



16429 - A candidate bullet in the Planck SZ Catalogue

Cycle: 28, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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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	(1) PSZ1-G282.30+49.92	ACS/WFC	1	18-Sep-2020 20:00:18.0	yes
02	(1) PSZ1-G282.30+49.92	ACS/WFC	1	18-Sep-2020 20:00:19.0	yes
03	(1) PSZ1-G282.30+49.92	ACS/WFC	1	18-Sep-2020 20:00:19.0	yes
04	(1) PSZ1-G282.30+49.92	ACS/WFC	1	18-Sep-2020 20:00:20.0	yes
05	(1) PSZ1-G282.30+49.92	ACS/WFC	1	18-Sep-2020 20:00:20.0	yes

5 Total Orbits Used

ABSTRACT

We propose joint Chandra (146 ks) and HST (5 orbits) observations of PSZ2 G282.28+49.94, a candidate "bullet-like" cluster. It features a cometary shape and a very large offset (350 kpc) between the X-ray peak and a galaxy clump, suggesting that it is undergoing a major merger shortly after core passage. In this phase, the collisionless components of the cluster are maximally separated from the collisional ICM, as in the Bullet Cluster, and their separation can provide constraints to the DM cross section. The large separation makes PSZ2 G282.28+49.94 a very promising target for these studies. The requested observations will allow us to map both the ICM and the DM distribution, to infer the dynamical history of this extreme object and to measure the offset between DM, gas and galaxies.

OBSERVING DESCRIPTION

We're doing a 2x2 mosaic with ACS F814W (for weak lensing) + a central pointing of F435W. Each ACS pointing will be 1 orbit with 4 dithers stepping across the chip gap.

These will complement the archival half-orbit snapshot in WFC3/IR F110W and F140W (706 s each; PI Ebeling; GO 15132).

Proposal 16429 - F435W central pointing (01) - A candidate bullet in the Planck SZ Catalogue

Sat Sep 19 00:00:21 GMT 2020

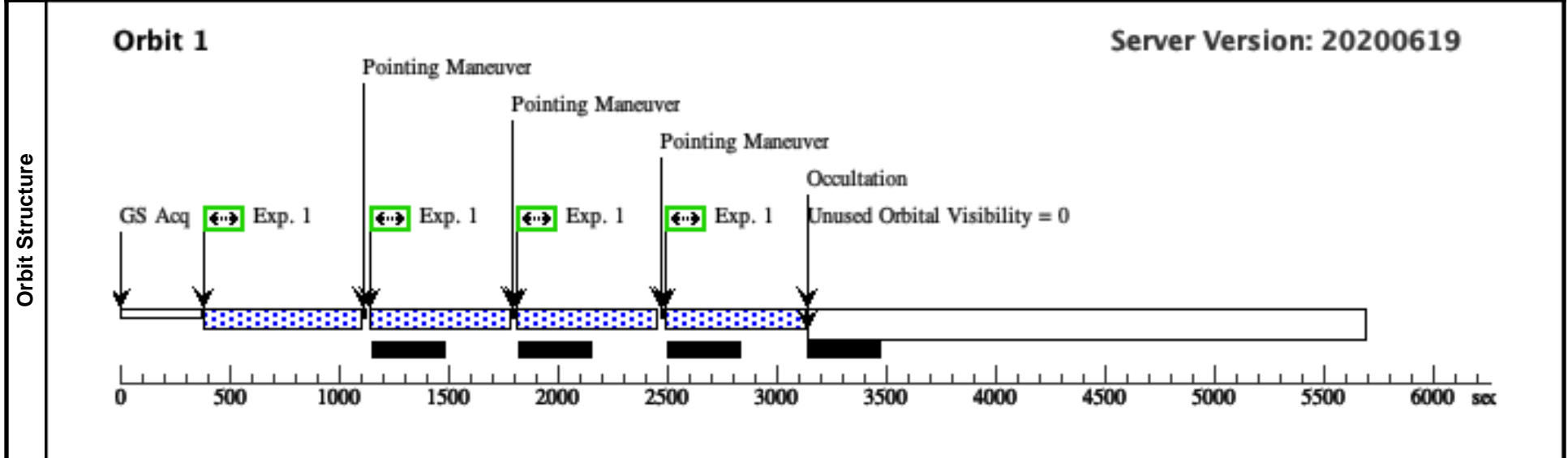
Visit	Proposal 16429, F435W central pointing (01) Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: SAME ORIENT AS 02		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	PSZ1-G282.30+49.92	RA: 11 58 0.8013 (179.5033387d) Dec: -10 46 31.98 (-10.77555d) Equinox: J2000		V=18	Reference Frame: SIMBAD

