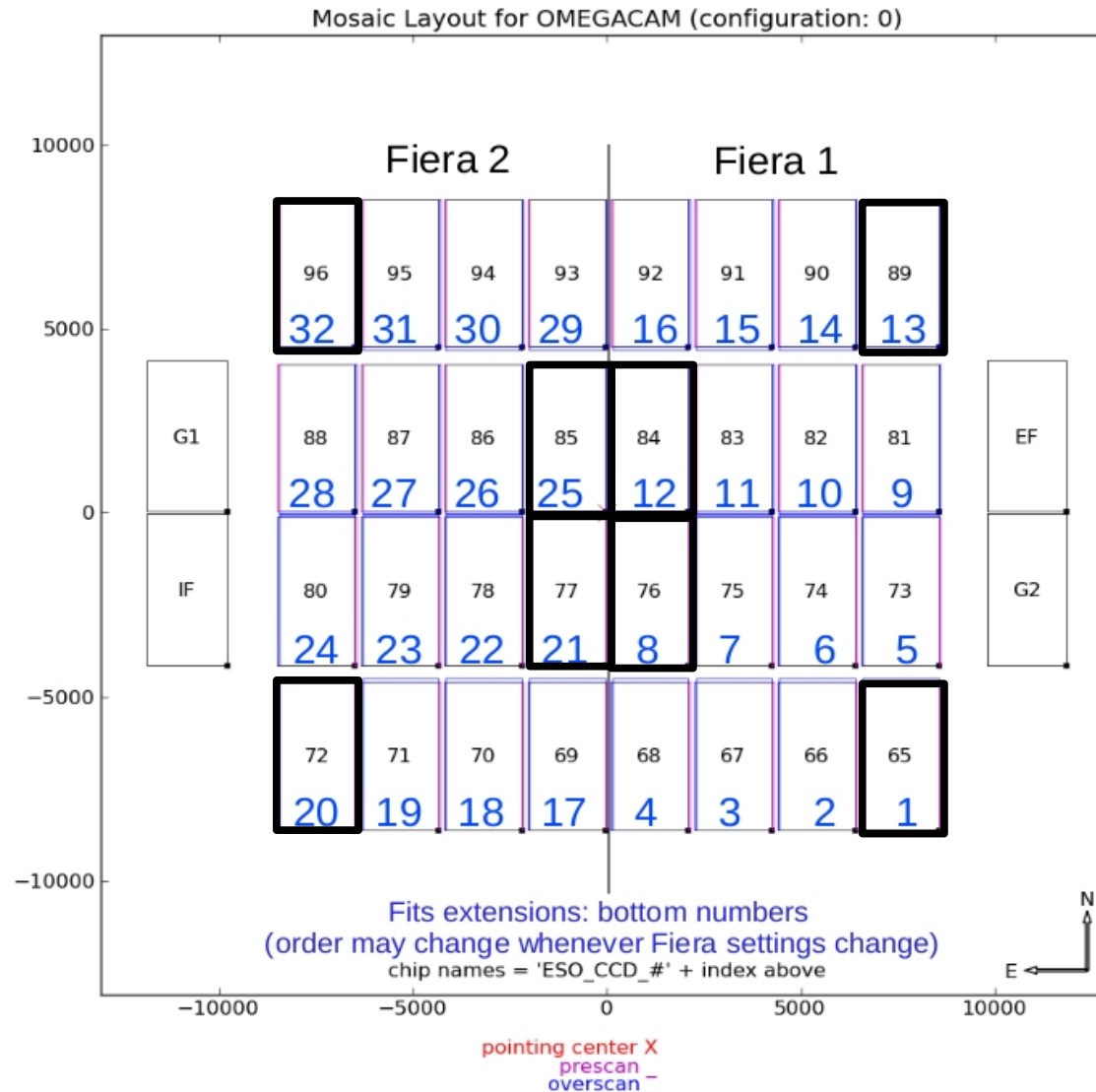


# OmegaCAM QC0 procedures

To enable real-time QC0 on Paranal via pipeline results, only 8 of the 32 chips are reduced. Tests in dry runs have shown that the sub-set of 8 chips is representative of the whole array.



# OmegaCAM QC0 procedures

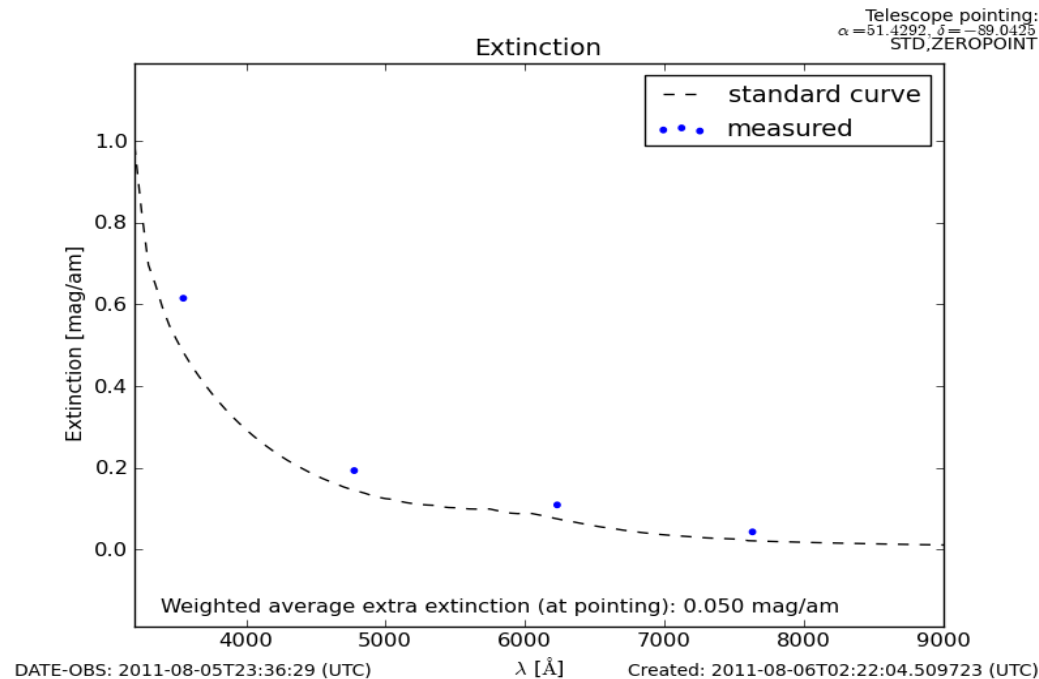
## Photometric monitoring and night classification

- Equatorial Standards in ugriz twice per night (evening twilight and middle of the night)
- Polar Monitoring field in u-g-r-i three times per night (start/middle/end)
- One equatorial standard in user band (e.g. H\_alpha, V\_John) whenever science was observed

