11182 - The Mass of the Milky Way: Orbits for Leo I and Leo II: Second Epoch Imaging of Leo II

Cycle: 16, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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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) LEO-II	WFPC2	4	18-Jan-2008 02:20:58.0	yes
02	(1) LEO-II	WFPC2	4	18-Jan-2008 02:21:06.0	yes

8 Total Orbits Used

ABSTRACT

Constraining the mass of the Galaxy at large radii remains a difficult problem. Available data are still rather scarce, and orbits of even a few objects at large radii can have a large impact. We propose to obtain proper motions for the two satellites Leo I and Leo II, which orbit the Galaxy at about 200 kpc. Together with the radial velcoities of these glaaxies, which are well known, the proper motions allow space velocities ot be consructed:

these can remove signifiicant uncertainty in the Galactic mass models, and in particular settle the vexed question of whether or not Leo I is gravitationally bound to the Galaxy. The proper motion of Leo I is addressed in a companion archival proposal; here we address the WFPC2 imagery of Leo II.

OBSERVING DESCRIPTION

The aim of this proposal is second epoch imaging of the Leo II dwarf spheroidal galaxy, with the aim of measuring the proper motion and ultimately, constraining an orbit for the distant dwarf spheroidal galaxy.

Visit

Proposal 11182, Visit 01, implementation Fri Jan 18 07:21:10 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: ORIENT 139.15D TO 139.25 D

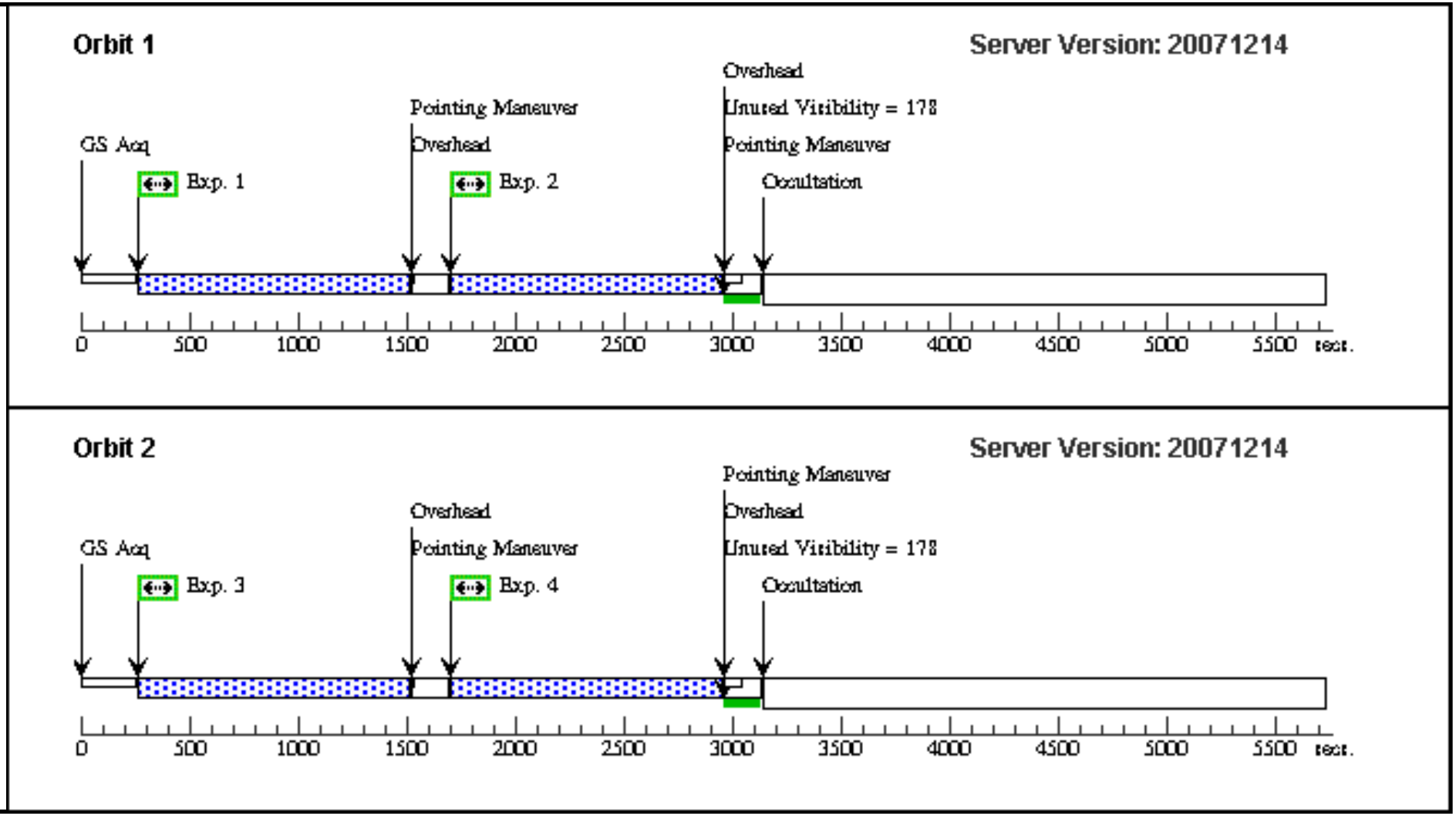
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	LEO-II	RA: 11 13 30.4400 (168.3768333d) Dec: +22 09 30.00 (22.15833d) Equinox: J2000		V=22+/-0.2	Reference Frame: ICRS

