



## 11329 - The Final SHOE; Completing a Rich Cepheid Field in NGC 1309

Cycle: 16, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

### INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
<b>Dr. Adam Riess (PI)</b>	<b>The Johns Hopkins University</b>	<b>ariess@pha.jhu.edu</b>
Dr. Lucas M. Macri (CoI)	National Optical Astronomy Observatories, AURA	lmacri@noao.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) NGC-1309	NIC2	1	04-Sep-2007 21:41:06.0	yes
02	(1) NGC-1309	NIC2	1	04-Sep-2007 21:41:11.0	yes
03	(1) NGC-1309	NIC2	1	04-Sep-2007 21:41:14.0	yes
04	(1) NGC-1309	NIC2	1	04-Sep-2007 21:41:17.0	yes
05	(1) NGC-1309	NIC2	1	04-Sep-2007 21:41:20.0	yes

5 Total Orbits Used

### ABSTRACT

The Cycle 15 SHOES program (GO 10802) is a large HST program allocated 186 orbits to rebuild the distance ladder using NGC 4258 as a new anchor, a set of 6 recent, ideal type Ia supernovae and Cepheids in their hosts, and NICMOS as a single, homogeneous photometer of long period Cepheids. These tools provide the means to achieve a 4% measurement of the Hubble constant, an invaluable constraint for cosmic concordance fits to dark energy models. Unfortunately, the SHOES NICMOS integrations of long period Cepheids in the last and most recent nearby type Ia

supernova host, NGC 1309, are too short because the preliminary estimate of its distance, 30 Mpc, was too low. Our refined estimate now based on the full reduction of both our Cycle 14 and 15 ACS data is 36 Mpc, or 0.4 mag farther. Fortunately, Nature was extremely kind providing a single rich NIC2 field in which we can fully make up for the shortfall due to its abundance of Cepheids. We are expensing our final 4 orbits on this field of a dozen  $P > 30$  day Cepheids and seek an additional 5 orbits to reach the depth for measuring the mean F160W magnitudes of the long-period Cepheids with the necessary signal-to-noise ratios of better than 10.

