



12216 - Taming the Invisible Monster with COS: Eclipse Spectroscopy of Epsilon Aurigae

Cycle: 18, Proposal Category: GO
(Availability Mode: AVAILABLE)

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) V-EPS-AUR	COS/FUV	1	09-Nov-2010 21:11:38.0	yes
02	(1) V-EPS-AUR	COS/FUV COS/NUV	1	09-Nov-2010 21:11:47.0	yes
03	(1) V-EPS-AUR	COS/FUV COS/NUV	1	09-Nov-2010 21:11:56.0	yes

3 Total Orbits Used

ABSTRACT

We request three single orbit COS observations of the enigmatic binary epsilon Aurigae. This 27-year binary will be in total eclipse during all of 2010 and into spring 2011. COS observations are needed in order to (1) confirm, via higher S/N UV spectroscopy, the FUSE observation that a B5V star lurks inside the eclipse-causing dust disk, (2) obtain temperature and density diagnostics of the line of sight columns during eclipse for inclusion in the ongoing, panchromatic studies of this rare event, and (3) allow, in coordination with Spitzer Space Telescope observations, a detailed view of

the "invisible" large eclipsing dust disk surrounding the B star. Only COS has the full UV wavelength coverage to sample two of the three components in this binary (the F and B stars) with the SNR to accomplish our scientific goals.

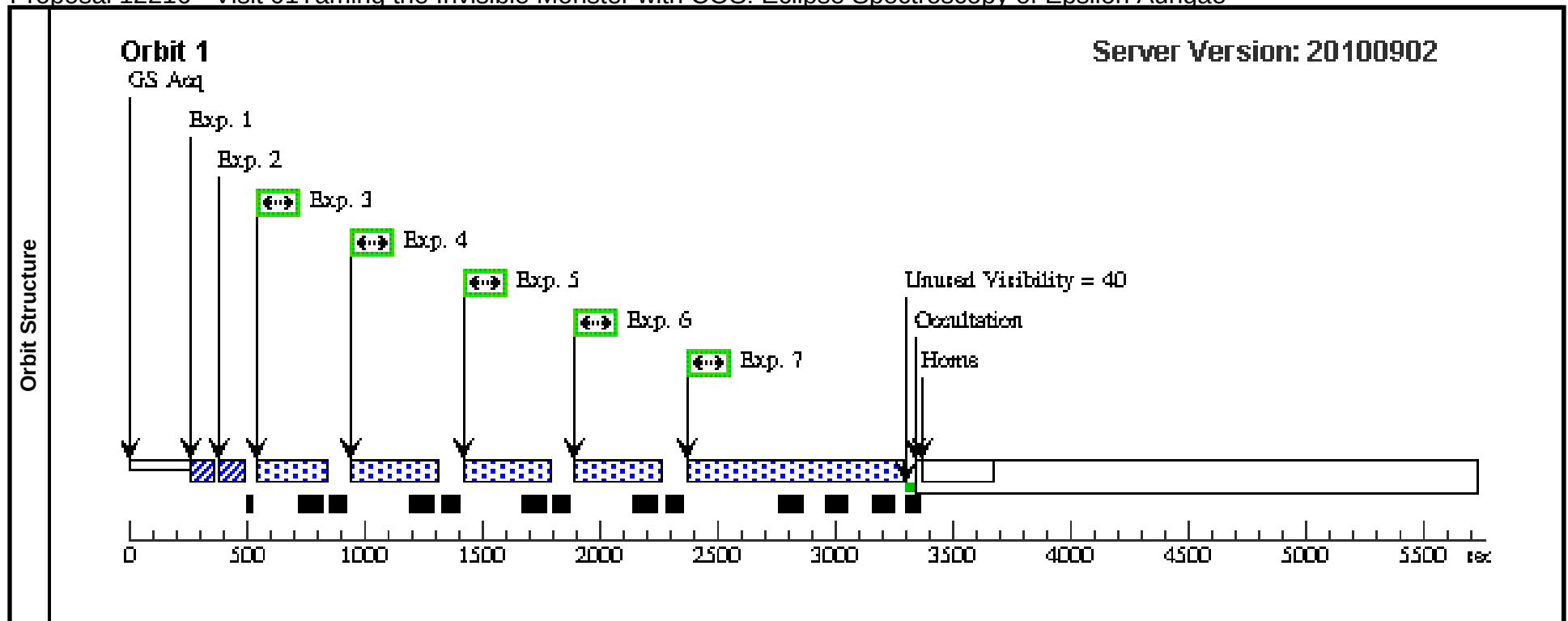
OBSERVING DESCRIPTION

We wish to use the three orbits as follows:

