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# COSMIC RAY EXPOSURE & LINEAR-ENERGY-TRANSFER EVALUATIONS FOR THE COBE MISSION

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LINEAR-ENERGY-TRANSFER EVALUATIONS FOR THE  
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COSMIC RAY EXPOSURE AND LINEAR-ENERGY-TRANSFER EVALUATION FOR THE  
COBE MISSION

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Magnetospherically attenuated, orbit integrated, surface incident cosmic ray fluxes of galactic origin were determined for the COBE mission. All heavy ions up to Nickel ( $z=28$ ) were considered in this evaluation. In order to provide worst case approximations, estimates were based on solar minimum conditions.

Transport and material shielding calculations were then performed for these vehicle encountered particles, for a simple spherical 3-D aluminum geometry, and the materially attenuated cosmic ray distributions emerging behind selected shield thicknesses were obtained.

Finally, Linear-Energy-Transfer (LET) spectra were evaluated for the energy spectra of each ion specie and these were, in turn, integrated into the sum-total LET distribution contained in this report.

The results are presented in tabular and graphical form for eight (8) different shield thicknesses from .01 to 10.0 gm/cm<sup>2</sup> of aluminum. They show most conclusively, and not unexpectedly, that material shielding has virtually no effect on the final LET spectrum, at least not for aluminum shields. This was predictable.

Please note that in the LET graphs (Figures 30-37), two curves were plotted. Of these, please ignore the one labeled "grazing" and use only the one labeled "normal".

Again, it should be remembered that the end results contain contributions from all elements up to Nickel ( $z=28$ ).

TABLES

- 1 Spacecraft Exposure to Galactic Cosmic Ray Ions (Geomagnetic Shielding Evaluation)

Cosmic Ray Particle Fluxes

- 2-28 Unattenuated, Attenuated, and Shielded Differential Cosmic Ray Particle Fluxes (for each element z=2-28) Behind Spherical Aluminum Shields of Different Thicknesses (gm/cm<sup>2</sup>)

Cosmic Ray LET Spectra

- 29 Total Integral Cosmic Ray LET Spectra (for elements z=2-28) Behind Spherical Aluminum Shields of Different Thicknesses (gm/cm<sup>2</sup>)

FIGURES

- 1 Exposure Profile for Magnetospheric Cosmic Ray Attenuation  
2 Accessibility Profile for Magnetospheric Cosmic Ray Attenuation

Cosmic Ray Particle Fluxes

- 3-29 Unattenuated, Attenuated, and Shielded Differential Cosmic Ray Particle Fluxes Plotted vs. Energy (for each element z=2-28) Behind Spherical Aluminum Shields of Different Thicknesses (gm/cm<sup>2</sup>)

Cosmic Ray LET Spectra

- 30 Total Integral Cosmic Ray LET Spectra Behind a Spherical Aluminum Shield of Thickness: 1.00E-02 gm/cm<sup>2</sup>  
31 Total Integral Cosmic Ray LET Spectra Behind a Spherical Aluminum Shield of Thickness: 5.00E-02 gm/cm<sup>2</sup>  
32 Total Integral Cosmic Ray LET Spectra Behind a Spherical Aluminum Shield of Thickness: 1.00E-01 gm/cm<sup>2</sup>  
33 Total Integral Cosmic Ray LET Spectra Behind a Spherical Aluminum Shield of Thickness: 5.00E-01 gm/cm<sup>2</sup>  
34 Total Integral Cosmic Ray LET Spectra Behind a Spherical Aluminum Shield of Thickness: 1.00E 00 gm/cm<sup>2</sup>  
35 Total Integral Cosmic Ray LET Spectra Behind a Spherical Aluminum Shield of Thickness: 3.00E 00 gm/cm<sup>2</sup>  
36 Total Integral Cosmic Ray LET Spectra Behind a Spherical Aluminum Shield of Thickness: 5.00E 00 gm/cm<sup>2</sup>  
37 Total Integral Cosmic Ray LET Spectra Behind a Spherical Aluminum Shield of Thickness: 1.00E 01 gm/cm<sup>2</sup>

\*\* ORBITAL FLUX STUDY WITH COMPOSITE PARTICLE ENVIRONMENTS: VETTES AP8 AND AE8 FOR SOLAR MINIMUM \*\* UNIFLUX OF 1984 \*\*  
 \*\* UNCERTAINTY FACTORS (UF) APPLIED FOR THIS RUN ARE: FOR PROTONS (AP8) - UF= 1.0 AND FOR ELECTRONS (AE8) - UF= 1.0 \*\*  
 \*\* MAGNETIC COORDINATES B AND L COMPUTED BY INVARA OF 1972 WITH ALLMAG, MODEL 4: BARRACLOUGH ET.AL. 168-TRM 1975 \* TIME= 1989.1 \*\*  
 \*\* VEHICLE : COBE CR SMIN \*\* INCLINATION= 81DEG \*\* PERIGEE= 900KM \*\* APOGEE= 900KM \*\* B/L ORBIT TAPE: TD5376 \*\* PERIOD= 1.720 \*\*  
 \*\* FOR INFORMATION OR EXPLANATION CONTACT E.G. STASSINOPOULOS AT NASA-GSFC, CODE 601, GREENBELT, MARYLAND 20771, TEL. (301)-344-8067 \*\*

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 \*\*\*\*\* COSMIC RAY ANALYSIS \*\*\*\*\*  
 \*\*\*\*\*  
 \*AVERAGE SPACECRAFT EXPOSURE TO IONS WITH GIVEN ENERGIES\*  
 \*\*\*\*\*  
 \*\*\*\*\* TOTAL EXPOSURE TIME: 48.0 HRS \*\*\*\*\*  
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** L-BIN L-RANGE	DEFINITION ** MEAN L-VALUE	RIGIDITY (GV)	ION CUT-OFF ENERGY + (MEV/N)	** EXPOSURE PROFILE ** L-BINS (HOURS)	** ACCESSIBILITY PROFILE ** REVERSE SUMMATION* OF TIME IN L-BINS (HOURS)	** ACCESSIBILITY PROFILE ** NORMALIZED L-BIN SUMMATION ++ (%)
0.9-1.1	1.0	14.900	6571.	0.950	1.98	48.000
1.1-1.3	1.2	10.347	4320.	9.883	20.59	98.02
1.3-1.5	1.4	7.602	2977.	4.767	9.93	37.167
1.5-1.7	1.6	5.820	2120.	3.067	6.39	32.400
1.7-1.9	1.8	4.599	1545.	2.417	5.03	29.333
1.9-2.1	2.0	3.725	1147.	1.917	3.99	26.917
2.1-2.3	2.2	3.079	865.	1.450	3.02	25.000
2.3-2.5	2.4	2.587	660.	1.283	2.67	23.550
2.5-2.7	2.6	2.204	509.	1.300	2.71	22.267
2.7-2.9	2.8	1.901	397.	0.833	1.74	20.967
2.9-3.1	3.0	1.656	313.	0.933	1.94	20.133
3.1-3.3	3.2	1.455	249.	0.833	1.74	19.200
3.3-3.5	3.4	1.289	200.	0.650	1.35	18.367
3.5-3.7	3.6	1.150	162.	0.683	1.42	17.717
3.7-3.9	3.8	1.032	133.	0.617	1.28	17.033
3.9-4.1	4.0	0.931	109.	0.450	0.94	16.417
4.1-4.3	4.2	0.845	91.	0.583	1.22	15.967
4.3-4.5	4.4	0.770	76.	0.450	0.94	15.383
4.5-4.7	4.6	0.704	64.	0.500	1.04	14.933
4.7-4.9	4.8	0.647	54.	0.367	0.76	14.433
4.9-5.1	5.0	0.596	46.	0.333	0.69	14.067
5.1-5.3	5.2	0.551	40.	0.500	1.04	13.733
5.3-5.5	5.4	0.511	34.	0.333	0.69	13.233
5.5-5.7	5.6	0.475	30.	0.350	0.73	12.900
5.7-5.9	5.8	0.443	26.	0.217	0.45	12.550
5.9-6.1	6.0	0.414	23.	0.283	0.59	12.333
6.1-6.3	6.2	0.388	20.	0.333	0.69	12.050
6.3-6.5	6.4	0.364	17.	0.267	0.56	11.717
6.5-6.7	6.6	0.342	15.	0.433	0.90	11.450
6.7-6.9	6.8	0.322	14.	0.333	0.69	11.017
6.9-OVER	7.0	0.304	12.	10.683	22.26	10.683

+ ENERGY AT MEAN L-VALUE  
 ++ NORMALIZATION BY TOTAL EXPOSURE TIME CONSIDERED IN THIS ANALYSIS (RELATIVE TIME), GIVEN IN CAPTION

**TABLE 1**

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: HE  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 2; ATOMIC WEIGHT= 4.00)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

EN- ERGY	UNATTEN- ATED	ATTEN- ATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
12	8.60E+00	1.91E+00	0.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.02E-01	1.87E-01	2.17E-01	2.43E-01	2.71E-01	2.78E-01
14	8.00E+00	1.84E+00	0.23	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-01	1.81E-01	2.10E-01	2.36E-01	2.62E-01	2.69E-01
16	8.00E+00	1.91E+00	0.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E-01	1.78E-01	2.05E-01	2.31E-01	2.57E-01	2.63E-01
18	8.20E+00	2.00E+00	0.29	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-01	1.76E-01	2.04E-01	2.29E-01	2.55E-01	2.61E-01
20	9.01E+00	2.26E+00	0.32	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-01	1.77E-01	2.04E-01	2.29E-01	2.55E-01	2.62E-01
23	1.02E+01	2.63E+00	0.36	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-01	1.79E-01	2.06E-01	2.32E-01	2.58E-01	2.65E-01
26	1.14E+01	2.99E+00	0.41	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.97E-01	1.84E-01	2.12E-01	2.38E-01	2.65E-01	2.72E-01
30	1.30E+01	3.50E+00	0.46	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.01E-01	1.87E-01	2.16E-01	2.43E-01	2.70E-01	2.77E-01
34	1.48E+01	4.07E+00	0.52	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.09E-01	1.94E-01	2.24E-01	2.52E-01	2.80E-01	2.87E-01
40	1.74E+01	4.97E+00	0.59	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-01	2.01E-01	2.33E-01	2.61E-01	2.91E-01	2.98E-01
46	1.96E+01	5.73E+00	0.67	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.29E-01	2.13E-01	2.46E-01	2.76E-01	3.07E-01	3.15E-01
50	2.10E+01	6.23E+00	0.75	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.40E-01	2.22E-01	2.57E-01	2.88E-01	3.21E-01	3.29E-01
54	2.24E+01	6.72E+00	0.85	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.54E-01	2.35E-01	2.72E-01	3.06E-01	3.40E-01	3.49E-01
60	2.43E+01	7.48E+00	0.95	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.67E-01	2.48E-01	2.86E-01	3.21E-01	3.58E-01	3.67E-01
64	2.57E+01	7.99E+00	1.08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-01	2.67E-01	3.09E-01	3.47E-01	3.86E-01	3.96E-01
70	2.77E+01	8.70E+00	1.21	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.10E-01	2.90E-01	3.32E-01	3.73E-01	4.15E-01	4.25E-01
76	2.93E+01	9.40E+00	1.37	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.35E-01	3.15E-01	3.59E-01	4.04E-01	4.49E-01	4.61E-01
80	3.04E+01	9.75E+00	1.54	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.62E-01	3.39E-01	3.87E-01	4.34E-01	4.83E-01	4.96E-01
90	3.20E+01	1.06E+01	1.74	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.82E-01	3.58E-01	3.83E-01	4.59E-01	5.10E-01	5.23E-01
91	3.22E+01	1.07E+01	1.96	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.15E-01	3.88E-01	4.07E-01	4.98E-01	5.54E-01	5.68E-01
100	3.37E+01	1.13E+01	2.21	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.52E-01	4.26E-01	4.42E-01	5.45E-01	6.02E-01	6.17E-01
109	3.47E+01	1.19E+01	2.50	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.94E-01	4.67E-01	4.83E-01	5.97E-01	6.58E-01	6.75E-01
133	3.74E+01	1.33E+01	2.81	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.38E-01	5.09E-01	5.24E-01	6.48E-01	7.14E-01	7.32E-01
162	4.02E+01	1.48E+01	3.17	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.83E-01	5.57E-01	5.67E-01	7.01E-01	7.73E-01	7.93E-01
200	4.34E+01	1.66E+01	3.58	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.39E-01	5.79E-01	6.25E-01	7.66E-01	8.45E-01	8.66E-01
249	4.22E+01	1.69E+01	4.04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.10E-01	6.22E-01	6.93E-01	8.48E-01	9.35E-01	9.59E-01
300	4.13E+01	1.67E+01	4.55	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.43E-01	6.87E-01	7.61E-01	9.28E-01	1.02E+00	1.05E+00
313	3.98E+01	1.67E+01	5.13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.77E-01	7.61E-01	8.38E-01	1.02E+00	1.12E+00	1.15E+00
397	3.28E+01	1.43E+01	5.79	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.58E-01	8.47E-01	9.30E-01	1.12E+00	1.24E+00	1.26E+00
400	3.26E+01	1.42E+01	6.53	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.39E-01	9.36E-01	1.02E+00	1.23E+00	1.35E+00	1.37E+00
500	2.66E+01	1.23E+01	7.36	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E+00	1.09E+00	1.17E+00	1.39E+00	1.53E+00	1.55E+00
509	2.61E+01	1.21E+01	8.30	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.93E-01	1.11E+00	1.18E+00	1.26E+00	1.48E+00	1.63E+00	1.66E+00
600	2.20E+01	1.06E+01	9.36	0.00E+00	0.00E+00	3.51E-01	1.06E+00	1.40E+00	1.20E+00	1.26E+00	1.43E+00	1.65E+00	1.81E+00	1.84E+00
660	2.01E+01	9.86E+00	10.56	3.84E-01	9.53E-01	1.52E+00	1.52E+00	1.44E+00	1.34E+00	1.37E+00	1.57E+00	1.80E+00	1.97E+00	2.00E+00
700	1.90E+01	9.35E+00	11.91	1.67E+00	1.65E+00	1.61E+00	1.59E+00	1.56E+00	1.46E+00	1.58E+00	1.71E+00	2.01E+00	2.19E+00	2.21E+00
800	1.63E+01	8.28E+00	13.43	1.76E+00	1.71E+00	1.68E+00	1.66E+00	1.65E+00	1.70E+00	1.74E+00	1.85E+00	2.24E+00	2.43E+00	2.44E+00
865	1.48E+01	7.71E+00	15.15	1.83E+00	1.80E+00	1.78E+00	1.76E+00	1.79E+00	1.83E+00	1.94E+00	2.12E+00	2.50E+00	2.70E+00	2.70E+00
900	1.41E+01	7.30E+00	17.08	1.96E+00	1.98E+00	1.95E+00	1.97E+00	1.99E+00	2.14E+00	2.23E+00	2.44E+00	2.81E+00	3.00E+00	2.98E+00
1000	1.19E+01	6.31E+00	19.26	2.32E+00	2.25E+00	2.27E+00	2.30E+00	2.33E+00	2.45E+00	2.51E+00	2.67E+00	3.23E+00	3.20E+00	3.29E+00
1147	9.30E+00	5.21E+00	21.72	2.54E+00	2.51E+00	2.52E+00	2.55E+00	2.55E+00	2.65E+00	2.76E+00	2.96E+00	3.21E+00	3.38E+00	3.32E+00
1545	5.39E+00	3.30E+00	24.49	2.84E+00	2.85E+00	2.82E+00	2.85E+00	2.87E+00	2.96E+00	3.09E+00	3.33E+00	3.60E+00	3.76E+00	3.65E+00
2000	3.37E+00	2.23E+00	27.62	3.34E+00	3.34E+00	3.38E+00	3.34E+00	3.26E+00	3.52E+00	3.58E+00	3.79E+00	4.14E+00	4.26E+00	4.09E+00
2120	3.02E+00	2.04E+00	31.15	3.62E+00	3.71E+00	3.75E+00	3.78E+00	3.79E+00	3.81E+00	4.01E+00	4.11E+00	4.61E+00	4.67E+00	4.44E+00
2977	1.62E+00	1.26E+00	35.13	4.45E+00	4.50E+00	4.48E+00	4.46E+00	4.40E+00	4.52E+00	4.68E+00	4.82E+00	4.96E+00	5.38E+00	5.04E+00

TABLE 2A

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: HE  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 2; ATOMIC WEIGHT= 4.00)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
 \*\*\*\*\*

SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	4.94E+00	5.04E+00	5.08E+00	5.11E+00	5.08E+00	5.12E+00	5.18E+00	5.20E+00	5.67E+00	5.55E+00	5.58E+00
44.68	5.39E+00	5.55E+00	5.58E+00	5.60E+00	5.64E+00	5.73E+00	5.54E+00	5.91E+00	6.12E+00	6.12E+00	6.11E+00
50.38	6.14E+00	6.29E+00	6.34E+00	6.29E+00	6.32E+00	6.54E+00	6.37E+00	6.58E+00	6.81E+00	6.90E+00	6.37E+00
56.82	7.17E+00	7.34E+00	7.39E+00	7.42E+00	7.28E+00	7.21E+00	7.38E+00	7.55E+00	7.60E+00	7.38E+00	7.16E+00
64.07	7.87E+00	8.04E+00	8.15E+00	8.20E+00	8.13E+00	8.19E+00	8.26E+00	8.16E+00	8.38E+00	8.31E+00	7.94E+00
72.26	8.81E+00	9.04E+00	9.10E+00	9.13E+00	9.16E+00	9.17E+00	8.89E+00	9.05E+00	8.87E+00	8.66E+00	8.49E+00
81.49	9.59E+00	9.78E+00	9.87E+00	9.90E+00	9.93E+00	9.92E+00	9.67E+00	9.88E+00	9.70E+00	9.41E+00	9.21E+00
91.89	1.04E+01	1.05E+01	1.06E+01	1.05E+01	1.05E+01	1.06E+01	1.06E+01	1.06E+01	1.04E+01	1.02E+01	1.01E+01
103.63	1.17E+01	1.18E+01	1.17E+01	1.17E+01	1.15E+01	1.14E+01	1.14E+01	1.15E+01	1.17E+01	1.13E+01	1.12E+01
116.86	1.19E+01	1.20E+01	1.21E+01	1.22E+01	1.22E+01	1.22E+01	1.22E+01	1.24E+01	1.19E+01	1.20E+01	1.18E+01
131.79	1.27E+01	1.27E+01	1.28E+01	1.29E+01	1.30E+01	1.30E+01	1.31E+01	1.32E+01	1.28E+01	1.29E+01	1.29E+01
148.62	1.37E+01	1.38E+01	1.39E+01	1.40E+01	1.41E+01	1.41E+01	1.41E+01	1.40E+01	1.38E+01	1.39E+01	1.35E+01
167.60	1.44E+01	1.44E+01	1.45E+01	1.46E+01	1.46E+01	1.47E+01	1.47E+01	1.48E+01	1.51E+01	1.45E+01	1.45E+01
189.01	1.56E+01	1.57E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.57E+01	1.57E+01	1.57E+01	1.53E+01	1.48E+01
213.15	1.62E+01	1.62E+01	1.62E+01	1.63E+01	1.63E+01	1.63E+01	1.63E+01	1.60E+01	1.59E+01	1.56E+01	1.52E+01
240.38	1.61E+01	1.61E+01	1.61E+01	1.61E+01	1.61E+01	1.60E+01	1.60E+01	1.60E+01	1.59E+01	1.57E+01	1.52E+01
271.08	1.62E+01	1.61E+01	1.61E+01	1.61E+01	1.61E+01	1.61E+01	1.60E+01	1.60E+01	1.58E+01	1.56E+01	1.54E+01
305.70	1.60E+01	1.60E+01	1.59E+01	1.59E+01	1.58E+01	1.58E+01	1.56E+01	1.56E+01	1.52E+01	1.51E+01	1.44E+01
344.74	1.51E+01	1.50E+01	1.50E+01	1.49E+01	1.48E+01	1.47E+01	1.46E+01	1.46E+01	1.46E+01	1.45E+01	1.41E+01
388.77	1.40E+01	1.39E+01	1.39E+01	1.38E+01	1.37E+01	1.37E+01	1.36E+01	1.35E+01	1.34E+01	1.33E+01	1.27E+01
438.43	1.30E+01	1.29E+01	1.28E+01	1.28E+01	1.27E+01	1.26E+01	1.26E+01	1.25E+01	1.24E+01	1.23E+01	1.19E+01
494.42	1.20E+01	1.19E+01	1.19E+01	1.18E+01	1.17E+01	1.16E+01	1.15E+01	1.15E+01	1.14E+01	1.13E+01	1.08E+01
557.57	1.10E+01	1.09E+01	1.08E+01	1.08E+01	1.07E+01	1.06E+01	1.06E+01	1.05E+01	1.04E+01	1.03E+01	1.02E+01
628.79	1.00E+01	9.93E+00	9.84E+00	9.76E+00	9.67E+00	9.61E+00	9.57E+00	9.50E+00	9.41E+00	9.32E+00	9.17E+00
709.09	9.07E+00	8.97E+00	8.88E+00	8.79E+00	8.69E+00	8.62E+00	8.58E+00	8.50E+00	8.38E+00	8.34E+00	8.22E+00
799.66	8.12E+00	8.06E+00	8.01E+00	7.95E+00	7.89E+00	7.83E+00	7.77E+00	7.67E+00	7.60E+00	7.56E+00	7.44E+00
901.79	7.10E+00	7.02E+00	6.94E+00	6.87E+00	6.79E+00	6.71E+00	6.64E+00	6.53E+00	6.47E+00	6.41E+00	6.31E+00
1017.00	6.06E+00	5.97E+00	5.88E+00	5.79E+00	5.70E+00	5.63E+00	5.57E+00	5.49E+00	5.42E+00	5.38E+00	5.32E+00
1146.90	5.11E+00	5.06E+00	5.01E+00	4.96E+00	4.91E+00	4.86E+00	4.81E+00	4.73E+00	4.68E+00	4.64E+00	4.58E+00
1293.30	4.26E+00	4.21E+00	4.16E+00	4.11E+00	4.07E+00	4.03E+00	4.01E+00	3.98E+00	3.94E+00	3.91E+00	3.87E+00
1458.50	3.55E+00	3.51E+00	3.47E+00	3.44E+00	3.40E+00	3.37E+00	3.35E+00	3.32E+00	3.29E+00	3.27E+00	3.23E+00
1644.80	2.97E+00	2.94E+00	2.92E+00	2.90E+00	2.87E+00	2.85E+00	2.83E+00	2.78E+00	2.74E+00	2.72E+00	2.70E+00
1854.90	2.48E+00	2.45E+00	2.42E+00	2.39E+00	2.36E+00	2.34E+00	2.31E+00	2.27E+00	2.23E+00	2.22E+00	2.20E+00
2091.80	2.07E+00	2.06E+00	2.05E+00	2.04E+00	2.03E+00	2.02E+00	2.01E+00	1.99E+00	1.97E+00	1.96E+00	1.95E+00
2358.90	1.74E+00	1.73E+00	1.72E+00	1.72E+00	1.71E+00	1.70E+00	1.69E+00	1.67E+00	1.65E+00	1.63E+00	1.62E+00
2660.20	1.42E+00	1.41E+00	1.40E+00	1.39E+00	1.38E+00	1.37E+00	1.35E+00	1.32E+00	1.27E+00	1.25E+00	1.23E+00

TABLE 2B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: LI  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 3; ATOMIC WEIGHT= 6.94)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	2.04E-02	2.07E-02	2.09E-02	2.10E-02	2.05E-02	2.12E-02	2.17E-02	2.22E-02	2.31E-02	2.31E-02	2.26E-02
44.68	2.23E-02	2.28E-02	2.30E-02	2.31E-02	2.30E-02	2.31E-02	2.33E-02	2.36E-02	2.57E-02	2.46E-02	2.46E-02
50.38	2.53E-02	2.59E-02	2.58E-02	2.59E-02	2.61E-02	2.66E-02	2.60E-02	2.71E-02	2.70E-02	2.77E-02	2.64E-02
56.82	2.94E-02	3.02E-02	3.04E-02	3.02E-02	3.00E-02	2.99E-02	3.04E-02	3.08E-02	3.16E-02	3.02E-02	2.87E-02
64.07	3.24E-02	3.32E-02	3.36E-02	3.33E-02	3.35E-02	3.39E-02	3.36E-02	3.42E-02	3.27E-02	3.26E-02	3.18E-02
72.26	3.62E-02	3.72E-02	3.74E-02	3.75E-02	3.76E-02	3.70E-02	3.68E-02	3.68E-02	3.75E-02	3.65E-02	3.56E-02
81.49	3.96E-02	4.04E-02	4.05E-02	4.06E-02	4.08E-02	4.08E-02	3.99E-02	3.97E-02	3.91E-02	3.82E-02	3.68E-02
91.89	4.26E-02	4.31E-02	4.29E-02	4.31E-02	4.32E-02	4.35E-02	4.34E-02	4.29E-02	4.22E-02	4.19E-02	4.10E-02
103.63	4.79E-02	4.79E-02	4.80E-02	4.77E-02	4.73E-02	4.71E-02	4.68E-02	4.70E-02	4.62E-02	4.70E-02	4.50E-02
116.86	4.88E-02	4.94E-02	4.97E-02	5.00E-02	5.02E-02	5.00E-02	5.03E-02	4.99E-02	4.97E-02	4.80E-02	4.82E-02
131.79	5.20E-02	5.23E-02	5.26E-02	5.29E-02	5.32E-02	5.35E-02	5.37E-02	5.43E-02	5.27E-02	5.31E-02	5.16E-02
148.62	5.61E-02	5.68E-02	5.72E-02	5.75E-02	5.77E-02	5.80E-02	5.76E-02	5.70E-02	5.67E-02	5.72E-02	5.56E-02
167.60	5.88E-02	5.92E-02	5.95E-02	5.97E-02	6.00E-02	6.02E-02	6.04E-02	6.08E-02	5.99E-02	5.94E-02	5.60E-02
189.01	6.42E-02	6.45E-02	6.47E-02	6.48E-02	6.49E-02	6.44E-02	6.44E-02	6.45E-02	6.26E-02	6.12E-02	5.89E-02
213.15	6.64E-02	6.65E-02	6.66E-02	6.67E-02	6.67E-02	6.67E-02	6.61E-02	6.50E-02	6.46E-02	6.36E-02	6.09E-02
240.38	6.61E-02	6.61E-02	6.61E-02	6.62E-02	6.62E-02	6.62E-02	6.56E-02	6.56E-02	6.45E-02	6.45E-02	6.10E-02
271.08	6.63E-02	6.62E-02	6.62E-02	6.62E-02	6.61E-02	6.55E-02	6.55E-02	6.55E-02	6.42E-02	6.40E-02	6.05E-02
305.70	6.57E-02	6.53E-02	6.51E-02	6.49E-02	6.48E-02	6.46E-02	6.40E-02	6.33E-02	6.23E-02	6.16E-02	5.77E-02
344.74	6.20E-02	6.16E-02	6.13E-02	6.09E-02	6.05E-02	6.02E-02	5.99E-02	5.97E-02	5.91E-02	5.72E-02	5.46E-02
388.77	5.73E-02	5.70E-02	5.68E-02	5.65E-02	5.62E-02	5.60E-02	5.57E-02	5.54E-02	5.49E-02	5.44E-02	5.18E-02
438.43	5.32E-02	5.29E-02	5.26E-02	5.23E-02	5.19E-02	5.17E-02	5.15E-02	5.12E-02	5.05E-02	5.01E-02	4.82E-02
494.42	4.93E-02	4.89E-02	4.85E-02	4.81E-02	4.77E-02	4.74E-02	4.71E-02	4.69E-02	4.63E-02	4.59E-02	4.39E-02
557.57	4.49E-02	4.46E-02	4.44E-02	4.41E-02	4.38E-02	4.35E-02	4.34E-02	4.31E-02	4.26E-02	4.23E-02	4.13E-02
628.79	4.10E-02	4.06E-02	4.03E-02	3.99E-02	3.96E-02	3.93E-02	3.92E-02	3.89E-02	3.83E-02	3.81E-02	3.72E-02
709.09	3.72E-02	3.68E-02	3.64E-02	3.59E-02	3.55E-02	3.52E-02	3.51E-02	3.48E-02	3.43E-02	3.41E-02	3.33E-02
799.66	3.33E-02	3.30E-02	3.28E-02	3.25E-02	3.23E-02	3.20E-02	3.18E-02	3.14E-02	3.11E-02	3.09E-02	3.02E-02
901.79	2.91E-02	2.88E-02	2.84E-02	2.80E-02	2.77E-02	2.74E-02	2.71E-02	2.67E-02	2.65E-02	2.62E-02	2.58E-02
1017.00	2.48E-02	2.44E-02	2.40E-02	2.36E-02	2.32E-02	2.30E-02	2.28E-02	2.24E-02	2.21E-02	2.20E-02	2.16E-02
1146.90	2.09E-02	2.07E-02	2.05E-02	2.03E-02	2.01E-02	1.99E-02	1.96E-02	1.93E-02	1.91E-02	1.90E-02	1.87E-02
1293.30	1.75E-02	1.72E-02	1.70E-02	1.68E-02	1.66E-02	1.65E-02	1.64E-02	1.63E-02	1.61E-02	1.60E-02	1.58E-02
1458.50	1.46E-02	1.44E-02	1.42E-02	1.40E-02	1.39E-02	1.38E-02	1.37E-02	1.36E-02	1.35E-02	1.34E-02	1.32E-02
1644.80	1.22E-02	1.21E-02	1.20E-02	1.18E-02	1.17E-02	1.16E-02	1.15E-02	1.13E-02	1.12E-02	1.11E-02	1.10E-02
1854.90	1.01E-02	1.00E-02	9.89E-03	9.76E-03	9.64E-03	9.52E-03	9.42E-03	9.25E-03	9.12E-03	9.06E-03	8.98E-03
2091.80	8.49E-03	8.45E-03	8.40E-03	8.36E-03	8.31E-03	8.26E-03	8.22E-03	8.13E-03	8.07E-03	8.01E-03	7.95E-03
2358.90	7.15E-03	7.11E-03	7.07E-03	7.03E-03	6.99E-03	6.94E-03	6.90E-03	6.82E-03	6.73E-03	6.68E-03	6.62E-03
2660.20	5.83E-03	5.79E-03	5.74E-03	5.69E-03	5.64E-03	5.58E-03	5.51E-03	5.33E-03	5.16E-03	5.08E-03	4.99E-03

TABLE 3B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: BE  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 4; ATOMIC WEIGHT= 9.01)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
12	1.89E-02	4.21E-03	0.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.66E-04	6.83E-04	8.11E-04	9.49E-04	9.08E-04	8.78E-04
14	1.76E-02	4.04E-03	0.23	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.32E-04	6.48E-04	7.69E-04	9.01E-04	8.61E-04	8.33E-04
16	1.76E-02	4.20E-03	0.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.05E-04	6.21E-04	7.37E-04	8.63E-04	8.25E-04	7.98E-04
18	1.80E-02	4.40E-03	0.29	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.87E-04	6.02E-04	7.15E-04	8.37E-04	8.00E-04	7.74E-04
20	1.98E-02	4.98E-03	0.32	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.77E-04	5.92E-04	7.03E-04	8.23E-04	7.87E-04	7.62E-04
23	2.25E-02	5.78E-03	0.36	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.70E-04	5.85E-04	6.94E-04	8.13E-04	7.77E-04	7.52E-04
26	2.52E-02	6.58E-03	0.41	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.68E-04	5.83E-04	6.92E-04	8.10E-04	7.75E-04	7.50E-04
30	2.87E-02	7.70E-03	0.46	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.37E-04	5.85E-04	6.95E-04	8.13E-04	7.78E-04	7.53E-04
34	3.25E-02	8.96E-03	0.52	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.32E-04	5.92E-04	7.03E-04	8.23E-04	7.87E-04	7.62E-04
40	3.82E-02	1.09E-02	0.59	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.41E-04	6.02E-04	7.15E-04	8.37E-04	8.01E-04	7.75E-04
46	4.30E-02	1.26E-02	0.67	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.57E-04	6.20E-04	7.37E-04	8.62E-04	8.25E-04	7.98E-04
50	4.62E-02	1.37E-02	0.75	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.71E-04	6.36E-04	7.55E-04	8.84E-04	8.46E-04	8.18E-04
54	4.92E-02	1.48E-02	0.85	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.93E-04	6.60E-04	7.84E-04	9.18E-04	8.78E-04	8.49E-04
60	5.36E-02	1.65E-02	0.95	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.13E-04	6.83E-04	8.11E-04	9.50E-04	9.08E-04	8.78E-04
64	5.65E-02	1.76E-02	1.08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.48E-04	7.21E-04	8.56E-04	1.00E-03	9.59E-04	9.28E-04
70	6.09E-02	1.91E-02	1.21	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.83E-04	7.61E-04	9.03E-04	1.06E-03	1.01E-03	9.78E-04
76	6.45E-02	2.07E-02	1.37	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.26E-04	8.09E-04	9.61E-04	1.12E-03	1.08E-03	1.04E-03
80	6.69E-02	2.15E-02	1.54	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.70E-04	8.58E-04	1.02E-03	1.19E-03	1.14E-03	1.10E-03
90	7.05E-02	2.34E-02	1.74	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.07E-04	9.05E-04	1.07E-03	1.25E-03	1.19E-03	1.15E-03
91	7.08E-02	2.36E-02	1.96	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.73E-04	9.73E-04	1.14E-03	1.34E-03	1.28E-03	1.24E-03
100	7.40E-02	2.49E-02	2.21	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.37E-04	1.04E-03	1.23E-03	1.44E-03	1.37E-03	1.33E-03
109	7.64E-02	2.61E-02	2.50	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-03	1.13E-03	1.33E-03	1.55E-03	1.49E-03	1.44E-03
133	8.22E-02	2.92E-02	2.81	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E-03	1.22E-03	1.43E-03	1.68E-03	1.60E-03	1.55E-03
162	8.84E-02	3.26E-02	3.17	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-03	1.32E-03	1.55E-03	1.81E-03	1.72E-03	1.67E-03
200	9.55E-02	3.66E-02	3.58	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-03	1.44E-03	1.69E-03	1.97E-03	1.87E-03	1.82E-03
249	9.29E-02	3.72E-02	4.04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-03	1.59E-03	1.86E-03	2.17E-03	2.06E-03	2.00E-03
300	9.08E-02	3.68E-02	4.55	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.61E-04	1.59E-03	1.74E-03	2.02E-03	2.36E-03	2.24E-03	2.18E-03
313	8.77E-02	3.68E-02	5.13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E-03	1.75E-03	1.91E-03	2.23E-03	2.58E-03	2.45E-03	2.38E-03
397	7.21E-02	3.15E-02	5.79	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E-03	1.94E-03	2.12E-03	2.45E-03	2.83E-03	2.70E-03	2.61E-03
400	7.17E-02	3.13E-02	6.53	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.37E-03	2.14E-03	2.33E-03	2.68E-03	3.07E-03	2.93E-03	2.83E-03
500	5.85E-02	2.70E-02	7.36	0.00E+00	0.00E+00	0.00E+00	2.60E-03	2.48E-03	2.49E-03	2.67E-03	3.05E-03	3.49E-03	3.30E-03	3.19E-03
509	5.74E-02	2.66E-02	8.30	0.00E+00	0.00E+00	1.07E-03	2.82E-03	2.66E-03	2.53E-03	2.62E-03	3.23E-03	3.72E-03	3.51E-03	3.40E-03
600	4.84E-02	2.34E-02	9.36	0.00E+00	7.82E-04	3.12E-03	2.98E-03	2.85E-03	2.78E-03	2.94E-03	3.33E-03	4.11E-03	3.89E-03	3.76E-03
660	4.42E-02	2.17E-02	10.56	8.69E-04	3.37E-03	3.26E-03	3.18E-03	2.98E-03	3.10E-03	3.25E-03	3.65E-03	4.48E-03	4.22E-03	4.08E-03
700	4.18E-02	2.06E-02	11.91	3.69E-03	3.52E-03	3.41E-03	3.30E-03	3.25E-03	3.58E-03	3.70E-03	4.10E-03	4.98E-03	4.69E-03	4.51E-03
800	3.58E-02	1.82E-02	13.43	3.83E-03	3.71E-03	3.64E-03	3.55E-03	3.57E-03	3.74E-03	4.23E-03	4.59E-03	5.17E-03	5.17E-03	4.97E-03
865	3.26E-02	1.70E-02	15.15	3.94E-03	3.93E-03	3.89E-03	3.91E-03	3.93E-03	4.35E-03	4.48E-03	5.17E-03	5.61E-03	5.72E-03	5.51E-03
900	3.11E-02	1.61E-02	17.08	4.34E-03	4.31E-03	4.44E-03	4.50E-03	4.46E-03	4.76E-03	5.08E-03	5.84E-03	6.21E-03	6.31E-03	6.06E-03
1000	2.63E-02	1.39E-02	19.26	5.15E-03	4.99E-03	5.15E-03	5.24E-03	5.22E-03	5.62E-03	6.13E-03	6.27E-03	7.10E-03	7.14E-03	6.82E-03
1147	2.05E-02	1.15E-02	21.72	5.61E-03	5.55E-03	5.64E-03	5.57E-03	5.72E-03	6.08E-03	6.28E-03	6.78E-03	7.65E-03	7.67E-03	7.34E-03
1545	1.19E-02	7.25E-03	24.49	6.23E-03	6.20E-03	6.33E-03	6.40E-03	6.47E-03	6.92E-03	7.34E-03	7.72E-03	8.49E-03	8.46E-03	8.06E-03
2000	7.41E-03	4.91E-03	27.62	7.39E-03	7.45E-03	7.23E-03	7.27E-03	7.46E-03	7.80E-03	8.16E-03	8.72E-03	9.60E-03	9.48E-03	9.01E-03
2120	6.65E-03	4.49E-03	31.15	8.09E-03	8.25E-03	8.30E-03	8.33E-03	8.34E-03	8.82E-03	9.24E-03	9.21E-03	1.05E-02	1.03E-02	9.77E-03
2977	3.57E-03	2.76E-03	35.13	9.80E-03	9.87E-03	9.75E-03	9.65E-03	9.81E-03	1.03E-02	1.04E-02	1.11E-02	1.12E-02	1.11E-02	1.10E-02

