



## 14862 - Resolving the multiple images of the strongly lensed SNIa iPTF16geu

Cycle: 24, Proposal Category: GO/DD

(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) IPTF16GEU	WFC3/IR WFC3/UVIS	1	09-Nov-2016 12:34:19.0	yes
02	(1) IPTF16GEU	WFC3/IR WFC3/UVIS	1	09-Nov-2016 12:34:21.0	yes
03	(1) IPTF16GEU	WFC3/IR WFC3/UVIS	1	09-Nov-2016 12:34:23.0	yes
04	(1) IPTF16GEU	WFC3/IR WFC3/UVIS	2	09-Nov-2016 12:34:25.0	yes
05	(1) IPTF16GEU	WFC3/IR WFC3/UVIS	1	09-Nov-2016 12:34:27.0	yes
06	(1) IPTF16GEU	WFC3/IR WFC3/UVIS	1	09-Nov-2016 12:34:29.0	yes
07	(1) IPTF16GEU	WFC3/IR WFC3/UVIS	1	09-Nov-2016 12:34:31.0	yes
08	(1) IPTF16GEU	WFC3/IR WFC3/UVIS	1	09-Nov-2016 12:34:32.0	yes
09	(1) IPTF16GEU	WFC3/IR WFC3/UVIS	1	09-Nov-2016 12:34:33.0	yes
10	(1) IPTF16GEU	WFC3/IR WFC3/UVIS	1	09-Nov-2016 12:34:35.0	yes

11 Total Orbits Used

**ABSTRACT**

A spectacularly unique transient event was discovered by the intermediate Palomar Transient Factory: a Type Ia supernova at  $z=0.409$  fortuitously aligned with a galaxy at  $z=0.216$  causing a factor  $\sim 30$  in flux magnification. For simple spherical symmetric lens models, multiple images of the supernova are expected with an angular separation of  $\sim 0.8''$ , and time delays below 2 days between the SN images. Resolving the multiple images,

Proposal 14862 (STScI Edit Number: 1, Created: Wednesday, November 9, 2016 12:34:36 PM EST) - Overview

the first time such a thing would be accomplished for a SNIa, requires HST observations. We request repeated single orbit observations with WFC3 in multiple filters over a period of 35 days. This would allow us to monitor the SN lightcurves of the individual images over periods where salient features occur in lightcurves of normal SNe Ia, e.g., the secondary maximum in the near-IR, thus facilitating the measurement of time delays. The observations will allow to model the lens and measure the Hubble constant in a novel manner.

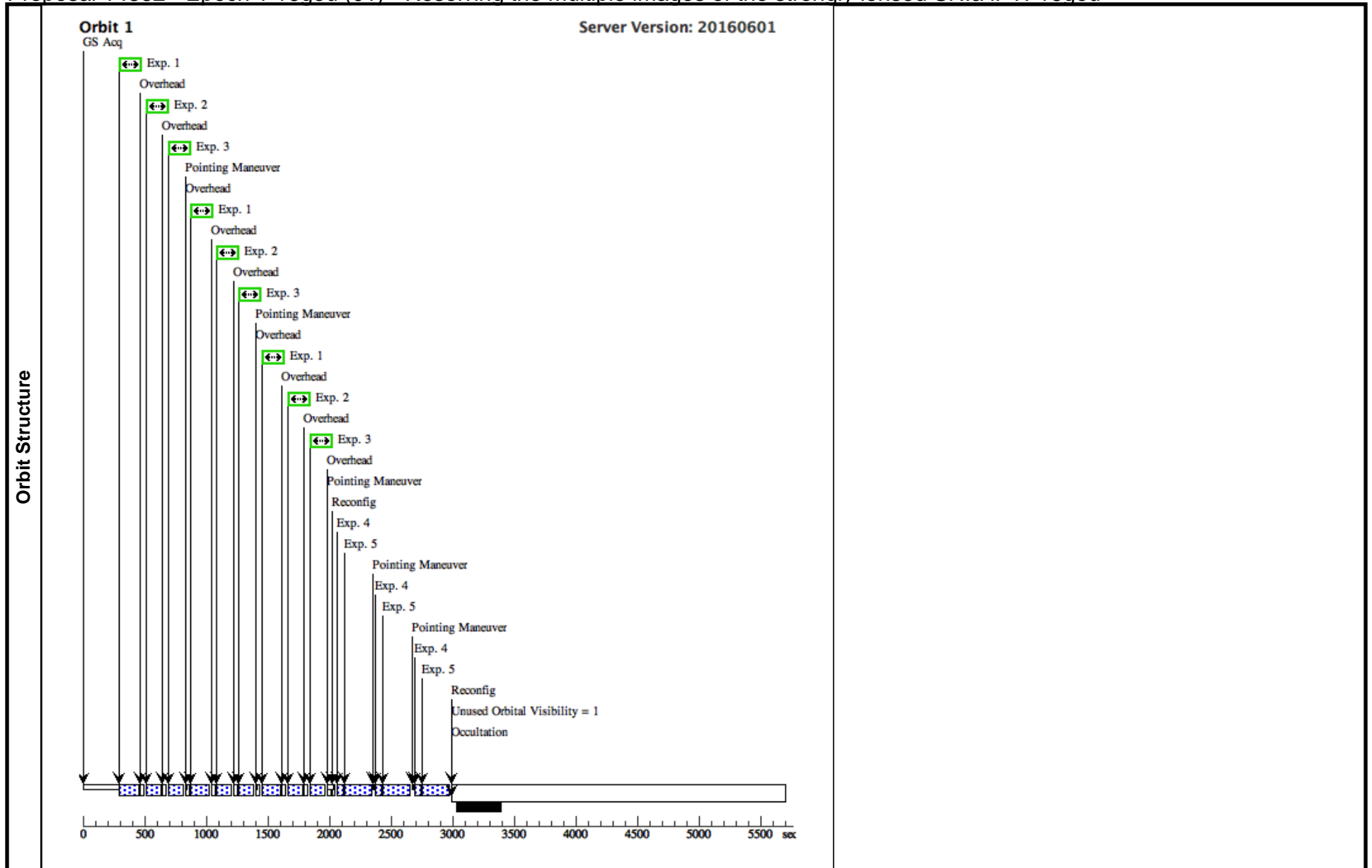
### **OBSERVING DESCRIPTION**

Observations of strongly lensed Type Ia supernova iPTF16geu

Proposal 14862 - Epoch 1 16geu (01) - Resolving the multiple images of the strongly lensed SNIa iPTF16geu

