VST science verification

TEST DATA SET

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&

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C1 – Test data set

Which correction for seeing variations (field-to-field and across different bands) is applied in order to obtain consistent (point) source fluxes in the final catalogues?

Presently no PSF homogenization is supported in VST-Tube. A user defined cut on FWHM can be applied to the exposures contributing to the final mosaic.

NGC253 u

Absolute photometry:

Zero point: ***22.717 ±0.006*** Color term:***0.033 ±0.016*** Ext. coeff.**: *0.05***

IC correction:

Statistics on:	**Average**	**Median**	**STD**	**MAD**
Reference-us	*0.0016*	*0.0031*	***0.10***	***0.09***
Residuals	*0.0014*	*0.0013*	***0.08***	***0.04***

Relative photometry:

All detections		**High S/N sources**	
Instrum mag RMS	Ndets	Mag RMS	Ndets
0.025	17952	**0.019**	13762

Astrometric calibration:

High S/N Internal Astrometric Sigma	Sigma w.r.t. Astrometric Ref Catalog	Detections for statistics w.r.t. Astrometric Ref Catalog
0.081” **0.071”**	**0.16”** **0.13”**	**564**

NGC253 g

Absolute photometry:

Zero point: **24.845 ±0.006** Color term: **0.021 ±0.016** Ext. coeff.: **0.040**

IC correction:

Statistics on:	**Average**	**Median**	**STD**	**MAD**
Reference-us	0.041	0.046	**0.10**	**0.07**
Residuals	0.000130	-0.00028	**0.07**	**0.03**

Relative photometry:

All detections		**High S/N sources**	
Instrum mag RMS	Ndets	Mag RMS	Ndets
0.045	8880	**0.02**	5967

Astrometric calibration:

High S/N Internal Astrometric Sigma	Sigma w.r.t. Astrometric Ref Catalog	Detections for statistics w.r.t. Astrometric Ref Catalog
0.0517” **0.0451”**	**0.296”** **0.237”**	**801**

NGC253 r

Absolute photometry:
Zero point: **24.799 ±0.006** Color term: ***0.049 ±0.016*** Ext. coeff. ***0.070***
IC correction:

Statistics on:	**Average**	**Median**	**STD**	**MAD**
Reference-us	*0.037*	*0.044*	***0.09***	***0.06***
Residuals	*0.002*	*0.003*	***0.08***	***0.03***

Relative photometry:

All detections		**High S/N sources**	
Instrum mag RMS	Ndets	Mag RMS	Ndets
0.048	*23542*	***0.031***	*19306*

Astrometric calibration:

High S/N Internal Astrometric Sigma	Sigma w.r.t. Astrometric Ref Catalog	Detections for statistics w.r.t. Astrometric Ref Catalog
0.066” **0.062”**	**0.23”** **0.20”**	1160

NGC253 i

Absolute photometry:
Zero point**:** ***24.279 ±0.006*** Color term**:** ***-0.002 ±0.016*** Ext. coeff.: ***0.01***
IC correction:

Statistics on:	**Average**	**Median**	**STD**	**MAD**
Reference-us	*0.13*	*0.11*	***0.19***	***0.10***
Residuals	*0.02*	*-0.01*	***0.18***	***0.06***

Relative photometry:

All detections		**High S/N sources**	
Instrum mag RMS	Ndets	Mag RMS	Ndets
0.033	*6479*	***0.021***	*4371*

Astrometric calibration:

High S/N Internal Astrometric Sigma	Sigma w.r.t. Astrometric Ref Catalog	Detections for statistics w.r.t. Astrometric Ref Catalog
0.056” **0.047”**	**0.28”** **0.27”**	**827**

NGC253 NB_659

Absolute photometry:
Zero point: 21.98 Ext. coeff.: 0.09
IC correction:
Used r band IC
Relative photometry:

All detections		**High S/N sources**	
Instrum mag RMS	Ndets	Mag RMS	Ndets
0.092	17564	**0.092**	17564

Astrometric calibration:

High S/N Internal Astrometric Sigma	Sigma w.r.t. Astrometric Ref Catalog	Detections for statistics w.r.t. Astrometric Ref Catalog
0.063” **0.058”**	**0.22”** **0.20”**	**1348**

