

1 **Precision Measurement of the Proton Flux in Primary Cosmic**  
2 **Rays from 1 GV to 1.8 TV with the Alpha Magnetic**  
3 **Spectrometer on the International Space Station**  
4 **Supplemental Material**

5 (AMS Collaboration)

TABLE I: The proton flux  $\Phi$  as a function of rigidity at the top of AMS in units of  $[\text{m}^2 \cdot \text{sr} \cdot \text{s} \cdot \text{GV}]^{-1}$  including errors due to statistics (stat.); contributions to the systematic error from the trigger (trig.); acceptance, background contamination, geomagnetic cutoff, and event selection (acc.); the rigidity resolution function and unfolding (unf.); and the absolute rigidity scale (scale); and the total systematic error (syst.).

Rigidity [GV]	$\Phi$	$\sigma_{\text{stat.}}$	$\sigma_{\text{trig.}}$	$\sigma_{\text{acc.}}$	$\sigma_{\text{unf.}}$	$\sigma_{\text{scale}}$	$\sigma_{\text{syst.}}$
1.00 – 1.16	(6.269	0.008	0.012	0.249	0.087	0.015	0.268) $\times 10^2$
1.16 – 1.33	(6.625	0.004	0.011	0.206	0.086	0.013	0.226) $\times 10^2$
1.33 – 1.51	(6.432	0.004	0.007	0.158	0.077	0.008	0.177) $\times 10^2$
1.51 – 1.71	(6.059	0.003	0.006	0.134	0.068	0.004	0.151) $\times 10^2$
1.71 – 1.92	(5.544	0.002	0.005	0.110	0.059	0.002	0.126) $\times 10^2$
1.92 – 2.15	(4.993	0.002	0.004	0.090	0.051	0.001	0.104) $\times 10^2$
2.15 – 2.40	(4.420	0.002	0.004	0.073	0.043	0.003	0.085) $\times 10^2$
2.40 – 2.67	(3.878	0.001	0.003	0.059	0.037	0.004	0.069) $\times 10^2$
2.67 – 2.97	(3.359	0.001	0.003	0.046	0.031	0.004	0.056) $\times 10^2$
2.97 – 3.29	(2.882	0.001	0.002	0.037	0.026	0.004	0.046) $\times 10^2$
3.29 – 3.64	(2.453	0.001	0.002	0.030	0.021	0.004	0.037) $\times 10^2$
3.64 – 4.02	(2.068	0.001	0.002	0.024	0.018	0.004	0.030) $\times 10^2$
4.02 – 4.43	(1.731	0.001	0.001	0.019	0.015	0.004	0.025) $\times 10^2$
4.43 – 4.88	(1.438	0.000	0.001	0.016	0.012	0.003	0.020) $\times 10^2$
4.88 – 5.37	(1.184	0.000	0.001	0.012	0.010	0.003	0.016) $\times 10^2$
5.37 – 5.90	(9.691	0.003	0.007	0.099	0.079	0.026	0.130) $\times 10^1$
5.90 – 6.47	(7.903	0.002	0.006	0.079	0.063	0.023	0.104) $\times 10^1$
6.47 – 7.09	(6.420	0.002	0.005	0.063	0.051	0.019	0.083) $\times 10^1$
7.09 – 7.76	(5.197	0.002	0.004	0.050	0.041	0.016	0.067) $\times 10^1$
7.76 – 8.48	(4.200	0.001	0.003	0.040	0.033	0.014	0.054) $\times 10^1$
8.48 – 9.26	(3.386	0.001	0.003	0.032	0.026	0.012	0.043) $\times 10^1$
9.26 – 10.1	(2.724	0.001	0.002	0.025	0.021	0.010	0.034) $\times 10^1$
10.1 – 11.0	(2.190	0.001	0.002	0.020	0.017	0.008	0.028) $\times 10^1$
11.0 – 12.0	(1.758	0.001	0.001	0.016	0.014	0.006	0.022) $\times 10^1$
12.0 – 13.0	(1.417	0.001	0.001	0.013	0.011	0.005	0.018) $\times 10^1$
13.0 – 14.1	(1.148	0.000	0.001	0.011	0.009	0.004	0.015) $\times 10^1$
14.1 – 15.3	(9.266	0.004	0.008	0.086	0.072	0.036	0.118) $\times 10^0$
15.3 – 16.6	(7.460	0.003	0.006	0.069	0.058	0.029	0.095) $\times 10^0$
16.6 – 18.0	(5.995	0.003	0.005	0.055	0.047	0.024	0.077) $\times 10^0$
18.0 – 19.5	(4.832	0.002	0.004	0.045	0.038	0.019	0.062) $\times 10^0$
19.5 – 21.1	(3.894	0.002	0.003	0.036	0.031	0.016	0.050) $\times 10^0$
21.1 – 22.8	(3.151	0.002	0.003	0.029	0.025	0.013	0.041) $\times 10^0$
22.8 – 24.7	(2.538	0.001	0.002	0.023	0.020	0.011	0.033) $\times 10^0$
24.7 – 26.7	(2.040	0.001	0.002	0.019	0.016	0.009	0.026) $\times 10^0$
26.7 – 28.8	(1.650	0.001	0.002	0.015	0.013	0.007	0.021) $\times 10^0$
28.8 – 31.1	(1.335	0.001	0.001	0.012	0.011	0.006	0.017) $\times 10^0$

*Table continued*

TABLE I – (Continued).

