



10931 - Dynamical Masses and Radii of Four White Dwarf Stars

Cycle: 15, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Dr. Edmund Nelan (PI)	Space Telescope Science Institute	
Mr. Russell Makidon (CoI)	Space Telescope Science Institute	
Dr. Howard E. Bond (CoI)	Space Telescope Science Institute	bond@stsci.edu
Dr. Gail Schaefer (CoI)	Space Telescope Science Institute	gschaefer@stsci.edu

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) WD1639+153 (2) WD1639-REF1 (4) WD1639-REF3 (7) WD1639-REF7	FGS	1	21-May-2007 21:43:59.0	yes
02	(1) WD1639+153 (2) WD1639-REF1 (3) WD1639-REF2 (4) WD1639-REF3 (7) WD1639-REF7	FGS	1	21-May-2007 21:44:11.0	yes

<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>
03	(1) WD1639+153 (2) WD1639-REF1 (3) WD1639-REF2 (4) WD1639-REF3 (5) WD1639-REF4	FGS	1	21-May-2007 21:44:19.0	yes
04	(8) WD1818+126 (9) WD1818-GSC1-REF1 (10) WD1818-GSC1-REF2 (11) WD1818-GSC1-REF3 (12) WD1818-GSC2-REF1 (13) WD1818-GSC2-REF2 (14) WD1818-GSC2-REF3 (15) WD1818-GSC2-REF4	FGS	1	21-May-2007 21:44:28.0	yes

4 Total Orbits Used

ABSTRACT

add new abstract

OBSERVING DESCRIPTION

We will use FGS1r in its high angular resolution observing mode (TRANS) to resolve the white dwarf binary systems. Each exposure will be comprised of about 20 scans. The interferograms derived from each scan will be cross-correlated and co-added to yield a high SNR. To further suppress the noise (these targets are near the FGS's faint limiting magnitude), the co-added interferograms will be carefully smoothed by being represented as a piece-wise smooth segmented polynomial. These observations will yield the separation and position angle of the binary components, as well as the brightness of each. In addition, the binary and field stars simultaneously in the FGS FOV will be observed in POS mode to accurately determine the relative positions of the stars. This will facilitate the construction of an inertial reference frame for the binary, thereby

allowing the relative orbit that will be ultimately determined from the TRANS data to be converted into a physical orbit. This will allow us to determine the relative mass of each white dwarf in the binary system. In addition, the POS mode data will give the proper motion and parallax of the binary, which will allow us to compute the mass and radius of each white dwarf.

ADDITIONAL COMMENTS

The observations should be scheduled to occur at times of maximum parallax factor to allow us to determine the distance to each of these two white dwarf binary systems.

