

MPS-HI Performance Requirements (1/2)

Parameter	Reference	Requirement	MPS-HI Design Concept
Electron energy range	PORD558	50 keV to 4 MeV 10 log bins; >2MeV integral	50 keV to 4 MeV 10 log bins; >2MeV integral
Proton energy range	PORD558 AppendixI-4	80 keV to 10 MeV 7 log bins	80 keV to 12 MeV 11 log bins
Electron flux (cm ² s sr keV) ⁻¹	PORD115	Minimum: 1.9x10 ⁶ E ^{-2.2} Maximum: 7.2x10 ¹¹ E ^{-2.8}	Minimum: 1.9x10 ⁶ E ^{-2.2} Maximum: 7.2x10 ¹¹ E ^{-2.8}
Proton flux (cm ² s sr keV) ⁻¹	PORD116	Minimum: 6.6x10 ⁵ E ^{-2.3} Maximum: 1.7x10 ⁸ E ^{-1.6}	Minimum: 6.6x10 ⁵ E ^{-2.3} Maximum: 1.7x10 ⁸ E ^{-1.6}
Flux measurement accuracy	PORD104	25%	25%
YZ viewing angles	PORD564 PORD565	170 deg in YZ plane Centered on +Z or -Z	170 deg Centered on +Z or -Z
Angular bins	PORD565	5 bins; <=45 deg apart	5 bins; 35 deg apart
XZ sensor FOV	PORD564	<=15 deg cone half angle	15 deg cone half angle
Data refresh rate	PORD110	30 sec	<30 sec; 1 sec goal
Data latency	PORD111	<5 sec	<5 sec MPS-HI + DPU
Noise	PORD85,86	<10keV 30 keV to 100 keV <10% thresholds >100 keV	<10keV 50 keV to 100 keV <10% thresholds > 100 keV
Energy band stability	PORD88	< +/- 3%	< +/- 3%

MPS-HI Performance Requirements (2/2)

Parameter	Reference	Requirement	MPS-HI Design Concept
Size	UIID47		22,500 cm ³ MPS-HI CBE
Maximum Dimension	UIID48	<=40 cm	34 cm (chassis) 34.6 cm (envelope w/ MLI-CBE)
Power	UIID36		12.6W MPS-HI CBE
Mass	UIID44		13.0 kg MPS-HI CBE
Data rate	UIID27		12 kbps MPS-HI CBE
Dosimeters	Appendix I	2 to 4 dosimeters	2 dosimeters behind 100 mil and 200 mil shields
MPS-HI Modes	PORD52 PORD59 PORD61 PORD90	Safe Mode Normal Mode Diagnostic Mode In Flight Calibration	Safe Mode Normal Mode Diagnostic Mode In Flight Calibration