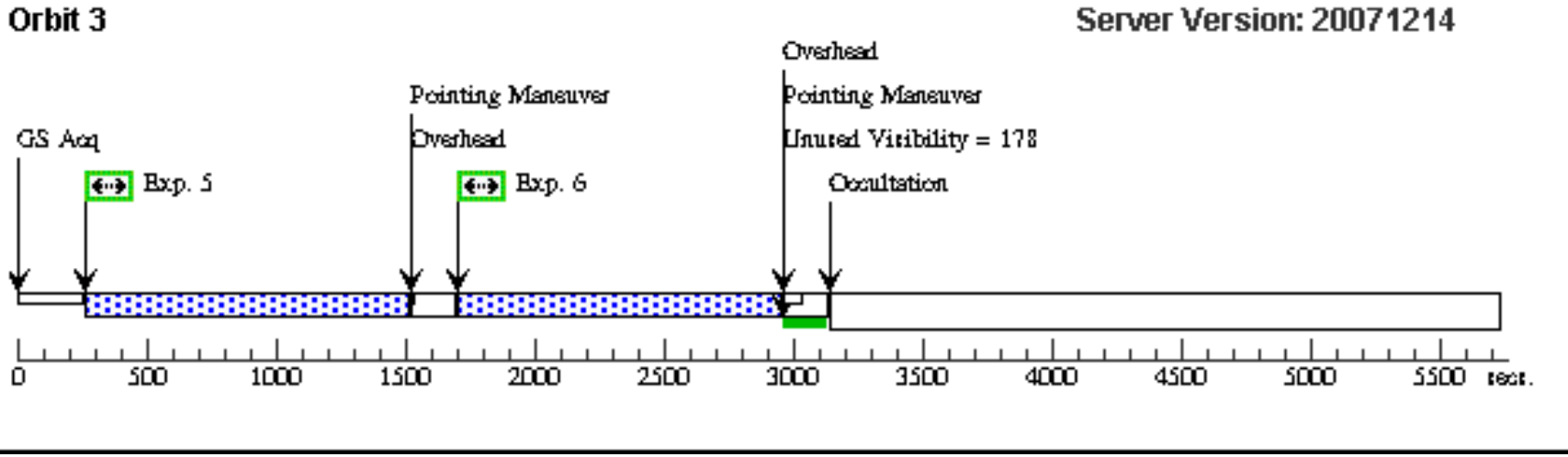
Exposures

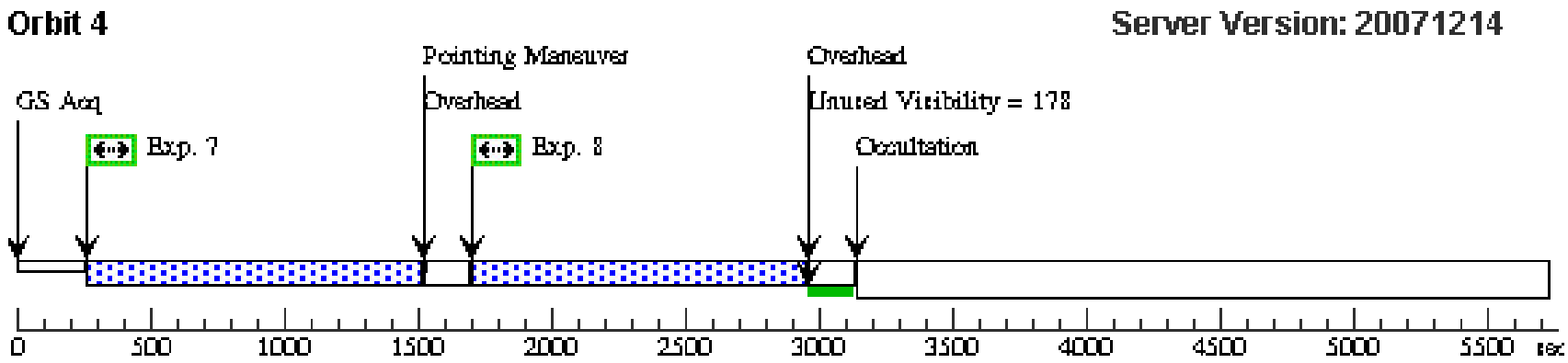
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) LEO-II	WFPC2, IMAGE, PC1	F555W	CR-SPLIT=NO	POS TARG -0.2,-0.2 ; GS ACQ SCENARIO SINGLE		1100.0 Secs *[==>]*	***[1]***
2		(1) LEO-II	WFPC2, IMAGE, PC1	F555W	CR-SPLIT=NO	POS TARG -0.35,-0.8625		1100.0 Secs *[==>]*	***[1]***
3		(1) LEO-II	WFPC2, IMAGE, PC1	F555W	CR-SPLIT=NO	POS TARG 1.0125,-0.75; NEW OBSET FULL ACQ; GS ACQ SCENARIO SINGLE		1100.0 Secs *[==>]*	***[2]***
4		(1) LEO-II	WFPC2, IMAGE, PC1	F555W	CR-SPLIT=NO	POS TARG 0.5625,0.0875		1100.0 Secs *[==>]*	***[2]***
5		(1) LEO-II	WFPC2, IMAGE, PC1	F555W	CR-SPLIT=NO	POS TARG -0.875,-0.1875; NEW OBSET FULL ACQ; GS ACQ SCENARIO SINGLE		1100.0 Secs *[==>]*	***[3]***
6		(1) LEO-II	WFPC2, IMAGE, PC1	F555W	CR-SPLIT=NO	POS TARG 0.075,0.325		1100.0 Secs *[==>]*	***[3]***
7		(1) LEO-II	WFPC2, IMAGE, PC1	F555W	CR-SPLIT=NO	POS TARG -0.4625,0.6625; NEW OBSET FULL ACQ; GS ACQ SCENARIO SINGLE		1100.0 Secs *[==>]*	***[4]***
8		(1) LEO-II	WFPC2, IMAGE, PC1	F555W	CR-SPLIT=NO	POS TARG 0.3875,0.975		1100.0 Secs *[==>]*	***[4]***

Orbit Structure



Orbit Structure (continued)





Visit

Proposal 11182, Visit 02, implementation Fri Jan 18 07:21:12 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFPC2