TABLE 4A

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: BE  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 4; ATOMIC WEIGHT= 9.01)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	1.10E-02	1.12E-02	1.13E-02	1.11E-02	1.10E-02	1.15E-02	1.16E-02	1.18E-02	1.24E-02	1.19E-02	1.16E-02
44.68	1.20E-02	1.23E-02	1.24E-02	1.25E-02	1.24E-02	1.23E-02	1.29E-02	1.33E-02	1.37E-02	1.31E-02	1.22E-02
50.38	1.36E-02	1.38E-02	1.39E-02	1.40E-02	1.41E-02	1.39E-02	1.45E-02	1.47E-02	1.51E-02	1.46E-02	1.36E-02
56.82	1.59E-02	1.63E-02	1.62E-02	1.61E-02	1.60E-02	1.63E-02	1.64E-02	1.65E-02	1.64E-02	1.60E-02	1.54E-02
64.07	1.75E-02	1.79E-02	1.79E-02	1.79E-02	1.80E-02	1.82E-02	1.78E-02	1.85E-02	1.81E-02	1.71E-02	1.70E-02
72.26	1.95E-02	2.00E-02	2.01E-02	2.02E-02	2.03E-02	1.96E-02	2.00E-02	2.02E-02	1.92E-02	1.92E-02	1.90E-02
81.49	2.12E-02	2.17E-02	2.18E-02	2.19E-02	2.19E-02	2.13E-02	2.16E-02	2.14E-02	2.09E-02	2.01E-02	1.95E-02
91.89	2.29E-02	2.29E-02	2.31E-02	2.32E-02	2.32E-02	2.32E-02	2.32E-02	2.31E-02	2.27E-02	2.23E-02	2.16E-02
103.63	2.57E-02	2.57E-02	2.55E-02	2.53E-02	2.54E-02	2.50E-02	2.53E-02	2.52E-02	2.47E-02	2.42E-02	2.39E-02
116.86	2.62E-02	2.65E-02	2.67E-02	2.69E-02	2.70E-02	2.69E-02	2.71E-02	2.68E-02	2.63E-02	2.64E-02	2.53E-02
131.79	2.79E-02	2.81E-02	2.83E-02	2.85E-02	2.86E-02	2.88E-02	2.89E-02	2.88E-02	2.86E-02	2.79E-02	2.74E-02
148.62	3.01E-02	3.05E-02	3.08E-02	3.09E-02	3.10E-02	3.09E-02	3.10E-02	3.08E-02	3.06E-02	3.01E-02	2.82E-02
167.60	3.16E-02	3.18E-02	3.19E-02	3.21E-02	3.22E-02	3.23E-02	3.25E-02	3.28E-02	3.17E-02	3.20E-02	3.02E-02
189.01	3.44E-02	3.46E-02	3.47E-02	3.48E-02	3.48E-02	3.46E-02	3.46E-02	3.47E-02	3.37E-02	3.26E-02	3.08E-02
213.15	3.56E-02	3.57E-02	3.57E-02	3.58E-02	3.58E-02	3.58E-02	3.55E-02	3.49E-02	3.41E-02	3.35E-02	3.12E-02
240.38	3.55E-02	3.55E-02	3.55E-02	3.55E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.46E-02	3.43E-02	3.20E-02
271.08	3.56E-02	3.55E-02	3.55E-02	3.55E-02	3.55E-02	3.52E-02	3.51E-02	3.51E-02	3.44E-02	3.39E-02	3.15E-02
305.70	3.52E-02	3.50E-02	3.49E-02	3.48E-02	3.47E-02	3.44E-02	3.43E-02	3.39E-02	3.33E-02	3.24E-02	3.01E-02
344.74	3.33E-02	3.30E-02	3.28E-02	3.26E-02	3.24E-02	3.22E-02	3.21E-02	3.20E-02	3.11E-02	3.02E-02	2.83E-02
388.77	3.07E-02	3.06E-02	3.04E-02	3.02E-02	3.01E-02	2.99E-02	2.98E-02	2.97E-02	2.93E-02	2.87E-02	2.70E-02
438.43	2.85E-02	2.83E-02	2.81E-02	2.79E-02	2.78E-02	2.76E-02	2.75E-02	2.73E-02	2.70E-02	2.67E-02	2.53E-02
494.42	2.64E-02	2.62E-02	2.60E-02	2.58E-02	2.56E-02	2.53E-02	2.52E-02	2.51E-02	2.48E-02	2.42E-02	2.33E-02
557.57	2.41E-02	2.39E-02	2.38E-02	2.36E-02	2.34E-02	2.33E-02	2.32E-02	2.31E-02	2.27E-02	2.24E-02	2.18E-02
628.79	2.20E-02	2.18E-02	2.16E-02	2.14E-02	2.12E-02	2.10E-02	2.10E-02	2.08E-02	2.05E-02	2.02E-02	1.97E-02
709.09	1.99E-02	1.97E-02	1.95E-02	1.92E-02	1.90E-02	1.89E-02	1.88E-02	1.86E-02	1.83E-02	1.81E-02	1.77E-02
799.66	1.78E-02	1.77E-02	1.76E-02	1.74E-02	1.73E-02	1.71E-02	1.70E-02	1.68E-02	1.66E-02	1.64E-02	1.59E-02
901.79	1.56E-02	1.54E-02	1.52E-02	1.50E-02	1.48E-02	1.46E-02	1.45E-02	1.43E-02	1.41E-02	1.40E-02	1.37E-02
1017.00	1.33E-02	1.31E-02	1.28E-02	1.26E-02	1.24E-02	1.23E-02	1.22E-02	1.20E-02	1.18E-02	1.17E-02	1.15E-02
1146.90	1.12E-02	1.11E-02	1.10E-02	1.08E-02	1.07E-02	1.06E-02	1.05E-02	1.03E-02	1.02E-02	1.01E-02	9.92E-03
1293.30	9.37E-03	9.23E-03	9.10E-03	8.98E-03	8.88E-03	8.83E-03	8.79E-03	8.70E-03	8.60E-03	8.53E-03	8.42E-03
1458.50	7.81E-03	7.71E-03	7.62E-03	7.53E-03	7.44E-03	7.37E-03	7.33E-03	7.27E-03	7.19E-03	7.13E-03	7.03E-03
1644.80	6.52E-03	6.47E-03	6.41E-03	6.35E-03	6.29E-03	6.24E-03	6.18E-03	6.07E-03	5.99E-03	5.95E-03	5.88E-03
1854.90	5.44E-03	5.37E-03	5.29E-03	5.22E-03	5.15E-03	5.08E-03	5.03E-03	4.93E-03	4.87E-03	4.85E-03	4.80E-03
2091.80	4.56E-03	4.53E-03	4.50E-03	4.48E-03	4.45E-03	4.43E-03	4.40E-03	4.35E-03	4.32E-03	4.29E-03	4.25E-03
2358.90	3.83E-03	3.81E-03	3.79E-03	3.76E-03	3.74E-03	3.71E-03	3.69E-03	3.64E-03	3.60E-03	3.57E-03	3.54E-03
2660.20	3.13E-03	3.10E-03	3.08E-03	3.05E-03	3.02E-03	2.98E-03	2.94E-03	2.83E-03	2.74E-03	2.70E-03	2.64E-03

TABLE 4B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: B  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 5; ATOMIC WEIGHT= 10.82)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	3.46E-02	3.52E-02	3.52E-02	3.43E-02	3.48E-02	3.59E-02	3.68E-02	3.75E-02	3.83E-02	3.68E-02	3.52E-02
44.68	3.75E-02	3.86E-02	3.91E-02	3.89E-02	3.95E-02	3.95E-02	3.98E-02	4.11E-02	4.20E-02	4.02E-02	3.83E-02
50.38	4.27E-02	4.34E-02	4.37E-02	4.41E-02	4.45E-02	4.41E-02	4.64E-02	4.75E-02	4.74E-02	4.49E-02	4.25E-02
56.82	5.04E-02	5.12E-02	5.03E-02	5.06E-02	5.04E-02	5.08E-02	5.28E-02	5.32E-02	4.98E-02	5.11E-02	4.79E-02
64.07	5.54E-02	5.66E-02	5.62E-02	5.65E-02	5.68E-02	5.68E-02	5.69E-02	5.59E-02	5.55E-02	5.21E-02	5.26E-02
72.26	6.15E-02	6.30E-02	6.33E-02	6.35E-02	6.31E-02	6.20E-02	6.29E-02	6.15E-02	5.96E-02	5.84E-02	5.84E-02
81.49	6.67E-02	6.82E-02	6.86E-02	6.87E-02	6.90E-02	6.73E-02	6.86E-02	6.85E-02	6.50E-02	6.54E-02	6.10E-02
91.89	7.21E-02	7.23E-02	7.26E-02	7.26E-02	7.28E-02	7.29E-02	7.32E-02	7.28E-02	7.19E-02	6.97E-02	6.76E-02
103.63	8.10E-02	8.08E-02	7.94E-02	7.96E-02	7.98E-02	7.89E-02	7.89E-02	7.92E-02	7.81E-02	7.74E-02	7.48E-02
116.86	8.27E-02	8.36E-02	8.43E-02	8.46E-02	8.39E-02	8.47E-02	8.37E-02	8.30E-02	8.12E-02	7.99E-02	7.66E-02
131.79	8.75E-02	8.82E-02	8.89E-02	8.94E-02	8.97E-02	9.04E-02	9.11E-02	8.84E-02	8.72E-02	8.92E-02	8.15E-02
148.62	9.46E-02	9.60E-02	9.67E-02	9.71E-02	9.74E-02	9.70E-02	9.67E-02	9.63E-02	9.52E-02	9.40E-02	8.58E-02
167.60	9.90E-02	9.96E-02	1.00E-01	1.01E-01	1.01E-01	1.02E-01	1.02E-01	1.03E-01	1.00E-01	9.58E-02	8.86E-02
189.01	1.08E-01	1.09E-01	1.09E-01	1.09E-01	1.09E-01	1.08E-01	1.09E-01	1.08E-01	1.03E-01	1.01E-01	9.25E-02
213.15	1.12E-01	1.12E-01	1.12E-01	1.12E-01	1.12E-01	1.11E-01	1.09E-01	1.10E-01	1.05E-01	1.02E-01	9.68E-02
240.38	1.11E-01	1.11E-01	1.11E-01	1.10E-01	1.10E-01	1.10E-01	1.10E-01	1.10E-01	1.08E-01	1.04E-01	9.52E-02
271.08	1.12E-01	1.11E-01	1.11E-01	1.11E-01	1.11E-01	1.10E-01	1.10E-01	1.10E-01	1.08E-01	1.04E-01	9.50E-02
305.70	1.10E-01	1.10E-01	1.09E-01	1.09E-01	1.09E-01	1.08E-01	1.07E-01	1.06E-01	1.04E-01	9.87E-02	9.04E-02
344.74	1.04E-01	1.04E-01	1.03E-01	1.02E-01	1.01E-01	1.01E-01	1.01E-01	1.00E-01	1.00E-01	9.61E-02	8.71E-02
388.77	9.64E-02	9.58E-02	9.53E-02	9.47E-02	9.42E-02	9.37E-02	9.34E-02	9.29E-02	9.13E-02	8.76E-02	8.20E-02
438.43	8.94E-02	8.87E-02	8.80E-02	8.74E-02	8.70E-02	8.66E-02	8.63E-02	8.54E-02	8.42E-02	8.15E-02	7.79E-02
494.42	8.29E-02	8.22E-02	8.14E-02	8.06E-02	7.99E-02	7.93E-02	7.90E-02	7.87E-02	7.68E-02	7.42E-02	7.18E-02
557.57	7.56E-02	7.50E-02	7.43E-02	7.37E-02	7.32E-02	7.29E-02	7.26E-02	7.22E-02	7.10E-02	6.98E-02	6.67E-02
628.79	6.90E-02	6.82E-02	6.75E-02	6.68E-02	6.63E-02	6.59E-02	6.56E-02	6.50E-02	6.41E-02	6.28E-02	6.11E-02
709.09	6.24E-02	6.15E-02	6.06E-02	5.98E-02	5.93E-02	5.89E-02	5.87E-02	5.78E-02	5.73E-02	5.65E-02	5.47E-02
799.66	5.59E-02	5.55E-02	5.50E-02	5.45E-02	5.39E-02	5.34E-02	5.31E-02	5.26E-02	5.20E-02	5.09E-02	4.93E-02
901.79	4.90E-02	4.83E-02	4.76E-02	4.70E-02	4.63E-02	4.57E-02	4.53E-02	4.47E-02	4.41E-02	4.34E-02	4.20E-02
1017.00	4.17E-02	4.09E-02	4.00E-02	3.94E-02	3.88E-02	3.84E-02	3.80E-02	3.74E-02	3.70E-02	3.66E-02	3.57E-02
1146.90	3.52E-02	3.48E-02	3.43E-02	3.39E-02	3.35E-02	3.30E-02	3.27E-02	3.23E-02	3.19E-02	3.15E-02	3.08E-02
1293.30	2.93E-02	2.89E-02	2.84E-02	2.81E-02	2.78E-02	2.76E-02	2.75E-02	2.72E-02	2.69E-02	2.66E-02	2.61E-02
1458.50	2.45E-02	2.41E-02	2.38E-02	2.34E-02	2.32E-02	2.30E-02	2.29E-02	2.27E-02	2.25E-02	2.23E-02	2.19E-02
1644.80	2.05E-02	2.03E-02	2.01E-02	1.99E-02	1.97E-02	1.95E-02	1.93E-02	1.89E-02	1.87E-02	1.86E-02	1.83E-02
1854.90	1.71E-02	1.68E-02	1.66E-02	1.63E-02	1.61E-02	1.59E-02	1.57E-02	1.54E-02	1.53E-02	1.51E-02	1.49E-02
2091.80	1.43E-02	1.42E-02	1.41E-02	1.40E-02	1.40E-02	1.39E-02	1.38E-02	1.36E-02	1.35E-02	1.34E-02	1.33E-02
2358.90	1.20E-02	1.19E-02	1.19E-02	1.18E-02	1.17E-02	1.16E-02	1.16E-02	1.14E-02	1.13E-02	1.12E-02	1.11E-02
2660.20	9.81E-03	9.72E-03	9.63E-03	9.53E-03	9.42E-03	9.29E-03	9.14E-03	8.76E-03	8.55E-03	8.42E-03	8.08E-03

TABLE 5B

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: C  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 6; ATOMIC WEIGHT= 12.01)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
12	2.15E-01	4.79E-02	0.20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.07E-02	1.07E-02	1.24E-02	1.30E-02	1.43E-02	1.42E-02	1.39E-02
14	2.00E-01	4.59E-02	0.23	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-02	1.01E-02	1.17E-02	1.23E-02	1.35E-02	1.34E-02	1.31E-02
16	2.00E-01	4.77E-02	0.25	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.55E-03	9.58E-03	1.11E-02	1.16E-02	1.28E-02	1.27E-02	1.24E-02
18	2.05E-01	5.00E-02	0.29	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.15E-03	9.18E-03	1.06E-02	1.12E-02	1.23E-02	1.22E-02	1.19E-02
20	2.25E-01	5.65E-02	0.32	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.92E-03	8.95E-03	1.03E-02	1.09E-02	1.20E-02	1.19E-02	1.16E-02
23	2.56E-01	6.57E-02	0.36	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.70E-03	8.73E-03	1.01E-02	1.06E-02	1.17E-02	1.16E-02	1.13E-02
26	2.86E-01	7.48E-02	0.41	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.56E-03	8.55E-03	9.88E-03	1.04E-02	1.14E-02	1.14E-02	1.11E-02
30	3.26E-01	8.75E-02	0.46	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.52E-03	8.51E-03	9.83E-03	1.03E-02	1.14E-02	1.13E-02	1.11E-02
34	3.69E-01	1.02E-01	0.52	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.51E-03	8.50E-03	9.82E-03	1.03E-02	1.14E-02	1.13E-02	1.10E-02
40	4.34E-01	1.24E-01	0.59	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.55E-03	8.54E-03	9.86E-03	1.04E-02	1.14E-02	1.13E-02	1.11E-02
46	4.89E-01	1.43E-01	0.67	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.66E-03	8.66E-03	1.00E-02	1.05E-02	1.16E-02	1.15E-02	1.12E-02
50	5.25E-01	1.56E-01	0.75	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.79E-03	8.78E-03	1.01E-02	1.07E-02	1.17E-02	1.17E-02	1.14E-02
54	5.59E-01	1.68E-01	0.85	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.99E-03	8.99E-03	1.04E-02	1.09E-02	1.20E-02	1.19E-02	1.17E-02
60	6.09E-01	1.87E-01	0.95	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.20E-03	9.19E-03	1.06E-02	1.12E-02	1.23E-02	1.22E-02	1.19E-02
64	6.42E-01	2.00E-01	1.08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.59E-03	9.66E-03	1.10E-02	1.16E-02	1.28E-02	1.27E-02	1.24E-02
70	6.92E-01	2.17E-01	1.21	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.98E-03	1.01E-02	1.15E-02	1.21E-02	1.33E-02	1.32E-02	1.29E-02
76	7.33E-01	2.35E-01	1.37	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02	1.05E-02	1.20E-02	1.27E-02	1.40E-02	1.39E-02	1.35E-02
80	7.60E-01	2.44E-01	1.54	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E-02	1.10E-02	1.27E-02	1.33E-02	1.46E-02	1.45E-02	1.42E-02
90	8.01E-01	2.66E-01	1.74	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-02	1.15E-02	1.33E-02	1.38E-02	1.52E-02	1.51E-02	1.47E-02
91	8.05E-01	2.68E-01	1.96	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-02	1.21E-02	1.40E-02	1.46E-02	1.61E-02	1.60E-02	1.56E-02
100	8.41E-01	2.83E-01	2.21	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-02	1.29E-02	1.49E-02	1.55E-02	1.71E-02	1.69E-02	1.65E-02
109	8.69E-01	2.97E-01	2.50	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-02	1.38E-02	1.59E-02	1.66E-02	1.82E-02	1.81E-02	1.77E-02
133	9.34E-01	3.32E-01	2.81	0.00E+00	0.00E+00	0.00E+00	7.48E-03	1.47E-02	1.49E-02	1.70E-02	1.78E-02	1.95E-02	1.93E-02	1.89E-02
162	1.00E+00	3.71E-01	3.17	0.00E+00	0.00E+00	0.00E+00	1.59E-02	1.58E-02	1.59E-02	1.81E-02	1.90E-02	2.07E-02	2.06E-02	2.01E-02
200	1.09E+00	4.15E-01	3.58	0.00E+00	0.00E+00	0.00E+00	1.75E-02	1.70E-02	1.71E-02	1.97E-02	2.05E-02	2.24E-02	2.22E-02	2.17E-02
249	1.06E+00	4.22E-01	4.04	0.00E+00	0.00E+00	0.00E+00	1.93E-02	1.87E-02	1.88E-02	2.16E-02	2.24E-02	2.44E-02	2.42E-02	2.37E-02
300	1.03E+00	4.19E-01	4.55	0.00E+00	0.00E+00	0.00E+00	2.11E-02	1.96E-02	2.05E-02	2.34E-02	2.42E-02	2.64E-02	2.62E-02	2.56E-02
313	9.96E-01	4.18E-01	5.13	0.00E+00	0.00E+00	0.00E+00	2.31E-02	2.00E-02	2.24E-02	2.38E-02	2.63E-02	2.86E-02	2.84E-02	2.78E-02
397	8.19E-01	3.58E-01	5.79	0.00E+00	0.00E+00	6.10E-03	2.43E-02	2.20E-02	2.47E-02	2.55E-02	2.88E-02	3.13E-02	3.11E-02	3.03E-02
400	8.14E-01	3.56E-01	6.53	0.00E+00	0.00E+00	2.63E-02	2.53E-02	2.39E-02	2.70E-02	2.78E-02	3.13E-02	3.38E-02	3.36E-02	3.28E-02
500	6.65E-01	3.06E-01	7.36	0.00E+00	0.00E+00	3.06E-02	2.89E-02	2.74E-02	2.82E-02	3.16E-02	3.51E-02	3.80E-02	3.77E-02	3.68E-02
509	6.53E-01	3.03E-01	8.30	0.00E+00	1.22E-02	3.17E-02	2.98E-02	2.84E-02	3.00E-02	3.37E-02	3.75E-02	4.06E-02	4.00E-02	3.91E-02
600	5.50E-01	2.66E-01	9.36	0.00E+00	3.56E-02	3.37E-02	3.14E-02	3.01E-02	3.38E-02	3.78E-02	4.16E-02	4.48E-02	4.42E-02	4.32E-02
660	5.02E-01	2.46E-01	10.56	2.38E-02	3.72E-02	3.49E-02	3.38E-02	3.37E-02	3.72E-02	4.14E-02	4.53E-02	4.85E-02	4.80E-02	4.67E-02
700	4.75E-01	2.34E-01	11.91	4.14E-02	3.88E-02	3.77E-02	3.59E-02	3.66E-02	4.25E-02	4.67E-02	5.05E-02	5.35E-02	5.31E-02	5.01E-02
800	4.07E-01	2.07E-01	13.43	4.27E-02	4.15E-02	3.96E-02	4.03E-02	4.25E-02	4.84E-02	5.25E-02	5.63E-02	5.92E-02	5.85E-02	5.36E-02
865	3.70E-01	1.93E-01	15.15	4.51E-02	4.42E-02	4.49E-02	4.62E-02	4.58E-02	5.05E-02	5.95E-02	6.27E-02	6.53E-02	6.45E-02	5.91E-02
900	3.53E-01	1.83E-01	17.08	4.95E-02	5.05E-02	5.18E-02	5.16E-02	5.35E-02	5.80E-02	6.14E-02	7.03E-02	7.21E-02	7.11E-02	6.49E-02
1000	2.99E-01	1.58E-01	19.26	5.62E-02	5.86E-02	6.08E-02	5.83E-02	6.13E-02	6.95E-02	7.21E-02	8.09E-02	8.16E-02	8.01E-02	7.30E-02
1147	2.32E-01	1.30E-01	21.72	6.28E-02	6.41E-02	6.44E-02	6.64E-02	6.62E-02	7.15E-02	7.95E-02	8.02E-02	8.75E-02	8.61E-02	7.81E-02
1545	1.35E-01	8.24E-02	24.49	7.12E-02	7.21E-02	7.29E-02	7.29E-02	7.40E-02	8.35E-02	8.65E-02	9.01E-02	9.65E-02	9.46E-02	8.60E-02
2000	8.42E-02	5.58E-02	27.62	8.35E-02	8.22E-02	8.35E-02	8.29E-02	8.51E-02	9.29E-02	9.70E-02	1.03E-01	1.08E-01	1.05E-01	9.58E-02
2120	7.56E-02	5.10E-02	31.15	9.28E-02	9.43E-02	9.47E-02	9.62E-02	9.53E-02	1.05E-01	1.08E-01	1.15E-01	1.18E-01	1.06E-01	1.03E-01
2977	4.06E-02	3.14E-02	35.13	1.13E-01	1.11E-01	1.10E-01	1.13E-01	1.13E-01	1.18E-01	1.20E-01	1.24E-01	1.24E-01	1.19E-01	1.16E-01

TABLE 6A

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: C  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 ATOMIC NUMBER= 6; ATOMIC WEIGHT= 12.01  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	1.26E-01	1.28E-01	1.26E-01	1.26E-01	1.28E-01	1.32E-01	1.33E-01	1.42E-01	1.36E-01	1.32E-01	1.28E-01
44.68	1.38E-01	1.41E-01	1.41E-01	1.42E-01	1.43E-01	1.46E-01	1.48E-01	1.53E-01	1.49E-01	1.44E-01	1.38E-01
50.38	1.56E-01	1.58E-01	1.59E-01	1.61E-01	1.64E-01	1.65E-01	1.62E-01	1.70E-01	1.67E-01	1.60E-01	1.53E-01
56.82	1.84E-01	1.84E-01	1.83E-01	1.82E-01	1.80E-01	1.87E-01	1.87E-01	1.90E-01	1.80E-01	1.82E-01	1.71E-01
64.07	2.01E-01	2.03E-01	2.04E-01	2.05E-01	2.05E-01	2.02E-01	2.09E-01	2.10E-01	1.94E-01	1.95E-01	1.86E-01
72.26	2.25E-01	2.29E-01	2.30E-01	2.31E-01	2.29E-01	2.27E-01	2.27E-01	2.22E-01	2.19E-01	2.07E-01	2.04E-01
81.49	2.43E-01	2.47E-01	2.49E-01	2.50E-01	2.48E-01	2.46E-01	2.44E-01	2.42E-01	2.29E-01	2.31E-01	2.10E-01
91.89	2.62E-01	2.62E-01	2.63E-01	2.64E-01	2.65E-01	2.64E-01	2.63E-01	2.60E-01	2.54E-01	2.50E-01	2.27E-01
103.63	2.94E-01	2.90E-01	2.88E-01	2.89E-01	2.86E-01	2.87E-01	2.88E-01	2.92E-01	2.75E-01	2.75E-01	2.55E-01
116.86	3.00E-01	3.04E-01	3.06E-01	3.07E-01	3.04E-01	3.08E-01	3.06E-01	2.98E-01	3.00E-01	2.98E-01	2.70E-01
131.79	3.18E-01	3.21E-01	3.24E-01	3.25E-01	3.25E-01	3.29E-01	3.26E-01	3.21E-01	3.18E-01	3.13E-01	2.77E-01
148.62	3.43E-01	3.49E-01	3.51E-01	3.52E-01	3.53E-01	3.53E-01	3.49E-01	3.45E-01	3.42E-01	3.31E-01	3.01E-01
167.60	3.59E-01	3.61E-01	3.63E-01	3.65E-01	3.67E-01	3.69E-01	3.71E-01	3.77E-01	3.64E-01	3.42E-01	3.04E-01
189.01	3.92E-01	3.94E-01	3.95E-01	3.96E-01	3.96E-01	3.93E-01	3.94E-01	3.91E-01	3.71E-01	3.50E-01	3.26E-01
213.15	4.05E-01	4.06E-01	4.06E-01	4.07E-01	4.07E-01	4.03E-01	3.96E-01	3.97E-01	3.81E-01	3.65E-01	3.26E-01
240.38	4.03E-01	4.03E-01	4.00E-01	4.00E-01	4.00E-01	4.00E-01	4.00E-01	3.97E-01	3.86E-01	3.68E-01	3.32E-01
271.08	4.04E-01	4.04E-01	4.03E-01	4.03E-01	4.03E-01	3.99E-01	3.99E-01	3.95E-01	3.85E-01	3.67E-01	3.22E-01
305.70	4.00E-01	3.96E-01	3.95E-01	3.95E-01	3.94E-01	3.90E-01	3.86E-01	3.81E-01	3.68E-01	3.46E-01	3.10E-01
344.74	3.78E-01	3.75E-01	3.72E-01	3.69E-01	3.67E-01	3.65E-01	3.64E-01	3.61E-01	3.43E-01	3.30E-01	3.00E-01
388.77	3.49E-01	3.47E-01	3.45E-01	3.42E-01	3.40E-01	3.39E-01	3.38E-01	3.36E-01	3.26E-01	3.12E-01	2.91E-01
438.43	3.24E-01	3.20E-01	3.18E-01	3.16E-01	3.14E-01	3.13E-01	3.12E-01	3.09E-01	3.03E-01	2.90E-01	2.73E-01
494.42	3.00E-01	2.97E-01	2.94E-01	2.91E-01	2.88E-01	2.87E-01	2.86E-01	2.85E-01	2.76E-01	2.66E-01	2.52E-01
557.57	2.74E-01	2.71E-01	2.69E-01	2.67E-01	2.65E-01	2.64E-01	2.63E-01	2.60E-01	2.55E-01	2.51E-01	2.35E-01
628.79	2.50E-01	2.46E-01	2.43E-01	2.41E-01	2.39E-01	2.38E-01	2.37E-01	2.35E-01	2.30E-01	2.26E-01	2.15E-01
709.09	2.26E-01	2.23E-01	2.19E-01	2.16E-01	2.15E-01	2.13E-01	2.12E-01	2.09E-01	2.06E-01	2.03E-01	1.94E-01
799.66	2.03E-01	2.01E-01	1.99E-01	1.97E-01	1.95E-01	1.93E-01	1.92E-01	1.90E-01	1.86E-01	1.83E-01	1.74E-01
901.79	1.77E-01	1.75E-01	1.72E-01	1.69E-01	1.67E-01	1.65E-01	1.63E-01	1.62E-01	1.59E-01	1.56E-01	1.49E-01
1017.00	1.51E-01	1.47E-01	1.45E-01	1.42E-01	1.40E-01	1.39E-01	1.38E-01	1.35E-01	1.33E-01	1.31E-01	1.27E-01
1146.90	1.27E-01	1.26E-01	1.24E-01	1.22E-01	1.21E-01	1.19E-01	1.18E-01	1.17E-01	1.15E-01	1.13E-01	1.10E-01
1293.30	1.06E-01	1.04E-01	1.03E-01	1.02E-01	1.01E-01	1.00E-01	9.96E-02	9.84E-02	9.72E-02	9.59E-02	9.36E-02
1458.50	8.85E-02	8.71E-02	8.57E-02	8.47E-02	8.39E-02	8.34E-02	8.30E-02	8.20E-02	8.11E-02	8.03E-02	7.85E-02
1644.80	7.41E-02	7.33E-02	7.26E-02	7.19E-02	7.11E-02	7.04E-02	6.97E-02	6.84E-02	6.76E-02	6.69E-02	6.56E-02
1854.90	6.18E-02	6.08E-02	5.99E-02	5.90E-02	5.81E-02	5.74E-02	5.67E-02	5.56E-02	5.51E-02	5.47E-02	5.38E-02
2091.80	5.18E-02	5.14E-02	5.11E-02	5.08E-02	5.04E-02	5.01E-02	4.98E-02	4.92E-02	4.88E-02	4.84E-02	4.77E-02
2358.90	4.35E-02	4.32E-02	4.29E-02	4.26E-02	4.23E-02	4.20E-02	4.17E-02	4.10E-02	4.06E-02	4.03E-02	3.97E-02
2660.20	3.55E-02	3.52E-02	3.49E-02	3.45E-02	3.41E-02	3.36E-02	3.31E-02	3.17E-02	3.08E-02	3.02E-02	2.62E-02

TABLE 6B

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: N  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 7; ATOMIC WEIGHT= 14.01)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

XXXXXXXXXXXXXXXXXXXXXXXXXXXX  
 MAGNETOSPHERICALLY  
 XXXXXXXXXXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXXXXXXXXXX  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
 XXXXXXXXXXXXXXXXXXXXXXXXXXXX

SHIELD THICKNESS (GM/CM\*\*2)