Wed Nov 09 17:34:36 GMT 2016

Visit	<b>Proposal 14862, Epoch 1 16geu (01), completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%									
	#	Primary Pattern	Secondary Pattern	Exposures						
Patterns	(3)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4-5)						
	(4)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1-3)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	IPTF16GEU Alt Name1: SN2016GEU	RA: 21 04 15.8600 (316.0660833d) Dec: -06 20 24.50 (-6.34014d) Equinox: J2000		V=21	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F475W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	FLASH=9		Pattern 4, Exps 1-3 in Epoch 1 16geu (01) (4)	42 Secs (378 Secs) [=>126.0 Secs (Pattern 1)] [=>126.0 Secs (Pattern 2)] [=>126.0 Secs (Pattern 3)]	[1]
	2	F625W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	FLASH=9		Pattern 4, Exps 1-3 in Epoch 1 16geu (01) (4)	13 Secs (291 Secs) [=>97.0 Secs (Pattern 1)] [=>97.0 Secs (Pattern 2)] [=>97.0 Secs (Pattern 3)]	[1]
	3	F814W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F814W	FLASH=9		Pattern 4, Exps 1-3 in Epoch 1 16geu (01) (4)	20 Secs (312 Secs) [=>104.0 Secs (Pattern 1)] [=>104.0 Secs (Pattern 2)] [=>104.0 Secs (Pattern 3)]	[1]
	4	F110W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F110W	NSAMP=8; SAMP-SEQ=SPAR S5	POS TARG null,10	Pattern 3, Exps 4-5 in Epoch 1 16geu (01) (3)	21.303576 Secs (63.911 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
	5	F160W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F160W	NSAMP=10; SAMP-SEQ=SPAR S25	POS TARG null,10	Pattern 3, Exps 4-5 in Epoch 1 16geu (01) (3)	207.144286 Secs (621.433 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]



Proposal 14862 - Epoch 2 16geu (02) - Resolving the multiple images of the strongly lensed SNla iPTF16geu

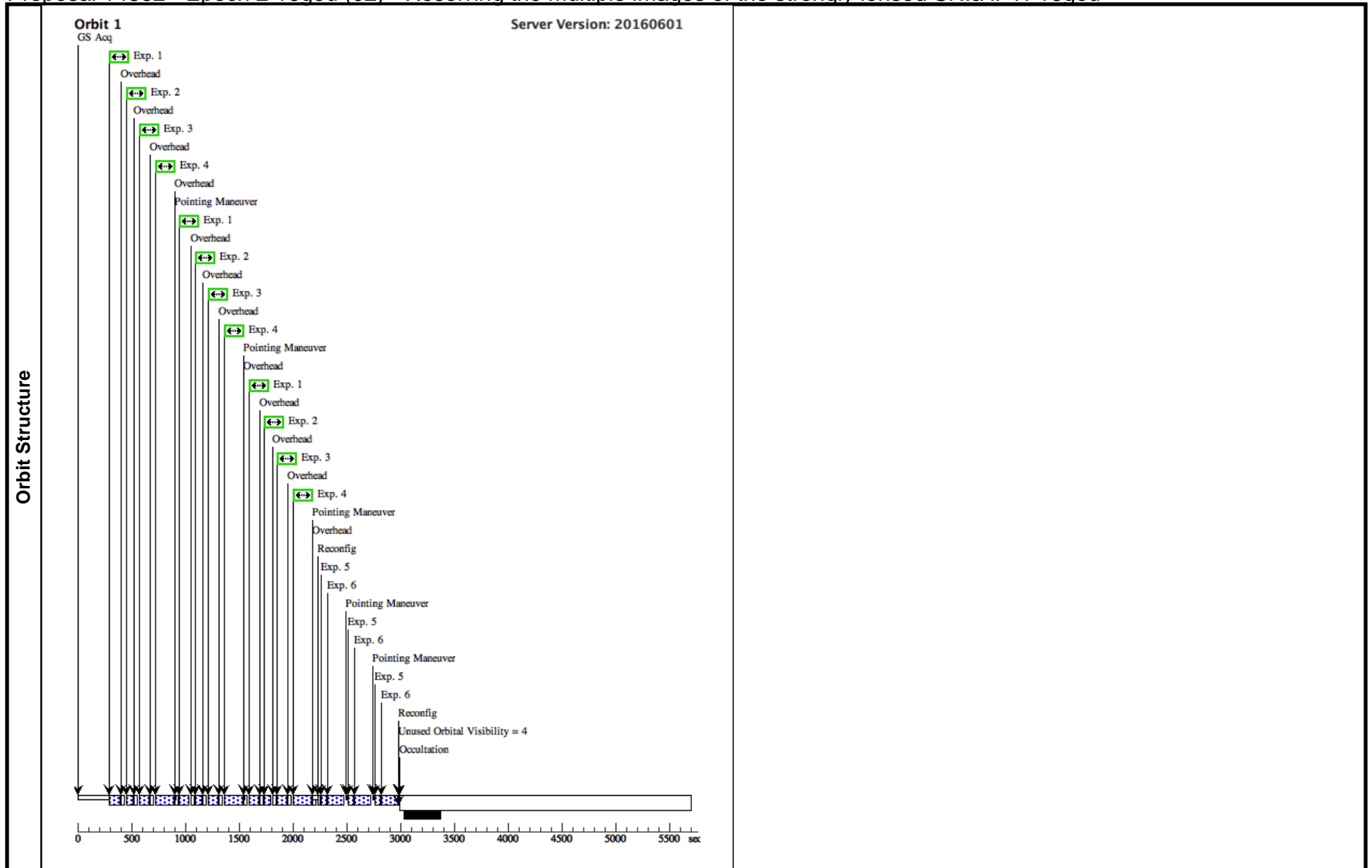
Wed Nov 09 17:34:36 GMT 2016

Visit	<b>Proposal 14862, Epoch 2 16geu (02), scheduled</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%; AFTER_01 BY 3 D TO 5 D					
	#	Primary Pattern	Secondary Pattern	Exposures		
Patterns	(3)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(5-6)		
	(4)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1-4)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	IPTF16GEU Alt Name1: SN2016GEU	RA: 21 04 15.8600 (316.0660833d) Dec: -06 20 24.50 (-6.34014d) Equinox: J2000		V=21	Reference Frame: ICRS

Proposal 14862 - Epoch 2 16geu (02) - Resolving the multiple images of the strongly lensed SNla iPTF16geu

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F625W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	FLASH=10	GS ACQ SCENARI O BASE1B3	Pattern 4, Exps 1-4 i n Epoch 2 16geu (02 ) (4)	13 Secs (198 Secs) [==>66.0 Secs (Pattern 1)] [==>66.0 Secs (Pattern 2)] [==>66.0 Secs (Pattern 3)]	[1]
	2	F814W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F814W	FLASH=11		Pattern 4, Exps 1-4 i n Epoch 2 16geu (02 ) (4)	20 Secs (114 Secs) [==>38.0 Secs (Pattern 1)] [==>38.0 Secs (Pattern 2)] [==>38.0 Secs (Pattern 3)]	[1]
	3	F475W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	FLASH=11		Pattern 4, Exps 1-4 i n Epoch 2 16geu (02 ) (4)	43 Secs (183 Secs) [==>61.0 Secs (Pattern 1)] [==>61.0 Secs (Pattern 2)] [==>61.0 Secs (Pattern 3)]	[1]
	4	F390W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F390W	FLASH=11		Pattern 4, Exps 1-4 i n Epoch 2 16geu (02 ) (4)	125 Secs (429 Secs) [==>143.0 Secs (Pattern 1)] [==>143.0 Secs (Pattern 2)] [==>143.0 Secs (Pattern 3)]	[1]
	5	F110W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F110W	NSAMP=8; SAMP-SEQ=SPAR S5	POS TARG null,10	Pattern 3, Exps 5-6 i n Epoch 2 16geu (02 ) (3)	21.303576 Secs (63.911 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	6	F160W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F160W	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,10	Pattern 3, Exps 5-6 i n Epoch 2 16geu (02 ) (3)	138.380533 Secs (415.142 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]