## Classifications as PHOTOMETRIC if

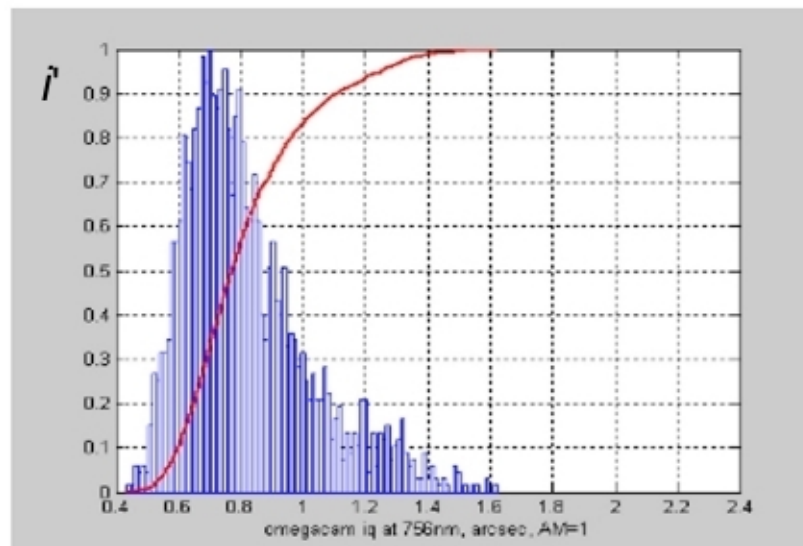
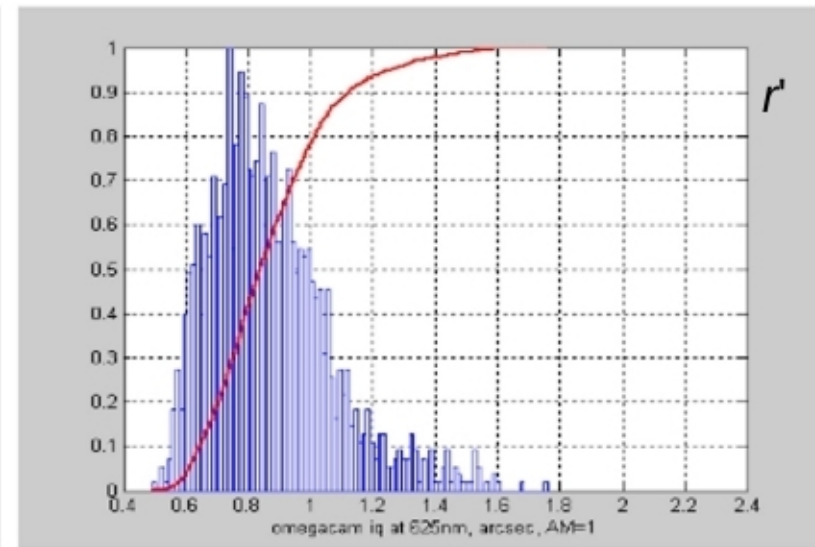
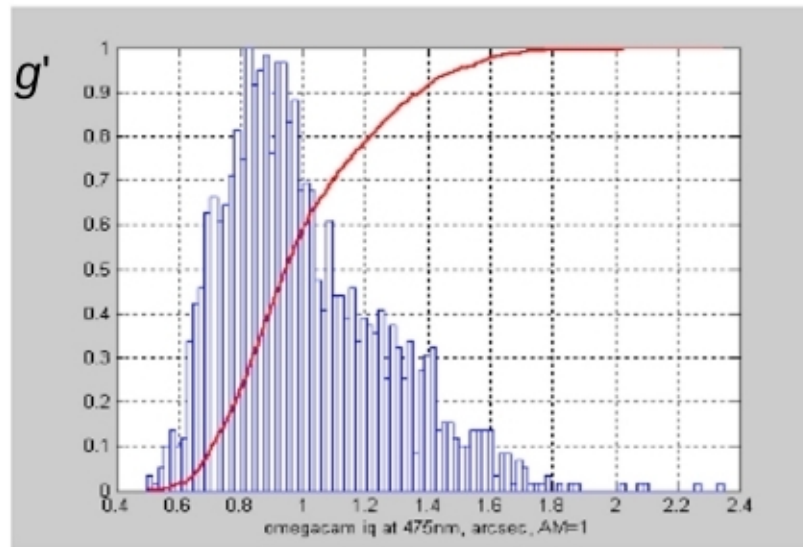
**Condition 1:** ZPs from gri equatorial standard is within 0.05 mag of long-term mean and the two nightly measurements differ by  $\leq 0.05$  mag (Paranal Rule).

**Condition 2:** Extinction from Polar field is between 0.04 and 0.09 mag (empirical calibration).



# OmegaCAM IQ distribution August – December 2011

-- each data point is average IQ in one image over full chip array --



**Median IQ in  $g'$       $\sim 0.95''$**   
**Median IQ in  $r'$       $\sim 0.85''$**   
**Median IQ in  $i'$       $\sim 0.80''$**

Internal IQ  $\sim 0.4-0.5''$

-> Outside median IQ  $\sim 0.80''$  @ 600nm

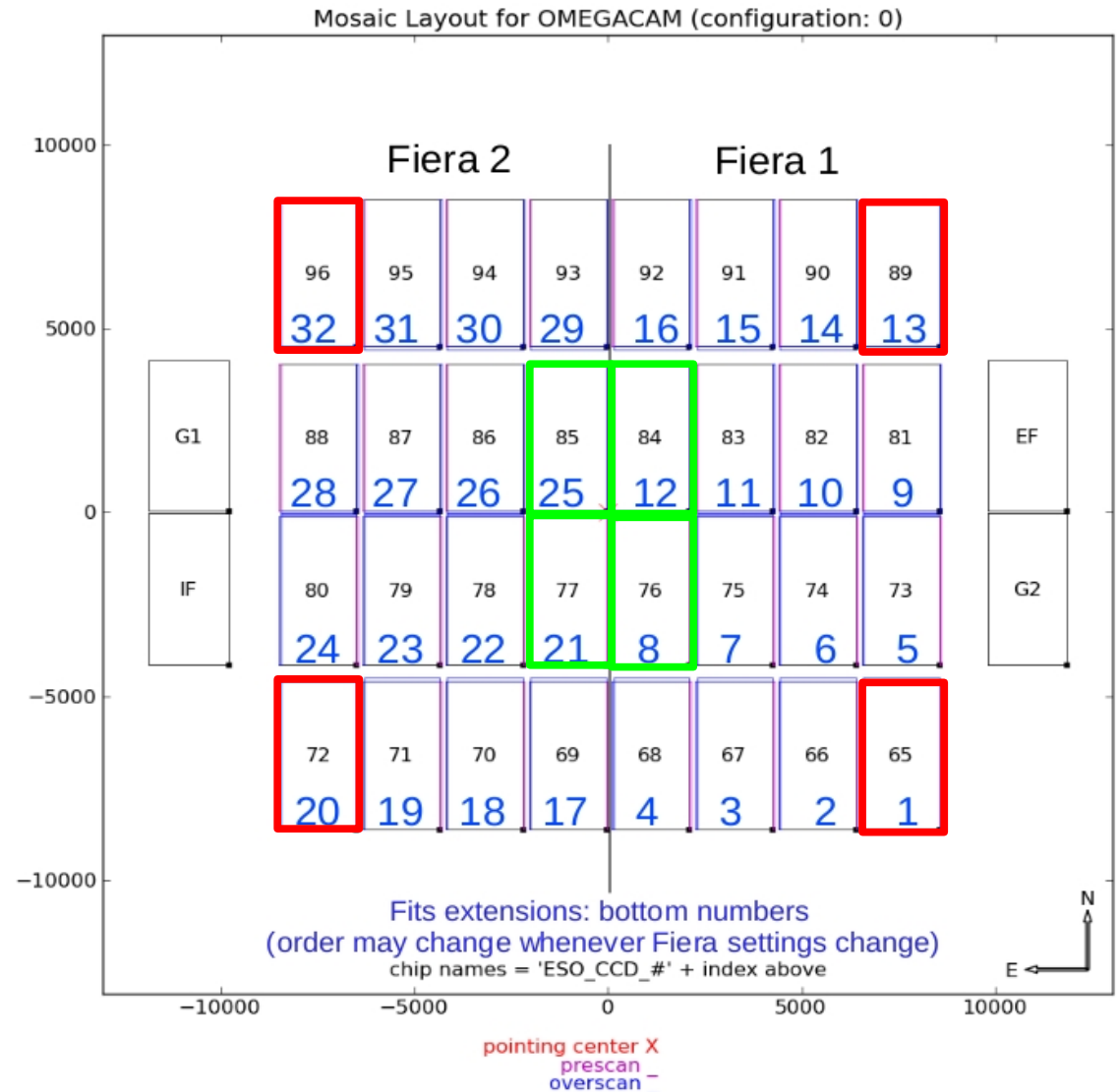
# OmegaCAM QC0 procedures

## QC0 parameters:

**IQ:** mean FWHM over all eight chips

**IQ variation:** ratio between FWHM in **inner** and **outer** four chips.

**Ellipticity:** mean ellipticity over all eight chips



# OmegaCAM QC0 procedures

## QC0 rules for single OBs:

### 'A' classification (fully within constraints):

- \* Average IQ < requested IQ.
- \* Average ellipticity < 0.10.
- \* Ellipticity < 0.20 for all individual chips.
- \* Image quality variation inner-vs-outer < 10%.

### 'B' classification (almost within constraints):

- \* Average IQ < 1.1 \* requested IQ.
- \*  $0.10 < \text{Average ellipticity} < 0.15$ .
- \* Between 1 and 4 of the 8 chips of any single exposure have ellipticity > 0.20
- \* Image quality variation inner-vs.outer between 10% and 25%.

### 'C' classification (out of constraints):

- \* Any of the criteria for B classification is not met

# OmegaCAM QC0 procedures

## QC0 rules for concatenations:

### A classification for OBs:

- \* As for individual OBs

### B classification for OBs in a concatenation (slightly more relaxed):

- \* Average IQ is within 0% and 20% of constraint.
- \* Average ellipticity is  $<0.15$ .
- \* Average image quality variation is between 10% and 30%.

**If the non-concat 'B' constraints (10% in IQ, 25% in IQ variation) are met on average over the full concatenation, then one can tolerate for individual OBs:**

- \* Between 0% and 10% of individual OBs have IQ more than 20% out of constraint (QC grade D)
- \* Between 0% and 10% of all chip exposures have ellipticity  $> 0.20$  (QC grade D)
- \* Between 0% and 10% of individual OBs have IQ variation beyond 30% (QC grade D)

### C classification of at least one OB --> Concat is repeated:

- \* Average IQ over all OBs is more than 10% of constraint.
- \* Average ellipticity over all OBs is  $>0.15$ .
- \* Average Image quality variation inner-vs-outer over all OBs is beyond 25%.

