14151 - Constraining Pop III supernova energies and the formation of the first low-mass stars with the iron-poor star HE1327-2326 (with [Fe/H] = -5.4)

Cycle: 23, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
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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) HE1327-2326	COS/NUV	3	07-Jul-2015 21:11:37.0	yes
02	(1) HE1327-2326	COS/NUV	3	07-Jul-2015 21:11:40.0	yes
03	(1) HE1327-2326	COS/NUV	3	07-Jul-2015 21:11:42.0	yes
04	(1) HE1327-2326	COS/NUV	3	07-Jul-2015 21:11:44.0	yes
05	(1) HE1327-2326	COS/NUV	3	07-Jul-2015 21:11:45.0	yes
06	(1) HE1327-2326	COS/NUV	3	07-Jul-2015 21:11:47.0	yes
07	(1) HE1327-2326	COS/NUV	3	07-Jul-2015 21:11:49.0	yes
08	(1) HE1327-2326	COS/NUV	3	07-Jul-2015 21:11:51.0	yes
09	(1) HE1327-2326	COS/NUV	3	07-Jul-2015 21:11:53.0	yes
10	(1) HE1327-2326	COS/NUV	2	07-Jul-2015 21:11:55.0	yes

29 Total Orbits Used

ABSTRACT

The nucleosynthetic signatures of the first stars and supernovae are imprinted in the atmosphere of the long-lived, iron-poor star HE1327-2326 (with [Fe/H] = -5.4). Comparing the abundance signatures of stars like HE1327-2326 with predictions of early low-mass star formation pathways as well as low-metallicity supernova yields provides the only empirical constraints on these early processes, including the properties of the first stars (e.g. mass, explosion energy).

We propose COS high-resolution near-UV spectral observations of HE1327-2326, which is the only known member of the most iron-poor class of stars bright enough for HST observations. It thus provides us with a unique opportunity for a new abundance analysis to address the important and still unanswered questions about the deaths of Pop III stars and the formation of the first low-mass stars. Using the three COS stripes covering spectral portions between 2120A and 2350A, our specific goals are: (1) attempt a Si I detection to rule out that HE1327-2326 formed from dust-cooled gas; (2) attempt a Zn I detection at the level of [Zn/Fe] ~ 0.5. Such a detection would indicate a more energetic Pop III hypernova as progenitor. A non-detection (i.e., decreased upper limit) would provide additional evidence of the previously suggested faint, low-energy progenitor; (3) Fe II, Ni I and Ni II lines will be detected and enable detailed iron-peak element nucleosynthesis assesment in the first stars ii) calibration of our UV abundance scale, and iii) assessment of NLTE effects at this low metallicity and a surface gravity measurement. This will yield the kind of robust iron-peak pattern necessary for constraining the PopIII progenitor.

OBSERVING DESCRIPTION

The goal is to get as much S/N as possible (after many co-additions!) on some NUV spectral stripes of HE1327-2326. We use COS grating G225M, central wavelength 2233 Angstroms. I have verified the target confirmation chart for this star.

-- IUR, 06 July 2015

Visit

Proposal 14151, Visit 01 Wed Jul 08 01:11:56 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/NUV

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HE1327-2326	RA: 13 30 5.9420 (202.5247583d) Dec: -23 41 49.69 (-23.69714d) Equinox: J2000	Proper Motion RA: -51.6 mas/yr Proper Motion Dec: 47.1 mas/yr Parallax: 0." Epoch of Position: 2000.0	V=13.5 U= 13.787	Reference Frame: ICRS

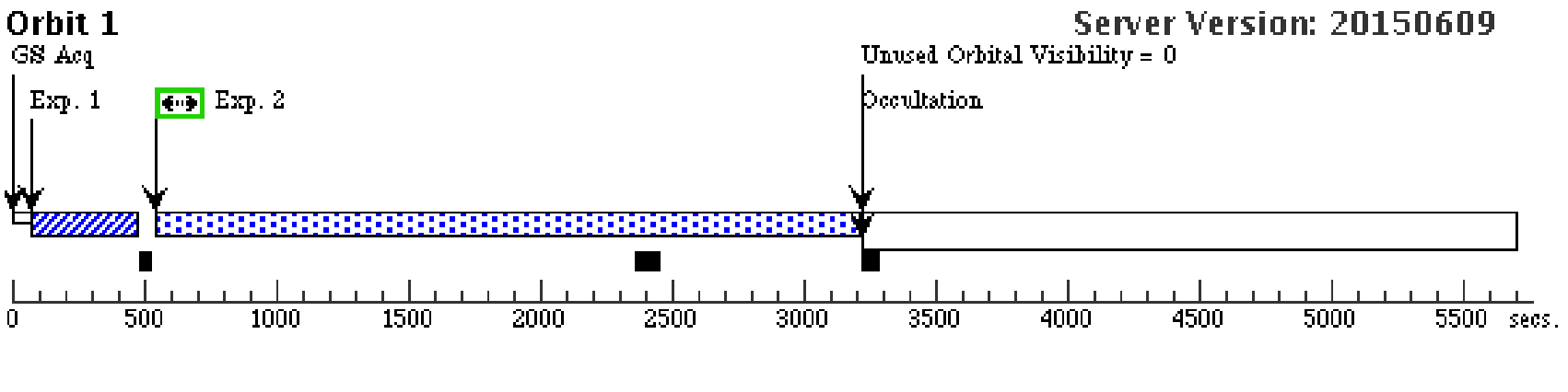
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

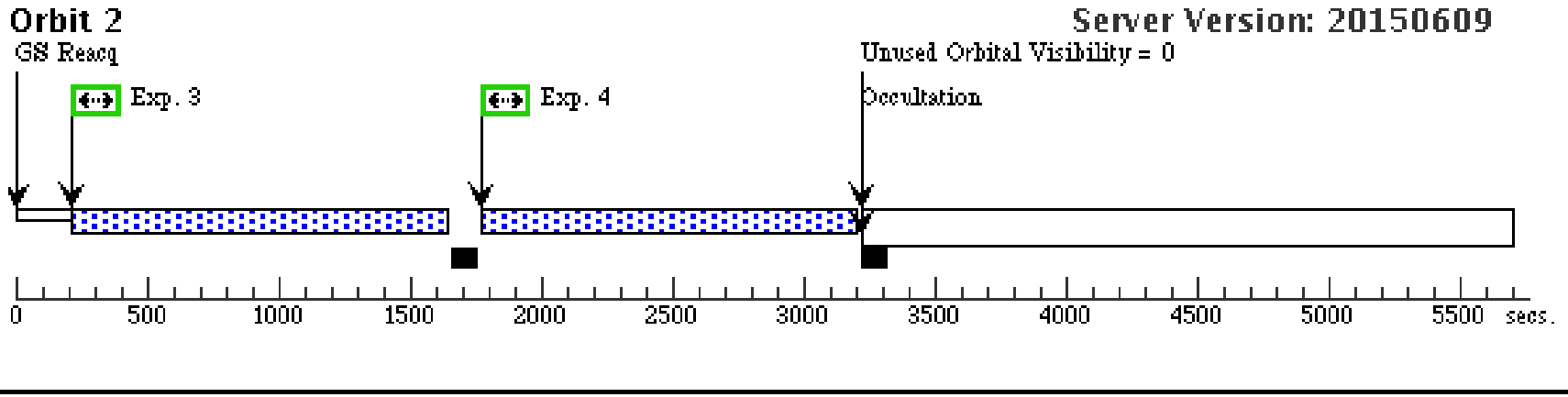
Coords and PM from UCAC4 (via Vizier).
Extended=NO

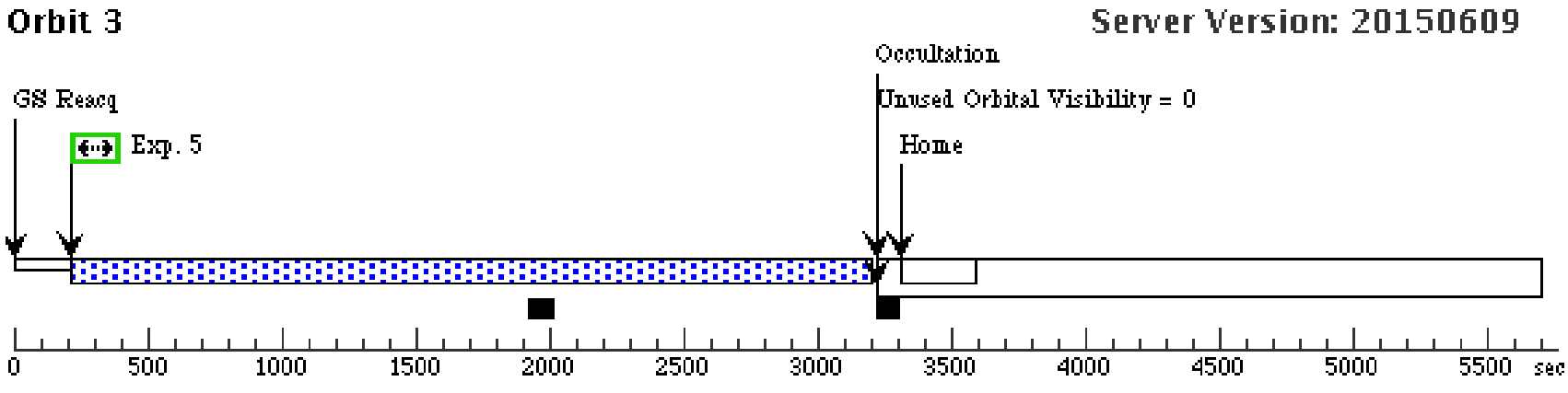
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IMAGE (COS.ta.715075)	(1) HE1327-2326	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				40 Secs (40 Secs) *[==>]*	*[1]*
	Comments: Target is not too bright for MIRRORB acquisition exposures. Also, coordinates are very good, so follow sequence #1 in Table 8.1.								
	Exposure time is ETC value, rounded up.								
2	SCIENCE 1 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=1			2600 Secs (2540 Secs) *[==>2540.0 Secs]*	*[1]*
	Comments: Buffer time is 2/3 times ETC value (calculated for total integration time).								
3	SCIENCE 2 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=2			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
4	SCIENCE 3 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=3			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
5	SCIENCE 4 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=4			3100 Secs (2973 Secs) *[==>2973.0 Secs]*	*[3]*

