16897 - An accretion disk wind across the electromagnetic spectrum

Cycle: 29, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
Dr. Nathalie Degenaar (PI) (ESA Member) (Contact)	**Universiteit van Amsterdam**	**degenaar@uva.nl**
Dr. Elisa Costantini (CoI) (ESA Member)	Space Research Organization Netherlands	e.costantini@sron.nl
Mr. Noel Castro Segura (CoI) (ESA Member)	University of Southampton	n.castro-segura@soton.ac.uk
Mr. Jakob van den Eijnden (CoI) (ESA Member)	Universiteit van Amsterdam	a.j.vandeneijnden@uva.nl
Ms. Stefanie Fijma (CoI) (ESA Member)	Universiteit van Amsterdam	s.c.fijma@uva.nl
Dr. Juan V. Hernandez Santisteban (CoI) (ESA Member)	University of St. Andrews	jvhs1@st-andrews.ac.uk

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) IGR-J17062-6143	COS/FUV COS/NUV	6	09-Feb-2022 16:00:12.0	yes

6 Total Orbits Used

ABSTRACT

Accretion inevitably produces disk winds, which has vast consequences. These outflows can regulate the accretion process, affect the long-term orbital evolution of the X-ray binary, and impact their cosmic envi- ronment. However, it is not established exactly how disk winds are launched, and how much mass is carried away by them. We propose to study the disk wind of a persistently accreting neutron star across the elec- tromagnetic spectrum with XMM-Newton, HST and VLT. These simultaneous multi-wavelength data will determine the launch mechanism and mass content of

the disk wind. This show-case study will highlight the impact of studying disk winds across the electromagnetic spectrum and pave the way for future observations.

OBSERVING DESCRIPTION

We propose to observe the low-mass X-ray binary IGR J17062-6143 in 6 orbits all within the same visit.

The first orbit, will consist of an ACQ/IMAGE taken with COS/NUV and complemented with the spectroscopic exposures taken with the COS/FUV G140L.

The preffered window to coordinate with XMM and VLT/XShooter is 19-24 September.

Visit

Proposal 16897, Visit 01, implementation Wed Feb 09 21:00:13 GMT 2022

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Comments: The object is faint.
In order to optimise the exposure time, we use a single FP-POS per orbit with the exception of the last two where we use 2 per orbit.

Diagnostics

(Visit 01) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

Fixed Targets

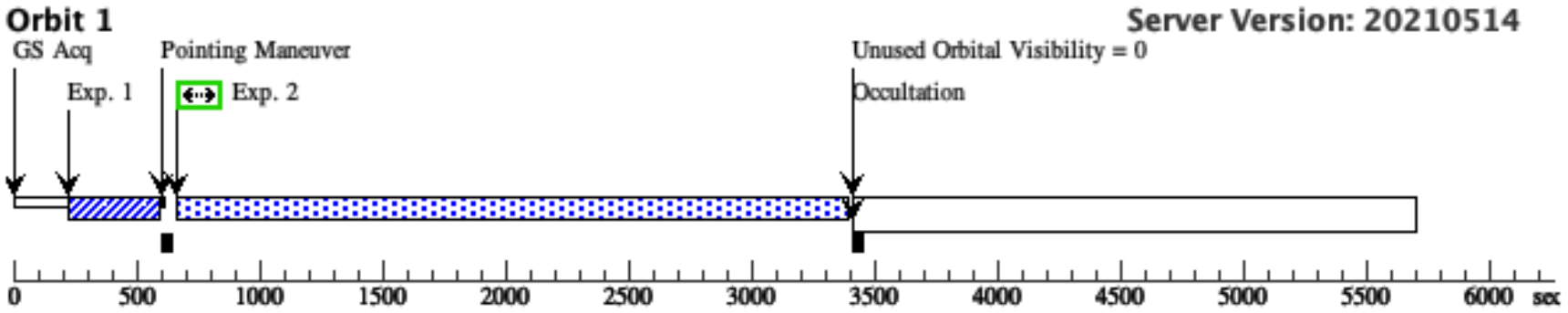
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	IGR-J17062-6143	RA: 17 06 16.2655 (256.5677729d) Dec: -61 42 40.62 (-61.71128d) Equinox: J2000	Proper Motion RA: -7.382 mas/yr Proper Motion Dec: -1.644 mas/yr Epoch of Position: 2016	V=20	Reference Frame: ICRS