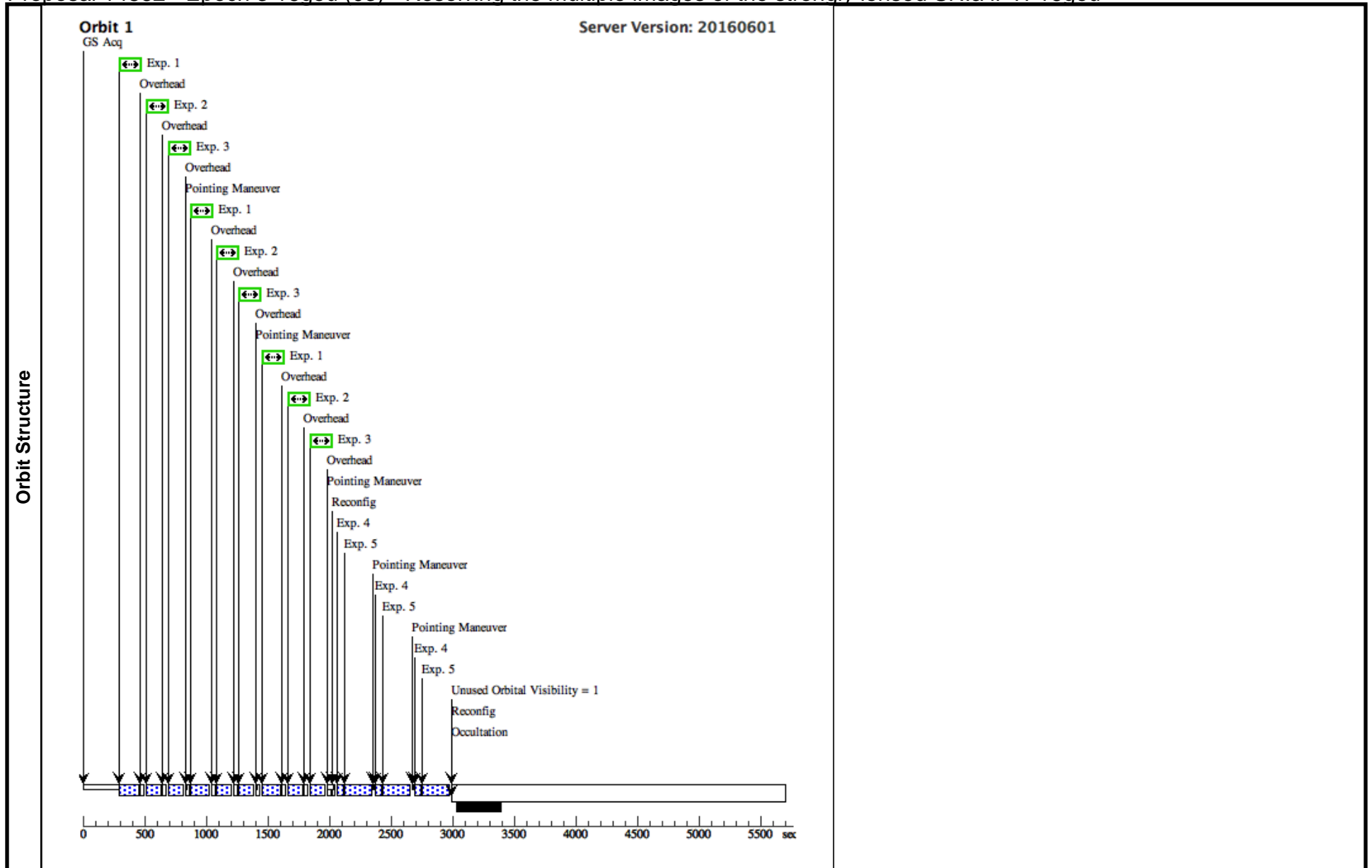
Proposal 14862 - Epoch 2 16geu (02) - Resolving the multiple images of the strongly lensed SNla iPTF16geu



Proposal 14862 - Epoch 3 16geu (03) - Resolving the multiple images of the strongly lensed SNIa iPTF16geu

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Visit	<b>Proposal 14862, Epoch 3 16geu (03), scheduled</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%; AFTER_01 BY 8 D TO 10 D									
	#	Primary Pattern	Secondary Pattern	Exposures						
Patterns	(3)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4-5)						
	(4)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1-3)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	IPTF16GEU Alt Name1: SN2016GEU	RA: 21 04 15.8600 (316.0660833d) Dec: -06 20 24.50 (-6.34014d) Equinox: J2000		V=21	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F475W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F475W	FLASH=9	GS ACQ SCENARI O BASE1B3	Pattern 4, Exps 1-3 in Epoch 3 16geu (03) (4)	42 Secs (378 Secs) [=>126.0 Secs (Pattern 1)] [=>126.0 Secs (Pattern 2)] [=>126.0 Secs (Pattern 3)]	[1]
	2	F625W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	FLASH=9		Pattern 4, Exps 1-3 in Epoch 3 16geu (03) (4)	13 Secs (291 Secs) [=>97.0 Secs (Pattern 1)] [=>97.0 Secs (Pattern 2)] [=>97.0 Secs (Pattern 3)]	[1]
	3	F814W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F814W	FLASH=9		Pattern 4, Exps 1-3 in Epoch 3 16geu (03) (4)	20 Secs (312 Secs) [=>104.0 Secs (Pattern 1)] [=>104.0 Secs (Pattern 2)] [=>104.0 Secs (Pattern 3)]	[1]
	4	F110W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F110W	NSAMP=8; SAMP-SEQ=SPAR S5	POS TARG null,10	Pattern 3, Exps 4-5 in Epoch 3 16geu (03) (3)	21.303576 Secs (63.911 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
	5	F160W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F160W	NSAMP=10; SAMP-SEQ=SPAR S25	POS TARG null,10	Pattern 3, Exps 4-5 in Epoch 3 16geu (03) (3)	207.144286 Secs (621.433 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]