Special Requirements: ORIENT 139.15D TO 139.25 D

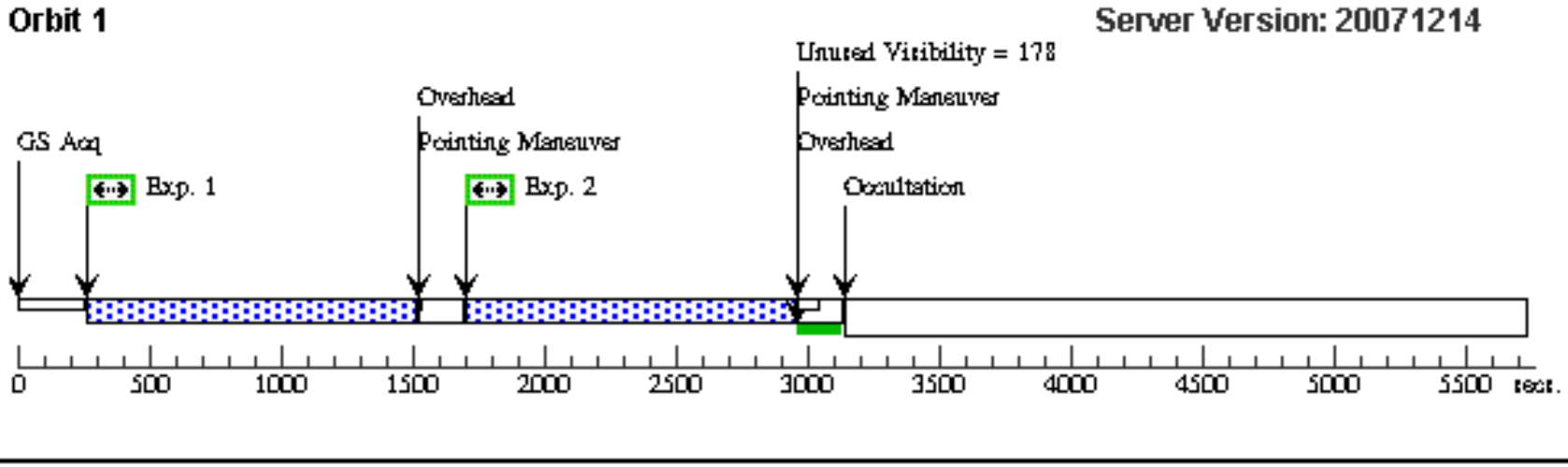
Fixed Targets

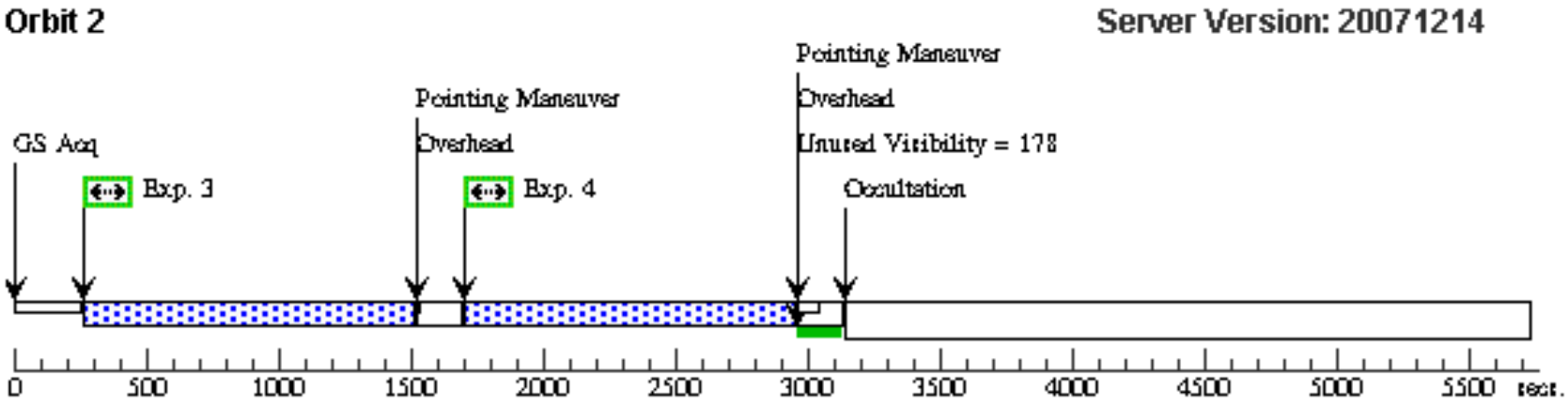
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	LEO-II	RA: 11 13 30.4400 (168.3768333d) Dec: +22 09 30.00 (22.15833d) Equinox: J2000		V=22+/-0.2	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) LEO-II	WFPC2, IMAGE, PC1	F814W	CR-SPLIT=NO	POS TARG -0.2,-0.2 ; GS ACQ SCENARIO SINGLE		1100.0 Secs *[==>]*	***[1]***
2		(1) LEO-II	WFPC2, IMAGE, PC1	F814W	CR-SPLIT=NO	POS TARG -0.35,-0.8625		1100.0 Secs *[==>]*	***[1]***
3		(1) LEO-II	WFPC2, IMAGE, PC1	F814W	CR-SPLIT=NO	POS TARG 1.0125,-0.75; NEW OBSET FULL ACQ; GS ACQ SCENARIO SINGLE		1100.0 Secs *[==>]*	***[2]***
4		(1) LEO-II	WFPC2, IMAGE, PC1	F814W	CR-SPLIT=NO	POS TARG 0.5625,0.0875		1100.0 Secs *[==>]*	***[2]***
5		(1) LEO-II	WFPC2, IMAGE, PC1	F814W	CR-SPLIT=NO	POS TARG -0.875,-0.1875; NEW OBSET FULL ACQ; GS ACQ SCENARIO SINGLE		1100.0 Secs *[==>]*	***[3]***
6		(1) LEO-II	WFPC2, IMAGE, PC1	F814W	CR-SPLIT=NO	POS TARG 0.075,0.325		1100.0 Secs *[==>]*	***[3]***
7		(1) LEO-II	WFPC2, IMAGE, PC1	F814W	CR-SPLIT=NO	POS TARG -0.4625,0.6625; NEW OBSET FULL ACQ; GS ACQ SCENARIO SINGLE		1100.0 Secs *[==>]*	***[4]***
8		(1) LEO-II	WFPC2, IMAGE, PC1	F814W	CR-SPLIT=NO	POS TARG 0.3875,0.975		1100.0 Secs *[==>]*	***[4]***

Orbit Structure





Orbit Structure (continued)