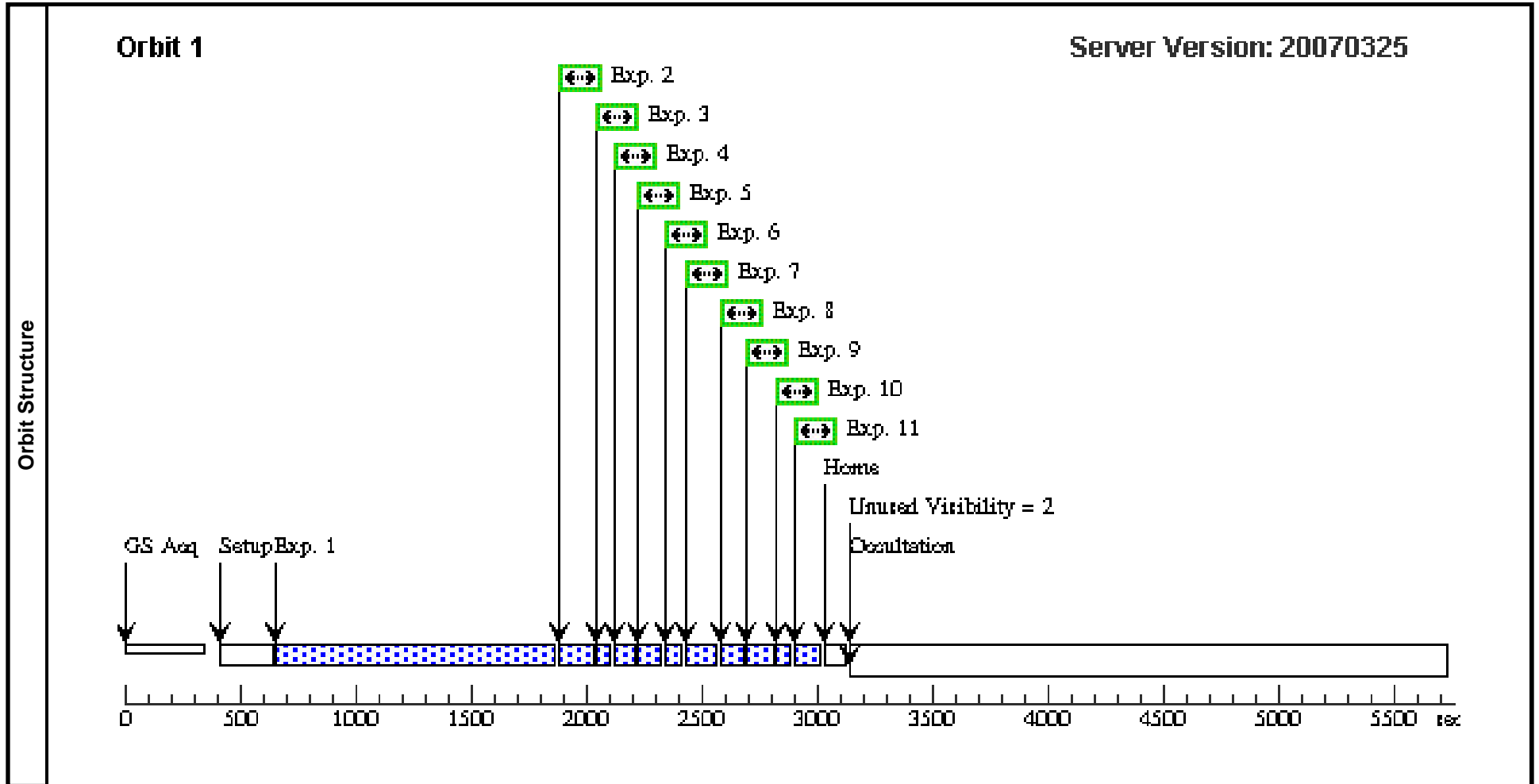
Proposal 10931 - Visit 01 - Dynamical Masses and Radii of Four White Dwarf Stars

Mon May 21 20:44:32 GMT 2007

Visit	Proposal 10931, Visit 01, completed Diagnostic Status: Warning Scientific Instruments: FGS Special Requirements: PCS MODE FINE; SCHED 70%; ORIENT 135.0D TO 135.0 D; BETWEEN 06-JUL-2006:00:00:00 AND 15-JUL-2006:00:00:00									
	Diagnostics	(Visit 01) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA								
(Visit 01) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
(Visit 01) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
(Visit 01) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
(Visit 01) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
(Visit 01) Warning: SHORT FGS SCAN LENGTH MAY SIGNAL PROBLEMS										
(Visit 01) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	WD1639+153	RA: 16 41 36.7000 (250.4029167d) Dec: +15 12 36.38 (15.21011d) Equinox: J2000	Proper Motion RA: 0.005s/yr Proper Motion Dec: -0.736"/yr Parallax: 0.0" Epoch of Position: 2000.0	V=15.7+/-0.1	Reference Frame: HST CYCLE 10 OBSERVATIONS				
	(2)	WD1639-REF1 Alt Name1: GSC1520.00549	RA: 16 41 39.6000 (250.4150000d) Dec: +15 12 1.87 (15.20052d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=10.73+/-0.1	Reference Frame: ICRS				
	(4)	WD1639-REF3 Alt Name1: GSC1520.00496	RA: 16 41 49.1300 (250.4547083d) Dec: +15 11 1.97 (15.18388d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=14.69+/-0.0	Reference Frame: ICRS				
	(7)	WD1639-REF7 Alt Name1: GSC1520.00612	RA: 16 41 25.9400 (250.3580833d) Dec: +15 15 44.39 (15.26233d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=13.26+/-0.1	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	1	(1) WD1639+153	FGS, TRANS, 1	F583W	STEP-SIZE=0.5; SCANS=25	POS TARG 0,-17	Sequence 1-11 Non-Int	800.0 Secs [==>]	[1]
	2	2	(1) WD1639+153	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	25.0 Secs [==>]	[1]
	3	3	(2) WD1639-REF1	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]
	4	4	(4) WD1639-REF3	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	10.0 Secs [==>]	[1]
	5	5	(7) WD1639-REF7	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]
	6	7	(2) WD1639-REF1	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]