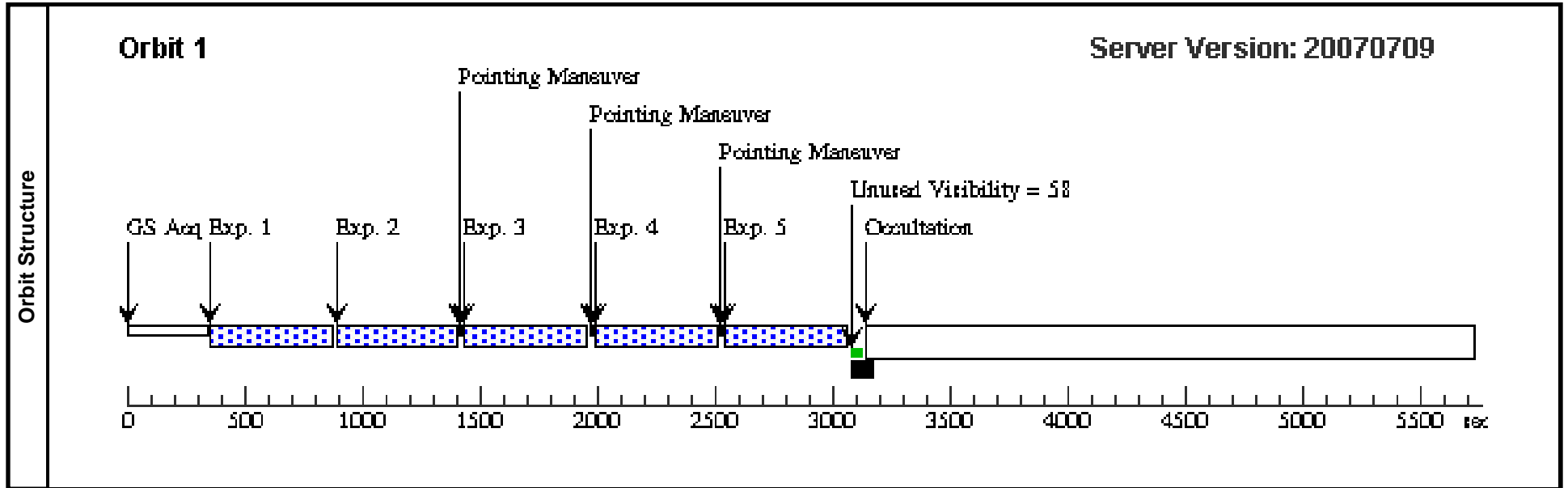
### **OBSERVING DESCRIPTION**

As per our Cycle 15 program, 5 orbits of NIC2 F160W on the target field NGC1309 yellow in F160W.

Proposal 11329 - Visit 01 - The Final SHOE; Completing a Rich Cepheid Field in NGC 1309

Wed Sep 05 01:41:23 GMT 2007

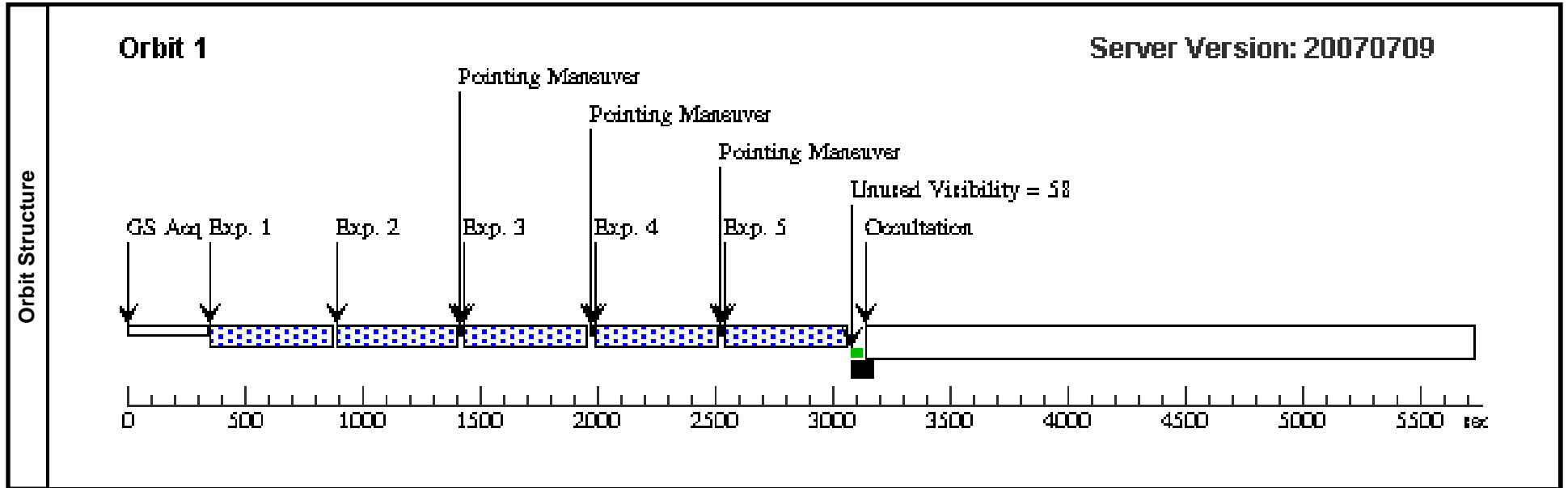
Visit	<b>Proposal 11329, Visit 01, completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: NIC2 Special Requirements: ORIENT 255.0D TO 255.0 D; BETWEEN 20-AUG-2007:00:00:00 AND 22-AUG-2007:00:00:00 Comments: PLEASE try to SCHEDULE in SAA free orbits, please try to schedule this visit in the MIDDLE of the BETWEEN window as possible																		
	Fixed Targets	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>NGC-1309</td> <td>RA: 03 22 7.0400 (50.5293333d) Dec: -15 24 26.80 (-15.40744d) Equinox: J2000</td> <td></td> <td>V=23.0</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6">Comments: This object was generated by the targetselector and retrieved from the NED database.This object was generated by the targetselector and retrieved from the NED database.</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	NGC-1309	RA: 03 22 7.0400 (50.5293333d) Dec: -15 24 26.80 (-15.40744d) Equinox: J2000		V=23.0	Reference Frame: ICRS	Comments: This object was generated by the targetselector and retrieved from the NED database.This object was generated by the targetselector and retrieved from the NED database.				
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous														
(1)	NGC-1309	RA: 03 22 7.0400 (50.5293333d) Dec: -15 24 26.80 (-15.40744d) Equinox: J2000		V=23.0	Reference Frame: ICRS														
Comments: This object was generated by the targetselector and retrieved from the NED database.This object was generated by the targetselector and retrieved from the NED database.																			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit									
	1		(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	GS ACQ SCENARI O BASE1TNS		[==>]	[1]									
	2		(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64			[==>]	[1]									
	3		(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.1177,0 .3805		[==>]	[1]									
	4		(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.338,0 0377		[==>]	[1]									
	5		(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.3835,0 .4182		[==>]	[1]									



