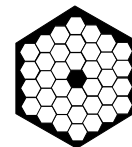


W. M. KECK OBSERVATORY
CALIFORNIA ASSOCIATION FOR RESEARCH IN ASTRONOMY



NGS-AO Engineering Test Report

Please post completed report to:

KeckShare – Engineering – Adaptive Optics – LGS AO Data & Reports – [test date] Run

Title:	NIRC2 astrometry measurements (M15)
Date:	18 oct 2007
Lead:	Al Conrad / Randy Campbell
Sky time Requested:	60-120 mins

Purpose:

Measure contribution of telescope and AO to NIRC2 field distortion

Procedure:

1. Drive to the core of M15 star (M15 core 21 29 58.38 +12 10 00.6 2000.0; see
/kroot/starlists/aconrad/m15oct182007.lis)
2. AO bench setup
 PA mode, 0 deg
 AO system in NGS AO mode (on axis object).
 DAR: acq only
 PO NIRC2
 Obtain background from nearby empty field (do not use 30s east while on M15)
 TT loop closed
 DM loop closed
3. NIRC2 wide camera setup
 camera wide
 filt kp; tint 0.18; coadds 5
 sampmode 2; largehex
 shutter open

 bxy9 10 10 n=3
4. NIRC2 narrow camera setup
 camera narrow
 filt kp; tint 3; coadds 5
 sampmode 3 16; largehex
 shutter open
 (repeat as many as possible)
 bxy9 2.5 2.5 n=10
 xy 1.25 1.25
 bxy9 2.5 2.5 n=10
 xy -2.5 0.0
 bxy9 2.5 2.5 n=10
 xy 0.0 -2.5

you get the picture (alternatively, you could substitute more wide camera data)

5. Acquire star on NIRC2 pointing origin (See Figure 1 below).
6. Dome flats for K' preferred.

Notes:

SIMBAD result for nearby 14.2:
CI* NGC 7078 GEB 27

FK5 coord. (ep=2000 eq=2000) : 21 29 58.11 +12 10 00.8 V 14.2

Was the test successful?
Was the procedure adequate?

☐ Yes
☐ Yes

☐ No
☐ No

☐ Maybe so
☐ Maybe so

Results:

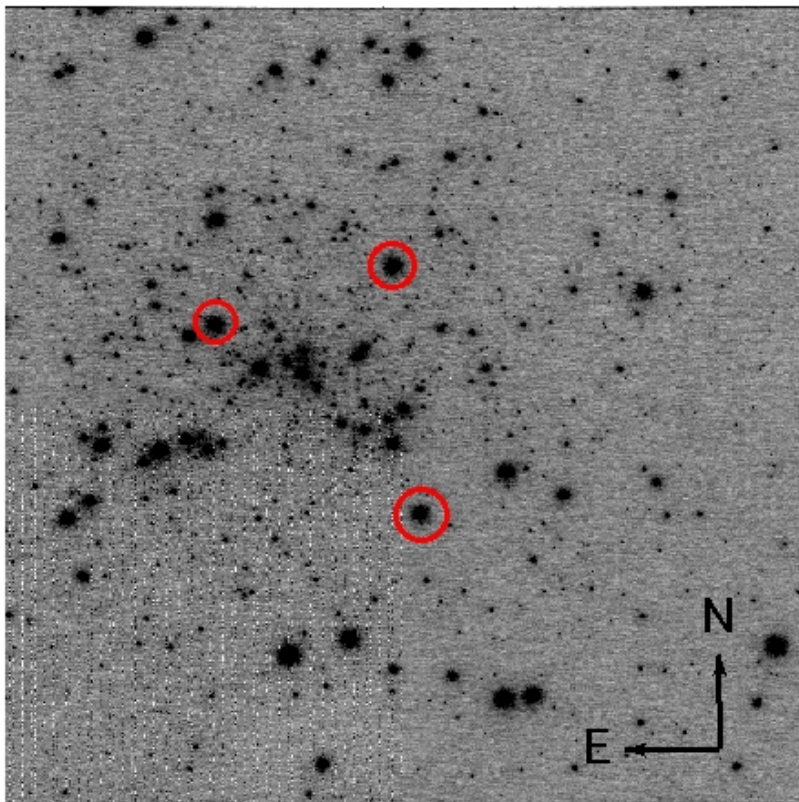


Figure 1: Wide camera NIRC2 image of the core of M15. The red circles denote stars previously used as guide stars for NGS-AO. The idea is to use one as close to the core as possible which will depend on seeing. Narrow camera images should be centered on regions of the highest stellar density.