Proposal 10931 - Visit 01 - Dynamical Masses and Radii of Four White Dwarf Stars

Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
		7	8	(1) WD1639+153	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	25.0 Secs [==>]
	8	9	(7) WD1639-REF7	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	10.0 Secs [==>]	[1]
	9	10	(4) WD1639-REF3	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]
	10	11	(2) WD1639-REF1	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]
	11	12	(1) WD1639+153	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]



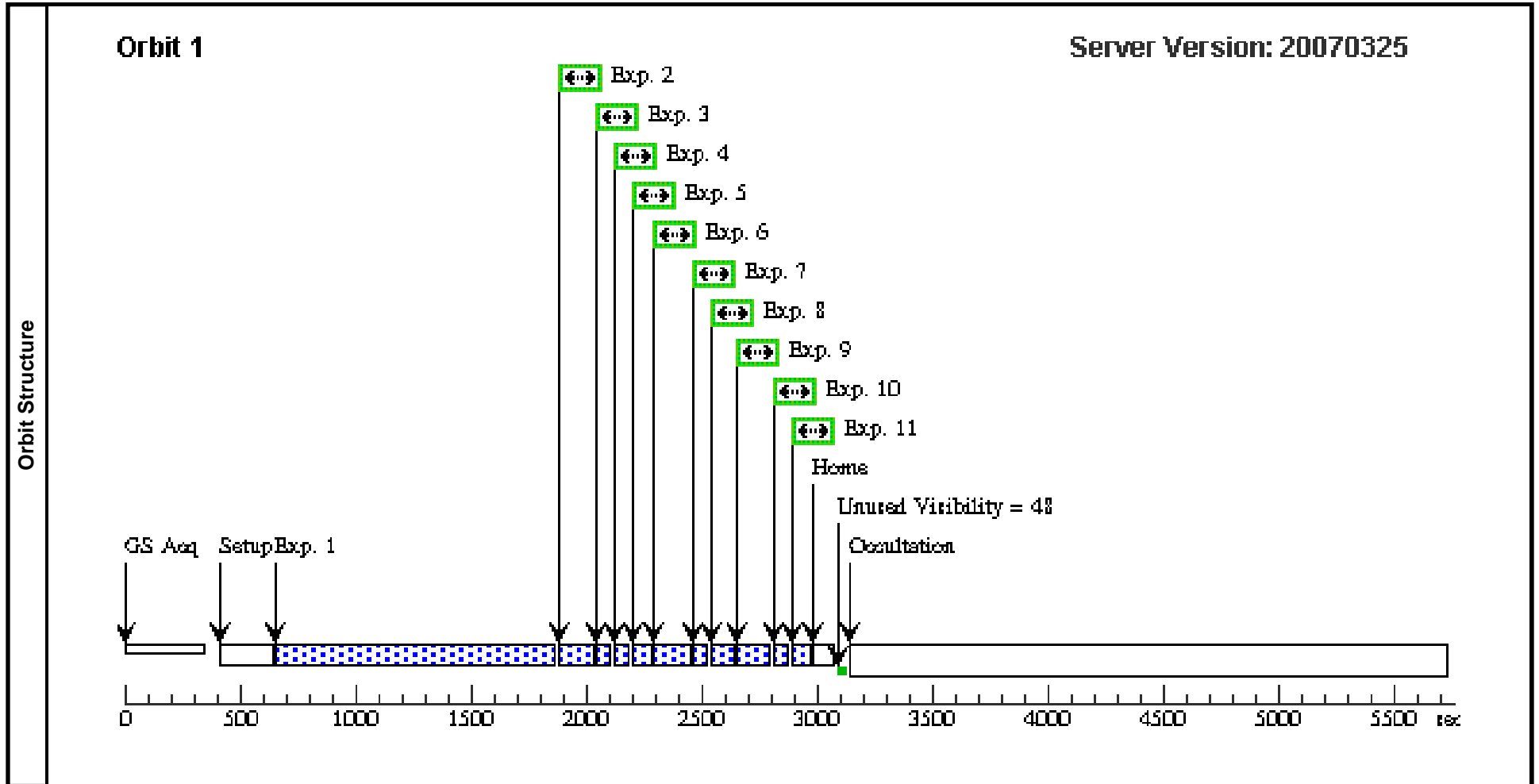
Proposal 10931 - Visit 02 - Dynamical Masses and Radii of Four White Dwarf Stars

