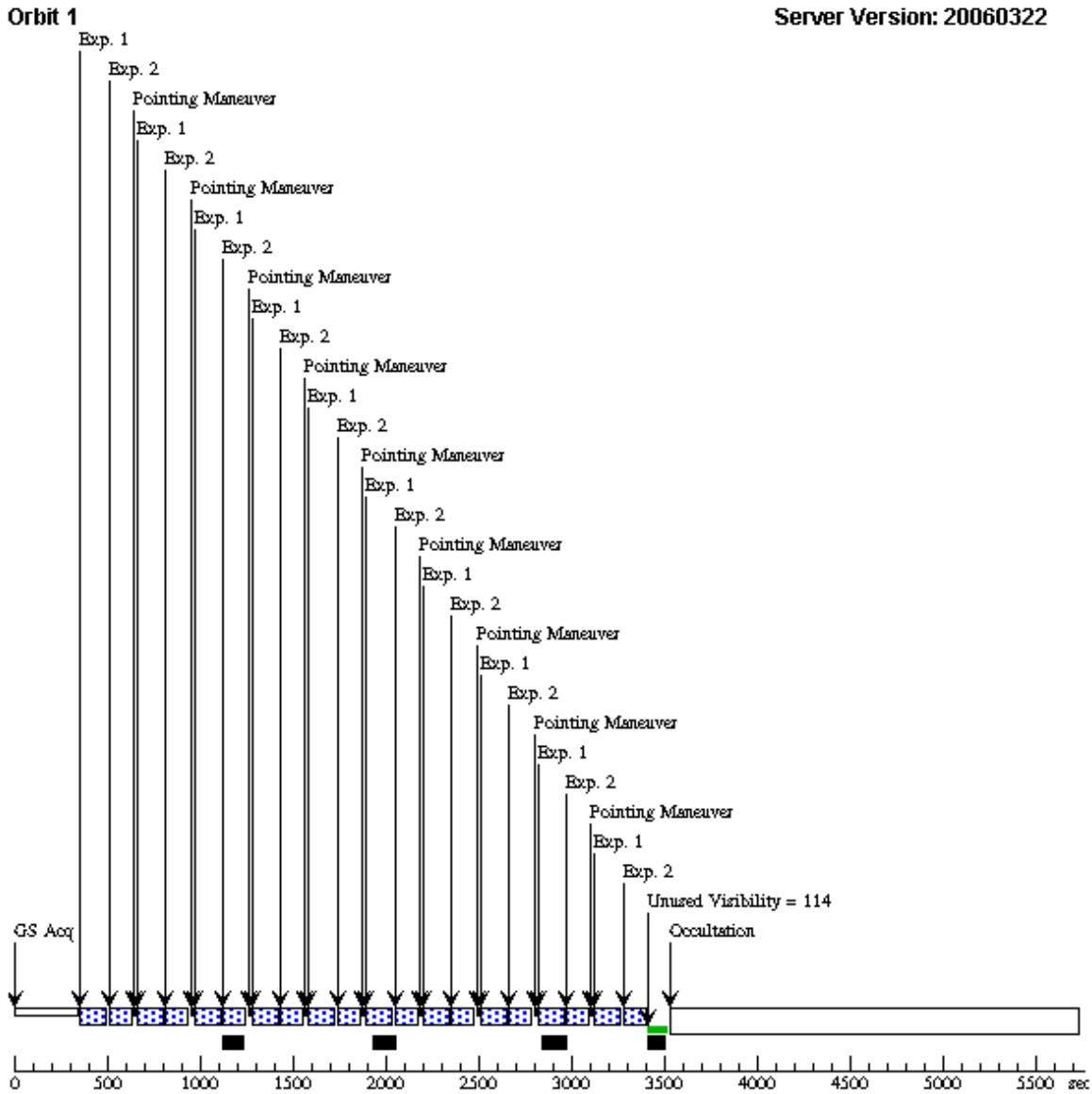
Wed Aug 16 01:02:05 GMT 2006

Visit	Proposal 10517, Visit 03 Diagnostic Status: Warning Scientific Instruments: NIC1 Special Requirements: (none)					
	Diagnostics	(Visit 03) Warning: COORDINATE-SOURCE OF OTHER-SOURCE FOR SMALL APERTURE				
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Patterns		#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=NIC-SPIRAL-DITH Coordinate Frame=POS-TARG Purpose=DITHER Pattern Orientation=0 Number Of Points=10 Angle Between Sides= Point Spacing=0.445 Center Pattern=false Line Spacing=		(1-2)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(3)	G-244-49	RA: 02 07 10.5000 (31.7937500d) Dec: +64 17 10.60 (64.28628d) Equinox: J2000	Proper Motion RA: 0.0341s/yr Proper Motion Dec: -0.161"/yr Epoch of Position: 2005.0	V=14.31	Coordinate Source: SIMBAD
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>						