**If none of the above constraints is violated, then the concatenation can still go 'C' if one of the three following conditions apply:**

- \* More than 10% of individual OBs have image quality variation beyond 30%.
- \* More than 10% of all chip exposures have ellipticity  $> 0.20$
- \* More than 10% of individual OBs have IQ more than 20% out of constraint.

# OmegaCAM QC0 procedures

## QC0 rules for concatenations:

Example 1 for IQ in ATLAS concat of 16 Obs, with 1.4" as FWHM constraint: **Concat is completed**

1.3  
1.3  
1.3  
1.5 <10% B  
1.6 <20% B  
1.7 >20% ! D: only one OB in concat affected  
1.5 <10% B  
1.4  
1.4  
1.3  
1.4  
1.4  
1.5 <10% B  
1.4  
1.6 <20% B  
1.2  
Avg < 1.4\*1.1

# OmegaCAM QC0 procedures

## QC0 rules for concatenations:

Example 2 for IQ in ATLAS concat of 16 Obs, with 1.4" as FWHM constraint: **Concat must be repeated**

1.3

1.3

1.3

1.5 <10% B

1.6 <20% B

1.7 >20% ! D: only one OB in concat affected

1.5 <10% B

1.4

1.4

1.3

1.4

1.4

1.5 <10% B

1.4

1.7 >20% ! C: second 'red' OB, hence more than 10% of OBs

1.2

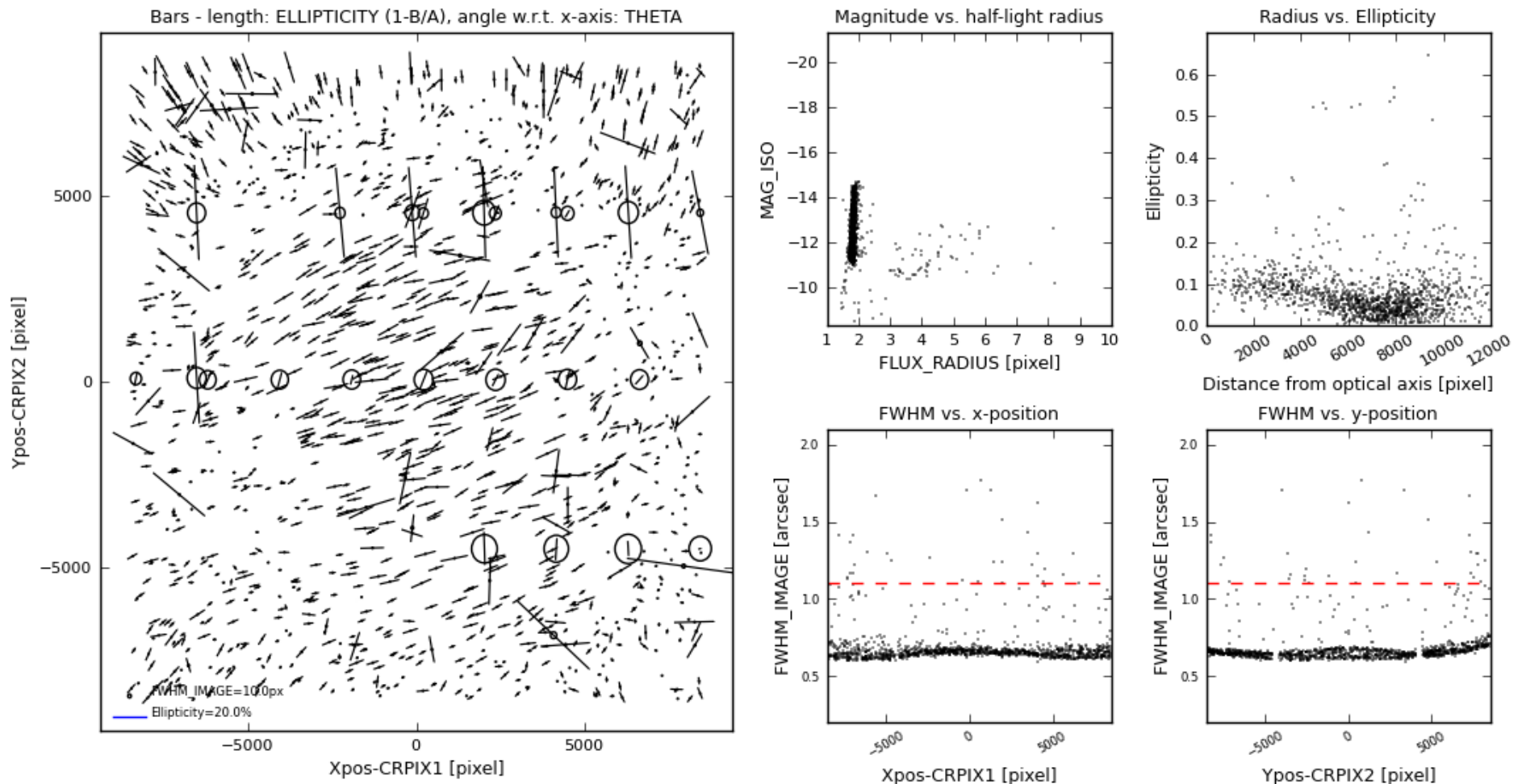
Avg < 1.4\*1.1



# OmegaCAM QC0 procedures

Output of Groningen AWE script OCAM\_psf\_anisotropy, used for special case analysis.

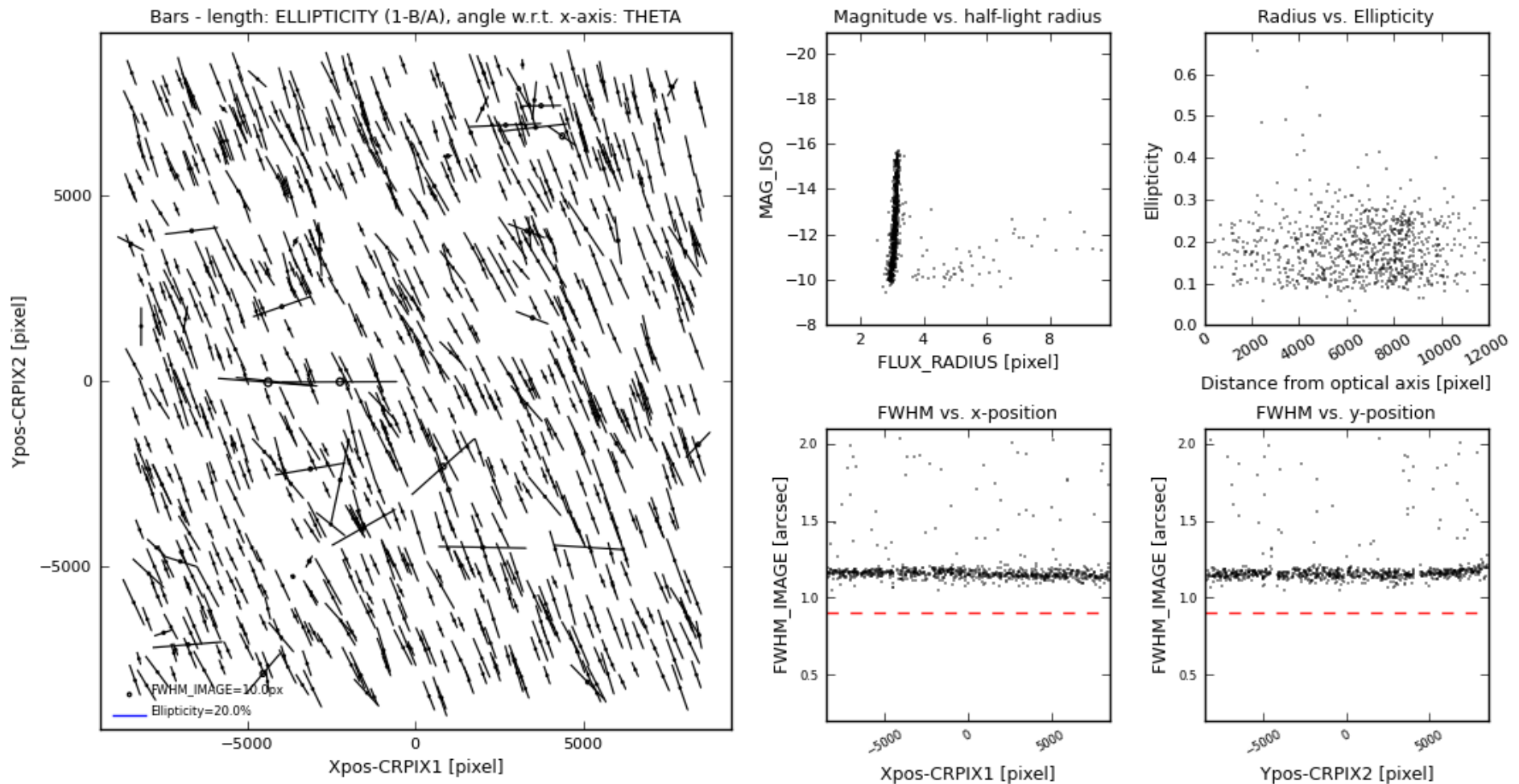
'SF Anisotropy for frames with DATE-OBS 2011-09-03 02:29:07, filter SloanI (32 frame(s)), target=KIDS\_339.0\_-31.  
Alt=62.385 Az=290.349 Rot=96.55557 Seeing=0.92 WindDir=200.0 WinsSp=2.69



# OmegaCAM QC0 procedures

Output of Groningen AWE script OCAM\_psf\_anisotropy, used for special case analysis.

