



14723 - What controls the onset of the multiple population phenomenon within globular clusters?

Cycle: 24, Proposal Category: GO

(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) IC4499	WFC3/UVIS	4	29-Jul-2016 15:03:37.0	yes

4 Total Orbits Used

ABSTRACT

The origin of the multiple populations (MPs) seen in nearly all globular clusters (GCs) is still unknown, with all suggested scenarios having serious shortcomings. While large ground based spectroscopic samples and space based imaging surveys have provided a wealth of data and shown how complex the situation is, they have not been able to pinpoint the GC property that controls whether MPs are present. GC mass is traditionally the assumed dominant factor, but recent results suggest a more complex scenario where the mass cannot be the only parameter.

Hence, in order to make progress we need to understand which objects (if any) do not host MPs, and ultimately which property is responsible for the

onset of MPs. Here we target two GCs that have been suggested to not host MPs (based on ground based imaging or abundance analyses of small stellar samples), Ruprecht 106 and IC 4499. These two clusters are "typical" in terms of age and mass of GCs, which would make the lack of MPs all the more surprising, if confirmed. If so, more exotic properties may have played a role (i.e., the type of galaxy where the clusters formed).

OBSERVING DESCRIPTION

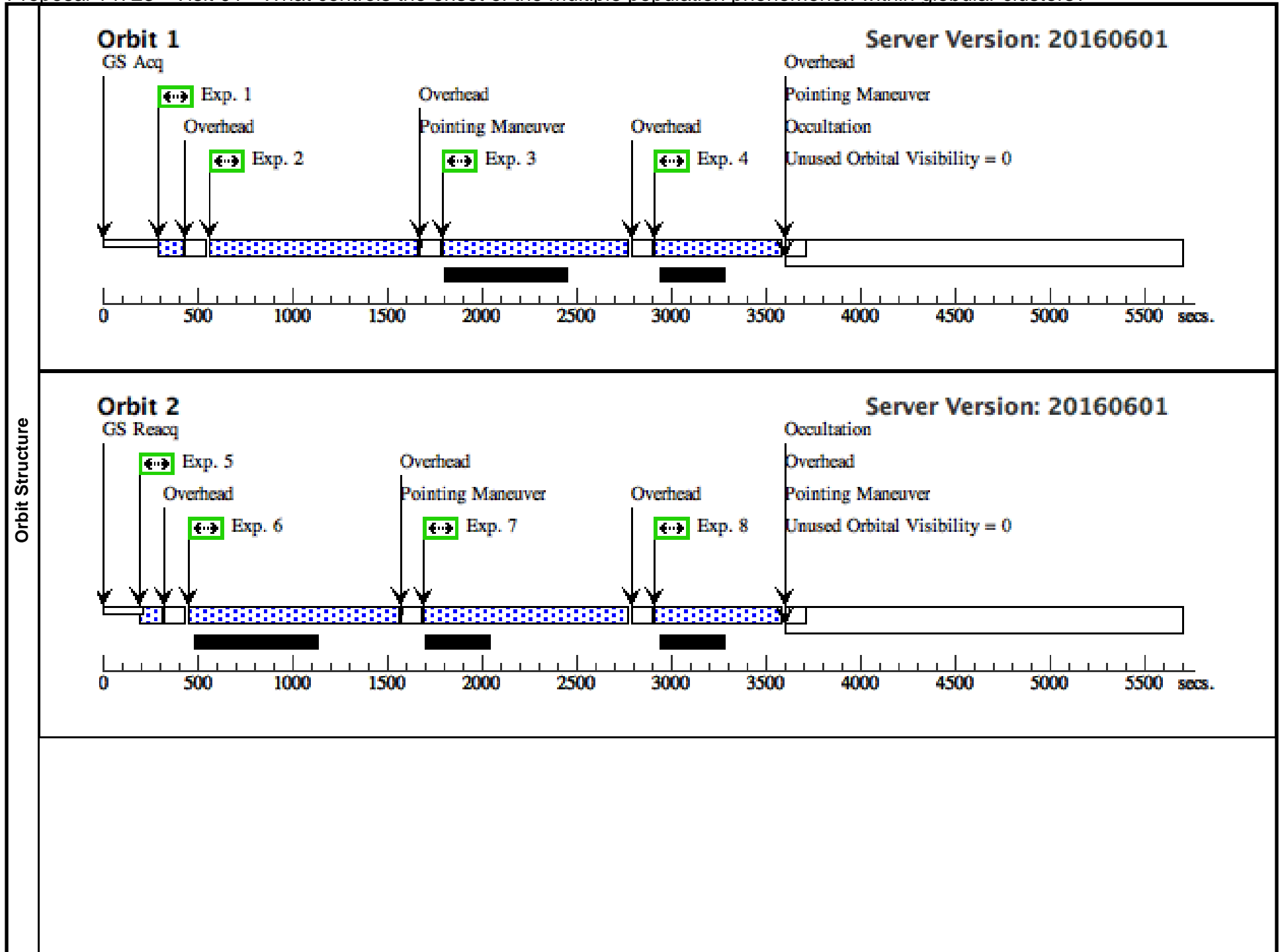
We request 8 exposures of ~1100sec in F275W, 4 exposures of 650sec in F336W and 4 exposures of ~100sec in F438W for a total of 4 orbits to sample the central regions of the Galactic globular cluster IC4499.