Mon May 21 20:44:33 GMT 2007

Visit	Proposal 10931, Visit 02, completed Diagnostic Status: Warning Scientific Instruments: FGS Special Requirements: PCS MODE FINE; SCHED 70%; ORIENT 308.0D TO 308.0 D; BETWEEN 15-JAN-2007:00:00:00 AND 30-JAN-2007:00:00:00									
	Diagnostics	(Visit 02) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA								
(Visit 02) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
(Visit 02) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
(Visit 02) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
(Visit 02) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
(Visit 02) Warning: SHORT FGS SCAN LENGTH MAY SIGNAL PROBLEMS										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	WD1639+153	RA: 16 41 36.7000 (250.4029167d) Dec: +15 12 36.38 (15.21011d) Equinox: J2000	Proper Motion RA: 0.005s/yr Proper Motion Dec: -0.736"/yr Parallax: 0.0" Epoch of Position: 2000.0	V=15.7+/-0.1	Reference Frame: HST CYCLE 10 OBSERVATIONS				
	(2)	WD1639-REF1 Alt Name1: GSC1520.00549	RA: 16 41 39.6000 (250.4150000d) Dec: +15 12 1.87 (15.20052d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=10.73+/-0.1	Reference Frame: ICRS				
	(3)	WD1639-REF2 Alt Name1: GSC1520.00514	RA: 16 41 54.1000 (250.4754167d) Dec: +15 11 19.20 (15.18867d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=12.1+/-0.1	Reference Frame: ICRS				
	(4)	WD1639-REF3 Alt Name1: GSC1520.00496	RA: 16 41 49.1300 (250.4547083d) Dec: +15 11 1.97 (15.18388d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=14.69+/-0.0	Reference Frame: ICRS				
	(7)	WD1639-REF7 Alt Name1: GSC1520.00612	RA: 16 41 25.9400 (250.3580833d) Dec: +15 15 44.39 (15.26233d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=13.26+/-0.1	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	1	(1) WD1639+153	FGS, TRANS, 1	F583W	STEP-SIZE=0.5; SCANS=25	POS TARG 0,-17	Sequence 1-11 Non-Int	800.0 Secs [==>]	[1]
	2	2	(1) WD1639+153	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	25.0 Secs [==>]	[1]
	3	3	(2) WD1639-REF1	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]
	4	4	(3) WD1639-REF2	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	10.0 Secs [==>]	[1]
	5	5	(4) WD1639-REF3	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]

Proposal 10931 - Visit 02 - Dynamical Masses and Radii of Four White Dwarf Stars

Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	6	6	(1) WD1639+153	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	25.0 Secs [==>]	[1]
	7	7	(2) WD1639-REF1	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]
	8	8	(7) WD1639-REF7	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	25.0 Secs [==>]	[1]
	9	9	(1) WD1639+153	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	10.0 Secs [==>]	[1]
	10	10	(2) WD1639-REF1	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]
	11	11	(7) WD1639-REF7	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]