PSF Anisotropy for frames with DATE-OBS 2012-03-17 05:54:55, filter SloanG (32 frame(s)), target=KIDS\_180.0\_1.1  
Alt=60.945 Az=151.63 Rot=-26.89302 Seeing=0.63 WindDir=17.0 Winsp=6.34



# OmegaCAM QC0 procedures

Description CLASSIFICATION:  
Se : Seeing  
ID : Image Quality Degradation  
ME : Mean Ellipticity  
Ai : Airmass  
MD : Moon Distance  
MD : Moon FLI

## Paranal QC0 script output

Date	OBid	Filter	ImaQuality				Ellipticity	N_El	MeanIQ		IQ_degr		MeanELL(%)		msg	CLASSIFICATION						CONCATEN. contain.ID	IQ Req	IQ Concat	Degr Concat	Ell Concat		
			Chip65	Chip76	Chip85	Chip96			Ima	OB/F	IQ	OB/F	Ima	OB/F		Se	ID	ME	Ai	MD	FL						FINAL	
2011-11-05T23:56:32	595887	u_SDSS	1.49", 2	1.44", 4	1.44", 4	1.45", 4	0	1.45"	1.45"	1.9	1.9	3.7	3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	STD	
2011-11-06T00:03:19	595887	g_SDSS	1.38", 3	1.42", 3	1.42", 3	1.42", 4	0	1.41"	1.41"	0.9	0.9	3.7	3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	STD	
2011-11-06T00:06:05	595887	r_SDSS	1.26", 6	1.24", 4	1.28", 5	1.21", 3	0	1.24"	1.24"	2.1	2.1	4.0	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	STD	
2011-11-06T00:09:00	595887	i_SDSS	1.30", 4	1.38", 4	1.36", 4	1.23", 2	0	1.31"	1.31"	9.3	9.3	4.0	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	STD	
2011-11-06T00:12:45	595887	z_SDSS	1.04", 4	1.21", 7	1.17", 4	1.04", 3	0	1.11"	1.11"	14.3	14.3	5.1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	STD	
2011-11-06T00:23:04	596089	u_g_r_i_SDSS	0.00", 0	0.00", 0	0.00", 0	0.00", 0	0	0.00"	0.00"	0.0	0.0	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	STD	
2011-11-06T00:42:33	628093	z_SDSS	0.99", 10	0.91", 5	0.92", 5	0.98", 7	0	0.94"	--	6.0	-	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T00:44:02	628093	z_SDSS	0.98", 9	0.90", 5	0.93", 7	0.93", 6	0	0.93"	0.94"	2.5	4.3	5.5	5.2	A	A	A	A	A	A	A	A	-	-	1.4	0.94	4.3	5.2	(628092)
2011-11-06T00:45:47	628096	z_SDSS	1.03", 7	0.92", 4	0.93", 3	0.97", 3	0	0.95"	--	5.6	-	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T00:47:15	628096	z_SDSS	0.95", 10	0.87", 5	0.87", 3	0.91", 9	0	0.89"	0.92"	6.5	6.0	4.8	4.2	A	A	A	A	A	A	A	A	-	-	1.4	0.93	5.1	4.7	(628092)
2011-11-06T00:49:04	628099	z_SDSS	0.91", 7	0.84", 4	0.80", 4	0.84", 4	0	0.85"	--	5.6	-	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T00:50:31	628099	z_SDSS	1.05", 8	0.99", 3	1.01", 4	1.02", 6	0	1.02"	0.94"	3.9	4.7	4.6	4.3	A	A	A	A	A	A	A	A	-	-	1.4	0.93	5.0	4.6	(628092)
2011-11-06T00:52:21	628102	z_SDSS	1.10", 7	1.07", 4	1.07", 3	1.02", 4	0	1.06"	--	1.4	-	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T00:53:46	628102	z_SDSS	0.93", 5	0.92", 4	0.92", 4	0.89", 4	0	0.92"	0.99"	1.4	1.4	4.2	4.2	A	A	A	A	A	A	A	A	-	-	1.4	0.95	4.1	4.5	(628092)
2011-11-06T00:55:32	628105	z_SDSS	1.25", 5	1.21", 4	1.21", 3	1.22", 4	0	1.21"	--	0.6	-	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T00:56:58	628105	z_SDSS	1.04", 5	1.02", 5	1.02", 5	1.01", 5	0	1.01"	1.11"	0.2	0.4	4.3	4.0	A	A	A	A	A	A	A	A	-	-	1.4	0.98	3.4	4.4	(628092)
2011-11-06T00:58:46	628108	z_SDSS	0.94", 7	0.90", 4	0.94", 3	0.93", 6	0	0.92"	--	0.7	-	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T01:00:11	628108	z_SDSS	1.04", 5	1.04", 4	1.02", 4	0.95", 4	0	1.02"	0.97"	2.3	1.5	4.0	4.2	A	A	A	A	A	A	A	A	-	-	1.4	0.98	3.0	4.3	(628092)
2011-11-06T01:02:04	628111	z_SDSS	0.92", 5	0.97", 3	0.99", 2	0.91", 4	0	0.95"	--	6.1	-	3.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T01:03:29	628111	z_SDSS	1.03", 5	0.98", 5	0.97", 6	0.96", 2	0	0.98"	0.96"	0.7	3.4	4.0	3.6	A	A	A	A	A	A	A	A	-	-	1.4	0.97	3.1	4.2	(628092)
2011-11-06T01:05:15	628114	z_SDSS	1.08", 7	1.07", 4	1.06", 4	1.02", 4	0	1.06"	--	2.6	-	4.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T01:06:44	628114	z_SDSS	1.14", 8	1.07", 6	1.06", 5	1.09", 5	0	1.09"	1.08"	4.5	3.5	4.9	4.6	A	A	A	A	A	A	A	A	-	-	1.4	0.99	3.1	4.3	(628092)
2011-11-06T01:14:05	628117	z_SDSS	1.03", 8	0.93", 6	0.94", 4	0.95", 3	0	0.96"	--	5.4	-	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T01:15:31	628117	z_SDSS	1.14", 10	1.00", 6	0.99", 4	1.03", 8	0	1.03"	0.99"	7.4	6.4	6.0	5.8	A	A	A	A	A	A	A	A	-	-	1.4	0.99	3.5	4.4	(628092)
2011-11-06T01:17:20	628120	z_SDSS	1.07", 7	0.91", 3	0.90", 3	0.98", 5	0	0.97"	--	11.7	-	4.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T01:18:46	628120	z_SDSS	1.05", 10	0.86", 6	0.85", 4	0.94", 6	0	0.93"	0.95"	14.8	13.3	5.5	4.8	A	B	A	A	A	A	A	B	-	-	1.4	0.98	4.5	4.5	(628092)
2011-11-06T01:20:35	628123	z_SDSS	0.94", 4	0.97", 8	0.97", 5	0.90", 5	0	0.95"	--	5.0	-	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T01:22:03	628123	z_SDSS	0.87", 6	0.82", 4	0.81", 4	0.76", 5	0	0.82"	0.89"	1.3	3.1	5.2	5.4	A	A	A	A	A	A	A	A	-	-	1.4	0.98	4.4	4.6	(628092)
2011-11-06T01:23:56	628126	z_SDSS	0.99", 6	0.92", 3	0.93", 3	0.96", 5	0	0.95"	--	4.3	-	4.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T01:25:24	628126	z_SDSS	1.01", 5	0.96", 3	0.93", 6	0.89", 4	0	0.94"	0.94"	0.3	2.3	5.0	4.7	A	A	A	A	A	A	A	A	-	-	1.4	0.97	4.2	4.6	(628092)
2011-11-06T01:27:13	628129	z_SDSS	1.02", 9	0.94", 6	0.94", 7	0.94", 5	0	0.96"	--	4.4	-	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T01:28:38	628129	z_SDSS	1.20", 8	1.04", 9	1.06", 8	1.08", 6	0	1.09"	1.02"	6.0	5.2	7.3	7.0	A	A	A	A	A	A	A	A	-	-	1.4	0.98	4.3	4.8	(628092)
2011-11-06T01:30:26	628132	z_SDSS	1.10", 8	0.99", 9	0.98", 7	1.07", 8	0	1.03"	--	9.4	-	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T01:31:53	628132	z_SDSS	1.08", 8	1.00", 7	0.98", 7	1.00", 7	0	1.02"	1.02"	5.6	7.5	6.7	6.8	A	A	A	A	A	A	A	A	-	-	1.4	0.98	4.5	4.9	(628092)
2011-11-06T01:33:40	628135	z_SDSS	0.91", 6	0.81", 6	0.81", 7	0.84", 5	0	0.86"	--	9.5	-	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T01:35:05	628135	z_SDSS	1.02", 6	1.01", 11	0.94", 8	0.88", 4	0	0.97"	0.92"	4.1	6.8	7.7	7.0	A	A	A	A	A	A	A	A	-	-	1.4	0.98	4.7	5.0	(628092)
2011-11-06T01:36:53	628138	z_SDSS	1.02", 7	0.95", 6	0.97", 8	1.02", 6	0	0.99"	--	6.4	-	5.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T01:38:20	628138	z_SDSS	1.10", 6	1.04", 8	1.04", 6	1.04", 6	0	1.06"	1.02"	2.4	4.4	6.3	6.1	A	A	A	A	A	A	A	A	-	-	1.4	0.98	4.6	5.1	(628092)
2011-11-06T01:40:11	628141	z_SDSS	1.20", 7	1.13", 10	1.13", 10	1.13", 4	0	1.14"	--	3.0	-	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628092)	
2011-11-06T01:41:39	628141	z_SDSS	1.10", 7	1.08", 8	1.09", 8	1.07", 4	0	1.10"	1.12"	2.1	2.5	7.0	7.0	A	A	A	A	A	A	A	A	-	-	1.4	0.99	4.5	5.2	(628092)
2011-11-06T01:51:33	628301	z_SDSS	0.87", 10	0.79", 5	0.78", 4	0.78", 10	0	0.80"	--	2.7	-	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(628300)	
2011-11-06T01:53:00	628301	z_SDSS	0.81", 5	0.85", 7	0.85", 6	0.83", 5	0	0.83"	0.81"	5.2	3.9	5.9	6.2	A	A	A	A	A	A	A	A	-	-	1.4	0.81	3.9	6.2	(628300)