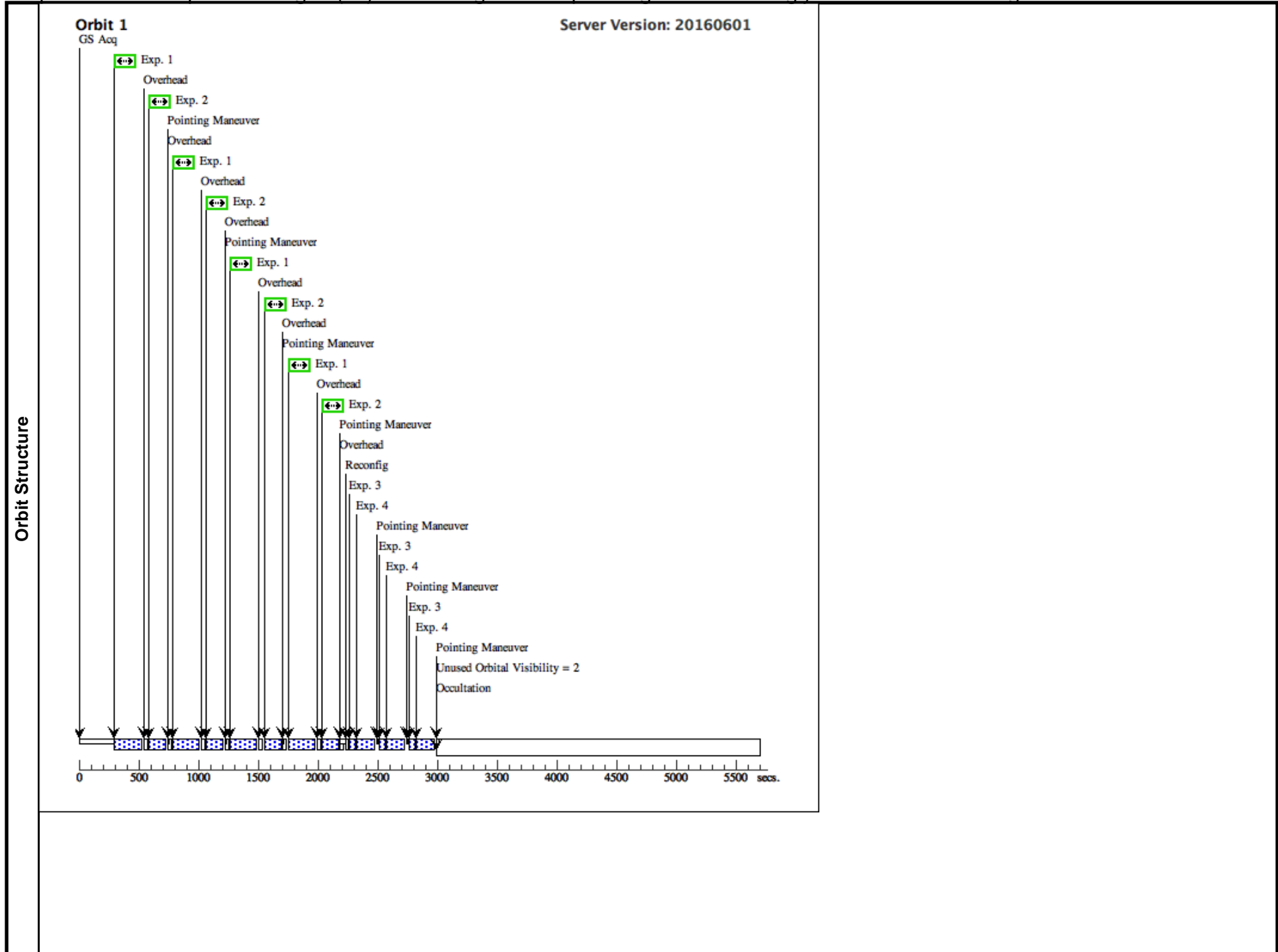
Proposal 14862 - Epoch 4A 16geu (04) - Resolving the multiple images of the strongly lensed SNIa iPTF16geu

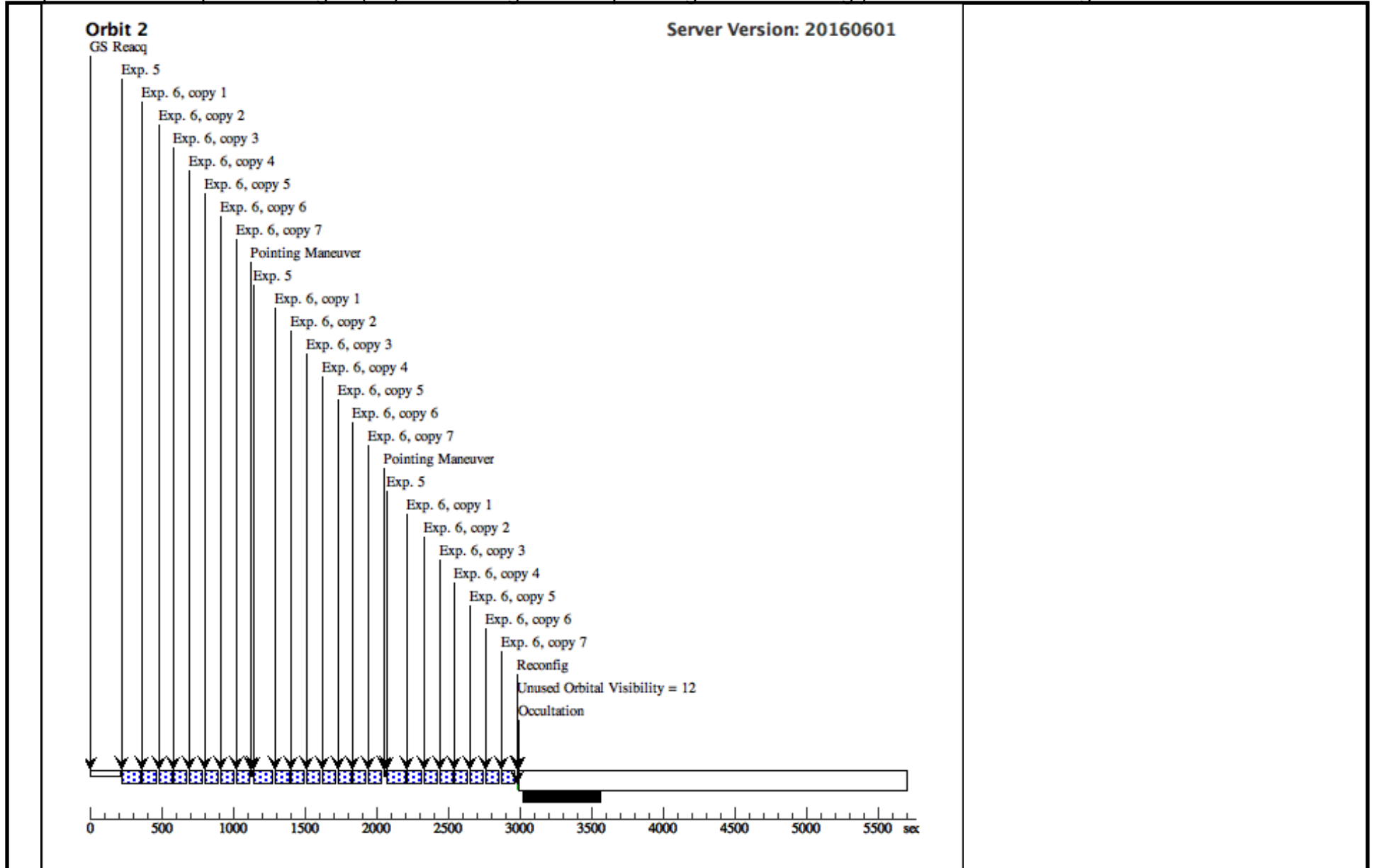
Wed Nov 09 17:34:36 GMT 2016

Visit	Proposal 14862, Epoch 4A 16geu (04)					
	Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 60D TO 100 D; ORIENT 50D TO 55 D; AFTER_01 BY 12 D TO 14 D					
Patterns	#	Primary Pattern	Secondary Pattern	Exposures		
	(3)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(3-4), (5-6)		
(5)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112 Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-2)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	IPTF16GEU Alt Name1: SN2016GEU	RA: 21 04 15.8600 (316.0660833d) Dec: -06 20 24.50 (-6.34014d) Equinox: J2000		V=21	Reference Frame: ICRS

Proposal 14862 - Epoch 4A 16geu (04) - Resolving the multiple images of the strongly lensed SNIa iPTF16geu