Orbit Structure







Visit

Proposal 14151, Visit 02 Wed Jul 08 01:11:57 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/NUV

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HE1327-2326	RA: 13 30 5.9420 (202.5247583d) Dec: -23 41 49.69 (-23.69714d) Equinox: J2000	Proper Motion RA: -51.6 mas/yr Proper Motion Dec: 47.1 mas/yr Parallax: 0." Epoch of Position: 2000.0	V=13.5 U= 13.787	Reference Frame: ICRS

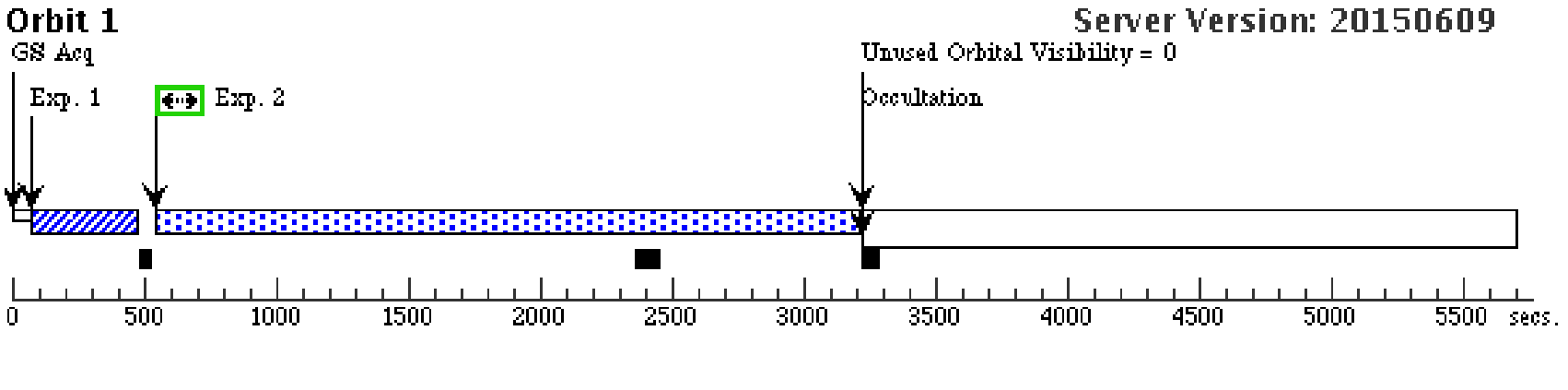
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

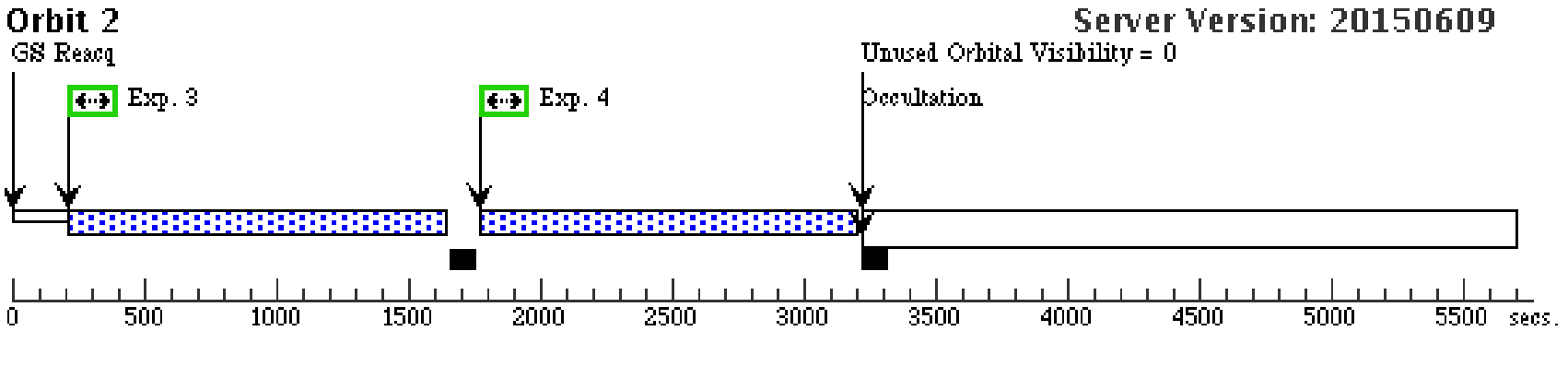
Coords and PM from UCAC4 (via Vizier).
Extended=NO

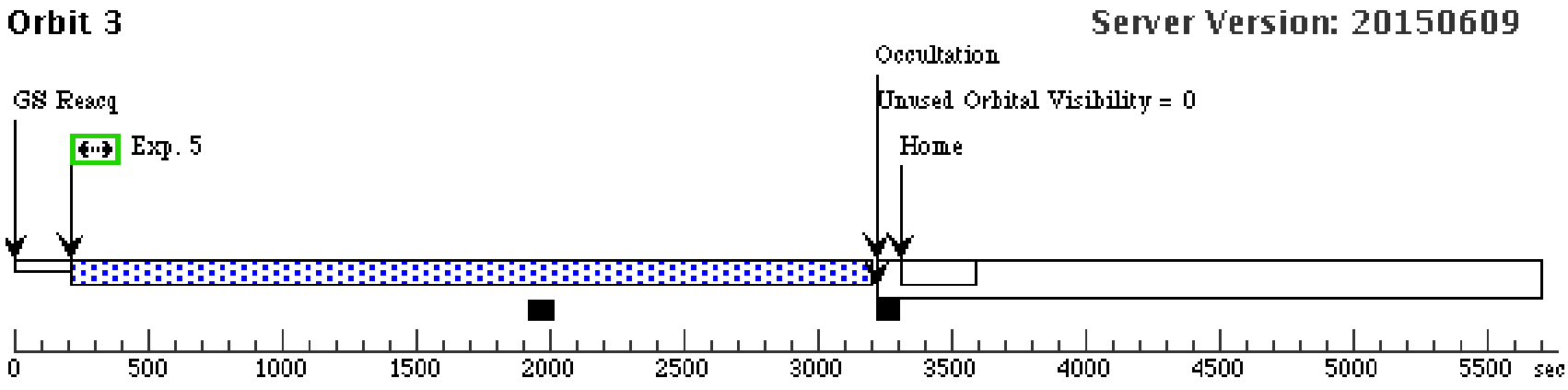
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IMAGE (COS.ta.715075)	(1) HE1327-2326	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				40 Secs (40 Secs) *[==>]*	*[1]*
	Comments: Target is not too bright for MIRRORB acquisition exposures. Also, coordinates are very good, so follow sequence #1 in Table 8.1.								
	Exposure time is ETC value, rounded up.								
2	SCIENCE 1 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=1			2600 Secs (2540 Secs) *[==>2540.0 Secs]*	*[1]*
	Comments: Buffer time is 2/3 times ETC value (calculated for total integration time).								
3	SCIENCE 2 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=2			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
4	SCIENCE 3 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=3			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
5	SCIENCE 4 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=4			3100 Secs (2973 Secs) *[==>2973.0 Secs]*	*[3]*

Orbit Structure







Visit

Proposal 14151, Visit 03 Wed Jul 08 01:11:57 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/NUV

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HE1327-2326	RA: 13 30 5.9420 (202.5247583d) Dec: -23 41 49.69 (-23.69714d) Equinox: J2000	Proper Motion RA: -51.6 mas/yr Proper Motion Dec: 47.1 mas/yr Parallax: 0." Epoch of Position: 2000.0	V=13.5 U= 13.787	Reference Frame: ICRS