Proposal 10517 - Visit 03 - Imaging Astrometrically-Discovered Brown Dwarfs

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures	1	GJ 244-49 R (3) G-244-49 o111 F108N	NIC1, MULTIACCUM, NIC1	F108N	NSAMP=14; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]
	2	G 244-49 R (3) G-244-49 o111 F164N	NIC1, MULTIACCUM, NIC1	F164N	NSAMP=13; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]

Orbit Structure



Proposal 10517 - Visit 04 - Imaging Astrometrically-Discovered Brown Dwarfs

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures	1	G 244-49 R o112 F108N	(3) G-244-49 NIC1, MULTIACCUM, NIC1	F108N	NSAMP=14; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]
	2	G 244-49 R o112 F164N	(3) G-244-49 NIC1, MULTIACCUM, NIC1	F164N	NSAMP=13; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]

Proposal 10517 - Visit 05 - Imaging Astrometrically-Discovered Brown Dwarfs

Wed Aug 16 01:02:06 GMT 2006

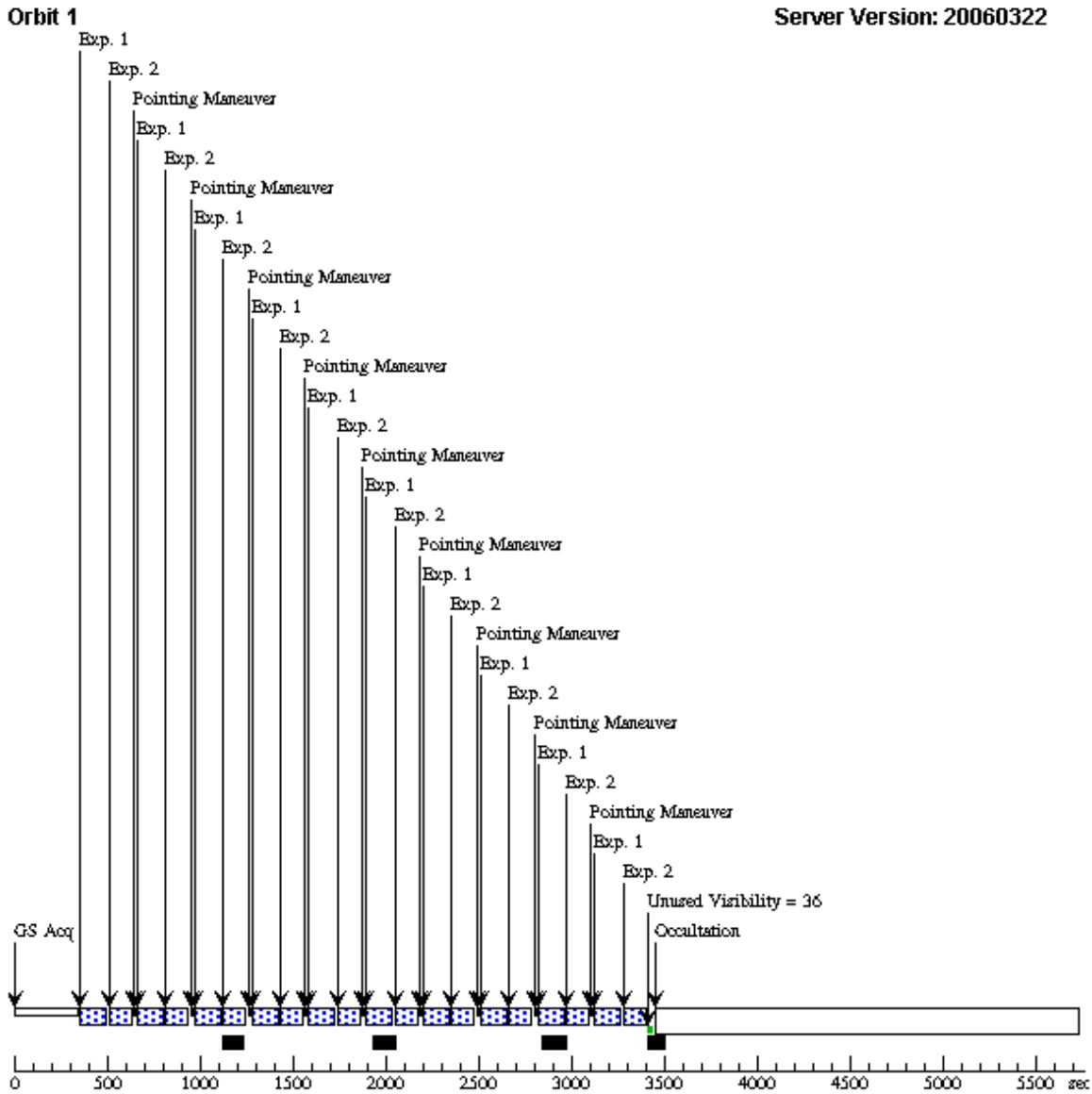
Visit	Proposal 10517, Visit 05 Diagnostic Status: Warning Scientific Instruments: NIC1 Special Requirements: (none)					
	Diagnostics	(Visit 05) Warning: COORDINATE-SOURCE OF OTHER-SOURCE FOR SMALL APERTURE				
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Patterns		#	Primary Pattern		Secondary Pattern	Exposures
	(1)	Pattern Type=NIC-SPIRAL-DITH Purpose=DITHER Number Of Points=10 Point Spacing=0.445 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=false		(1-2)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	GJ-1268	RA: 22 24 56.0000 (336.2333333d) Dec: +52 00 20.90 (52.00581d) Equinox: J2000	Proper Motion RA: 0.0255s/yr Proper Motion Dec: 0.433"/yr Epoch of Position: 2004.8	V=14.94	Coordinate Source: SIMBAD
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>						