2011-11-08T01:56:01	613956	i_SDSS	0.88", 8	0.84", 9	0.86", 11	0.97", 11	0	0.88" --	6.7 -	9.9 -	- - - -	B -	B
2011-11-08T02:00:41	613956	i_SDSS	0.88", 7	0.84", 7	0.85", 9	0.96", 8	0	0.88" 0.90"	6.7 3.9	8.7 9.8	- - - -	A A A A	B A
2011-11-08T02:11:39	614008	i_SDSS	0.85", 10	0.87", 12	0.86", 11	0.92", 10	0	0.87" --	2.3 -	10.7 -	- - - -	B -	B
2011-11-08T02:16:19	614008	i_SDSS	0.84", 10	0.87", 14	0.86", 13	0.88", 10	0	0.86" --	1.9 -	12.0 -	- - - -	B -	B
2011-11-08T02:21:03	614008	i_SDSS	0.91", 9	0.92", 13	0.92", 12	0.93", 12	0	0.92" --	1.3 -	11.7 -	- - - -	B -	B
2011-11-08T02:25:47	614008	i_SDSS	0.93", 8	0.83", 12	0.83", 11	0.95", 12	0	0.88" --	12.1 -	10.4 -	- - - -	B -	B
2011-11-08T02:30:31	614008	i_SDSS	0.92", 8	0.89", 11	0.89", 12	0.95", 10	0	0.91" 0.89"	4.1 4.3	10.3 11.0	- - - -	A A B A	B A
2011-11-08T02:41:36	614086	i_SDSS	0.86", 7	0.84", 12	0.85", 11	0.91", 12	0	0.87" --	3.8 -	10.5 -	- - - -	B -	B
2011-11-08T02:46:16	614086	i_SDSS	0.84", 6	0.84", 10	0.84", 11	0.88", 11	0	0.85" --	2.2 -	9.3 -	- - - -	B -	B
2011-11-08T02:51:00	614086	i_SDSS	0.85", 6	0.83", 9	0.83", 10	0.86", 10	0	0.84" --	2.1 -	9.1 -	- - - -	B -	B
2011-11-08T02:55:40	614086	i_SDSS	0.83", 7	0.82", 11	0.82", 11	0.84", 11	0	0.83" --	2.2 -	9.8 -	- - - -	B -	B
2011-11-08T03:00:24	614086	i_SDSS	0.84", 7	0.82", 10	0.83", 11	0.87", 10	0	0.84" 0.85"	3.1 2.7	9.4 9.6	- - - -	A A A A	B A
2011-11-08T03:12:13	613943	i_SDSS	0.78", 9	0.78", 12	0.79", 11	0.78", 10	0	0.78" --	0.0 -	11.7 -	- - - -	B -	B
2011-11-08T03:16:57	613943	i_SDSS	0.77", 8	0.79", 11	0.79", 12	0.78", 10	0	0.78" --	1.5 -	10.6 -	- - - -	B -	B
2011-11-08T03:21:41	613943	i_SDSS	0.94", 8	0.90", 11	0.91", 12	0.95", 7	0	0.92" --	3.9 -	10.2 -	- - - -	B -	B
2011-11-08T03:26:25	613943	i_SDSS	0.93", 8	0.89", 9	0.89", 11	0.91", 6	0	0.91" --	3.0 -	9.3 -	- - - -	B -	B
2011-11-08T03:31:05	613943	i_SDSS	0.91", 13	0.89", 15	0.90", 16	0.94", 11	0	0.91" 0.86"	3.6 2.4	15.3 11.4	- - - -	A A B A	B A
2011-11-08T03:41:37	613982	i_SDSS	0.91", 7	0.88", 12	0.89", 11	0.91", 7	0	0.90" --	3.6 -	10.2 -	- - - -	B -	B
2011-11-08T03:46:21	613982	i_SDSS	0.85", 7	0.84", 12	0.86", 11	0.89", 10	0	0.86" --	2.3 -	9.8 -	- - - -	B -	B
2011-11-08T03:51:02	613982	i_SDSS	0.98", 14	0.97", 20	0.98", 21	0.99", 18	3	0.98" --	0.7 -	18.2 -	- - - -	B -	B
2011-11-08T03:55:46	613982	i_SDSS	0.90", 17	0.90", 23	0.91", 21	0.91", 19	5!!	0.91" --	1.2 -	20.1 -	- - - -	C -	C
2011-11-08T04:00:28	613982	i_SDSS	0.91", 17	0.89", 21	0.90", 20	0.92", 19	4	0.90" 0.91"	2.3 2.0	20.1 15.7	- - - -	A A C A	B A
2011-11-08T04:11:42	596089	u_g_r_i_SDSS	0.00", 0	0.00", 0	0.00", 0	0.00", 0	0	0.00" 0.00"	0.0 0.0	0.0 0.0	- - - -	- -	-
2011-11-08T04:26:50	595895	u_SDSS	0.00", 0	0.92", 3	0.93", 1	0.96", 2	0	0.94" 0.94"	3.0 3.0	2.6 2.6	- - - -	- -	-
2011-11-08T04:33:35	595895	g_SDSS	0.00", 0	0.87", 2	0.90", 2	0.77", 2	0	0.86" 0.86"	12.0 12.0	2.3 2.3	- - - -	- -	-
2011-11-08T04:36:22	595895	r_SDSS	0.00", 0	0.58", 2	0.61", 3	0.58", 4	0	0.60" 0.60"	0.8 0.8	2.9 2.9	- - - -	- -	-
2011-11-08T04:39:19	595895	i_SDSS	0.00", 0	0.66", 7	0.65", 6	0.57", 3	0	0.63" 0.63"	11.4 11.4	6.0 6.0	- - - -	- -	-
2011-11-08T04:42:59	595895	z_SDSS	0.00", 0	0.58", 7	0.59", 7	0.67", 6	0	0.61" 0.61"	10.9 10.9	7.0 7.0	- - - -	- -	-
2011-11-08T04:56:27	613774	i_SDSS	0.66", 19	0.63", 17	0.60", 13	0.74", 4	0	0.66" --	11.2 -	14.6 -	- - - -	B -	B
2011-11-08T05:01:08	613774	i_SDSS	0.58", 3	0.59", 7	0.60", 7	0.74", 6	0	0.62" --	6.9 -	6.0 -	- - - -	B -	B
2011-11-08T05:05:52	613774	i_SDSS	0.67", 7	0.62", 6	0.64", 7	0.76", 6	0	0.67" --	9.8 -	6.2 -	- - - -	B -	B
2011-11-08T05:10:33	613774	i_SDSS	0.67", 4	0.63", 6	0.64", 6	0.76", 5	0	0.67" --	12.4 -	5.4 -	- - - -	B -	B
2011-11-08T05:15:17	613774	i_SDSS	0.68", 3	0.67", 6	0.67", 5	0.76", 5	0	0.69" 0.66"	5.5 9.2	4.9 7.4	- - - -	A A A A	B A
2011-11-08T05:26:39	613839	i_SDSS	0.81", 4	0.79", 7	0.80", 7	0.88", 4	0	0.81" --	4.6 -	5.7 -	- - - -	B -	B
2011-11-08T05:31:24	613839	i_SDSS	0.91", 5	0.82", 6	0.83", 5	0.95", 4	0	0.87" --	11.7 -	4.6 -	- - - -	B -	B
2011-11-08T05:36:04	613839	i_SDSS	0.84", 4	0.81", 5	0.83", 5	0.92", 3	0	0.84" --	6.4 -	4.5 -	- - - -	B -	B
2011-11-08T05:40:48	613839	i_SDSS	0.89", 3	0.87", 4	0.88", 4	0.94", 3	0	0.89" --	4.6 -	3.7 -	- - - -	B -	B
2011-11-08T05:47:01	613839	i_SDSS	0.00", 0	14.14", 52	16.02", 51	0.00", 0	3	15.69" 3.82"	0.0 5.5	50.1 13.7	- - - -	C A B A	B A
2011-11-08T06:00:24	613839	i_SDSS	0.77", 3	0.74", 5	0.76", 4	0.83", 4	0	0.77" --	6.6 -	4.4 -	- - - -	B -	B
2011-11-08T06:05:09	613839	i_SDSS	0.82", 3	0.81", 4	0.82", 4	0.85", 3	0	0.82" --	2.1 -	3.9 -	- - - -	B -	B
2011-11-08T06:09:48	613839	i_SDSS	0.87", 3	0.87", 3	0.88", 4	0.90", 4	0	0.88" --	1.1 -	3.3 -	- - - -	B -	B
2011-11-08T06:14:32	613839	i_SDSS	0.87", 4	0.84", 3	0.86", 3	0.89", 6	0	0.86" --	2.6 -	3.9 -	- - - -	B -	B