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
Exposures	1	F625W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	FLASH=8	GS ACQ SCENARI O BASE1B3	Pattern 5, Exps 1-2 i n Epoch 4A 16geu (0 4) (5)	201 Secs (804 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2	F814W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F814W	FLASH=10		Pattern 5, Exps 1-2 i n Epoch 4A 16geu (0 4) (5)	120 Secs (480 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	3	F110W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F110W	NSAMP=8; SAMP-SEQ=SPAR S5	POS TARG null,-20	Pattern 3, Exps 3-4 i n Epoch 4A 16geu (0 4) (3)	21.303576 Secs (63.911 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	4	F160W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F160W	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-20	Pattern 3, Exps 3-4 i n Epoch 4A 16geu (0 4) (3)	138.380533 Secs (415.142 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	5	Pre-imaging for GRISM	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, GRISM256	F105W	NSAMP=15; SAMP-SEQ=SPAR S10	POS TARG 13,null	Pattern 3, Exps 5-6 i n Epoch 4A 16geu (0 4) (3)	103.128633 Secs (309.386 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]
	6	GRISM	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, GRISM256	G102	NSAMP=5; SAMP-SEQ=SPAR S25	POS TARG 13,null	Pattern 3, Exps 5-6 i n Epoch 4A 16geu (0 4) (3)	89.661971 Secs X 7 (1882.901 Secs) [==>(Pattern 1, Copy 1)] [==>(Pattern 1, Copy 2)] [==>(Pattern 1, Copy 3)] [==>(Pattern 1, Copy 4)] [==>(Pattern 1, Copy 5)] [==>(Pattern 1, Copy 6)] [==>(Pattern 1, Copy 7)] [==>(Pattern 2, Copy 1)] [==>(Pattern 2, Copy 2)] [==>(Pattern 2, Copy 3)] [==>(Pattern 2, Copy 4)] [==>(Pattern 2, Copy 5)] [==>(Pattern 2, Copy 6)] [==>(Pattern 2, Copy 7)] [==>(Pattern 3, Copy 1)] [==>(Pattern 3, Copy 2)] [==>(Pattern 3, Copy 3)] [==>(Pattern 3, Copy 4)] [==>(Pattern 3, Copy 5)] [==>(Pattern 3, Copy 6)] [==>(Pattern 3, Copy 7)]	[2]

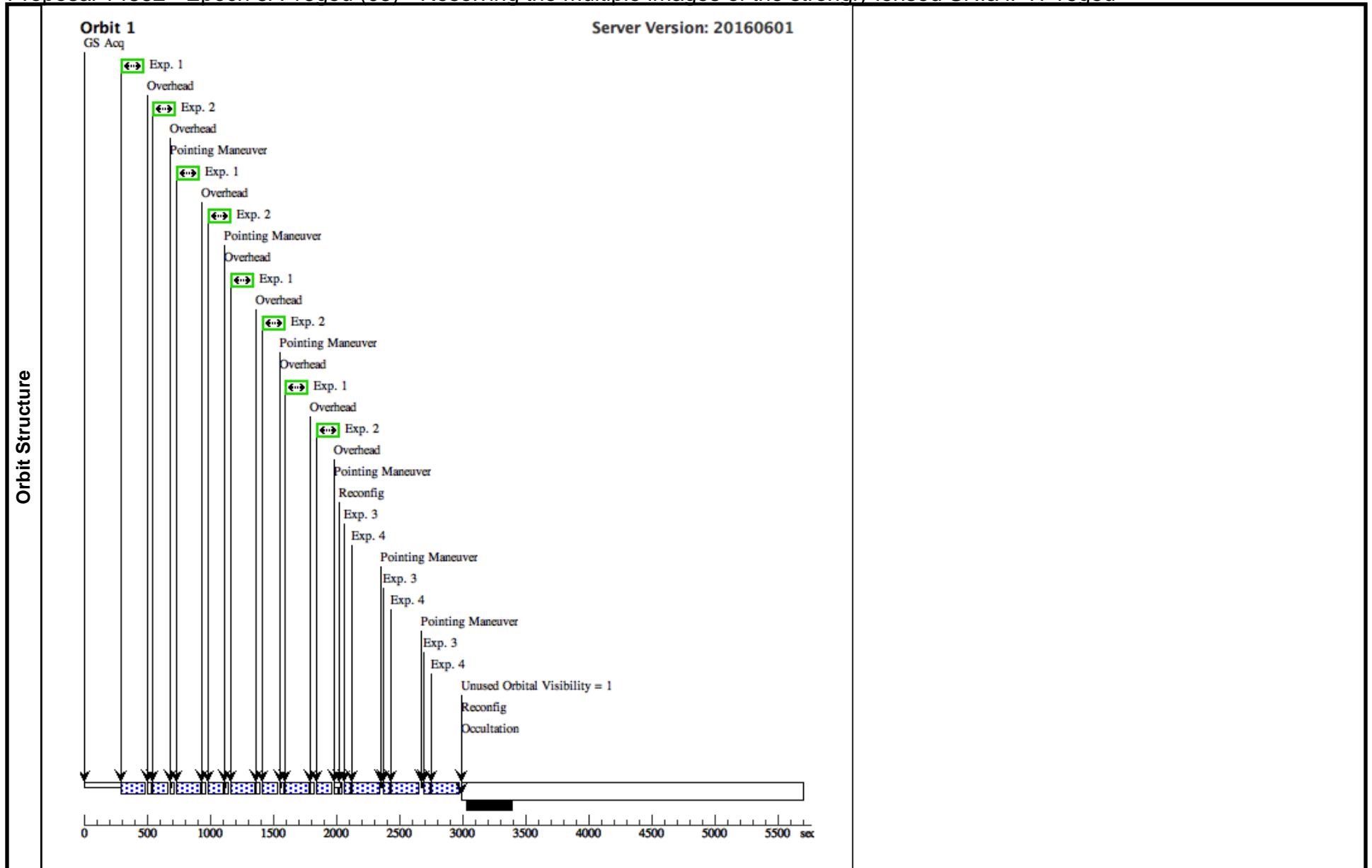




Proposal 14862 - Epoch 5A 16geu (05) - Resolving the multiple images of the strongly lensed SNIa iPTF16geu