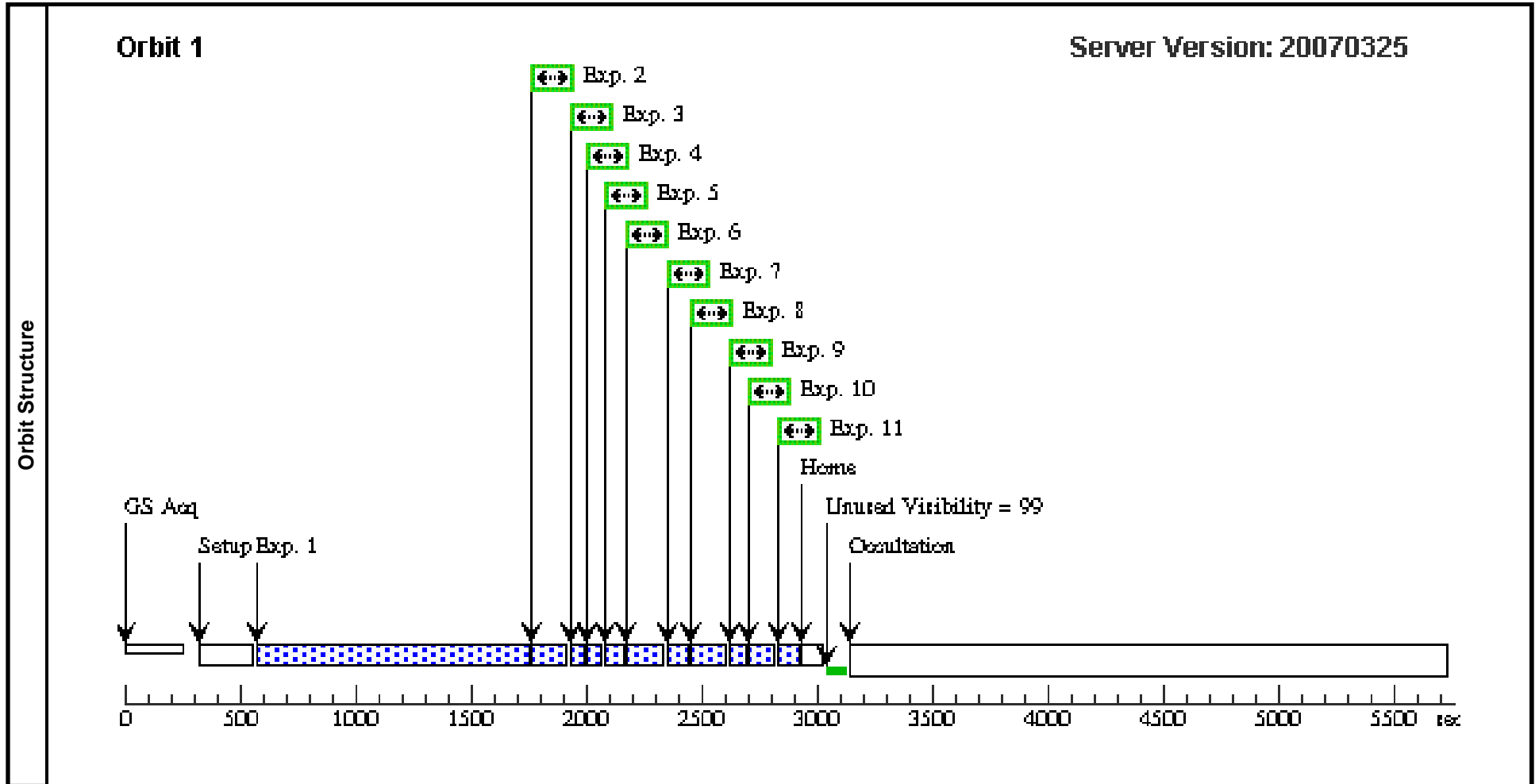
Proposal 10931 - Visit 03 - Dynamical Masses and Radii of Four White Dwarf Stars