Out of constraints for ellipticity

Runner Quality Results

2011-11-08T01:56:01 (

2011-11-08T02:00:41 (

2011-11-08T02:11:39 (

2011-11-08T02:16:19 (

2011-11-08T02:21:03 (

2011-11-08T02:25:47 (

2011-11-08T02:30:31 (

2011-11-08T02:41:36 (

2011-11-08T02:46:16 (

2011-11-08T02:51:00 (

2011-11-08T02:55:40 (

2011-11-08T03:00:24 (

2011-11-08T03:12:13 (

2011-11-08T03:16:57 (

2011-11-08T03:21:41 (

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2011-11-08T03:46:21 (

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2011-11-08T03:55:46 (

2011-11-08T04:00:28 (

2011-11-08T04:11:42 !

2011-11-08T04:26:50 !

2011-11-08T04:33:35 !

2011-11-08T04:36:22 !

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2011-11-08T05:36:04 (

2011-11-08T05:40:48 613839 i\_SDSS

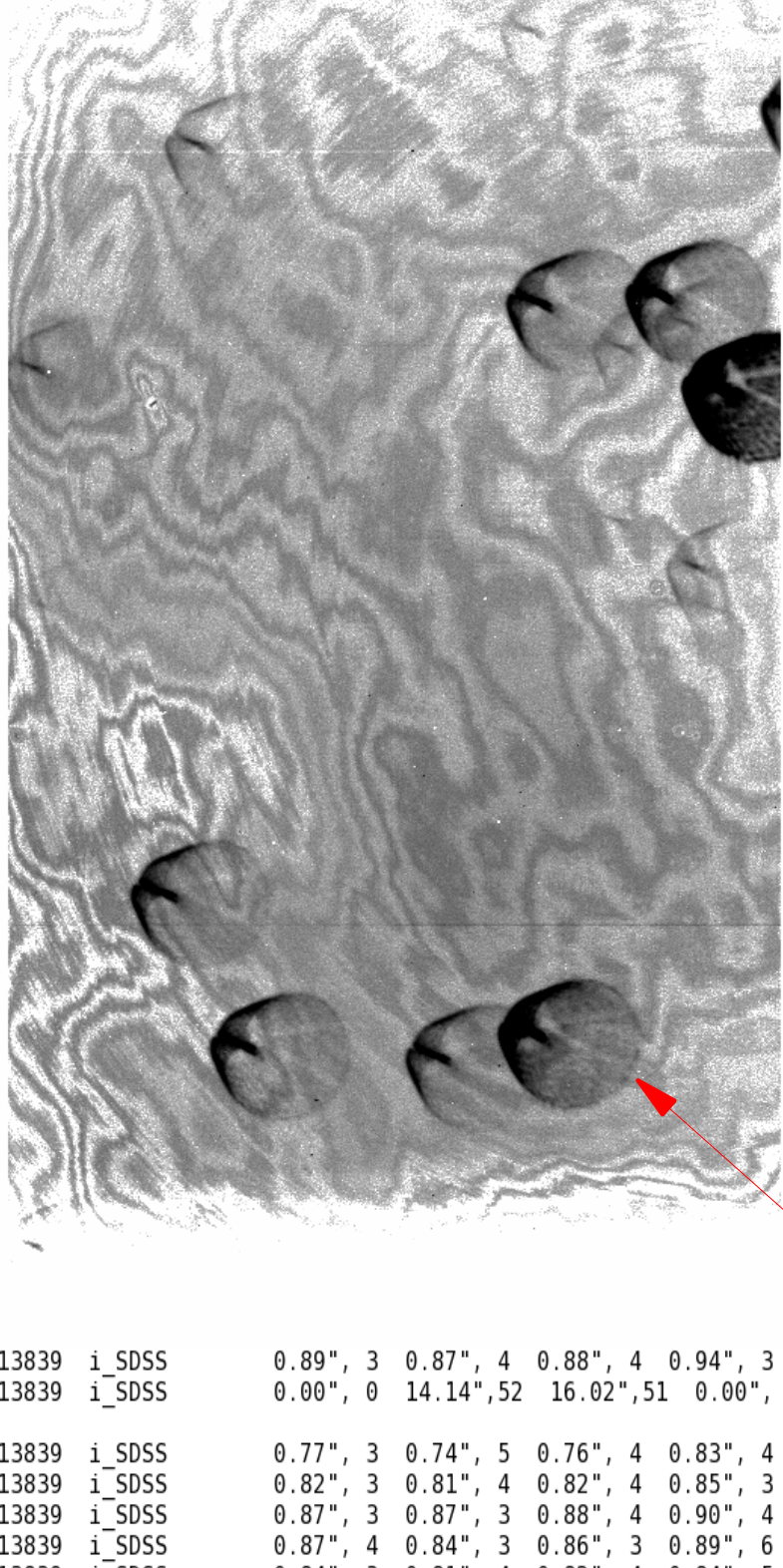
2011-11-08T05:47:01 613839 i\_SDSS

2011-11-08T06:00:24 613839 i\_SDSS

2011-11-08T06:05:09 613839 i\_SDSS

2011-11-08T06:09:48 613839 i\_SDSS

2011-11-08T06:14:32 613839 i\_SDSS



# procedures

0	0.88"	--	6.7	-	9.9	-	-	-	-	B	-	B
0	0.88"	0.90"	6.7	3.9	8.7	9.8	A	A	A	A	B	A
0	0.87"	--	2.3	-	10.7	-	-	-	-	B	-	B
0	0.86"	--	1.9	-	12.0	-	-	-	-	B	-	B
0	0.92"	--	1.3	-	11.7	-	-	-	-	B	-	B
0	0.88"	--	12.1	-	10.4	-	-	-	-	B	-	B
0	0.91"	0.89"	4.1	4.3	10.3	11.0	A	A	B	A	B	A
0	0.87"	--	3.8	-	10.5	-	-	-	-	B	-	B
0	0.85"	--	2.2	-	9.3	-	-	-	-	B	-	B
0	0.84"	--	2.1	-	9.1	-	-	-	-	B	-	B
0	0.83"	--	2.2	-	9.8	-	-	-	-	B	-	B
0	0.84"	0.85"	3.1	2.7	9.4	9.6	A	A	A	A	B	A
0	0.78"	--	0.0	-	11.7	-	-	-	-	B	-	B
0	0.78"	--	1.5	-	10.6	-	-	-	-	B	-	B
0	0.92"	--	3.9	-	10.2	-	-	-	-	B	-	B
0	0.91"	--	3.0	-	9.3	-	-	-	-	B	-	B
0	0.91"	0.86"	3.6	2.4	15.3	11.4	A	A	B	A	B	A
0	0.90"	--	3.6	-	10.2	-	-	-	-	B	-	B
0	0.86"	--	2.3	-	9.8	-	-	-	-	B	-	B
3	0.98"	--	0.7	-	18.2	-	-	-	B	-	B	-
5!!	0.91"	--	1.2	-	20.1	-	-	-	C	-	B	-
4	0.90"	0.91"	2.3	2.0	20.1	15.7	A	A	C	A	B	A
0	0.00"	0.00"	0.0	0.0	0.0	0.0	-	-	-	-	-	-
0	0.94"	0.94"	3.0	3.0	2.6	2.6	-	-	-	-	-	-
0	0.86"	0.86"	12.0	12.0	2.3	2.3	-	-	-	-	-	-
0	0.60"	0.60"	0.8	0.8	2.9	2.9	-	-	-	-	-	-
0	0.63"	0.63"	11.4	11.4	6.0	6.0	-	-	-	-	-	-
0	0.61"	0.61"	10.9	10.9	7.0	7.0	-	-	-	-	-	-
0	0.66"	--	11.2	-	14.6	-	-	-	-	B	-	B
0	0.62"	--	6.9	-	6.0	-	-	-	-	B	-	B
0	0.67"	--	9.8	-	6.2	-	-	-	-	B	-	B
0	0.67"	--	12.4	-	5.4	-	-	-	-	B	-	B
0	0.69"	0.66"	5.5	9.2	4.9	7.4	A	A	A	A	B	A
0	0.81"	--	4.6	-	5.7	-	-	-	-	B	-	B
0	0.87"	--	11.7	-	4.6	-	-	-	-	B	-	B
0	0.84"	--	6.4	-	4.5	-	-	-	-	B	-	B
0	0.85"	--	4.6	-	3.7	-	-	-	-	B	-	B
3	15.69"	3.82"	0.0	5.5	50.1	13.7	C	A	B	A	B	A
0	0.77"	--	6.6	-	4.4	-	-	-	-	B	-	B
0	0.82"	--	2.1	-	3.9	-	-	-	-	B	-	B
0	0.88"	--	1.1	-	3.3	-	-	-	-	B	-	B
0	0.86"	--	2.6	-	3.9	-	-	-	-	B	-	B