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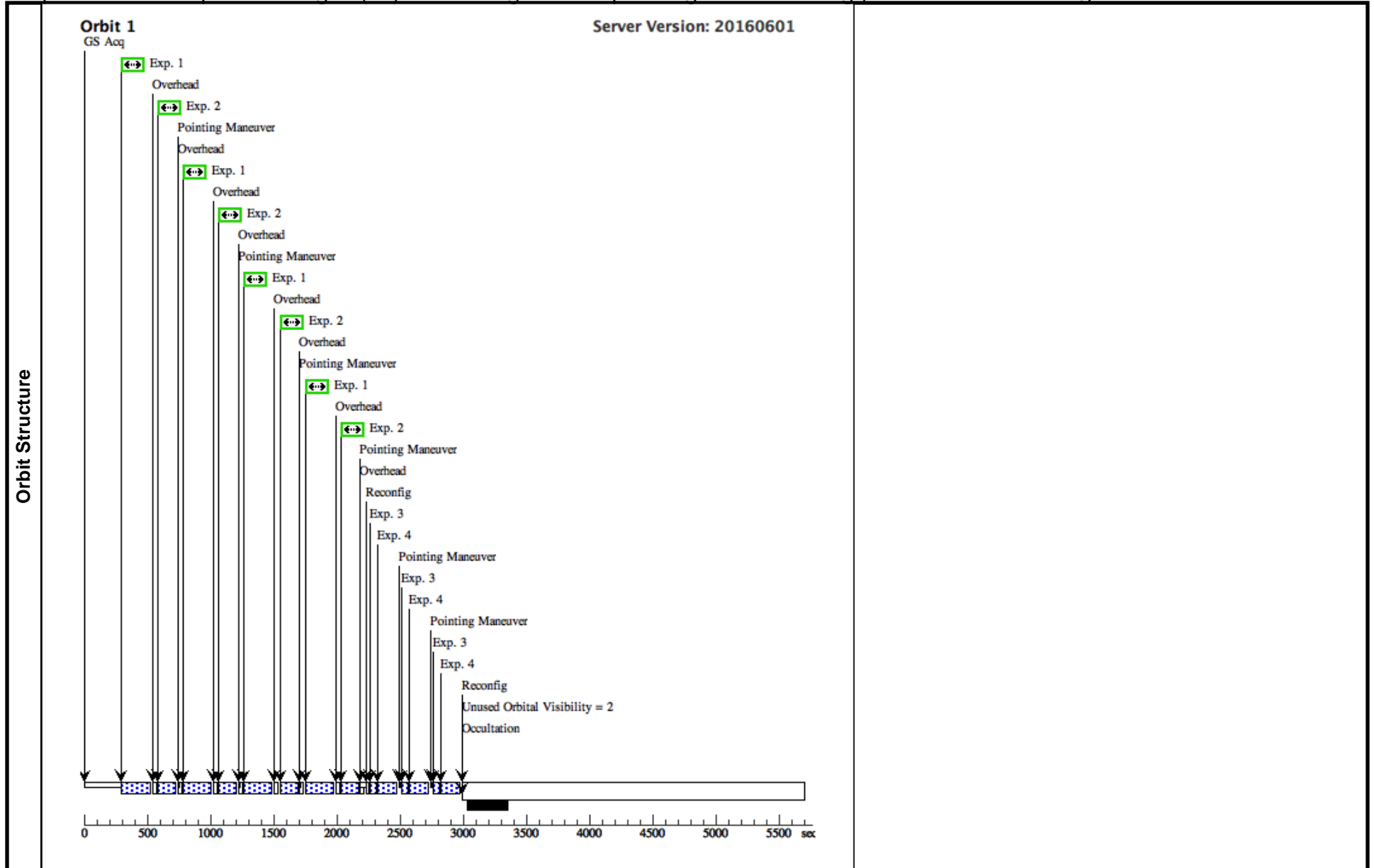
Visit	<b>Proposal 14862, Epoch 5A 16geu (05)</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 60D TO 100 D; ORIENT 50D TO 55 D; AFTER 01 BY 16 D TO 18 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(3)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(3-4)				
	(5)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	IPTF16GEU Alt Name1: SN2016GEU	RA: 21 04 15.8600 (316.0660833d) Dec: -06 20 24.50 (-6.34014d) Equinox: J2000		V=21	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F625W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	FLASH=8	GS ACQ SCENARI O BASE1B3	Pattern 5, Exps 1-2 in Epoch 5A 16geu (05) (5)	161 Secs (644 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	2	F814W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F814W	FLASH=10		Pattern 5, Exps 1-2 in Epoch 5A 16geu (05) (5)	105 Secs (420 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	3	F110W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F110W	NSAMP=8; SAMP-SEQ=SPAR S5	POS TARG null,-20	Pattern 3, Exps 3-4 in Epoch 5A 16geu (05) (3)	21.303576 Secs (63.911 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
4	F160W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F160W	NSAMP=10; SAMP-SEQ=SPAR S25	POS TARG null,-20	Pattern 3, Exps 3-4 in Epoch 5A 16geu (05) (3)	207.144286 Secs (621.433 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]	



Proposal 14862 - Epoch 6A 16geu (06) - Resolving the multiple images of the strongly lensed SNIa iPTF16geu

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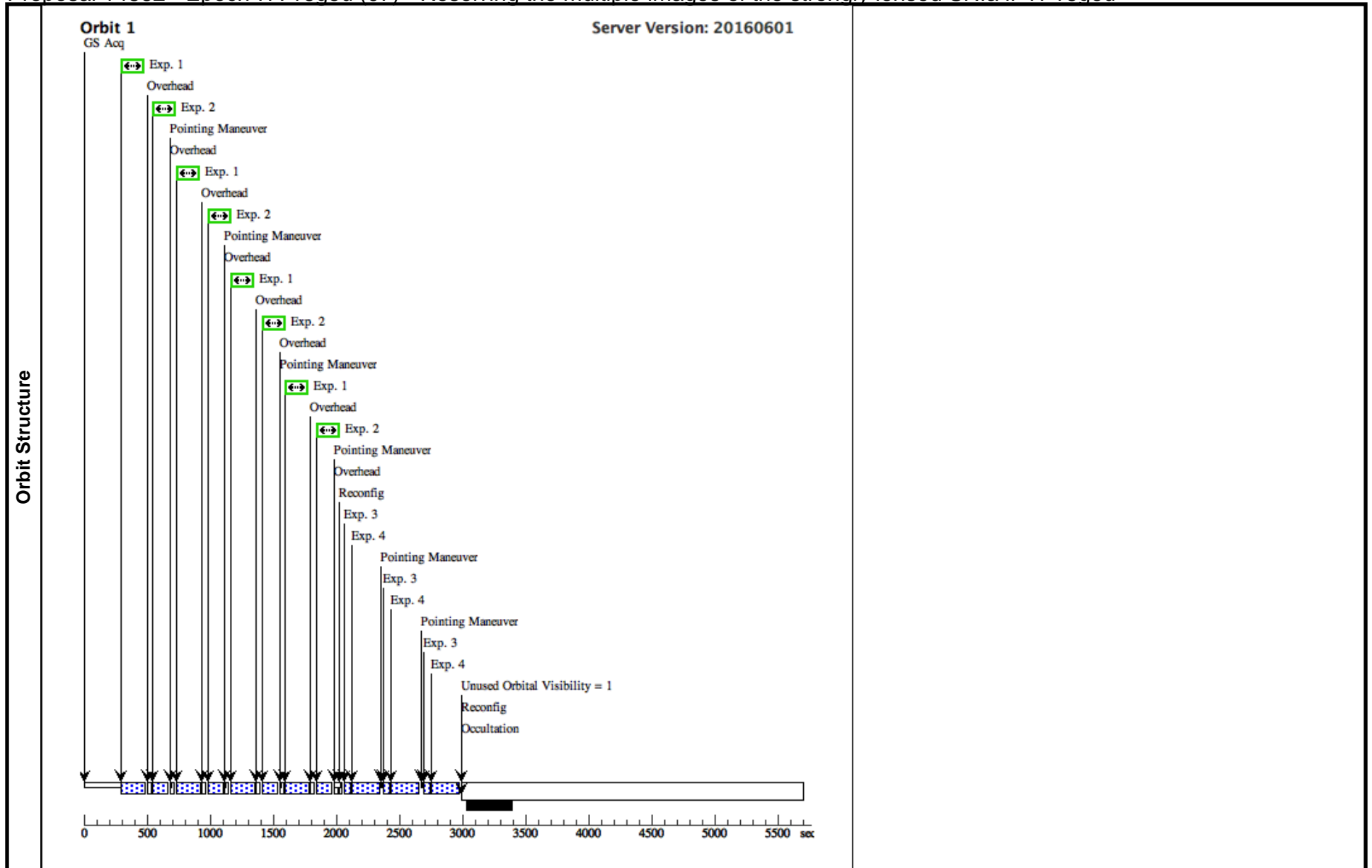
Visit		<b>Proposal 14862, Epoch 6A 16geu (06)</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 60D TO 100 D; ORIENT 50D TO 55 D; AFTER 01 BY 20 D TO 22 D								
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(3)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false			(3-4)				
(5)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false			(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	IPTF16GEU Alt Name1: SN2016GEU	RA: 21 04 15.8600 (316.0660833d) Dec: -06 20 24.50 (-6.34014d) Equinox: J2000		V=21	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F625W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	FLASH=8	GS ACQ SCENARI O BASE1B3	Pattern 5, Exps 1-2 in Epoch 6A 16geu (06) (5)	201 Secs (804 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	2	F814W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F814W	FLASH=10		Pattern 5, Exps 1-2 in Epoch 6A 16geu (06) (5)	120 Secs (480 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	3	F110W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F110W	NSAMP=8; SAMP-SEQ=SPAR S5	POS TARG null,-20	Pattern 3, Exps 3-4 in Epoch 6A 16geu (06) (3)	21.303576 Secs (63.911 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
4	F160W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F160W	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-20	Pattern 3, Exps 3-4 in Epoch 6A 16geu (06) (3)	138.380533 Secs (415.142 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]	



