



# 10471 - The Bottom of the Main Sequence in the Old Metal-Rich Cluster NGC 6791

Cycle: 14, Proposal Category: GO

(Availability Mode: SUPPORTED)

## INVESTIGATORS

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## VISITS

<i>Visit</i>	<i>Targets</i>	<i>Configurations</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) NGC6791	ACS/WFC	?	?	yes

## ABSTRACT

This is the second epoch of GO-9815, whose first-epoch abstract was:

We propose a photometric study of the lowest part of the main sequence of NGC 6791, an old, rich open cluster whose metallicity is considerably higher than solar. The cluster is rich enough that a single ACS/WFC

## Proposal 10471 - Overview

field will have ample stars for the study. For the faintest stars, proper-motion separation of cluster from field is essential; hence we include Cycle 14 observations. These should give us a color-magnitude diagram and luminosity function that reach into the region of the hydrogen-burning limit, thus extending the study of the latter into a new domain of metallicity. Observational data of this type will allow theoreticians to check many aspects of their theories of stellar structure. We also expect to see the white dwarf sequence of the cluster. Our team has experience with studies of this type, and has provided the geometric-distortion calibration of ACS.

### **OBSERVING DESCRIPTION**

These are second-epoch observations for proper motions, and must be taken at the same position and orientation as those of the first epoch. Since the purpose is astrometric, only F814W is used, it being chosen because it is the filter that will most enhance our existing photometry.

Each orbit begins with a short exposure, and the remainder of the orbit is filled out with two long exposures.

The exposures are dithered for optimum astrometry (same dithers as in first epoch).

Proposal 10471 - Visit 01 - The Bottom of the Main Sequence in the Old Metal-Rich Cluster NGC 6791

Mon Jun 20 15:21:07 GMT 2005

Visit	<b>Proposal 10471, Visit 01</b> <b>Diagnostic Status: Error</b> Scientific Instruments: ACS/WFC Special Requirements: PCS MODE FINE; NUMBER OF GYROS 3; ORIENT 174.565D TO 174.565 D; BEFORE 05-AUG-2005:00:00:00										
	Diagnostics	(Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Error: INTERNAL INCONSISTENCY IN MERGING PROCESS (Visit 01) Warning: Number of Gyros overrides default value.									
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
(1)		NGC6791	RA: 19 21 0.0000 (290.2500000d) Dec: +37 47 0.00 (37.78333d) Equinox: J2000 Plate Id: (?)		V=9.5+/-0.1	Coordinate Source: HST_IMAGE					
Exposures		#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
		1	(1) NGC6791		ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO; GAIN=2	GS ACQ SCENARI O BASE13GO		30.0 Secs [==>]	[1]
		2	(1) NGC6791		ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO; GAIN=2			1200.0 Secs [==>]	[1]
		3	(1) NGC6791		ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO; GAIN=2	POS TARG 0.1412,0 .0363		1200.0 Secs [==>]	[1]
		4	(1) NGC6791		ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO; GAIN=2	POS TARG 0.0665,0 .1886		30.0 Secs [==>]	[2]
		5	(1) NGC6791		ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO; GAIN=2	POS TARG 0.0748,0 .1476		1264.0 Secs [==>]	[2]
		6	(1) NGC6791		ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO; GAIN=2	POS TARG -0.0166, 0.107		1264.0 Secs [==>]	[2]
		7	(1) NGC6791		ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO; GAIN=2	POS TARG 0.1827,0 .0813		30.0 Secs [==>]	[3]

Proposal 10471 - Visit 01 - The Bottom of the Main Sequence in the Old Metal-Rich Cluster NGC 6791

Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	8		(1) NGC6791	ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO; GAIN=2	POS TARG 0.0665,- 0.0114			1264.0 Secs [==>]
9		(1) NGC6791	ACS/WFC, ACCUM, WFC-FIX	F814W	CR-SPLIT=NO; GAIN=2	POS TARG 0.0581,0 .0713			1264.0 Secs [==>]	[3]

Comments: The TTRB has given permission for 3-gyro mode.