Mon May 21 20:44:34 GMT 2007

Visit	Proposal 10931, Visit 03, completed Diagnostic Status: Warning Scientific Instruments: FGS Special Requirements: PCS MODE FINE; SCHED 70%; ORIENT 274.0D TO 275.0 D; BETWEEN 01-MAR-2007:00:00:00 AND 16-MAR-2007:00:00:00									
	Diagnostics	(Visit 03) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA								
(Visit 03) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
(Visit 03) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
(Visit 03) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
(Visit 03) Warning: FGS EXPOSURE TOO SHORT TO GUARANTEE SCIENCE DATA										
(Visit 03) Warning: SHORT FGS SCAN LENGTH MAY SIGNAL PROBLEMS										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	WD1639+153	RA: 16 41 36.7000 (250.4029167d) Dec: +15 12 36.38 (15.21011d) Equinox: J2000	Proper Motion RA: 0.005s/yr Proper Motion Dec: -0.736"/yr Parallax: 0.0" Epoch of Position: 2000.0	V=15.7+/-0.1	Reference Frame: HST CYCLE 10 OBSERVATIONS				
	(2)	WD1639-REF1 Alt Name1: GSC1520.00549	RA: 16 41 39.6000 (250.4150000d) Dec: +15 12 1.87 (15.20052d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=10.73+/-0.1	Reference Frame: ICRS				
	(3)	WD1639-REF2 Alt Name1: GSC1520.00514	RA: 16 41 54.1000 (250.4754167d) Dec: +15 11 19.20 (15.18867d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=12.1+/-0.1	Reference Frame: ICRS				
	(4)	WD1639-REF3 Alt Name1: GSC1520.00496	RA: 16 41 49.1300 (250.4547083d) Dec: +15 11 1.97 (15.18388d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=14.69+/-0.0	Reference Frame: ICRS				
	(5)	WD1639-REF4 Alt Name1: GSC1520.00555	RA: 16 41 22.8200 (250.3450833d) Dec: +15 11 55.82 (15.19884d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=13.25+/-0.1	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	1	(1) WD1639+153	FGS, TRANS, 1	F583W	STEP-SIZE=0.5; SCANS=25	POS TARG 0,-17; GS ACQ SCENARI O ONEBIT	Sequence 1-11 Non-I nt	770.0 Secs [==>]	[1]
	2	2	(1) WD1639+153	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-I nt	25.0 Secs [==>]	[1]
	3	3	(2) WD1639-REF1	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-I nt	5.0 Secs [==>]	[1]
	4	4	(3) WD1639-REF2	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-I nt	10.0 Secs [==>]	[1]
	5	5	(4) WD1639-REF3	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-I nt	5.0 Secs [==>]	[1]

Proposal 10931 - Visit 03 - Dynamical Masses and Radii of Four White Dwarf Stars

Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	6	6	(1) WD1639+153	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	25.0 Secs [==>]	[1]
	7	7	(5) WD1639-REF4	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]
	8	8	(1) WD1639+153	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	25.0 Secs [==>]	[1]
	9	9	(2) WD1639-REF1	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	10.0 Secs [==>]	[1]
	10	10	(1) WD1639+153	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]
	11	12	(5) WD1639-REF4	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-11 Non-Int	5.0 Secs [==>]	[1]