Proposal 14862 - Epoch 7A 16geu (07) - Resolving the multiple images of the strongly lensed SNIa iPTF16geu

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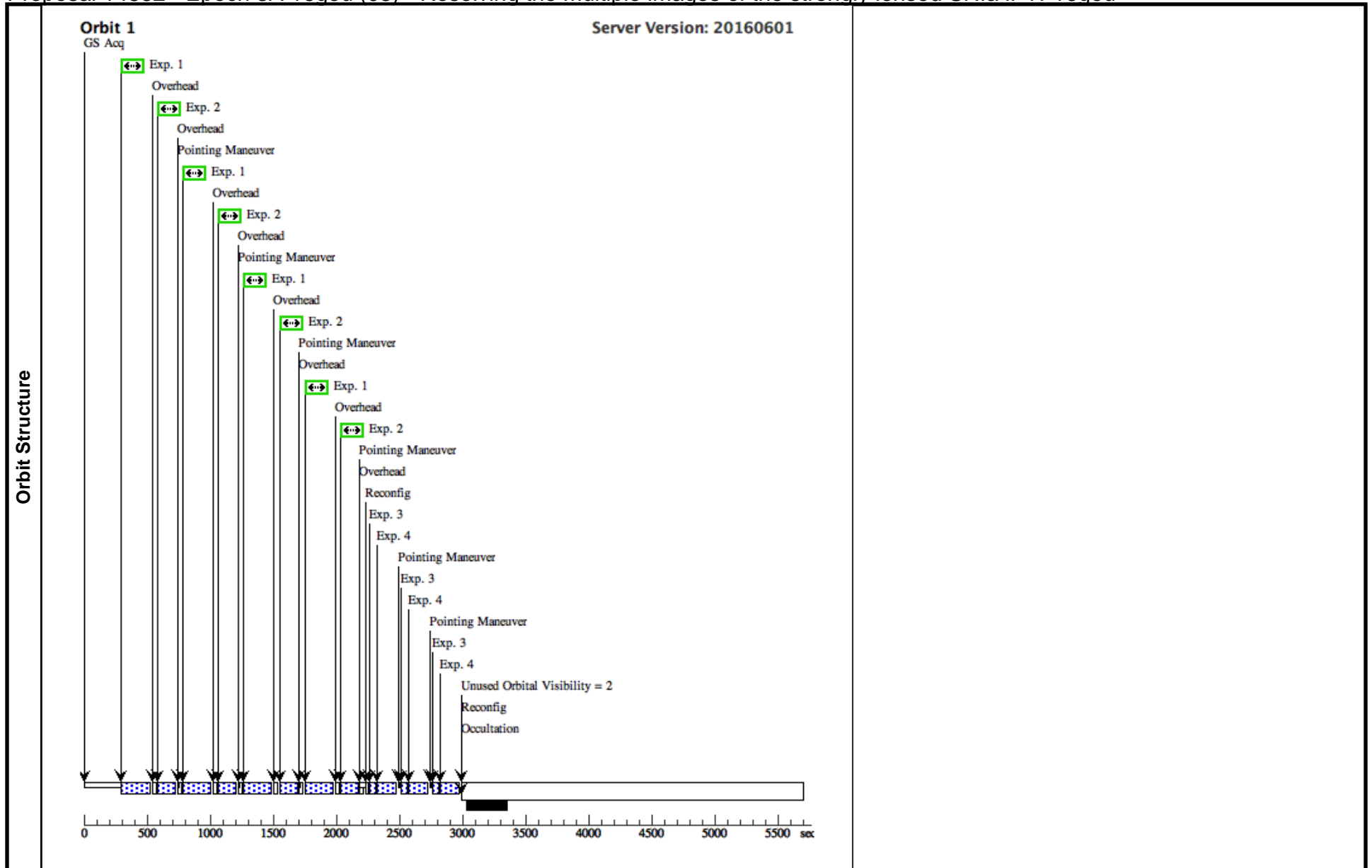
Visit	<b>Proposal 14862, Epoch 7A 16geu (07)</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 60D TO 100 D; ORIENT 50D TO 55 D; AFTER 01 BY 24 D TO 26 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
(3)		Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(3-4)					
(5)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	IPTF16GEU Alt Name1: SN2016GEU	RA: 21 04 15.8600 (316.0660833d) Dec: -06 20 24.50 (-6.34014d) Equinox: J2000		V=21	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F625W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	FLASH=8	GS ACQ SCENARI O BASE1B3	Pattern 5, Exps 1-2 in Epoch 7A 16geu (07) (5)	161 Secs (644 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	2	F814W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F814W	FLASH=10		Pattern 5, Exps 1-2 in Epoch 7A 16geu (07) (5)	105 Secs (420 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	3	F110W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F110W	NSAMP=8; SAMP-SEQ=SPAR S5	POS TARG null,-20	Pattern 3, Exps 3-4 in Epoch 7A 16geu (07) (3)	21.303576 Secs (63.911 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
	4	F160W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F160W	NSAMP=10; SAMP-SEQ=SPAR S25	POS TARG null,-20	Pattern 3, Exps 3-4 in Epoch 7A 16geu (07) (3)	207.144286 Secs (621.433 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]



Proposal 14862 - Epoch 8A 16geu (08) - Resolving the multiple images of the strongly lensed SNIa IPTF16geu