EN- ERGY	UNATTEN- ATED	ATTEN- ATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
12	5.33E-02	1.19E-02	0.20	0.00E+00	0.00E+00	0.00E+00	3.05E-03	3.09E-03	3.04E-03	3.52E-03	4.00E-03	4.28E-03	3.90E-03	3.78E-03
14	4.96E-02	1.14E-02	0.23	0.00E+00	0.00E+00	0.00E+00	2.88E-03	2.92E-03	2.87E-03	3.32E-03	3.77E-03	4.04E-03	3.68E-03	3.57E-03
16	4.96E-02	1.18E-02	0.25	0.00E+00	0.00E+00	0.00E+00	2.78E-03	2.76E-03	2.71E-03	3.14E-03	3.56E-03	3.81E-03	3.48E-03	3.37E-03
18	5.08E-02	1.24E-02	0.29	0.00E+00	0.00E+00	0.00E+00	2.66E-03	2.64E-03	2.58E-03	2.99E-03	3.41E-03	3.64E-03	3.32E-03	3.21E-03
20	5.59E-02	1.40E-02	0.32	0.00E+00	0.00E+00	0.00E+00	2.59E-03	2.56E-03	2.51E-03	2.91E-03	3.34E-03	3.53E-03	3.22E-03	3.12E-03
23	6.34E-02	1.63E-02	0.36	0.00E+00	0.00E+00	0.00E+00	2.51E-03	2.49E-03	2.44E-03	2.82E-03	3.24E-03	3.43E-03	3.13E-03	3.03E-03
26	7.09E-02	1.85E-02	0.41	0.00E+00	0.00E+00	0.00E+00	2.45E-03	2.42E-03	2.38E-03	2.75E-03	3.16E-03	3.35E-03	3.05E-03	2.96E-03
30	8.08E-02	2.17E-02	0.46	0.00E+00	0.00E+00	0.00E+00	2.43E-03	2.41E-03	2.36E-03	2.73E-03	3.13E-03	3.32E-03	3.03E-03	2.93E-03
34	9.15E-02	2.52E-02	0.52	0.00E+00	0.00E+00	0.00E+00	2.41E-03	2.39E-03	2.34E-03	2.74E-03	3.11E-03	3.30E-03	3.01E-03	2.91E-03
40	1.08E-01	3.08E-02	0.59	0.00E+00	0.00E+00	0.00E+00	2.41E-03	2.39E-03	2.34E-03	2.74E-03	3.11E-03	3.30E-03	3.01E-03	2.91E-03
46	1.21E-01	3.55E-02	0.67	0.00E+00	0.00E+00	0.00E+00	2.43E-03	2.41E-03	2.36E-03	2.77E-03	3.14E-03	3.32E-03	3.03E-03	2.94E-03
50	1.30E-01	3.86E-02	0.75	0.00E+00	0.00E+00	0.00E+00	2.47E-03	2.43E-03	2.39E-03	2.79E-03	3.17E-03	3.36E-03	3.06E-03	2.97E-03
54	1.39E-01	4.17E-02	0.85	0.00E+00	0.00E+00	0.00E+00	2.53E-03	2.48E-03	2.43E-03	2.85E-03	3.23E-03	3.42E-03	3.12E-03	3.02E-03
60	1.51E-01	4.64E-02	0.95	0.00E+00	0.00E+00	0.00E+00	2.58E-03	2.53E-03	2.47E-03	2.90E-03	3.29E-03	3.48E-03	3.18E-03	3.08E-03
64	1.59E-01	4.96E-02	1.08	0.00E+00	0.00E+00	0.00E+00	2.67E-03	2.62E-03	2.56E-03	3.00E-03	3.40E-03	3.60E-03	3.28E-03	3.18E-03
70	1.72E-01	5.39E-02	1.21	0.00E+00	0.00E+00	0.00E+00	2.77E-03	2.71E-03	2.65E-03	3.10E-03	3.52E-03	3.72E-03	3.40E-03	3.29E-03
76	1.82E-01	5.83E-02	1.37	0.00E+00	0.00E+00	0.00E+00	2.90E-03	2.73E-03	2.76E-03	3.23E-03	3.67E-03	3.89E-03	3.54E-03	3.43E-03
80	1.88E-01	6.05E-02	1.54	0.00E+00	0.00E+00	0.00E+00	3.03E-03	2.68E-03	2.88E-03	3.37E-03	3.82E-03	4.05E-03	3.69E-03	3.58E-03
90	1.99E-01	6.59E-02	1.74	0.00E+00	0.00E+00	0.00E+00	3.14E-03	2.77E-03	2.98E-03	3.48E-03	3.95E-03	4.19E-03	3.82E-03	3.70E-03
91	2.00E-01	6.64E-02	1.96	0.00E+00	0.00E+00	0.00E+00	3.31E-03	2.92E-03	3.17E-03	3.67E-03	4.16E-03	4.41E-03	4.02E-03	3.90E-03
100	2.09E-01	7.01E-02	2.21	0.00E+00	0.00E+00	0.00E+00	3.52E-03	3.09E-03	3.35E-03	3.88E-03	4.40E-03	4.66E-03	4.25E-03	4.12E-03
109	2.15E-01	7.37E-02	2.50	0.00E+00	0.00E+00	0.00E+00	3.76E-03	3.29E-03	3.56E-03	4.13E-03	4.68E-03	4.96E-03	4.52E-03	4.38E-03
133	2.32E-01	8.22E-02	2.81	0.00E+00	0.00E+00	0.00E+00	4.00E-03	3.50E-03	3.78E-03	4.39E-03	4.97E-03	5.27E-03	4.81E-03	4.66E-03
162	2.49E-01	9.20E-02	3.17	0.00E+00	0.00E+00	0.00E+00	4.26E-03	3.72E-03	4.02E-03	4.68E-03	5.28E-03	5.60E-03	5.11E-03	4.95E-03
200	2.69E-01	1.03E-01	3.58	0.00E+00	0.00E+00	0.00E+00	4.59E-03	4.00E-03	4.36E-03	5.06E-03	5.67E-03	6.01E-03	5.48E-03	5.31E-03
249	2.62E-01	1.05E-01	4.04	0.00E+00	0.00E+00	0.00E+00	4.84E-03	4.36E-03	4.74E-03	5.49E-03	6.16E-03	6.53E-03	5.95E-03	5.77E-03
300	2.56E-01	1.04E-01	4.55	0.00E+00	0.00E+00	0.00E+00	4.97E-03	4.74E-03	5.16E-03	5.93E-03	6.67E-03	7.04E-03	6.42E-03	6.22E-03
313	2.47E-01	1.04E-01	5.13	0.00E+00	0.00E+00	4.22E-03	5.41E-03	5.17E-03	5.59E-03	6.47E-03	7.26E-03	7.61E-03	6.94E-03	6.73E-03
397	2.03E-01	8.88E-02	5.79	0.00E+00	0.00E+00	6.20E-03	5.94E-03	5.70E-03	6.16E-03	7.06E-03	7.90E-03	8.29E-03	7.56E-03	7.32E-03
400	2.02E-01	8.83E-02	6.53	0.00E+00	0.00E+00	6.79E-03	6.46E-03	5.79E-03	6.70E-03	7.68E-03	8.53E-03	8.94E-03	8.16E-03	7.90E-03
500	1.65E-01	7.60E-02	7.36	0.00E+00	0.00E+00	7.06E-03	6.64E-03	6.39E-03	7.62E-03	8.70E-03	9.65E-03	1.00E-02	9.13E-03	8.84E-03
509	1.62E-01	7.51E-02	8.30	0.00E+00	6.85E-03	7.57E-03	7.08E-03	6.87E-03	8.19E-03	9.29E-03	1.02E-02	1.03E-02	9.68E-03	9.38E-03
600	1.36E-01	6.59E-02	9.36	0.00E+00	8.74E-03	8.19E-03	7.99E-03	7.92E-03	9.20E-03	1.01E-02	1.07E-02	1.08E-02	1.07E-02	1.03E-02
660	1.25E-01	6.11E-02	10.56	6.00E-03	9.01E-03	8.44E-03	8.12E-03	8.14E-03	9.79E-03	1.03E-02	1.12E-02	1.17E-02	1.15E-02	1.12E-02
700	1.18E-01	5.79E-02	11.91	1.03E-02	9.59E-03	9.18E-03	9.23E-03	9.48E-03	1.04E-02	1.15E-02	1.25E-02	1.29E-02	1.27E-02	1.23E-02
800	1.01E-01	5.13E-02	13.43	1.06E-02	1.02E-02	1.01E-02	1.01E-02	1.04E-02	1.18E-02	1.29E-02	1.38E-02	1.42E-02	1.41E-02	1.36E-02
865	9.18E-02	4.78E-02	15.15	1.11E-02	1.12E-02	1.11E-02	1.15E-02	1.18E-02	1.35E-02	1.45E-02	1.54E-02	1.57E-02	1.55E-02	1.49E-02
900	8.75E-02	4.53E-02	17.08	1.24E-02	1.24E-02	1.25E-02	1.29E-02	1.30E-02	1.53E-02	1.64E-02	1.71E-02	1.72E-02	1.70E-02	1.64E-02
1000	7.40E-02	3.91E-02	19.26	1.40E-02	1.45E-02	1.50E-02	1.48E-02	1.57E-02	1.69E-02	1.79E-02	1.96E-02	1.95E-02	1.92E-02	1.84E-02
1147	5.76E-02	3.23E-02	21.72	1.56E-02	1.59E-02	1.61E-02	1.62E-02	1.63E-02	1.88E-02	1.90E-02	2.13E-02	2.09E-02	2.06E-02	1.97E-02
1545	3.34E-02	2.04E-02	24.49	1.75E-02	1.78E-02	1.82E-02	1.85E-02	1.86E-02	2.09E-02	2.16E-02	2.39E-02	2.30E-02	2.26E-02	2.16E-02
2000	2.09E-02	1.38E-02	27.62	2.08E-02	2.03E-02	2.10E-02	2.13E-02	2.21E-02	2.38E-02	2.51E-02	2.53E-02	2.57E-02	2.53E-02	2.41E-02
2120	1.88E-02	1.27E-02	31.15	2.30E-02	2.35E-02	2.35E-02	2.39E-02	2.41E-02	2.56E-02	2.59E-02	2.76E-02	2.79E-02	2.74E-02	2.60E-02
2977	1.01E-02	7.79E-03	35.13	2.80E-02	2.73E-02	2.76E-02	2.79E-02	2.85E-02	3.02E-02	3.11E-02	3.23E-02	3.17E-02	3.10E-02	2.92E-02

TABLE 7A

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: N  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 7; ATOMIC WEIGHT= 14.01)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	3.14E-02	3.16E-02	3.10E-02	3.14E-02	3.18E-02	3.25E-02	3.31E-02	3.49E-02	3.51E-02	3.42E-02	3.06E-02
44.68	3.43E-02	3.49E-02	3.51E-02	3.55E-02	3.47E-02	3.57E-02	3.75E-02	3.79E-02	3.76E-02	3.47E-02	3.23E-02
50.38	3.89E-02	3.92E-02	3.97E-02	4.01E-02	4.05E-02	4.11E-02	4.13E-02	4.32E-02	3.95E-02	3.82E-02	3.57E-02
56.82	4.55E-02	4.52E-02	4.50E-02	4.54E-02	4.49E-02	4.69E-02	4.64E-02	4.69E-02	4.49E-02	4.32E-02	3.98E-02
64.07	4.98E-02	5.04E-02	5.07E-02	5.06E-02	5.10E-02	5.08E-02	5.21E-02	5.15E-02	4.98E-02	4.77E-02	4.33E-02
72.26	5.61E-02	5.68E-02	5.71E-02	5.67E-02	5.58E-02	5.62E-02	5.70E-02	5.60E-02	5.15E-02	5.32E-02	4.76E-02
81.49	6.04E-02	6.16E-02	6.18E-02	6.20E-02	6.16E-02	6.13E-02	6.03E-02	5.91E-02	5.76E-02	5.52E-02	5.19E-02
91.89	6.50E-02	6.52E-02	6.54E-02	6.56E-02	6.58E-02	6.58E-02	6.51E-02	6.46E-02	6.21E-02	6.08E-02	5.61E-02
103.63	7.29E-02	7.13E-02	7.15E-02	7.17E-02	7.11E-02	7.14E-02	7.11E-02	7.01E-02	6.98E-02	6.78E-02	5.92E-02
116.86	7.46E-02	7.56E-02	7.60E-02	7.54E-02	7.55E-02	7.67E-02	7.54E-02	7.46E-02	7.31E-02	7.11E-02	6.32E-02
131.79	7.88E-02	7.98E-02	8.04E-02	8.06E-02	8.08E-02	8.18E-02	8.11E-02	8.01E-02	7.94E-02	7.73E-02	6.87E-02
148.62	8.56E-02	8.66E-02	8.72E-02	8.75E-02	8.77E-02	8.67E-02	8.66E-02	8.60E-02	8.42E-02	8.42E-02	7.95E-02
167.60	8.91E-02	8.96E-02	9.02E-02	9.07E-02	9.11E-02	9.17E-02	9.24E-02	9.18E-02	8.75E-02	8.50E-02	7.41E-02
189.01	9.72E-02	9.77E-02	9.80E-02	9.81E-02	9.82E-02	9.75E-02	9.77E-02	9.63E-02	9.20E-02	8.69E-02	7.68E-02
213.15	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	9.92E-02	9.84E-02	9.76E-02	9.45E-02	8.81E-02	7.99E-02
240.38	9.99E-02	1.00E-01	9.92E-02	9.92E-02	9.92E-02	9.93E-02	9.93E-02	9.76E-02	9.33E-02	9.03E-02	7.92E-02
271.08	1.00E-01	1.00E-01	1.00E-01	1.00E-01	9.91E-02	9.90E-02	9.90E-02	9.79E-02	9.37E-02	8.87E-02	7.70E-02
305.70	9.92E-02	9.83E-02	9.81E-02	9.78E-02	9.77E-02	9.58E-02	9.56E-02	9.42E-02	8.93E-02	8.49E-02	7.48E-02
344.74	9.37E-02	9.30E-02	9.23E-02	9.16E-02	9.09E-02	9.04E-02	9.01E-02	8.94E-02	8.39E-02	8.05E-02	7.21E-02
388.77	8.65E-02	8.60E-02	8.54E-02	8.49E-02	8.43E-02	8.39E-02	8.37E-02	8.31E-02	7.90E-02	7.61E-02	6.93E-02
438.43	8.02E-02	7.94E-02	7.88E-02	7.83E-02	7.79E-02	7.75E-02	7.69E-02	7.65E-02	7.39E-02	7.15E-02	6.63E-02
494.42	7.45E-02	7.37E-02	7.29E-02	7.21E-02	7.14E-02	7.10E-02	7.09E-02	7.01E-02	6.72E-02	6.56E-02	6.18E-02
557.57	6.78E-02	6.72E-02	6.65E-02	6.60E-02	6.56E-02	6.53E-02	6.50E-02	6.44E-02	6.29E-02	6.15E-02	5.75E-02
628.79	6.19E-02	6.10E-02	6.03E-02	5.97E-02	5.93E-02	5.90E-02	5.86E-02	5.80E-02	5.68E-02	5.56E-02	5.27E-02
709.09	5.60E-02	5.49E-02	5.41E-02	5.35E-02	5.31E-02	5.28E-02	5.26E-02	5.19E-02	5.10E-02	4.99E-02	4.76E-02
799.66	5.02E-02	4.98E-02	4.93E-02	4.87E-02	4.82E-02	4.77E-02	4.75E-02	4.71E-02	4.61E-02	4.49E-02	4.21E-02
901.79	4.40E-02	4.33E-02	4.26E-02	4.19E-02	4.13E-02	4.07E-02	4.04E-02	4.01E-02	3.92E-02	3.85E-02	3.65E-02
1017.00	3.74E-02	3.64E-02	3.56E-02	3.51E-02	3.46E-02	3.42E-02	3.39E-02	3.35E-02	3.30E-02	3.24E-02	3.10E-02
1146.90	3.16E-02	3.11E-02	3.07E-02	3.03E-02	2.98E-02	2.95E-02	2.93E-02	2.89E-02	2.84E-02	2.79E-02	2.69E-02
1293.30	2.63E-02	2.57E-02	2.53E-02	2.51E-02	2.49E-02	2.48E-02	2.46E-02	2.43E-02	2.40E-02	2.37E-02	2.29E-02
1458.50	2.20E-02	2.16E-02	2.12E-02	2.10E-02	2.08E-02	2.07E-02	2.06E-02	2.03E-02	2.01E-02	1.98E-02	1.93E-02
1644.80	1.84E-02	1.82E-02	1.80E-02	1.78E-02	1.76E-02	1.74E-02	1.73E-02	1.69E-02	1.67E-02	1.66E-02	1.61E-02
1854.90	1.53E-02	1.51E-02	1.48E-02	1.46E-02	1.44E-02	1.42E-02	1.40E-02	1.38E-02	1.36E-02	1.35E-02	1.32E-02
2091.80	1.28E-02	1.27E-02	1.27E-02	1.26E-02	1.25E-02	1.24E-02	1.23E-02	1.22E-02	1.21E-02	1.20E-02	1.18E-02
2358.90	1.08E-02	1.07E-02	1.06E-02	1.06E-02	1.05E-02	1.04E-02	1.03E-02	1.01E-02	1.01E-02	9.97E-03	9.81E-03
2660.20	8.81E-03	8.73E-03	8.64E-03	8.54E-03	8.42E-03	8.29E-03	8.13E-03	7.81E-03	7.62E-03	7.44E-03	6.36E-03

TABLE 7B





\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: 0  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 8; ATOMIC WEIGHT= 16.00)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	1.19E-01	1.19E-01	1.18E-01	1.20E-01	1.22E-01	1.26E-01	1.30E-01	1.33E-01	1.27E-01	1.24E-01	1.14E-01
44.68	1.31E-01	1.33E-01	1.34E-01	1.36E-01	1.32E-01	1.35E-01	1.40E-01	1.49E-01	1.38E-01	1.35E-01	1.23E-01
50.38	1.48E-01	1.49E-01	1.51E-01	1.53E-01	1.53E-01	1.59E-01	1.60E-01	1.56E-01	1.55E-01	1.51E-01	1.36E-01
56.82	1.73E-01	1.72E-01	1.71E-01	1.71E-01	1.71E-01	1.77E-01	1.77E-01	1.82E-01	1.67E-01	1.70E-01	1.51E-01
64.07	1.90E-01	1.92E-01	1.93E-01	1.92E-01	1.94E-01	1.95E-01	1.94E-01	1.88E-01	1.79E-01	1.73E-01	1.63E-01
72.26	2.14E-01	2.16E-01	2.17E-01	2.15E-01	2.12E-01	2.13E-01	2.11E-01	2.09E-01	2.01E-01	1.93E-01	1.69E-01
81.49	2.32E-01	2.34E-01	2.34E-01	2.35E-01	2.34E-01	2.29E-01	2.31E-01	2.25E-01	2.16E-01	2.13E-01	1.84E-01
91.89	2.46E-01	2.47E-01	2.48E-01	2.49E-01	2.50E-01	2.48E-01	2.43E-01	2.42E-01	2.32E-01	2.34E-01	2.01E-01
103.63	2.74E-01	2.70E-01	2.71E-01	2.69E-01	2.70E-01	2.69E-01	2.68E-01	2.65E-01	2.57E-01	2.53E-01	2.24E-01
116.86	2.83E-01	2.87E-01	2.89E-01	2.86E-01	2.87E-01	2.86E-01	2.84E-01	2.83E-01	2.74E-01	2.71E-01	2.37E-01
131.79	3.00E-01	3.04E-01	3.05E-01	3.06E-01	3.07E-01	3.11E-01	3.06E-01	3.03E-01	3.00E-01	2.82E-01	2.43E-01
148.62	3.25E-01	3.29E-01	3.31E-01	3.32E-01	3.29E-01	3.29E-01	3.30E-01	3.25E-01	3.21E-01	3.02E-01	2.63E-01
167.60	3.38E-01	3.40E-01	3.42E-01	3.42E-01	3.45E-01	3.48E-01	3.51E-01	3.43E-01	3.24E-01	3.06E-01	2.80E-01
189.01	3.69E-01	3.71E-01	3.71E-01	3.72E-01	3.69E-01	3.70E-01	3.71E-01	3.59E-01	3.40E-01	3.26E-01	2.81E-01
213.15	3.81E-01	3.82E-01	3.82E-01	3.82E-01	3.82E-01	3.73E-01	3.73E-01	3.70E-01	3.49E-01	3.33E-01	2.89E-01
240.38	3.79E-01	3.79E-01	3.76E-01	3.76E-01	3.76E-01	3.76E-01	3.76E-01	3.70E-01	3.53E-01	3.38E-01	2.84E-01
271.08	3.79E-01	3.79E-01	3.79E-01	3.79E-01	3.76E-01	3.75E-01	3.75E-01	3.68E-01	3.47E-01	3.31E-01	2.84E-01
305.70	3.74E-01	3.73E-01	3.72E-01	3.71E-01	3.70E-01	3.63E-01	3.62E-01	3.56E-01	3.33E-01	3.14E-01	2.75E-01
344.74	3.55E-01	3.52E-01	3.49E-01	3.47E-01	3.44E-01	3.42E-01	3.41E-01	3.38E-01	3.13E-01	3.00E-01	2.66E-01
388.77	3.28E-01	3.26E-01	3.24E-01	3.22E-01	3.19E-01	3.18E-01	3.17E-01	3.14E-01	2.98E-01	2.82E-01	2.57E-01
438.43	3.04E-01	3.01E-01	2.98E-01	2.97E-01	2.95E-01	2.93E-01	2.91E-01	2.89E-01	2.77E-01	2.67E-01	2.45E-01
494.42	2.82E-01	2.79E-01	2.76E-01	2.73E-01	2.71E-01	2.69E-01	2.68E-01	2.65E-01	2.53E-01	2.47E-01	2.30E-01
557.57	2.57E-01	2.54E-01	2.52E-01	2.50E-01	2.49E-01	2.47E-01	2.46E-01	2.44E-01	2.38E-01	2.30E-01	2.15E-01
628.79	2.34E-01	2.31E-01	2.28E-01	2.26E-01	2.25E-01	2.23E-01	2.22E-01	2.20E-01	2.14E-01	2.10E-01	1.97E-01
709.09	2.12E-01	2.08E-01	2.05E-01	2.03E-01	2.01E-01	2.00E-01	1.98E-01	1.96E-01	1.92E-01	1.88E-01	1.78E-01
799.66	1.90E-01	1.89E-01	1.87E-01	1.85E-01	1.83E-01	1.81E-01	1.80E-01	1.78E-01	1.73E-01	1.69E-01	1.58E-01
901.79	1.66E-01	1.64E-01	1.61E-01	1.58E-01	1.56E-01	1.54E-01	1.53E-01	1.52E-01	1.48E-01	1.44E-01	1.37E-01
1017.00	1.42E-01	1.38E-01	1.35E-01	1.33E-01	1.31E-01	1.30E-01	1.28E-01	1.27E-01	1.24E-01	1.22E-01	1.16E-01
1146.90	1.20E-01	1.18E-01	1.16E-01	1.15E-01	1.13E-01	1.12E-01	1.11E-01	1.09E-01	1.07E-01	1.05E-01	1.01E-01
1293.30	9.97E-02	9.75E-02	9.60E-02	9.50E-02	9.43E-02	9.38E-02	9.31E-02	9.21E-02	9.09E-02	8.94E-02	8.63E-02
1458.50	8.31E-02	8.14E-02	8.03E-02	7.95E-02	7.88E-02	7.82E-02	7.78E-02	7.69E-02	7.59E-02	7.48E-02	7.26E-02
1644.80	6.96E-02	6.88E-02	6.81E-02	6.73E-02	6.66E-02	6.58E-02	6.51E-02	6.40E-02	6.33E-02	6.26E-02	6.09E-02
1854.90	5.80E-02	5.71E-02	5.62E-02	5.53E-02	5.44E-02	5.36E-02	5.30E-02	5.22E-02	5.16E-02	5.11E-02	4.98E-02
2091.80	4.86E-02	4.83E-02	4.79E-02	4.76E-02	4.72E-02	4.69E-02	4.66E-02	4.61E-02	4.57E-02	4.52E-02	4.43E-02
2358.90	4.09E-02	4.06E-02	4.03E-02	4.00E-02	3.97E-02	3.93E-02	3.90E-02	3.84E-02	3.81E-02	3.77E-02	3.70E-02
2660.20	3.34E-02	3.31E-02	3.27E-02	3.23E-02	3.18E-02	3.13E-02	3.06E-02	2.93E-02	2.87E-02	2.79E-02	2.10E-02

TABLE 8B

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: F  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 9; ATOMIC WEIGHT= 19.00)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)

SHIELD THICKNESS (GM/CM\*\*2)

EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
12	4.30E-03	9.57E-04	0.20	0.00E+00	0.00E+00	0.00E+00	3.28E-04	2.91E-04	3.46E-04	3.68E-04	4.12E-04	4.23E-04	3.88E-04	3.60E-04
14	4.00E-03	9.18E-04	0.23	0.00E+00	0.00E+00	0.00E+00	3.10E-04	2.74E-04	3.26E-04	3.47E-04	3.89E-04	3.99E-04	3.66E-04	3.39E-04
16	4.00E-03	9.54E-04	0.25	0.00E+00	0.00E+00	0.00E+00	2.92E-04	2.58E-04	2.98E-04	3.27E-04	3.66E-04	3.75E-04	3.45E-04	3.20E-04
18	4.10E-03	1.00E-03	0.29	0.00E+00	0.00E+00	0.00E+00	2.77E-04	2.46E-04	2.68E-04	3.10E-04	3.47E-04	3.56E-04	3.27E-04	3.03E-04
20	4.51E-03	1.13E-03	0.32	0.00E+00	0.00E+00	0.00E+00	2.67E-04	2.38E-04	2.59E-04	3.00E-04	3.36E-04	3.44E-04	3.16E-04	2.93E-04
23	5.12E-03	1.31E-03	0.36	0.00E+00	0.00E+00	0.00E+00	2.58E-04	2.30E-04	2.50E-04	2.89E-04	3.24E-04	3.32E-04	3.05E-04	2.83E-04
26	5.72E-03	1.50E-03	0.41	0.00E+00	0.00E+00	0.00E+00	2.50E-04	2.22E-04	2.41E-04	2.79E-04	3.13E-04	3.21E-04	2.94E-04	2.73E-04
30	6.51E-03	1.75E-03	0.46	0.00E+00	0.00E+00	0.00E+00	2.47E-04	2.19E-04	2.38E-04	2.76E-04	3.09E-04	3.17E-04	2.91E-04	2.70E-04
34	7.38E-03	2.04E-03	0.52	0.00E+00	0.00E+00	0.00E+00	2.43E-04	2.16E-04	2.35E-04	2.72E-04	3.05E-04	3.13E-04	2.87E-04	2.66E-04
40	8.69E-03	2.48E-03	0.59	0.00E+00	0.00E+00	0.00E+00	2.42E-04	2.15E-04	2.34E-04	2.70E-04	3.03E-04	3.10E-04	2.85E-04	2.64E-04
46	9.78E-03	2.87E-03	0.67	0.00E+00	0.00E+00	0.00E+00	2.41E-04	2.15E-04	2.33E-04	2.70E-04	3.03E-04	3.10E-04	2.85E-04	2.64E-04
50	1.05E-02	3.11E-03	0.75	0.00E+00	0.00E+00	0.00E+00	2.40E-04	2.15E-04	2.34E-04	2.71E-04	3.04E-04	3.11E-04	2.86E-04	2.65E-04
54	1.12E-02	3.36E-03	0.85	0.00E+00	0.00E+00	0.00E+00	2.25E-04	2.18E-04	2.37E-04	2.74E-04	3.07E-04	3.14E-04	2.89E-04	2.68E-04
60	1.22E-02	3.74E-03	0.95	0.00E+00	0.00E+00	0.00E+00	2.27E-04	2.21E-04	2.39E-04	2.77E-04	3.10E-04	3.18E-04	2.92E-04	2.71E-04
64	1.28E-02	4.00E-03	1.08	0.00E+00	0.00E+00	0.00E+00	2.33E-04	2.27E-04	2.45E-04	2.83E-04	3.19E-04	3.26E-04	2.99E-04	2.77E-04
70	1.38E-02	4.35E-03	1.21	0.00E+00	0.00E+00	0.00E+00	2.39E-04	2.32E-04	2.51E-04	2.92E-04	3.29E-04	3.34E-04	3.07E-04	2.84E-04
76	1.47E-02	4.70E-03	1.37	0.00E+00	0.00E+00	0.00E+00	2.48E-04	2.40E-04	2.60E-04	3.04E-04	3.40E-04	3.45E-04	3.17E-04	2.94E-04
80	1.52E-02	4.88E-03	1.54	0.00E+00	0.00E+00	0.00E+00	2.56E-04	2.50E-04	2.69E-04	3.14E-04	3.52E-04	3.57E-04	3.28E-04	3.04E-04
90	1.60E-02	5.31E-03	1.74	0.00E+00	0.00E+00	0.00E+00	2.63E-04	2.57E-04	2.76E-04	3.23E-04	3.62E-04	3.67E-04	3.37E-04	3.12E-04
91	1.61E-02	5.35E-03	1.96	0.00E+00	0.00E+00	0.00E+00	2.76E-04	2.69E-04	2.88E-04	3.37E-04	3.78E-04	3.83E-04	3.52E-04	3.26E-04
100	1.68E-02	5.65E-03	2.21	0.00E+00	0.00E+00	0.00E+00	2.90E-04	2.83E-04	3.02E-04	3.54E-04	3.96E-04	4.02E-04	3.69E-04	3.42E-04
109	1.74E-02	5.94E-03	2.50	0.00E+00	0.00E+00	0.00E+00	3.07E-04	2.93E-04	3.22E-04	3.73E-04	4.18E-04	4.24E-04	3.89E-04	3.61E-04
133	1.87E-02	6.63E-03	2.81	0.00E+00	0.00E+00	0.00E+00	3.24E-04	2.88E-04	3.40E-04	3.93E-04	4.41E-04	4.47E-04	4.10E-04	3.81E-04
162	2.01E-02	7.42E-03	3.17	0.00E+00	0.00E+00	2.15E-04	3.43E-04	3.04E-04	3.59E-04	4.15E-04	4.65E-04	4.72E-04	4.33E-04	4.01E-04
200	2.17E-02	8.31E-03	3.58	0.00E+00	0.00E+00	3.73E-04	3.66E-04	3.24E-04	3.82E-04	4.42E-04	4.95E-04	5.02E-04	4.61E-04	4.28E-04
249	2.11E-02	8.45E-03	4.04	0.00E+00	0.00E+00	4.10E-04	3.97E-04	3.51E-04	4.15E-04	4.80E-04	5.33E-04	5.41E-04	4.97E-04	4.61E-04
300	2.06E-02	8.37E-03	4.55	0.00E+00	0.00E+00	4.45E-04	4.27E-04	3.78E-04	4.46E-04	5.16E-04	5.72E-04	5.80E-04	5.33E-04	4.94E-04
313	1.99E-02	8.36E-03	5.13	0.00E+00	0.00E+00	4.82E-04	4.36E-04	4.10E-04	4.83E-04	5.55E-04	6.15E-04	6.24E-04	5.72E-04	5.31E-04
397	1.64E-02	7.16E-03	5.79	0.00E+00	0.00E+00	5.09E-04	4.57E-04	4.50E-04	5.25E-04	6.04E-04	6.72E-04	6.75E-04	6.19E-04	5.75E-04
400	1.63E-02	7.12E-03	6.53	0.00E+00	0.00E+00	5.23E-04	4.93E-04	4.94E-04	5.69E-04	6.51E-04	7.21E-04	7.25E-04	6.65E-04	6.17E-04
500	1.33E-02	6.13E-03	7.36	0.00E+00	6.08E-04	5.91E-04	5.59E-04	5.24E-04	6.43E-04	7.32E-04	8.03E-04	8.06E-04	7.40E-04	6.87E-04
509	1.31E-02	6.06E-03	8.30	0.00E+00	6.55E-04	6.07E-04	5.80E-04	5.64E-04	6.85E-04	7.77E-04	8.52E-04	8.54E-04	7.83E-04	7.26E-04
600	1.10E-02	5.32E-03	9.36	0.00E+00	6.88E-04	6.37E-04	6.10E-04	6.42E-04	7.67E-04	8.59E-04	9.41E-04	9.41E-04	8.59E-04	7.97E-04
660	1.00E-02	4.93E-03	10.56	6.70E-04	7.23E-04	6.85E-04	6.79E-04	7.16E-04	8.40E-04	9.37E-04	1.02E-03	1.01E-03	9.28E-04	8.59E-04
700	9.50E-03	4.67E-03	11.91	8.17E-04	7.56E-04	7.25E-04	7.46E-04	7.70E-04	9.39E-04	9.95E-04	1.11E-03	1.12E-03	1.02E-03	9.45E-04
800	8.14E-03	4.14E-03	13.43	8.51E-04	8.13E-04	8.15E-04	8.53E-04	8.70E-04	9.74E-04	1.05E-03	1.14E-03	1.22E-03	1.12E-03	1.04E-03
865	7.41E-03	3.86E-03	15.15	9.00E-04	8.95E-04	9.32E-04	9.29E-04	9.69E-04	1.10E-03	1.18E-03	1.26E-03	1.24E-03	1.24E-03	1.14E-03
900	7.06E-03	3.65E-03	17.08	9.70E-04	1.03E-03	1.04E-03	1.07E-03	1.08E-03	1.26E-03	1.32E-03	1.40E-03	1.36E-03	1.35E-03	1.25E-03
1000	5.97E-03	3.15E-03	19.26	1.13E-03	1.20E-03	1.17E-03	1.23E-03	1.22E-03	1.45E-03	1.53E-03	1.60E-03	1.54E-03	1.53E-03	1.40E-03
1147	4.65E-03	2.61E-03	21.72	1.27E-03	1.27E-03	1.33E-03	1.32E-03	1.32E-03	1.50E-03	1.67E-03	1.72E-03	1.65E-03	1.64E-03	1.50E-03
1545	2.70E-03	1.65E-03	24.49	1.42E-03	1.46E-03	1.46E-03	1.48E-03	1.53E-03	1.72E-03	1.75E-03	1.92E-03	1.81E-03	1.79E-03	1.64E-03
2000	1.68E-03	1.12E-03	27.62	1.68E-03	1.65E-03	1.73E-03	1.76E-03	1.74E-03	1.89E-03	1.99E-03	2.19E-03	2.02E-03	2.00E-03	1.83E-03
2120	1.51E-03	1.02E-03	31.15	1.87E-03	1.90E-03	1.90E-03	1.90E-03	2.00E-03	2.09E-03	2.23E-03	2.31E-03	2.19E-03	2.17E-03	1.97E-03
2977	8.11E-04	6.28E-04	35.13	2.24E-03	2.19E-03	2.26E-03	2.26E-03	2.32E-03	2.37E-03	2.43E-03	2.56E-03	2.48E-03	2.44E-03	2.21E-03

