

Polar particle flux distribution and its spatial extend

Supplementary materials

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Table S1: Magnetic Apex latitude and MLT of the Polar Particle Flux Distribution-area equatorial boundary for low energy electrons in relation to Kp.

channel	Kp	hemi- sphere	MLT																									
			≥0	≥1	≥2	≥3	≥4	≥5	≥6	≥7	≥8	≥9	≥10	≥11	≥12	≥13	≥14	≥15	≥16	≥17	≥18	≥19	≥20	≥21	≥22	≥23		
TED electron band 4 e ⁻ 154–224 eV	0–0.7	N	82	78	82	84	84	86	86	86	86	86	86	86	86	84	84	84	86	86	84	84	84	82	80	80	82	
		S	-74	-76	-80	-84	-86	-86	-86	-86	-86	-86	-86	-84	-84	-84	-84	-84	-84	-84	-84	-84	-84	-82	-80	-78	-74	-74
	1–1.7	N	80	78	82	82	84	84	86	86	86	86	86	86	86	84	84	84	84	84	84	84	84	82	78	78	78	80
		S	-86	-76	-78	-82	-84	-84	-84	-86	-86	-84	-84	-84	-84	-84	-84	-84	-82	-82	-82	-82	-80	-78	-76	-74	-86	
	2–2.7	N	78	78	80	80	82	84	86	86	86	86	84	86	86	84	82	82	82	82	82	80	78	76	76	76	78	
		S	-76	-76	-78	-82	-82	-84	-84	-84	-84	-84	-84	-84	-84	-84	-84	-82	-82	-82	-82	-80	-78	-76	-76	-76	-76	
	3–3.7	N	78	78	82	80	80	82	84	84	84	84	84	84	84	84	82	82	80	80	80	78	76	76	76	76	78	
		S	-76	-76	-78	-80	-82	-82	-84	-84	-84	-84	-84	-84	-84	-84	-82	-82	-80	-80	-80	-78	-76	-76	-76	-74	-74	
	4–4.7	N	80	80	90	80	80	80	82	84	84	82	84	84	84	84	84	80	80	80	78	78	76	76	76	76	78	
		S	-76	-76	-78	-80	-82	-82	-82	-84	-84	-84	-84	-84	-82	-82	-80	-78	-78	-78	-78	-76	-76	-74	-74	-76	-76	
	5–5.7	N	76	78	90	78	78	80	80	80	80	80	80	82	82	82	78	78	78	78	76	76	74	74	74	78	76	
		S	-74	-76	-76	-78	-78	-80	-82	-82	-82	-82	-82	-82	-80	-76	-76	-76	-76	-76	-74	-74	-74	-74	-74	-74	-74	
6–9	N	78	78	80	80	78	80	80	82	82	80	82	82	82	82	76	76	76	76	76	74	76	74	76	74	78		
	S	-76	-80	-78	-80	-82	-78	-80	-80	-82	-82	-84	-82	-80	-78	-76	-76	-76	-74	-74	-76	-76	-74	-76	-82	-80	-86	
TED electron band 8 e ⁻ 688–1000 eV	0–0.7	N	82	78	82	84	86	86	86	86	86	86	84	84	84	84	84	84	84	84	84	84	82	82	80	82		
		S	-76	-78	-82	-84	-86	-86	-86	-86	-86	-84	-84	-84	-84	-84	-84	-84	-84	-84	-82	-82	-78	-76	-76	-76		
	1–1.7	N	82	80	82	84	84	84	86	86	86	84	84	84	84	84	84	84	84	84	84	82	80	80	82	82		
		S	-76	-78	-82	-84	-84	-86	-86	-86	-84	-84	-84	-84	-82	-82	-82	-82	-82	-82	-82	-80	-78	-76	-74	-76	-76	
	2–2.7	N	82	80	82	82	82	84	86	86	84	82	84	82	82	82	82	82	82	82	82	80	78	78	78	80		
		S	-78	-78	-80	-82	-84	-84	-86	-84	-84	-82	-82	-82	-82	-80	-80	-82	-80	-80	-78	-78	-78	-76	-76	-76		
