

## **Details of CCD systems at JCBT**

### **ProEM 1024B eXcelon**

Array : 1024 x 1024 pixels

pixel size: 13 micron

13.3mm x 13.3 mm imaging area

Full well capacity 80,000 e (single pixel, normal mode)

Operating temperature -68°C

Mounted in East port

Dark current 0.04 e<sup>-</sup>/pixel/sec

Speeds 5Mhz, 1 Mhz and 100 Khz

### **Gain in normal mode (e/ADU)**

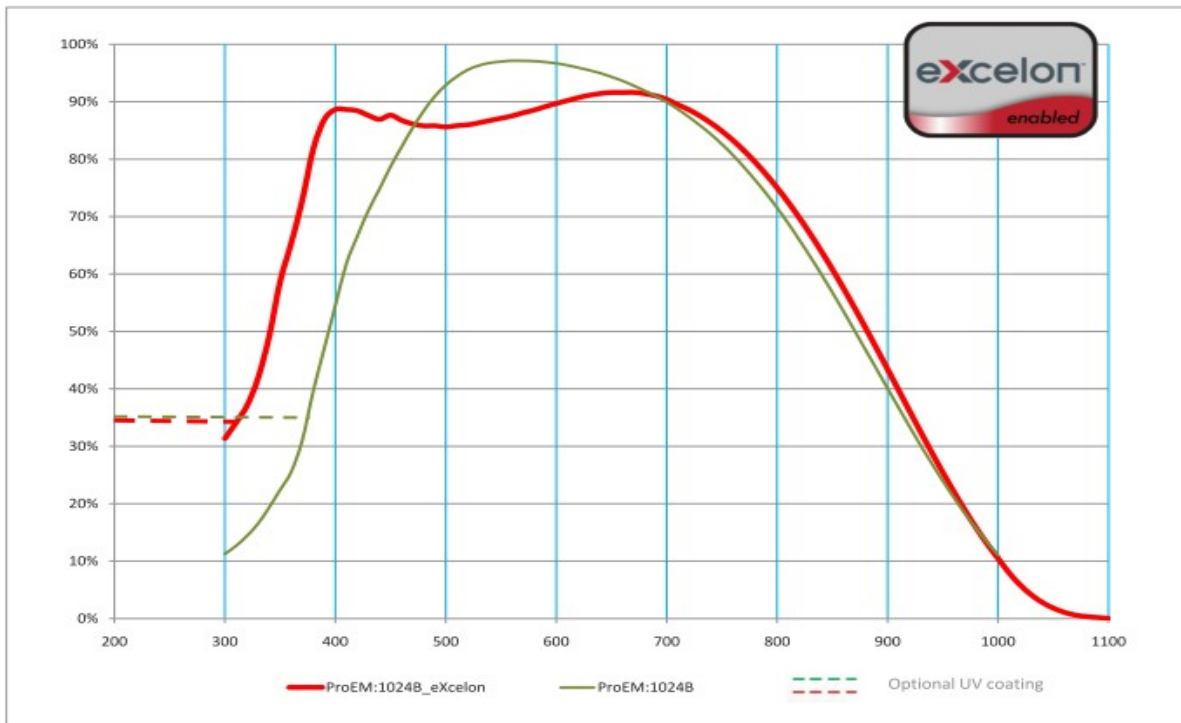
Low Gain setting is not usable

<b>Gain setting</b>	<b>5 Mhz</b>	<b>1 Mhz</b>	<b>100 Khz</b>
<b>High Gain</b>	1.19	0.693	0.699
<b>Medium Gain</b>	2.26	1.37	1.38

### **Read out Noise e RMS**

<b>Gain setting</b>	<b>5 Mhz</b>	<b>1 Mhz</b>	<b>100 Khz</b>
<b>High Gain</b>	13.0	6.24	3.87
<b>Medium Gain</b>	14.2	10.35	4.74

# Quantum Efficiency Curve



## 2K x 4K UKATC CCD System

Sensor: E2V 4482 (LN2 cooled)

Array: 2048 x 4096 pixels

Pixel size: 15 micron

Back illuminated chip coated with E2V Astro-broadband AR coatings, mounted in through port

Gain (Speed 0 ,Gain 0 setting)      0.74 e/ADU

Read out Noise                              3.8 e RMS

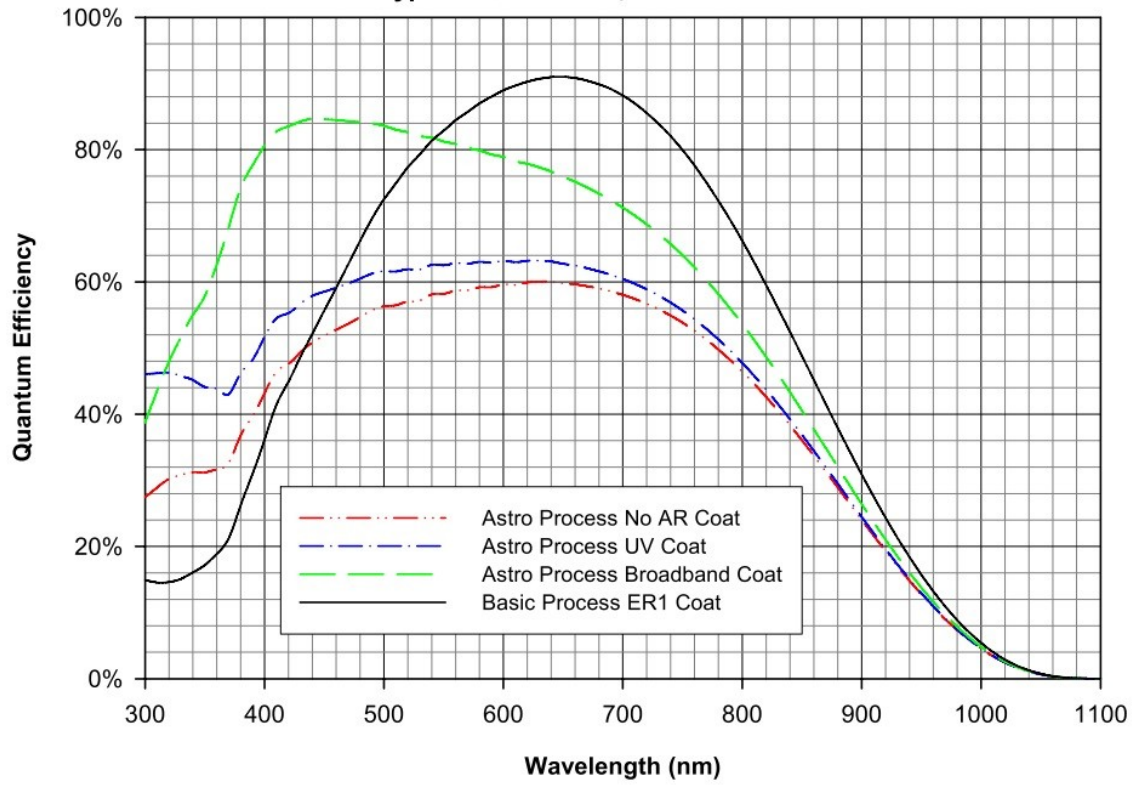
Read out speed (single output, Speed 0)      46 seconds

Full well capacity 200,000 e

### Quantum Efficiency

<b>Wavelength in nm</b>	350	400	500	600	700	800	900	1000
<b>Qe</b>	52	79	93	87	79	57	29	4

Typical QE at 173K, Standard Silicon



CCD 4482