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
 Category=CLUSTER OF GALAXIES
 Description=[GRAVITATIONAL LENS, RICH CLUSTER]*

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F435W	(1) PSZ1-G282.30+49.92	ACS/WFC, ACCUM, WFCENTER	F435W				Pattern 1, Exps 1-1 in F435W central pointing (01) (1)	0 Secs (2058 Secs) [=>514.5 Secs (Pattern 1)] [=>514.5 Secs (Pattern 2)] [=>514.5 Secs (Pattern 3)] [=>514.5 Secs (Pattern 4)]



Proposal 16429 - Tile F814W (02) - A candidate bullet in the Planck SZ Catalogue

Sat Sep 19 00:00:21 GMT 2020

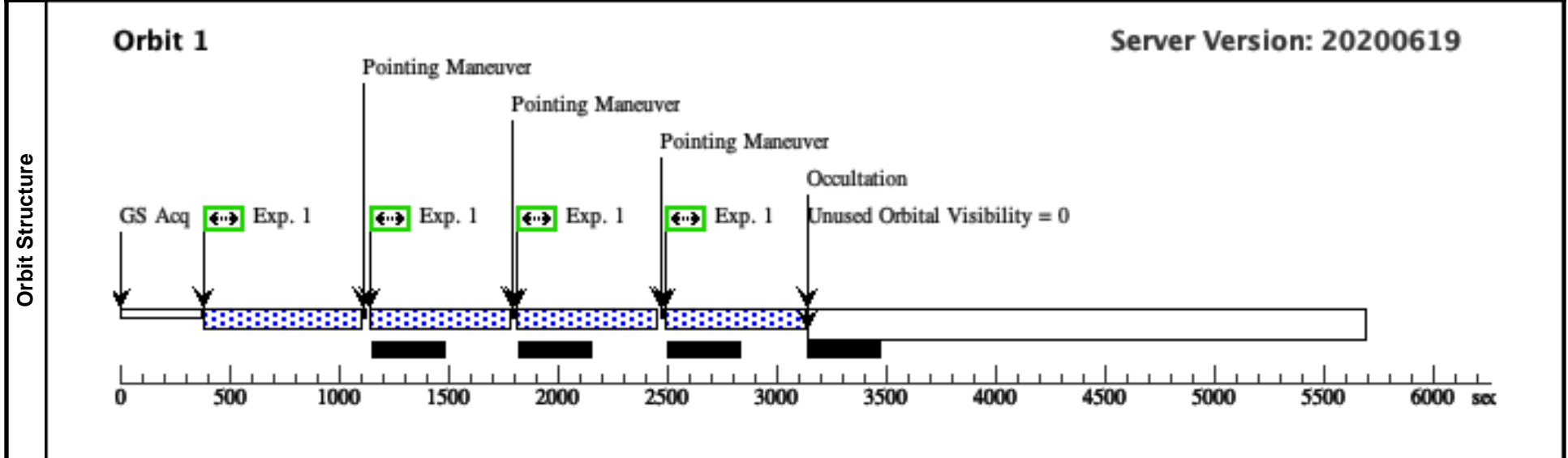
Visit	Proposal 16429, Tile F814W (02) Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	PSZ1-G282.30+49.92	RA: 11 58 0.8013 (179.5033387d) Dec: -10 46 31.98 (-10.77555d) Equinox: J2000		V=18	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
 Category=CLUSTER OF GALAXIES
 Description=[GRAVITATIONAL LENS, RICH CLUSTER]

