



16421 - The Secrets of Stellar Siestas: the Magnetic Grand Minimum Candidate HD 4915

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) HD-4915	COS/FUV COS/NUV	2	15-Sep-2020 11:02:17.0	yes

2 Total Orbits Used

ABSTRACT

Magnetic grand minima (MGM) are mysterious episodes when the Sun's magnetic dynamo cycle "takes a siesta" and goes into temporary quiescence. The phenomenon has never been observed in modern times; what was the Sun like then? Recently a star was observed to have a decaying cycle amplitude (in Ca HK), making it a strong candidate for an MGM episode. We propose to study the star with Chandra and HST, to explore magnetic heating throughout its outer atmosphere. Results will be compared with cycle minima and stars with "flat activity" (objects which may be in MGM or have "dead" dynamos) to explore similarities and differences, and reveal what may lie in store for our own Sun in the near future.

OBSERVING DESCRIPTION

We desire FUV low resolution (G140L) observation of a bright, low activity star. It has GAIA coordinates, so an ACQ/SEARCH is not needed. It is bright and so target ACQ is in imaging mode with BOA, but UV dim enough that time-tag mode is possible. After target ACQ, the remainder of the time is spent with the science observation for the star.

Proposal 16421 - Visit 01 - The Secrets of Stellar Siestas: the Magnetic Grand Minimum Candidate HD 4915

Tue Sep 15 15:02:17 GMT 2020

Visit	Proposal 16421, Visit 01 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	HD-4915	RA: 00 51 11.1196 (12.7963317d) Dec: -05 02 23.25 (-5.03979d) Equinox: J2000	Proper Motion RA: 0.01751625238790978 sec of time/yr Proper Motion Dec: -0.1189489998978388 arcsec/yr Parallax: 0.04448" Epoch of Position: 2015.5 Radial Velocity: -3.692 km/sec	V=6.972	Reference Frame: ICRS				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Coords checked - they are ICRS from simbad (J2000) with proper motion applied to epoch 2015.5 Category=STAR Description=[G V-IV] Extended=NO</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.sa.146 5583)	(1) HD-4915	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				44 Secs (44 Secs) [==>]	[1]
	2	(COS.sp.146 5521)	(1) HD-4915	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=17 947; FP-POS=ALL			927 Secs (4820 Secs) [==>1118.0 Secs (Split 1)] [==>1118.0 Secs (Split 2)] [==>1292.0 Secs (Split 3)] [==>1292.0 Secs (Split 4)]	[1] [2]