TABLE 9A

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: F  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 ATOMIC NUMBER= 9; ATOMIC WEIGHT= 19.00)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	2.53E-03	2.50E-03	2.52E-03	2.56E-03	2.55E-03	2.73E-03	2.82E-03	2.89E-03	2.74E-03	2.69E-03	2.42E-03
44.68	2.79E-03	2.80E-03	2.85E-03	2.86E-03	2.83E-03	2.87E-03	2.93E-03	3.18E-03	3.18E-03	2.99E-03	2.60E-03
50.38	3.16E-03	3.17E-03	3.22E-03	3.26E-03	3.22E-03	3.34E-03	3.42E-03	3.37E-03	3.31E-03	3.17E-03	2.70E-03
56.82	3.68E-03	3.65E-03	3.65E-03	3.60E-03	3.65E-03	3.74E-03	3.80E-03	3.79E-03	3.49E-03	3.40E-03	3.01E-03
64.07	4.03E-03	4.08E-03	4.11E-03	4.10E-03	4.15E-03	4.16E-03	4.02E-03	4.05E-03	3.86E-03	3.74E-03	3.28E-03
72.26	4.55E-03	4.59E-03	4.62E-03	4.59E-03	4.47E-03	4.49E-03	4.43E-03	4.38E-03	4.33E-03	4.16E-03	3.60E-03
81.49	4.93E-03	4.97E-03	4.99E-03	4.96E-03	4.88E-03	4.83E-03	4.94E-03	4.82E-03	4.50E-03	4.59E-03	3.93E-03
91.89	5.26E-03	5.26E-03	5.28E-03	5.30E-03	5.32E-03	5.22E-03	5.19E-03	5.14E-03	4.99E-03	4.85E-03	4.27E-03
103.63	5.84E-03	5.75E-03	5.77E-03	5.73E-03	5.74E-03	5.73E-03	5.72E-03	5.62E-03	5.47E-03	5.40E-03	4.65E-03
116.86	6.03E-03	6.12E-03	6.14E-03	6.09E-03	6.10E-03	6.08E-03	6.06E-03	6.05E-03	5.87E-03	5.74E-03	4.75E-03
131.79	6.38E-03	6.46E-03	6.50E-03	6.51E-03	6.53E-03	6.62E-03	6.44E-03	6.47E-03	6.28E-03	5.90E-03	5.16E-03
148.62	6.91E-03	7.00E-03	7.04E-03	7.06E-03	7.01E-03	7.01E-03	6.96E-03	6.88E-03	6.83E-03	6.37E-03	5.59E-03
167.60	7.19E-03	7.24E-03	7.29E-03	7.33E-03	7.35E-03	7.41E-03	7.47E-03	7.28E-03	6.83E-03	6.41E-03	5.56E-03
189.01	7.84E-03	7.88E-03	7.90E-03	7.92E-03	7.85E-03	7.87E-03	7.88E-03	7.64E-03	7.18E-03	6.88E-03	5.95E-03
213.15	8.11E-03	8.12E-03	8.13E-03	8.13E-03	8.13E-03	7.93E-03	7.93E-03	7.88E-03	7.42E-03	7.09E-03	5.91E-03
240.38	8.06E-03	8.07E-03	8.00E-03	8.00E-03	8.00E-03	8.00E-03	8.00E-03	7.87E-03	7.44E-03	6.98E-03	5.96E-03
271.08	8.07E-03	8.07E-03	8.06E-03	8.06E-03	7.99E-03	7.99E-03	7.98E-03	7.82E-03	7.38E-03	7.00E-03	5.85E-03
305.70	7.97E-03	7.92E-03	7.90E-03	7.89E-03	7.87E-03	7.72E-03	7.70E-03	7.58E-03	7.05E-03	6.60E-03	5.75E-03
344.74	7.55E-03	7.49E-03	7.43E-03	7.37E-03	7.32E-03	7.28E-03	7.26E-03	7.19E-03	6.67E-03	6.35E-03	5.61E-03
388.77	6.98E-03	6.93E-03	6.89E-03	6.84E-03	6.80E-03	6.76E-03	6.74E-03	6.69E-03	6.32E-03	5.98E-03	5.39E-03
438.43	6.47E-03	6.40E-03	6.35E-03	6.31E-03	6.27E-03	6.24E-03	6.19E-03	6.15E-03	5.88E-03	5.67E-03	5.14E-03
494.42	6.00E-03	5.94E-03	5.87E-03	5.81E-03	5.76E-03	5.72E-03	5.71E-03	5.64E-03	5.35E-03	5.23E-03	4.80E-03
557.57	5.47E-03	5.40E-03	5.36E-03	5.32E-03	5.29E-03	5.26E-03	5.24E-03	5.18E-03	5.04E-03	4.87E-03	4.55E-03
628.79	4.99E-03	4.91E-03	4.85E-03	4.81E-03	4.78E-03	4.75E-03	4.72E-03	4.67E-03	4.54E-03	4.45E-03	4.15E-03
709.09	4.51E-03	4.42E-03	4.35E-03	4.32E-03	4.28E-03	4.25E-03	4.22E-03	4.18E-03	4.07E-03	3.98E-03	3.78E-03
799.66	4.05E-03	4.01E-03	3.97E-03	3.93E-03	3.88E-03	3.84E-03	3.82E-03	3.79E-03	3.68E-03	3.59E-03	3.34E-03
901.79	3.54E-03	3.48E-03	3.42E-03	3.36E-03	3.31E-03	3.27E-03	3.25E-03	3.23E-03	3.14E-03	3.07E-03	2.89E-03
1017.00	3.01E-03	2.93E-03	2.87E-03	2.82E-03	2.78E-03	2.75E-03	2.72E-03	2.69E-03	2.64E-03	2.59E-03	2.45E-03
1146.90	2.55E-03	2.51E-03	2.47E-03	2.44E-03	2.40E-03	2.37E-03	2.36E-03	2.33E-03	2.28E-03	2.23E-03	2.13E-03
1293.30	2.12E-03	2.07E-03	2.04E-03	2.02E-03	2.01E-03	1.99E-03	1.98E-03	1.95E-03	1.93E-03	1.90E-03	1.83E-03
1458.50	1.77E-03	1.73E-03	1.71E-03	1.69E-03	1.68E-03	1.66E-03	1.66E-03	1.63E-03	1.61E-03	1.59E-03	1.54E-03
1644.80	1.48E-03	1.46E-03	1.45E-03	1.43E-03	1.42E-03	1.40E-03	1.38E-03	1.36E-03	1.34E-03	1.33E-03	1.29E-03
1854.90	1.23E-03	1.21E-03	1.19E-03	1.18E-03	1.16E-03	1.14E-03	1.13E-03	1.11E-03	1.10E-03	1.08E-03	1.06E-03
2091.80	1.03E-03	1.03E-03	1.02E-03	1.01E-03	1.00E-03	9.97E-04	9.90E-04	9.80E-04	9.72E-04	9.62E-04	9.41E-04
2358.90	8.71E-04	8.64E-04	8.57E-04	8.50E-04	8.43E-04	8.36E-04	8.29E-04	8.17E-04	8.09E-04	8.01E-04	7.83E-04
2660.20	7.10E-04	7.03E-04	6.95E-04	6.85E-04	6.75E-04	6.61E-04	6.47E-04	6.24E-04	6.09E-04	5.88E-04	5.89E-04

TABLE 9B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: NE  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 10; ATOMIC WEIGHT= 20.18)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	1.88E-02	1.86E-02	1.88E-02	1.90E-02	1.92E-02	1.97E-02	2.05E-02	2.09E-02	1.95E-02	1.93E-02	1.68E-02
44.68	2.06E-02	2.08E-02	2.12E-02	2.07E-02	2.07E-02	2.19E-02	2.25E-02	2.26E-02	2.12E-02	2.09E-02	1.82E-02
50.38	2.34E-02	2.35E-02	2.39E-02	2.44E-02	2.36E-02	2.39E-02	2.45E-02	2.57E-02	2.37E-02	2.32E-02	2.00E-02
56.82	2.72E-02	2.71E-02	2.71E-02	2.68E-02	2.73E-02	2.76E-02	2.88E-02	2.73E-02	2.68E-02	2.61E-02	2.23E-02
64.07	2.98E-02	3.02E-02	3.02E-02	3.05E-02	3.06E-02	3.09E-02	3.03E-02	3.07E-02	2.88E-02	2.84E-02	2.42E-02
72.26	3.36E-02	3.40E-02	3.38E-02	3.33E-02	3.29E-02	3.36E-02	3.32E-02	3.20E-02	3.06E-02	2.98E-02	2.52E-02
81.49	3.65E-02	3.68E-02	3.70E-02	3.67E-02	3.58E-02	3.61E-02	3.53E-02	3.55E-02	3.40E-02	3.27E-02	2.71E-02
91.89	3.89E-02	3.90E-02	3.91E-02	3.93E-02	3.90E-02	3.89E-02	3.88E-02	3.78E-02	3.69E-02	3.58E-02	2.95E-02
103.63	4.33E-02	4.26E-02	4.28E-02	4.24E-02	4.21E-02	4.26E-02	4.27E-02	4.17E-02	4.07E-02	3.85E-02	3.29E-02
116.86	4.46E-02	4.53E-02	4.50E-02	4.51E-02	4.52E-02	4.52E-02	4.38E-02	4.44E-02	4.40E-02	4.01E-02	3.50E-02
131.79	4.72E-02	4.79E-02	4.81E-02	4.82E-02	4.83E-02	4.82E-02	4.75E-02	4.79E-02	4.63E-02	4.38E-02	3.69E-02
148.62	5.12E-02	5.19E-02	5.22E-02	5.23E-02	5.19E-02	5.16E-02	5.18E-02	5.13E-02	4.90E-02	4.49E-02	3.81E-02
167.60	5.32E-02	5.36E-02	5.41E-02	5.43E-02	5.44E-02	5.49E-02	5.55E-02	5.37E-02	5.06E-02	4.75E-02	4.03E-02
189.01	5.81E-02	5.84E-02	5.85E-02	5.86E-02	5.81E-02	5.83E-02	5.79E-02	5.66E-02	5.18E-02	4.87E-02	4.10E-02
213.15	6.00E-02	6.01E-02	6.02E-02	6.02E-02	6.02E-02	5.87E-02	5.87E-02	5.78E-02	5.40E-02	5.09E-02	4.17E-02
240.38	5.96E-02	5.92E-02	5.92E-02	5.92E-02	5.92E-02	5.92E-02	5.87E-02	5.82E-02	5.45E-02	5.08E-02	4.19E-02
271.08	5.97E-02	5.97E-02	5.97E-02	5.96E-02	5.91E-02	5.91E-02	5.90E-02	5.78E-02	5.43E-02	5.01E-02	4.15E-02
305.70	5.89E-02	5.86E-02	5.84E-02	5.83E-02	5.78E-02	5.71E-02	5.64E-02	5.60E-02	5.13E-02	4.78E-02	4.08E-02
344.74	5.59E-02	5.54E-02	5.50E-02	5.45E-02	5.41E-02	5.38E-02	5.36E-02	5.27E-02	4.89E-02	4.64E-02	4.04E-02
388.77	5.16E-02	5.13E-02	5.10E-02	5.06E-02	5.03E-02	5.00E-02	4.98E-02	4.93E-02	4.62E-02	4.37E-02	3.86E-02
438.43	4.78E-02	4.73E-02	4.70E-02	4.67E-02	4.64E-02	4.62E-02	4.58E-02	4.54E-02	4.30E-02	4.10E-02	3.68E-02
494.42	4.44E-02	4.39E-02	4.34E-02	4.30E-02	4.26E-02	4.23E-02	4.22E-02	4.16E-02	3.94E-02	3.83E-02	3.45E-02
557.57	4.04E-02	4.00E-02	3.96E-02	3.93E-02	3.91E-02	3.89E-02	3.86E-02	3.83E-02	3.71E-02	3.57E-02	3.28E-02
628.79	3.68E-02	3.62E-02	3.58E-02	3.55E-02	3.53E-02	3.51E-02	3.49E-02	3.45E-02	3.35E-02	3.26E-02	3.01E-02
709.09	3.34E-02	3.27E-02	3.22E-02	3.19E-02	3.16E-02	3.14E-02	3.10E-02	3.09E-02	3.00E-02	2.93E-02	2.73E-02
799.66	3.00E-02	2.97E-02	2.93E-02	2.90E-02	2.86E-02	2.83E-02	2.82E-02	2.80E-02	2.71E-02	2.63E-02	2.42E-02
901.79	2.62E-02	2.58E-02	2.53E-02	2.48E-02	2.45E-02	2.42E-02	2.40E-02	2.37E-02	2.31E-02	2.23E-02	2.10E-02
1017.00	2.21E-02	2.15E-02	2.11E-02	2.08E-02	2.05E-02	2.03E-02	2.01E-02	1.99E-02	1.94E-02	1.90E-02	1.79E-02
1146.90	1.89E-02	1.86E-02	1.83E-02	1.80E-02	1.77E-02	1.75E-02	1.74E-02	1.72E-02	1.68E-02	1.65E-02	1.56E-02
1293.30	1.56E-02	1.52E-02	1.51E-02	1.49E-02	1.48E-02	1.48E-02	1.47E-02	1.45E-02	1.42E-02	1.39E-02	1.33E-02
1458.50	1.31E-02	1.28E-02	1.26E-02	1.25E-02	1.24E-02	1.23E-02	1.22E-02	1.21E-02	1.19E-02	1.17E-02	1.13E-02
1644.80	1.10E-02	1.08E-02	1.07E-02	1.06E-02	1.04E-02	1.03E-02	1.02E-02	1.01E-02	9.92E-03	9.78E-03	9.44E-03
1854.90	9.13E-03	8.98E-03	8.83E-03	8.68E-03	8.54E-03	8.42E-03	8.31E-03	8.20E-03	8.10E-03	8.00E-03	7.76E-03
2091.80	7.66E-03	7.60E-03	7.54E-03	7.49E-03	7.43E-03	7.38E-03	7.33E-03	7.24E-03	7.18E-03	7.10E-03	6.91E-03
2358.90	6.44E-03	6.39E-03	6.34E-03	6.29E-03	6.24E-03	6.19E-03	6.13E-03	6.04E-03	5.97E-03	5.92E-03	5.77E-03
2660.20	5.25E-03	5.20E-03	5.14E-03	5.07E-03	4.99E-03	4.89E-03	4.78E-03	4.61E-03	4.47E-03	3.93E-03	2.83E-03

TABLE 10B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: NA  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 11; ATOMIC WEIGHT= 22.99)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	3.56E-03	3.52E-03	3.56E-03	3.61E-03	3.66E-03	3.78E-03	3.82E-03	3.95E-03	3.74E-03	3.70E-03	3.17E-03
44.68	3.91E-03	3.95E-03	4.03E-03	3.93E-03	3.90E-03	4.19E-03	4.32E-03	4.35E-03	4.08E-03	4.02E-03	3.43E-03
50.38	4.39E-03	4.47E-03	4.55E-03	4.52E-03	4.43E-03	4.57E-03	4.64E-03	4.88E-03	4.56E-03	4.46E-03	3.53E-03
56.82	5.17E-03	5.13E-03	5.09E-03	5.09E-03	5.17E-03	5.27E-03	5.32E-03	5.22E-03	4.90E-03	4.77E-03	3.93E-03
64.07	5.69E-03	5.73E-03	5.72E-03	5.79E-03	5.80E-03	5.81E-03	5.77E-03	5.74E-03	5.25E-03	5.15E-03	4.28E-03
72.26	6.37E-03	6.43E-03	6.41E-03	6.31E-03	6.23E-03	6.39E-03	6.25E-03	6.11E-03	5.86E-03	5.68E-03	4.69E-03
81.49	6.90E-03	6.97E-03	7.00E-03	6.96E-03	6.78E-03	6.83E-03	6.71E-03	6.62E-03	6.53E-03	6.22E-03	5.11E-03
91.89	7.29E-03	7.38E-03	7.40E-03	7.44E-03	7.39E-03	7.39E-03	7.29E-03	7.20E-03	6.80E-03	6.79E-03	5.57E-03
103.63	8.18E-03	8.07E-03	8.01E-03	8.03E-03	7.97E-03	8.00E-03	8.10E-03	7.85E-03	7.78E-03	7.11E-03	6.21E-03
116.86	8.45E-03	8.57E-03	8.51E-03	8.53E-03	8.56E-03	8.48E-03	8.29E-03	8.44E-03	8.19E-03	7.60E-03	6.43E-03
131.79	8.93E-03	9.06E-03	9.11E-03	9.13E-03	9.15E-03	9.14E-03	9.01E-03	9.10E-03	8.78E-03	8.21E-03	6.64E-03
148.62	9.69E-03	9.83E-03	9.88E-03	9.90E-03	9.82E-03	9.77E-03	9.81E-03	9.73E-03	9.12E-03	8.43E-03	7.16E-03
167.60	1.01E-02	1.02E-02	1.02E-02	1.03E-02	1.03E-02	1.04E-02	1.05E-02	1.01E-02	9.59E-03	8.98E-03	7.55E-03
189.01	1.10E-02	1.10E-02	1.11E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02	1.07E-02	9.81E-03	9.14E-03	7.44E-03
213.15	1.14E-02	1.14E-02	1.14E-02	1.14E-02	1.14E-02	1.11E-02	1.11E-02	1.08E-02	1.01E-02	9.52E-03	7.77E-03
240.38	1.13E-02	1.12E-02	1.12E-02	1.12E-02	1.12E-02	1.12E-02	1.11E-02	1.10E-02	1.02E-02	9.58E-03	7.77E-03
271.08	1.13E-02	1.13E-02	1.13E-02	1.12E-02	1.12E-02	1.12E-02	1.11E-02	1.09E-02	1.02E-02	9.23E-03	7.77E-03
305.70	1.12E-02	1.11E-02	1.11E-02	1.10E-02	1.09E-02	1.08E-02	1.07E-02	1.06E-02	9.64E-03	8.99E-03	7.53E-03
344.74	1.06E-02	1.05E-02	1.04E-02	1.03E-02	1.02E-02	1.02E-02	1.01E-02	9.88E-03	9.14E-03	8.61E-03	7.46E-03
388.77	9.77E-03	9.70E-03	9.64E-03	9.57E-03	9.51E-03	9.45E-03	9.42E-03	9.32E-03	8.70E-03	8.24E-03	7.24E-03
438.43	9.04E-03	8.94E-03	8.89E-03	8.83E-03	8.78E-03	8.73E-03	8.66E-03	8.59E-03	8.11E-03	7.71E-03	6.91E-03
494.42	8.40E-03	8.31E-03	8.21E-03	8.13E-03	8.06E-03	8.00E-03	7.98E-03	7.87E-03	7.43E-03	7.23E-03	6.47E-03
557.57	7.65E-03	7.56E-03	7.49E-03	7.44E-03	7.39E-03	7.35E-03	7.29E-03	7.23E-03	6.98E-03	6.72E-03	6.16E-03
628.79	6.95E-03	6.83E-03	6.77E-03	6.72E-03	6.68E-03	6.61E-03	6.59E-03	6.52E-03	6.31E-03	6.12E-03	5.64E-03
709.09	6.31E-03	6.18E-03	6.08E-03	6.03E-03	5.98E-03	5.94E-03	5.87E-03	5.83E-03	5.67E-03	5.49E-03	5.16E-03
799.66	5.67E-03	5.61E-03	5.55E-03	5.48E-03	5.41E-03	5.36E-03	5.33E-03	5.29E-03	5.12E-03	4.93E-03	4.54E-03
901.79	4.96E-03	4.87E-03	4.79E-03	4.70E-03	4.63E-03	4.57E-03	4.54E-03	4.49E-03	4.36E-03	4.20E-03	3.96E-03
1017.00	4.19E-03	4.07E-03	4.00E-03	3.93E-03	3.88E-03	3.83E-03	3.80E-03	3.76E-03	3.67E-03	3.56E-03	3.36E-03
1146.90	3.57E-03	3.51E-03	3.46E-03	3.41E-03	3.35E-03	3.31E-03	3.29E-03	3.25E-03	3.17E-03	3.10E-03	2.93E-03
1293.30	2.95E-03	2.88E-03	2.85E-03	2.82E-03	2.81E-03	2.79E-03	2.77E-03	2.74E-03	2.69E-03	2.63E-03	2.51E-03
1458.50	2.47E-03	2.42E-03	2.39E-03	2.37E-03	2.34E-03	2.33E-03	2.31E-03	2.28E-03	2.25E-03	2.21E-03	2.12E-03
1644.80	2.07E-03	2.05E-03	2.02E-03	2.00E-03	1.97E-03	1.95E-03	1.93E-03	1.90E-03	1.87E-03	1.85E-03	1.78E-03
1854.90	1.73E-03	1.70E-03	1.67E-03	1.64E-03	1.61E-03	1.59E-03	1.57E-03	1.55E-03	1.53E-03	1.51E-03	1.46E-03
2091.80	1.45E-03	1.44E-03	1.43E-03	1.41E-03	1.40E-03	1.39E-03	1.38E-03	1.37E-03	1.36E-03	1.34E-03	1.30E-03
2358.90	1.22E-03	1.21E-03	1.20E-03	1.19E-03	1.18E-03	1.17E-03	1.16E-03	1.14E-03	1.13E-03	1.12E-03	1.09E-03
2660.20	9.94E-04	9.83E-04	9.71E-04	9.58E-04	9.42E-04	9.22E-04	9.00E-04	8.72E-04	8.44E-04	7.42E-04	5.33E-04

TABLE II B





\*COBEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: MG  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 12; ATOMIC WEIGHT= 24.32)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
 \*\*\*\*\*

SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	2.44E-02	2.40E-02	2.46E-02	2.45E-02	2.51E-02	2.58E-02	2.72E-02	2.79E-02	2.54E-02	2.45E-02	2.03E-02
44.68	2.69E-02	2.72E-02	2.75E-02	2.72E-02	2.70E-02	2.91E-02	3.00E-02	3.04E-02	2.68E-02	2.66E-02	2.19E-02
50.38	3.01E-02	3.07E-02	3.13E-02	3.09E-02	3.06E-02	3.21E-02	3.26E-02	3.19E-02	2.98E-02	2.94E-02	2.42E-02
56.82	3.55E-02	3.49E-02	3.46E-02	3.50E-02	3.58E-02	3.59E-02	3.64E-02	3.66E-02	3.36E-02	3.27E-02	2.69E-02
64.07	3.91E-02	3.93E-02	3.93E-02	3.98E-02	4.00E-02	4.03E-02	4.02E-02	3.76E-02	3.71E-02	3.57E-02	2.93E-02
72.26	4.37E-02	4.42E-02	4.40E-02	4.34E-02	4.29E-02	4.42E-02	4.25E-02	4.26E-02	4.14E-02	3.92E-02	3.20E-02
81.49	4.73E-02	4.78E-02	4.76E-02	4.78E-02	4.66E-02	4.68E-02	4.66E-02	4.47E-02	4.25E-02	4.14E-02	3.49E-02
91.89	5.00E-02	5.06E-02	5.08E-02	5.10E-02	5.07E-02	5.04E-02	5.04E-02	4.95E-02	4.72E-02	4.37E-02	3.52E-02
103.63	5.62E-02	5.54E-02	5.50E-02	5.51E-02	5.47E-02	5.50E-02	5.60E-02	5.44E-02	5.23E-02	4.89E-02	3.92E-02
116.86	5.79E-02	5.88E-02	5.84E-02	5.86E-02	5.88E-02	5.84E-02	5.72E-02	5.73E-02	5.51E-02	5.18E-02	4.16E-02
131.79	6.14E-02	6.23E-02	6.25E-02	6.26E-02	6.28E-02	6.28E-02	6.15E-02	6.29E-02	5.99E-02	5.31E-02	4.49E-02
148.62	6.65E-02	6.75E-02	6.78E-02	6.72E-02	6.74E-02	6.72E-02	6.63E-02	6.71E-02	6.16E-02	5.78E-02	4.68E-02
167.60	6.91E-02	6.98E-02	7.03E-02	7.05E-02	7.07E-02	7.15E-02	7.23E-02	6.94E-02	6.58E-02	5.84E-02	4.67E-02
189.01	7.54E-02	7.58E-02	7.60E-02	7.54E-02	7.55E-02	7.56E-02	7.52E-02	7.22E-02	6.73E-02	6.26E-02	4.95E-02
213.15	7.79E-02	7.80E-02	7.81E-02	7.81E-02	7.81E-02	7.62E-02	7.62E-02	7.44E-02	6.82E-02	6.26E-02	5.01E-02
240.38	7.74E-02	7.68E-02	7.68E-02	7.68E-02	7.68E-02	7.68E-02	7.62E-02	7.55E-02	6.99E-02	6.39E-02	5.05E-02
271.08	7.75E-02	7.75E-02	7.74E-02	7.67E-02	7.67E-02	7.66E-02	7.59E-02	7.50E-02	6.86E-02	6.18E-02	5.10E-02
305.70	7.65E-02	7.60E-02	7.58E-02	7.57E-02	7.49E-02	7.40E-02	7.31E-02	7.24E-02	6.56E-02	5.95E-02	5.05E-02
344.74	7.25E-02	7.17E-02	7.10E-02	7.05E-02	7.01E-02	6.97E-02	6.94E-02	6.76E-02	6.18E-02	5.77E-02	4.93E-02
388.77	6.70E-02	6.65E-02	6.61E-02	6.56E-02	6.52E-02	6.48E-02	6.45E-02	6.38E-02	5.89E-02	5.59E-02	4.87E-02
438.43	6.20E-02	6.13E-02	6.09E-02	6.06E-02	6.02E-02	5.95E-02	5.93E-02	5.87E-02	5.52E-02	5.24E-02	4.60E-02
494.42	5.76E-02	5.68E-02	5.61E-02	5.56E-02	5.51E-02	5.49E-02	5.47E-02	5.39E-02	5.08E-02	4.85E-02	4.36E-02
557.57	5.25E-02	5.18E-02	5.13E-02	5.09E-02	5.06E-02	5.03E-02	4.99E-02	4.95E-02	4.76E-02	4.55E-02	4.14E-02
628.79	4.77E-02	4.68E-02	4.64E-02	4.61E-02	4.58E-02	4.53E-02	4.52E-02	4.46E-02	4.30E-02	4.15E-02	3.80E-02
709.09	4.31E-02	4.22E-02	4.17E-02	4.13E-02	4.10E-02	4.07E-02	4.02E-02	4.00E-02	3.86E-02	3.74E-02	3.44E-02
799.66	3.89E-02	3.85E-02	3.80E-02	3.76E-02	3.71E-02	3.67E-02	3.65E-02	3.62E-02	3.47E-02	3.33E-02	3.07E-02
901.79	3.40E-02	3.33E-02	3.27E-02	3.21E-02	3.17E-02	3.13E-02	3.11E-02	3.07E-02	2.98E-02	2.86E-02	2.66E-02
1017.00	2.87E-02	2.79E-02	2.74E-02	2.70E-02	2.66E-02	2.63E-02	2.61E-02	2.58E-02	2.51E-02	2.43E-02	2.27E-02
1146.90	2.44E-02	2.41E-02	2.37E-02	2.33E-02	2.30E-02	2.27E-02	2.25E-02	2.22E-02	2.17E-02	2.11E-02	1.97E-02
1293.30	2.02E-02	1.98E-02	1.95E-02	1.93E-02	1.92E-02	1.91E-02	1.90E-02	1.87E-02	1.84E-02	1.80E-02	1.70E-02
1458.50	1.70E-02	1.66E-02	1.63E-02	1.62E-02	1.60E-02	1.60E-02	1.58E-02	1.57E-02	1.54E-02	1.51E-02	1.44E-02
1644.80	1.42E-02	1.40E-02	1.39E-02	1.37E-02	1.35E-02	1.33E-02	1.32E-02	1.30E-02	1.28E-02	1.26E-02	1.21E-02
1854.90	1.18E-02	1.16E-02	1.14E-02	1.12E-02	1.10E-02	1.09E-02	1.07E-02	1.06E-02	1.05E-02	1.03E-02	9.96E-03
2091.80	9.93E-03	9.85E-03	9.77E-03	9.70E-03	9.62E-03	9.55E-03	9.49E-03	9.39E-03	9.29E-03	9.16E-03	8.89E-03
2358.90	8.35E-03	8.28E-03	8.21E-03	8.14E-03	8.07E-03	7.99E-03	7.92E-03	7.82E-03	7.73E-03	7.62E-03	7.40E-03
2660.20	6.81E-03	6.74E-03	6.65E-03	6.56E-03	6.44E-03	6.30E-03	6.14E-03	5.97E-03	5.75E-03	5.03E-03	3.57E-03

TABLE 12B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: AL  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 13; ATOMIC WEIGHT= 26.98)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
 \*\*\*\*\*

SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	4.58E-03	4.50E-03	4.64E-03	4.61E-03	4.74E-03	4.90E-03	5.19E-03	5.26E-03	4.68E-03	4.63E-03	3.80E-03
44.68	5.04E-03	5.10E-03	5.18E-03	5.05E-03	5.10E-03	5.48E-03	5.41E-03	5.35E-03	5.09E-03	5.01E-03	4.11E-03
50.38	5.66E-03	5.77E-03	5.90E-03	5.82E-03	5.70E-03	6.08E-03	6.20E-03	6.05E-03	5.67E-03	5.53E-03	4.52E-03
56.82	6.68E-03	6.56E-03	6.50E-03	6.59E-03	6.67E-03	6.72E-03	6.74E-03	6.80E-03	6.39E-03	6.16E-03	5.03E-03
64.07	7.39E-03	7.38E-03	7.39E-03	7.48E-03	7.52E-03	7.54E-03	7.51E-03	7.11E-03	7.05E-03	6.72E-03	5.32E-03
72.26	8.19E-03	8.29E-03	8.08E-03	8.05E-03	8.06E-03	8.23E-03	8.01E-03	8.06E-03	7.40E-03	7.00E-03	5.56E-03
81.49	8.88E-03	8.97E-03	8.93E-03	8.79E-03	8.76E-03	8.80E-03	8.77E-03	8.37E-03	8.08E-03	7.52E-03	6.06E-03
91.89	9.41E-03	9.50E-03	9.54E-03	9.58E-03	9.53E-03	9.37E-03	9.38E-03	9.26E-03	8.94E-03	8.20E-03	6.57E-03
103.63	1.05E-02	1.04E-02	1.03E-02	1.02E-02	1.03E-02	1.03E-02	1.04E-02	1.03E-02	9.71E-03	9.18E-03	7.30E-03
116.86	1.09E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02	1.09E-02	1.08E-02	1.05E-02	1.04E-02	9.39E-03	7.75E-03
131.79	1.15E-02	1.17E-02	1.17E-02	1.17E-02	1.18E-02	1.18E-02	1.16E-02	1.16E-02	1.11E-02	9.97E-03	8.25E-03
148.62	1.25E-02	1.27E-02	1.27E-02	1.26E-02	1.26E-02	1.26E-02	1.24E-02	1.25E-02	1.16E-02	1.08E-02	8.25E-03
167.60	1.30E-02	1.31E-02	1.32E-02	1.32E-02	1.33E-02	1.34E-02	1.35E-02	1.30E-02	1.20E-02	1.08E-02	8.64E-03
189.01	1.41E-02	1.42E-02	1.42E-02	1.41E-02	1.41E-02	1.42E-02	1.40E-02	1.35E-02	1.26E-02	1.16E-02	9.14E-03
213.15	1.46E-02	1.46E-02	1.46E-02	1.46E-02	1.46E-02	1.43E-02	1.43E-02	1.40E-02	1.28E-02	1.17E-02	9.09E-03
240.38	1.45E-02	1.44E-02	1.44E-02	1.44E-02	1.44E-02	1.44E-02	1.43E-02	1.42E-02	1.31E-02	1.18E-02	9.34E-03
271.08	1.45E-02	1.45E-02	1.45E-02	1.44E-02	1.44E-02	1.44E-02	1.42E-02	1.41E-02	1.27E-02	1.15E-02	9.39E-03
305.70	1.43E-02	1.43E-02	1.42E-02	1.42E-02	1.40E-02	1.39E-02	1.37E-02	1.36E-02	1.21E-02	1.10E-02	9.36E-03
344.74	1.36E-02	1.35E-02	1.33E-02	1.32E-02	1.32E-02	1.31E-02	1.30E-02	1.27E-02	1.15E-02	1.07E-02	9.09E-03
388.77	1.26E-02	1.25E-02	1.24E-02	1.23E-02	1.22E-02	1.21E-02	1.21E-02	1.19E-02	1.09E-02	1.04E-02	8.98E-03
438.43	1.16E-02	1.15E-02	1.14E-02	1.14E-02	1.13E-02	1.12E-02	1.11E-02	1.10E-02	1.03E-02	9.72E-03	8.54E-03
494.42	1.08E-02	1.06E-02	1.05E-02	1.04E-02	1.03E-02	1.03E-02	1.02E-02	1.01E-02	9.47E-03	9.05E-03	8.06E-03
557.57	9.83E-03	9.71E-03	9.62E-03	9.55E-03	9.49E-03	9.44E-03	9.36E-03	9.29E-03	8.90E-03	8.45E-03	7.63E-03
628.79	8.94E-03	8.78E-03	8.70E-03	8.64E-03	8.58E-03	8.50E-03	8.43E-03	8.37E-03	8.07E-03	7.75E-03	7.04E-03
709.09	8.06E-03	7.89E-03	7.82E-03	7.75E-03	7.68E-03	7.63E-03	7.54E-03	7.49E-03	7.24E-03	6.96E-03	6.42E-03
799.66	7.29E-03	7.21E-03	7.13E-03	7.04E-03	6.95E-03	6.88E-03	6.84E-03	6.79E-03	6.50E-03	6.25E-03	5.69E-03
901.79	6.37E-03	6.24E-03	6.12E-03	6.01E-03	5.92E-03	5.86E-03	5.83E-03	5.76E-03	5.57E-03	5.35E-03	4.93E-03
1017.00	5.38E-03	5.21E-03	5.11E-03	5.05E-03	4.98E-03	4.91E-03	4.87E-03	4.82E-03	4.68E-03	4.54E-03	4.22E-03
1146.90	4.58E-03	4.51E-03	4.44E-03	4.37E-03	4.30E-03	4.25E-03	4.22E-03	4.17E-03	4.06E-03	3.95E-03	3.67E-03
1293.30	3.79E-03	3.70E-03	3.66E-03	3.63E-03	3.60E-03	3.58E-03	3.55E-03	3.51E-03	3.44E-03	3.36E-03	3.17E-03
1458.50	3.18E-03	3.11E-03	3.06E-03	3.03E-03	3.01E-03	2.99E-03	2.97E-03	2.93E-03	2.87E-03	2.81E-03	2.68E-03
1644.80	2.66E-03	2.63E-03	2.60E-03	2.57E-03	2.53E-03	2.50E-03	2.48E-03	2.44E-03	2.40E-03	2.35E-03	2.25E-03
1854.90	2.22E-03	2.17E-03	2.13E-03	2.09E-03	2.06E-03	2.03E-03	2.01E-03	1.99E-03	1.96E-03	1.93E-03	1.86E-03
2091.80	1.86E-03	1.85E-03	1.83E-03	1.82E-03	1.80E-03	1.79E-03	1.78E-03	1.76E-03	1.74E-03	1.71E-03	1.66E-03
2358.90	1.57E-03	1.55E-03	1.54E-03	1.53E-03	1.51E-03	1.50E-03	1.48E-03	1.47E-03	1.45E-03	1.43E-03	1.38E-03
2660.20	1.28E-03	1.26E-03	1.25E-03	1.23E-03	1.21E-03	1.18E-03	1.15E-03	1.12E-03	1.08E-03	9.37E-04	6.57E-04