NGC253

Summary on mosaics

Band	u’	g’	r’	i’	NB_659
exptime	29008	2100	3717	1500	5300
#exposures	28	7	21	5	13
Completeness 50%	25.8	25.2	24.9	23.8	23.6

NGC253

Fractional signal variation between *OMEGA.2011-08-31T03:57:06.098.fits* and *OMEGA.2011-08-31T04:32:40.418.fits (band r' night 2011-08-30)*

$$Im = Filt[(Im_1 - Im_2 - off_{12})/Im_1]$$

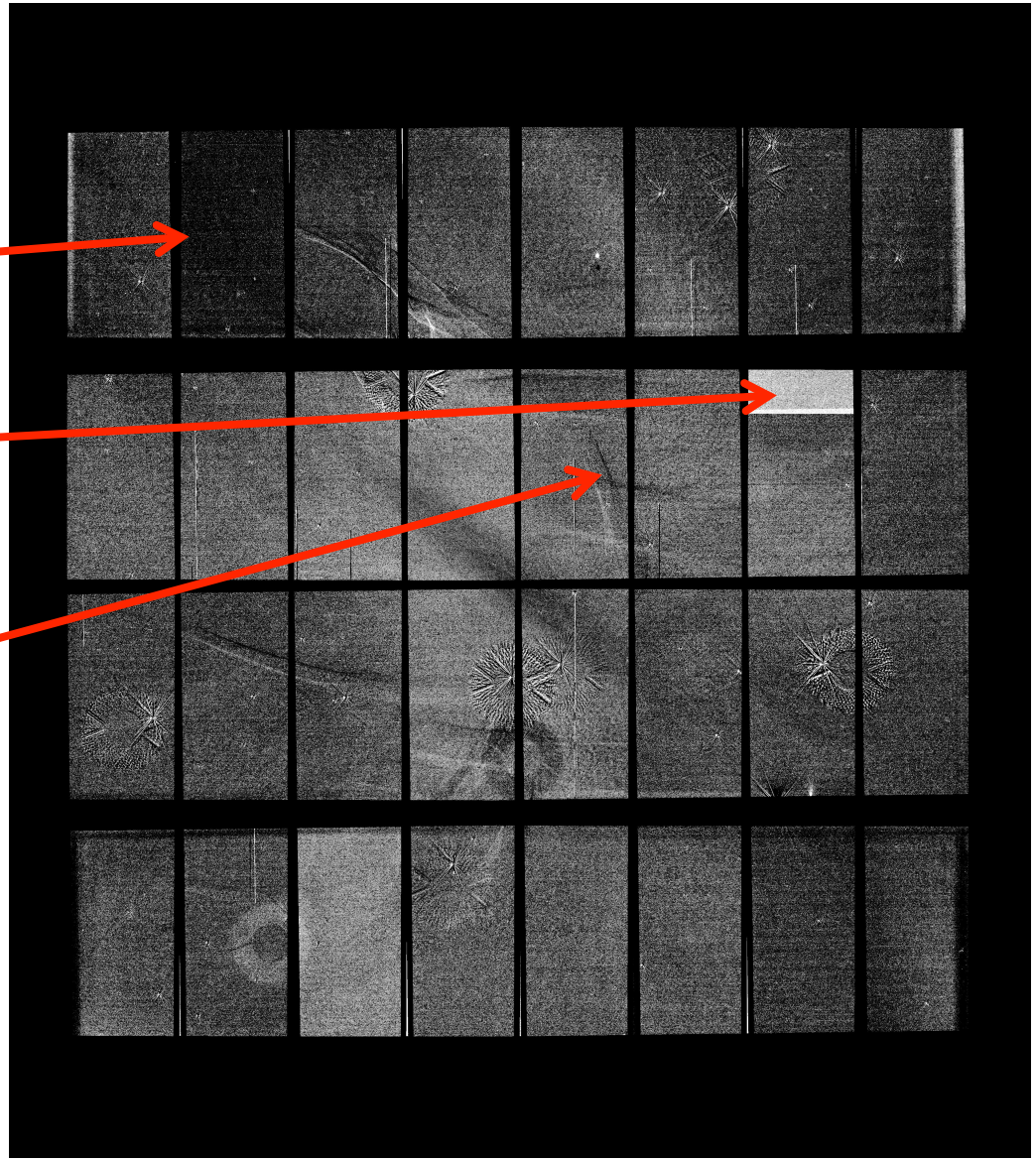
Filt is a median average with kernel 7x7
Images processed (flat using twighlight and sky images), overscan correction row by row.)