In order to fully exploit the resolution and photometric accuracy of HST we applied properly defined offsets and post-flash operation to limit the charge-transfer efficiency (CTE) losses.

Proposal 14723 - Visit 01 - What controls the onset of the multiple population phenomenon within globular clusters?

Fri Jul 29 19:03:38 GMT 2016

Visit	Proposal 14723, Visit 01 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	IC4499	RA: 15 00 13.0750 (225.0544792d) Dec: -82 12 47.79 (-82.21328d) Equinox: J2000		V=8.56	Reference Frame: SIMBAD				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	B_o1n1p1	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F438W	FLASH=12	POS TARG -10.006 6,-10.0066		97 Secs (97 Secs) [==>]	[1]
	2	N_o1n1p1	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=12	POS TARG -10.006 6,-10.0066		1078 Secs (1078 Secs) [==>]	[1]
	3	N_o1n2p2	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=12	POS TARG -12.506 6,-12.5066		985 Secs (985 Secs) [==>]	[1]
	4	U_o1n1p2	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=12	POS TARG -12.506 6,-12.5066		650 Secs (650 Secs) [==>]	[1]
	5	B_o2n2p3	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F438W	FLASH=12	POS TARG -5.0132, -5.0132		97 Secs (97 Secs) [==>]	[2]
	6	N_o2n3p3	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=12	POS TARG -5.0132, -5.0132		1087 Secs (1087 Secs) [==>]	[2]
	7	N_o2n4p4	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=12	POS TARG -7.5132, -7.5132		1087 Secs (1087 Secs) [==>]	[2]
	8	U_o2n2p4	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=12	POS TARG -7.5132, -7.5132		650 Secs (650 Secs) [==>]	[2]
	9	B_o3n3p5	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F438W	FLASH=12	POS TARG 0.0199,0 .0199		97 Secs (97 Secs) [==>]	[3]
	10	N_o3n5p5	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=12	POS TARG 0.0199,0 .0199		1087 Secs (1087 Secs) [==>]	[3]
	11	N_o3n6p6	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=12	POS TARG -2.4801, -2.4801		1087 Secs (1087 Secs) [==>]	[3]
	12	U_o3n3p6	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=12	POS TARG -2.4801, -2.4801		650 Secs (650 Secs) [==>]	[3]
	13	B_o4n4p7	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F438W	FLASH=12	POS TARG 5.0265,5 .0265		97 Secs (97 Secs) [==>]	[4]
	14	N_o4n7p7	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=12	POS TARG 5.0265,5 .0265		1087 Secs (1087 Secs) [==>]	[4]
	15	N_o4n8p8	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=12	POS TARG 2.5265,2 .5265		1087 Secs (1087 Secs) [==>]	[4]
16	U_o4n4p8	(1) IC4499	WFC3/UVIS, ACCUM, UVIS-CENTER	F336W	FLASH=12	POS TARG 2.5265,2 .5265		650 Secs (650 Secs) [==>]	[4]	



Orbit 3

Server Version: 20160601



Orbit 4

Server Version: 20160601

