

4.18 Deviation from Baseline Performance

Where applicable, test limits have been defined in this procedure and the accompanying Short Form Functional. These limits are intended to encompass all operating conditions. Additionally, we want to assure that the operation of instrument remains stable. To that end we calculate here – when appropriate – the deviation of various parameters from their baseline values. (The nominal, ambient temperature and pressure baseline is available from the CRATER database under the 32-06001 heading.)

Date of Baseline or Database Ref. Number	Initial
5 December 2007	

Test Ref	Parameter	#/LSB	Baseline	This Test	Delta	Limit	OK?
SFF 4.4	+5 Digital	2mv	4.991			10mv	
	+5 Analog		4.988				
	-5 Analog		-4.986				
	Bulkhead	0.1C	02.2				
	ΔTelescope		+2.5			2.0C	
	ΔAnalog		+4.1				
	ΔDigital		+11.9				
	ΔADC-DC		+5.4				
SFF 4.5	Power	30mw	6.45			0.2w	
	Bias V, Thin	0.1v	74.2			0.5v	
	Bias V, Thick	0.1v	219.4				
	D1 bias I	0.5μa, 12%/C	0.007				greater of 25% or 2.5μa
	D3 bias I		0.007				
	D5 bias I		0.060				
	D2 bias I	5μa, 12%/C	0.05			Greater of 25% or 25μa	
	D4 bias I		0.06				
	D6 bias I		0.03				

NB: Temperature data is entered here as differences between the monitored value and the temperature of the bulkhead, instrument reference. The bulk temperature of the instrument depends upon the environment; to a first order the internal deltas should not.

NB: Temperature data was taken in vaccum after a long soak.

The Primary Science data is recorded here in ADU. For reference, the thick detectors have a scale of approximately 20KeV/LSB; the thin detectors approximately 60KeV/LSB.

Test Ref	Parameter	Baseline	This Test	Delta	Limit	OK?
SFF 4.7	D1 Cal Amp	210.5			5	
	D2 Cal Amp	214.1				
	D3 Cal Amp	212.2				
	D4 Cal Amp	211.1				
	D5 Cal Amp	208.5				
	D6 Cal Amp	216.1				
	D1 Noise	0.6			0.3	
	D2 Noise	0.6				
	D3 Noise	0.7				
	D4 Noise	0.9				
	D5 Noise	0.9				
	D6 Noise	0.8				
LFF 4.11	D1 Zero Cross	2.6			0.3	
	D2 Zero Cross	2.2				
	D3 Zero Cross	1.7				
	D4 Zero Cross	0.4				
	D5 Zero Cross	1.6				
	D6 Zero Cross	1.4				