14725 - Hunting for Brown Dwarfs in Globular Clusters: Second Epoch Deep IR observations of the Globular Clusters M4

Cycle: 24, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) M-4	WFC3/IR	1	29-Jul-2016 15:03:58.0	yes
02	(2) M-4-V2	WFC3/IR	1	29-Jul-2016 15:03:59.0	yes

2 Total Orbits Used

ABSTRACT

We propose to obtain a second epoch of deep WFC3/F110W imaging of the globular cluster M4 to confirm (or rule out) the first brown dwarfs (BDs) detected in this cluster. In a first epoch of deep WFC3 IR imaging of M4, four good BD candidates were identified. We will use a second epoch to test whether the BD candidates share the proper motion of the cluster population or not, thereby confirming (or ruling out) these sources as genuine cluster members. Confirming these sources as cluster BDs is crucial if we want to fill the observational plane with old and metal-poor benchmark sources that are much needed if we are to test and calibrate models about BD atmospheres, BD formation and evolution.

OBSERVING DESCRIPTION

The observations will be obtained using a dither pattern otpimized to best sample the PSF, and to compensate for detector deficits like hot/cold/dead pixels and the IR blobs, which will improve image quality and resolution. We use POS TARG to implement the dither steps.
The observations will be carried out in two visits consisting of 1 orbit each.
Both orbits will be done with a NSAMP14 SPARS50 and the four point dither pattern.

Visit

Proposal 14725, Visit 01 Fri Jul 29 19:04:00 GMT 2016

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 296D TO 296 D

Fixed Targets

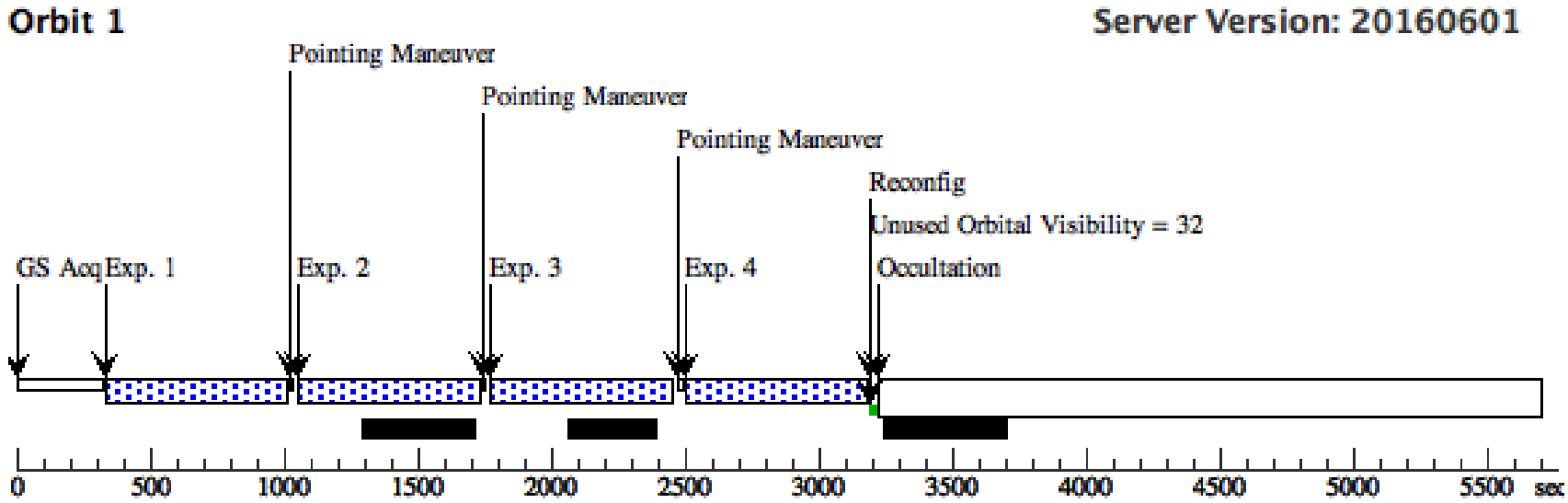
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	M-4	RA: 16 23 41.7158 (245.9238158d) Dec: -26 30 19.01 (-26.50528d) Equinox: J2000		V=7.12	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database, the coordinates were updated to match the coordinates of the first epoch WFC3 F110W observations (GO-12602).

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) M-4	WFC3/IR, MULTIACCUM, IR-UVIS-FIX	F110W	NSAMP=14; SAMP-SEQ=SPARS50	POS TARG -5,5		652.938154 Secs (652.938 Secs) *[==>]*	*[1]*
2		(1) M-4	WFC3/IR, MULTIACCUM, IR-UVIS-FIX	F110W	NSAMP=14; SAMP-SEQ=SPARS50	POS TARG -2.5,2.5		652.938154 Secs (652.938 Secs) *[==>]*	*[1]*
3		(1) M-4	WFC3/IR, MULTIACCUM, IR-UVIS-FIX	F110W	NSAMP=14; SAMP-SEQ=SPARS50	POS TARG -7.5,7.5		652.938154 Secs (652.938 Secs) *[==>]*	*[1]*
4		(1) M-4	WFC3/IR, MULTIACCUM, IR-UVIS-FIX	F110W	NSAMP=14; SAMP-SEQ=SPARS50			652.938154 Secs (652.938 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 14725, Visit 02 Fri Jul 29 19:04:00 GMT 2016

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 180D TO 180D FROM 01

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M-4-V2	RA: 16 23 42.2147 (245.9258946d) Dec: -26 30 5.26 (-26.50146d) Equinox: J2000		V=7.12	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database, the coordinates were updated to match the coordinates of the first epoch WFC3 F110W observations (GO-12602) and shifted slightly.

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(2) M-4-V2	WFC3/IR, MULTIACCUM, IR-UVIS-FIX	F110W	NSAMP=14; SAMP-SEQ=SPARS50	POS TARG 2.5,-12.5		652.938154 Secs (652.938 Secs) *[==>]*	*[1]*
2		(2) M-4-V2	WFC3/IR, MULTIACCUM, IR-UVIS-FIX	F110W	NSAMP=14; SAMP-SEQ=SPARS50	POS TARG 0,-10		652.938154 Secs (652.938 Secs) *[==>]*	*[1]*
3		(2) M-4-V2	WFC3/IR, MULTIACCUM, IR-UVIS-FIX	F110W	NSAMP=14; SAMP-SEQ=SPARS50	POS TARG -2.5,-7.5		652.938154 Secs (652.938 Secs) *[==>]*	*[1]*
4		(2) M-4-V2	WFC3/IR, MULTIACCUM, IR-UVIS-FIX	F110W	NSAMP=14; SAMP-SEQ=SPARS50	POS TARG -5,-5		652.938154 Secs (652.938 Secs) *[==>]*	*[1]*

Orbit Structure