Proposal 10931 - Visit 04 - Dynamical Masses and Radii of Four White Dwarf Stars

Mon May 21 20:44:35 GMT 2007

Visit	Proposal 10931, Visit 04, implementation Diagnostic Status: Warning Scientific Instruments: FGS Special Requirements: PCS MODE FINE; SCHED 70%; ORIENT 265.0D TO 270.0 D						
Diagnostics	(Visit 04) Warning: SHORT FGS SCAN LENGTH MAY SIGNAL PROBLEMS						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	
	(8)	WD1818+126	RA: 18 20 30.8800 (275.1286667d) Dec: +12 39 17.70 (12.65492d) Equinox: J2000	Proper Motion RA: 0.007s/yr Proper Motion Dec: 0.271"/yr Parallax: 0.0" Epoch of Position: 2000.0	V=16.06+/-0.1	Reference Frame: HST CYCLE 10 PROPOSAL	
	(9)	WD1818-GSC1-REF1 Alt Name1: GSC1018.02189	RA: 18 20 23.6700 (275.0986250d) Dec: +12 39 43.80 (12.66217d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=10.92+/-0.2	Reference Frame: ICRS	
	(10)	WD1818-GSC1-REF2 Alt Name1: GSC1018.02278	RA: 18 20 26.3600 (275.1098333d) Dec: +12 39 25.20 (12.65700d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=12.7+/-0.2	Reference Frame: ICRS	
	(11)	WD1818-GSC1-REF3 Alt Name1: GSC1018.01251	RA: 18 20 31.9700 (275.1332083d) Dec: +12 38 48.12 (12.64670d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=12.97+/-0.2	Reference Frame: ICRS	
	(12)	WD1818-GSC2-REF1 Alt Name1: N020230030828	RA: 18 20 33.8600 (275.1410833d) Dec: +12 39 5.56 (12.65154d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=14.23+/-0.2	Reference Frame: ICRS	
	<i>Comments: position and magnitude from GSC2, using Kriss & Stys color transformations.</i>						
	(13)	WD1818-GSC2-REF2 Alt Name1: N020230030566	RA: 18 20 35.3400 (275.1472500d) Dec: +12 38 50.74 (12.64743d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=14.49+/-0.2	Reference Frame: ICRS	
	<i>Comments: position and magnitude from GSC2, using Kriss & Stys color transformations</i>						
	(14)	WD1818-GSC2-REF3 Alt Name1: N020230031910	RA: 18 20 33.6100 (275.1400417d) Dec: +12 40 16.29 (12.67119d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=14.43+/-0.3	Reference Frame: ICRS	
<i>Comments: position and magnitude from GSC2, using Kriss & Stys color transformation</i>							

Proposal 10931 - Visit 04 - Dynamical Masses and Radii of Four White Dwarf Stars

Fixed Targets (continued)	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(15)	WD1818-GSC2-REF4 Alt Name1: N020230031978	RA: 18 20 29.4800 (275.1228333d) Dec: +12 40 21.03 (12.67251d) Equinox: J2000	Parallax: 0.0" Epoch of Position:	V=15.01+/-0.2	Reference Frame: ICRS
<i>Comments: position and magnitude from GSC2, color transformation using Kriss & Stys</i>						

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	1	(8) WD1818+126	FGS, TRANS, 1	F583W	STEP-SIZE=0.4; SCANS=20	POS TARG 0,0	Sequence 1-12 Non-Int	830.0 Secs [==>]	[1]
2	2	(8) WD1818+126	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-12 Non-Int	25.0 Secs [==>]	[1]	
3	3	(9) WD1818-GSC1-REF1	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-12 Non-Int	10.0 Secs [==>]	[1]	
4	4	(10) WD1818-GSC1-REF2	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-12 Non-Int	10.0 Secs [==>]	[1]	
5	5	(11) WD1818-GSC1-REF3	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-12 Non-Int	10.0 Secs [==>]	[1]	
6	6	(12) WD1818-GSC2-REF1	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-12 Non-Int	15.0 Secs [==>]	[1]	
7	7	(13) WD1818-GSC2-REF2	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-12 Non-Int	15.0 Secs [==>]	[1]	
8	8	(10) WD1818-GSC1-REF2	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-12 Non-Int	10.0 Secs [==>]	[1]	
9	9	(14) WD1818-GSC2-REF3	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-12 Non-Int	15.0 Secs [==>]	[1]	
10	10	(15) WD1818-GSC2-REF4	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-12 Non-Int	15.0 Secs [==>]	[1]	
11	11	(8) WD1818+126	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-12 Non-Int	25.0 Secs [==>]	[1]	
12	12	(9) WD1818-GSC1-REF1	FGS, POS, 1	F583W		SAME POS AS 1	Sequence 1-12 Non-Int	10.0 Secs [==>]	[1]	