NGC253

ccd95

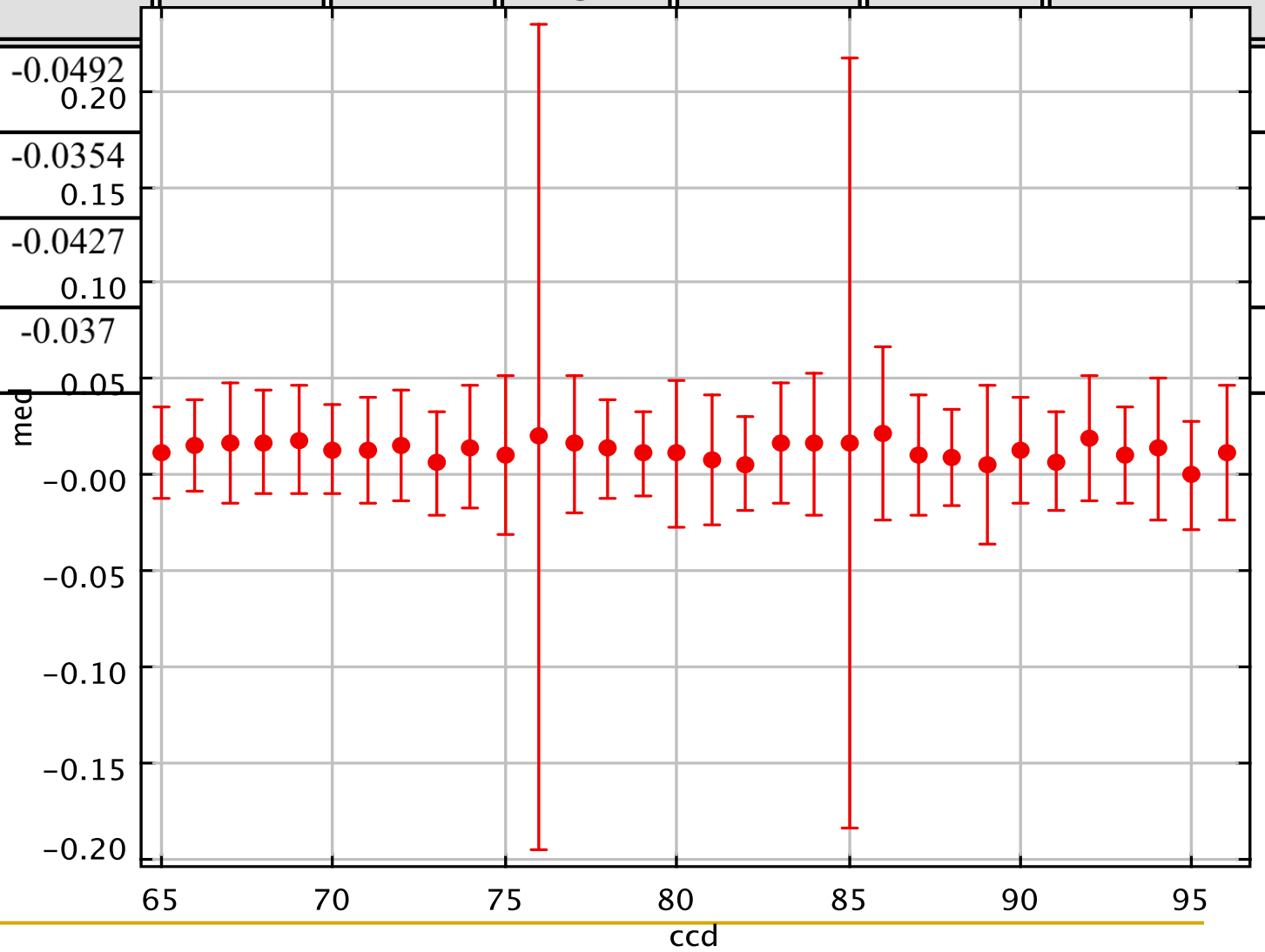
ccd82

Light reflections



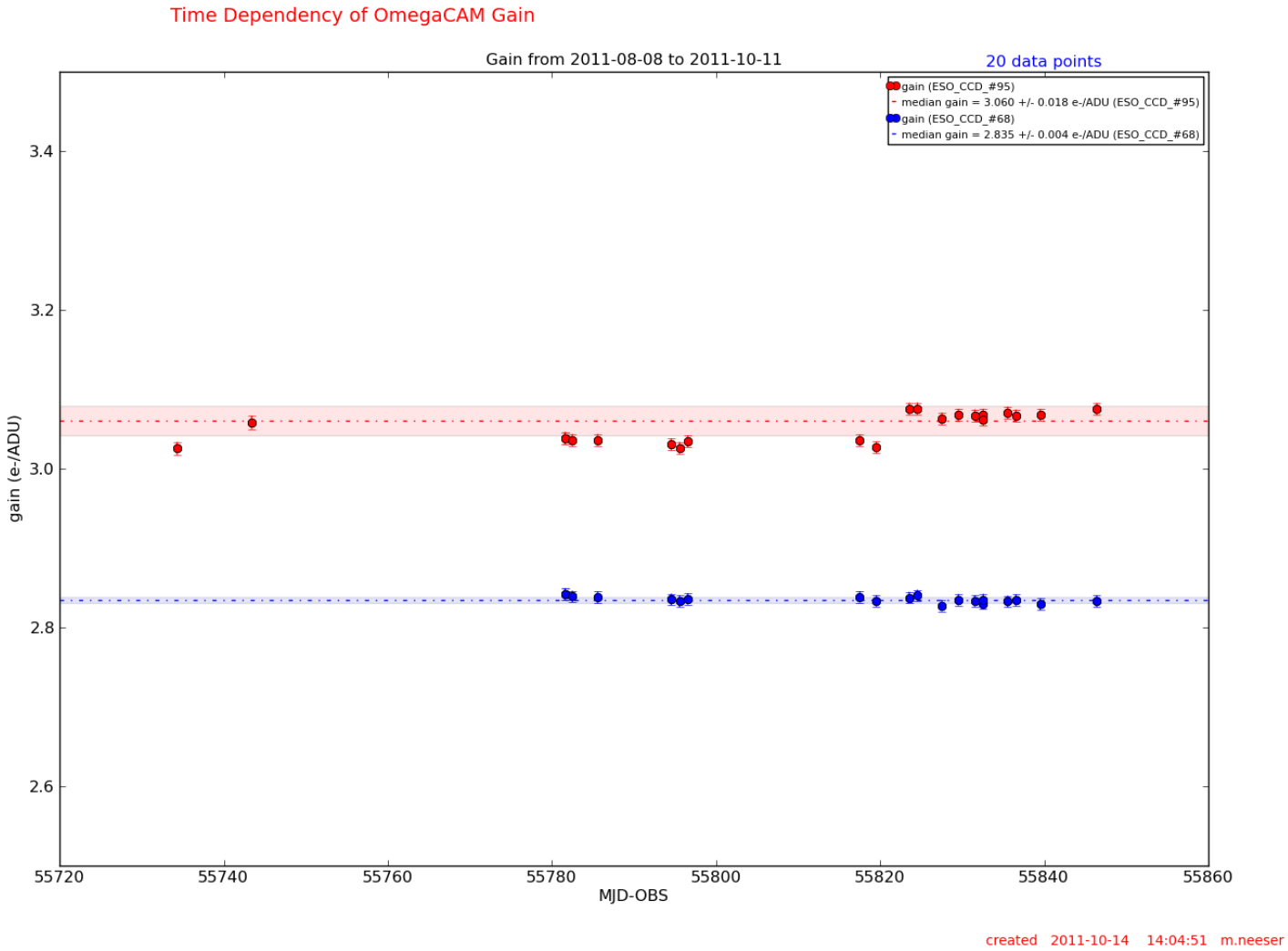
NGC253

CCD	Position	Min	Max	Ave	Sigma	Skewness	Kurtosis	Median
95	x=3480 y=17760	-0.0492						
88	X=2800 Y=14600	-0.0354						
73	X=17800 Y=7000	-0.0427						
68	X=10600 Y=4500	-0.037						



NGC253

From e-mail of Mark *Fri, Oct 14, 2011*




Thanks