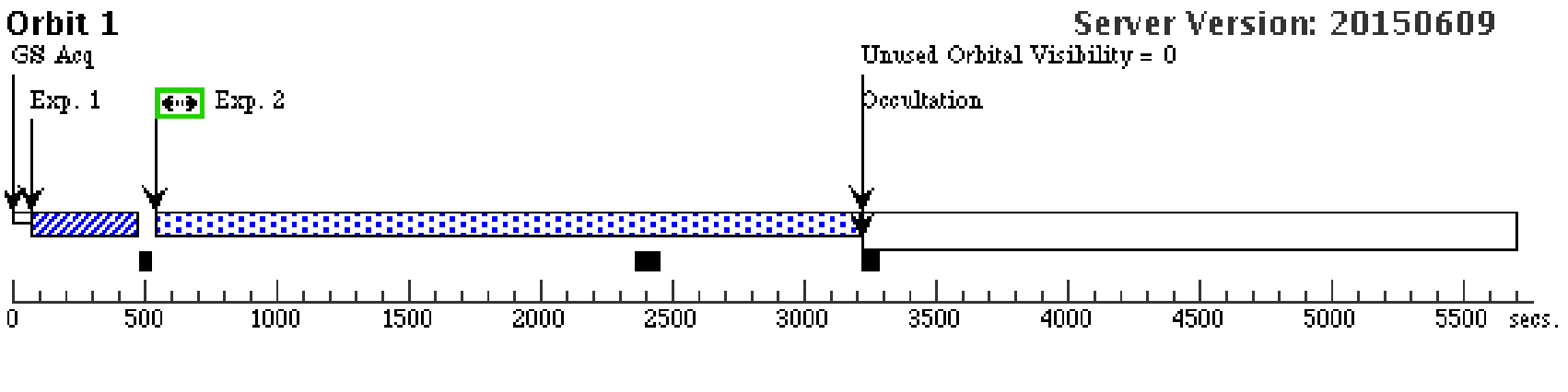
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

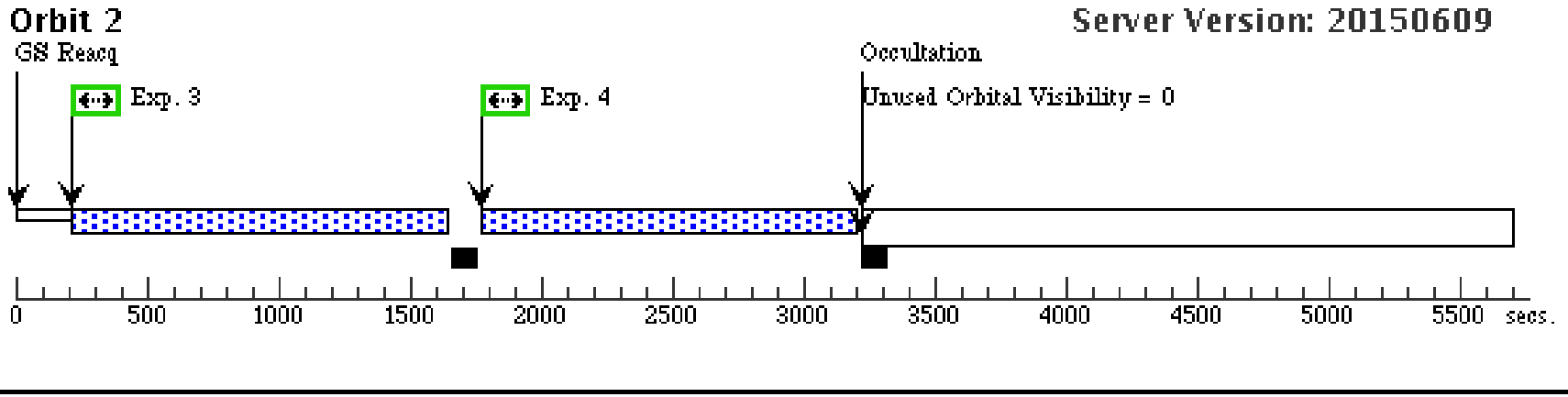
Coords and PM from UCAC4 (via Vizier).
Extended=NO

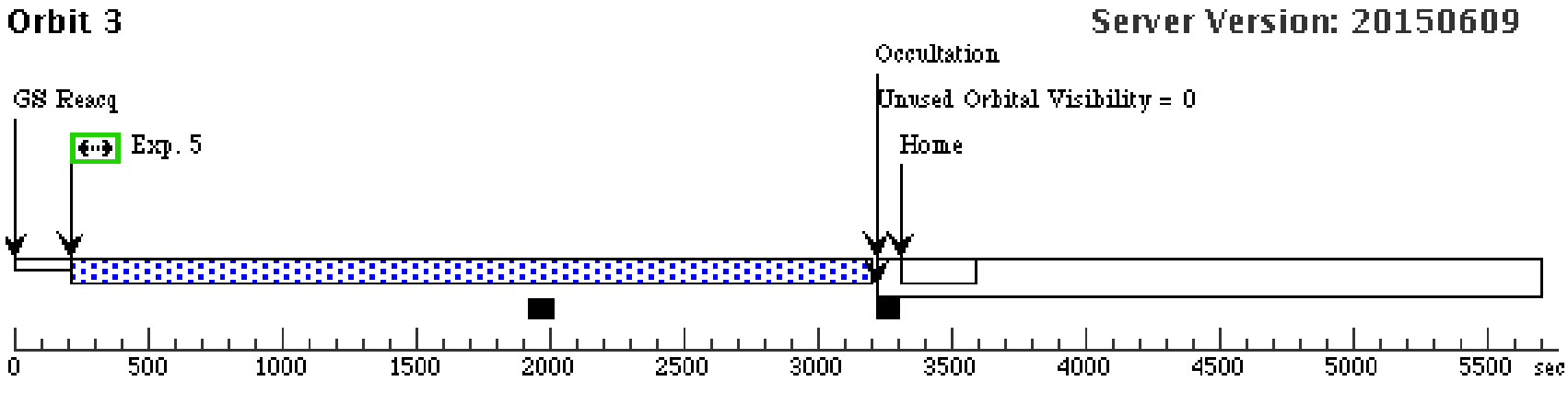
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IMAGE (COS.ta.715075)	(1) HE1327-2326	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				40 Secs (40 Secs) *[==>]*	*[1]*
	Comments: Target is not too bright for MIRRORB acquisition exposures. Also, coordinates are very good, so follow sequence #1 in Table 8.1.								
	Exposure time is ETC value, rounded up.								
2	SCIENCE 1 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=1			2600 Secs (2540 Secs) *[==>2540.0 Secs]*	*[1]*
	Comments: Buffer time is 2/3 times ETC value (calculated for total integration time).								
3	SCIENCE 2 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=2			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
4	SCIENCE 3 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=3			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
5	SCIENCE 4 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=4			3100 Secs (2973 Secs) *[==>2973.0 Secs]*	*[3]*

Orbit Structure







Visit

Proposal 14151, Visit 04 Wed Jul 08 01:11:57 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/NUV

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HE1327-2326	RA: 13 30 5.9420 (202.5247583d) Dec: -23 41 49.69 (-23.69714d) Equinox: J2000	Proper Motion RA: -51.6 mas/yr Proper Motion Dec: 47.1 mas/yr Parallax: 0." Epoch of Position: 2000.0	V=13.5 U= 13.787	Reference Frame: ICRS

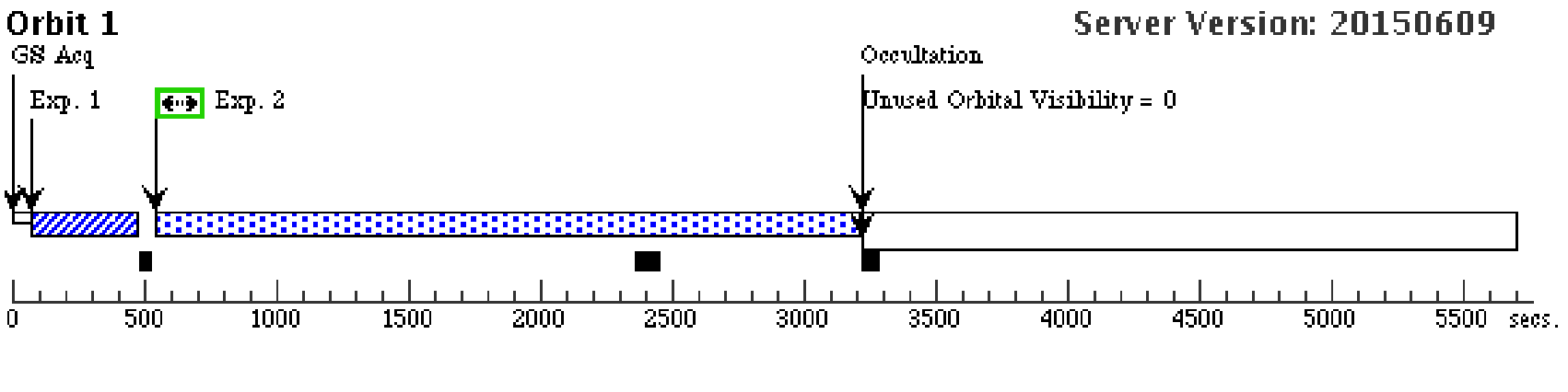
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