Proposal 10517 - Visit 05 - Imaging Astrometrically-Discovered Brown Dwarfs

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures	1	GJ 1268 Rol (4) GJ-1268 11 F108N	NIC1, MULTIACCUM, NIC1	F108N	NSAMP=14; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]
	2	GJ 1268 Rol (4) GJ-1268 11 F164N	NIC1, MULTIACCUM, NIC1	F164N	NSAMP=13; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]

Server Version: 20060322

Orbit Structure



Proposal 10517 - Visit 06 - Imaging Astrometrically-Discovered Brown Dwarfs

Wed Aug 16 01:02:07 GMT 2006

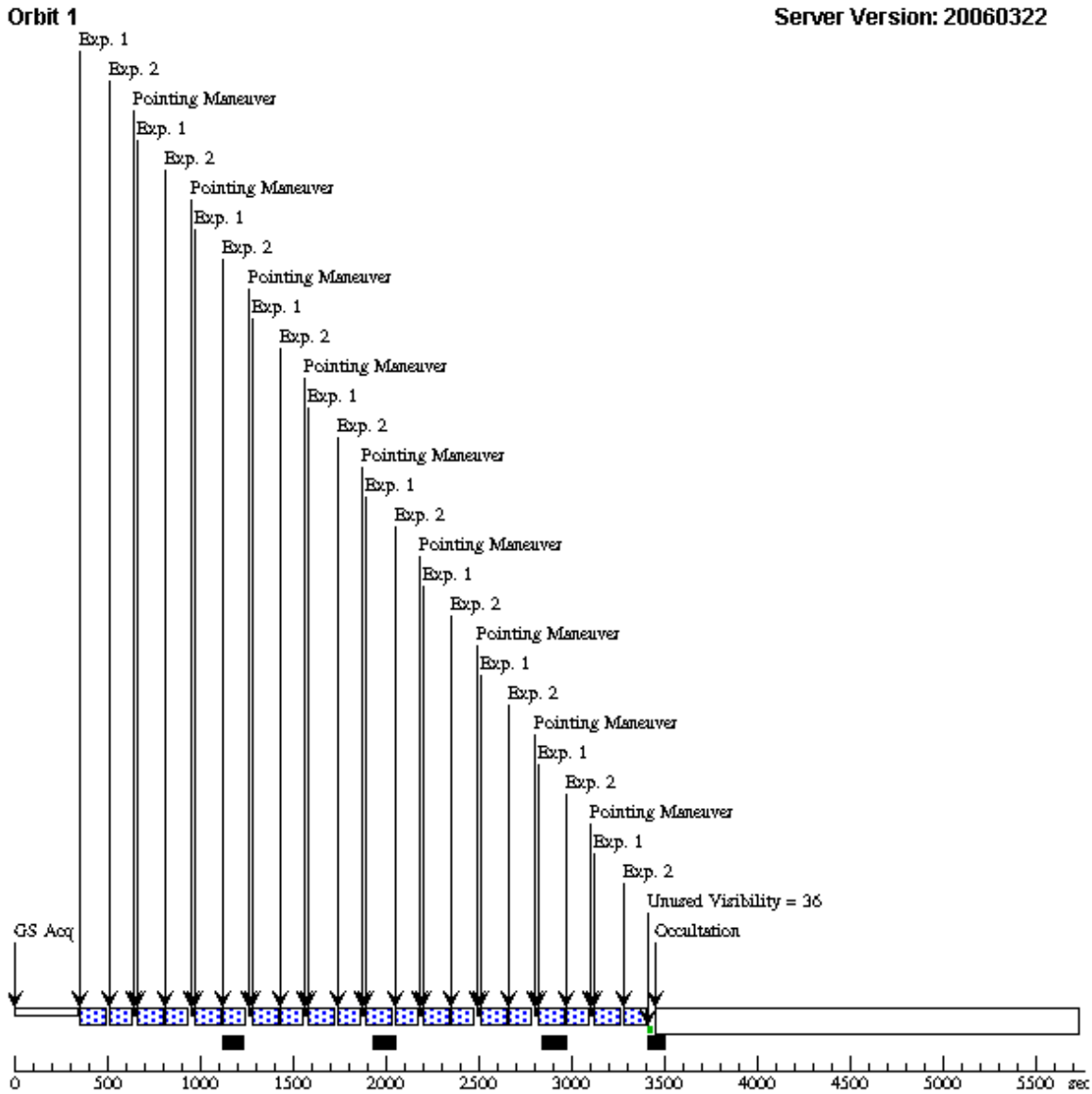
Visit	Proposal 10517, Visit 06 Diagnostic Status: Warning Scientific Instruments: NIC1 Special Requirements: ORIENT 25.0D TO 65.0D FROM 05; AFTER 05 BY 75 D TO 300 D					
	Diagnostics	(Visit 06) Warning: COORDINATE-SOURCE OF OTHER-SOURCE FOR SMALL APERTURE				
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Patterns		#	Primary Pattern	Secondary Pattern	Exposures	
	(1)	Pattern Type=NIC-SPIRAL-DITH Coordinate Frame=POS-TARG Purpose=DITHER Pattern Orientation=0 Number Of Points=10 Angle Between Sides= Point Spacing=0.445 Center Pattern=false Line Spacing=		(1-2)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	GJ-1268	RA: 22 