- 1) One in Sept 2010
- 2) Two in Dec 2010
- 3) Three in April 2010

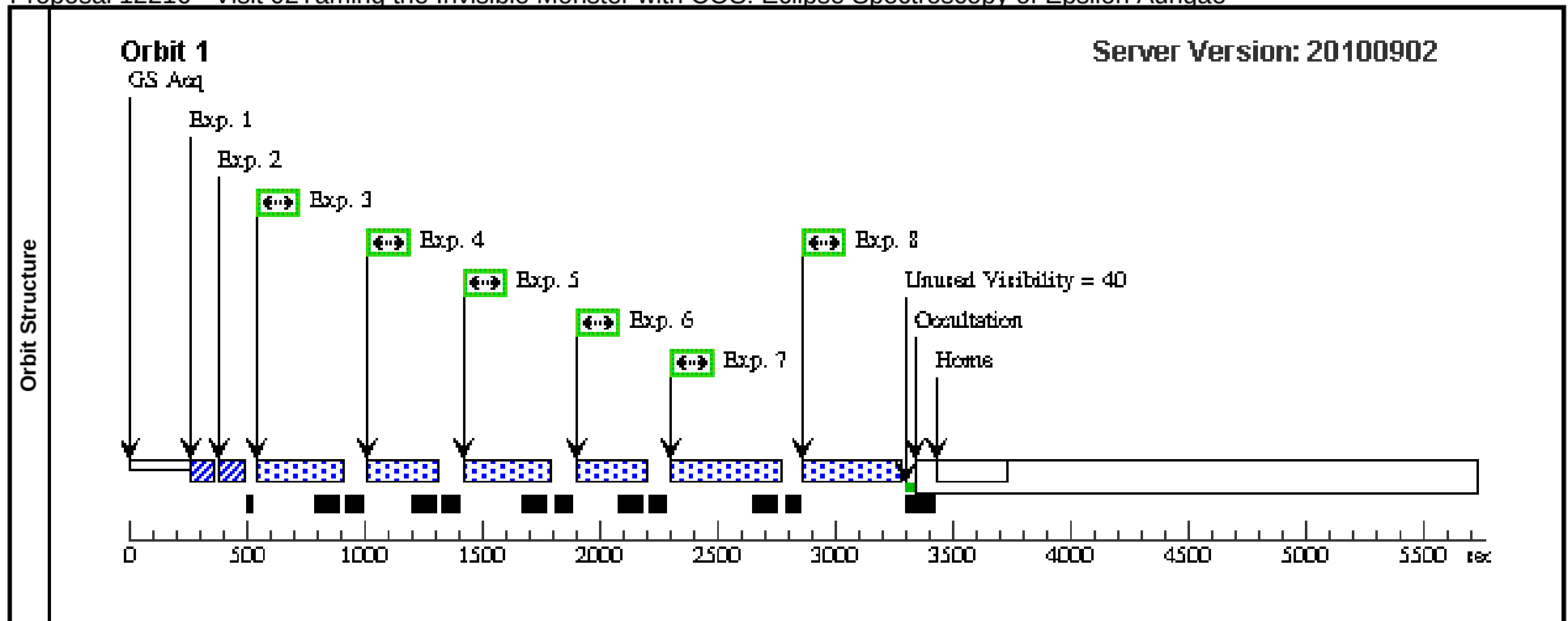
Proposal 12216 - Visit 01Taming the Invisible Monster with COS: Eclipse Spectroscopy of Epsilon Aurigae

Visit	Proposal 12216, Visit 01, completed										Wed Nov 10 02:12:01 GMT 2010	
	Diagnostic Status: Error											
	Scientific Instruments: COS/FUV											
	Special Requirements: BETWEEN 01-SEP-2010:00:00:00 AND 30-SEP-2010:00:00:00											
Diagnostics	(G140L FP-POS=3 (01.007)) Error (Form): 1230 is not allowed to be used in Cycle 18											
	(Visit 01) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronagraphy with STIS or COS.											
	(Visit 01) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS											
	(Visit 01) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS											
	(Visit 01) Warning (Form): COS ACQ/PEAKXD exposure should be preceded by an ACQ/SEARCH exposure in the Visit.											
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(1)	V-EPS-AUR	RA: 05 01 58.1341 (75.4922254d)			Proper Motion RA: null		V=3.039+/-		Reference Frame: ICRS		
			Dec: +43 49 23.91 (43.82331d)			Proper Motion Dec: null						
			Equinox: J2000			Epoch of Position:						
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.											
Exposures	#	Label	Target	Config,Mode,Aperture		Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	PEAKXD	(1) V-EPS-AUR	COS/FUV, ACQ/PEAKXD, PSA		G130M				2 Secs		
						1309 A				[==>]		[1]
	2	PEAKD	(1) V-EPS-AUR	COS/FUV, ACQ/PEAKD, PSA		G130M	STEP-SIZE=1.767			2 Secs		
						1309 A				[==>]		[1]
	3	G130M 130 9 FP-POS=3	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA		G130M	BUFFER-TIME=15 0;			250 Secs		
						1309 A	FP-POS=3			[==>]		[1]
	4	G130M 130 9 FP-POS=1	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA		G130M	BUFFER-TIME=15 0;			250 Secs		
						1309 A	FP-POS=1			[==>]		[1]
	5	G130M 129 1 FP-POS=3	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA		G130M	BUFFER-TIME=15 0;			250 Secs		
						1291 A	FP-POS=3			[==>]		[1]
	6	G130M 129 1 FP-POS=1	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA		G130M	BUFFER-TIME=15 0;			250 Secs		
						1291 A	FP-POS=1			[==>]		[1]
	7	G140L FP-P OS=3	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA		G140L	BUFFER-TIME=20 0;			700 Secs		
						1230 A	FP-POS=2			[==>]		[1]