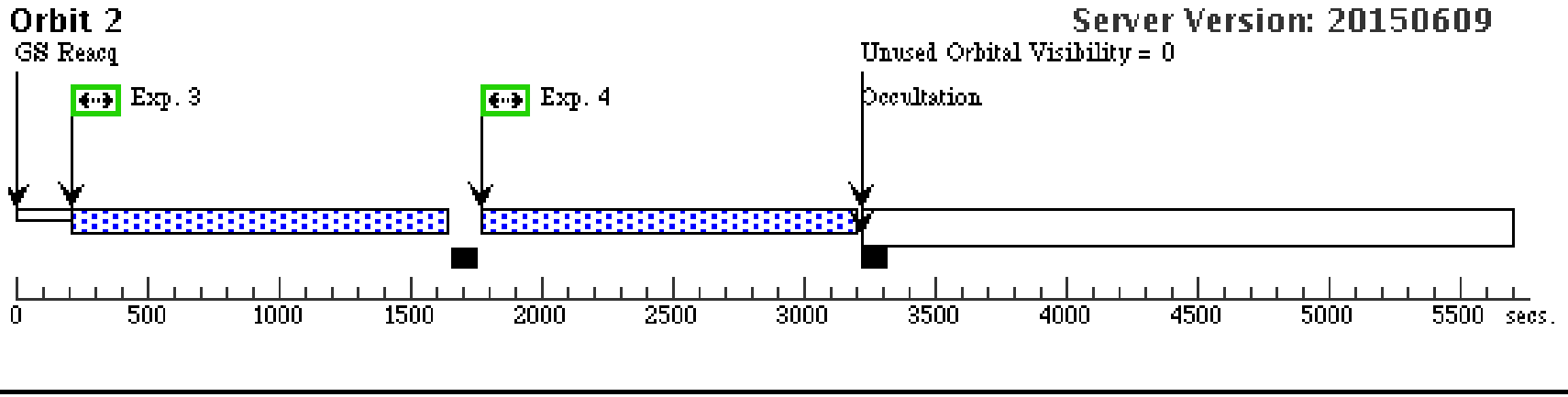
Coords and PM from UCAC4 (via Vizier).
Extended=NO

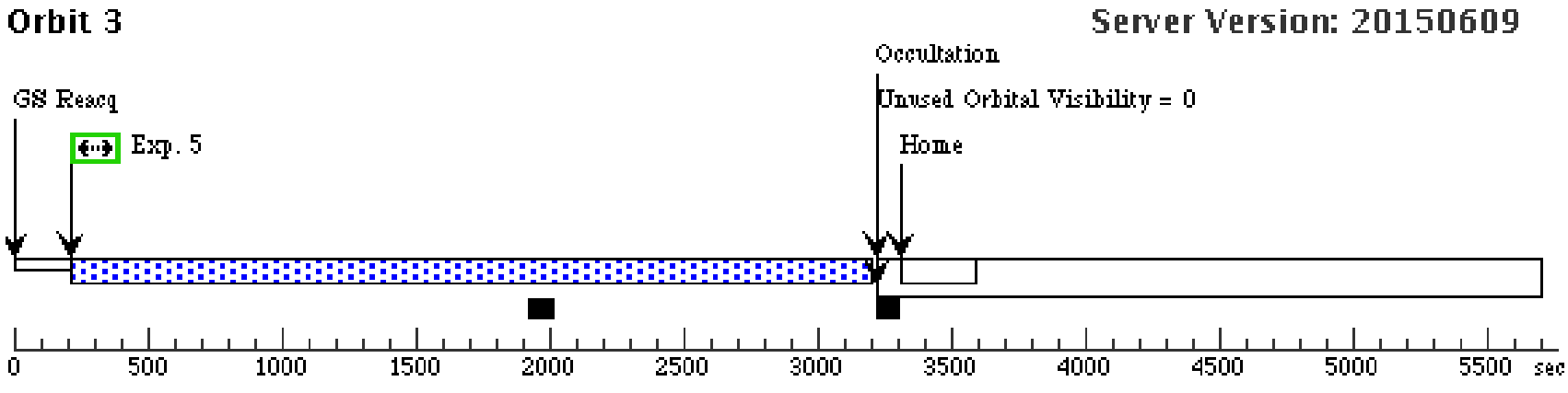
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IMAGE (COS.ta.715075)	(1) HE1327-2326	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				40 Secs (40 Secs) *[==>]*	*[1]*
	Comments: Target is not too bright for MIRRORB acquisition exposures. Also, coordinates are very good, so follow sequence #1 in Table 8.1.								
	Exposure time is ETC value, rounded up.								
2	SCIENCE 1 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=1			2600 Secs (2540 Secs) *[==>2540.0 Secs]*	*[1]*
	Comments: Buffer time is 2/3 times ETC value (calculated for total integration time).								
3	SCIENCE 2 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=2			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
4	SCIENCE 3 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=3			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
5	SCIENCE 4 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=4			3100 Secs (2973 Secs) *[==>2973.0 Secs]*	*[3]*

Orbit Structure







Visit

Proposal 14151, Visit 05 Wed Jul 08 01:11:58 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/NUV

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HE1327-2326	RA: 13 30 5.9420 (202.5247583d) Dec: -23 41 49.69 (-23.69714d) Equinox: J2000	Proper Motion RA: -51.6 mas/yr Proper Motion Dec: 47.1 mas/yr Parallax: 0." Epoch of Position: 2000.0	V=13.5 U= 13.787	Reference Frame: ICRS

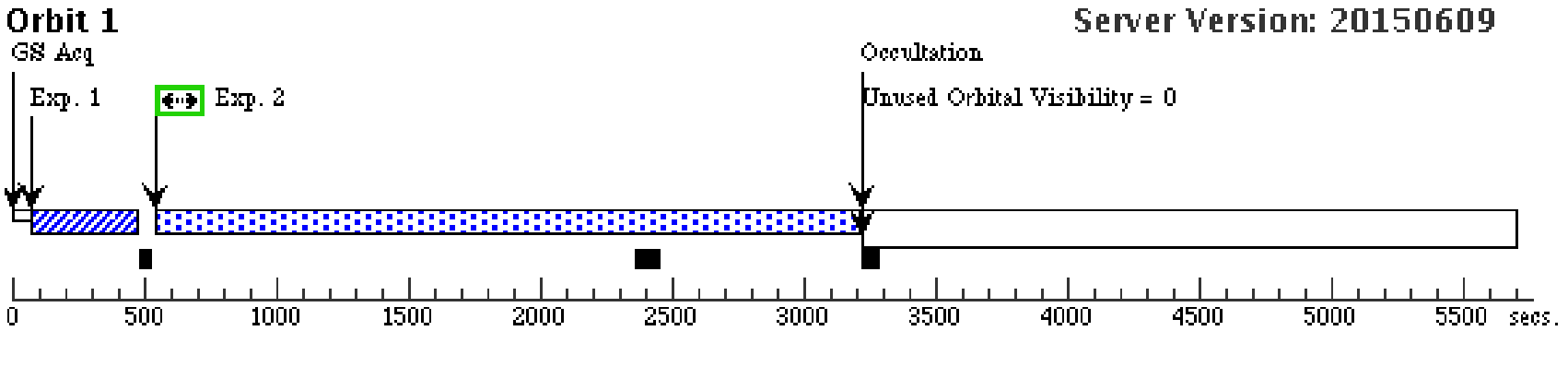
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

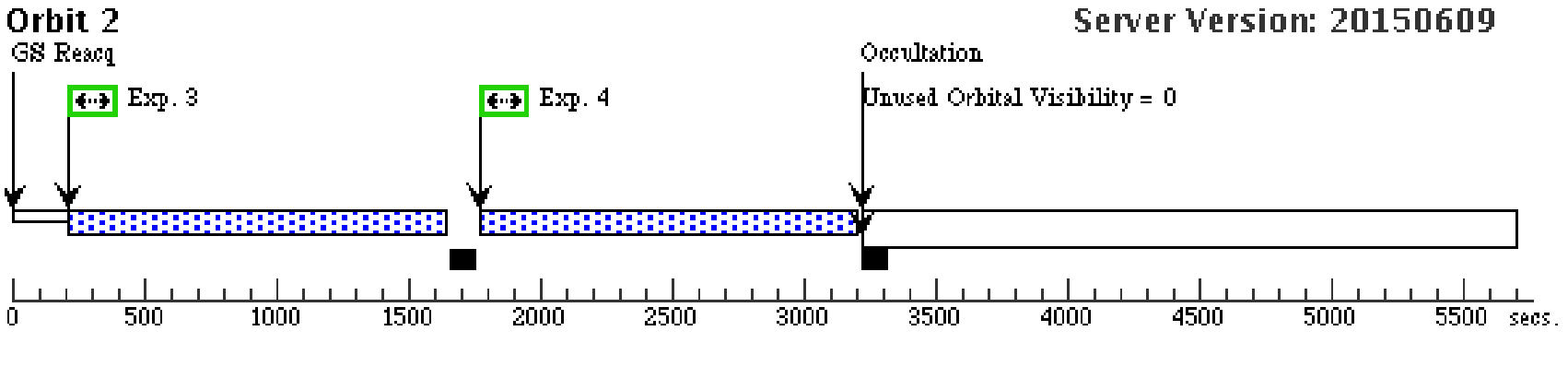
Coords and PM from UCAC4 (via Vizier).
Extended=NO