Proposal 11329 - Visit 02 - The Final SHOE; Completing a Rich Cepheid Field in NGC 1309

Wed Sep 05 01:41:25 GMT 2007

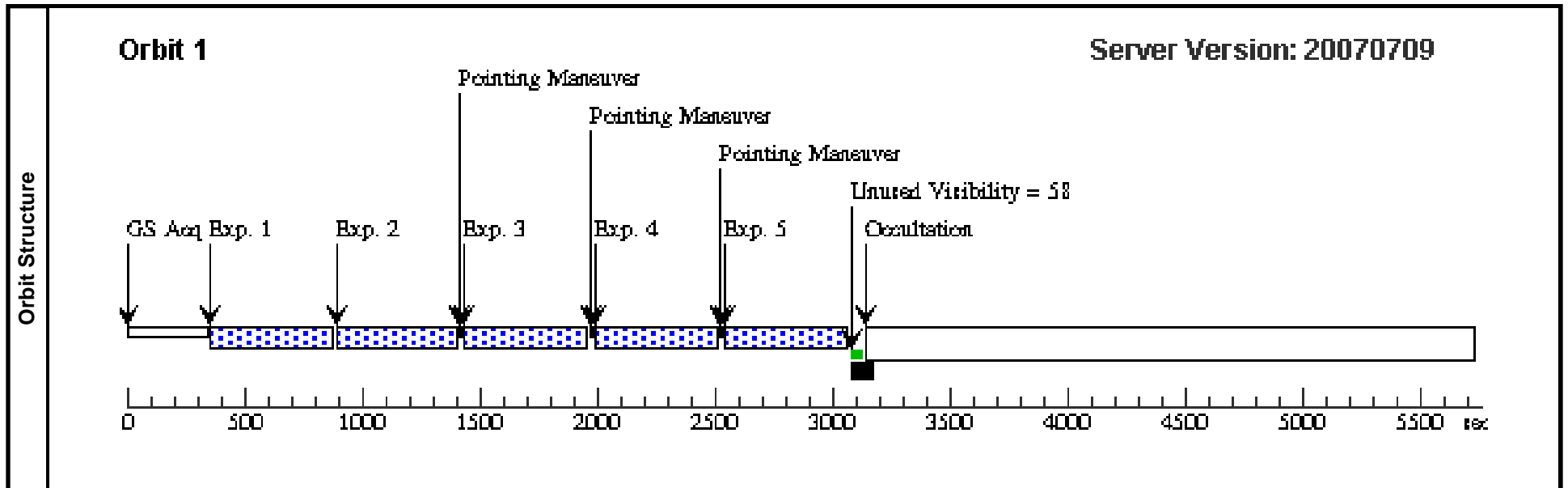
Visit	<b>Proposal 11329, Visit 02, completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: NIC2 Special Requirements: ORIENT 255.0D TO 255.0 D; BETWEEN 25-AUG-2007:00:00:00 AND 27-AUG-2007:00:00:00 Comments: PLEASE try to SCHEDULE in SAA free orbits, please try to schedule this visit in the MIDDLE of the BETWEEN window as possible																																																												
	Fixed Targets	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>NGC-1309</td> <td>RA: 03 22 7.0400 (50.5293333d) Dec: -15 24 26.80 (-15.40744d) Equinox: J2000</td> <td></td> <td>V=23.0</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6">Comments: This object was generated by the targetselector and retrieved from the NED database.This object was generated by the targetselector and retrieved from the NED database.</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	NGC-1309	RA: 03 22 7.0400 (50.5293333d) Dec: -15 24 26.80 (-15.40744d) Equinox: J2000		V=23.0	Reference Frame: ICRS	Comments: This object was generated by the targetselector and retrieved from the NED database.This object was generated by the targetselector and retrieved from the NED database.																																														
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																																																								
(1)	NGC-1309	RA: 03 22 7.0400 (50.5293333d) Dec: -15 24 26.80 (-15.40744d) Equinox: J2000		V=23.0	Reference Frame: ICRS																																																								
Comments: This object was generated by the targetselector and retrieved from the NED database.This object was generated by the targetselector and retrieved from the NED database.																																																													
Exposures	<table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1) NGC-1309</td> <td>(1) NGC-1309</td> <td>NIC2, MULTIACCUM, NIC2-FIX</td> <td>F160W</td> <td>NSAMP=10; SAMP-SEQ=SPAR S64</td> <td>GS ACQ SCENARI O BASE1TNS</td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>(1) NGC-1309</td> <td>(1) NGC-1309</td> <td>NIC2, MULTIACCUM, NIC2-FIX</td> <td>F160W</td> <td>NSAMP=10; SAMP-SEQ=SPAR S64</td> <td></td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>3</td> <td>(1) NGC-1309</td> <td>(1) NGC-1309</td> <td>NIC2, MULTIACCUM, NIC2-FIX</td> <td>F160W</td> <td>NSAMP=10; SAMP-SEQ=SPAR S64</td> <td>POS TARG 0.1177,0 .3805</td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>4</td> <td>(1) NGC-1309</td> <td>(1) NGC-1309</td> <td>NIC2, MULTIACCUM, NIC2-FIX</td> <td>F160W</td> <td>NSAMP=10; SAMP-SEQ=SPAR S64</td> <td>POS TARG 0.338,0 0377</td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>5</td> <td>(1) NGC-1309</td> <td>(1) NGC-1309</td> <td>NIC2, MULTIACCUM, NIC2-FIX</td> <td>F160W</td> <td>NSAMP=10; SAMP-SEQ=SPAR S64</td> <td>POS TARG 0.3835,0 .4182</td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> </tbody> </table>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	1	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	GS ACQ SCENARI O BASE1TNS		[==>]	[1]	2	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64			[==>]	[1]	3	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.1177,0 .3805		[==>]	[1]	4	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.338,0 0377		[==>]	[1]	5	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.3835,0 .4182		[==>]	[1]
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit																																																			
	1	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	GS ACQ SCENARI O BASE1TNS		[==>]	[1]																																																			
	2	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64			[==>]	[1]																																																			
	3	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.1177,0 .3805		[==>]	[1]																																																			
	4	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.338,0 0377		[==>]	[1]																																																			
5	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.3835,0 .4182		[==>]	[1]																																																				



Proposal 11329 - Visit 03 - The Final SHOE; Completing a Rich Cepheid Field in NGC 1309