	3–3.7	N	82	86	84	84	84	84	84	84	84	82	82	82	82	80	80	80	80	80	80	78	78	78	78	82		
		S	-78	-80	-80	-82	-84	-84	-84	-84	-84	-82	-82	-80	-80	-80	-80	-80	-80	-80	-78	-78	-78	-78	-78	-78		
	4–4.7	N	84	86	84	84	82	84	84	84	84	82	82	82	80	82	80	80	80	80	80	78	78	80	80	82		
		S	-80	-80	-82	-84	-84	-84	-84	-84	-84	-82	-82	-80	-80	-78	-78	-80	-80	-80	-78	-78	-78	-78	-78	-78		
	5–5.7	N	82	86	86	84	82	82	82	80	80	78	78	78	78	78	78	78	78	78	78	78	78	78	78	80		
		S	-78	-80	-80	-82	-82	-82	-82	-82	-80	-78	-78	-78	-80	-78	-78	-78	-78	-76	-76	-76	-78	-78	-78	-80	-78	
6–9	N	82	78	82	82	82	80	82	82	78	76	76	76	72	76	76	76	76	76	76	76	76	76	82	80			
	S	-80	-80	-82	-82	-84	-80	-78	-80	-80	-78	-78	-78	-78	-76	-74	-76	-76	-78	-76	-76	-78	-78	-80	-80			
TED electron band 11 e ⁻ 2.115–3.075 keV	0–0.7	N	82	78	80	82	84	84	84	84	84	84	84	84	82	82	82	82	82	84	84	84	82	82	78	82		
		S	-76	-78	-82	-84	-84	-86	-86	-86	-84	-84	-84	-84	-84	-82	-82	-82	-82	-82	-82	-82	-80	-78	-76	-76		
	1–1.7	N	82	80	82	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	86	82	86	84		
		S	-78	-80	-82	-84	-84	-86	-86	-86	-84	-84	-84	-82	-82	-82	-82	-82	-82	-82	-82	-82	-80	-78	-78	-78		
	2–2.7	N	82	82	82	84	84	84	84	84	82	82	84	82	82	82	82	82	82	84	82	82	82	82	82	82		
		S	-80	-80	-82	-84	-84	-86	-86	-86	-84	-82	-82	-82	-82	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-78		
	3–3.7	N	82	84	84	82	86	84	84	84	82	82	82	82	82	80	80	80	80	80	82	82	82	82	80	82		
		S	-80	-80	-82	-84	-86	-86	-86	-84	-84	-82	-82	-82	-82	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80		
	4–4.7	N	82	80	82	84	84	84	84	82	82	80	80	80	78	78	78	78	80	80	82	80	80	80	80	82		
		S	-80	-82	-82	-84	-84	-84	-84	-84	-82	-82	-82	-80	-80	-80	-78	-78	-78	-78	-78	-78	-78	-78	-78	-80	-80	
	5–5.7	N	82	78	82	82	86	82	82	80	78	78	76	76	76	76	76	76	76	78	80	80	80	78	80	82		
		S	-80	-80	-82	-82	-82	-82	-82	-82	-78	-80	-78	-78	-78	-76	-78	-76	-76	-76	-76	-76	-78	-78	-80	-80		
6–9	N	82	78	82	82	80	82	82	80	76	74	74	74	74	74	74	74	76	76	76	78	80	78	80	80			
	S	-82	-82	-86	-82	-86	-80	-78	-80	-80	-78	-76	-74	-72	-76	-76	-76	-78	-76	-76	-78	-80	-78	-80	-82			
TED electron band 14 e ⁻ 6.503–9.457 keV	0–0.7	N	78	76	76	78	80	82	82	82	82	84	82	82	82	80	80	80	80	78	78	80	78	86	78			
		S	-76	-76	-78	-80	-80	-82	-82	-82	-82	-82	-82	-82	-82	-80	-80	-80	-78	-78	-76	-76	-76	-76	-76	-76		
	1–1.7	N	80	78	78	80	82	82	82	82	82	84	84	84	82	82	82	82	82	82	82	88	86	90	86	80		
		S	-78	-78	-78	-80	-82	-82	-82	-82	-82	-82	-82	-82	-82	-80	-80	-80	-78	-78	-78	-78	-78	-78	-78	-78		
	2–2.7	N	80	78	78	80	82	82	80	80	82	82	82	82	82	80	80	80	80	80	80	80	82	90	86	80		
		S	-80	-78	-80	-80	-82	-82	-82	-82	-82	-82	-82	-82	-82	-80	-80	-78	-78	-78	-78	-78	-78	-78	-78	-80		
	3–3.7	N	82	80	82	82	82	82	82	80	80	82	80	80	80	80	80	78	80	80	82	86	90	80	82			
		S	-80	-80	-80	-82	-82	-82	-82	-82	-82	-82	-82	-82	-82	-80	-80	-78	-78	-78	-78	-78	-80	-80	-80	-80		
	4–4.7	N	82	80	82	82	82	82	80	80	80	80	80	80	78	78	78	78	78	78	80	80	82	80	80	86		
		S	-80	-82	-82	-82	-82	-82	-82	-82	-80	-80	-80	-80	-78	-78	-78	-76	-78	-78	-78	-78	-80	-80	-80	-80		
	5–5.7	N	80	78	82	82	82	82	80	78	78	76	76	76	76	74	74	74	76	78	78	78	80	80	80	80		
		S	-78	-80	-80	-82	-82	-80	-80	-80	-78	-78	-76	-74	-76	-74	-74	-74	-76	-76	-76	-78	-78	-80	-80	-80		
6–9	N	80	78	84	80	80	80	80	76	74	74	74	74	72	72	72	72	76	76	76	78	78	82	78	80			
	S	-82	-82	-86	-84	-84	-80	-78	-78	-76	-76	-76	-72	-70	-70	-70	-70	-72	-76	-74	-76	-76	-78	-78	-82			

Table S2: Same as Table S1 for high energy electrons and low energy protons.

channel	Kp	hemi- sphere	MLT																								
			≥ 0	≥ 1	≥ 2	≥ 3	≥ 4	≥ 5	≥ 6	≥ 7	≥ 8	≥ 9	≥ 10	≥ 11	≥ 12	≥ 13	≥ 14	≥ 15	≥ 16	≥ 17	≥ 18	≥ 19	≥ 20	≥ 21	≥ 22	≥ 23	
mep0e1-e2corr	0-0.7	N	78	74	76	80	80	82	82	82	82	82	84	84	82	76	74	74	74	74	74	74	76	76	86	76	
		S	-76	-76	-76	-80	-82	-82	-82	-82	-82	-82	-84	-84	-82	-82	-74	-74	-74	-74	-74	-74	-74	-74	-74	-74	-74
	1-1.7	N	78	78	78	82	82	82	82	82	82	84	84	84	82	80	80	78	78	78	78	78	78	76	86	78	
		S	-78	-78	-80	-82	-82	-84	-84	-82	-82	-82	-84	-84	-82	-82	-80	-78	-76	-76	-78	-76	-76	-76	-76	-76	-78
	2-2.7	N	80	86	80	82	82	82	82	82	82	82	82	84	82	82	80	80	78	78	80	80	78	78	80	80	
		S	-78	-78	-80	-82	-82	-84	-84	-82	-82	-82	-82	-82	-82	-82	-82	-78	-78	-78	-78	-78	-78	-78	-78	-78	
	3-3.7	N	80	80	80	82	82	82	82	82	82	82	82	82	82	82	80	78	78	78	78	78	78	78	78	80	
		S	-80	-80	-80	-82	-82	-82	-82	-82	-82	-82	-82	-82	-82	-82	-80	-78	-78	-78	-78	-78	-78	-78	-78	-78	
	4-4.7	N	82	80	82	84	82	82	82	82	82	82	82	82	82	82	80	78	78	78	78	78	78	78	80	86	
		S	-80	-80	-82	-82	-82	-84	-84	-82	-82	-82	-82	-82	-82	-82	-80	-78	-78	-78	-78	-78	-78	-80	-80	-80	
	5-5.7	N	84	90	84	90	90	84	82	84	82	82	80	80	82	80	78	78	78	78	80	80	78	82	86	82	
		S	-82	-82	-82	-82	-84	-82	-82	-82	-80	-82	-80	-80	-80	-82	-80	-78	-76	-80	-78	-78	-78	-80	-80	-82	
6-9	N	80	78	90	84	82	80	78	74	74	74	74	74	74	74	72	70	74	74	76	76	74	76	80	80		
	S	-78	-78	-80	-82	-84	-78	-78	-78	-76	-74	-74	-74	-76	-76	-74	-72	-72	-74	-74	-76	-76	-76	-76	-78		
mep0e2-e3corr	0-0.7	N	72	72	72	72	58	68	68	70	70	72	72	72	72	72	72	70	70	70	70	70	70	72	72		
		S	-72	-72	-72	-72	-72	-68	-70	-70	-72	-72	-72	-72	-72	-72	-72	-70	-70	-70	-70	-70	-70	-70	-70		
	1-1.7	N	74	74	74	76	78	80	80	80	82	82	82	82	82	82	74	74	74	72	72	74	72	72	80	74	
		S	-76	-76	-76	-78	-80	-80	-82	-82	-82	-82	-82	-82	-82	-82	-80	-78	-76	-74	-72	-72	-74	-72	-74	-76	
	2-2.7	N	74	76	76	76	78	78	78	78	80	80	80	80	80	80	78	76	74	74	74	72	72	74	74	74	
		S	-74	-76	-76	-76	-78	-78	-80	-80	-80	-80	-80	-80	-80	-80	-78	-76	-74	-72	-72	-72	-72	-74	-74	-76	
	3-3.7	N	76	76	76	78	78	80	78	78	80	80	80	80	80	80	78	76	76	74	74	74	76	76	76	76	
		S	-76	-76	-76	-78	-78	-80	-80	-80	-80	-80	-80	-80	-80	-80	-78	-78	-76	-74	-74	-74	-76	-76	-76	-76	
	4-4.7	N	76	78	80	76	78	78	78	78	78	78	78	78	78	78	78	76	74	74	74	76	76	76	78	76	
		S	-78	-78	-78	-78	-78	-80	-80	-78	-78	-78	-78	-78	-78	-78	-78	-76	-74	-74	-74	-74	-76	-76	-78	-78	
	5-5.7	N	78	78	78	82	80	80	78	78	76	78	76	76	76	76	74	74	74	74	76	76	76	90	86	78	
		S	-78	-78	-78	-78	-80	-78	-80	-78	-78	-78	-76	-78	-78	-78	-76	-74	-74	-74	-76	-76	-76	-78	-78	-78	
6-9	N	76	74	78	78	78	74	72	70	70	72	70	70	70	70	72	70	68	68	72	72	74	72	74	74		
	S	-76	-74	-74	-76	-78	-74	-74	-72	-70	-72	-72	-72	-72	-72	-70	-68	-68	-72	-72	-72	-72	-74	-74	-76		
TED proton band 4	0-0.7	N	84	82	84	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	84	82	84	
		S	-76	-80	-84	-86	-86	-88	-88	-86	-86	-86	-86	-86	-86	-84	-84	-86	-86	-86	-86	-86	-84	-82	-80	-76	
	1-1.7	N	82	78	82	84	86	86	86	86	86	86	86	86	86	86	86	84	84	84	86	86	84	82	80	76	82
		S	-76	-78	-82	-84	-86	-86	-86	-86	-86	-86	-86	-86	-84	-84	-84	-84	-84	-84	-84	-84	-82	-80	-78	-76	-74
	2-2.7	N	82	78	82	86	86	86	84	86	86	86	86	86	86	86	86	84	84	84	84	86	82	80	88	76	82
		S	-76	-78	-80	-84	-86	-86	-86	-86	-86	-86	-86	-86	-84	-84	-84	-84	-84	-82	-82	-82	-80	-78	-76	-76	-76
	3-3.7	N	82	80	80	84	86	86	84	88	86	86	86	86	86	86	86	84	82	82	84	82	80	78	90	86	82
		S	-76	-78	-80	-82	-84	-86	-86	-86	-86	-86	-86	-86	-84	-84	-84	-82	-82	-82	-82	-80	-78	-78	-76	-86	-76
	4-4.7	N	82	80	80	82	86	84	84	84	84	86	86	86	86	86	86	84	84	82	82	80	78	78	86	86	82
		S	-76	-78	-80	-82	-84	-84	-84	-84	-84	-84	-84	-84	-84	-84	-84	-82	-82	-82	-80	-80	-78	-76	-76	-78	-76
	5-5.7	N	76	74	76	78	80	80	80	80	82	84	84	84	84	84	82	82	80	78	76	76	74	74	86	76	
		S	-74	-74	-76	-78	-80	-80	-82	-82	-82	-82	-82	-82	-82	-82	-80	-80	-78	-80	-76	-76	-74	-74	-74	-74	-72
6-9	N	78	78	78	82	80	80	80	80	80	82	84	82	82	82	80	78	76	74	74	74	74	72	72	78		
	S	-76	-76	-76	-76	-80	-78	-78	-80	-80	-80	-80	-80	-80	-82	-82	-80	-78	-74	-74	-72	-84	-72	-76	-74	-74	
TED proton band 8	0-0.7	N	82	82	82	84	86	86	88	88	88	86	84	84	84	84	86	84	84	84	84	82	80	78	76	82	
		S	-74	-78	-82	-84	-86	-86	-86	-86	-84	-84	-84	-84	-84	-84	-84	-84	-84	-84	-84	-82	-80	-78	-74	-74	
	1-1.7	N	80	78	80	82	84	88	88	90	90	86	84	84	84	84	84	84	82	82	80	90	86	74	80	80	
		S	-74	-76	-80	-82	-84	-84	-84	-84	-82	-82	-82	-82	-82	-82	-82	-82	-82	-80	-78	-76	-74	-74	-74	-72	
	2-2.7	N	78	76	76	80	82	84	88	88	90	84	82	84	84	82	82	82	80	80	90	88	74	72	76		
		S	-74	-74	-78	-80	-82	-82	-82	-82	-82	-82	-82	-82	-82	-82	-82	-82	-80	-76	-74	-74	-74	-74	-72	-72	
	3-3.7	N	76	74	76	78	80	82	84	84	84	82	82	82	82	82	80	78	78	76	74	74	90	84	72	76	
		S	-72	-74	-76	-78	-80	-82	-82	-82	-82	-82	-82	-82	-82	-82	-80	-80	-80	-78	-76	-74	-72	-72	-72	-72	
	4-4.7	N	74	74	74	76	78	80	80	82	80	80	80	80	80	80	78	76	76	74	74	90	88	84	72	72	
		S	-72	-74	-74	-76	-78	-80	-80	-80	-80	-80	-80	-80	-80	-80	-80	-78	-78	-76	-74	-74	-72	-72	-72	-72	
	5-5.7	N	74	72	74	76	78	78	80	80	80	80	80	80	80	80	76	76	74	74	72	88	90	86	72	72	
		S	-72	-72	-74	-76	-78	-78	-80	-78	-80	-80	-80	-80	-80	-80	-78	-76	-76	-74	-74	-72	-72	-72	-70	-72	
6-9	N	90	90	74	76	76	76	78	78	78	80	80	80	80	80	78	76	74	74	72	88	90	84	88	90		
	S	-72	-74	-74	-76	-78	-78	-78	-78	-80	-80	-80	-80	-80	-82	-82	-80	-78	-72	-72	-72	-70	-70	-72	-72		
TED proton band 11	0-0.7	N	84	80	82	84	84	84	84	84	84	84	84	84	84	84	84	84	84	86	88	86	82	78	84		
		S	-76	-78	-82	-84	-84	-86	-86	-86	-84	-84	-84	-84	-84	-84	-84	-82	-82	-84	-84	-84	-82	-78	-76	-74	
	1-1.7	N	82	80	82	82	84	82	84	84	82	84	86	84	84	84	82	82	84	84	84	88	86	82	76	82	
		S	-76	-78	-80	-82	-84	-84	-84	-84	-82	-82	-84	-84	-84	-82	-82	-82	-82	-82	-82	-82	-80	-78	-76	-74	
	2-2.7	N	82	80	82	84	82	82	84	82	82	86	84	84	84	82	82	82	82	84	88	86	90	76	82		
		S	-76	-78	-80	-82	-84	-84	-84	-84	-82	-84	-84	-84	-84	-82	-82	-80	-80	-80	-82	-80	-78	-76	-76	-76	
	3-3.7	N	86	86	82	84	84	82	82	82	82	84	86	84	84												

Table S3: Same as Table S1 for high energy protons.

channel	Kp	hemi- sphere	MLT																							
			≥0	≥1	≥2	≥3	≥4	≥5	≥6	≥7	≥8	≥9	≥10	≥11	≥12	≥13	≥14	≥15	≥16	≥17	≥18	≥19	≥20	≥21	≥22	≥23
TED proton band 14	p ⁺ 6.503–9.457 keV	N	82	78	78	82	82	82	82	82	82	82	84	84	84	84	84	84	84	84	84	86	82	78	82	
		S	-76	-76	-78	-82	-82	-82	-82	-82	-82	-82	-84	-82	-84	-82	-82	-82	-82	-84	-84	-82	-80	-78	-76	-74
		N	82	78	80	82	82	82	82	82	82	82	84	84	84	84	84	84	84	84	90	88	86	82	78	82
		S	-76	-78	-80	-82	-82	-84	-82	-84	-82	-82	-82	-82	-82	-82	-82	-82	-82	-82	-82	-82	-80	-78	-76	-76
		N	82	82	82	82	82	82	82	82	82	82	86	84	84	84	82	84	84	84	90	88	86	82	80	84
		S	-78	-78	-80	-82	-82	-84	-82	-84	-82	-82	-82	-82	-82	-82	-82	-82	-82	-82	-82	-82	-80	-78	-78	-78
		N	82	86	82	82	82	82	82	82	80	82	84	82	82	82	82	82	82	82	82	82	82	80	78	82
		S	-78	-80	-80	-82	-84	-84	-82	-82	-82	-82	-82	-82	-82	-80	-80	-80	-80	-80	-80	-82	-80	-78	-78	-78
		N	80	80	80	82	82	82	80	80	80	80	80	82	80	80	80	80	80	80	80	80	80	80	78	80
		S	-78	-80	-80	-82	-82	-82	-82	-82	-80	-80	-80	-82	-80	-80	-80	-80	-78	-80	-78	-78	-78	-76	-78	-78
		N	78	76	80	80	80	80	80	80	78	78	78	78	78	78	78	76	76	76	78	76	76	76	76	78
		S	-76	-76	-78	-78	-80	-80	-80	-80	-78	-78	-78	-78	-78	-78	-78	-76	-78	-76	-76	-76	-76	-76	-76	-76
N	78	78	80	80	80	80	78	76	74	74	76	74	74	74	74	74	74	74	74	76	76	74	76	76		
S	-78	-80	-80	-82	-80	-78	-78	-78	-78	-78	-76	-76	-76	-76	-74	-76	-74	-74	-74	-74	-74	-74	-74	-76		
mep0P1	p ⁺ 30–80 keV	N	84	80	82	84	84	84	84	84	84	84	84	84	84	84	84	84	86	86	84	84	82	78	84	
		S	-76	-78	-80	-82	-84	-86	-86	-86	-84	-84	-84	-84	-84	-84	-84	-86	-86	-86	-84	-84	-82	-80	-76	
		N	84	80	84	86	86	84	84	84	84	86	86	86	86	86	86	84	84	86	86	84	84	90	86	84
		S	-78	-78	-82	-84	-84	-86	-86	-86	-86	-86	-84	-84	-84	-84	-86	-86	-86	-86	-84	-84	-82	-80	-78	-78
		N	84	86	84	84	86	84	84	84	84	86	86	86	86	84	84	84	84	86	84	82	90	86	84	
		S	-84	-80	-80	-82	-84	-84	-86	-86	-86	-84	-84	-84	-84	-84	-86	-86	-86	-84	-84	-82	-80	-80	-84	-84
		N	82	82	84	84	84	84	82	82	84	84	86	86	86	86	84	84	84	84	84	82	80	82	86	82
		S	-84	-82	-82	-82	-84	-84	-86	-84	-84	-84	-84	-84	-84	-84	-86	-86	-84	-84	-84	-82	-80	-82	-86	-84
		N	82	80	82	84	84	82	82	82	84	84	84	86	86	86	84	84	82	82	84	80	80	82	82	82
		S	-88	-84	-82	-82	-84	-84	-84	-82	-84	-84	-84	-84	-84	-84	-84	-84	-84	-84	-82	-80	-80	-82	-84	-88
		N	82	86	82	82	84	82	82	80	80	82	82	84	84	84	84	84	84	80	80	80	80	78	82	80
		S	-82	-80	-80	-80	-82	-82	-80	-80	-82	-82	-82	-82	-82	-84	-84	-82	-80	-78	-80	-80	-78	-80	-80	-80
N	82	84	82	84	82	80	78	78	76	76	78	78	80	82	80	78	78	78	76	78	76	82	84	82		
S	-80	-82	-82	-82	-84	-80	-78	-78	-78	-80	-78	-84	-80	-80	-80	-80	-78	-78	-76	-76	-76	-78	-80	-80		
mep0P2	p ⁺ 80–240 keV	N	76	74	76	76	78	78	78	80	80	80	82	82	82	80	80	80	80	80	80	78	76	74	84	76
		S	-74	-74	-74	-76	-76	-78	-78	-80	-80	-80	-80	-82	-82	-82	-80	-80	-80	-80	-80	-78	-76	-74	-74	-74
		N	78	76	78	78	80	80	80	80	80	82	82	82	82	82	82	82	82	82	80	78	90	86	78	
		S	-76	-76	-76	-78	-78	-80	-80	-80	-80	-82	-82	-82	-82	-82	-82	-82	-82	-80	-80	-78	-76	-76	-76	-76
		N	78	80	78	80	80	80	80	80	80	82	82	82	82	82	82	80	80	80	80	80	78	90	80	78
		S	-76	-78	-78	-78	-80	-80	-80	-80	-80	-82	-82	-82	-82	-82	-80	-80	-80	-80	-80	-78	-78	-78	-78	-78
		N	78	80	78	80	80	80	78	80	80	80	82	82	82	82	80	80	80	80	80	80	78	90	86	78
		S	-78	-78	-78	-80	-80	-80	-80	-80	-80	-82	-82	-82	-82	-82	-80	-80	-80	-80	-80	-78	-78	-78	-78	-78
		N	80	80	80	82	82	82	80	80	80	82	82	84	82	84	82	82	80	80	80	78	78	80	86	80
		S	-80	-80	-80	-80	-82	-80	-80	-80	-80	-82	-82	-84	-82	-80	-80	-82	-80	-80	-80	-78	-78	-80	-78	-78
		N	80	86	80	80	80	80	78	76	76	76	76	78	78	80	78	78	76	76	76	78	76	76	82	80
		S	-78	-78	-78	-78	-80	-78	-78	-76	-78	-78	-78	-80	-80	-78	-78	-76	-78	-76	-76	-76	-76	-78	-78	-78
N	80	78	80	84	80	80	76	72	70	72	74	74	74	74	74	74	74	74	76	78	76	78	76	80		
S	-78	-78	-80	-82	-82	-76	-76	-76	-76	-74	-76	-74	-76	-78	-76	-74	-74	-74	-74	-74	-76	-76	-76	-80		
mep0P3	p ⁺ 240–800 keV	N	72	72	72	72	74	68	68	68	68	68	68	68	68	68	68	68	68	74	74	72	90	86	72	
		S	-70	-70	-70	-72	-68	-66	-66	-66	-66	-66	-74	-68	-68	-68	-68	-68	-68	-68	-68	-68	-68	-68	-68	
		N	74	74	74	74	74	74	74	74	74	78	78	78	78	78	78	78	78	76	76	76	76	90	86	74
		S	-72	-72	-72	-72	-74	-76	-76	-78	-72	-80	-80	-80	-80	-80	-80	-78	-76	-76	-74	-74	-72	-72	-72	-72
		N	72	72	72	72	74	72	74	74	72	78	78	78	78	78	78	78	78	76	76	74	74	90	86	74
		S	-72	-72	-72	-72	-74	-76	-76	-78	-78	-80	-80	-78	-78	-78	-78	-76	-76	-74	-74	-72	-74	-72	-72	-72
		N	74	74	74	72	74	72	74	74	74	76	76	76	76	76	74	74	74	74	76	76	76	90	86	74
		S	-72	-72	-72	-72	-74	-74	-74	-76	-78	-78	-78	-78	-78	-76	-76	-74	-74	-74	-74	-74	-74	-74	-74	-74
		N	76	86	76	74	74	74	72	72	74	76	76	76	76	76	74	74	74	74	74	74	80	90	80	76
		S	-74	-74	-74	-72	-72	-74	-74	-76	-76	-80	-76	-78	-76	-76	-74	-74	-72	-74	-74	-74	-74	-74	-74	-74
		N	74	74	76	74	74	72	70	70	70	74	74	74	74	74	74	74	72	72	70	72	74	90	74	74
		S	-74	-72	-74	-72	-72	-72	-72	-72	-72	-74	-74	-76	-76	-74	-72	-72	-72	-72	-74	-72	-74	-74	-74	-74
N	74	74	74	76	74	70	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68		
S	-70	-70	-72	-70	-70	-68	-68	-66	-66	-66	-68	-66	-72	-70	-72	-70	-66	-70	-70	-72	-72	-72	-72	-72		
mep0P4	p ⁺ 0.8–2.5 MeV	N	58	58	58	60	60	60	62	62	62	58	58	58	60	62	62	60	60	64	58	58	58	64	58	
		S	-58	-58	-60	-60	-62	-62	-60	-58	-58	-56	-58	-70	-58	-58	-60	-58	-60	-60	-60	-60	-58	-58	-56	
		N	68	70	68	68	66	68	70	72	72	72	72	70	70	70	70	68	66	66	68	68	68	68	68	
		S	-62	-62	-64	-64	-66	-66	-68	-70	-70	-70	-70	-74	-64	-68	-66	-66	-66	-64	-64	-64	-62	-62	-62	-62
		N	70	70	70	68	66	70	70	72	72	70	70	70	70	68	68	66	66	66	70	68	68	68	68	
		S	-66	-66	-68	-66	-66	-66	-68	-70	-70	-72	-70	-72	-66	-66	-66	-66	-66	-66	-70	-70	-68	-68	-68	-68
		N	70	70	70	70	64	68	70	70	68	68	68	68	66	66	64	64	64	62	70	70	72	70	70	70
		S	-68	-68	-68	-68	-64	-64	-64	-68	-68	-68	-68	-68	-76	-76	-74	-74	-72	-70	-70	-70	-70	-70	-68	-68
		N	72	72	70	70	64	64	68	68	66	66	66	66	66	66	64	62	62	70	70	72	72	72	86	72
		S	-68	-68	-68	-68	-62	-70	-64	-66	-66	-68	-66	-66	-76	-74	-74	-72	-70	-70	-70					