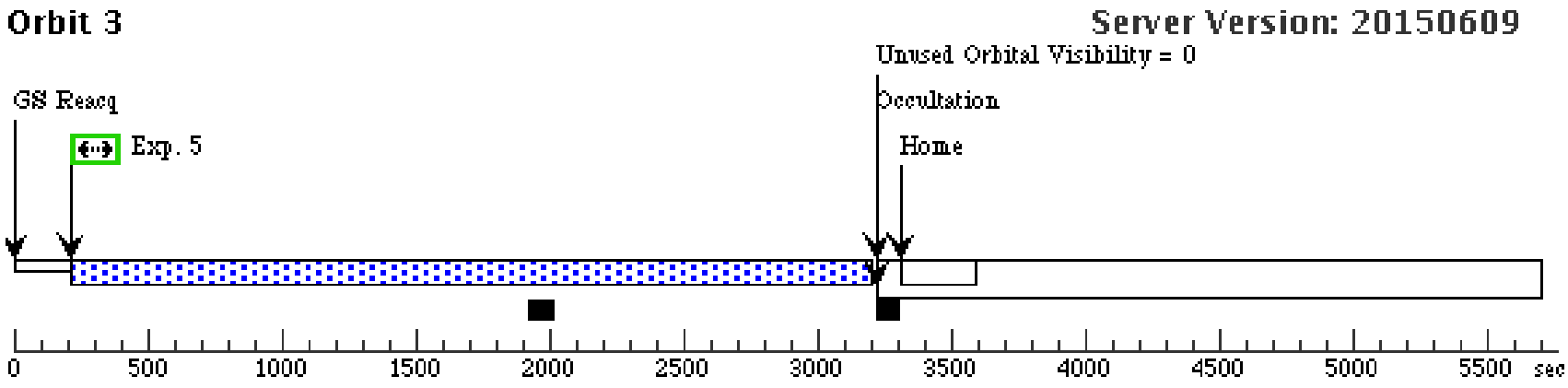
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IMAGE (COS.ta.715075)	(1) HE1327-2326	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				40 Secs (40 Secs) *[==>]*	*[1]*
	Comments: Target is not too bright for MIRRORB acquisition exposures. Also, coordinates are very good, so follow sequence #1 in Table 8.1.								
	Exposure time is ETC value, rounded up.								
2	SCIENCE 1 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=1			2600 Secs (2540 Secs) *[==>2540.0 Secs]*	*[1]*
	Comments: Buffer time is 2/3 times ETC value (calculated for total integration time).								
3	SCIENCE 2 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=2			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
4	SCIENCE 3 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=3			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
5	SCIENCE 4 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=4			3100 Secs (2973 Secs) *[==>2973.0 Secs]*	*[3]*

Orbit Structure







Visit

Proposal 14151, Visit 06 Wed Jul 08 01:11:58 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/NUV

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HE1327-2326	RA: 13 30 5.9420 (202.5247583d) Dec: -23 41 49.69 (-23.69714d) Equinox: J2000	Proper Motion RA: -51.6 mas/yr Proper Motion Dec: 47.1 mas/yr Parallax: 0." Epoch of Position: 2000.0	V=13.5 U= 13.787	Reference Frame: ICRS

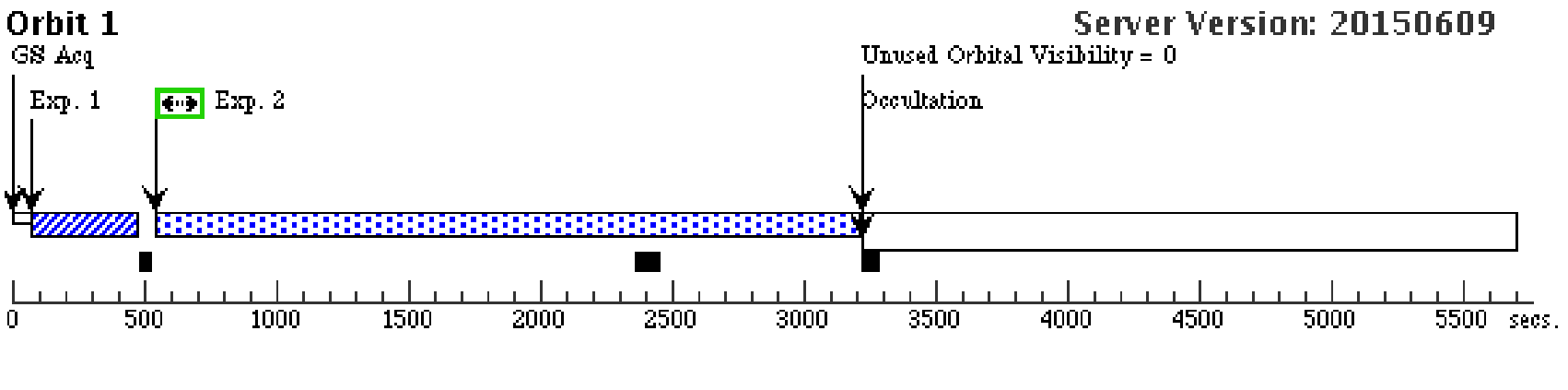
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

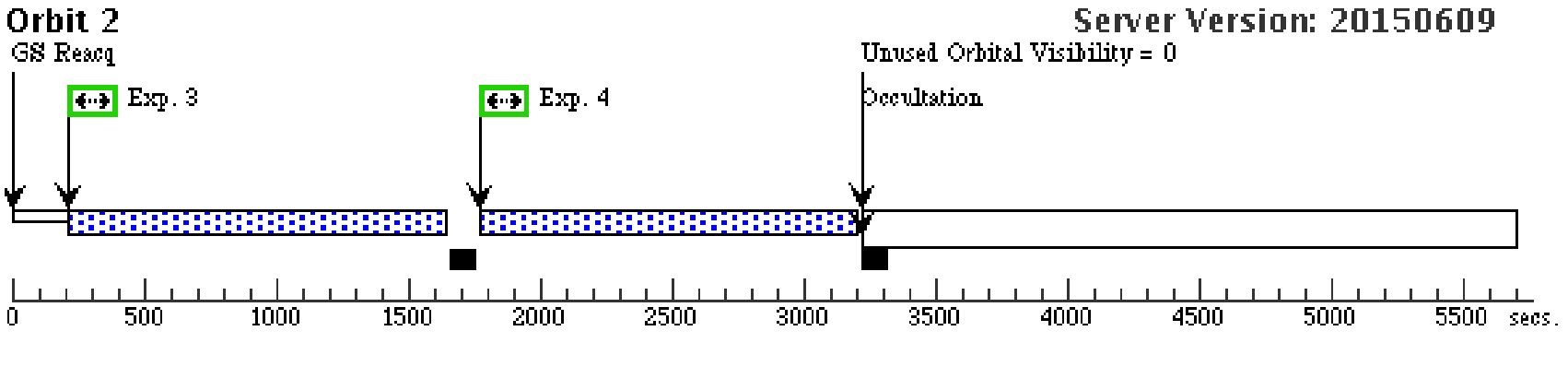
Coords and PM from UCAC4 (via Vizier).
Extended=NO

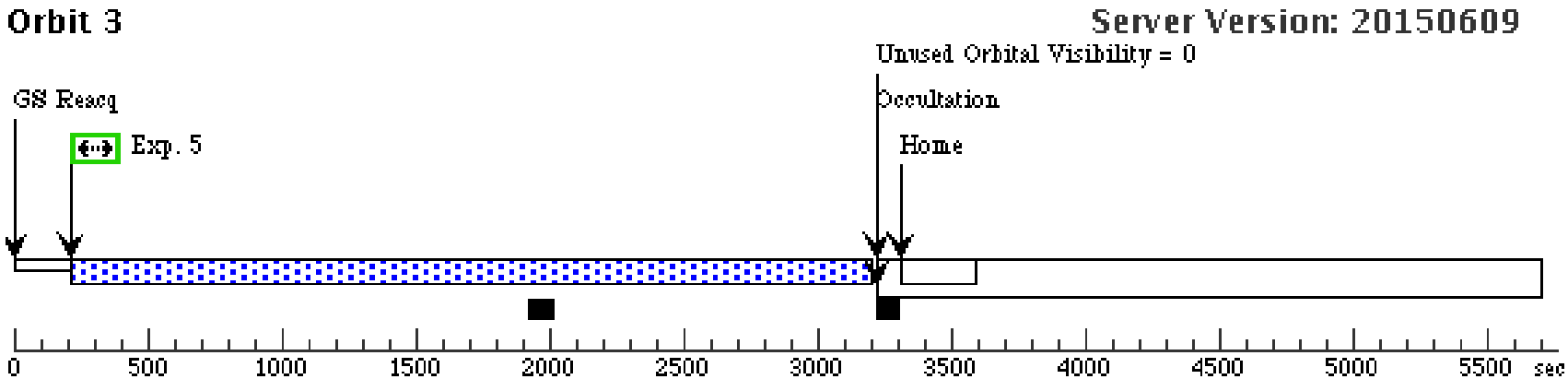
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IMAGE (COS.ta.715075)	(1) HE1327-2326	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				40 Secs (40 Secs) *[==>]*	*[1]*
	Comments: Target is not too bright for MIRRORB acquisition exposures. Also, coordinates are very good, so follow sequence #1 in Table 8.1.								
	Exposure time is ETC value, rounded up.								
2	SCIENCE 1 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=1			2600 Secs (2540 Secs) *[==>2540.0 Secs]*	*[1]*
	Comments: Buffer time is 2/3 times ETC value (calculated for total integration time).								
3	SCIENCE 2 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=2			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
4	SCIENCE 3 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=3			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
5	SCIENCE 4 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=4			3100 Secs (2973 Secs) *[==>2973.0 Secs]*	*[3]*