2011-11-04T01:56:58	627215	i_SDSS	0.62", 6	0.67", 5	0.69", 5	0.65", 8	0	0.68"	--	0.2	-	6.1	-	-	-	-	-	-	(627214)					
2011-11-04T01:58:24	627215	i_SDSS	0.63", 5	0.76", 8	0.76", 8	0.63", 7	0	0.70"	0.69"	17.2	8.7	7.4	6.8	A	A	A	A	A	A	(627214)	1.4	0.69	8.7	6.8
2011-11-04T02:12:38	627215	i_SDSS	0.85", 3	0.90", 11	0.90", 10	0.82", 6	0	0.86"	--	7.5	-	8.2	-	-	-	-	-	-	(627214)					
2011-11-04T02:15:09	627215	i_SDSS	0.82", 4	0.87", 13	0.87", 10	0.76", 7	0	0.83"	0.84"	10.0	8.8	9.0	8.6	A	A	A	A	A	A	(627214)	1.4	0.77	8.7	7.7
2011-11-04T02:17:25	627218	i_SDSS	0.82", 5	0.78", 9	0.77", 8	0.74", 5	0	0.79"	--	3.3	-	7.3	-	-	-	-	-	-	(627214)					
2011-11-04T02:18:50	627218	i_SDSS	0.84", 6	0.85", 8	0.86", 6	0.83", 9	0	0.86"	0.82"	0.8	2.1	7.2	7.2	A	A	A	A	A	A	(627214)	1.4	0.79	6.5	7.5
2011-11-04T02:20:40	627221	i_SDSS	0.95", 5	1.00", 11	1.01", 11	0.92", 7	0	0.97"	--	5.2	-	9.0	-	-	-	-	-	-	(627214)					
2011-11-04T02:22:05	627221	i_SDSS	1.10", 12	1.01", 11	1.01", 11	1.02", 13	0	1.04"	1.00"	6.5	5.9	13.0	11.0	A	A	B	A	A	A	(627214)	1.4	0.84	6.3	8.4
2011-11-04T02:23:59	627224	i_SDSS	0.98", 9	0.88", 12	0.88", 10	0.90", 12	0	0.92"	--	8.4	-	11.3	-	-	-	-	-	-	(627214)					
2011-11-04T02:25:24	627224	i_SDSS	1.04", 12	0.84", 9	0.86", 8	0.92", 9	0	0.92"	0.92"	14.6	11.5	9.7	10.5	A	B	B	A	A	A	(627214)	1.4	0.86	7.4	8.8
2011-11-04T02:27:20	627227	i_SDSS	1.08", 10	1.00", 10	1.02", 9	1.04", 11	0	1.04"	--	6.6	-	10.3	-	-	-	-	-	-	(627214)					
2011-11-04T02:28:45	627227	i_SDSS	1.07", 11	0.88", 8	0.89", 9	0.98", 10	0	0.96"	1.00"	15.4	11.0	9.6	9.9	A	B	A	A	A	A	(627214)	1.4	0.88	8.0	9.0
2011-11-04T02:30:37	627230	i_SDSS	0.91", 8	0.86", 12	0.86", 12	0.88", 11	0	0.88"	--	4.0	-	11.4	-	-	-	-	-	-	(627214)					
2011-11-04T02:32:01	627230	i_SDSS	0.98", 8	0.84", 9	0.84", 8	0.90", 8	0	0.88"	0.88"	9.5	6.7	8.6	10.0	A	A	A	A	A	A	(627214)	1.4	0.88	7.8	9.2
2011-11-04T02:33:52	627233	i_SDSS	0.89", 4	0.80", 10	0.81", 11	0.85", 7	0	0.82"	--	5.0	-	8.9	-	-	-	-	-	-	(627214)					
2011-11-04T02:35:20	627233	i_SDSS	1.02", 7	0.84", 6	0.84", 6	0.92", 5	0	0.90"	0.86"	14.6	9.8	6.5	7.7	A	A	A	A	A	A	(627214)	1.4	0.88	8.1	9.0
2011-11-04T02:37:11	627236	i_SDSS	0.95", 11	0.75", 9	0.78", 9	0.87", 9	0	0.83"	--	15.7	-	9.4	-	-	-	-	-	-	(627214)					
2011-11-04T02:38:35	627236	i_SDSS	0.89", 10	0.78", 9	0.79", 8	0.81", 8	0	0.81"	0.82"	6.7	11.2	9.2	9.3	A	B	A	A	A	A	(627214)	1.4	0.87	8.4	9.0
2011-11-04T02:44:36	627239	i_SDSS	0.82", 4	0.75", 10	0.78", 8	0.76", 6	0	0.78"	--	3.2	-	7.8	-	-	-	-	-	-	(627214)					
2011-11-04T02:46:04	627239	i_SDSS	0.74", 6	0.76", 10	0.78", 9	0.72", 10	0	0.75"	0.77"	5.2	4.2	9.1	8.4	A	A	A	A	A	A	(627214)	1.4	0.86	8.0	8.9
2011-11-04T02:47:50	627242	i_SDSS	0.91", 9	1.07", 20	1.07", 17	0.87", 14	2	0.95"	--	23.8	-	14.7	-	-	B	-	-	-	B	(627214)				
2011-11-04T02:49:15	627242	i_SDSS	0.92", 6	0.82", 12	0.81", 9	0.79", 7	0	0.82"	0.89"	1.0	12.4	8.8	11.8	A	B	B	A	A	A	(627214)	1.4	0.86	8.4	9.2
2011-11-04T02:51:09	627245	i_SDSS	0.95", 8	1.06", 20	1.03", 18	0.88", 11	1	0.95"	--	19.5	-	14.2	-	-	B	-	-	-	B	(627214)				
2011-11-04T02:52:34	627245	i_SDSS	1.01", 12	1.21", 25	1.20", 22	0.98", 14	4	1.06"	1.00"	25.2	22.3	17.8	16.0	A	B	B	A	A	A	(627214)	1.4	0.88	9.5	9.8
2011-11-04T02:54:25	627248	i_SDSS	1.07", 14	1.25", 28	1.28", 26	1.04", 19	4	1.10"	--	28.1	-	21.0	-	-	B	-	-	-	B	(627214)				
2011-11-04T02:55:50	627248	i_SDSS	0.93", 12	1.07", 24	1.10", 23	0.89", 15	4	0.96"	1.03"	24.3	26.2	18.4	19.7	A	B	B	A	A	A	(627214)	1.4	0.89	10.8	10.5
2011-11-04T02:57:39	627251	i_SDSS	1.15", 22	1.39", 30	1.40", 28	1.11", 20	6!!	1.19"	--	33.1	-	23.5	-	-	D	-	-	-	D	(627214)				
2011-11-04T02:59:04	627251	i_SDSS	0.96", 7	0.96", 13	0.97", 11	0.87", 8	0	0.90"	1.04"	10.2	21.7	10.0	16.8	A	B	D	A	A	A	(627214)	1.4	0.90	11.6	11.0
2011-11-04T03:00:53	627254	i_SDSS	0.96", 11	1.10", 22	1.08", 21	0.94", 14	4	0.99"	--	21.9	-	16.9	-	-	B	-	-	-	B	(627214)				
2011-11-04T03:02:18	627254	i_SDSS	0.89", 9	0.94", 18	0.93", 18	0.83", 12	0	0.87"	0.93"	14.0	18.0	14.1	15.5	A	B	B	A	A	A	(627214)	1.4	0.90	12.0	11.3
2011-11-04T03:04:10	627257	i_SDSS	0.92", 10	1.07", 19	1.06", 19	0.84", 12	0	0.94"	--	27.4	-	14.9	-	-	-	-	-	-	-	(627214)				
2011-11-04T03:05:35	627257	i_SDSS	1.03", 16	1.21", 28	1.23", 27	1.01", 18	5!!	1.08"	1.01"	23.9	25.6	21.8	18.4	A	B	D	A	A	A	(627214)	1.4	0.91	12.9	11.7
2011-11-04T03:07:25	627260	i_SDSS	0.94", 11	1.12", 20	1.09", 23	0.79", 12	2	0.93"	--	37.5	-	15.3	-	-	B	-	-	-	B	(627214)				
2011-11-04T03:08:50	627260	i_SDSS	0.91", 9	1.08", 18	1.13", 22	0.77", 12	1	0.91"	0.92"	40.5	39.0	14.2	14.8	A	D	B	A	A	A	(627214)	1.4	0.91	14.4	11.9
2011-11-04T03:10:39	627263	i_SDSS	0.90", 12	1.10", 22	1.08", 23	0.78", 13	4	0.91"	--	36.7	-	16.7	-	-	B	-	-	-	B	(627214)				
2011-11-04T03:12:04	627263	i_SDSS	0.98", 12	1.14", 22	1.13", 25	0.82", 12	4	0.96"	0.94"	34.6	35.6	16.8	16.8	A	D	B	A	A	A	(627214)	1.4	0.91	15.6	12.2

!!! C !!!

!!! Concatenation has >10% bad ellipticities. Give at least one OB a C !!!

!!! C !!!

!!! Concatenation has >10% with bad image degradation. Give at least one OB a C !!!

## Special QC0 rules for concats and GTO

\*\*\* Following OB is GTO. Give QC grade D if IQ constraints are not met. \*\*\*

2011-11-04T03:24:05	606804	r_SDSS	0.73", 4	0.70", 7	0.71", 6	0.79", 3	0	0.73"	--	7.4	-	5.4	-	-	-	-	-	-	-					
2011-11-04T03:30:46	606804	r_SDSS	0.70", 5	0.66", 6	0.67", 6	0.74", 6	0	0.69"	--	6.4	-	4.7	-	-	-	-	-	-	-					
2011-11-04T03:37:26	606804	r_SDSS	0.66", 5	0.60", 4	0.60", 6	0.66", 4	0	0.63"	--	8.5	-	4.6	-	-	-	-	-	-	-					
2011-11-04T03:44:08	606804	r_SDSS	0.69", 5	0.61", 7	0.80", 9	0.70", 4	0	0.68"	--	4.8	-	5.4	-	-	-	-	-	-	-					
2011-11-04T03:50:49	606804	r_SDSS	0.67", 5	0.58", 5	1.01", 6	0.69", 4	0	0.69"	0.68"	1.4	5.7	4.6	4.9	A	A	A	A	A	A	A	GTO	1.2		
2011-11-04T04:05:48	595891	u_SDSS	0.81", 4	0.76", 4	0.77", 4	0.79", 3	0	0.79"	0.79"	5.3	5.3	4.0	4.0	-	-	-	-	-	-	STD				

# OmegaCAM QC0 procedures

## NOTE:

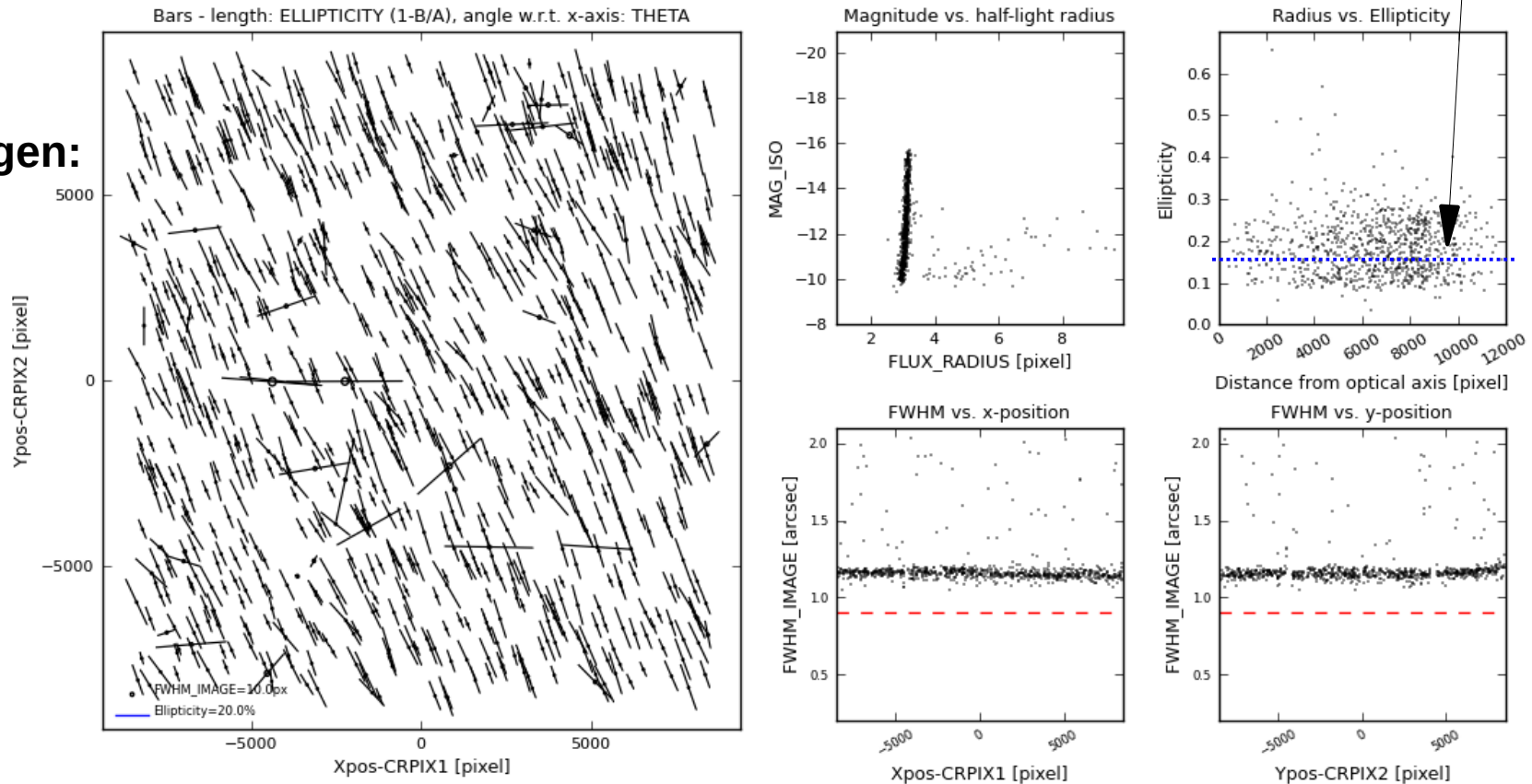
Ellipticity as f(pipeline setting):  $\text{ell}(\text{IRAF}) < \text{ell}(\text{Paranal}) < \text{ell}(\text{Groningen})$

NB: Paranal OmegaCAM ell limit of 0.15 is stricter than 0.20 limit for VIRCAM

**PARANAL:** 2012-03-17T05:54:55 612689 g\_SDSS 1.16",12 1.17",10 1.18",10 1.17",11 0 1.17" -- 0.1 - 10.4

PSF Anisotropy for frames with DATE-OBS 2012-03-17 05:54:55, filter SloanG (32 frame(s)), target=KIDS\_180.0\_1.1  
 Alt=60.945 Az=151.63 Rot=-26.89302 Seeing=0.63 WindDir=17.0 Winsp=6.34

Groningen:

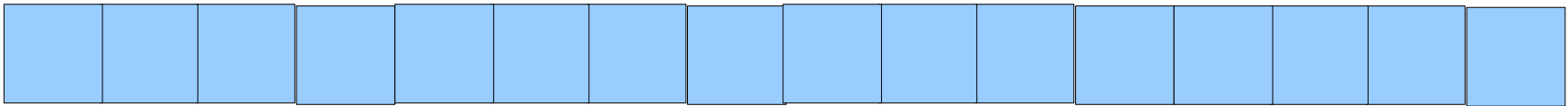




# OmegaCAM QC0 procedures

## QUESTION 1:

What is ATLAS astrometry experience with concatenated vs. offset design?



[Offsets have less overheads than presets, but offer less control on IA application]

## QUESTION 2:

Expected long-term change of AWE extinction monitoring calibration?

[Soon calibration plan update to include regular ugr standard]