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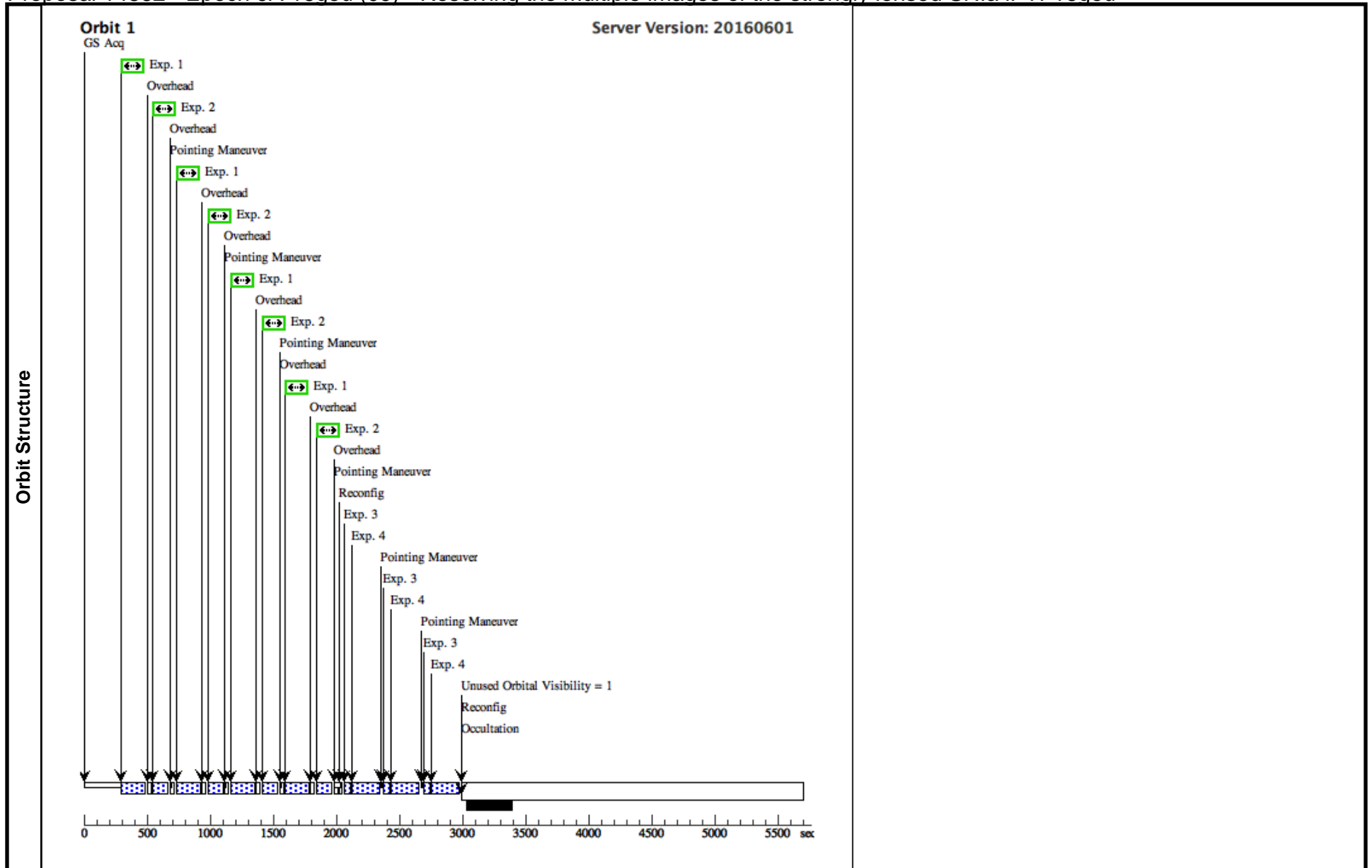
Visit	<b>Proposal 14862, Epoch 8A 16geu (08)</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 60D TO 100 D; ORIENT 50D TO 55 D; AFTER 01 BY 28 D TO 30 D									
	Patterns	#	Primary Pattern		Secondary Pattern	Exposures				
(3)		Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(3-4)					
(5)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	IPTF16GEU Alt Name1: SN2016GEU	RA: 21 04 15.8600 (316.0660833d) Dec: -06 20 24.50 (-6.34014d) Equinox: J2000		V=21	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F625W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	FLASH=8	GS ACQ SCENARI O BASE1B3	Pattern 5, Exps 1-2 in Epoch 8A 16geu (08) (5)	201 Secs (804 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	2	F814W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F814W	FLASH=10		Pattern 5, Exps 1-2 in Epoch 8A 16geu (08) (5)	120 Secs (480 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	3	F110W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F110W	NSAMP=8; SAMP-SEQ=SPAR S5	POS TARG null,-20	Pattern 3, Exps 3-4 in Epoch 8A 16geu (08) (3)	21.303576 Secs (63.911 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
	4	F160W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F160W	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-20	Pattern 3, Exps 3-4 in Epoch 8A 16geu (08) (3)	138.380533 Secs (415.142 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]



Proposal 14862 - Epoch 9A 16geu (09) - Resolving the multiple images of the strongly lensed SNIa iPTF16geu

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Visit	<b>Proposal 14862, Epoch 9A 16geu (09)</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 60D TO 100 D; ORIENT 50D TO 55 D; AFTER 01 BY 32 D TO 34 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(3)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(3-4)				
	(5)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	IPTF16GEU Alt Name1: SN2016GEU	RA: 21 04 15.8600 (316.0660833d) Dec: -06 20 24.50 (-6.34014d) Equinox: J2000		V=21	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F625W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	FLASH=8	GS ACQ SCENARI O BASE1B3	Pattern 5, Exps 1-2 in Epoch 9A 16geu (09) (5)	161 Secs (644 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	2	F814W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F814W	FLASH=10		Pattern 5, Exps 1-2 in Epoch 9A 16geu (09) (5)	105 Secs (420 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	3	F110W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F110W	NSAMP=8; SAMP-SEQ=SPAR S5	POS TARG null,-20	Pattern 3, Exps 3-4 in Epoch 9A 16geu (09) (3)	21.303576 Secs (63.911 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
4	F160W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F160W	NSAMP=10; SAMP-SEQ=SPAR S25	POS TARG null,-20	Pattern 3, Exps 3-4 in Epoch 9A 16geu (09) (3)	207.144286 Secs (621.433 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]	



Proposal 14862 - Epoch 10A 16geu (10) - Resolving the multiple images of the strongly lensed SNIa iPTF16geu

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Visit	<b>Proposal 14862, Epoch 10A 16geu (10)</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 60D TO 100 D; ORIENT 50D TO 55 D; AFTER 01 BY 36 D TO 38 D									
	Patterns	#	Primary Pattern		Secondary Pattern	Exposures				
(3)		Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(3-4)					
(5)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	IPTF16GEU Alt Name1: SN2016GEU	RA: 21 04 15.8600 (316.0660833d) Dec: -06 20 24.50 (-6.34014d) Equinox: J2000		V=21	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	F625W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F625W	FLASH=8	GS ACQ SCENARI O BASE1B3	Pattern 5, Exps 1-2 in Epoch 10A 16geu (10) (5)	201 Secs (804 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	2	F814W	(1) IPTF16GEU	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F814W	FLASH=10		Pattern 5, Exps 1-2 in Epoch 10A 16geu (10) (5)	120 Secs (480 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	3	F110W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F110W	NSAMP=8; SAMP-SEQ=SPAR S5	POS TARG null,-20	Pattern 3, Exps 3-4 in Epoch 10A 16geu (10) (3)	21.303576 Secs (63.911 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
	4	F160W	(1) IPTF16GEU	WFC3/IR, MULTIACCUM, IRSUB512	F160W	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG null,-20	Pattern 3, Exps 3-4 in Epoch 10A 16geu (10) (3)	138.380533 Secs (415.142 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]

