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
21 September 2007	

Test Ref	Parameter	#/LSB	Baseline	This Test	Delta	Limit	OK?
SFF 4.4	+5 Digital	2mv	4.998			10mv	
	+5 Analog		4.998				
	-5 Analog		-4.988				
	Bulkhead	0.1C	20.9				
	ΔTelescope		-0.3			2.0C	
	ΔAnalog		+0.2				
	ΔDigital		+2.7				
	ΔDC-DC		+2.8				
SFF 4.5	Power	30mw	6.59			0.2w	
	Bias V, Thin	0.1v	74.2			0.5v	
	Bias V, Thick	0.1v	217.5				
	D1 bias I	0.5µa, 12%/C	0.004			greater of 25% or 2.5µa	
	D3 bias I		0.008				
	D5 bias I		0.030				
	D2 bias I	5µa, 12%/C	0.15			Greater of 25% or 25µa	
	D4 bias I		0.15				
	D6 bias I		0.13				

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.

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	216.8			5	
	D2 Cal Amp	216.2				
	D3 Cal Amp	210.6				
	D4 Cal Amp	213.4				
	D5 Cal Amp	217.0				
	D6 Cal Amp	222.3				
	D1 Noise	0.7			0.3	
	D2 Noise	0.8				
	D3 Noise	0.8				
	D4 Noise	0.8				
	D5 Noise	0.8				
	D6 Noise	0.7				
LFF 4.11	D1 Zero Cross	2.3			0.3	
	D2 Zero Cross	1.0				
	D3 Zero Cross	1.4				
	D4 Zero Cross	0.7				
	D5 Zero Cross	1.9				
	D6 Zero Cross	1.8				

NB: D6 Noise increased to 1.6 ADU rms during first thermal/vacuum test