TABLE 13B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: SI  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 14; ATOMIC WEIGHT= 28.09)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
 \*\*\*\*\*

SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	1.79E-02	1.76E-02	1.80E-02	1.81E-02	1.83E-02	1.96E-02	1.98E-02	1.95E-02	1.88E-02	1.74E-02	1.36E-02
44.68	1.96E-02	1.99E-02	1.96E-02	1.96E-02	2.01E-02	2.04E-02	2.14E-02	2.14E-02	2.04E-02	1.83E-02	1.47E-02
50.38	2.20E-02	2.25E-02	2.28E-02	2.23E-02	2.24E-02	2.38E-02	2.44E-02	2.41E-02	2.27E-02	2.02E-02	1.62E-02
56.82	2.60E-02	2.56E-02	2.53E-02	2.58E-02	2.58E-02	2.66E-02	2.65E-02	2.53E-02	2.37E-02	2.25E-02	1.80E-02
64.07	2.87E-02	2.88E-02	2.88E-02	2.89E-02	2.88E-02	2.81E-02	2.91E-02	2.83E-02	2.61E-02	2.45E-02	1.95E-02
72.26	3.19E-02	3.23E-02	3.15E-02	3.11E-02	3.14E-02	3.12E-02	3.16E-02	3.03E-02	2.90E-02	2.69E-02	2.13E-02
81.49	3.45E-02	3.49E-02	3.48E-02	3.39E-02	3.41E-02	3.44E-02	3.33E-02	3.30E-02	3.21E-02	2.93E-02	2.32E-02
91.89	3.66E-02	3.70E-02	3.71E-02	3.73E-02	3.72E-02	3.63E-02	3.64E-02	3.54E-02	3.41E-02	3.17E-02	2.51E-02
103.63	4.10E-02	4.04E-02	4.01E-02	3.98E-02	4.00E-02	4.00E-02	3.96E-02	3.93E-02	3.78E-02	3.34E-02	2.64E-02
116.86	4.23E-02	4.30E-02	4.26E-02	4.28E-02	4.29E-02	4.24E-02	4.21E-02	4.12E-02	4.05E-02	3.57E-02	2.72E-02
131.79	4.48E-02	4.55E-02	4.56E-02	4.57E-02	4.59E-02	4.51E-02	4.52E-02	4.43E-02	4.13E-02	3.88E-02	2.91E-02
148.62	4.85E-02	4.92E-02	4.95E-02	4.91E-02	4.92E-02	4.91E-02	4.86E-02	4.83E-02	4.50E-02	3.96E-02	3.11E-02
167.60	5.04E-02	5.10E-02	5.14E-02	5.15E-02	5.16E-02	5.23E-02	5.18E-02	5.08E-02	4.49E-02	4.18E-02	3.25E-02
189.01	5.50E-02	5.53E-02	5.54E-02	5.50E-02	5.50E-02	5.52E-02	5.44E-02	5.23E-02	4.82E-02	4.34E-02	3.27E-02
213.15	5.68E-02	5.69E-02	5.69E-02	5.69E-02	5.65E-02	5.55E-02	5.51E-02	5.33E-02	4.96E-02	4.51E-02	3.44E-02
240.38	5.64E-02	5.60E-02	5.60E-02	5.60E-02	5.60E-02	5.60E-02	5.51E-02	5.50E-02	5.02E-02	4.47E-02	3.47E-02
271.08	5.65E-02	5.65E-02	5.59E-02	5.59E-02	5.59E-02	5.59E-02	5.53E-02	5.46E-02	4.91E-02	4.35E-02	3.47E-02
305.70	5.57E-02	5.53E-02	5.52E-02	5.47E-02	5.46E-02	5.39E-02	5.32E-02	5.20E-02	4.62E-02	4.22E-02	3.50E-02
344.74	5.28E-02	5.23E-02	5.17E-02	5.13E-02	5.11E-02	5.08E-02	5.05E-02	4.87E-02	4.45E-02	4.07E-02	3.44E-02
388.77	4.88E-02	4.85E-02	4.81E-02	4.78E-02	4.75E-02	4.72E-02	4.69E-02	4.63E-02	4.19E-02	3.91E-02	3.35E-02
438.43	4.52E-02	4.47E-02	4.44E-02	4.41E-02	4.39E-02	4.33E-02	4.32E-02	4.27E-02	3.97E-02	3.74E-02	3.24E-02
494.42	4.20E-02	4.14E-02	4.09E-02	4.05E-02	4.02E-02	4.00E-02	3.96E-02	3.89E-02	3.66E-02	3.49E-02	3.07E-02
557.57	3.81E-02	3.76E-02	3.74E-02	3.71E-02	3.69E-02	3.67E-02	3.64E-02	3.60E-02	3.41E-02	3.24E-02	2.90E-02
628.79	3.48E-02	3.41E-02	3.38E-02	3.36E-02	3.34E-02	3.30E-02	3.28E-02	3.25E-02	3.12E-02	2.98E-02	2.69E-02
709.09	3.13E-02	3.07E-02	3.04E-02	3.01E-02	2.98E-02	2.95E-02	2.93E-02	2.91E-02	2.79E-02	2.69E-02	2.42E-02
799.66	2.83E-02	2.80E-02	2.77E-02	2.73E-02	2.70E-02	2.67E-02	2.66E-02	2.63E-02	2.52E-02	2.38E-02	2.18E-02
901.79	2.48E-02	2.43E-02	2.38E-02	2.33E-02	2.30E-02	2.27E-02	2.26E-02	2.23E-02	2.15E-02	2.06E-02	1.89E-02
1017.00	2.09E-02	2.02E-02	1.99E-02	1.96E-02	1.94E-02	1.91E-02	1.89E-02	1.87E-02	1.81E-02	1.75E-02	1.62E-02
1146.90	1.78E-02	1.75E-02	1.72E-02	1.70E-02	1.67E-02	1.65E-02	1.63E-02	1.62E-02	1.57E-02	1.52E-02	1.41E-02
1293.30	1.47E-02	1.43E-02	1.42E-02	1.41E-02	1.40E-02	1.39E-02	1.38E-02	1.36E-02	1.33E-02	1.30E-02	1.22E-02
1458.50	1.23E-02	1.20E-02	1.19E-02	1.18E-02	1.17E-02	1.16E-02	1.15E-02	1.14E-02	1.12E-02	1.09E-02	1.03E-02
1644.80	1.04E-02	1.02E-02	1.01E-02	9.97E-03	9.84E-03	9.71E-03	9.60E-03	9.49E-03	9.31E-03	9.11E-03	8.67E-03
1854.90	8.63E-03	8.46E-03	8.29E-03	8.13E-03	8.00E-03	7.88E-03	7.80E-03	7.73E-03	7.62E-03	7.47E-03	7.17E-03
2091.80	7.24E-03	7.18E-03	7.12E-03	7.06E-03	7.00E-03	6.95E-03	6.90E-03	6.83E-03	6.74E-03	6.65E-03	6.42E-03
2358.90	6.09E-03	6.04E-03	5.98E-03	5.93E-03	5.87E-03	5.81E-03	5.76E-03	5.68E-03	5.61E-03	5.53E-03	5.33E-03
2660.20	4.97E-03	4.91E-03	4.85E-03	4.78E-03	4.69E-03	4.58E-03	4.46E-03	4.32E-03	4.16E-03	3.59E-03	2.10E-03

TABLE 14 B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: P  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 15; ATOMIC WEIGHT= 30.98)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	1.02E-03	1.01E-03	1.03E-03	1.04E-03	1.04E-03	1.12E-03	1.13E-03	1.13E-03	1.09E-03	9.70E-04	7.76E-04
44.68	1.12E-03	1.14E-03	1.12E-03	1.11E-03	1.15E-03	1.18E-03	1.24E-03	1.23E-03	1.17E-03	1.05E-03	8.36E-04
50.38	1.26E-03	1.29E-03	1.29E-03	1.28E-03	1.29E-03	1.37E-03	1.41E-03	1.38E-03	1.22E-03	1.16E-03	9.21E-04
56.82	1.49E-03	1.46E-03	1.45E-03	1.48E-03	1.47E-03	1.53E-03	1.52E-03	1.46E-03	1.37E-03	1.29E-03	1.02E-03
64.07	1.64E-03	1.65E-03	1.65E-03	1.65E-03	1.60E-03	1.61E-03	1.64E-03	1.63E-03	1.50E-03	1.40E-03	1.11E-03
72.26	1.82E-03	1.83E-03	1.80E-03	1.78E-03	1.80E-03	1.77E-03	1.81E-03	1.72E-03	1.67E-03	1.54E-03	1.21E-03
81.49	1.97E-03	2.00E-03	1.99E-03	1.93E-03	1.95E-03	1.98E-03	1.90E-03	1.90E-03	1.85E-03	1.68E-03	1.31E-03
91.89	2.09E-03	2.11E-03	2.12E-03	2.11E-03	2.10E-03	2.08E-03	2.07E-03	2.01E-03	1.92E-03	1.75E-03	1.38E-03
103.63	2.34E-03	2.31E-03	2.29E-03	2.28E-03	2.29E-03	2.29E-03	2.24E-03	2.23E-03	2.16E-03	1.91E-03	1.45E-03
116.86	2.42E-03	2.46E-03	2.44E-03	2.44E-03	2.45E-03	2.43E-03	2.42E-03	2.37E-03	2.30E-03	2.04E-03	1.53E-03
131.79	2.56E-03	2.60E-03	2.61E-03	2.61E-03	2.62E-03	2.58E-03	2.59E-03	2.54E-03	2.36E-03	2.19E-03	1.64E-03
148.62	2.77E-03	2.82E-03	2.83E-03	2.81E-03	2.81E-03	2.78E-03	2.78E-03	2.77E-03	2.53E-03	2.24E-03	1.75E-03
167.60	2.88E-03	2.92E-03	2.93E-03	2.94E-03	2.95E-03	2.99E-03	2.94E-03	2.90E-03	2.57E-03	2.39E-03	1.83E-03
189.01	3.15E-03	3.16E-03	3.17E-03	3.14E-03	3.14E-03	3.15E-03	3.08E-03	2.99E-03	2.73E-03	2.45E-03	1.85E-03
213.15	3.24E-03	3.25E-03	3.25E-03	3.25E-03	3.23E-03	3.17E-03	3.15E-03	3.05E-03	2.83E-03	2.57E-03	1.94E-03
240.38	3.22E-03	3.20E-03	3.20E-03	3.20E-03	3.20E-03	3.20E-03	3.15E-03	3.14E-03	2.79E-03	2.47E-03	1.97E-03
271.08	3.23E-03	3.23E-03	3.20E-03	3.20E-03	3.20E-03	3.19E-03	3.13E-03	3.12E-03	2.79E-03	2.45E-03	1.97E-03
305.70	3.18E-03	3.16E-03	3.16E-03	3.13E-03	3.12E-03	3.08E-03	3.04E-03	2.97E-03	2.63E-03	2.40E-03	1.97E-03
344.74	3.02E-03	2.99E-03	2.96E-03	2.93E-03	2.92E-03	2.90E-03	2.88E-03	2.78E-03	2.54E-03	2.32E-03	1.95E-03
388.77	2.79E-03	2.77E-03	2.75E-03	2.73E-03	2.71E-03	2.70E-03	2.68E-03	2.64E-03	2.39E-03	2.23E-03	1.89E-03
438.43	2.58E-03	2.55E-03	2.54E-03	2.52E-03	2.51E-03	2.48E-03	2.47E-03	2.44E-03	2.26E-03	2.13E-03	1.84E-03
494.42	2.40E-03	2.37E-03	2.34E-03	2.32E-03	2.30E-03	2.28E-03	2.26E-03	2.21E-03	2.09E-03	1.98E-03	1.74E-03
557.57	2.18E-03	2.15E-03	2.14E-03	2.12E-03	2.11E-03	2.10E-03	2.08E-03	2.06E-03	1.95E-03	1.85E-03	1.64E-03
628.79	1.99E-03	1.95E-03	1.93E-03	1.92E-03	1.90E-03	1.89E-03	1.87E-03	1.85E-03	1.77E-03	1.70E-03	1.53E-03
709.09	1.79E-03	1.75E-03	1.73E-03	1.72E-03	1.70E-03	1.69E-03	1.67E-03	1.66E-03	1.59E-03	1.53E-03	1.38E-03
799.66	1.62E-03	1.60E-03	1.58E-03	1.56E-03	1.54E-03	1.53E-03	1.52E-03	1.50E-03	1.43E-03	1.36E-03	1.23E-03
901.79	1.41E-03	1.39E-03	1.36E-03	1.33E-03	1.31E-03	1.30E-03	1.29E-03	1.28E-03	1.22E-03	1.17E-03	1.07E-03
1017.00	1.19E-03	1.15E-03	1.13E-03	1.12E-03	1.10E-03	1.09E-03	1.08E-03	1.07E-03	1.03E-03	9.92E-04	9.19E-04
1146.90	1.02E-03	1.00E-03	9.83E-04	9.66E-04	9.51E-04	9.40E-04	9.33E-04	9.23E-04	8.93E-04	8.66E-04	7.99E-04
1293.30	8.41E-04	8.18E-04	8.10E-04	8.05E-04	8.00E-04	7.93E-04	7.88E-04	7.77E-04	7.59E-04	7.40E-04	6.90E-04
1458.50	7.02E-04	6.88E-04	6.80E-04	6.73E-04	6.67E-04	6.63E-04	6.58E-04	6.50E-04	6.37E-04	6.21E-04	5.86E-04
1644.80	5.92E-04	5.84E-04	5.76E-04	5.68E-04	5.60E-04	5.53E-04	5.47E-04	5.42E-04	5.31E-04	5.20E-04	4.94E-04
1854.90	4.93E-04	4.83E-04	4.74E-04	4.65E-04	4.57E-04	4.50E-04	4.46E-04	4.41E-04	4.34E-04	4.25E-04	4.09E-04
2091.80	4.14E-04	4.10E-04	4.07E-04	4.04E-04	4.00E-04	3.97E-04	3.94E-04	3.90E-04	3.85E-04	3.79E-04	3.65E-04
2358.90	3.48E-04	3.45E-04	3.42E-04	3.39E-04	3.36E-04	3.32E-04	3.29E-04	3.25E-04	3.21E-04	3.15E-04	3.04E-04
2660.20	2.84E-04	2.80E-04	2.76E-04	2.71E-04	2.65E-04	2.58E-04	2.53E-04	2.47E-04	2.35E-04	2.04E-04	1.19E-04

TABLE 15 B





\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: S  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 16; ATOMIC WEIGHT= 32.07)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	3.84E-03	3.80E-03	3.90E-03	3.95E-03	3.90E-03	4.13E-03	4.27E-03	4.34E-03	3.89E-03	3.65E-03	2.84E-03
44.68	4.21E-03	4.30E-03	4.23E-03	4.20E-03	4.38E-03	4.53E-03	4.75E-03	4.65E-03	4.22E-03	3.95E-03	2.92E-03
50.38	4.73E-03	4.85E-03	4.87E-03	4.77E-03	4.87E-03	5.10E-03	4.99E-03	4.89E-03	4.68E-03	4.35E-03	3.12E-03
56.82	5.58E-03	5.49E-03	5.47E-03	5.58E-03	5.53E-03	5.82E-03	5.81E-03	5.58E-03	5.25E-03	4.84E-03	3.46E-03
64.07	6.10E-03	6.12E-03	6.20E-03	6.23E-03	6.02E-03	6.12E-03	6.02E-03	6.08E-03	5.78E-03	5.22E-03	3.75E-03
72.26	6.83E-03	6.86E-03	6.77E-03	6.68E-03	6.78E-03	6.71E-03	6.66E-03	6.43E-03	6.15E-03	5.39E-03	4.09E-03
81.49	7.40E-03	7.50E-03	7.47E-03	7.27E-03	7.36E-03	7.38E-03	7.17E-03	7.16E-03	6.62E-03	5.89E-03	4.43E-03
91.89	7.84E-03	7.93E-03	7.97E-03	7.92E-03	7.89E-03	7.85E-03	7.74E-03	7.50E-03	7.25E-03	6.41E-03	4.78E-03
103.63	8.69E-03	8.67E-03	8.61E-03	8.55E-03	8.59E-03	8.63E-03	8.47E-03	8.29E-03	8.15E-03	7.17E-03	5.27E-03
116.86	9.07E-03	9.12E-03	9.15E-03	9.18E-03	9.23E-03	8.86E-03	9.03E-03	8.96E-03	8.13E-03	7.56E-03	5.57E-03
131.79	9.60E-03	9.75E-03	9.78E-03	9.81E-03	9.85E-03	9.62E-03	9.66E-03	9.52E-03	8.87E-03	7.74E-03	5.97E-03
148.62	1.04E-02	1.06E-02	1.05E-02	1.05E-02	1.06E-02	1.05E-02	1.04E-02	1.04E-02	9.17E-03	8.40E-03	6.03E-03
167.60	1.08E-02	1.09E-02	1.10E-02	1.10E-02	1.11E-02	1.12E-02	1.10E-02	1.09E-02	9.63E-03	8.93E-03	6.34E-03
189.01	1.18E-02	1.19E-02	1.18E-02	1.18E-02	1.18E-02	1.17E-02	1.15E-02	1.12E-02	9.97E-03	8.97E-03	6.74E-03
213.15	1.22E-02	1.22E-02	1.22E-02	1.22E-02	1.21E-02	1.19E-02	1.18E-02	1.14E-02	1.03E-02	9.24E-03	6.92E-03
240.38	1.21E-02	1.20E-02	1.20E-02	1.20E-02	1.20E-02	1.19E-02	1.18E-02	1.17E-02	1.03E-02	9.05E-03	6.97E-03
271.08	1.21E-02	1.21E-02	1.20E-02	1.20E-02	1.20E-02	1.20E-02	1.17E-02	1.17E-02	1.03E-02	9.05E-03	7.16E-03
305.70	1.19E-02	1.19E-02	1.18E-02	1.17E-02	1.17E-02	1.15E-02	1.14E-02	1.11E-02	9.77E-03	8.76E-03	7.07E-03
344.74	1.13E-02	1.12E-02	1.11E-02	1.10E-02	1.09E-02	1.09E-02	1.08E-02	1.03E-02	9.44E-03	8.49E-03	7.15E-03
388.77	1.05E-02	1.04E-02	1.03E-02	1.02E-02	1.02E-02	1.01E-02	1.00E-02	9.82E-03	8.91E-03	8.20E-03	6.86E-03
438.43	9.68E-03	9.57E-03	9.51E-03	9.45E-03	9.39E-03	9.28E-03	9.23E-03	9.11E-03	8.32E-03	7.82E-03	6.64E-03
494.42	8.99E-03	8.85E-03	8.73E-03	8.65E-03	8.60E-03	8.55E-03	8.47E-03	8.28E-03	7.78E-03	7.33E-03	6.38E-03
557.57	8.17E-03	8.06E-03	8.00E-03	7.94E-03	7.89E-03	7.82E-03	7.78E-03	7.67E-03	7.25E-03	6.86E-03	6.03E-03
628.79	7.45E-03	7.31E-03	7.23E-03	7.18E-03	7.13E-03	7.07E-03	7.01E-03	6.94E-03	6.62E-03	6.27E-03	5.61E-03
709.09	6.71E-03	6.56E-03	6.50E-03	6.43E-03	6.38E-03	6.29E-03	6.27E-03	6.19E-03	5.94E-03	5.70E-03	5.03E-03
799.66	6.07E-03	6.00E-03	5.92E-03	5.84E-03	5.77E-03	5.72E-03	5.69E-03	5.61E-03	5.33E-03	5.04E-03	4.52E-03
901.79	5.29E-03	5.16E-03	5.06E-03	4.98E-03	4.90E-03	4.86E-03	4.84E-03	4.78E-03	4.53E-03	4.37E-03	3.93E-03
1017.00	4.48E-03	4.33E-03	4.25E-03	4.19E-03	4.13E-03	4.08E-03	4.05E-03	4.01E-03	3.86E-03	3.71E-03	3.38E-03
1146.90	3.82E-03	3.75E-03	3.69E-03	3.62E-03	3.57E-03	3.52E-03	3.50E-03	3.46E-03	3.34E-03	3.22E-03	2.96E-03
1293.30	3.15E-03	3.07E-03	3.03E-03	3.01E-03	3.00E-03	2.97E-03	2.95E-03	2.91E-03	2.84E-03	2.76E-03	2.55E-03
1458.50	2.63E-03	2.58E-03	2.55E-03	2.52E-03	2.50E-03	2.48E-03	2.46E-03	2.43E-03	2.38E-03	2.32E-03	2.17E-03
1644.80	2.22E-03	2.19E-03	2.16E-03	2.13E-03	2.10E-03	2.07E-03	2.05E-03	2.03E-03	1.99E-03	1.94E-03	1.84E-03
1854.90	1.85E-03	1.81E-03	1.78E-03	1.74E-03	1.71E-03	1.69E-03	1.67E-03	1.65E-03	1.62E-03	1.59E-03	1.52E-03
2091.80	1.55E-03	1.54E-03	1.53E-03	1.51E-03	1.50E-03	1.49E-03	1.48E-03	1.46E-03	1.44E-03	1.41E-03	1.36E-03
2358.90	1.30E-03	1.29E-03	1.28E-03	1.27E-03	1.26E-03	1.24E-03	1.23E-03	1.22E-03	1.20E-03	1.18E-03	1.14E-03
2660.20	1.06E-03	1.05E-03	1.03E-03	1.02E-03	9.91E-04	9.63E-04	9.46E-04	9.24E-04	8.00E-04	6.69E-04	3.51E-04

TABLE 16 B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: CL  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 17; ATOMIC WEIGHT= 35.46)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
 \*\*\*\*\*

SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	6.73E-04	6.47E-04	6.45E-04	6.37E-04	6.10E-04	5.76E-04	5.62E-04	5.71E-04	5.82E-04	5.96E-04	5.31E-04
44.68	6.84E-04	6.84E-04	6.61E-04	6.44E-04	6.56E-04	6.18E-04	6.22E-04	5.87E-04	6.33E-04	6.45E-04	5.74E-04
50.38	7.10E-04	7.20E-04	7.14E-04	6.91E-04	6.96E-04	6.64E-04	6.49E-04	6.47E-04	7.05E-04	7.13E-04	6.32E-04
56.82	7.77E-04	7.68E-04	7.59E-04	7.68E-04	7.55E-04	7.59E-04	7.54E-04	7.45E-04	7.95E-04	7.96E-04	7.04E-04
64.07	8.22E-04	8.21E-04	8.28E-04	8.28E-04	7.93E-04	7.91E-04	7.82E-04	8.12E-04	8.79E-04	8.13E-04	7.66E-04
72.26	8.94E-04	8.94E-04	8.81E-04	8.67E-04	8.78E-04	8.69E-04	8.74E-04	8.78E-04	9.21E-04	8.98E-04	8.41E-04
81.49	9.58E-04	9.69E-04	9.67E-04	9.40E-04	9.52E-04	9.66E-04	9.51E-04	9.61E-04	1.01E-03	9.86E-04	9.18E-04
91.89	1.02E-03	1.03E-03	1.04E-03	1.03E-03	1.03E-03	1.04E-03	1.05E-03	1.05E-03	1.12E-03	1.08E-03	1.00E-03
103.63	1.16E-03	1.16E-03	1.15E-03	1.15E-03	1.16E-03	1.18E-03	1.18E-03	1.19E-03	1.23E-03	1.23E-03	1.12E-03
116.86	1.23E-03	1.25E-03	1.25E-03	1.26E-03	1.27E-03	1.24E-03	1.28E-03	1.31E-03	1.29E-03	1.29E-03	1.20E-03
131.79	1.34E-03	1.37E-03	1.38E-03	1.38E-03	1.39E-03	1.38E-03	1.40E-03	1.41E-03	1.44E-03	1.37E-03	1.28E-03
148.62	1.51E-03	1.54E-03	1.53E-03	1.53E-03	1.54E-03	1.54E-03	1.54E-03	1.57E-03	1.52E-03	1.51E-03	1.35E-03
167.60	1.59E-03	1.62E-03	1.64E-03	1.64E-03	1.65E-03	1.69E-03	1.66E-03	1.69E-03	1.63E-03	1.62E-03	1.44E-03
189.01	1.80E-03	1.82E-03	1.82E-03	1.82E-03	1.82E-03	1.83E-03	1.81E-03	1.81E-03	1.73E-03	1.70E-03	1.58E-03
213.15	1.95E-03	1.97E-03	1.98E-03	1.98E-03	1.97E-03	1.95E-03	1.95E-03	1.93E-03	1.89E-03	1.82E-03	1.65E-03
240.38	2.02E-03	2.01E-03	2.02E-03	2.02E-03	2.03E-03	2.03E-03	2.02E-03	2.04E-03	1.96E-03	1.89E-03	1.73E-03
271.08	2.13E-03	2.14E-03	2.13E-03	2.14E-03	2.14E-03	2.15E-03	2.13E-03	2.14E-03	2.08E-03	1.99E-03	1.83E-03
305.70	2.25E-03	2.26E-03	2.27E-03	2.26E-03	2.26E-03	2.25E-03	2.24E-03	2.23E-03	2.16E-03	2.07E-03	1.89E-03
344.74	2.29E-03	2.30E-03	2.30E-03	2.31E-03	2.31E-03	2.31E-03	2.32E-03	2.26E-03	2.22E-03	2.11E-03	1.96E-03
388.77	2.33E-03	2.33E-03	2.34E-03	2.34E-03	2.34E-03	2.34E-03	2.34E-03	2.33E-03	2.23E-03	2.15E-03	1.95E-03
438.43	2.36E-03	2.36E-03	2.36E-03	2.36E-03	2.36E-03	2.35E-03	2.35E-03	2.34E-03	2.23E-03	2.16E-03	1.96E-03
494.42	2.37E-03	2.36E-03	2.36E-03	2.36E-03	2.35E-03	2.35E-03	2.33E-03	2.30E-03	2.22E-03	2.14E-03	1.96E-03
557.57	2.30E-03	2.29E-03	2.28E-03	2.27E-03	2.27E-03	2.25E-03	2.25E-03	2.23E-03	2.15E-03	2.08E-03	1.88E-03
628.79	2.22E-03	2.19E-03	2.18E-03	2.18E-03	2.17E-03	2.15E-03	2.14E-03	2.13E-03	2.06E-03	1.97E-03	1.80E-03
709.09	2.09E-03	2.06E-03	2.04E-03	2.03E-03	2.02E-03	2.00E-03	1.99E-03	1.97E-03	1.91E-03	1.85E-03	1.69E-03
799.66	1.95E-03	1.94E-03	1.92E-03	1.90E-03	1.89E-03	1.87E-03	1.87E-03	1.85E-03	1.78E-03	1.70E-03	1.58E-03
901.79	1.78E-03	1.75E-03	1.73E-03	1.71E-03	1.69E-03	1.68E-03	1.68E-03	1.66E-03	1.59E-03	1.55E-03	1.44E-03
1017.00	1.59E-03	1.56E-03	1.54E-03	1.52E-03	1.51E-03	1.49E-03	1.48E-03	1.48E-03	1.44E-03	1.39E-03	1.31E-03
1146.90	1.43E-03	1.41E-03	1.39E-03	1.38E-03	1.36E-03	1.35E-03	1.34E-03	1.33E-03	1.30E-03	1.26E-03	1.19E-03
1293.30	1.25E-03	1.23E-03	1.22E-03	1.21E-03	1.21E-03	1.20E-03	1.19E-03	1.18E-03	1.16E-03	1.14E-03	1.07E-03
1458.50	1.10E-03	1.09E-03	1.08E-03	1.07E-03	1.06E-03	1.06E-03	1.05E-03	1.04E-03	1.02E-03	1.00E-03	9.58E-04
1644.80	9.76E-04	9.66E-04	9.56E-04	9.47E-04	9.37E-04	9.28E-04	9.21E-04	9.13E-04	8.99E-04	8.84E-04	8.46E-04
1854.90	8.53E-04	8.41E-04	8.29E-04	8.16E-04	8.05E-04	7.96E-04	7.90E-04	7.84E-04	7.72E-04	7.58E-04	7.28E-04
2091.80	7.42E-04	7.37E-04	7.32E-04	7.27E-04	7.22E-04	7.17E-04	7.13E-04	7.06E-04	6.97E-04	6.85E-04	6.60E-04
2358.90	6.33E-04	6.28E-04	6.22E-04	6.16E-04	6.10E-04	6.04E-04	5.99E-04	5.92E-04	5.83E-04	5.73E-04	5.50E-04
2660.20	5.18E-04	5.11E-04	5.03E-04	4.94E-04	4.82E-04	4.69E-04	4.60E-04	4.50E-04	3.90E-04	3.26E-04	1.71E-04

TABLE 17B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: AR  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 18; ATOMIC WEIGHT= 39.94)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
 \*\*\*\*\*

SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	1.26E-03	1.21E-03	1.21E-03	1.19E-03	1.14E-03	1.07E-03	1.05E-03	1.07E-03	1.09E-03	1.11E-03	9.92E-04
44.68	1.28E-03	1.28E-03	1.23E-03	1.20E-03	1.22E-03	1.15E-03	1.16E-03	1.11E-03	1.18E-03	1.20E-03	1.07E-03
50.38	1.33E-03	1.34E-03	1.33E-03	1.29E-03	1.30E-03	1.25E-03	1.21E-03	1.21E-03	1.32E-03	1.33E-03	1.18E-03
56.82	1.47E-03	1.43E-03	1.42E-03	1.43E-03	1.41E-03	1.42E-03	1.41E-03	1.39E-03	1.48E-03	1.49E-03	1.31E-03
64.07	1.54E-03	1.53E-03	1.55E-03	1.54E-03	1.48E-03	1.48E-03	1.46E-03	1.52E-03	1.64E-03	1.52E-03	1.43E-03
72.26	1.67E-03	1.67E-03	1.64E-03	1.62E-03	1.64E-03	1.62E-03	1.63E-03	1.64E-03	1.73E-03	1.67E-03	1.57E-03
81.49	1.79E-03	1.81E-03	1.80E-03	1.75E-03	1.78E-03	1.80E-03	1.78E-03	1.79E-03	1.89E-03	1.84E-03	1.71E-03
91.89	1.90E-03	1.93E-03	1.94E-03	1.93E-03	1.93E-03	1.94E-03	1.95E-03	1.96E-03	2.10E-03	2.02E-03	1.87E-03
103.63	2.16E-03	2.16E-03	2.15E-03	2.14E-03	2.16E-03	2.21E-03	2.19E-03	2.23E-03	2.31E-03	2.29E-03	2.09E-03
116.86	2.30E-03	2.33E-03	2.34E-03	2.35E-03	2.37E-03	2.31E-03	2.38E-03	2.44E-03	2.41E-03	2.41E-03	2.24E-03
131.79	2.50E-03	2.56E-03	2.57E-03	2.59E-03	2.60E-03	2.57E-03	2.61E-03	2.64E-03	2.69E-03	2.55E-03	2.42E-03
148.62	2.81E-03	2.86E-03	2.85E-03	2.86E-03	2.87E-03	2.88E-03	2.88E-03	2.93E-03	2.84E-03	2.81E-03	2.52E-03
167.60	2.97E-03	3.02E-03	3.05E-03	3.06E-03	3.08E-03	3.16E-03	3.09E-03	3.16E-03	3.04E-03	3.03E-03	2.69E-03
189.01	3.35E-03	3.40E-03	3.39E-03	3.40E-03	3.41E-03	3.42E-03	3.37E-03	3.38E-03	3.24E-03	3.18E-03	2.94E-03
213.15	3.64E-03	3.67E-03	3.69E-03	3.70E-03	3.67E-03	3.64E-03	3.64E-03	3.59E-03	3.52E-03	3.40E-03	3.09E-03
240.38	3.76E-03	3.76E-03	3.77E-03	3.78E-03	3.78E-03	3.78E-03	3.78E-03	3.81E-03	3.66E-03	3.53E-03	3.23E-03
271.08	3.97E-03	4.00E-03	3.98E-03	3.99E-03	3.99E-03	4.01E-03	3.98E-03	4.02E-03	3.87E-03	3.72E-03	3.42E-03
305.70	4.20E-03	4.23E-03	4.23E-03	4.21E-03	4.22E-03	4.19E-03	4.17E-03	4.16E-03	4.02E-03	3.87E-03	3.53E-03
344.74	4.28E-03	4.29E-03	4.30E-03	4.31E-03	4.31E-03	4.32E-03	4.32E-03	4.23E-03	4.14E-03	3.95E-03	3.66E-03
388.77	4.35E-03	4.36E-03	4.36E-03	4.36E-03	4.36E-03	4.37E-03	4.37E-03	4.34E-03	4.16E-03	4.02E-03	3.65E-03
438.43	4.40E-03	4.40E-03	4.41E-03	4.41E-03	4.41E-03	4.38E-03	4.38E-03	4.37E-03	4.17E-03	4.03E-03	3.67E-03
494.42	4.42E-03	4.41E-03	4.40E-03	4.40E-03	4.39E-03	4.39E-03	4.36E-03	4.29E-03	4.14E-03	3.99E-03	3.66E-03
557.57	4.29E-03	4.27E-03	4.25E-03	4.24E-03	4.23E-03	4.20E-03	4.19E-03	4.15E-03	4.02E-03	3.89E-03	3.52E-03
628.79	4.14E-03	4.10E-03	4.08E-03	4.06E-03	4.05E-03	4.02E-03	3.99E-03	3.97E-03	3.84E-03	3.67E-03	3.37E-03
709.09	3.90E-03	3.84E-03	3.82E-03	3.79E-03	3.77E-03	3.72E-03	3.72E-03	3.68E-03	3.57E-03	3.46E-03	3.15E-03
799.66	3.64E-03	3.61E-03	3.58E-03	3.55E-03	3.52E-03	3.50E-03	3.49E-03	3.45E-03	3.33E-03	3.18E-03	2.95E-03
901.79	3.32E-03	3.27E-03	3.22E-03	3.19E-03	3.16E-03	3.14E-03	3.13E-03	3.10E-03	2.98E-03	2.90E-03	2.70E-03
1017.00	2.97E-03	2.91E-03	2.87E-03	2.84E-03	2.82E-03	2.79E-03	2.77E-03	2.76E-03	2.68E-03	2.59E-03	2.44E-03
1146.90	2.67E-03	2.64E-03	2.60E-03	2.57E-03	2.55E-03	2.52E-03	2.51E-03	2.49E-03	2.43E-03	2.36E-03	2.22E-03
1293.30	2.34E-03	2.29E-03	2.27E-03	2.26E-03	2.25E-03	2.24E-03	2.23E-03	2.21E-03	2.17E-03	2.12E-03	2.00E-03
1458.50	2.06E-03	2.03E-03	2.01E-03	2.00E-03	1.99E-03	1.97E-03	1.96E-03	1.94E-03	1.91E-03	1.88E-03	1.79E-03
1644.80	1.82E-03	1.80E-03	1.79E-03	1.77E-03	1.75E-03	1.73E-03	1.72E-03	1.70E-03	1.68E-03	1.65E-03	1.58E-03
1854.90	1.59E-03	1.57E-03	1.55E-03	1.52E-03	1.50E-03	1.49E-03	1.47E-03	1.46E-03	1.44E-03	1.41E-03	1.36E-03
2091.80	1.39E-03	1.38E-03	1.37E-03	1.36E-03	1.35E-03	1.34E-03	1.33E-03	1.32E-03	1.30E-03	1.28E-03	1.23E-03
2358.90	1.18E-03	1.17E-03	1.16E-03	1.15E-03	1.14E-03	1.13E-03	1.12E-03	1.10E-03	1.09E-03	1.07E-03	1.03E-03
2660.20	9.66E-04	9.54E-04	9.39E-04	9.22E-04	9.00E-04	8.75E-04	8.60E-04	8.40E-04	7.27E-04	6.08E-04	3.19E-04