Proposal 12216 - Visit 02Taming the Invisible Monster with COS: Eclipse Spectroscopy of Epsilon Aurigae

Visit	Proposal 12216, Visit 02, implementation										Wed Nov 10 02:12:02 GMT 2010
	Diagnostic Status: Warning										
	Scientific Instruments: COS/NUV, COS/FUV										
	Special Requirements: BETWEEN 01-DEC-2010:00:00:00 AND 30-JAN-2011:00:00:00										
Diagnostics	(Visit 02) Warning (Form): COS ACQ/PEAKXD exposure should be preceded by an ACQ/SEARCH exposure in the Visit.										
	(Visit 02) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronagraphy with STIS or COS.										
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(1)	V-EPS-AUR	RA: 05 01 58.1341 (75.4922254d)		Proper Motion RA: null		V=3.039+/-		Reference Frame: ICRS		
			Dec: +43 49 23.91 (43.82331d)		Proper Motion Dec: null						
			Equinox: J2000		Epoch of Position:						
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	PEAKXD	(1) V-EPS-AUR	COS/FUV, ACQ/PEAKXD, PSA	G130M				2 Secs		
					1309 A				[==>]		[1]
	2	PEAKD	(1) V-EPS-AUR	COS/FUV, ACQ/PEAKD, PSA	G130M	STEP-SIZE=1.767			2 Secs		
					1309 A				[==>]		[1]
	3	G130M 130 9 FP-POS=1	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=15 0;			250 Secs		
					1309 A	FP-POS=1			[==>]		[1]
	4	G130M 130 9 FP-POS=3	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=15 0;			250 Secs		
					1309 A	FP-POS=3			[==>]		[1]
	5	G130M 129 1 FP-POS=1	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=15 0;			250 Secs		
					1291 A	FP-POS=1			[==>]		[1]
	6	G130M 129 1 FP-POS=3	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=15 0;			250 Secs		
					1291 A	FP-POS=3			[==>]		[1]
	7	G160M 157 7 FP-POS=1	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=20 5;			305 Secs		
					1577 A	FP-POS=3			[==>]		[1]
	8	G185M 183 5 FP-POS=1	(1) V-EPS-AUR	COS/NUV, TIME-TAG, PSA	G185M	BUFFER-TIME=15 0			170 Secs		
				1835 A				[==>]		[1]	



Proposal 12216 - Visit 03Taming the Invisible Monster with COS: Eclipse Spectroscopy of Epsilon Aurigae

Visit	Proposal 12216, Visit 03, implementation									Wed Nov 10 02:12:03 GMT 2010	
	Diagnostic Status: Warning										
	Scientific Instruments: COS/NUV, COS/FUV										
	Special Requirements: BETWEEN 01-MAR-2011:00:00:00 AND 30-APR-2011:00:00:00										
Diagnostics	(Visit 03) Warning (Form): COS ACQ/PEAKXD exposure should be preceded by an ACQ/SEARCH exposure in the Visit.										
	(Visit 03) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronagraphy with STIS or COS.										
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(1)	V-EPS-AUR	RA: 05 01 58.1341 (75.4922254d) Dec: +43 49 23.91 (43.82331d) Equinox: J2000		Proper Motion RA: null Proper Motion Dec: null Epoch of Position:		V=3.039+/-		Reference Frame: ICRS		
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	PEAKXD	(1) V-EPS-AUR	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A				2 Secs [==>]		[1]
	2	PEAKD	(1) V-EPS-AUR	COS/FUV, ACQ/PEAKD, PSA	G130M 1309 A	STEP-SIZE=1.767			2 Secs [==>]		[1]
	3	G130M 130 9 FP-POS=3	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=15 0; FP-POS=1			250 Secs [==>]		[1]
	4	G130M 130 9 FP-POS=1	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=15 0; FP-POS=3			250 Secs [==>]		[1]
	5	G130M 129 1 FP-POS=3	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=15 0; FP-POS=1			250 Secs [==>]		[1]
	6	G130M 129 1 FP-POS=1	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=15 0; FP-POS=3			250 Secs [==>]		[1]
	7	G160M 157 7 FP-POS=1	(1) V-EPS-AUR	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=20 5; FP-POS=3			305 Secs [==>]		[1]
	8	G185M 183 5 FP-POS=1	(1) V-EPS-AUR	COS/NUV, TIME-TAG, PSA	G185M 1835 A	BUFFER-TIME=15 0			170 Secs [==>]		[1]