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F814W	(1) PSZ1-G282.30+49.92	ACS/WFC, ACCUM, WFCENTER	F814W			POS TARG -91.081 81394818979,-100.2 8510583569366	Pattern 1, Exps 1-1 in Tile F814W (02) (1)	0 Secs (2058 Secs) [=>514.5 Secs (Pattern 1)] [=>514.5 Secs (Pattern 2)] [=>514.5 Secs (Pattern 3)] [=>514.5 Secs (Pattern 4)]



Proposal 16429 - Tile F814W (03) - A candidate bullet in the Planck SZ Catalogue

Sat Sep 19 00:00:21 GMT 2020

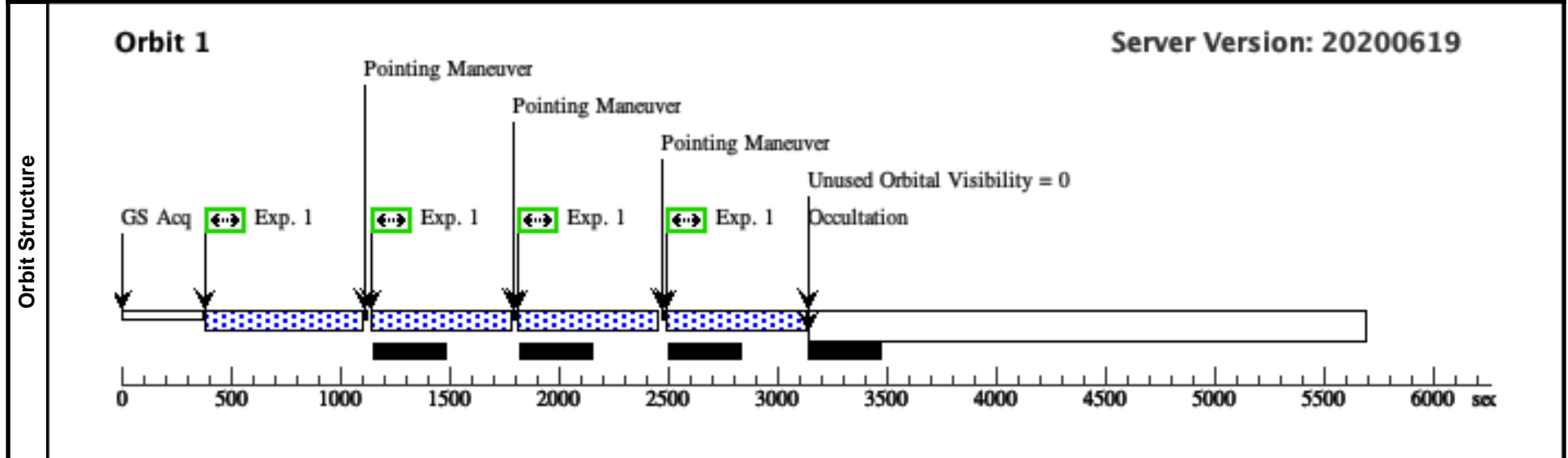
Visit	Proposal 16429, Tile F814W (03) Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: SAME ORIENT AS 02		
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Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	PSZ1-G282.30+49.92	RA: 11 58 0.8013 (179.5033387d) Dec: -10 46 31.98 (-10.77555d) Equinox: J2000		V=18	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
 Category=CLUSTER OF GALAXIES
 Description=[GRAVITATIONAL LENS, RICH CLUSTER]

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F814W	(1) PSZ1-G282.30+49.92	ACS/WFC, ACCUM, WFCENTER	F814W			POS TARG 92.7200 0007374032,-87.432 43095170607	Pattern 1, Exps 1-1 in Tile F814W (03) (1)	0 Secs (2058 Secs) [=>514.5 Secs (Pattern 1)] [=>514.5 Secs (Pattern 2)] [=>514.5 Secs (Pattern 3)] [=>514.5 Secs (Pattern 4)]