TABLE 18B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: K  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 19; ATOMIC WEIGHT= 39.10)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)

SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	8.08E-04	7.78E-04	7.60E-04	7.61E-04	7.30E-04	6.84E-04	6.91E-04	6.55E-04	7.38E-04	6.90E-04	6.47E-04
44.68	8.23E-04	8.23E-04	7.87E-04	7.78E-04	7.86E-04	7.59E-04	7.04E-04	7.17E-04	7.68E-04	7.46E-04	6.98E-04
50.38	8.53E-04	8.67E-04	8.42E-04	8.25E-04	8.42E-04	7.92E-04	8.00E-04	8.11E-04	8.32E-04	8.23E-04	7.68E-04
56.82	9.33E-04	9.15E-04	9.15E-04	9.17E-04	9.13E-04	8.77E-04	8.79E-04	8.75E-04	9.35E-04	9.20E-04	8.54E-04
64.07	9.87E-04	9.87E-04	9.98E-04	9.77E-04	9.58E-04	9.66E-04	9.61E-04	9.57E-04	1.03E-03	1.00E-03	9.30E-04
72.26	1.07E-03	1.07E-03	1.05E-03	1.05E-03	1.06E-03	1.05E-03	1.05E-03	1.09E-03	1.14E-03	1.11E-03	1.02E-03
81.49	1.15E-03	1.17E-03	1.12E-03	1.13E-03	1.14E-03	1.13E-03	1.17E-03	1.14E-03	1.25E-03	1.21E-03	1.08E-03
91.89	1.23E-03	1.24E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.24E-03	1.30E-03	1.32E-03	1.28E-03	1.15E-03
103.63	1.39E-03	1.38E-03	1.37E-03	1.38E-03	1.39E-03	1.43E-03	1.42E-03	1.44E-03	1.47E-03	1.41E-03	1.29E-03
116.86	1.48E-03	1.50E-03	1.51E-03	1.51E-03	1.53E-03	1.50E-03	1.55E-03	1.59E-03	1.59E-03	1.52E-03	1.37E-03
131.79	1.61E-03	1.65E-03	1.66E-03	1.66E-03	1.68E-03	1.66E-03	1.70E-03	1.71E-03	1.67E-03	1.67E-03	1.49E-03
148.62	1.81E-03	1.84E-03	1.83E-03	1.84E-03	1.85E-03	1.84E-03	1.85E-03	1.88E-03	1.83E-03	1.76E-03	1.63E-03
167.60	1.92E-03	1.95E-03	1.97E-03	1.98E-03	1.98E-03	2.04E-03	1.99E-03	2.05E-03	1.98E-03	1.87E-03	1.73E-03
189.01	2.16E-03	2.19E-03	2.18E-03	2.19E-03	2.19E-03	2.21E-03	2.18E-03	2.16E-03	2.09E-03	2.05E-03	1.80E-03
213.15	2.34E-03	2.36E-03	2.37E-03	2.36E-03	2.36E-03	2.34E-03	2.33E-03	2.32E-03	2.23E-03	2.14E-03	1.96E-03
240.38	2.42E-03	2.42E-03	2.42E-03	2.43E-03	2.43E-03	2.43E-03	2.44E-03	2.41E-03	2.35E-03	2.26E-03	2.06E-03
271.08	2.56E-03	2.57E-03	2.56E-03	2.56E-03	2.57E-03	2.57E-03	2.56E-03	2.57E-03	2.43E-03	2.34E-03	2.11E-03
305.70	2.71E-03	2.72E-03	2.70E-03	2.71E-03	2.71E-03	2.68E-03	2.68E-03	2.66E-03	2.54E-03	2.46E-03	2.26E-03
344.74	2.75E-03	2.76E-03	2.77E-03	2.77E-03	2.77E-03	2.78E-03	2.78E-03	2.72E-03	2.61E-03	2.54E-03	2.25E-03
388.77	2.80E-03	2.80E-03	2.80E-03	2.80E-03	2.81E-03	2.81E-03	2.81E-03	2.77E-03	2.68E-03	2.54E-03	2.32E-03
438.43	2.83E-03	2.83E-03	2.83E-03	2.83E-03	2.83E-03	2.82E-03	2.81E-03	2.81E-03	2.68E-03	2.56E-03	2.29E-03
494.42	2.84E-03	2.83E-03	2.83E-03	2.83E-03	2.83E-03	2.82E-03	2.80E-03	2.75E-03	2.63E-03	2.50E-03	2.26E-03
557.57	2.76E-03	2.74E-03	2.73E-03	2.73E-03	2.72E-03	2.70E-03	2.69E-03	2.67E-03	2.56E-03	2.47E-03	2.22E-03
628.79	2.66E-03	2.63E-03	2.62E-03	2.61E-03	2.60E-03	2.58E-03	2.56E-03	2.54E-03	2.44E-03	2.34E-03	2.12E-03
709.09	2.51E-03	2.47E-03	2.45E-03	2.43E-03	2.42E-03	2.39E-03	2.39E-03	2.36E-03	2.26E-03	2.21E-03	1.98E-03
799.66	2.34E-03	2.32E-03	2.30E-03	2.28E-03	2.26E-03	2.25E-03	2.24E-03	2.21E-03	2.12E-03	2.02E-03	1.85E-03
901.79	2.14E-03	2.10E-03	2.07E-03	2.05E-03	2.03E-03	2.02E-03	2.00E-03	1.98E-03	1.90E-03	1.85E-03	1.70E-03
1017.00	1.91E-03	1.87E-03	1.85E-03	1.83E-03	1.81E-03	1.79E-03	1.78E-03	1.77E-03	1.70E-03	1.65E-03	1.53E-03
1146.90	1.71E-03	1.69E-03	1.67E-03	1.65E-03	1.63E-03	1.62E-03	1.61E-03	1.60E-03	1.55E-03	1.51E-03	1.40E-03
1293.30	1.50E-03	1.47E-03	1.46E-03	1.45E-03	1.45E-03	1.44E-03	1.43E-03	1.42E-03	1.39E-03	1.35E-03	1.27E-03
1458.50	1.32E-03	1.30E-03	1.29E-03	1.28E-03	1.27E-03	1.27E-03	1.26E-03	1.25E-03	1.23E-03	1.20E-03	1.14E-03
1644.80	1.17E-03	1.16E-03	1.15E-03	1.13E-03	1.12E-03	1.11E-03	1.10E-03	1.09E-03	1.08E-03	1.05E-03	1.01E-03
1854.90	1.02E-03	1.01E-03	9.88E-04	9.73E-04	9.61E-04	9.51E-04	9.46E-04	9.40E-04	9.23E-04	9.04E-04	8.66E-04
2091.80	8.90E-04	8.84E-04	8.77E-04	8.70E-04	8.64E-04	8.58E-04	8.54E-04	8.47E-04	8.34E-04	8.21E-04	7.87E-04
2358.90	7.60E-04	7.53E-04	7.47E-04	7.40E-04	7.32E-04	7.25E-04	7.18E-04	7.10E-04	6.96E-04	6.85E-04	6.54E-04
2660.20	6.21E-04	6.13E-04	6.04E-04	5.92E-04	5.78E-04	5.61E-04	5.50E-04	5.39E-04	4.63E-04	3.37E-04	2.00E-04

TABLE 19B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: CA  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 20; ATOMIC WEIGHT= 40.08)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

EN- ERGY	UNATTEN- ATED	ATTEN- ATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
12	1.96E-02	4.37E-03	0.20	0.00E+00	0.00E+00	2.00E-03	1.34E-03	1.03E-03	6.39E-04	5.64E-04	5.59E-04	6.14E-04	5.81E-04	5.42E-04
14	1.60E-02	3.67E-03	0.23	0.00E+00	0.00E+00	1.88E-03	1.26E-03	9.67E-04	6.03E-04	5.32E-04	5.28E-04	5.79E-04	5.48E-04	5.11E-04
16	1.34E-02	3.20E-03	0.25	0.00E+00	0.00E+00	1.77E-03	1.19E-03	9.09E-04	5.69E-04	5.00E-04	4.96E-04	5.44E-04	5.15E-04	4.80E-04
18	1.15E-02	2.80E-03	0.29	0.00E+00	0.00E+00	1.66E-03	1.12E-03	8.54E-04	5.34E-04	4.70E-04	4.66E-04	5.11E-04	4.84E-04	4.51E-04
20	9.99E-03	2.51E-03	0.32	0.00E+00	0.00E+00	1.58E-03	1.07E-03	8.16E-04	5.11E-04	4.49E-04	4.45E-04	4.88E-04	4.63E-04	4.31E-04
23	9.25E-03	2.38E-03	0.36	0.00E+00	0.00E+00	1.49E-03	1.00E-03	7.75E-04	4.85E-04	4.26E-04	4.22E-04	4.64E-04	4.39E-04	4.09E-04
26	8.65E-03	2.26E-03	0.41	0.00E+00	0.00E+00	1.41E-03	9.48E-04	7.32E-04	4.58E-04	4.03E-04	3.99E-04	4.38E-04	4.15E-04	3.87E-04
30	7.99E-03	2.15E-03	0.46	0.00E+00	0.00E+00	1.38E-03	9.26E-04	7.14E-04	4.47E-04	3.93E-04	3.90E-04	4.28E-04	4.05E-04	3.78E-04
34	7.77E-03	2.14E-03	0.52	0.00E+00	0.00E+00	1.33E-03	8.96E-04	6.91E-04	4.33E-04	3.81E-04	3.77E-04	4.14E-04	3.92E-04	3.65E-04
40	7.49E-03	2.14E-03	0.59	0.00E+00	0.00E+00	1.30E-03	8.74E-04	6.74E-04	4.22E-04	3.71E-04	3.68E-04	4.04E-04	3.83E-04	3.57E-04
46	7.49E-03	2.20E-03	0.67	0.00E+00	0.00E+00	1.26E-03	8.53E-04	6.56E-04	4.12E-04	3.62E-04	3.59E-04	3.94E-04	3.73E-04	3.48E-04
50	7.49E-03	2.26E-03	0.75	0.00E+00	0.00E+00	1.24E-03	8.42E-04	6.47E-04	4.07E-04	3.59E-04	3.55E-04	3.89E-04	3.69E-04	3.44E-04
54	7.70E-03	2.31E-03	0.85	0.00E+00	0.00E+00	1.22E-03	8.29E-04	6.40E-04	4.02E-04	3.56E-04	3.50E-04	3.84E-04	3.64E-04	3.40E-04
60	7.99E-03	2.46E-03	0.95	0.00E+00	0.00E+00	1.22E-03	8.21E-04	6.36E-04	4.00E-04	3.53E-04	3.49E-04	3.82E-04	3.62E-04	3.37E-04
64	8.20E-03	2.55E-03	1.08	0.00E+00	0.00E+00	1.20E-03	8.18E-04	6.34E-04	3.98E-04	3.52E-04	3.50E-04	3.81E-04	3.61E-04	3.36E-04
70	8.49E-03	2.69E-03	1.21	0.00E+00	1.08E-04	1.20E-03	8.19E-04	6.35E-04	3.99E-04	3.53E-04	3.50E-04	3.81E-04	3.61E-04	3.37E-04
76	8.79E-03	2.82E-03	1.37	0.00E+00	2.88E-04	1.20E-03	8.23E-04	6.39E-04	4.02E-04	3.55E-04	3.53E-04	3.84E-04	3.64E-04	3.39E-04
80	8.99E-03	2.92E-03	1.54	0.00E+00	6.86E-04	1.21E-03	8.28E-04	6.43E-04	4.06E-04	3.59E-04	3.56E-04	3.88E-04	3.68E-04	3.43E-04
90	9.49E-03	3.15E-03	1.74	0.00E+00	8.81E-04	1.22E-03	8.36E-04	6.49E-04	4.10E-04	3.62E-04	3.60E-04	3.92E-04	3.71E-04	3.46E-04
91	9.54E-03	3.17E-03	1.96	0.00E+00	1.35E-03	1.23E-03	8.49E-04	6.61E-04	4.17E-04	3.69E-04	3.66E-04	4.02E-04	3.78E-04	3.52E-04
100	9.99E-03	3.39E-03	2.21	0.00E+00	1.84E-03	1.24E-03	8.65E-04	6.74E-04	4.26E-04	3.77E-04	3.74E-04	4.10E-04	3.86E-04	3.60E-04
109	1.05E-02	3.60E-03	2.50	0.00E+00	2.20E-03	1.22E-03	8.86E-04	6.90E-04	4.38E-04	3.87E-04	3.84E-04	4.21E-04	3.96E-04	3.69E-04
133	1.19E-02	4.23E-03	2.81	0.00E+00	2.52E-03	1.19E-03	9.10E-04	7.10E-04	4.52E-04	3.98E-04	3.95E-04	4.33E-04	4.07E-04	3.80E-04
162	1.35E-02	4.97E-03	3.17	0.00E+00	2.69E-03	1.22E-03	9.35E-04	7.28E-04	4.65E-04	4.10E-04	4.07E-04	4.46E-04	4.20E-04	3.91E-04
200	1.54E-02	5.88E-03	3.58	0.00E+00	2.59E-03	1.25E-03	9.68E-04	7.56E-04	4.83E-04	4.25E-04	4.22E-04	4.63E-04	4.35E-04	4.06E-04
249	1.62E-02	6.49E-03	4.04	0.00E+00	2.10E-03	1.28E-03	1.01E-03	7.88E-04	5.05E-04	4.45E-04	4.42E-04	4.85E-04	4.56E-04	4.25E-04
300	1.70E-02	7.00E-03	4.55	0.00E+00	2.04E-03	1.31E-03	9.81E-04	8.21E-04	5.29E-04	4.66E-04	4.62E-04	5.07E-04	4.77E-04	4.44E-04
313	1.70E-02	7.12E-03	5.13	0.00E+00	2.11E-03	1.36E-03	1.01E-03	8.59E-04	5.56E-04	4.91E-04	4.84E-04	5.31E-04	5.00E-04	4.66E-04
397	1.70E-02	7.42E-03	5.79	0.00E+00	2.18E-03	1.40E-03	1.06E-03	9.03E-04	5.87E-04	5.18E-04	5.11E-04	5.61E-04	5.27E-04	4.92E-04
400	1.70E-02	7.42E-03	6.53	0.00E+00	2.16E-03	1.41E-03	1.11E-03	9.36E-04	5.78E-04	5.45E-04	5.37E-04	5.90E-04	5.55E-04	5.17E-04
500	1.62E-02	7.46E-03	7.36	0.00E+00	2.08E-03	1.39E-03	1.19E-03	9.26E-04	6.10E-04	5.89E-04	5.84E-04	6.37E-04	5.99E-04	5.59E-04
509	1.61E-02	7.46E-03	8.30	3.06E-04	2.10E-03	1.42E-03	1.23E-03	9.60E-04	6.37E-04	6.17E-04	6.10E-04	6.64E-04	6.25E-04	5.82E-04
600	1.48E-02	7.08E-03	9.36	3.67E-03	2.02E-03	1.50E-03	1.26E-03	1.02E-03	6.85E-04	6.63E-04	6.55E-04	7.13E-04	6.71E-04	6.25E-04
660	1.40E-02	6.87E-03	10.56	3.40E-03	1.98E-03	1.51E-03	1.26E-03	1.08E-03	7.28E-04	7.06E-04	6.94E-04	7.56E-04	7.11E-04	6.63E-04
700	1.35E-02	6.62E-03	11.91	2.96E-03	1.93E-03	1.54E-03	1.34E-03	1.17E-03	7.89E-04	7.64E-04	7.52E-04	8.16E-04	7.68E-04	7.16E-04
800	1.21E-02	6.11E-03	13.43	2.72E-03	1.88E-03	1.63E-03	1.42E-03	1.19E-03	8.54E-04	8.29E-04	8.15E-04	8.81E-04	8.29E-04	7.48E-04
865	1.12E-02	5.82E-03	15.15	2.45E-03	1.88E-03	1.58E-03	1.38E-03	1.24E-03	9.31E-04	9.03E-04	8.85E-04	9.24E-04	8.97E-04	7.95E-04
900	1.07E-02	5.61E-03	17.08	2.26E-03	1.91E-03	1.67E-03	1.48E-03	1.34E-03	1.01E-03	9.83E-04	9.62E-04	9.69E-04	9.71E-04	8.61E-04
1000	9.61E-03	5.09E-03	19.26	2.17E-03	1.87E-03	1.64E-03	1.50E-03	1.37E-03	1.14E-03	1.10E-03	1.07E-03	1.07E-03	1.07E-03	9.53E-04
1147	7.98E-03	4.47E-03	21.72	2.12E-03	1.85E-03	1.69E-03	1.58E-03	1.44E-03	1.17E-03	1.09E-03	1.09E-03	1.14E-03	1.15E-03	1.01E-03
1545	5.32E-03	3.25E-03	24.49	2.02E-03	1.84E-03	1.71E-03	1.64E-03	1.52E-03	1.23E-03	1.18E-03	1.14E-03	1.24E-03	1.24E-03	1.10E-03
2000	3.75E-03	2.43E-03	27.62	1.93E-03	1.89E-03	1.76E-03	1.73E-03	1.59E-03	1.38E-03	1.32E-03	1.27E-03	1.38E-03	1.37E-03	1.21E-03
2120	3.37E-03	2.28E-03	31.15	2.00E-03	1.85E-03	1.81E-03	1.70E-03	1.67E-03	1.51E-03	1.43E-03	1.38E-03	1.48E-03	1.47E-03	1.30E-03
2977	1.82E-03	1.41E-03	35.13	1.98E-03	1.92E-03	1.91E-03	1.80E-03	1.79E-03	1.60E-03	1.63E-03	1.56E-03	1.66E-03	1.65E-03	1.45E-03

TABLE 20A

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: CA  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 20; ATOMIC WEIGHT= 40.08)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	2.04E-03	1.99E-03	1.95E-03	1.91E-03	1.84E-03	1.78E-03	1.70E-03	1.73E-03	1.82E-03	1.80E-03	1.58E-03
44.68	2.10E-03	2.08E-03	1.99E-03	1.99E-03	2.03E-03	1.92E-03	1.83E-03	1.89E-03	1.97E-03	1.95E-03	1.71E-03
50.38	2.18E-03	2.22E-03	2.14E-03	2.12E-03	2.14E-03	2.05E-03	2.08E-03	2.00E-03	2.18E-03	2.15E-03	1.88E-03
56.82	2.36E-03	2.31E-03	2.34E-03	2.32E-03	2.35E-03	2.27E-03	2.21E-03	2.24E-03	2.45E-03	2.39E-03	2.09E-03
64.07	2.52E-03	2.53E-03	2.53E-03	2.50E-03	2.46E-03	2.50E-03	2.50E-03	2.51E-03	2.68E-03	2.62E-03	2.27E-03
72.26	2.75E-03	2.75E-03	2.66E-03	2.68E-03	2.70E-03	2.65E-03	2.63E-03	2.71E-03	2.96E-03	2.70E-03	2.48E-03
81.49	2.95E-03	2.95E-03	2.88E-03	2.90E-03	2.94E-03	2.93E-03	2.90E-03	2.98E-03	3.06E-03	2.96E-03	2.71E-03
91.89	3.14E-03	3.17E-03	3.17E-03	3.19E-03	3.19E-03	3.19E-03	3.20E-03	3.32E-03	3.34E-03	3.24E-03	2.95E-03
103.63	3.52E-03	3.52E-03	3.51E-03	3.53E-03	3.56E-03	3.69E-03	3.62E-03	3.73E-03	3.81E-03	3.66E-03	3.30E-03
116.86	3.81E-03	3.83E-03	3.85E-03	3.87E-03	3.91E-03	3.84E-03	3.93E-03	4.00E-03	4.08E-03	3.93E-03	3.52E-03
131.79	4.12E-03	4.21E-03	4.24E-03	4.26E-03	4.29E-03	4.24E-03	4.33E-03	4.43E-03	4.25E-03	4.16E-03	3.82E-03
148.62	4.63E-03	4.71E-03	4.69E-03	4.71E-03	4.69E-03	4.69E-03	4.75E-03	4.76E-03	4.72E-03	4.48E-03	4.00E-03
167.60	4.91E-03	5.00E-03	5.03E-03	5.05E-03	5.07E-03	5.23E-03	5.07E-03	5.27E-03	4.88E-03	4.80E-03	4.22E-03
189.01	5.53E-03	5.61E-03	5.58E-03	5.59E-03	5.61E-03	5.65E-03	5.57E-03	5.56E-03	5.38E-03	5.10E-03	4.61E-03
213.15	6.00E-03	6.04E-03	6.07E-03	6.02E-03	5.98E-03	6.00E-03	5.96E-03	5.96E-03	5.65E-03	5.48E-03	5.00E-03
240.38	6.19E-03	6.18E-03	6.20E-03	6.21E-03	6.22E-03	6.22E-03	6.23E-03	6.16E-03	5.98E-03	5.72E-03	5.07E-03
271.08	6.53E-03	6.58E-03	6.54E-03	6.56E-03	6.57E-03	6.56E-03	6.56E-03	6.59E-03	6.22E-03	5.97E-03	5.39E-03
305.70	6.92E-03	6.94E-03	6.91E-03	6.92E-03	6.93E-03	6.84E-03	6.86E-03	6.76E-03	6.46E-03	6.21E-03	5.63E-03
344.74	7.03E-03	7.06E-03	7.07E-03	7.08E-03	7.08E-03	7.10E-03	7.02E-03	6.91E-03	6.64E-03	6.47E-03	5.67E-03
388.77	7.15E-03	7.16E-03	7.16E-03	7.17E-03	7.17E-03	7.17E-03	7.17E-03	7.00E-03	6.83E-03	6.47E-03	5.75E-03
438.43	7.23E-03	7.24E-03	7.24E-03	7.24E-03	7.24E-03	7.19E-03	7.19E-03	7.10E-03	6.84E-03	6.48E-03	5.81E-03
494.42	7.26E-03	7.24E-03	7.23E-03	7.22E-03	7.22E-03	7.21E-03	7.15E-03	6.94E-03	6.67E-03	6.34E-03	5.70E-03
557.57	7.04E-03	7.00E-03	6.98E-03	6.96E-03	6.95E-03	6.90E-03	6.88E-03	6.81E-03	6.49E-03	6.25E-03	5.58E-03
628.79	6.79E-03	6.71E-03	6.69E-03	6.67E-03	6.65E-03	6.60E-03	6.55E-03	6.47E-03	6.20E-03	5.92E-03	5.36E-03
709.09	6.40E-03	6.30E-03	6.26E-03	6.22E-03	6.19E-03	6.12E-03	6.10E-03	6.03E-03	5.77E-03	5.57E-03	4.99E-03
799.66	5.98E-03	5.92E-03	5.86E-03	5.81E-03	5.77E-03	5.74E-03	5.72E-03	5.65E-03	5.37E-03	5.13E-03	4.62E-03
901.79	5.46E-03	5.37E-03	5.30E-03	5.24E-03	5.18E-03	5.15E-03	5.12E-03	5.06E-03	4.84E-03	4.69E-03	4.26E-03
1017.00	4.88E-03	4.77E-03	4.70E-03	4.65E-03	4.61E-03	4.57E-03	4.55E-03	4.51E-03	4.35E-03	4.21E-03	3.87E-03
1146.90	4.38E-03	4.32E-03	4.26E-03	4.21E-03	4.16E-03	4.13E-03	4.12E-03	4.07E-03	3.95E-03	3.83E-03	3.55E-03
1293.30	3.84E-03	3.76E-03	3.73E-03	3.71E-03	3.70E-03	3.67E-03	3.65E-03	3.62E-03	3.54E-03	3.44E-03	3.21E-03
1458.50	3.38E-03	3.33E-03	3.29E-03	3.27E-03	3.26E-03	3.24E-03	3.22E-03	3.19E-03	3.12E-03	3.06E-03	2.87E-03
1644.80	2.99E-03	2.96E-03	2.93E-03	2.89E-03	2.86E-03	2.83E-03	2.82E-03	2.80E-03	2.74E-03	2.68E-03	2.54E-03
1854.90	2.61E-03	2.57E-03	2.52E-03	2.49E-03	2.46E-03	2.43E-03	2.42E-03	2.40E-03	2.36E-03	2.30E-03	2.20E-03
2091.80	2.27E-03	2.26E-03	2.24E-03	2.22E-03	2.21E-03	2.19E-03	2.18E-03	2.17E-03	2.13E-03	2.09E-03	1.99E-03
2358.90	1.94E-03	1.92E-03	1.90E-03	1.88E-03	1.86E-03	1.85E-03	1.83E-03	1.81E-03	1.78E-03	1.74E-03	1.66E-03
2660.20	1.59E-03	1.57E-03	1.54E-03	1.51E-03	1.47E-03	1.43E-03	1.40E-03	1.38E-03	1.18E-03	8.53E-04	5.01E-04

TABLE 20B

\*COBEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: SC  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 21; ATOMIC WEIGHT= 44.96)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)

SHIELD THICKNESS (GM/CM\*\*2)

EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
12	4.69E-03	1.04E-03	0.20	0.00E+00	0.00E+00	5.09E-04	3.43E-04	2.59E-04	1.60E-04	1.41E-04	1.40E-04	1.53E-04	1.46E-04	1.36E-04
14	3.83E-03	8.79E-04	0.23	0.00E+00	0.00E+00	4.80E-04	3.23E-04	2.44E-04	1.51E-04	1.33E-04	1.32E-04	1.45E-04	1.38E-04	1.29E-04
16	3.21E-03	7.65E-04	0.25	0.00E+00	0.00E+00	4.51E-04	3.04E-04	2.30E-04	1.42E-04	1.25E-04	1.24E-04	1.36E-04	1.29E-04	1.21E-04
18	2.75E-03	6.70E-04	0.29	0.00E+00	0.00E+00	4.24E-04	2.86E-04	2.16E-04	1.33E-04	1.18E-04	1.16E-04	1.28E-04	1.21E-04	1.14E-04
20	2.39E-03	6.00E-04	0.32	0.00E+00	0.00E+00	4.05E-04	2.73E-04	2.06E-04	1.27E-04	1.12E-04	1.11E-04	1.22E-04	1.16E-04	1.08E-04
23	2.21E-03	5.68E-04	0.36	0.00E+00	0.00E+00	3.84E-04	2.56E-04	1.96E-04	1.21E-04	1.07E-04	1.05E-04	1.16E-04	1.10E-04	1.03E-04
26	2.07E-03	5.41E-04	0.41	0.00E+00	0.00E+00	3.61E-04	2.41E-04	1.84E-04	1.14E-04	1.01E-04	9.95E-05	1.09E-04	1.04E-04	9.71E-05
30	1.91E-03	5.13E-04	0.46	0.00E+00	0.00E+00	3.50E-04	2.35E-04	1.79E-04	1.11E-04	9.81E-05	9.71E-05	1.07E-04	1.01E-04	9.47E-05
34	1.86E-03	5.12E-04	0.52	0.00E+00	0.00E+00	3.38E-04	2.28E-04	1.73E-04	1.08E-04	9.49E-05	9.39E-05	1.03E-04	9.79E-05	9.16E-05
40	1.79E-03	5.12E-04	0.59	0.00E+00	0.00E+00	3.30E-04	2.22E-04	1.69E-04	1.05E-04	9.25E-05	9.15E-05	1.00E-04	9.55E-05	8.93E-05
46	1.79E-03	5.25E-04	0.67	0.00E+00	0.00E+00	3.21E-04	2.16E-04	1.65E-04	1.02E-04	9.02E-05	8.92E-05	9.80E-05	9.31E-05	8.71E-05
50	1.79E-03	5.40E-04	0.75	0.00E+00	0.00E+00	3.16E-04	2.13E-04	1.63E-04	1.01E-04	8.89E-05	8.80E-05	9.66E-05	9.18E-05	8.59E-05
54	1.84E-03	5.54E-04	0.85	0.00E+00	0.00E+00	3.10E-04	2.10E-04	1.60E-04	9.96E-05	8.78E-05	8.69E-05	9.54E-05	9.07E-05	8.48E-05
60	1.91E-03	5.88E-04	0.95	0.00E+00	0.00E+00	3.07E-04	2.07E-04	1.59E-04	9.88E-05	8.72E-05	8.63E-05	9.47E-05	9.00E-05	8.42E-05
64	1.96E-03	6.10E-04	1.08	0.00E+00	0.00E+00	3.06E-04	2.06E-04	1.59E-04	9.84E-05	8.68E-05	8.59E-05	9.43E-05	8.96E-05	8.38E-05
70	2.03E-03	6.42E-04	1.21	0.00E+00	0.00E+00	3.03E-04	2.06E-04	1.58E-04	9.86E-05	8.68E-05	8.59E-05	9.43E-05	8.96E-05	8.38E-05
76	2.10E-03	6.74E-04	1.37	0.00E+00	0.00E+00	3.04E-04	2.06E-04	1.59E-04	9.93E-05	8.73E-05	8.64E-05	9.48E-05	9.01E-05	8.43E-05
80	2.15E-03	6.97E-04	1.54	0.00E+00	0.00E+00	3.05E-04	2.07E-04	1.60E-04	1.00E-04	8.84E-05	8.71E-05	9.56E-05	9.09E-05	8.50E-05
90	2.27E-03	7.53E-04	1.74	0.00E+00	9.09E-06	3.06E-04	2.09E-04	1.62E-04	1.01E-04	8.93E-05	8.79E-05	9.65E-05	9.17E-05	8.57E-05
91	2.28E-03	7.59E-04	1.96	0.00E+00	7.33E-05	3.08E-04	2.11E-04	1.64E-04	1.03E-04	9.08E-05	8.93E-05	9.81E-05	9.32E-05	8.72E-05
100	2.39E-03	8.11E-04	2.21	0.00E+00	2.39E-04	3.13E-04	2.15E-04	1.67E-04	1.05E-04	9.26E-05	9.14E-05	1.00E-04	9.51E-05	8.89E-05
109	2.52E-03	8.62E-04	2.50	0.00E+00	3.58E-04	3.18E-04	2.19E-04	1.71E-04	1.07E-04	9.50E-05	9.41E-05	1.03E-04	9.75E-05	9.11E-05
133	2.85E-03	1.01E-03	2.81	0.00E+00	5.10E-04	3.22E-04	2.25E-04	1.75E-04	1.10E-04	9.75E-05	9.66E-05	1.05E-04	1.00E-04	9.36E-05
162	3.22E-03	1.19E-03	3.17	0.00E+00	6.14E-04	3.22E-04	2.30E-04	1.80E-04	1.13E-04	1.00E-04	9.94E-05	1.08E-04	1.03E-04	9.63E-05
200	3.67E-03	1.40E-03	3.58	0.00E+00	6.79E-04	3.09E-04	2.38E-04	1.86E-04	1.18E-04	1.04E-04	1.03E-04	1.12E-04	1.07E-04	9.97E-05
249	3.88E-03	1.55E-03	4.04	0.00E+00	6.35E-04	3.19E-04	2.48E-04	1.94E-04	1.23E-04	1.09E-04	1.08E-04	1.17E-04	1.11E-04	1.04E-04
300	4.06E-03	1.67E-03	4.55	0.00E+00	5.09E-04	3.26E-04	2.58E-04	2.02E-04	1.29E-04	1.13E-04	1.12E-04	1.23E-04	1.16E-04	1.09E-04
313	4.06E-03	1.70E-03	5.13	0.00E+00	5.16E-04	3.35E-04	2.56E-04	2.10E-04	1.35E-04	1.19E-04	1.18E-04	1.29E-04	1.22E-04	1.14E-04
397	4.06E-03	1.77E-03	5.79	0.00E+00	5.34E-04	3.46E-04	2.59E-04	2.21E-04	1.43E-04	1.26E-04	1.24E-04	1.36E-04	1.28E-04	1.20E-04
400	4.06E-03	1.77E-03	6.53	0.00E+00	5.45E-04	3.55E-04	2.71E-04	2.31E-04	1.50E-04	1.32E-04	1.30E-04	1.43E-04	1.35E-04	1.26E-04
500	3.88E-03	1.78E-03	7.36	0.00E+00	5.10E-04	3.41E-04	2.89E-04	2.31E-04	1.62E-04	1.42E-04	1.40E-04	1.54E-04	1.45E-04	1.36E-04
509	3.85E-03	1.78E-03	8.30	4.59E-05	5.14E-04	3.48E-04	2.99E-04	2.34E-04	1.63E-04	1.49E-04	1.46E-04	1.60E-04	1.51E-04	1.41E-04
600	3.54E-03	1.69E-03	9.36	8.59E-04	4.98E-04	3.64E-04	3.16E-04	2.49E-04	1.66E-04	1.60E-04	1.58E-04	1.72E-04	1.62E-04	1.52E-04
660	3.35E-03	1.64E-03	10.56	8.30E-04	4.81E-04	3.73E-04	3.08E-04	2.62E-04	1.76E-04	1.70E-04	1.67E-04	1.82E-04	1.72E-04	1.61E-04
700	3.23E-03	1.58E-03	11.91	7.20E-04	4.77E-04	3.72E-04	3.24E-04	2.82E-04	1.90E-04	1.84E-04	1.80E-04	1.96E-04	1.85E-04	1.73E-04
800	2.90E-03	1.46E-03	13.43	6.57E-04	4.54E-04	3.92E-04	3.43E-04	2.93E-04	2.06E-04	1.99E-04	1.95E-04	2.11E-04	2.00E-04	1.87E-04
865	2.67E-03	1.39E-03	15.15	5.91E-04	4.57E-04	3.85E-04	3.37E-04	2.98E-04	2.23E-04	2.16E-04	2.11E-04	2.29E-04	2.16E-04	2.02E-04
900	2.57E-03	1.34E-03	17.08	5.41E-04	4.60E-04	4.02E-04	3.55E-04	3.23E-04	2.43E-04	2.35E-04	2.30E-04	2.49E-04	2.33E-04	2.18E-04
1000	2.30E-03	1.22E-03	19.26	5.20E-04	4.48E-04	3.94E-04	3.61E-04	3.30E-04	2.73E-04	2.63E-04	2.56E-04	2.75E-04	2.58E-04	2.41E-04
1147	1.91E-03	1.07E-03	21.72	5.07E-04	4.45E-04	4.06E-04	3.78E-04	3.46E-04	2.86E-04	2.75E-04	2.73E-04	2.92E-04	2.75E-04	2.56E-04
1545	1.27E-03	7.78E-04	24.49	4.89E-04	4.41E-04	4.10E-04	3.92E-04	3.68E-04	2.94E-04	2.81E-04	2.85E-04	3.07E-04	2.98E-04	2.78E-04
2000	8.96E-04	5.81E-04	27.62	4.63E-04	4.52E-04	4.22E-04	4.14E-04	3.80E-04	3.30E-04	3.14E-04	3.04E-04	3.27E-04	3.28E-04	3.06E-04
2120	8.06E-04	5.44E-04	31.15	4.80E-04	4.48E-04	4.34E-04	4.08E-04	4.03E-04	3.61E-04	3.41E-04	3.28E-04	3.52E-04	3.52E-04	3.28E-04
2977	4.35E-04	3.37E-04	35.13	4.73E-04	4.59E-04	4.57E-04	4.36E-04	4.28E-04	3.83E-04	3.89E-04	3.70E-04	3.95E-04	3.94E-04	3.65E-04