Wed Sep 05 01:41:25 GMT 2007

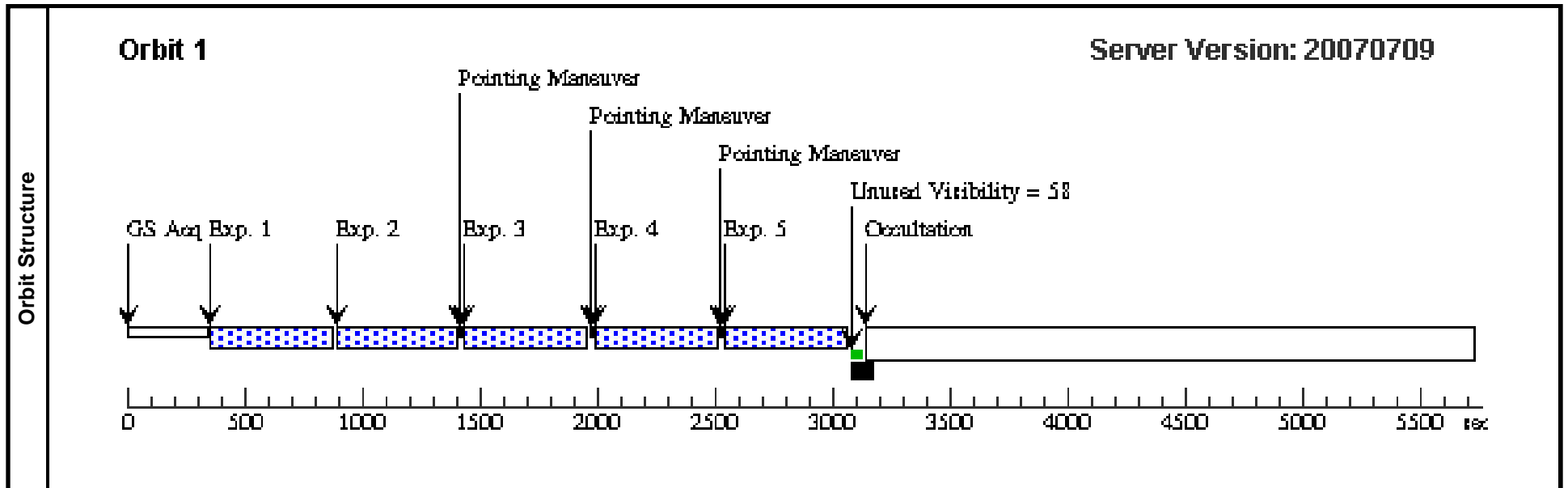
Visit	<b>Proposal 11329, Visit 03, completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: NIC2 Special Requirements: ORIENT 255.0D TO 255.0 D; BETWEEN 30-AUG-2007:00:00:00 AND 01-SEP-2007:00:00:00 Comments: PLEASE try to SCHEDULE in SAA free orbits, please try to schedule this visit in the MIDDLE of the BETWEEN window as possible																																																												
	Fixed Targets	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>NGC-1309</td> <td>RA: 03 22 7.0400 (50.5293333d) Dec: -15 24 26.80 (-15.40744d) Equinox: J2000</td> <td></td> <td>V=23.0</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6">Comments: This object was generated by the targetselector and retrieved from the NED database.This object was generated by the targetselector and retrieved from the NED database.</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	NGC-1309	RA: 03 22 7.0400 (50.5293333d) Dec: -15 24 26.80 (-15.40744d) Equinox: J2000		V=23.0	Reference Frame: ICRS	Comments: This object was generated by the targetselector and retrieved from the NED database.This object was generated by the targetselector and retrieved from the NED database.																																														
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous																																																								
(1)	NGC-1309	RA: 03 22 7.0400 (50.5293333d) Dec: -15 24 26.80 (-15.40744d) Equinox: J2000		V=23.0	Reference Frame: ICRS																																																								
Comments: This object was generated by the targetselector and retrieved from the NED database.This object was generated by the targetselector and retrieved from the NED database.																																																													
Exposures	<table border="1"> <thead> <tr> <th>#</th> <th>Label</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>(1) NGC-1309</td> <td>(1) NGC-1309</td> <td>NIC2, MULTIACCUM, NIC2-FIX</td> <td>F160W</td> <td>NSAMP=10; SAMP-SEQ=SPAR S64</td> <td>GS ACQ SCENARI O BASE1TNS</td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>(1) NGC-1309</td> <td>(1) NGC-1309</td> <td>NIC2, MULTIACCUM, NIC2-FIX</td> <td>F160W</td> <td>NSAMP=10; SAMP-SEQ=SPAR S64</td> <td></td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>3</td> <td>(1) NGC-1309</td> <td>(1) NGC-1309</td> <td>NIC2, MULTIACCUM, NIC2-FIX</td> <td>F160W</td> <td>NSAMP=10; SAMP-SEQ=SPAR S64</td> <td>POS TARG 0.1177,0 .3805</td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>4</td> <td>(1) NGC-1309</td> <td>(1) NGC-1309</td> <td>NIC2, MULTIACCUM, NIC2-FIX</td> <td>F160W</td> <td>NSAMP=10; SAMP-SEQ=SPAR S64</td> <td>POS TARG 0.338,0 0377</td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>5</td> <td>(1) NGC-1309</td> <td>(1) NGC-1309</td> <td>NIC2, MULTIACCUM, NIC2-FIX</td> <td>F160W</td> <td>NSAMP=10; SAMP-SEQ=SPAR S64</td> <td>POS TARG 0.3835,0 .4182</td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> </tbody> </table>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	1	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	GS ACQ SCENARI O BASE1TNS		[==>]	[1]	2	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64			[==>]	[1]	3	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.1177,0 .3805		[==>]	[1]	4	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.338,0 0377		[==>]	[1]	5	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.3835,0 .4182		[==>]	[1]
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit																																																			
	1	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	GS ACQ SCENARI O BASE1TNS		[==>]	[1]																																																			
	2	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64			[==>]	[1]																																																			
	3	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.1177,0 .3805		[==>]	[1]																																																			
	4	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.338,0 0377		[==>]	[1]																																																			
5	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.3835,0 .4182		[==>]	[1]																																																				