Proposal 16429 - Tile F814W (04) - A candidate bullet in the Planck SZ Catalogue

Sat Sep 19 00:00:21 GMT 2020

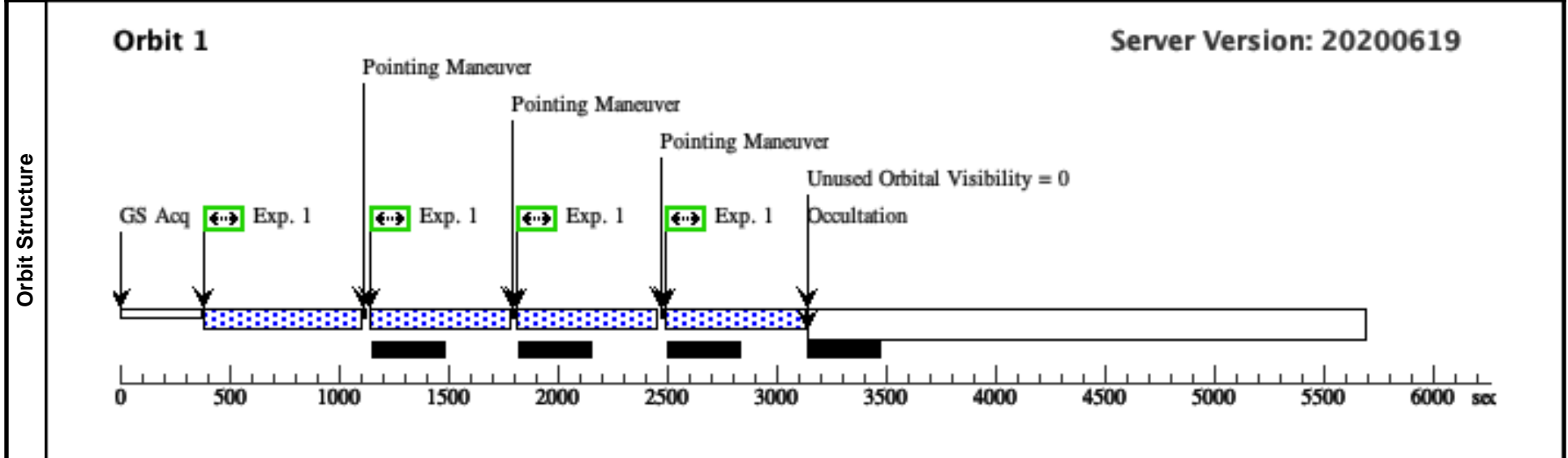
Visit	Proposal 16429, Tile F814W (04) Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: SAME ORIENT AS 02		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	PSZ1-G282.30+49.92	RA: 11 58 0.8013 (179.5033387d) Dec: -10 46 31.98 (-10.77555d) Equinox: J2000		V=18	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
 Category=CLUSTER OF GALAXIES
 Description=[GRAVITATIONAL LENS, RICH CLUSTER]

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F814W	(1) PSZ1-G282.30+49.92	ACS/WFC, ACCUM, WFCENTER	F814W			POS TARG -92.720 00007374032,87.432 4309517061	Pattern 1, Exps 1-1 in Tile F814W (04) (1)	0 Secs (2058 Secs) [=>514.5 Secs (Pattern 1)] [=>514.5 Secs (Pattern 2)] [=>514.5 Secs (Pattern 3)] [=>514.5 Secs (Pattern 4)]



Proposal 16429 - Tile F814W (05) - A candidate bullet in the Planck SZ Catalogue

Sat Sep 19 00:00:21 GMT 2020

Visit	Proposal 16429, Tile F814W (05) Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: SAME ORIENT AS 02		
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Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=3.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	PSZ1-G282.30+49.92	RA: 11 58 0.8013 (179.5033387d) Dec: -10 46 31.98 (-10.77555d) Equinox: J2000		V=18	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
 Category=CLUSTER OF GALAXIES
 Description=[GRAVITATIONAL LENS, RICH CLUSTER]

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F814W	(1) PSZ1-G282.30+49.92	ACS/WFC, ACCUM, WFCENTER	F814W			POS TARG 91.0818 1394818979,100.285 10583569368	Pattern 1, Exps 1-1 in Tile F814W (05) (1)	0 Secs (2058 Secs) [=>514.5 Secs (Pattern 1)] [=>514.5 Secs (Pattern 2)] [=>514.5 Secs (Pattern 3)] [=>514.5 Secs (Pattern 4)]