TABLE 21A

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: SC  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 21; ATOMIC WEIGHT= 44.96)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	4.89E-04	4.76E-04	4.66E-04	4.61E-04	4.49E-04	4.24E-04	4.11E-04	4.11E-04	4.33E-04	4.30E-04	3.79E-04
44.68	5.03E-04	4.98E-04	4.77E-04	4.77E-04	4.83E-04	4.65E-04	4.37E-04	4.50E-04	4.70E-04	4.65E-04	4.08E-04
50.38	5.22E-04	5.30E-04	5.10E-04	5.06E-04	5.12E-04	4.90E-04	4.97E-04	5.02E-04	5.20E-04	5.12E-04	4.49E-04
56.82	5.64E-04	5.53E-04	5.60E-04	5.55E-04	5.60E-04	5.42E-04	5.27E-04	5.34E-04	5.83E-04	5.71E-04	4.99E-04
64.07	6.03E-04	6.03E-04	6.05E-04	5.99E-04	5.88E-04	5.97E-04	5.95E-04	5.98E-04	6.39E-04	6.24E-04	5.42E-04
72.26	6.57E-04	6.57E-04	6.35E-04	6.40E-04	6.44E-04	6.32E-04	6.33E-04	6.45E-04	7.06E-04	6.65E-04	5.94E-04
81.49	7.05E-04	7.06E-04	6.88E-04	6.94E-04	7.04E-04	6.98E-04	7.13E-04	7.08E-04	7.48E-04	7.05E-04	6.48E-04
91.89	7.50E-04	7.59E-04	7.57E-04	7.62E-04	7.63E-04	7.69E-04	7.64E-04	8.00E-04	7.96E-04	7.74E-04	7.05E-04
103.63	8.52E-04	8.42E-04	8.38E-04	8.44E-04	8.52E-04	8.81E-04	8.65E-04	8.88E-04	9.07E-04	8.74E-04	7.88E-04
116.86	9.10E-04	9.15E-04	9.20E-04	9.26E-04	9.35E-04	9.17E-04	9.38E-04	9.61E-04	9.80E-04	9.38E-04	8.41E-04
131.79	9.85E-04	1.01E-03	1.01E-03	1.02E-03	1.03E-03	1.02E-03	1.04E-03	1.06E-03	1.02E-03	1.02E-03	9.14E-04
148.62	1.11E-03	1.13E-03	1.12E-03	1.13E-03	1.12E-03	1.12E-03	1.14E-03	1.15E-03	1.13E-03	1.07E-03	9.75E-04
167.60	1.17E-03	1.19E-03	1.20E-03	1.21E-03	1.21E-03	1.25E-03	1.21E-03	1.26E-03	1.16E-03	1.15E-03	1.01E-03
189.01	1.32E-03	1.34E-03	1.33E-03	1.34E-03	1.34E-03	1.35E-03	1.33E-03	1.33E-03	1.29E-03	1.22E-03	1.10E-03
213.15	1.43E-03	1.45E-03	1.45E-03	1.44E-03	1.43E-03	1.43E-03	1.43E-03	1.42E-03	1.35E-03	1.31E-03	1.20E-03
240.38	1.48E-03	1.48E-03	1.48E-03	1.48E-03	1.49E-03	1.49E-03	1.49E-03	1.47E-03	1.43E-03	1.37E-03	1.23E-03
271.08	1.56E-03	1.57E-03	1.56E-03	1.57E-03	1.57E-03	1.57E-03	1.57E-03	1.58E-03	1.49E-03	1.43E-03	1.29E-03
305.70	1.65E-03	1.66E-03	1.65E-03	1.65E-03	1.66E-03	1.64E-03	1.64E-03	1.62E-03	1.55E-03	1.48E-03	1.35E-03
344.74	1.68E-03	1.69E-03	1.69E-03	1.69E-03	1.69E-03	1.70E-03	1.69E-03	1.65E-03	1.59E-03	1.55E-03	1.36E-03
388.77	1.71E-03	1.71E-03	1.71E-03	1.71E-03	1.71E-03	1.72E-03	1.72E-03	1.67E-03	1.63E-03	1.55E-03	1.40E-03
438.43	1.73E-03	1.73E-03	1.73E-03	1.73E-03	1.73E-03	1.72E-03	1.72E-03	1.70E-03	1.64E-03	1.55E-03	1.39E-03
494.42	1.74E-03	1.73E-03	1.73E-03	1.73E-03	1.73E-03	1.72E-03	1.71E-03	1.66E-03	1.61E-03	1.52E-03	1.37E-03
557.57	1.68E-03	1.67E-03	1.67E-03	1.66E-03	1.66E-03	1.65E-03	1.65E-03	1.63E-03	1.56E-03	1.50E-03	1.34E-03
628.79	1.62E-03	1.61E-03	1.60E-03	1.59E-03	1.59E-03	1.58E-03	1.57E-03	1.55E-03	1.48E-03	1.42E-03	1.29E-03
709.09	1.53E-03	1.51E-03	1.50E-03	1.49E-03	1.48E-03	1.46E-03	1.46E-03	1.44E-03	1.38E-03	1.34E-03	1.19E-03
799.66	1.43E-03	1.42E-03	1.40E-03	1.39E-03	1.38E-03	1.37E-03	1.37E-03	1.35E-03	1.28E-03	1.23E-03	1.11E-03
901.79	1.31E-03	1.28E-03	1.27E-03	1.25E-03	1.24E-03	1.23E-03	1.22E-03	1.21E-03	1.16E-03	1.12E-03	1.02E-03
1017.00	1.17E-03	1.14E-03	1.13E-03	1.12E-03	1.11E-03	1.10E-03	1.09E-03	1.08E-03	1.04E-03	1.01E-03	9.31E-04
1146.90	1.05E-03	1.03E-03	1.02E-03	1.01E-03	9.97E-04	9.89E-04	9.85E-04	9.74E-04	9.46E-04	9.17E-04	8.52E-04
1293.30	9.18E-04	9.00E-04	8.92E-04	8.88E-04	8.84E-04	8.78E-04	8.72E-04	8.65E-04	8.46E-04	8.24E-04	7.69E-04
1458.50	8.09E-04	7.95E-04	7.88E-04	7.82E-04	7.79E-04	7.74E-04	7.70E-04	7.63E-04	7.48E-04	7.31E-04	6.86E-04
1644.80	7.15E-04	7.08E-04	7.00E-04	6.92E-04	6.85E-04	6.78E-04	6.74E-04	6.69E-04	6.56E-04	6.41E-04	6.10E-04
1854.90	6.25E-04	6.14E-04	6.04E-04	5.95E-04	5.87E-04	5.81E-04	5.78E-04	5.74E-04	5.64E-04	5.52E-04	5.28E-04
2091.80	5.44E-04	5.40E-04	5.36E-04	5.32E-04	5.28E-04	5.24E-04	5.22E-04	5.18E-04	5.09E-04	5.00E-04	4.76E-04
2358.90	4.64E-04	4.60E-04	4.56E-04	4.51E-04	4.46E-04	4.42E-04	4.39E-04	4.34E-04	4.25E-04	4.17E-04	3.97E-04
2660.20	3.79E-04	3.74E-04	3.69E-04	3.62E-04	3.53E-04	3.42E-04	3.35E-04	3.29E-04	2.81E-04	2.05E-04	1.20E-04

TABLE 21B

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: TI  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 22; ATOMIC WEIGHT= 47.90)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)

SHIELD THICKNESS (GM/CM\*\*2)

EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
12	1.32E-02	2.94E-03	0.20	0.00E+00	0.00E+00	1.49E-03	9.96E-04	7.60E-04	4.75E-04	4.23E-04	4.20E-04	4.61E-04	4.34E-04	3.84E-04
14	1.08E-02	2.48E-03	0.23	0.00E+00	0.00E+00	1.41E-03	9.40E-04	7.17E-04	4.48E-04	3.99E-04	3.96E-04	4.35E-04	4.09E-04	3.63E-04
16	9.04E-03	2.16E-03	0.25	0.00E+00	0.00E+00	1.31E-03	8.83E-04	6.74E-04	4.21E-04	3.75E-04	3.72E-04	4.09E-04	3.85E-04	3.41E-04
18	7.74E-03	1.89E-03	0.29	0.00E+00	0.00E+00	1.23E-03	8.30E-04	6.33E-04	3.96E-04	3.52E-04	3.50E-04	3.84E-04	3.61E-04	3.20E-04
20	6.73E-03	1.69E-03	0.32	0.00E+00	0.00E+00	1.17E-03	7.92E-04	6.05E-04	3.79E-04	3.36E-04	3.34E-04	3.67E-04	3.45E-04	3.06E-04
23	6.23E-03	1.60E-03	0.36	0.00E+00	0.00E+00	1.11E-03	7.51E-04	5.73E-04	3.60E-04	3.19E-04	3.17E-04	3.48E-04	3.27E-04	2.90E-04
26	5.83E-03	1.52E-03	0.41	0.00E+00	0.00E+00	1.05E-03	7.02E-04	5.40E-04	3.39E-04	3.00E-04	2.98E-04	3.28E-04	3.08E-04	2.73E-04
30	5.38E-03	1.45E-03	0.46	0.00E+00	0.00E+00	1.02E-03	6.83E-04	5.25E-04	3.31E-04	2.93E-04	2.91E-04	3.20E-04	3.01E-04	2.66E-04
34	5.24E-03	1.44E-03	0.52	0.00E+00	0.00E+00	9.81E-04	6.60E-04	5.07E-04	3.19E-04	2.83E-04	2.81E-04	3.09E-04	2.90E-04	2.57E-04
40	5.05E-03	1.44E-03	0.59	0.00E+00	0.00E+00	9.53E-04	6.43E-04	4.94E-04	3.11E-04	2.76E-04	2.74E-04	3.01E-04	2.83E-04	2.51E-04
46	5.05E-03	1.48E-03	0.67	0.00E+00	0.00E+00	9.28E-04	6.26E-04	4.81E-04	3.03E-04	2.68E-04	2.67E-04	2.93E-04	2.75E-04	2.44E-04
50	5.05E-03	1.52E-03	0.75	0.00E+00	0.00E+00	9.15E-04	6.17E-04	4.74E-04	2.99E-04	2.65E-04	2.63E-04	2.89E-04	2.71E-04	2.41E-04
54	5.19E-03	1.56E-03	0.85	0.00E+00	0.00E+00	8.97E-04	6.09E-04	4.67E-04	2.94E-04	2.61E-04	2.59E-04	2.85E-04	2.68E-04	2.37E-04
60	5.38E-03	1.66E-03	0.95	0.00E+00	0.00E+00	8.85E-04	6.00E-04	4.64E-04	2.92E-04	2.59E-04	2.57E-04	2.82E-04	2.66E-04	2.35E-04
64	5.52E-03	1.72E-03	1.08	0.00E+00	0.00E+00	8.80E-04	5.95E-04	4.61E-04	2.90E-04	2.57E-04	2.56E-04	2.81E-04	2.64E-04	2.34E-04
70	5.72E-03	1.81E-03	1.21	0.00E+00	0.00E+00	8.73E-04	5.94E-04	4.59E-04	2.90E-04	2.57E-04	2.55E-04	2.80E-04	2.64E-04	2.34E-04
76	5.93E-03	1.90E-03	1.37	0.00E+00	0.00E+00	8.73E-04	5.96E-04	4.61E-04	2.91E-04	2.58E-04	2.56E-04	2.82E-04	2.65E-04	2.35E-04
80	6.06E-03	1.96E-03	1.54	0.00E+00	0.00E+00	8.73E-04	5.97E-04	4.64E-04	2.93E-04	2.60E-04	2.58E-04	2.84E-04	2.67E-04	2.37E-04
90	6.40E-03	2.12E-03	1.74	0.00E+00	1.56E-04	8.77E-04	6.01E-04	4.68E-04	2.96E-04	2.62E-04	2.60E-04	2.86E-04	2.69E-04	2.38E-04
91	6.43E-03	2.14E-03	1.96	0.00E+00	4.98E-04	8.83E-04	6.09E-04	4.74E-04	3.00E-04	2.66E-04	2.64E-04	2.90E-04	2.73E-04	2.42E-04
100	6.73E-03	2.29E-03	2.21	0.00E+00	8.53E-04	8.93E-04	6.18E-04	4.82E-04	3.06E-04	2.71E-04	2.69E-04	2.96E-04	2.78E-04	2.47E-04
109	7.10E-03	2.43E-03	2.50	0.00E+00	1.30E-03	9.06E-04	6.30E-04	4.93E-04	3.14E-04	2.78E-04	2.76E-04	3.03E-04	2.85E-04	2.52E-04
133	8.03E-03	2.85E-03	2.81	0.00E+00	1.59E-03	9.01E-04	6.45E-04	5.04E-04	3.22E-04	2.85E-04	2.83E-04	3.10E-04	2.92E-04	2.59E-04
162	9.08E-03	3.35E-03	3.17	0.00E+00	1.82E-03	8.65E-04	6.60E-04	5.17E-04	3.31E-04	2.92E-04	2.90E-04	3.19E-04	3.00E-04	2.66E-04
200	1.03E-02	3.96E-03	3.58	0.00E+00	1.94E-03	8.84E-04	6.81E-04	5.33E-04	3.43E-04	3.02E-04	3.00E-04	3.30E-04	3.10E-04	2.75E-04
249	1.09E-02	4.37E-03	4.04	0.00E+00	1.70E-03	9.04E-04	7.10E-04	5.55E-04	3.57E-04	3.17E-04	3.13E-04	3.44E-04	3.24E-04	2.87E-04
300	1.14E-02	4.72E-03	4.55	0.00E+00	1.42E-03	9.25E-04	7.16E-04	5.77E-04	3.74E-04	3.31E-04	3.27E-04	3.59E-04	3.37E-04	2.99E-04
313	1.14E-02	4.80E-03	5.13	0.00E+00	1.47E-03	9.50E-04	7.08E-04	6.01E-04	3.91E-04	3.46E-04	3.44E-04	3.75E-04	3.53E-04	3.13E-04
397	1.14E-02	5.00E-03	5.79	0.00E+00	1.52E-03	9.77E-04	7.40E-04	6.30E-04	3.98E-04	3.64E-04	3.62E-04	3.94E-04	3.71E-04	3.29E-04
400	1.14E-02	5.00E-03	6.53	0.00E+00	1.54E-03	1.01E-03	7.71E-04	6.58E-04	3.95E-04	3.81E-04	3.79E-04	4.13E-04	3.89E-04	3.45E-04
500	1.09E-02	5.03E-03	7.36	0.00E+00	1.44E-03	9.64E-04	8.21E-04	6.42E-04	4.25E-04	4.13E-04	4.08E-04	4.18E-04	4.19E-04	3.71E-04
509	1.08E-02	5.03E-03	8.30	2.08E-04	1.45E-03	9.83E-04	8.48E-04	6.65E-04	4.43E-04	4.30E-04	4.25E-04	4.34E-04	4.36E-04	3.86E-04
600	9.97E-03	4.77E-03	9.36	2.45E-03	1.39E-03	1.03E-03	8.78E-04	7.06E-04	4.75E-04	4.61E-04	4.55E-04	4.65E-04	4.68E-04	4.13E-04
660	9.43E-03	4.63E-03	10.56	2.34E-03	1.35E-03	1.06E-03	8.63E-04	7.44E-04	5.03E-04	4.89E-04	4.84E-04	4.92E-04	4.95E-04	4.37E-04
700	9.11E-03	4.46E-03	11.91	2.03E-03	1.33E-03	1.05E-03	9.16E-04	8.00E-04	5.44E-04	5.28E-04	5.21E-04	5.29E-04	5.33E-04	4.70E-04
800	8.16E-03	4.12E-03	13.43	1.85E-03	1.28E-03	1.11E-03	9.71E-04	8.12E-04	5.88E-04	5.71E-04	5.63E-04	5.70E-04	5.73E-04	5.06E-04
865	7.53E-03	3.92E-03	15.15	1.66E-03	1.28E-03	1.07E-03	9.42E-04	8.46E-04	6.38E-04	6.21E-04	6.10E-04	6.15E-04	6.19E-04	5.47E-04
900	7.23E-03	3.78E-03	17.08	1.52E-03	1.30E-03	1.13E-03	1.00E-03	9.14E-04	6.96E-04	6.75E-04	6.62E-04	6.64E-04	6.69E-04	5.90E-04
1000	6.48E-03	3.43E-03	19.26	1.47E-03	1.26E-03	1.11E-03	1.02E-03	9.33E-04	7.80E-04	7.43E-04	7.04E-04	7.39E-04	7.38E-04	6.51E-04
1147	5.38E-03	3.02E-03	21.72	1.43E-03	1.25E-03	1.15E-03	1.07E-03	9.78E-04	7.81E-04	7.34E-04	7.18E-04	7.85E-04	7.83E-04	6.91E-04
1545	3.59E-03	2.19E-03	24.49	1.36E-03	1.24E-03	1.16E-03	1.11E-03	1.03E-03	8.38E-04	8.02E-04	7.81E-04	8.50E-04	8.50E-04	7.49E-04
2000	2.52E-03	1.64E-03	27.62	1.31E-03	1.28E-03	1.19E-03	1.17E-03	1.08E-03	9.40E-04	8.95E-04	8.67E-04	9.41E-04	9.37E-04	8.25E-04
2120	2.27E-03	1.53E-03	31.15	1.35E-03	1.25E-03	1.23E-03	1.15E-03	1.13E-03	1.03E-03	9.72E-04	9.38E-04	1.01E-03	1.00E-03	8.84E-04
2977	1.23E-03	9.49E-04	35.13	1.33E-03	1.29E-03	1.29E-03	1.22E-03	1.21E-03	1.07E-03	1.11E-03	1.06E-03	1.13E-03	1.12E-03	9.83E-04

TABLE 22A

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: TI  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 22; ATOMIC WEIGHT= 47.90)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	1.38E-03	1.34E-03	1.32E-03	1.29E-03	1.24E-03	1.20E-03	1.13E-03	1.17E-03	1.24E-03	1.22E-03	1.07E-03
44.68	1.42E-03	1.41E-03	1.33E-03	1.35E-03	1.35E-03	1.26E-03	1.24E-03	1.29E-03	1.34E-03	1.32E-03	1.16E-03
50.38	1.47E-03	1.50E-03	1.44E-03	1.43E-03	1.45E-03	1.39E-03	1.40E-03	1.34E-03	1.48E-03	1.45E-03	1.27E-03
56.82	1.59E-03	1.56E-03	1.58E-03	1.57E-03	1.58E-03	1.53E-03	1.50E-03	1.52E-03	1.65E-03	1.62E-03	1.41E-03
64.07	1.70E-03	1.70E-03	1.71E-03	1.69E-03	1.66E-03	1.69E-03	1.69E-03	1.70E-03	1.81E-03	1.73E-03	1.53E-03
72.26	1.85E-03	1.85E-03	1.79E-03	1.81E-03	1.82E-03	1.79E-03	1.78E-03	1.83E-03	2.00E-03	1.83E-03	1.68E-03
81.49	1.99E-03	1.99E-03	1.94E-03	1.96E-03	1.98E-03	1.98E-03	1.95E-03	2.01E-03	2.05E-03	2.00E-03	1.83E-03
91.89	2.12E-03	2.14E-03	2.14E-03	2.15E-03	2.15E-03	2.15E-03	2.16E-03	2.22E-03	2.26E-03	2.19E-03	1.99E-03
103.63	2.38E-03	2.37E-03	2.36E-03	2.38E-03	2.40E-03	2.49E-03	2.42E-03	2.52E-03	2.57E-03	2.47E-03	2.22E-03
116.86	2.57E-03	2.58E-03	2.59E-03	2.61E-03	2.64E-03	2.59E-03	2.65E-03	2.70E-03	2.75E-03	2.65E-03	2.37E-03
131.79	2.78E-03	2.84E-03	2.86E-03	2.87E-03	2.90E-03	2.86E-03	2.92E-03	2.99E-03	2.87E-03	2.79E-03	2.56E-03
148.62	3.12E-03	3.18E-03	3.16E-03	3.18E-03	3.16E-03	3.16E-03	3.21E-03	3.22E-03	3.19E-03	3.02E-03	2.67E-03
167.60	3.31E-03	3.37E-03	3.39E-03	3.40E-03	3.42E-03	3.53E-03	3.42E-03	3.52E-03	3.27E-03	3.24E-03	2.84E-03
189.01	3.73E-03	3.78E-03	3.76E-03	3.77E-03	3.78E-03	3.81E-03	3.76E-03	3.75E-03	3.63E-03	3.44E-03	3.11E-03
213.15	4.04E-03	4.07E-03	4.09E-03	4.06E-03	4.03E-03	4.04E-03	4.02E-03	4.02E-03	3.82E-03	3.69E-03	3.37E-03
240.38	4.17E-03	4.17E-03	4.18E-03	4.18E-03	4.19E-03	4.20E-03	4.20E-03	4.12E-03	4.00E-03	3.86E-03	3.39E-03
271.08	4.41E-03	4.44E-03	4.41E-03	4.42E-03	4.43E-03	4.42E-03	4.42E-03	4.41E-03	4.19E-03	4.03E-03	3.63E-03
305.70	4.66E-03	4.68E-03	4.66E-03	4.66E-03	4.67E-03	4.61E-03	4.63E-03	4.55E-03	4.36E-03	4.18E-03	3.76E-03
344.74	4.74E-03	4.76E-03	4.77E-03	4.77E-03	4.77E-03	4.78E-03	4.73E-03	4.65E-03	4.47E-03	4.36E-03	3.82E-03
388.77	4.82E-03	4.83E-03	4.83E-03	4.83E-03	4.83E-03	4.83E-03	4.84E-03	4.72E-03	4.60E-03	4.36E-03	3.87E-03
438.43	4.87E-03	4.88E-03	4.88E-03	4.88E-03	4.88E-03	4.85E-03	4.85E-03	4.78E-03	4.61E-03	4.37E-03	3.91E-03
494.42	4.89E-03	4.88E-03	4.87E-03	4.87E-03	4.86E-03	4.86E-03	4.82E-03	4.67E-03	4.50E-03	4.27E-03	3.84E-03
557.57	4.75E-03	4.72E-03	4.70E-03	4.69E-03	4.68E-03	4.65E-03	4.64E-03	4.59E-03	4.38E-03	4.21E-03	3.75E-03
628.79	4.57E-03	4.52E-03	4.50E-03	4.49E-03	4.48E-03	4.43E-03	4.41E-03	4.36E-03	4.17E-03	3.99E-03	3.60E-03
709.09	4.31E-03	4.25E-03	4.21E-03	4.19E-03	4.17E-03	4.12E-03	4.11E-03	4.06E-03	3.89E-03	3.76E-03	3.36E-03
799.66	4.03E-03	3.99E-03	3.95E-03	3.91E-03	3.89E-03	3.87E-03	3.85E-03	3.81E-03	3.62E-03	3.45E-03	3.11E-03
901.79	3.68E-03	3.62E-03	3.57E-03	3.53E-03	3.49E-03	3.47E-03	3.45E-03	3.41E-03	3.26E-03	3.16E-03	2.87E-03
1017.00	3.29E-03	3.21E-03	3.17E-03	3.14E-03	3.11E-03	3.08E-03	3.06E-03	3.04E-03	2.93E-03	2.82E-03	2.60E-03
1146.90	2.95E-03	2.91E-03	2.87E-03	2.83E-03	2.80E-03	2.78E-03	2.77E-03	2.74E-03	2.66E-03	2.58E-03	2.39E-03
1293.30	2.59E-03	2.54E-03	2.51E-03	2.50E-03	2.49E-03	2.47E-03	2.46E-03	2.44E-03	2.38E-03	2.32E-03	2.16E-03
1458.50	2.28E-03	2.24E-03	2.22E-03	2.20E-03	2.19E-03	2.18E-03	2.17E-03	2.15E-03	2.11E-03	2.06E-03	1.93E-03
1644.80	2.02E-03	1.99E-03	1.97E-03	1.95E-03	1.93E-03	1.91E-03	1.90E-03	1.88E-03	1.85E-03	1.80E-03	1.71E-03
1854.90	1.76E-03	1.73E-03	1.70E-03	1.67E-03	1.65E-03	1.64E-03	1.63E-03	1.62E-03	1.58E-03	1.55E-03	1.48E-03
2091.80	1.53E-03	1.52E-03	1.51E-03	1.50E-03	1.49E-03	1.48E-03	1.47E-03	1.46E-03	1.43E-03	1.41E-03	1.34E-03
2358.90	1.31E-03	1.30E-03	1.28E-03	1.27E-03	1.26E-03	1.24E-03	1.23E-03	1.22E-03	1.20E-03	1.17E-03	1.11E-03
2660.20	1.07E-03	1.06E-03	1.04E-03	1.02E-03	9.94E-04	9.65E-04	9.45E-04	9.27E-04	7.92E-04	5.75E-04	3.38E-04

TABLE 22B

\*COBEX COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: V  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 23; ATOMIC WEIGHT= 50.95)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 MAGNETOSPHERICALLY  
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 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

EN- ERGY	UNATTEN- UATED	ATTEN- UATED	ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
12	6.40E-03	1.42E-03	0.20	0.00E+00	0.00E+00	7.43E-04	4.97E-04	3.82E-04	2.43E-04	2.16E-04	2.15E-04	2.22E-04	2.22E-04	1.95E-04
14	5.22E-03	1.20E-03	0.23	0.00E+00	0.00E+00	7.01E-04	4.69E-04	3.61E-04	2.29E-04	2.03E-04	2.02E-04	2.09E-04	2.09E-04	1.84E-04
16	4.38E-03	1.04E-03	0.25	0.00E+00	0.00E+00	6.58E-04	4.41E-04	3.39E-04	2.15E-04	1.91E-04	1.90E-04	1.97E-04	1.97E-04	1.73E-04
18	3.74E-03	9.14E-04	0.29	0.00E+00	0.00E+00	6.19E-04	4.14E-04	3.18E-04	2.02E-04	1.80E-04	1.79E-04	1.85E-04	1.85E-04	1.63E-04
20	3.26E-03	8.18E-04	0.32	0.00E+00	0.00E+00	5.91E-04	3.95E-04	3.04E-04	1.93E-04	1.71E-04	1.71E-04	1.76E-04	1.77E-04	1.55E-04
23	3.02E-03	7.75E-04	0.36	0.00E+00	0.00E+00	5.53E-04	3.74E-04	2.88E-04	1.83E-04	1.62E-04	1.62E-04	1.67E-04	1.67E-04	1.47E-04
26	2.82E-03	7.37E-04	0.41	0.00E+00	0.00E+00	5.21E-04	3.52E-04	2.71E-04	1.72E-04	1.53E-04	1.52E-04	1.57E-04	1.57E-04	1.39E-04
30	2.61E-03	7.00E-04	0.46	0.00E+00	0.00E+00	5.08E-04	3.44E-04	2.64E-04	1.68E-04	1.49E-04	1.48E-04	1.53E-04	1.53E-04	1.35E-04
34	2.53E-03	6.98E-04	0.52	0.00E+00	0.00E+00	4.90E-04	3.31E-04	2.55E-04	1.62E-04	1.44E-04	1.43E-04	1.48E-04	1.48E-04	1.30E-04
40	2.44E-03	6.99E-04	0.59	0.00E+00	0.00E+00	4.77E-04	3.20E-04	2.47E-04	1.58E-04	1.40E-04	1.39E-04	1.44E-04	1.44E-04	1.27E-04
46	2.44E-03	7.16E-04	0.67	0.00E+00	0.00E+00	4.60E-04	3.11E-04	2.41E-04	1.53E-04	1.36E-04	1.36E-04	1.40E-04	1.40E-04	1.24E-04
50	2.44E-03	7.36E-04	0.75	0.00E+00	0.00E+00	4.52E-04	3.06E-04	2.37E-04	1.51E-04	1.34E-04	1.34E-04	1.38E-04	1.38E-04	1.22E-04
54	2.51E-03	7.55E-04	0.85	0.00E+00	0.00E+00	4.46E-04	3.02E-04	2.33E-04	1.49E-04	1.32E-04	1.32E-04	1.36E-04	1.36E-04	1.20E-04
60	2.61E-03	8.01E-04	0.95	0.00E+00	0.00E+00	4.41E-04	2.99E-04	2.31E-04	1.47E-04	1.31E-04	1.30E-04	1.35E-04	1.35E-04	1.19E-04
64	2.67E-03	8.31E-04	1.08	0.00E+00	0.00E+00	4.34E-04	2.95E-04	2.30E-04	1.46E-04	1.30E-04	1.30E-04	1.34E-04	1.34E-04	1.18E-04
70	2.77E-03	8.76E-04	1.21	0.00E+00	0.00E+00	4.33E-04	2.94E-04	2.29E-04	1.46E-04	1.30E-04	1.29E-04	1.34E-04	1.34E-04	1.18E-04
76	2.87E-03	9.19E-04	1.37	0.00E+00	0.00E+00	4.29E-04	2.95E-04	2.29E-04	1.47E-04	1.30E-04	1.30E-04	1.34E-04	1.34E-04	1.18E-04
80	2.93E-03	9.51E-04	1.54	0.00E+00	5.13E-05	4.32E-04	2.96E-04	2.30E-04	1.47E-04	1.31E-04	1.31E-04	1.35E-04	1.35E-04	1.19E-04
90	3.09E-03	1.03E-03	1.74	0.00E+00	1.26E-04	4.32E-04	2.97E-04	2.32E-04	1.49E-04	1.32E-04	1.32E-04	1.36E-04	1.36E-04	1.20E-04
91	3.11E-03	1.03E-03	1.96	0.00E+00	2.93E-04	4.35E-04	3.01E-04	2.35E-04	1.51E-04	1.34E-04	1.34E-04	1.38E-04	1.38E-04	1.21E-04
100	3.26E-03	1.11E-03	2.21	0.00E+00	5.13E-04	4.39E-04	3.05E-04	2.38E-04	1.54E-04	1.36E-04	1.37E-04	1.40E-04	1.40E-04	1.23E-04
109	3.44E-03	1.13E-03	2.50	0.00E+00	6.67E-04	4.44E-04	3.12E-04	2.44E-04	1.57E-04	1.39E-04	1.40E-04	1.43E-04	1.43E-04	1.26E-04
133	3.89E-03	1.38E-03	2.81	0.00E+00	8.16E-04	4.16E-04	3.18E-04	2.49E-04	1.61E-04	1.43E-04	1.43E-04	1.47E-04	1.47E-04	1.29E-04
162	4.39E-03	1.62E-03	3.17	0.00E+00	9.17E-04	4.22E-04	3.26E-04	2.55E-04	1.65E-04	1.47E-04	1.47E-04	1.50E-04	1.51E-04	1.33E-04
200	5.01E-03	1.92E-03	3.58	0.00E+00	9.31E-04	4.31E-04	3.36E-04	2.63E-04	1.71E-04	1.52E-04	1.52E-04	1.55E-04	1.56E-04	1.37E-04
249	5.29E-03	2.11E-03	4.04	0.00E+00	7.69E-04	4.41E-04	3.49E-04	2.73E-04	1.63E-04	1.58E-04	1.58E-04	1.62E-04	1.62E-04	1.43E-04
300	5.54E-03	2.28E-03	4.55	0.00E+00	6.95E-04	4.52E-04	3.34E-04	2.83E-04	1.70E-04	1.65E-04	1.64E-04	1.68E-04	1.69E-04	1.48E-04
313	5.54E-03	2.32E-03	5.13	0.00E+00	7.17E-04	4.62E-04	3.47E-04	2.95E-04	1.77E-04	1.72E-04	1.71E-04	1.76E-04	1.76E-04	1.55E-04
397	5.54E-03	2.42E-03	5.79	0.00E+00	7.37E-04	4.75E-04	3.62E-04	3.08E-04	1.86E-04	1.81E-04	1.80E-04	1.85E-04	1.85E-04	1.63E-04
400	5.54E-03	2.42E-03	6.53	0.00E+00	7.24E-04	4.65E-04	3.76E-04	3.05E-04	1.95E-04	1.90E-04	1.89E-04	1.93E-04	1.94E-04	1.70E-04
500	5.29E-03	2.43E-03	7.36	0.00E+00	6.97E-04	4.68E-04	4.00E-04	3.14E-04	2.10E-04	2.04E-04	2.04E-04	2.08E-04	2.08E-04	1.83E-04
509	5.24E-03	2.43E-03	8.30	1.01E-04	7.01E-04	4.78E-04	4.13E-04	3.25E-04	2.18E-04	2.13E-04	2.12E-04	2.16E-04	2.16E-04	1.90E-04
600	4.82E-03	2.31E-03	9.36	1.18E-03	6.73E-04	5.00E-04	4.14E-04	3.45E-04	2.34E-04	2.28E-04	2.27E-04	2.31E-04	2.31E-04	2.03E-04
660	4.56E-03	2.24E-03	10.56	1.12E-03	6.56E-04	4.98E-04	4.20E-04	3.63E-04	2.48E-04	2.42E-04	2.39E-04	2.44E-04	2.44E-04	2.15E-04
700	4.41E-03	2.16E-03	11.91	9.72E-04	6.37E-04	5.10E-04	4.45E-04	3.90E-04	2.67E-04	2.61E-04	2.58E-04	2.62E-04	2.62E-04	2.31E-04
800	3.95E-03	1.99E-03	13.43	8.94E-04	6.20E-04	5.32E-04	4.66E-04	3.87E-04	2.89E-04	2.82E-04	2.79E-04	2.82E-04	2.82E-04	2.48E-04
865	3.65E-03	1.90E-03	15.15	8.05E-04	6.19E-04	5.22E-04	4.57E-04	4.12E-04	3.14E-04	3.05E-04	2.92E-04	3.05E-04	3.04E-04	2.68E-04
900	3.50E-03	1.83E-03	17.08	7.39E-04	6.21E-04	5.44E-04	4.88E-04	4.44E-04	3.42E-04	3.32E-04	2.99E-04	3.30E-04	3.29E-04	2.89E-04
1000	3.13E-03	1.66E-03	19.26	7.10E-04	6.12E-04	5.40E-04	4.96E-04	4.53E-04	3.58E-04	3.37E-04	3.32E-04	3.64E-04	3.63E-04	3.18E-04
1147	2.60E-03	1.46E-03	21.72	6.92E-04	6.00E-04	5.50E-04	5.19E-04	4.75E-04	3.74E-04	3.59E-04	3.52E-04	3.85E-04	3.84E-04	3.37E-04
1545	1.74E-03	1.06E-03	24.49	6.60E-04	5.96E-04	5.62E-04	5.26E-04	4.99E-04	4.09E-04	3.93E-04	3.84E-04	4.18E-04	4.16E-04	3.65E-04
2000	1.22E-03	7.92E-04	27.62	6.33E-04	6.18E-04	5.78E-04	5.61E-04	5.22E-04	4.59E-04	4.38E-04	4.26E-04	4.62E-04	4.58E-04	4.01E-04
2120	1.10E-03	7.42E-04	31.15	6.55E-04	6.06E-04	5.88E-04	5.58E-04	5.41E-04	5.01E-04	4.75E-04	4.60E-04	4.95E-04	4.92E-04	4.30E-04
2977	5.93E-04	4.59E-04	35.13	6.46E-04	6.27E-04	6.19E-04	5.90E-04	5.88E-04	5.23E-04	5.18E-04	5.19E-04	5.53E-04	5.47E-04	4.78E-04