Orbit Structure







Visit

Proposal 14151, Visit 07 Wed Jul 08 01:11:58 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/NUV

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HE1327-2326	RA: 13 30 5.9420 (202.5247583d) Dec: -23 41 49.69 (-23.69714d) Equinox: J2000	Proper Motion RA: -51.6 mas/yr Proper Motion Dec: 47.1 mas/yr Parallax: 0." Epoch of Position: 2000.0	V=13.5 U= 13.787	Reference Frame: ICRS

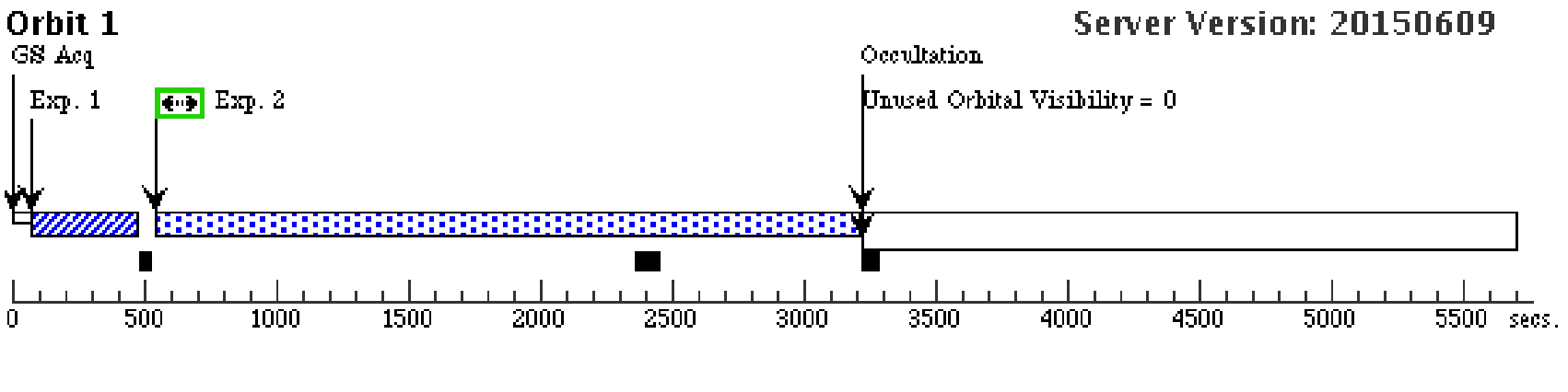
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

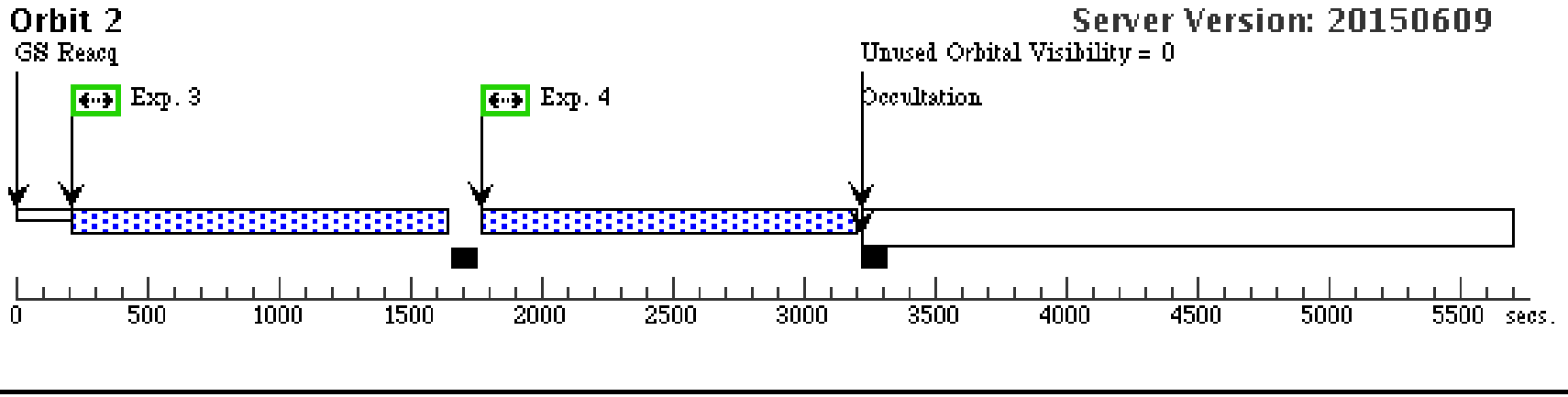
Coords and PM from UCAC4 (via Vizier).
Extended=NO

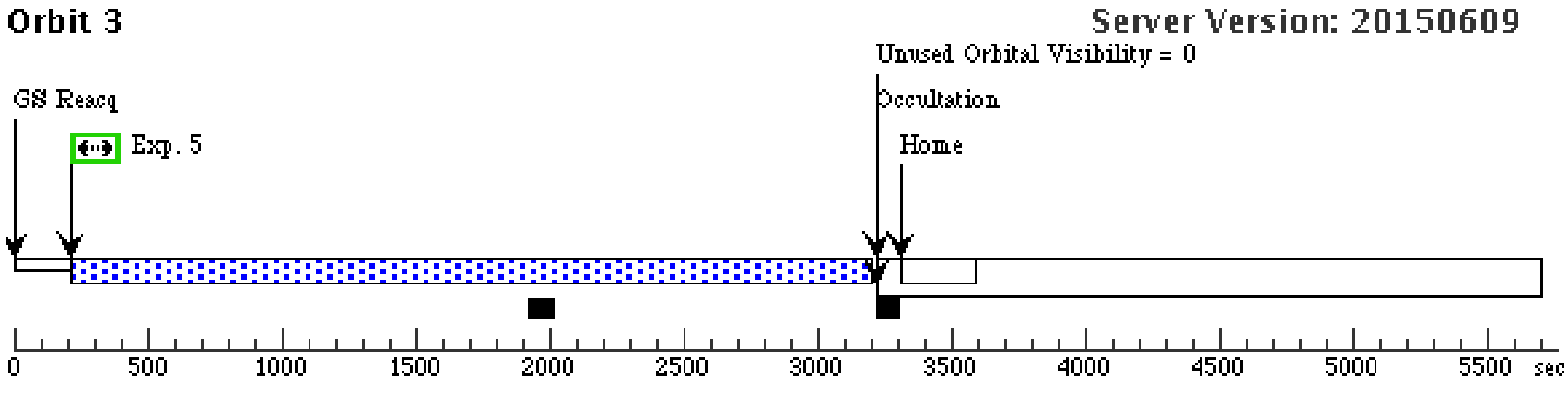
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IMAGE (COS.ta.715075)	(1) HE1327-2326	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				40 Secs (40 Secs) *[==>]*	*[1]*
	Comments: Target is not too bright for MIRRORB acquisition exposures. Also, coordinates are very good, so follow sequence #1 in Table 8.1.								
	Exposure time is ETC value, rounded up.								
2	SCIENCE 1 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=1			2600 Secs (2540 Secs) *[==>2540.0 Secs]*	*[1]*
	Comments: Buffer time is 2/3 times ETC value (calculated for total integration time).								
3	SCIENCE 2 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=2			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
4	SCIENCE 3 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=3			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
5	SCIENCE 4 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=4			3100 Secs (2973 Secs) *[==>2973.0 Secs]*	*[3]*

Orbit Structure







Visit

Proposal 14151, Visit 08 Wed Jul 08 01:11:58 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/NUV

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HE1327-2326	RA: 13 30 5.9420 (202.5247583d) Dec: -23 41 49.69 (-23.69714d) Equinox: J2000	Proper Motion RA: -51.6 mas/yr Proper Motion Dec: 47.1 mas/yr Parallax: 0." Epoch of Position: 2000.0	V=13.5 U= 13.787	Reference Frame: ICRS

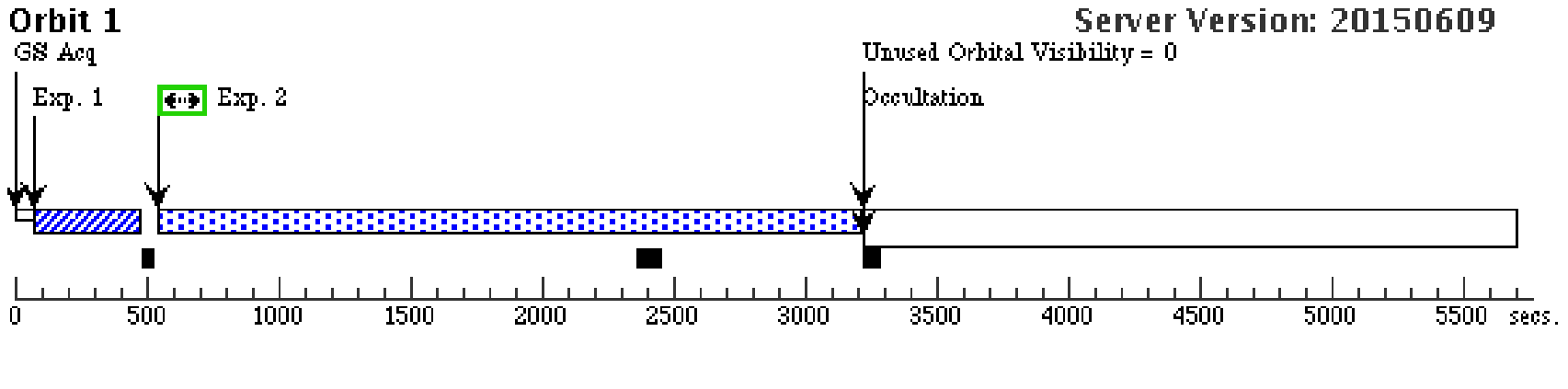
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