Proposal 11329 - Visit 04 - The Final SHOE; Completing a Rich Cepheid Field in NGC 1309

Wed Sep 05 01:41:26 GMT 2007

Visit	<b>Proposal 11329, Visit 04, scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: NIC2 Special Requirements: ORIENT 255.0D TO 265.0 D Comments: PLEASE try to SCHEDULE in SAA free orbits, please try to schedule this visit in the MIDDLE of the BETWEEN window as possible									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	NGC-1309	RA: 03 22 7.0400 (50.5293333d) Dec: -15 24 26.80 (-15.40744d) Equinox: J2000		V=23.0	Reference Frame: ICRS	Comments: This object was generated by the targetselector and retrieved from the NED database.This object was generated by the targetselector and retrieved from the NED database.			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	GS ACQ SCENARI O BASE1TNS		[==>]	[1]
	2	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64			[==>]	[1]
	3	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.1177,0 .3805		[==>]	[1]
	4	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.338,0 0377		[==>]	[1]
	5	(1) NGC-1309	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.3835,0 .4182		[==>]	[1]



Proposal 11329 - Visit 05 - The Final SHOE; Completing a Rich Cepheid Field in NGC 1309

Wed Sep 05 01:41:26 GMT 2007

Visit	<b>Proposal 11329, Visit 05, scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: NIC2 Special Requirements: ORIENT 255.0D TO 265.0 D Comments: PLEASE try to SCHEDULE in SAA free orbits, please try to schedule this visit in the MIDDLE of the BETWEEN window as possible									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	NGC-1309	RA: 03 22 7.0400 (50.5293333d) Dec: -15 24 26.80 (-15.40744d) Equinox: J2000		V=23.0	Reference Frame: ICRS	Comments: This object was generated by the targetselector and retrieved from the NED database.This object was generated by the targetselector and retrieved from the NED database.			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	GS ACQ SCENARI O BASE1TNS	[==>]	[1]		
	2	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64		[==>]	[1]		
	3	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.1177,0 .3805	[==>]	[1]		
	4	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.338,0 0377	[==>]	[1]		
	5	(1) NGC-1309	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S64	POS TARG 0.3835,0 .4182	[==>]	[1]		