Rigidity [GV]	$\Phi$	$\sigma_{\text{stat.}}$	$\sigma_{\text{trig.}}$	$\sigma_{\text{acc.}}$	$\sigma_{\text{unf.}}$	$\sigma_{\text{scale}}$	$\sigma_{\text{sys.}}$
31.1 – 33.5	(1.082	0.001	0.001	0.010	0.009	0.005	$0.014) \times 10^0$
33.5 – 36.1	(8.791	0.006	0.009	0.081	0.071	0.038	$0.115) \times 10^{-1}$
36.1 – 38.9	(7.132	0.005	0.007	0.066	0.058	0.031	$0.093) \times 10^{-1}$
38.9 – 41.9	(5.793	0.005	0.006	0.054	0.047	0.025	$0.076) \times 10^{-1}$
41.9 – 45.1	(4.716	0.004	0.005	0.044	0.038	0.021	$0.062) \times 10^{-1}$
45.1 – 48.5	(3.839	0.004	0.004	0.036	0.031	0.017	$0.051) \times 10^{-1}$
48.5 – 52.2	(3.128	0.003	0.003	0.029	0.026	0.014	$0.042) \times 10^{-1}$
52.2 – 56.1	(2.549	0.003	0.003	0.024	0.021	0.012	$0.034) \times 10^{-1}$
56.1 – 60.3	(2.080	0.002	0.002	0.020	0.017	0.009	$0.028) \times 10^{-1}$
60.3 – 64.8	(1.701	0.002	0.002	0.016	0.014	0.008	$0.023) \times 10^{-1}$
64.8 – 69.7	(1.393	0.002	0.002	0.013	0.011	0.007	$0.019) \times 10^{-1}$
69.7 – 74.9	(1.132	0.002	0.001	0.011	0.009	0.005	$0.015) \times 10^{-1}$
74.9 – 80.5	(9.263	0.013	0.012	0.089	0.076	0.046	$0.127) \times 10^{-2}$
80.5 – 86.5	(7.530	0.012	0.010	0.073	0.062	0.038	$0.104) \times 10^{-2}$
86.5 – 93.0	(6.146	0.010	0.008	0.060	0.051	0.031	$0.085) \times 10^{-2}$
93.0 – 100	(5.026	0.009	0.007	0.049	0.042	0.026	$0.070) \times 10^{-2}$
100 – 108	(4.085	0.007	0.006	0.040	0.035	0.022	$0.058) \times 10^{-2}$
108 – 116	(3.294	0.007	0.005	0.033	0.028	0.018	$0.047) \times 10^{-2}$
116 – 125	(2.698	0.006	0.004	0.027	0.023	0.016	$0.039) \times 10^{-2}$
125 – 135	(2.174	0.005	0.004	0.022	0.019	0.013	$0.032) \times 10^{-2}$
135 – 147	(1.727	0.004	0.003	0.018	0.016	0.011	$0.026) \times 10^{-2}$
147 – 160	(1.358	0.003	0.003	0.014	0.013	0.009	$0.021) \times 10^{-2}$
160 – 175	(1.065	0.003	0.002	0.011	0.010	0.007	$0.017) \times 10^{-2}$
175 – 192	(8.212	0.023	0.017	0.087	0.079	0.059	$0.133) \times 10^{-3}$
192 – 211	(6.299	0.019	0.014	0.068	0.062	0.047	$0.104) \times 10^{-3}$
211 – 233	(4.793	0.015	0.011	0.053	0.049	0.039	$0.083) \times 10^{-3}$
233 – 259	(3.605	0.012	0.009	0.040	0.039	0.031	$0.065) \times 10^{-3}$
259 – 291	(2.647	0.009	0.007	0.030	0.029	0.024	$0.049) \times 10^{-3}$
291 – 330	(1.884	0.007	0.006	0.022	0.022	0.019	$0.037) \times 10^{-3}$
330 – 379	(1.288	0.005	0.004	0.016	0.016	0.015	$0.027) \times 10^{-3}$
379 – 441	(8.695	0.038	0.034	0.110	0.112	0.111	$0.195) \times 10^{-4}$
441 – 525	(5.545	0.026	0.025	0.073	0.078	0.078	$0.135) \times 10^{-4}$
525 – 643	(3.357	0.017	0.018	0.047	0.052	0.057	$0.092) \times 10^{-4}$
643 – 822	(1.860	0.010	0.012	0.028	0.032	0.040	$0.060) \times 10^{-4}$
822 – 1130	(8.571	0.053	0.071	0.139	0.192	0.254	$0.355) \times 10^{-5}$
1130 – 1800	(2.933	0.021	0.035	0.055	0.092	0.130	$0.173) \times 10^{-5}$