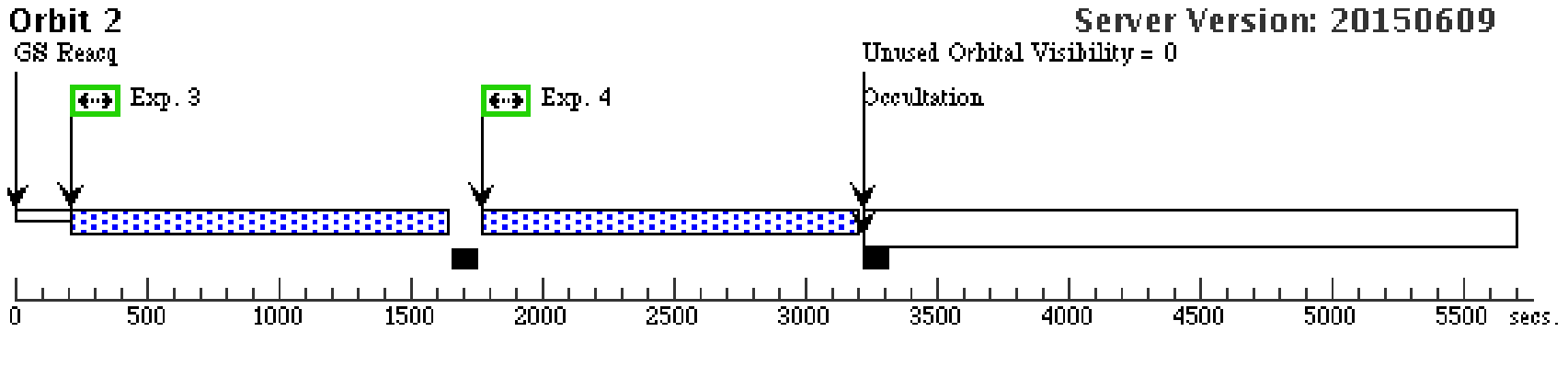
Coords and PM from UCAC4 (via Vizier).
Extended=NO

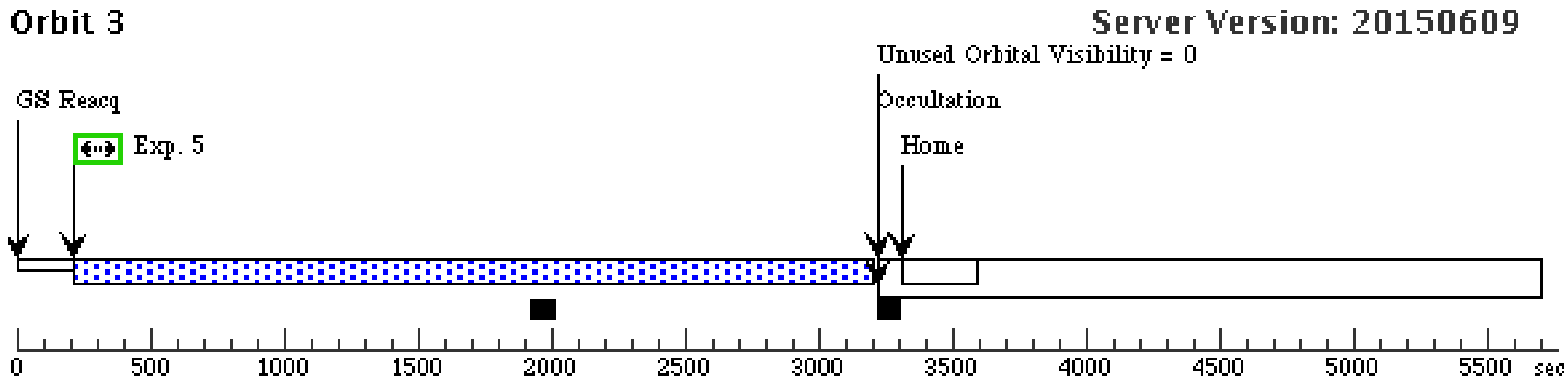
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IMAGE (COS.ta.715075)	(1) HE1327-2326	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				40 Secs (40 Secs) *[==>]*	*[1]*
	Comments: Target is not too bright for MIRRORB acquisition exposures. Also, coordinates are very good, so follow sequence #1 in Table 8.1.								
	Exposure time is ETC value, rounded up.								
2	SCIENCE 1 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=1			2600 Secs (2540 Secs) *[==>2540.0 Secs]*	*[1]*
	Comments: Buffer time is 2/3 times ETC value (calculated for total integration time).								
3	SCIENCE 2 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=2			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
4	SCIENCE 3 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=3			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
5	SCIENCE 4 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=4			3100 Secs (2973 Secs) *[==>2973.0 Secs]*	*[3]*

Orbit Structure







Visit

Proposal 14151, Visit 09 Wed Jul 08 01:11:58 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/NUV

Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HE1327-2326	RA: 13 30 5.9420 (202.5247583d) Dec: -23 41 49.69 (-23.69714d) Equinox: J2000	Proper Motion RA: -51.6 mas/yr Proper Motion Dec: 47.1 mas/yr Parallax: 0." Epoch of Position: 2000.0	V=13.5 U= 13.787	Reference Frame: ICRS

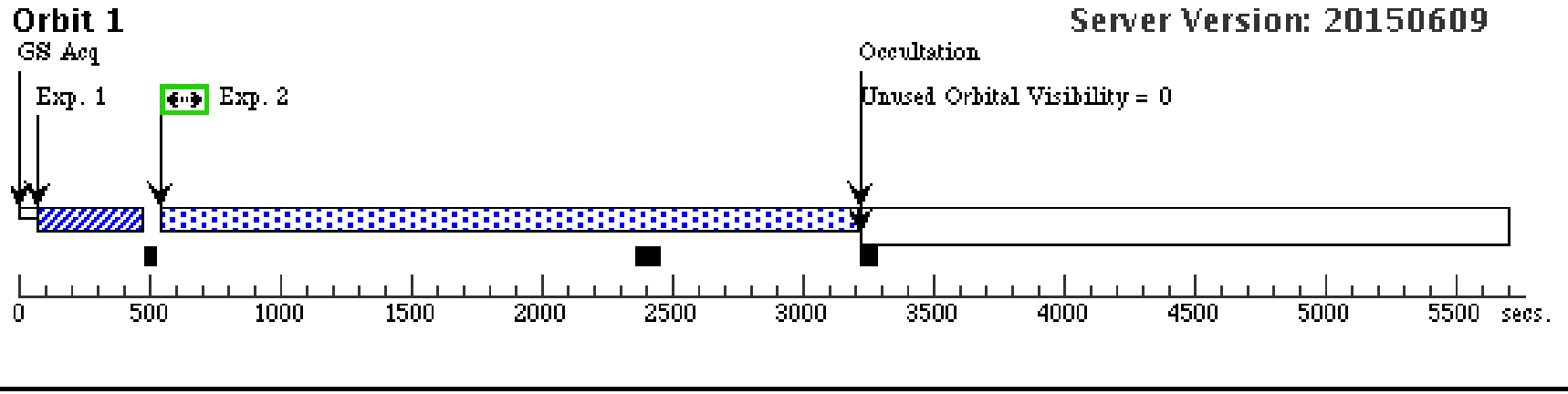
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

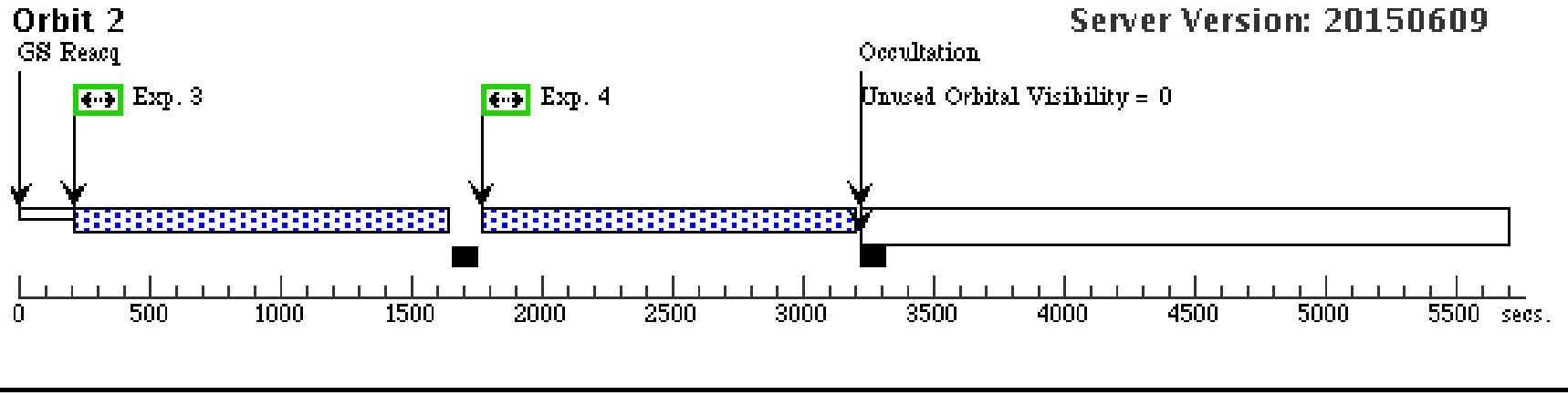
Coords and PM from UCAC4 (via Vizier).
Extended=NO

