GROND 2006-03-08 Technical time report

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In this document the technical tests performed at the 2p2 telescope during the night of 2006-03-08 will be presented. A total weight of 400Kg (200Kg at the GROND vessel + 200Kg of counterweight) was applied to the telescope tube during daytime, and the telescope was then mechanically balanced. The purpose of the tests was thus to verify that the new configuration does not interfere with the pointing, dithering and guiding of the telescope. All the tests were executed using the WFI camera.

The telescope was pointed to 8 regions uniformly distributed in the sky. In particular the pointed regions were (expressed as (HA, Dec)): (+01:00 , -20:00), (-01:00, -20:00), (+02:00, -45:00), (-02:00, -45:00), (+03:00, +07:15), (+04:30, -47:00), (-04:30, -47:00) and (-03:00, +07:15), which roughly correspond to NE30, NW30, SE30, SW30, NE55, SE55, SW55 and NW55, where the number indicates the Zenith distance.

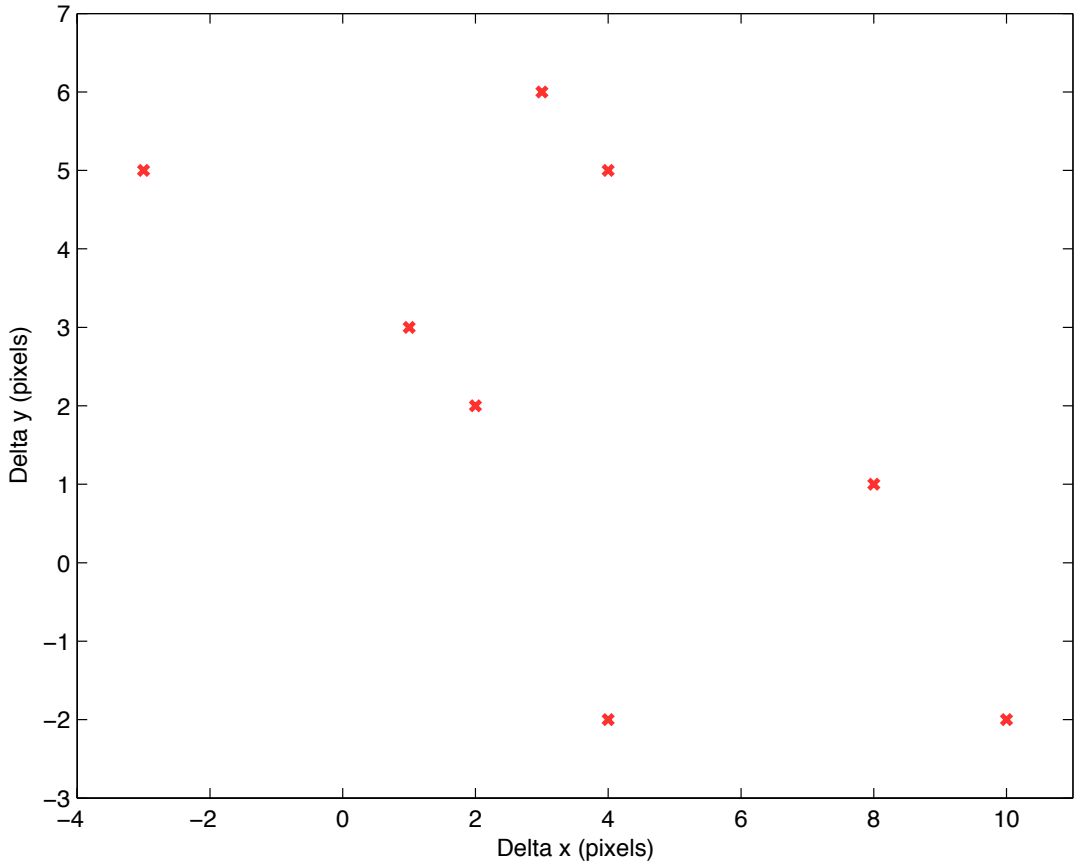
For each position, at first it was checked that, once the preset was completed, the telescope reached the desired position and then that the status of the telescope changed to “Guide”. Successively a guide star was acquired; the OB was configured in order to execute the standard 5 positions dithering sequence and to send the telescope to its initial position at the end of the OB. The integration time of each image was 180sec.

Once the OB was finished, an image of 60sec was acquired using the WFI control panel. This image was then used to check if the telescope returned to the initial position, as it was set in the OB.

During the execution of the whole procedure, no incorrect behavior of the telescope was noticed. The IQ of all the images looked consistent with the current seeing and no elongation due to bad tracking was registered. The telescope always correctly executed the offsets, without losing the guide star, which each time resulted well centered in the guiding reference box.

The plot at the top of the following page shows the difference in each axis between the position of the reference star (as it appeared on the first image of the OB) and the same star on the image taken after the OB was finished. The maximum displacement from the original position on x and y axes was 10 and 6 pixels respectively (which to the image scale of WFI correspond to 2.4” and 1.4”).

The table below, instead, reports the cartesian distance of the reference star from its original position. The maximum distance at the end of the OB was 10.2 pixels (corresponding to 2.4”), with an average of 6 pixels (1.4”).



Position	Distance (pixels)
NE30	8.1
NW30	5.8
SE30	2.8
SW30	6.4
NE55	4.5
SE55	6.7
SW55	3.2
NW55	10.2

Appendix: List of analyzed images

2006-03-08/WFI_Ima1 to 40: 5 dithered images for each of the 8 sky positions

2006-03-08/WFI_20060309_041134.fits to WFI_20060309_092454.fits: comparison images, taken from WFI control panel