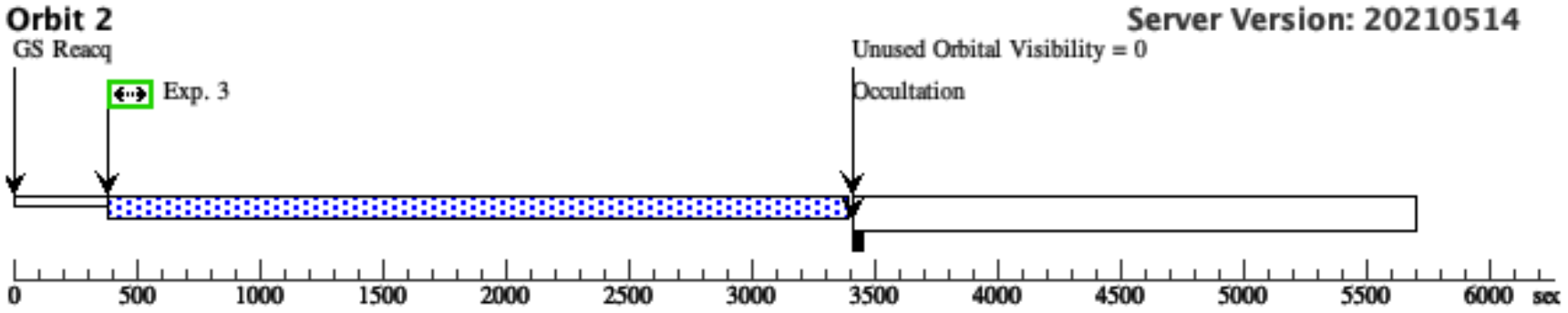
Comments: This object was obtained from GAIA EDR3 id: "Gaia EDR3 5913619493527584768"
Category=STAR
Description=[ACCRETION DISK, NEUTRON STAR, X-RAY TRANSIENT]
Extended=NO