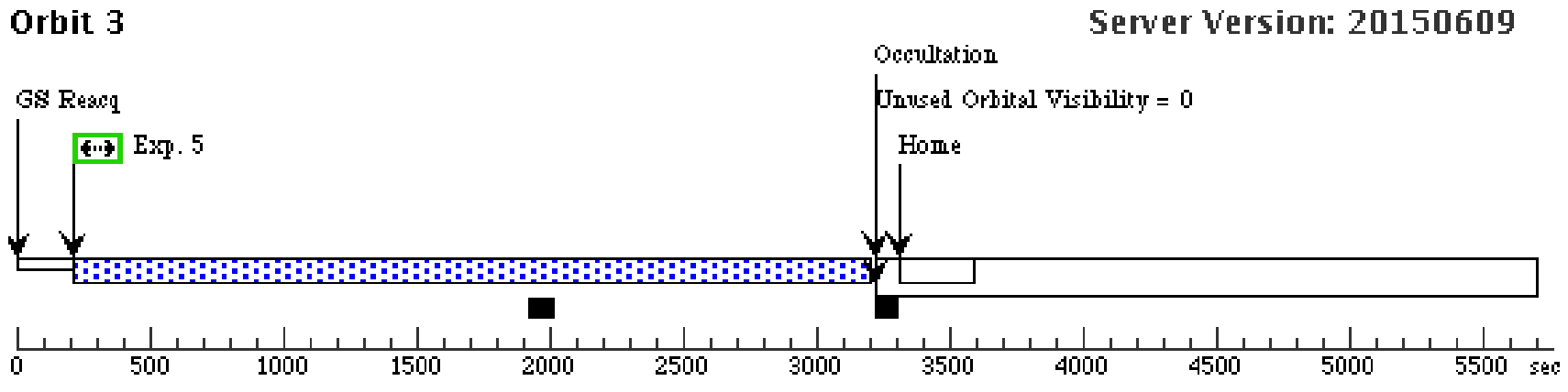
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IMAGE (COS.ta.715075)	(1) HE1327-2326	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				40 Secs (40 Secs) *[==>]*	*[1]*
	Comments: Target is not too bright for MIRRORB acquisition exposures. Also, coordinates are very good, so follow sequence #1 in Table 8.1.								
	Exposure time is ETC value, rounded up.								
2	SCIENCE 1 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=1			2600 Secs (2540 Secs) *[==>2540.0 Secs]*	*[1]*
	Comments: Buffer time is 2/3 times ETC value (calculated for total integration time).								
3	SCIENCE 2 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=2			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
4	SCIENCE 3 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=3			1450 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
5	SCIENCE 4 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=4			3100 Secs (2973 Secs) *[==>2973.0 Secs]*	*[3]*

Orbit Structure







Visit

Proposal 14151, Visit 10 Wed Jul 08 01:11:59 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/NUV

Special Requirements: (none)

Fixed Targets

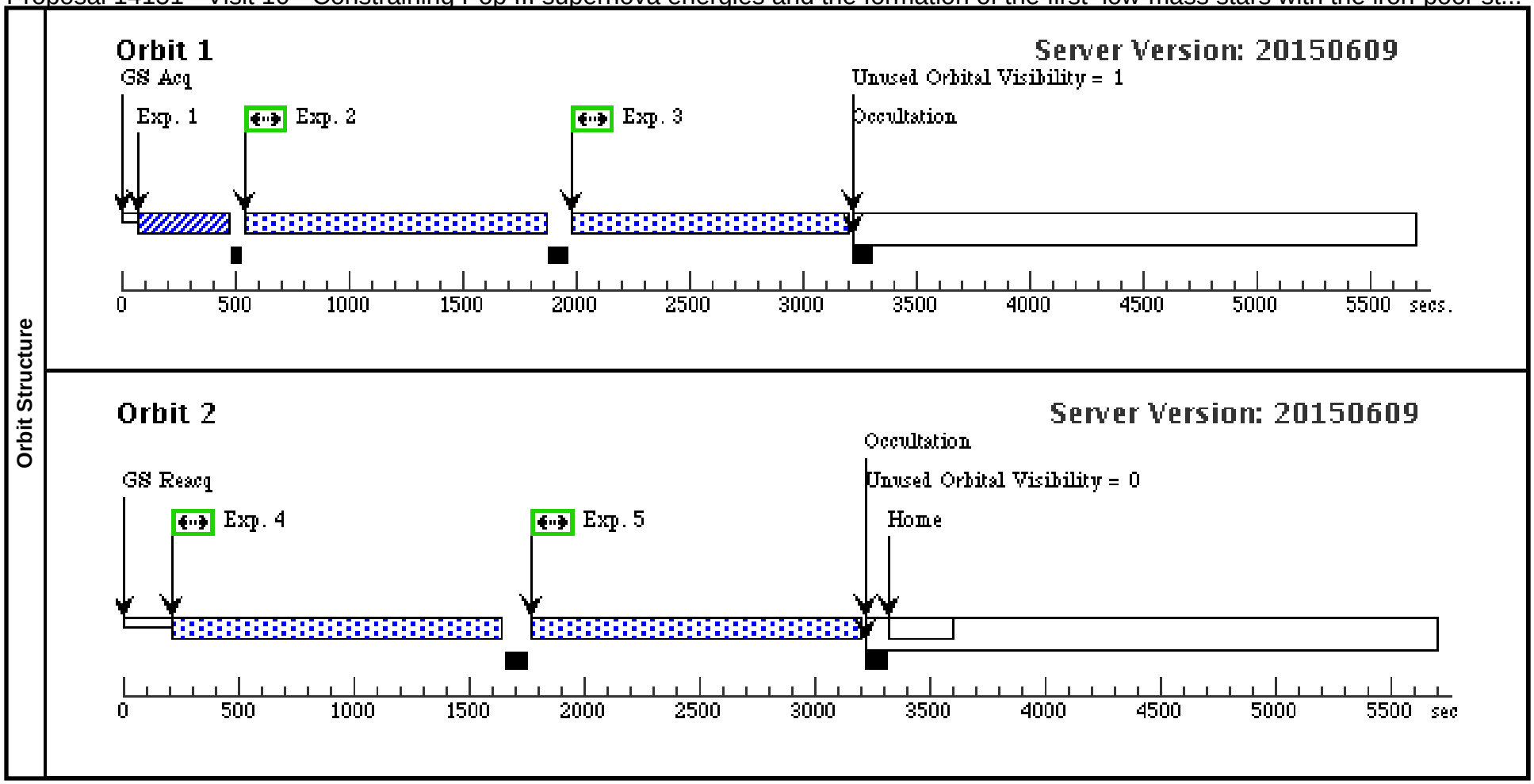
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HE1327-2326	RA: 13 30 5.9420 (202.5247583d) Dec: -23 41 49.69 (-23.69714d) Equinox: J2000	Proper Motion RA: -51.6 mas/yr Proper Motion Dec: 47.1 mas/yr Parallax: 0." Epoch of Position: 2000.0	V=13.5 U= 13.787	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Coords and PM from UCAC4 (via Vizier).
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/IMAGE (COS.ta.715075)	(1) HE1327-2326	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				40 Secs (40 Secs) *[==>]*	*[1]*
	Comments: Target is not too bright for MIRRORB acquisition exposures. Also, coordinates are very good, so follow sequence #1 in Table 8.1.								
	Exposure time is ETC value, rounded up.								
2	SCIENCE 1 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=1			1220 Secs (1207 Secs) *[==>1207.0 Secs]*	*[1]*
	Comments: Buffer time is 2/3 times ETC value (calculated for total integration time).								
3	SCIENCE 2 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=2			1220 Secs (1207 Secs) *[==>1207.0 Secs]*	*[1]*
4	SCIENCE 3 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=3			1460 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*
5	SCIENCE 4 (COS.sp.702317)	(1) HE1327-2326	COS/NUV, TIME-TAG, PSA	G225M 2233 A	BUFFER-TIME=1705; FP-POS=4			1460 Secs (1419 Secs) *[==>1419.0 Secs]*	*[2]*


Orbit Structure
Orbit 1
Server Version: 20150609
GS Acq
Exp. 1
Exp. 2
Exp. 3
Unused Orbital Visibility = 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.
Orbit 2
Server Version: 20150609
Occultation
GS Reacq
Unused Orbital Visibility = 0
Exp. 4
Exp. 5
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec