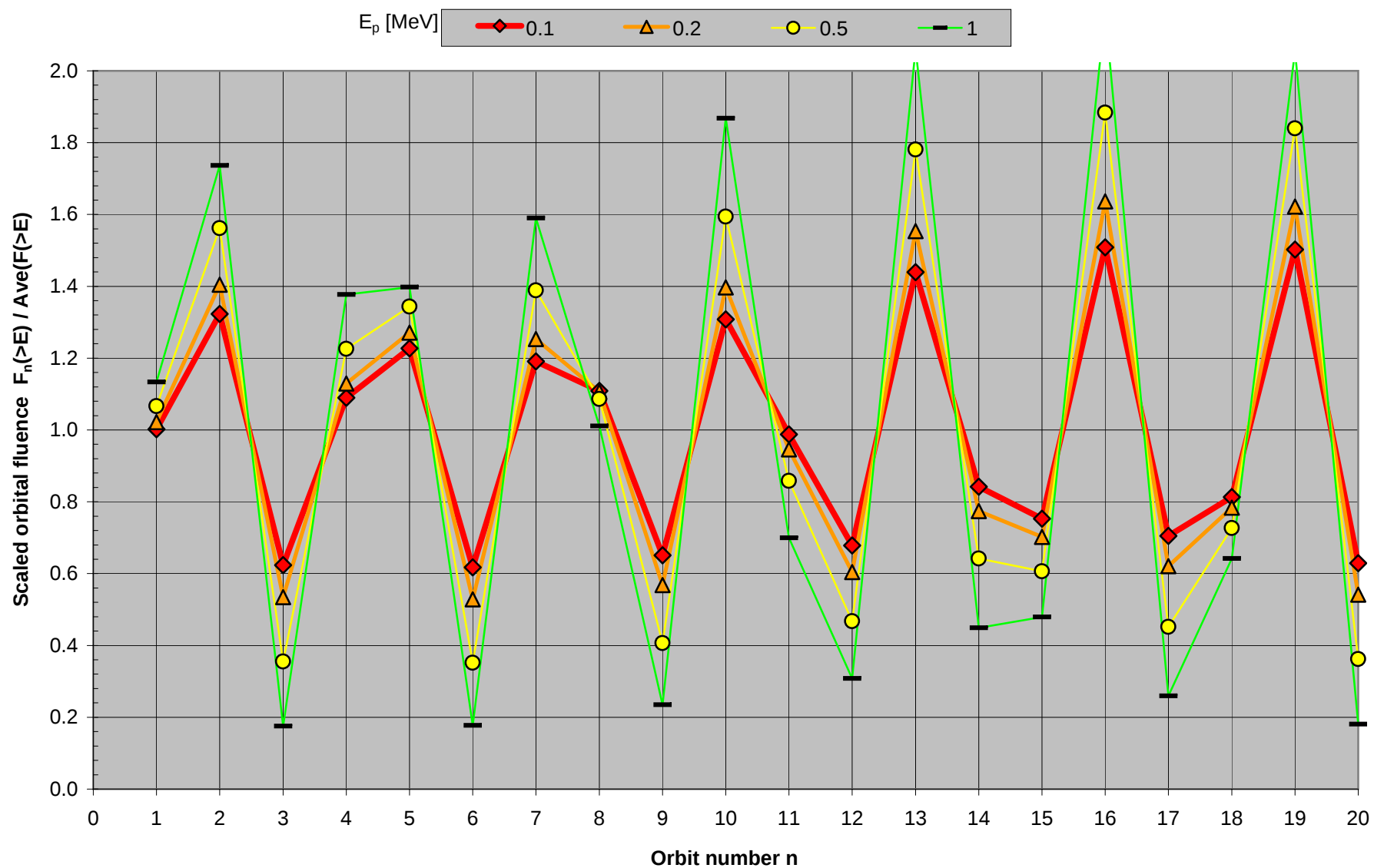


Orbit-orbit fluence variations during first 20 radiation-belt transits



Per-orbit			AP8-MAX Integral fluence G(t; >E) scaled to average of first 20 orbits																
Orb#	t-t ₀ [d]	Configuration	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	1	1.5	2	3	4	5	6	7	10
1	3.2	ACIS-S #1	1.00	1.01	1.02	1.04	1.05	1.07	1.08	1.09	1.13	1.17	1.17	1.15	1.10	1.08	1.06	1.02	0.95
2	5.9	ACIS-S #2	1.32	1.36	1.40	1.46	1.51	1.56	1.61	1.64	1.74	1.85	1.93	1.99	2.02	2.03	2.04	2.05	2.03
3	8.5	Safe	0.62	0.58	0.53	0.47	0.41	0.36	0.31	0.27	0.17	0.09	0.05	0.02	0.01	0.00	0.00	0.00	0.00
4	11.1	ACIS-S #3	1.09	1.11	1.13	1.16	1.19	1.23	1.26	1.29	1.38	1.50	1.59	1.66	1.69	1.72	1.73	1.74	1.74
5	13.8	ACIS-I #4	1.23	1.25	1.27	1.30	1.32	1.34	1.36	1.37	1.40	1.40	1.38	1.31	1.23	1.19	1.15	1.10	1.01
6	16.4	ACIS-I #5	0.62	0.57	0.53	0.46	0.41	0.35	0.30	0.27	0.18	0.10	0.05	0.02	0.01	0.01	0.00	0.00	0.00
7	19.1	HETG/ACIS-S	1.19	1.22	1.25	1.30	1.34	1.39	1.43	1.47	1.59	1.75	1.89	2.01	2.09	2.13	2.17	2.20	2.25
8	21.7	HRC-I	1.11	1.11	1.11	1.10	1.10	1.09	1.07	1.06	1.01	0.92	0.81	0.69	0.57	0.51	0.45	0.40	0.31
9	24.4	HRC-I	0.65	0.61	0.57	0.51	0.46	0.41	0.36	0.33	0.23	0.15	0.09	0.05	0.03	0.02	0.01	0.01	0.00
10	27.0	HRC-S	1.31	1.35	1.40	1.46	1.53	1.59	1.66	1.71	1.87	2.08	2.29	2.50	2.69	2.80	2.90	2.98	3.19
11	29.6	ACIS-I #6	0.99	0.97	0.95	0.92	0.89	0.86	0.82	0.79	0.70	0.57	0.45	0.33	0.24	0.19	0.15	0.13	0.08
12	32.3	ACIS-S #7	0.68	0.64	0.60	0.55	0.51	0.47	0.43	0.39	0.31	0.21	0.15	0.09	0.05	0.04	0.03	0.02	0.01
13	34.9	ACIS-S #8	1.44	1.50	1.55	1.63	1.71	1.78	1.85	1.91	2.06	2.25	2.41	2.58	2.74	2.80	2.86	2.92	3.04
14	37.6	HETG/ACIS-S	0.84	0.81	0.77	0.73	0.69	0.64	0.60	0.56	0.45	0.32	0.23	0.14	0.09	0.06	0.05	0.04	0.02
15	40.2	HRC-S	0.75	0.73	0.70	0.67	0.64	0.61	0.58	0.55	0.48	0.38	0.29	0.21	0.14	0.11	0.09	0.07	0.04
16	42.8		1.51	1.57	1.64	1.72	1.80	1.88	1.96	2.02	2.16	2.32	2.43	2.58	2.71	2.76	2.80	2.85	2.91
17	45.5		0.70	0.66	0.62	0.56	0.51	0.45	0.40	0.36	0.26	0.16	0.09	0.05	0.02	0.01	0.01	0.01	0.00
18	48.2		0.81	0.80	0.78	0.76	0.74	0.73	0.71	0.69	0.64	0.55	0.46	0.36	0.28	0.23	0.19	0.17	0.11
19	50.8		1.50	1.56	1.62	1.70	1.77	1.84	1.90	1.95	2.06	2.14	2.18	2.25	2.29	2.30	2.30	2.30	2.28
20	53.4		0.63	0.58	0.54	0.48	0.42	0.36	0.31	0.27	0.18	0.10	0.05	0.02	0.01	0.00	0.00	0.00	0.00

Cumulative		AP8-MAX Integral fluence G(t; >E) [p/(cm ²)]																
Orb#	t-t ₀ [d]	0.10	0.15	0.20	0.30	0.40	0.50	0.60	0.70	1.00	1.50	2.00	3.00	4.00	5.00	6.00	7.00	10.00
0	0.5	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06	4.68E-06
1	3.2	1.64E+12	1.28E+12	1.02E+12	6.85E+11	4.68E+11	3.31E+11	2.36E+11	1.74E+11	7.25E+10	1.95E+10	5.49E+09	1.03E+09	2.02E+08	7.25E+07	2.62E+07	1.26E+07	2.02E+06
2	5.9	3.79E+12	3.01E+12	2.42E+12	1.65E+12	1.14E+12	8.15E+11	5.88E+11	4.34E+11	1.84E+11	5.03E+10	1.45E+10	2.83E+09	5.75E+08	2.10E+08	7.71E+07	3.79E+07	6.32E+06
3	8.5	4.81E+12	3.75E+12	2.95E+12	1.96E+12	1.32E+12	9.25E+11	6.55E+11	4.76E+11	1.95E+11	5.19E+10	1.47E+10	2.85E+09	5.76E+08	2.10E+08	7.71E+07	3.79E+07	6.32E+06
4	11.1	6.59E+12	5.15E+12	4.08E+12	2.73E+12	1.86E+12	1.31E+12	9.30E+11	6.81E+11	2.83E+11	7.69E+10	2.22E+10	4.34E+09	8.89E+08	3.25E+08	1.20E+08	5.94E+07	1.00E+07
5	13.8	8.59E+12	6.74E+12	5.34E+12	3.59E+12	2.44E+12	1.72E+12	1.23E+12	8.98E+11	3.72E+11	1.00E+11	2.86E+10	5.53E+09	1.12E+09	4.06E+08	1.49E+08	7.30E+07	1.21E+07
6	16.4	9.60E+12	7.47E+12	5.87E+12	3.89E+12	2.63E+12	1.83E+12	1.29E+12	9.40E+11	3.84E+11	1.02E+11	2.89E+10	5.55E+09	1.12E+09	4.06E+08	1.49E+08	7.31E+07	1.21E+07
7	19.1	1.15E+13	9.02E+12	7.12E+12	4.75E+12	3.22E+12	2.26E+12	1.61E+12	1.17E+12	4.85E+11	1.31E+11	3.77E+10	7.36E+09	1.50E+09	5.50E+08	2.03E+08	1.00E+08	1.69E+07
8	21.7	1.34E+13	1.04E+13	8.22E+12	5.48E+12	3.71E+12	2.60E+12	1.84E+12	1.34E+12	5.50E+11	1.47E+11	4.15E+10	7.98E+09	1.61E+09	5.84E+08	2.14E+08	1.05E+08	1.76E+07
9	24.4	1.44E+13	1.12E+13	8.78E+12	5.82E+12	3.92E+12	2.72E+12	1.92E+12	1.39E+12	5.65E+11	1.49E+11	4.19E+10	8.02E+09	1.61E+09	5.85E+08	2.14E+08	1.05E+08	1.76E+07
10	27.0	1.66E+13	1.29E+13	1.02E+13	6.78E+12	4.60E+12	3.22E+12	2.28E+12	1.66E+12	6.85E+11	1.84E+11	5.26E+10	1.03E+10	2.11E+09	7.73E+08	2.86E+08	1.42E+08	2.43E+07
11	29.6	1.82E+13	1.41E+13	1.11E+13	7.39E+12	4.99E+12	3.48E+12	2.46E+12	1.79E+12	7.29E+11	1.93E+11	5.47E+10	1.06E+10	2.15E+09	7.86E+08	2.90E+08	1.44E+08	2.45E+07
12	32.3	1.93E+13	1.49E+13	1.17E+13	7.76E+12	5.22E+12	3.63E+12	2.56E+12	1.85E+12	7.49E+11	1.97E+11	5.54E+10	1.07E+10	2.16E+09	7.89E+08	2.91E+08	1.44E+08	2.45E+07
13	34.9	2.16E+13	1.68E+13	1.33E+13	8.84E+12	5.98E+12	4.18E+12	2.96E+12	2.16E+12	8.81E+11	2.34E+11	6.66E+10	1.30E+10	2.67E+09	9.78E+08	3.62E+08	1.80E+08	3.10E+07
14	37.6	2.30E+13	1.79E+13	1.40E+13	9.32E+12	6.29E+12	4.38E+12	3.09E+12	2.24E+12	9.10E+11	2.40E+11	6.77E+10	1.31E+10	2.68E+09	9.82E+08	3.63E+08	1.81E+08	3.10E+07
15	40.2	2.42E+13	1.88E+13	1.47E+13	9.76E+12	6.57E+12	4.57E+12	3.22E+12	2.33E+12	9.40E+11	2.46E+11	6.90E+10	1.33E+10	2.71E+09	9.89E+08	3.65E+08	1.81E+08	3.11E+07
16	42.8	2.67E+13	2.08E+13	1.64E+13	1.09E+13	7.37E+12	5.15E+12	3.65E+12	2.65E+12	1.08E+12	2.85E+11	8.04E+10	1.56E+10	3.21E+09	1.18E+09	4.35E+08	2.17E+08	3.73E+07
17	45.5	2.78E+13	2.16E+13	1.70E+13	1.13E+13	7.60E+12	5.29E+12	3.73E+12	2.71E+12	1.10E+12	2.87E+11	8.08E+10	1.57E+10	3.22E+09	1.18E+09	4.35E+08	2.17E+08	3.73E+07
18	48.2	2.92E+13	2.26E+13	1.78E+13	1.18E+13	7.93E+12	5.52E+12	3.89E+12	2.82E+12	1.14E+12	2.97E+11	8.30E+10	1.60E+10	3.27E+09	1.19E+09	4.40E+08	2.19E+08	3.75E+07
19	50.8	3.16E+13	2.46E+13	1.94E+13	1.29E+13	8.72E+12	6.09E+12	4.30E+12	3.13E+12	1.27E+12	3.32E+11	9.32E+10	1.80E+10	3.69E+09	1.35E+09	4.97E+08	2.47E+08	4.24E+07
20	53.4	3.26E+13	2.54E+13	1.99E+13	1.32E+13	8.90E+12	6.20E+12	4.37E+12	3.17E+12	1.28E+12	3.34E+11	9.34E+10	1.80E+10	3.69E+09	1.35E+09	4.98E+08	2.47E+08	4.24E+07
Per-orbit		AP8-MAX Integral fluence G(t; >E) [p/(cm ²)]																
Orb#	t-t ₀ [d]	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	1	1.5	2	3	4	5	6	7	10
1	3.2	1.64E+12	1.28E+12	1.02E+12	6.85E+11	4.68E+11	3.31E+11	2.36E+11	1.74E+11	7.25E+10	1.95E+10	5.49E+09	1.03E+09	2.02E+08	7.25E+07	2.62E+07	1.26E+07	2.02E+06
2	5.9	2.16E+12	1.73E+12	1.40E+12	9.65E+11	6.73E+11	4.84E+11	3.51E+11	2.61E+11	1.11E+11	3.08E+10	9.01E+09	1.79E+09	3.72E+08	1.37E+08	5.08E+07	2.53E+07	4.30E+06
3	8.5	1.02E+12	7.33E+11	5.33E+11	3.10E+11	1.83E+11	1.10E+11	6.68E+10	4.21E+10	1.12E+10	1.57E+09	2.30E+08	1.86E+07	1.55E+06	3.12E+05	6.47E+04	1.73E+04	2.28E-05
4	11.1	1.78E+12	1.41E+12	1.13E+12	7.67E+11	5.31E+11	3.80E+11	2.75E+11	2.04E+11	8.81E+10	2.50E+10	7.45E+09	1.50E+09	3.13E+08	1.16E+08	4.30E+07	2.15E+07	3.69E+06
5	13.8	2.00E+12	1.59E+12	1.27E+12	8.59E+11	5.89E+11	4.17E+11	2.97E+11	2.18E+11	8.94E+10	2.34E+10	6.44E+09	1.18E+09	2.26E+08	8.01E+07	2.86E+07	1.36E+07	2.13E+06
6	16.4	1.01E+12	7.25E+11	5.27E+11	3.06E+11	1.81E+11	1.09E+11	6.65E+10	4.21E+10	1.13E+10	1.63E+09	2.47E+08	2.13E+07	1.93E+06	4.11E+05	9.00E+04	2.50E+04	2.28E-05
7	19.1	1.94E+12	1.55E+12	1.25E+12	8.58E+11	5.98E+11	4.31E+11	3.13E+11	2.33E+11	1.02E+11	2.93E+10	8.84E+09	1.81E+09	3.86E+08	1.44E+08	5.40E+07	2.72E+07	4.76E+06
8	21.7	1.81E+12	1.41E+12	1.10E+12	7.29E+11	4.89E+11	3.37E+11	2.34E+11	1.67E+11	6.47E+10	1.53E+10	3.80E+09	6.20E+08	1.05E+08	3.41E+07	1.12E+07	4.94E+06	6.59E+05
9	24.4	1.06E+12	7.71E+11	5.66E+11	3.36E+11	2.04E+11	1.26E+11	7.90E+10	5.15E+10	1.50E+10	2.46E+09	4.31E+08	4.48E+07	4.89E+06	1.18E+06	2.87E+05	1.02E+05	7.65E+03
10	27.0	2.13E+12	1.72E+12	1.39E+12	9.67E+11	6.80E+11	4.94E+11	3.62E+11	2.72E+11	1.19E+11	3.48E+10	1.07E+10	2.25E+09	4.97E+08	1.88E+08	7.20E+07	3.68E+07	6.77E+06
11	29.6	1.61E+12	1.23E+12	9.42E+11	6.07E+11	3.96E+11	2.66E+11	1.80E+11	1.26E+11	4.47E+10	9.45E+09	2.09E+09	2.95E+08	4.35E+07	1.29E+07	3.85E+06	1.59E+06	1.73E+05
12	32.3	1.11E+12	8.12E+11	6.02E+11	3.66E+11	2.27E+11	1.45E+11	9.36E+10	6.26E+10	1.97E+10	3.58E+09	6.89E+08	8.02E+07	9.71E+06	2.50E+06	6.52E+05	2.50E+05	2.17E+04
13	34.9	2.35E+12	1.90E+12	1.55E+12	1.08E+12	7.60E+11	5.52E+11	4.04E+11	3.02E+11	1.32E+11	3.75E+10	1.12E+10	2.33E+09	5.05E+08	1.89E+08	7.11E+07	3.61E+07	6.45E+06
14	37.6	1.37E+12	1.02E+12	7.71E+11	4.83E+11	3.06E+11	1.99E+11	1.31E+11	8.83E+10	2.87E+10	5.37E+09	1.05E+09	1.26E+08	1.58E+07	4.18E+06	1.12E+06	4.34E+05	4.12E+04
15	40.2	1.23E+12	9.22E+11	7.00E+11	4.40E+11	2.83E+11	1.88E+11	1.27E+11	8.78E+10	3.06E+10	6.33E+09	1.37E+09	1.87E+08	2.64E+07	7.60E+06	2.21E+06	8.99E+05	9.48E+04
16	42.8	2.46E+12	2.00E+12	1.63E+12	1.14E+12	8.03E+11	5.84E+11	4.28E+11	3.20E+11	1.38E+11	3.87E+10	1.13E+10	2.33E+09	5.01E+08	1.86E+08	6.97E+07	3.52E+07	6.17E+06
17	45.5	1.15E+12	8.40E+11	6.19E+11	3.71E+11	2.26E+11	1.40E+11	8.78E+10	5.73E+10	1.66E+10	2.63E+09	4.39E+08	4.25E+07	4.30E+06	9.83E+05	2.28E+05	7.29E+04	3.97E+03
18	48.2	1.33E+12	1.01E+12	7.81E+11	5.03E+11	3.31E+11	2.25E+11	1.55E+11	1.10E+11	4.11E+10	9.25E+09	2.17E+09	3.27E+08	5.11E+07	1.57E+07	4.84E+06	2.04E+06	2.39E+05
19	50.8	2.45E+12</																