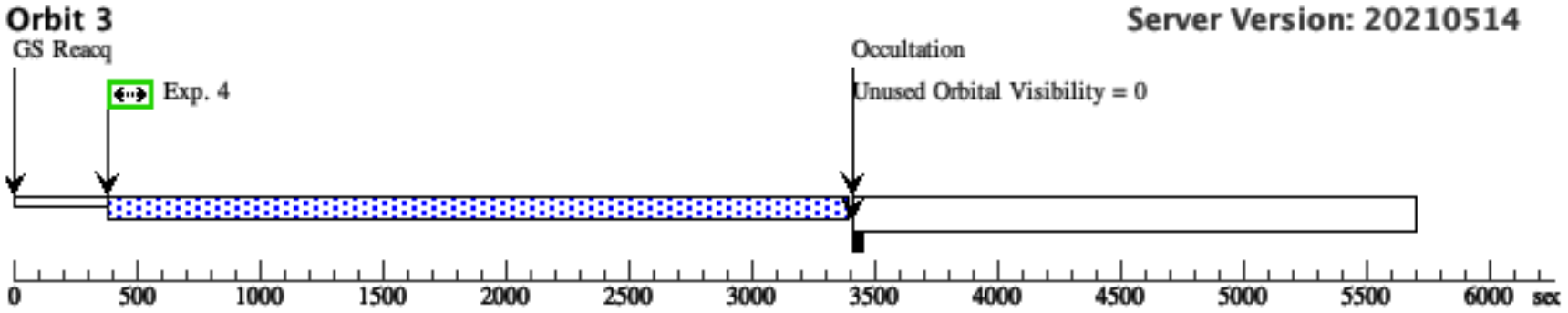
Exposures

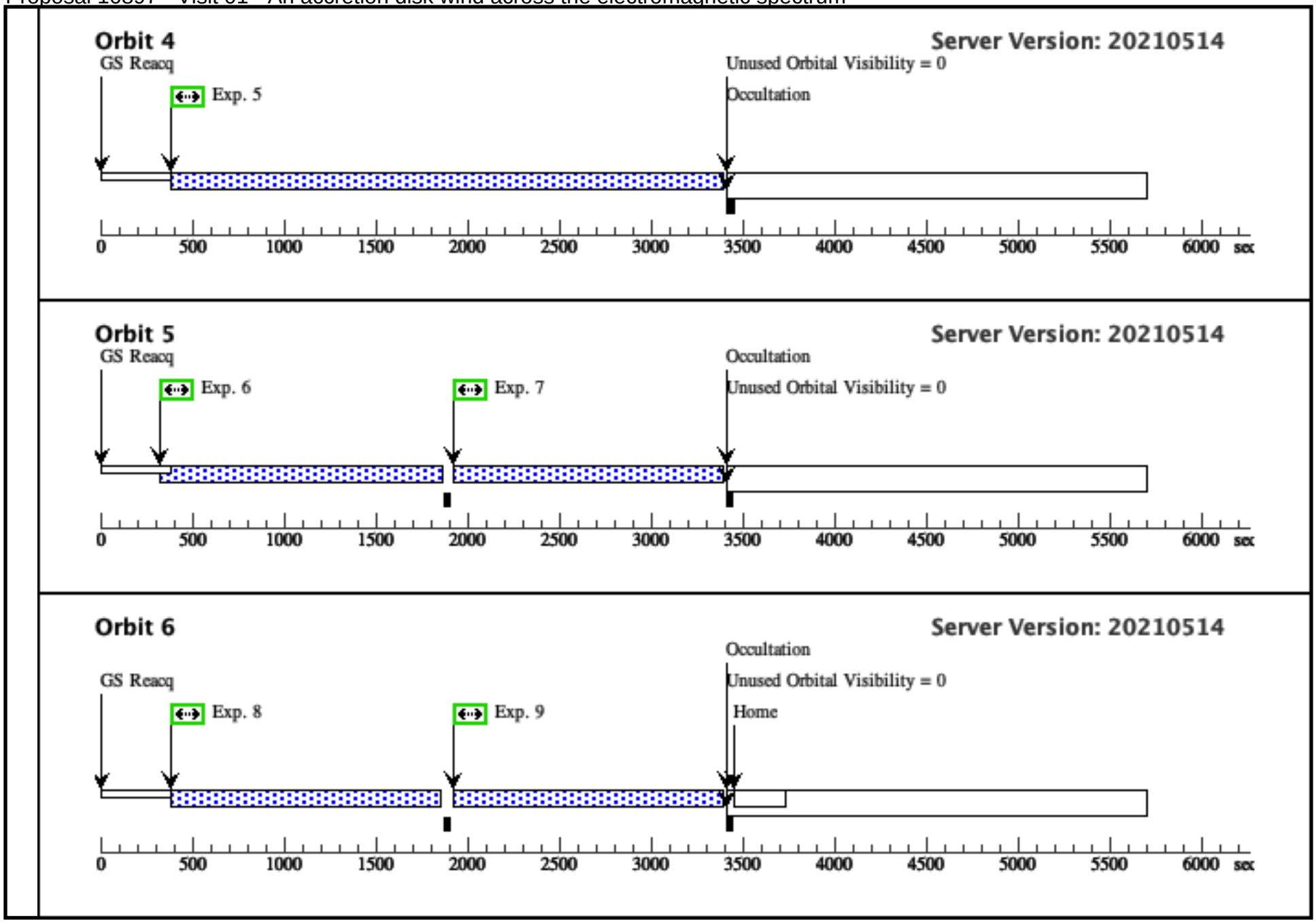
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.ta.1689858)	(1) IGR-J17062-6143	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				70 Secs (70 Secs) *[==>]*	***[1]***
Comments: We used a blackbody with Teff = 50000 K normalized to the magnitudes reported in https://arxiv.org/pdf/1801.03006.pdf for the UW2 filter (central wav. 1928). *The source show small variability so we secure the aquisition aiming for a S/N=40*									
2	(COS.sp.1281699)	(1) IGR-J17062-6143	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=8900; FP-POS=1			2400 Secs (2551 Secs) *[==>2551.0 Secs]*	***[1]***
3	(COS.sp.1281699)	(1) IGR-J17062-6143	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=8900; FP-POS=2			2600 Secs (2955 Secs) *[==>2955.0 Secs]*	***[2]***
4	(COS.sp.1281699)	(1) IGR-J17062-6143	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=8900; FP-POS=3			2600 Secs (2955 Secs) *[==>2955.0 Secs]*	***[3]***
5	(COS.sp.1281699)	(1) IGR-J17062-6143	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=8900; FP-POS=4			2800 Secs (2955 Secs) *[==>2955.0 Secs]*	***[4]***
6	(COS.sp.1281699)	(1) IGR-J17062-6143	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=8900; FP-POS=1			1420 Secs (1420 Secs) *[==>]*	***[5]***
7	(COS.sp.1281699)	(1) IGR-J17062-6143	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=8900; FP-POS=2			1420 Secs (1420 Secs) *[==>]*	***[5]***
8	(COS.sp.1281699)	(1) IGR-J17062-6143	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=8900; FP-POS=3			1420 Secs (1420 Secs) *[==>]*	***[6]***
9	(COS.sp.1281699)	(1) IGR-J17062-6143	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=8900; FP-POS=4			1420 Secs (1420 Secs) *[==>]*	***[6]***

Orbit Structure





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Server Version: 20210514
GS Reacq
Exp. 5
Unused Orbital Visibility = 0
Occultation
0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec
Orbit 5
Server Version: 20210514
GS Reacq
Exp. 6
Exp. 7
Occultation
Unused Orbital Visibility = 0
0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec
Orbit 6
Server Version: 20210514
Occultation
GS Reacq
Unused Orbital Visibility = 0
Exp. 8
Exp. 9
Home
0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec