Visible & Infrared Survey Telescope for Astronomy

IR CAMERA

Document Title: On-Sky Images from 29-8-08

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Change Record

Issue	Date	Section(s) Affected	Description of Change/Change Request Reference/Remarks
Draft 0.1	30/7/08	All	New document

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1 SCOPE

This document presents image contours and parameters from each corner of each detector from a single image taken close to the zenith on 29/8/08. The image profiles are circular and stable over the whole field with image FWHM of 2.1 pixels close to the center of the field and 2.5 pixels at the corners. The document is intended to provide a record of the fact that the system is indeed capable of delivering images of this quality.

2 ACRONYMS & ABBREVIATIONS

ADxx	Applicable Document No xx
ASM	Automatic Seeing Monitor
FWHM	Full-Width at Half Maximum
HOWFS	High Order Wavefront Sensor
IRAF	Image Reduction and Analysis Facility
PSF	Point Spread Function

3 APPLICABLE DOCUMENTS

AD01		
RD01		

4 INTRODUCTION

On the night of 2/8/09, during ongoing investigations of the M1 and M2 parameters, reasonable images were obtained over the full field at a location close to the Zenith (elevation 82 degrees, Declination 22 degrees 57 minutes, West of the telescope. Windspeed was around 8m/s. The low-order wavefront sensins system had been run in closed–loop mode on M2 positions only, and then a single correction to M1 was performed using the high-order sensor (image recorded as VIRCAM_HOWFS_OBS243_0017.fits) in the HOJoany position. The target field is the 2MASS star 201442.76-191225.8 (J=4.595). The images reported here were taken from the first of a 3x3 Jitter exposure of a single pawprint at the location of the HOWFS observation. The reported seeing from the Paranal ASM was varying between 0.8 and 1 arcsecond at this time. The images are unguided, J-band images with a 10s exposure.

5 IMAGE DATA PLOTS

The following figures give images of isolated, unsaturated stars from locations at each corner of each chip within the camera array, together with a contour plot highlighting the underlying shape of the stellar profile, and a fit to the PSF for that star. The images have been flatfielded using a flatfield image generated from similar length exposures taken on a previous night, but no other processing has been applied. The PSFs are measured using the `imexamine` task in IRAF.

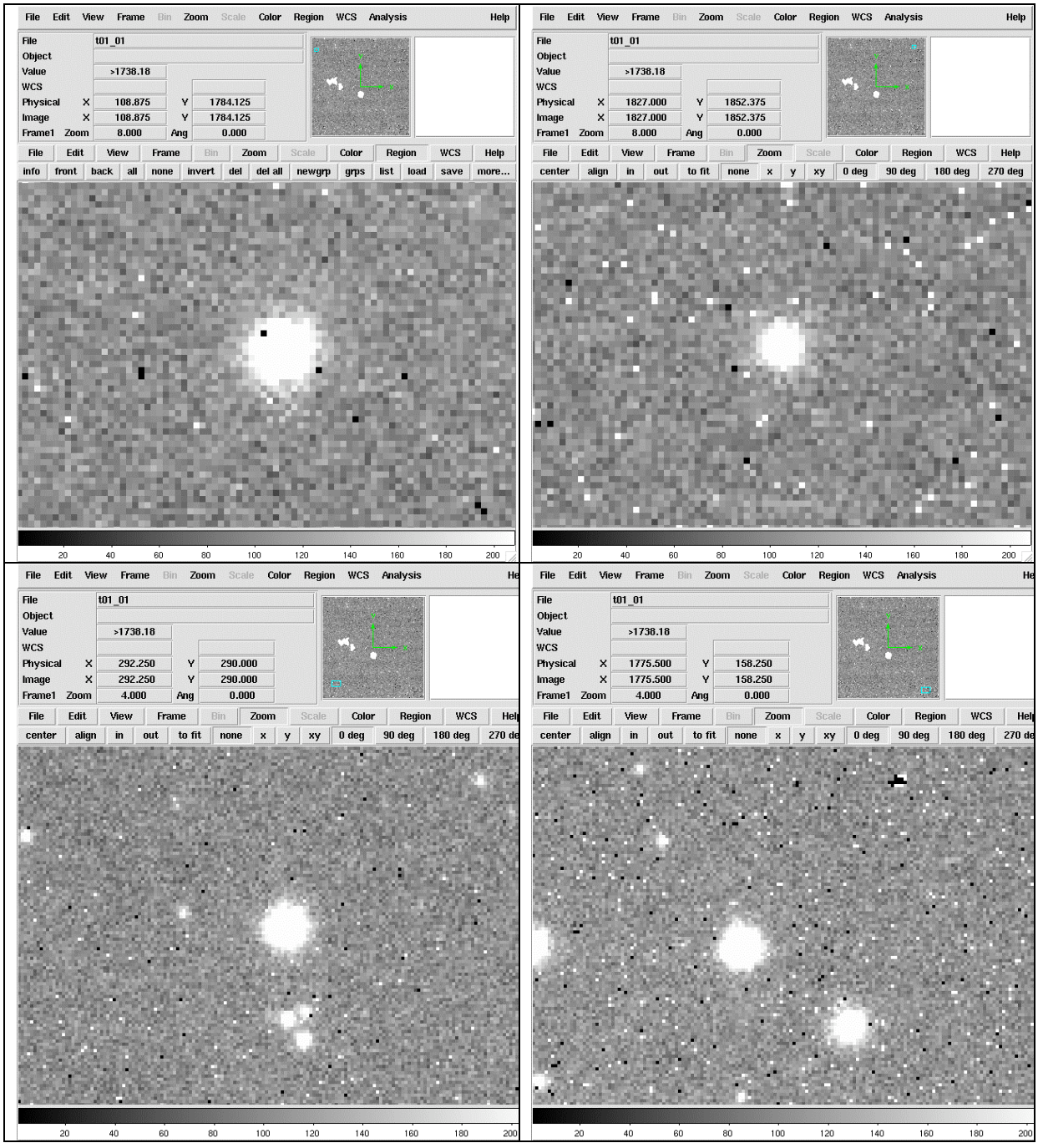

Figure 1 Images from the four corners of chip1, bottom left of the array.

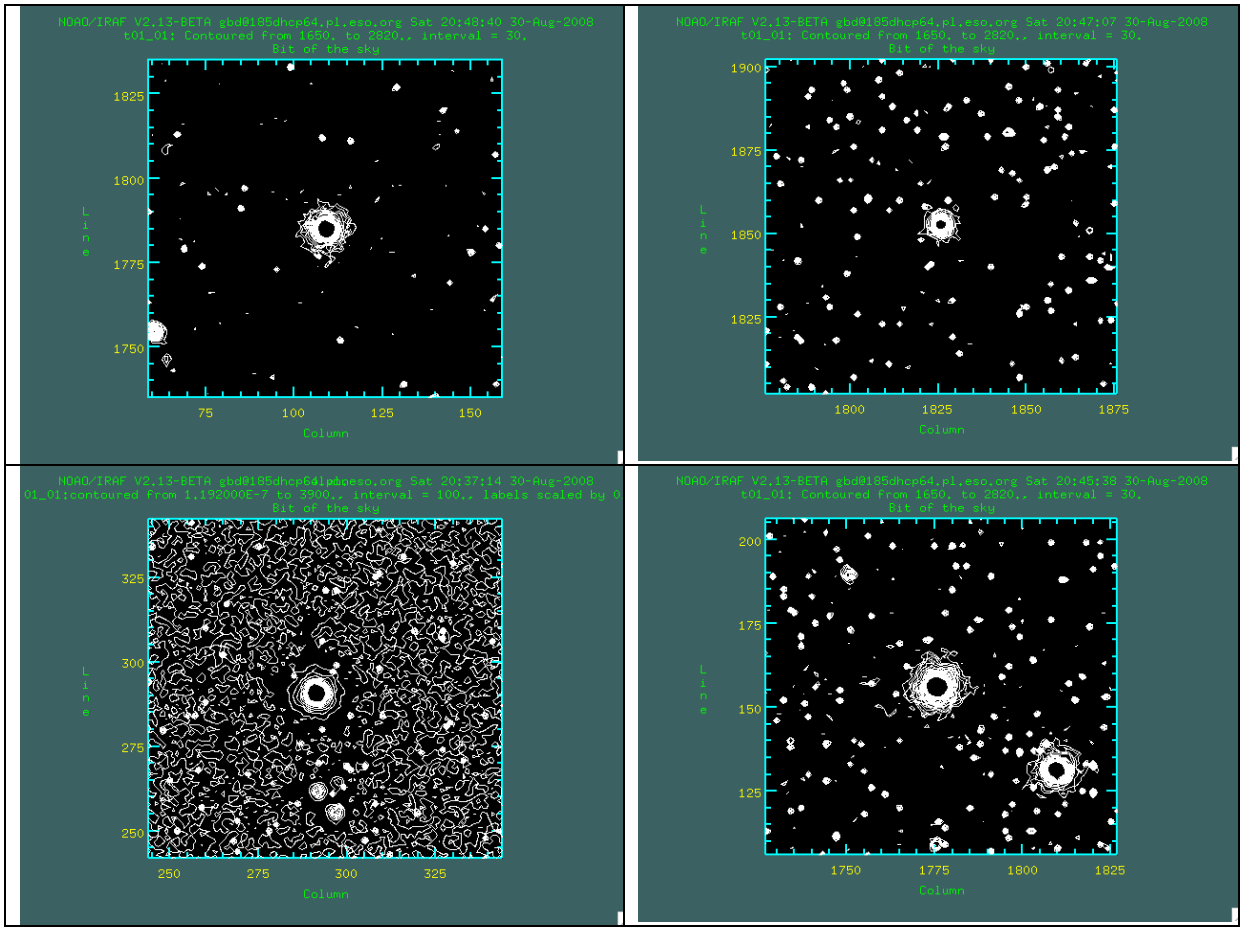

Figure 2 Contour plots from the four corners of chip 1

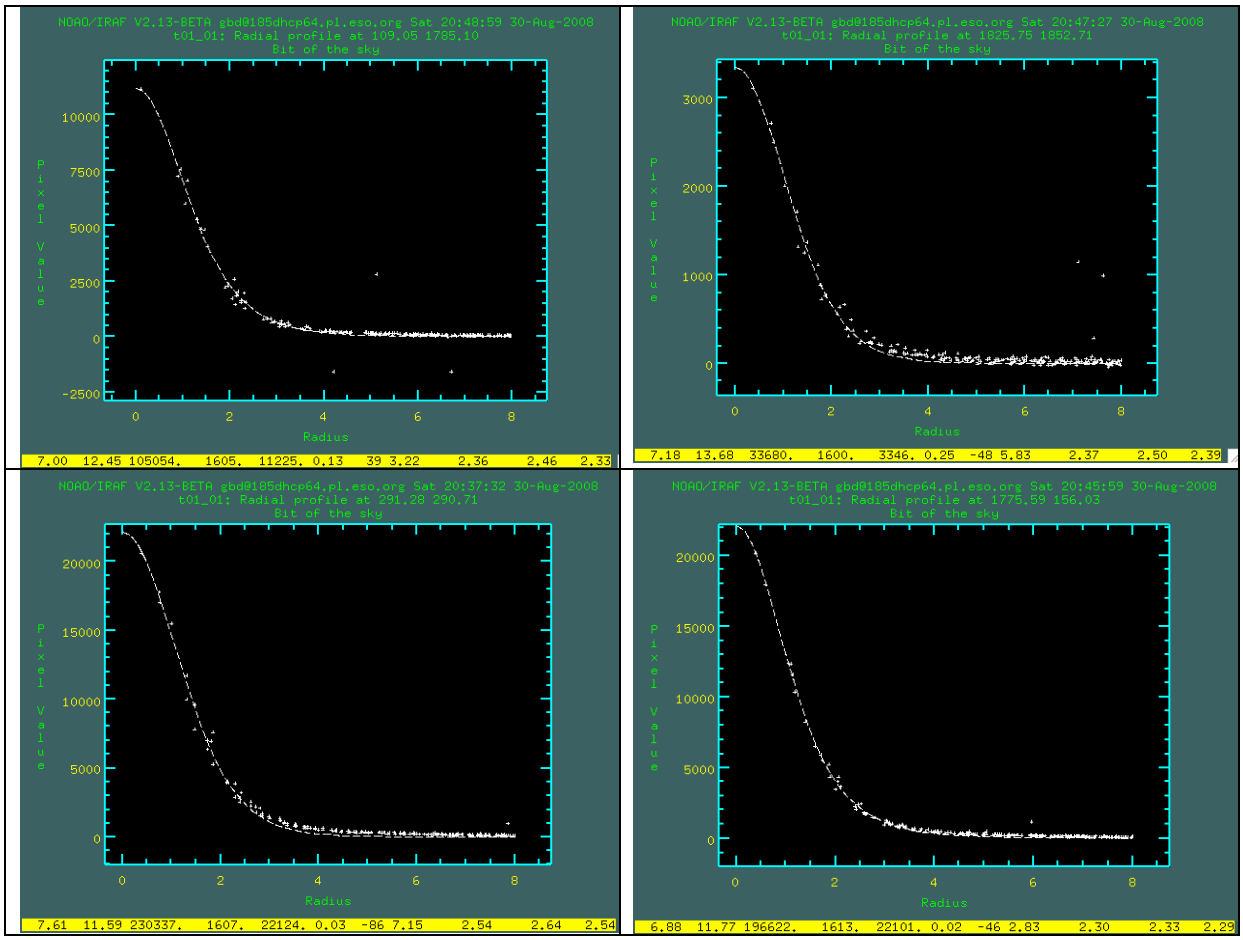

Figure 3 FWHM fits to the images from the four corners of chip 1

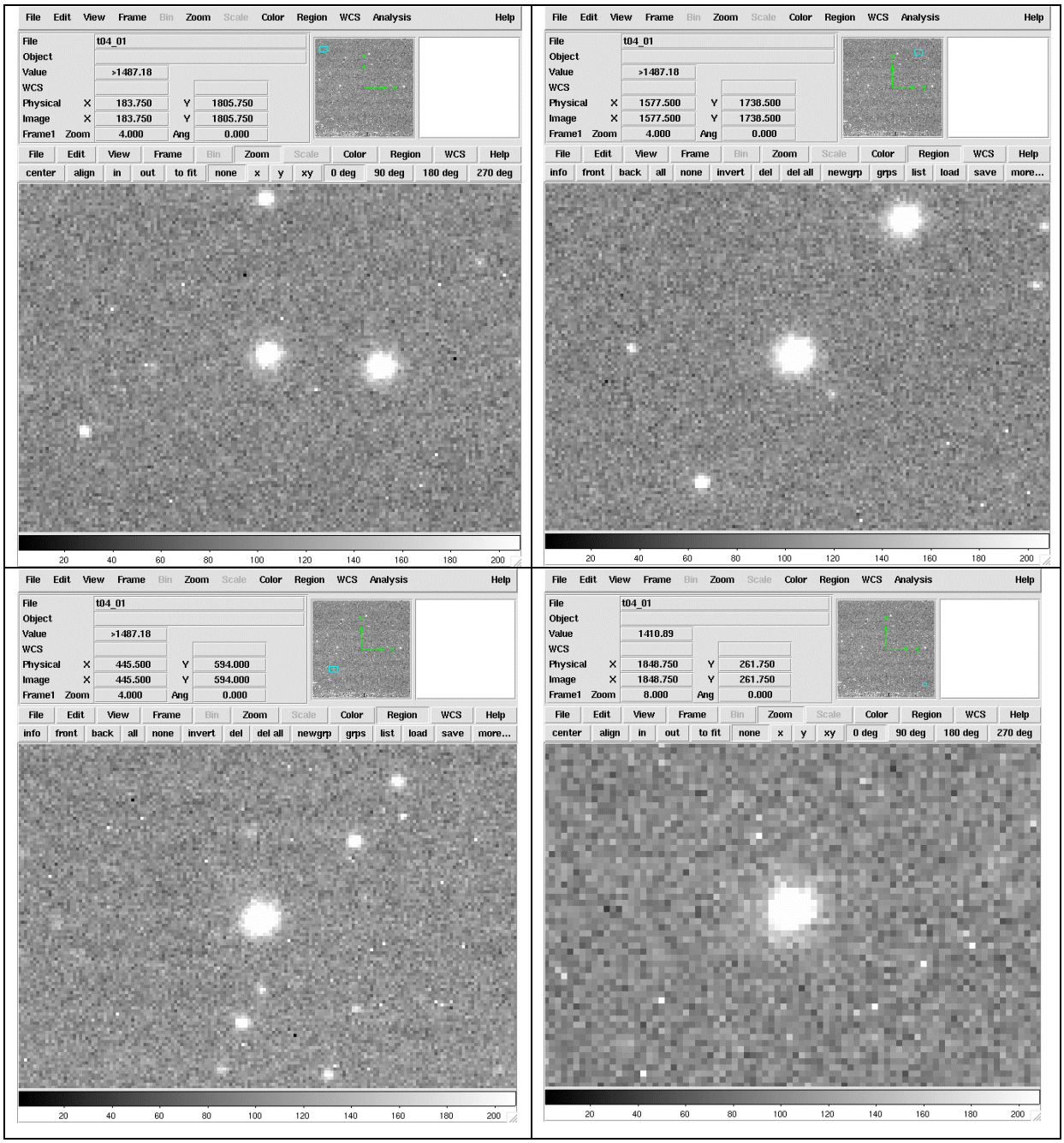

Figure 4 Images from the four corners of chip 4, bottom right of the array.

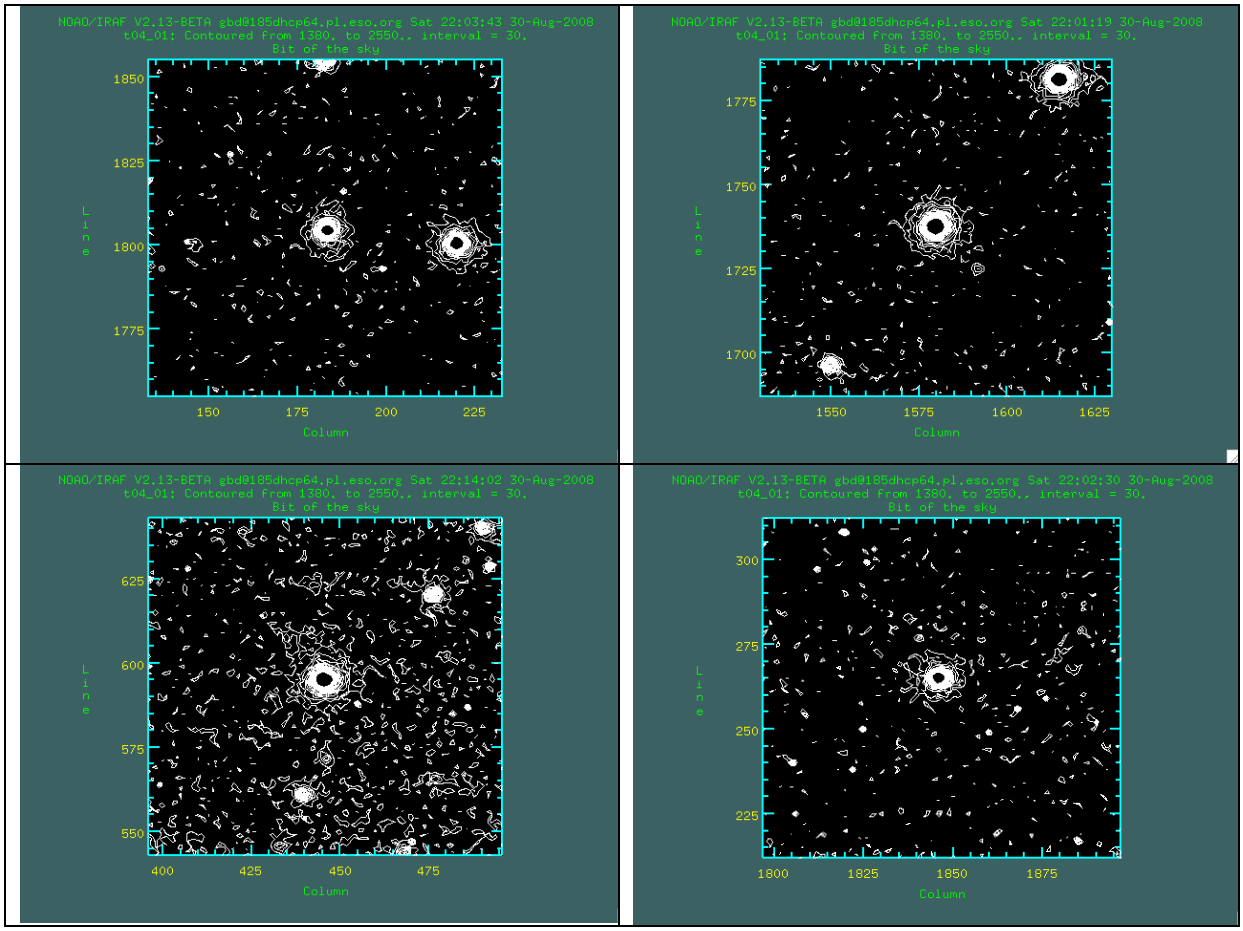

Figure 5 Contour plots from the four corners of chip 4.

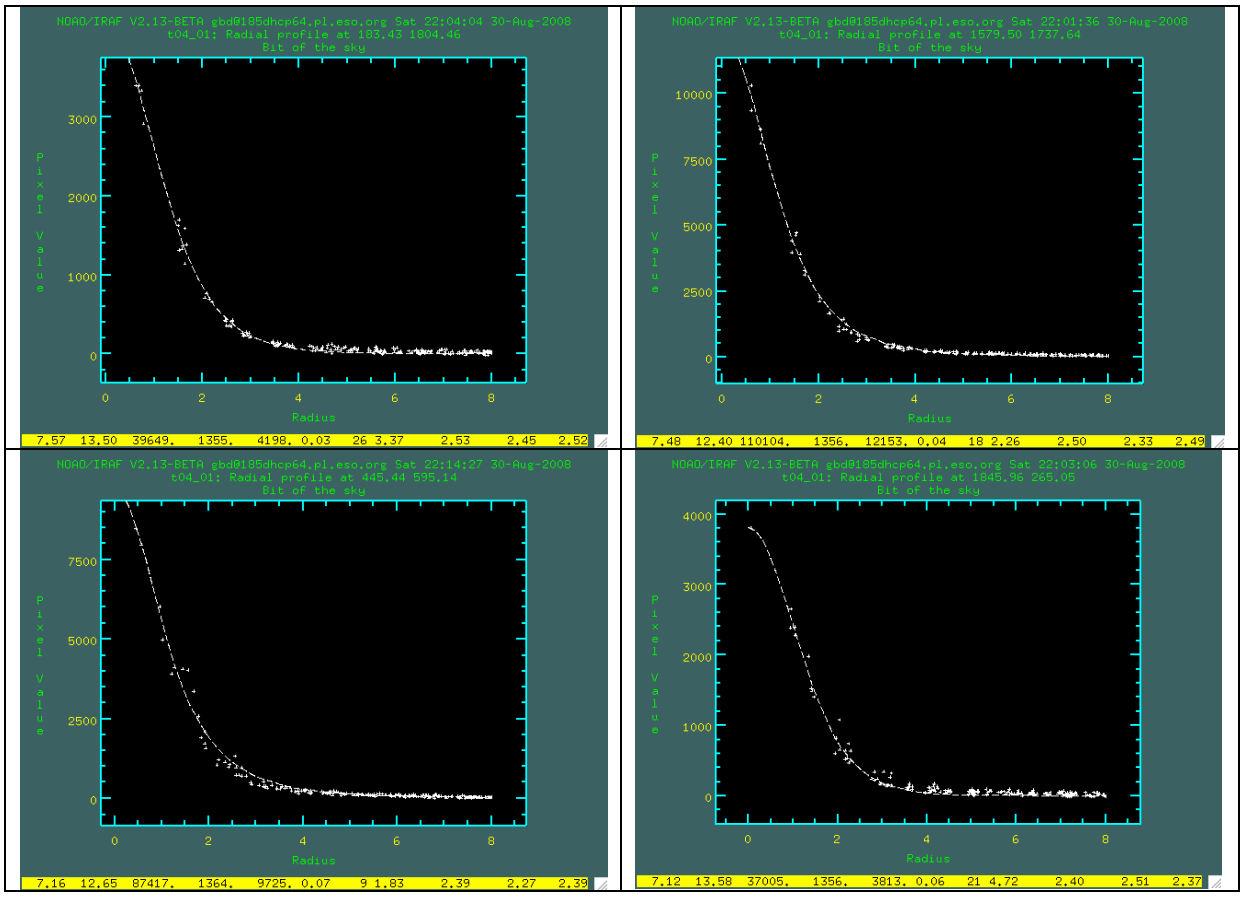

Figure 6 FWHM fits to the stars in the four corners of chip 4

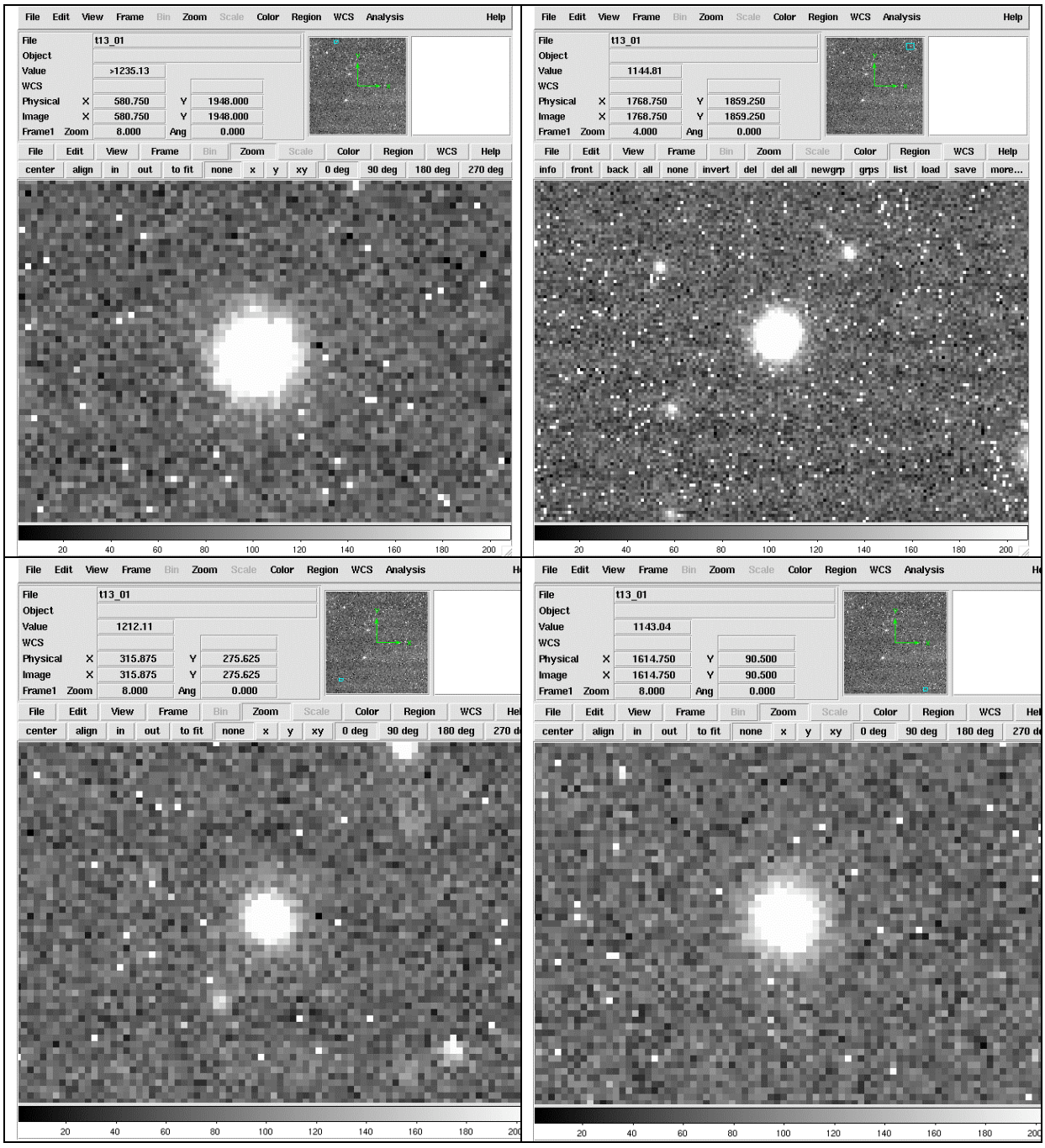

Figure 7 Images from the four corners of chip 13, top right of the array.

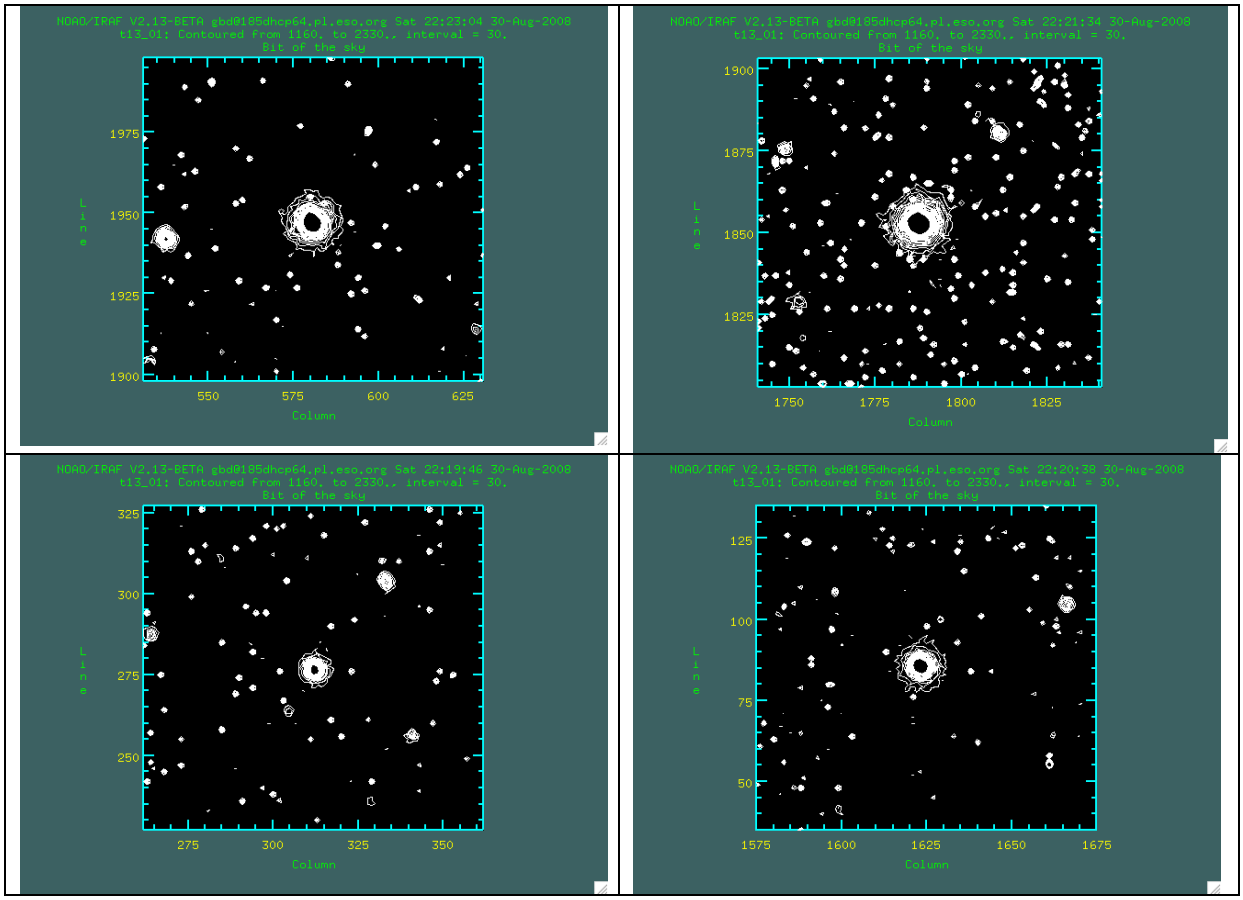

Figure 8 Contour plots from the four corners of chip 13.

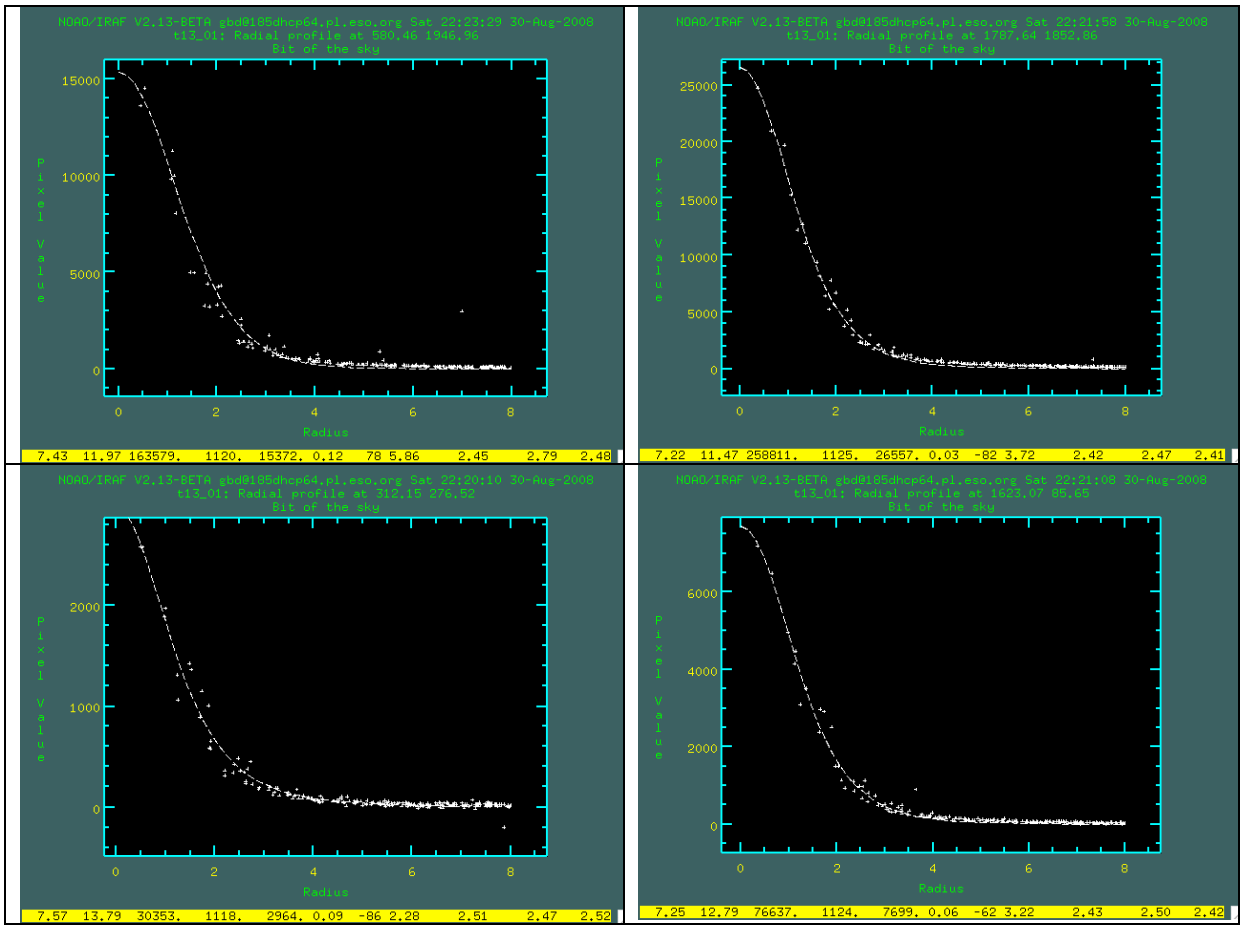

Figure 9 FWHM fits to the stars in the four corners of chip 13.

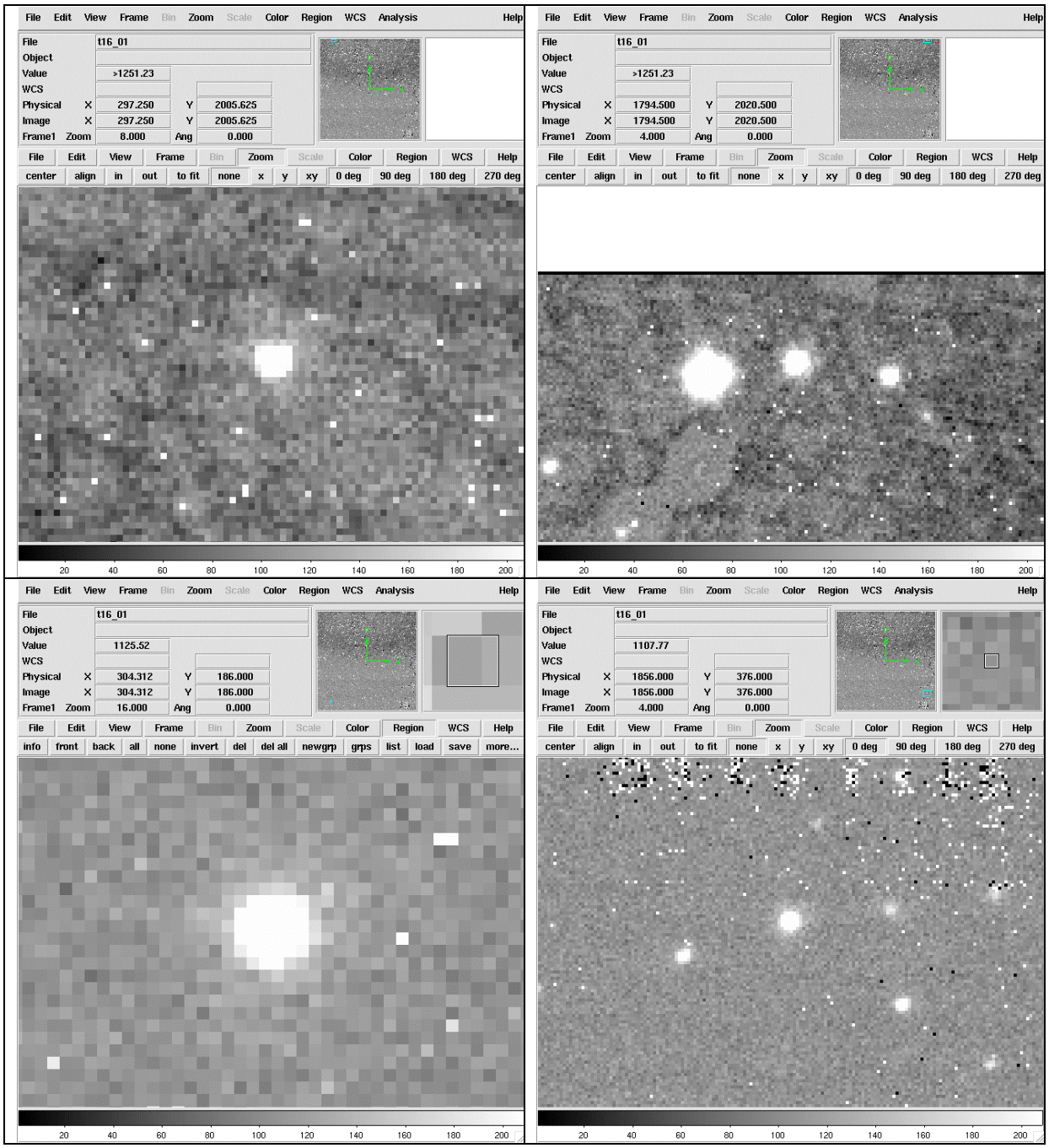

Figure 10 Images from the four corners of chip 16, top right of the array.