24 56.0000 (336.2333333d) Dec: +52 00 20.90 (52.00581d) Equinox: J2000	Proper Motion RA: 0.0255s/yr Proper Motion Dec: 0.433"/yr Epoch of Position: 2004.8	V=14.94	Coordinate Source: SIMBAD
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>						

Proposal 10517 - Visit 06 - Imaging Astrometrically-Discovered Brown Dwarfs

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures	1	GJ 1268 Rol (4) GJ-1268 12 F108N	NIC1, MULTIACCUM, NIC1	F108N	NSAMP=14; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]
	2	GJ 1268 Rol (4) GJ-1268 12 F164N	NIC1, MULTIACCUM, NIC1	F164N	NSAMP=13; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]

Server Version: 20060322

Orbit Structure



Proposal 10517 - Visit 54 - Imaging Astrometrically-Discovered Brown Dwarfs

	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures	1	G 244-49 R o112 F108N	(3) G-244-49	NIC1, MULTIACCUM, NIC1	F108N	NSAMP=14; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]
	2	G 244-49 R o112 F164N	(3) G-244-49	NIC1, MULTIACCUM, NIC1	F164N	NSAMP=13; SAMP-SEQ=STEP1 6		Pattern 1-2 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] [==>(Pattern 5)] [==>(Pattern 6)] [==>(Pattern 7)] [==>(Pattern 8)] [==>(Pattern 9)] [==>(Pattern 10)]	[1]