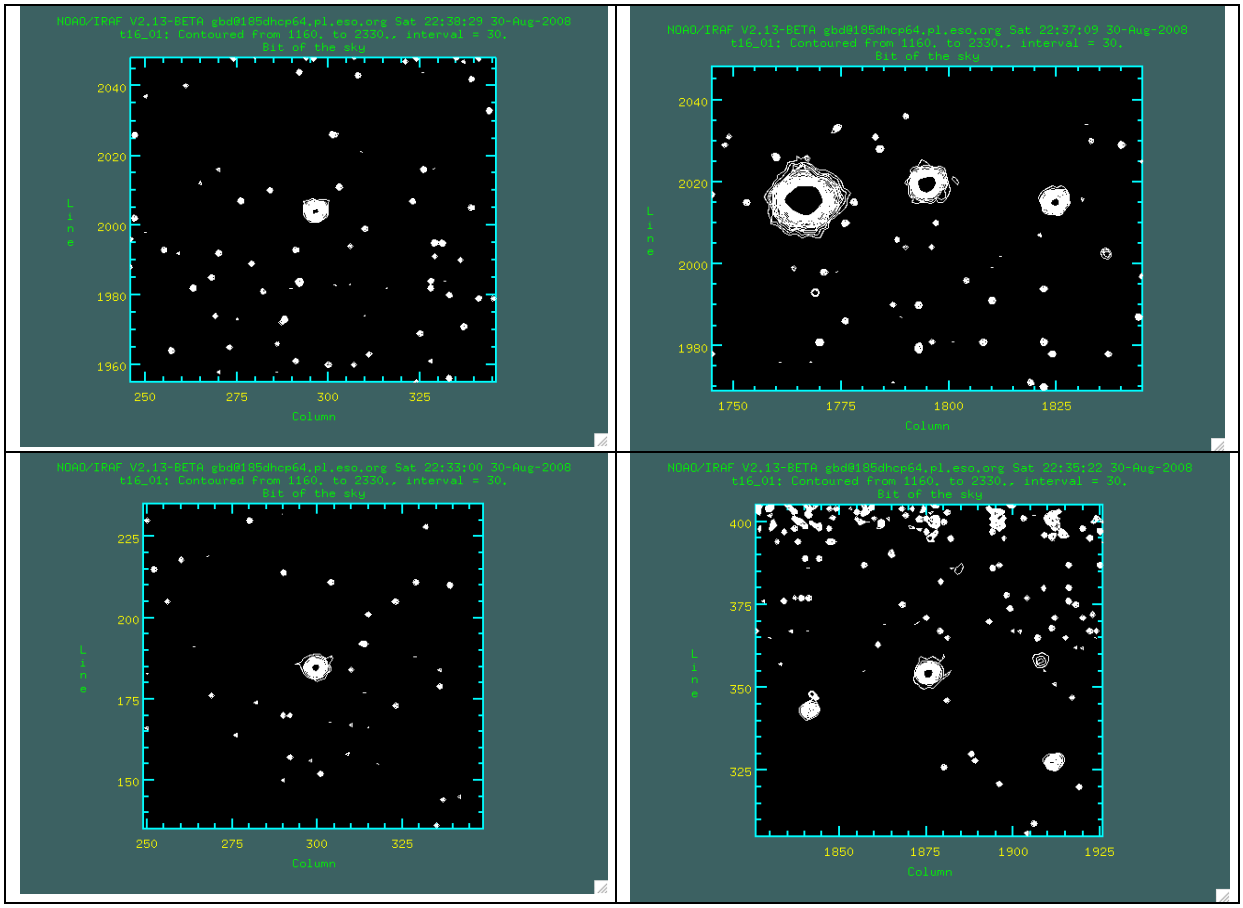

Figure 11 Contour plots from the four corners of chip 16.

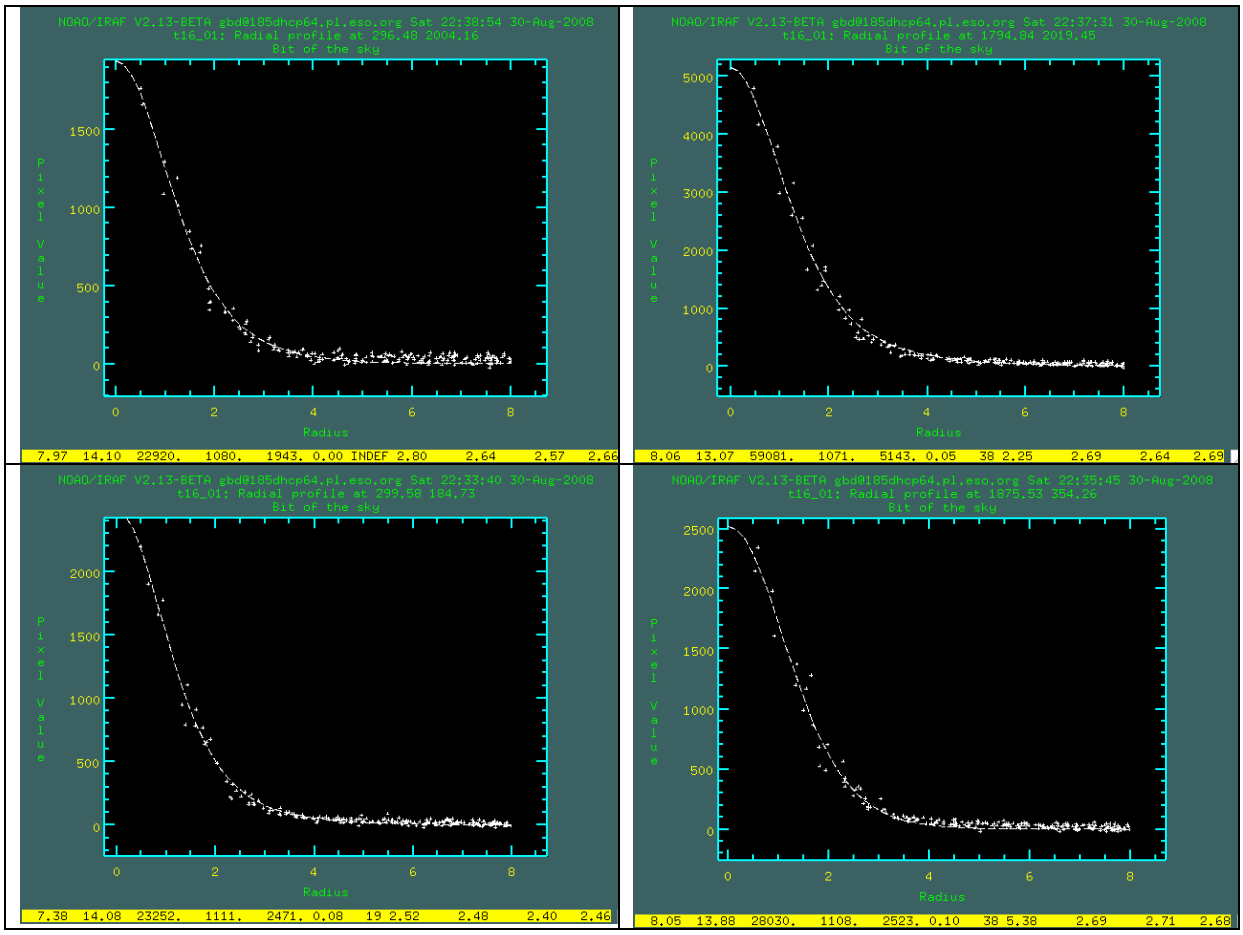

Figure 12 FWHM fits to the stars in the four corners of chip 16.

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