TABLE 23A

\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: V  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 23; ATOMIC WEIGHT= 50.95)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	6.67E-04	6.51E-04	6.37E-04	6.17E-04	6.01E-04	5.86E-04	5.52E-04	5.75E-04	6.05E-04	5.98E-04	5.21E-04
44.68	6.87E-04	6.82E-04	6.44E-04	6.53E-04	6.56E-04	6.14E-04	6.06E-04	6.24E-04	6.54E-04	6.44E-04	5.61E-04
50.38	7.12E-04	7.25E-04	6.91E-04	6.93E-04	7.02E-04	6.76E-04	6.81E-04	6.50E-04	7.23E-04	7.11E-04	6.16E-04
56.82	7.70E-04	7.55E-04	7.65E-04	7.52E-04	7.67E-04	7.30E-04	7.28E-04	7.43E-04	8.08E-04	7.41E-04	6.83E-04
64.07	8.23E-04	8.25E-04	8.26E-04	8.00E-04	8.04E-04	8.12E-04	8.14E-04	8.31E-04	8.84E-04	8.09E-04	7.43E-04
72.26	8.97E-04	8.78E-04	8.67E-04	8.77E-04	8.81E-04	8.68E-04	8.64E-04	8.84E-04	9.23E-04	8.90E-04	8.13E-04
81.49	9.62E-04	9.63E-04	9.39E-04	9.47E-04	9.61E-04	9.60E-04	9.51E-04	9.81E-04	1.00E-03	9.74E-04	8.85E-04
91.89	1.03E-03	1.04E-03	1.03E-03	1.03E-03	1.04E-03	1.04E-03	1.05E-03	1.08E-03	1.10E-03	1.07E-03	9.63E-04
103.63	1.15E-03	1.15E-03	1.14E-03	1.15E-03	1.16E-03	1.20E-03	1.18E-03	1.23E-03	1.25E-03	1.20E-03	1.08E-03
116.86	1.24E-03	1.25E-03	1.26E-03	1.26E-03	1.28E-03	1.26E-03	1.29E-03	1.30E-03	1.29E-03	1.28E-03	1.15E-03
131.79	1.34E-03	1.38E-03	1.38E-03	1.39E-03	1.40E-03	1.39E-03	1.42E-03	1.44E-03	1.40E-03	1.34E-03	1.20E-03
148.62	1.51E-03	1.54E-03	1.53E-03	1.54E-03	1.53E-03	1.53E-03	1.56E-03	1.56E-03	1.55E-03	1.46E-03	1.29E-03
167.60	1.60E-03	1.63E-03	1.64E-03	1.65E-03	1.66E-03	1.71E-03	1.65E-03	1.68E-03	1.57E-03	1.57E-03	1.38E-03
189.01	1.81E-03	1.83E-03	1.82E-03	1.82E-03	1.83E-03	1.83E-03	1.82E-03	1.82E-03	1.75E-03	1.63E-03	1.50E-03
213.15	1.96E-03	1.97E-03	1.98E-03	1.96E-03	1.95E-03	1.96E-03	1.93E-03	1.95E-03	1.85E-03	1.79E-03	1.60E-03
240.38	2.02E-03	2.02E-03	2.02E-03	2.02E-03	2.03E-03	2.03E-03	2.03E-03	2.00E-03	1.94E-03	1.86E-03	1.64E-03
271.08	2.13E-03	2.15E-03	2.13E-03	2.14E-03	2.14E-03	2.14E-03	2.14E-03	2.12E-03	2.03E-03	1.95E-03	1.75E-03
305.70	2.26E-03	2.26E-03	2.25E-03	2.26E-03	2.24E-03	2.23E-03	2.24E-03	2.20E-03	2.09E-03	2.00E-03	1.79E-03
344.74	2.29E-03	2.30E-03	2.31E-03	2.31E-03	2.31E-03	2.31E-03	2.29E-03	2.25E-03	2.15E-03	2.08E-03	1.84E-03
388.77	2.33E-03	2.33E-03	2.34E-03	2.34E-03	2.34E-03	2.34E-03	2.34E-03	2.28E-03	2.23E-03	2.11E-03	1.86E-03
438.43	2.36E-03	2.36E-03	2.36E-03	2.36E-03	2.36E-03	2.35E-03	2.34E-03	2.31E-03	2.23E-03	2.11E-03	1.89E-03
494.42	2.37E-03	2.36E-03	2.36E-03	2.36E-03	2.35E-03	2.35E-03	2.33E-03	2.26E-03	2.17E-03	2.06E-03	1.84E-03
557.57	2.30E-03	2.28E-03	2.28E-03	2.27E-03	2.27E-03	2.25E-03	2.24E-03	2.22E-03	2.11E-03	2.03E-03	1.81E-03
628.79	2.21E-03	2.19E-03	2.18E-03	2.17E-03	2.17E-03	2.14E-03	2.14E-03	2.11E-03	2.02E-03	1.92E-03	1.74E-03
709.09	2.09E-03	2.05E-03	2.04E-03	2.03E-03	2.02E-03	1.99E-03	1.99E-03	1.97E-03	1.88E-03	1.81E-03	1.61E-03
799.66	1.95E-03	1.93E-03	1.91E-03	1.89E-03	1.88E-03	1.87E-03	1.86E-03	1.84E-03	1.75E-03	1.67E-03	1.50E-03
901.79	1.78E-03	1.75E-03	1.73E-03	1.71E-03	1.69E-03	1.68E-03	1.67E-03	1.65E-03	1.58E-03	1.53E-03	1.38E-03
1017.00	1.59E-03	1.55E-03	1.53E-03	1.52E-03	1.50E-03	1.49E-03	1.48E-03	1.47E-03	1.42E-03	1.37E-03	1.26E-03
1146.90	1.43E-03	1.41E-03	1.39E-03	1.37E-03	1.36E-03	1.35E-03	1.34E-03	1.33E-03	1.29E-03	1.25E-03	1.15E-03
1293.30	1.25E-03	1.23E-03	1.22E-03	1.21E-03	1.21E-03	1.20E-03	1.19E-03	1.18E-03	1.15E-03	1.12E-03	1.04E-03
1458.50	1.10E-03	1.08E-03	1.07E-03	1.07E-03	1.06E-03	1.06E-03	1.05E-03	1.04E-03	1.02E-03	9.92E-04	9.30E-04
1644.80	9.76E-04	9.65E-04	9.54E-04	9.44E-04	9.33E-04	9.24E-04	9.18E-04	9.11E-04	8.92E-04	8.72E-04	8.28E-04
1854.90	8.52E-04	8.37E-04	8.22E-04	8.09E-04	7.99E-04	7.91E-04	7.88E-04	7.82E-04	7.66E-04	7.50E-04	7.15E-04
2091.80	7.42E-04	7.36E-04	7.31E-04	7.25E-04	7.20E-04	7.15E-04	7.12E-04	7.06E-04	6.93E-04	6.79E-04	6.48E-04
2358.90	6.33E-04	6.27E-04	6.20E-04	6.14E-04	6.07E-04	6.01E-04	5.97E-04	5.91E-04	5.78E-04	5.66E-04	5.38E-04
2660.20	5.17E-04	5.11E-04	5.03E-04	4.93E-04	4.81E-04	4.67E-04	4.57E-04	4.49E-04	3.81E-04	2.78E-04	1.62E-04

TABLE 23B





\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: CR  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 24; ATOMIC WEIGHT= 52.01)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
 \*\*\*\*\*

SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	1.29E-03	1.26E-03	1.24E-03	1.18E-03	1.17E-03	1.14E-03	1.09E-03	1.08E-03	1.19E-03	1.10E-03	1.01E-03
44.68	1.33E-03	1.32E-03	1.25E-03	1.27E-03	1.24E-03	1.16E-03	1.19E-03	1.15E-03	1.29E-03	1.19E-03	1.09E-03
50.38	1.38E-03	1.40E-03	1.34E-03	1.34E-03	1.36E-03	1.32E-03	1.25E-03	1.29E-03	1.42E-03	1.31E-03	1.19E-03
56.82	1.49E-03	1.46E-03	1.49E-03	1.46E-03	1.49E-03	1.41E-03	1.43E-03	1.47E-03	1.50E-03	1.46E-03	1.32E-03
64.07	1.59E-03	1.60E-03	1.60E-03	1.53E-03	1.56E-03	1.57E-03	1.56E-03	1.61E-03	1.62E-03	1.59E-03	1.44E-03
72.26	1.74E-03	1.70E-03	1.68E-03	1.70E-03	1.71E-03	1.69E-03	1.69E-03	1.71E-03	1.78E-03	1.74E-03	1.57E-03
81.49	1.86E-03	1.86E-03	1.82E-03	1.84E-03	1.87E-03	1.81E-03	1.84E-03	1.93E-03	1.96E-03	1.91E-03	1.71E-03
91.89	1.98E-03	2.01E-03	2.00E-03	2.00E-03	2.00E-03	2.01E-03	2.06E-03	2.07E-03	2.16E-03	2.09E-03	1.85E-03
103.63	2.22E-03	2.22E-03	2.22E-03	2.23E-03	2.26E-03	2.27E-03	2.30E-03	2.40E-03	2.35E-03	2.26E-03	1.98E-03
116.86	2.40E-03	2.41E-03	2.43E-03	2.45E-03	2.45E-03	2.45E-03	2.48E-03	2.47E-03	2.46E-03	2.38E-03	2.11E-03
131.79	2.60E-03	2.66E-03	2.68E-03	2.69E-03	2.71E-03	2.68E-03	2.76E-03	2.82E-03	2.72E-03	2.60E-03	2.30E-03
148.62	2.93E-03	2.98E-03	2.96E-03	2.97E-03	2.96E-03	2.97E-03	3.03E-03	3.04E-03	2.93E-03	2.85E-03	2.50E-03
167.60	3.10E-03	3.16E-03	3.17E-03	3.19E-03	3.20E-03	3.29E-03	3.19E-03	3.17E-03	3.07E-03	3.03E-03	2.66E-03
189.01	3.49E-03	3.54E-03	3.52E-03	3.53E-03	3.54E-03	3.54E-03	3.50E-03	3.50E-03	3.38E-03	3.17E-03	2.88E-03
213.15	3.78E-03	3.81E-03	3.83E-03	3.80E-03	3.74E-03	3.79E-03	3.74E-03	3.72E-03	3.59E-03	3.45E-03	2.99E-03
240.38	3.91E-03	3.90E-03	3.91E-03	3.92E-03	3.92E-03	3.93E-03	3.94E-03	3.87E-03	3.76E-03	3.51E-03	3.17E-03
271.08	4.12E-03	4.15E-03	4.13E-03	4.13E-03	4.14E-03	4.14E-03	4.14E-03	4.11E-03	3.91E-03	3.75E-03	3.33E-03
305.70	4.36E-03	4.38E-03	4.36E-03	4.36E-03	4.34E-03	4.32E-03	4.33E-03	4.27E-03	4.05E-03	3.87E-03	3.40E-03
344.74	4.43E-03	4.45E-03	4.46E-03	4.46E-03	4.47E-03	4.47E-03	4.42E-03	4.36E-03	4.14E-03	3.98E-03	3.53E-03
388.77	4.51E-03	4.51E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.52E-03	4.41E-03	4.28E-03	4.07E-03	3.51E-03
438.43	4.56E-03	4.56E-03	4.56E-03	4.56E-03	4.56E-03	4.56E-03	4.53E-03	4.45E-03	4.28E-03	4.01E-03	3.59E-03
494.42	4.57E-03	4.56E-03	4.56E-03	4.55E-03	4.55E-03	4.52E-03	4.51E-03	4.37E-03	4.19E-03	3.97E-03	3.50E-03
557.57	4.44E-03	4.42E-03	4.40E-03	4.39E-03	4.38E-03	4.35E-03	4.34E-03	4.29E-03	4.08E-03	3.90E-03	3.42E-03
628.79	4.28E-03	4.23E-03	4.21E-03	4.20E-03	4.19E-03	4.14E-03	4.13E-03	4.07E-03	3.87E-03	3.69E-03	3.29E-03
709.09	4.04E-03	3.97E-03	3.94E-03	3.92E-03	3.90E-03	3.85E-03	3.84E-03	3.80E-03	3.62E-03	3.49E-03	3.08E-03
799.66	3.77E-03	3.74E-03	3.70E-03	3.66E-03	3.64E-03	3.62E-03	3.60E-03	3.56E-03	3.36E-03	3.21E-03	2.86E-03
901.79	3.44E-03	3.38E-03	3.33E-03	3.30E-03	3.27E-03	3.25E-03	3.23E-03	3.18E-03	3.04E-03	2.92E-03	2.63E-03
1017.00	3.07E-03	3.00E-03	2.96E-03	2.93E-03	2.91E-03	2.88E-03	2.87E-03	2.84E-03	2.72E-03	2.63E-03	2.41E-03
1146.90	2.76E-03	2.72E-03	2.68E-03	2.64E-03	2.62E-03	2.60E-03	2.59E-03	2.56E-03	2.48E-03	2.39E-03	2.20E-03
1293.30	2.42E-03	2.37E-03	2.35E-03	2.34E-03	2.33E-03	2.31E-03	2.30E-03	2.28E-03	2.21E-03	2.15E-03	2.00E-03
1458.50	2.13E-03	2.10E-03	2.08E-03	2.06E-03	2.05E-03	2.04E-03	2.03E-03	2.01E-03	1.96E-03	1.91E-03	1.78E-03
1644.80	1.89E-03	1.87E-03	1.84E-03	1.82E-03	1.80E-03	1.79E-03	1.78E-03	1.76E-03	1.72E-03	1.68E-03	1.59E-03
1854.90	1.65E-03	1.62E-03	1.59E-03	1.56E-03	1.54E-03	1.53E-03	1.52E-03	1.51E-03	1.48E-03	1.45E-03	1.37E-03
2091.80	1.43E-03	1.42E-03	1.41E-03	1.40E-03	1.39E-03	1.38E-03	1.38E-03	1.36E-03	1.34E-03	1.31E-03	1.24E-03
2358.90	1.22E-03	1.21E-03	1.20E-03	1.19E-03	1.17E-03	1.16E-03	1.15E-03	1.14E-03	1.12E-03	1.09E-03	1.03E-03
2660.20	1.00E-03	9.87E-04	9.72E-04	9.53E-04	9.29E-04	9.02E-04	8.82E-04	8.63E-04	7.30E-04	5.32E-04	3.07E-04

TABLE 24 B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: MN  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 25; ATOMIC WEIGHT= 54.94)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
 \*\*\*\*\*

ENERGY	SHIELD THICKNESS (GM/CM**2)										
	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	9.80E-04	9.47E-04	9.39E-04	9.00E-04	8.91E-04	8.41E-04	8.31E-04	8.07E-04	9.15E-04	8.45E-04	7.70E-04
44.68	1.01E-03	9.80E-04	9.48E-04	9.64E-04	9.40E-04	8.87E-04	9.14E-04	8.81E-04	9.88E-04	9.09E-04	8.28E-04
50.38	1.05E-03	1.07E-03	1.02E-03	1.02E-03	1.04E-03	1.00E-03	9.49E-04	9.85E-04	1.01E-03	1.00E-03	9.09E-04
56.82	1.13E-03	1.11E-03	1.13E-03	1.11E-03	1.13E-03	1.08E-03	1.09E-03	1.13E-03	1.13E-03	1.11E-03	1.01E-03
64.07	1.21E-03	1.21E-03	1.22E-03	1.16E-03	1.19E-03	1.20E-03	1.17E-03	1.16E-03	1.23E-03	1.21E-03	1.09E-03
72.26	1.32E-03	1.29E-03	1.27E-03	1.29E-03	1.30E-03	1.29E-03	1.29E-03	1.31E-03	1.36E-03	1.33E-03	1.20E-03
81.49	1.41E-03	1.41E-03	1.38E-03	1.40E-03	1.42E-03	1.38E-03	1.42E-03	1.48E-03	1.50E-03	1.46E-03	1.25E-03
91.89	1.50E-03	1.52E-03	1.52E-03	1.51E-03	1.52E-03	1.53E-03	1.55E-03	1.55E-03	1.65E-03	1.59E-03	1.35E-03
103.63	1.69E-03	1.69E-03	1.68E-03	1.69E-03	1.70E-03	1.71E-03	1.75E-03	1.84E-03	1.76E-03	1.69E-03	1.50E-03
116.86	1.82E-03	1.83E-03	1.85E-03	1.86E-03	1.84E-03	1.86E-03	1.87E-03	1.89E-03	1.88E-03	1.81E-03	1.61E-03
131.79	1.97E-03	2.02E-03	2.03E-03	2.04E-03	2.06E-03	2.05E-03	2.11E-03	2.15E-03	2.08E-03	1.98E-03	1.75E-03
148.62	2.23E-03	2.26E-03	2.25E-03	2.26E-03	2.25E-03	2.26E-03	2.30E-03	2.31E-03	2.19E-03	2.16E-03	1.90E-03
167.60	2.35E-03	2.40E-03	2.41E-03	2.42E-03	2.43E-03	2.50E-03	2.42E-03	2.41E-03	2.34E-03	2.22E-03	2.02E-03
189.01	2.65E-03	2.69E-03	2.67E-03	2.68E-03	2.69E-03	2.68E-03	2.66E-03	2.66E-03	2.55E-03	2.41E-03	2.13E-03
213.15	2.87E-03	2.89E-03	2.90E-03	2.88E-03	2.84E-03	2.88E-03	2.84E-03	2.80E-03	2.73E-03	2.58E-03	2.27E-03
240.38	2.96E-03	2.96E-03	2.97E-03	2.97E-03	2.98E-03	2.99E-03	2.99E-03	2.94E-03	2.85E-03	2.66E-03	2.40E-03
271.08	3.13E-03	3.15E-03	3.13E-03	3.14E-03	3.14E-03	3.14E-03	3.14E-03	3.12E-03	2.97E-03	2.81E-03	2.50E-03
305.70	3.31E-03	3.32E-03	3.31E-03	3.31E-03	3.29E-03	3.28E-03	3.29E-03	3.24E-03	3.07E-03	2.93E-03	2.57E-03
344.74	3.36E-03	3.38E-03	3.38E-03	3.39E-03	3.39E-03	3.39E-03	3.36E-03	3.30E-03	3.14E-03	3.00E-03	2.67E-03
388.77	3.42E-03	3.42E-03	3.43E-03	3.43E-03	3.43E-03	3.43E-03	3.43E-03	3.35E-03	3.22E-03	3.09E-03	2.66E-03
438.43	3.46E-03	3.46E-03	3.46E-03	3.46E-03	3.46E-03	3.44E-03	3.44E-03	3.37E-03	3.24E-03	3.03E-03	2.71E-03
494.42	3.47E-03	3.46E-03	3.46E-03	3.45E-03	3.45E-03	3.43E-03	3.42E-03	3.29E-03	3.18E-03	3.01E-03	2.64E-03
557.57	3.37E-03	3.35E-03	3.34E-03	3.33E-03	3.32E-03	3.30E-03	3.29E-03	3.25E-03	3.08E-03	2.94E-03	2.58E-03
628.79	3.24E-03	3.21E-03	3.20E-03	3.18E-03	3.18E-03	3.14E-03	3.13E-03	3.09E-03	2.93E-03	2.78E-03	2.47E-03
709.09	3.06E-03	3.01E-03	2.99E-03	2.97E-03	2.96E-03	2.92E-03	2.91E-03	2.88E-03	2.75E-03	2.64E-03	2.32E-03
799.66	2.86E-03	2.83E-03	2.80E-03	2.78E-03	2.76E-03	2.74E-03	2.73E-03	2.68E-03	2.55E-03	2.42E-03	2.16E-03
901.79	2.61E-03	2.56E-03	2.53E-03	2.50E-03	2.48E-03	2.46E-03	2.45E-03	2.41E-03	2.30E-03	2.21E-03	1.99E-03
1017.00	2.33E-03	2.27E-03	2.25E-03	2.22E-03	2.20E-03	2.19E-03	2.17E-03	2.15E-03	2.06E-03	1.99E-03	1.81E-03
1146.90	2.09E-03	2.06E-03	2.03E-03	2.01E-03	1.99E-03	1.97E-03	1.97E-03	1.95E-03	1.87E-03	1.81E-03	1.66E-03
1293.30	1.83E-03	1.79E-03	1.78E-03	1.78E-03	1.77E-03	1.76E-03	1.74E-03	1.73E-03	1.68E-03	1.63E-03	1.51E-03
1458.50	1.62E-03	1.59E-03	1.58E-03	1.56E-03	1.56E-03	1.55E-03	1.54E-03	1.52E-03	1.49E-03	1.45E-03	1.35E-03
1644.80	1.43E-03	1.41E-03	1.40E-03	1.38E-03	1.37E-03	1.35E-03	1.35E-03	1.33E-03	1.30E-03	1.27E-03	1.20E-03
1854.90	1.25E-03	1.23E-03	1.20E-03	1.19E-03	1.17E-03	1.16E-03	1.15E-03	1.14E-03	1.12E-03	1.10E-03	1.04E-03
2091.80	1.09E-03	1.08E-03	1.07E-03	1.06E-03	1.05E-03	1.05E-03	1.04E-03	1.04E-03	1.01E-03	9.93E-04	9.39E-04
2358.90	9.28E-04	9.19E-04	9.10E-04	9.00E-04	8.90E-04	8.81E-04	8.75E-04	8.66E-04	8.47E-04	8.26E-04	7.81E-04
2660.20	7.59E-04	7.49E-04	7.37E-04	7.23E-04	7.05E-04	6.84E-04	6.69E-04	6.54E-04	5.50E-04	4.00E-04	2.30E-04

TABLE 25B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: FE  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 26; ATOMIC WEIGHT= 55.85)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
 \*\*\*\*\*

SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	8.82E-03	8.62E-03	8.47E-03	8.21E-03	8.15E-03	7.59E-03	7.73E-03	7.53E-03	7.88E-03	7.80E-03	6.68E-03
44.68	9.18E-03	8.82E-03	8.65E-03	8.81E-03	8.42E-03	8.18E-03	8.13E-03	8.20E-03	8.51E-03	8.40E-03	7.19E-03
50.38	9.51E-03	9.62E-03	9.28E-03	9.33E-03	9.49E-03	9.21E-03	8.76E-03	9.19E-03	9.37E-03	9.23E-03	7.88E-03
56.82	1.03E-02	1.01E-02	1.03E-02	1.01E-02	1.01E-02	9.90E-03	1.01E-02	9.95E-03	1.05E-02	1.03E-02	8.73E-03
64.07	1.10E-02	1.10E-02	1.11E-02	1.06E-02	1.09E-02	1.09E-02	1.04E-02	1.07E-02	1.14E-02	1.12E-02	9.48E-03
72.26	1.20E-02	1.17E-02	1.16E-02	1.18E-02	1.17E-02	1.18E-02	1.19E-02	1.21E-02	1.26E-02	1.23E-02	1.04E-02
81.49	1.29E-02	1.29E-02	1.26E-02	1.27E-02	1.27E-02	1.26E-02	1.27E-02	1.32E-02	1.38E-02	1.27E-02	1.13E-02
91.89	1.37E-02	1.38E-02	1.38E-02	1.38E-02	1.37E-02	1.39E-02	1.43E-02	1.43E-02	1.45E-02	1.38E-02	1.23E-02
103.63	1.53E-02	1.54E-02	1.53E-02	1.54E-02	1.55E-02	1.55E-02	1.61E-02	1.61E-02	1.60E-02	1.55E-02	1.37E-02
116.86	1.66E-02	1.67E-02	1.68E-02	1.69E-02	1.68E-02	1.70E-02	1.70E-02	1.74E-02	1.73E-02	1.66E-02	1.46E-02
131.79	1.81E-02	1.84E-02	1.85E-02	1.86E-02	1.88E-02	1.87E-02	1.89E-02	1.94E-02	1.89E-02	1.81E-02	1.58E-02
148.62	2.02E-02	2.06E-02	2.04E-02	2.05E-02	2.05E-02	2.06E-02	2.09E-02	2.12E-02	1.98E-02	1.91E-02	1.72E-02
167.60	2.14E-02	2.18E-02	2.19E-02	2.20E-02	2.21E-02	2.22E-02	2.22E-02	2.17E-02	2.14E-02	2.00E-02	1.74E-02
189.01	2.41E-02	2.44E-02	2.43E-02	2.43E-02	2.44E-02	2.42E-02	2.40E-02	2.37E-02	2.28E-02	2.19E-02	1.90E-02
213.15	2.61E-02	2.63E-02	2.64E-02	2.62E-02	2.58E-02	2.60E-02	2.59E-02	2.56E-02	2.49E-02	2.31E-02	2.06E-02
240.38	2.69E-02	2.69E-02	2.70E-02	2.70E-02	2.71E-02	2.69E-02	2.72E-02	2.68E-02	2.53E-02	2.42E-02	2.16E-02
271.08	2.84E-02	2.84E-02	2.85E-02	2.85E-02	2.86E-02	2.84E-02	2.86E-02	2.80E-02	2.67E-02	2.55E-02	2.19E-02
305.70	3.01E-02	3.02E-02	3.01E-02	3.01E-02	2.99E-02	2.98E-02	2.99E-02	2.92E-02	2.80E-02	2.66E-02	2.32E-02
344.74	3.06E-02	3.07E-02	3.08E-02	3.08E-02	3.08E-02	3.09E-02	3.05E-02	2.99E-02	2.85E-02	2.70E-02	2.35E-02
388.77	3.11E-02	3.11E-02	3.12E-02	3.12E-02	3.12E-02	3.12E-02	3.12E-02	3.05E-02	2.89E-02	2.80E-02	2.40E-02
438.43	3.15E-02	3.15E-02	3.15E-02	3.15E-02	3.15E-02	3.13E-02	3.13E-02	3.06E-02	2.94E-02	2.75E-02	2.39E-02
494.42	3.15E-02	3.15E-02	3.14E-02	3.14E-02	3.14E-02	3.11E-02	3.11E-02	2.99E-02	2.88E-02	2.72E-02	2.38E-02
557.57	3.06E-02	3.05E-02	3.04E-02	3.03E-02	3.02E-02	3.00E-02	2.99E-02	2.95E-02	2.79E-02	2.65E-02	2.30E-02
628.79	2.95E-02	2.92E-02	2.91E-02	2.90E-02	2.89E-02	2.85E-02	2.84E-02	2.79E-02	2.66E-02	2.51E-02	2.21E-02
709.09	2.78E-02	2.74E-02	2.72E-02	2.70E-02	2.69E-02	2.66E-02	2.65E-02	2.60E-02	2.48E-02	2.36E-02	2.08E-02
799.66	2.60E-02	2.58E-02	2.55E-02	2.52E-02	2.51E-02	2.49E-02	2.48E-02	2.44E-02	2.29E-02	2.19E-02	1.94E-02
901.79	2.37E-02	2.33E-02	2.30E-02	2.27E-02	2.25E-02	2.24E-02	2.22E-02	2.19E-02	2.08E-02	1.99E-02	1.79E-02
1017.00	2.12E-02	2.07E-02	2.04E-02	2.02E-02	2.00E-02	1.99E-02	1.97E-02	1.95E-02	1.86E-02	1.80E-02	1.63E-02
1146.90	1.90E-02	1.87E-02	1.85E-02	1.82E-02	1.81E-02	1.79E-02	1.79E-02	1.76E-02	1.70E-02	1.63E-02	1.50E-02
1293.30	1.66E-02	1.63E-02	1.62E-02	1.61E-02	1.61E-02	1.60E-02	1.59E-02	1.57E-02	1.53E-02	1.48E-02	1.36E-02
1458.50	1.47E-02	1.44E-02	1.43E-02	1.42E-02	1.41E-02	1.40E-02	1.40E-02	1.38E-02	1.35E-02	1.31E-02	1.22E-02
1644.80	1.30E-02	1.28E-02	1.27E-02	1.25E-02	1.24E-02	1.23E-02	1.22E-02	1.21E-02	1.18E-02	1.15E-02	1.08E-02
1854.90	1.13E-02	1.11E-02	1.09E-02	1.08E-02	1.06E-02	1.05E-02	1.05E-02	1.04E-02	1.01E-02	9.91E-03	9.35E-03
2091.80	9.89E-03	9.81E-03	9.74E-03	9.66E-03	9.58E-03	9.52E-03	9.47E-03	9.39E-03	9.20E-03	8.99E-03	8.48E-03
2358.90	8.44E-03	8.35E-03	8.27E-03	8.18E-03	8.08E-03	8.00E-03	7.94E-03	7.86E-03	7.67E-03	7.49E-03	7.03E-03
2660.20	6.90E-03	6.80E-03	6.69E-03	6.55E-03	6.37E-03	6.19E-03	6.08E-03	5.94E-03	4.96E-03	3.60E-03	1.44E-03

TABLE 26B



\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: CO  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 27; ATOMIC WEIGHT= 58.94)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

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 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	5.29E-05	5.18E-05	5.09E-05	4.94E-05	4.91E-05	4.57E-05	4.68E-05	4.57E-05	4.78E-05	4.72E-05	4.03E-05
44.68	5.51E-05	5.30E-05	5.20E-05	5.24E-05	5.01E-05	4.92E-05	4.80E-05	4.97E-05	5.14E-05	5.07E-05	4.33E-05
50.38	5.71E-05	5.71E-05	5.51E-05	5.61E-05	5.71E-05	5.44E-05	5.29E-05	5.57E-05	5.67E-05	5.58E-05	4.74E-05
56.82	6.18E-05	6.08E-05	6.11E-05	6.08E-05	6.09E-05	5.96E-05	6.10E-05	5.96E-05	6.31E-05	6.19E-05	5.26E-05
64.07	6.61E-05	6.63E-05	6.66E-05	6.39E-05	6.52E-05	6.40E-05	6.28E-05	6.49E-05	6.88E-05	6.73E-05	5.70E-05
72.26	7.19E-05	7.04E-05	6.97E-05	7.07E-05	6.97E-05	7.14E-05	7.19E-05	7.33E-05	7.59E-05	7.06E-05	6.23E-05
81.49	7.72E-05	7.72E-05	7.56E-05	7.63E-05	7.60E-05	7.52E-05	7.56E-05	7.95E-05	8.33E-05	7.61E-05	6.78E-05
91.89	8.21E-05	8.31E-05	8.30E-05	8.28E-05	8.23E-05	8.35E-05	8.51E-05	8.62E-05	8.53E-05	8.31E-05	7.37E-05
103.63	9.21E-05	9.22E-05	9.19E-05	9.27E-05	9.28E-05	9.32E-05	9.67E-05	9.73E-05	9.67E-05	9.32E-05	8.22E-05
116.86	9.93E-05	1.00E-04	1.01E-04	1.02E-04	1.01E-04	1.02E-04	1.00E-04	1.05E-04	1.04E-04	9.97E-05	8.75E-05
131.79	1.08E-04	1.10E-04	1.11E-04	1.12E-04	1.13E-04	1.12E-04	1.14E-04	1.15E-04	1.12E-04	1.09E-04	9.50E-05
148.62	1.21E-04	1.23E-04	1.23E-04	1.23E-04	1.23E-04	1.24E-04	1.25E-04	1.27E-04	1.19E-04	1.13E-04	1.00E-04
167.60	1.29E-04	1.31E-04	1.32E-04	1.32E-04	1.33E-04	1.32E-04	1.33E-04	1.30E-04	1.29E-04	1.20E-04	1.04E-04
189.01	1.44E-04	1.45E-04	1.46E-04	1.46E-04	1.47E-04	1.45E-04	1.44E-04	1.42E-04	1.36E-04	1.32E-04	1.14E-04
213.15	1.57E-04	1.58E-04	1.58E-04	1.57E-04	1.55E-04	1.56E-04	1.55E-04	1.53E-04	1.49E-04	1.37E-04	1.23E-04
240.38	1.62E-04	1.61E-04	1.62E-04	1.62E-04	1.63E-04	1.62E-04	1.64E-04	1.60E-04	1.51E-04	1.45E-04	1.28E-04
271.08	1.71E-04	1.70E-04	1.71E-04	1.71E-04	1.72E-04	1.70E-04	1.72E-04	1.68E-04	1.60E-04	1.52E-04	1.31E-04
305.70	1.81E-04	1.81E-04	1.80E-04	1.81E-04	1.80E-04	1.79E-04	1.79E-04	1.75E-04	1.68E-04	1.60E-04	1.38E-04
344.74	1.83E-04	1.84E-04	1.85E-04	1.85E-04	1.85E-04	1.85E-04	1.83E-04	1.79E-04	1.70E-04	1.61E-04	1.40E-04
388.77	1.87E-04	1.87E-04	1.87E-04	1.87E-04	1.87E-04	1.87E-04	1.87E-04	1.83E-04	1.74E-04	1.68E-04	1.43E-04
438.43	1.89E-04	1.89E-04	1.89E-04	1.89E-04	1.89E-04	1.88E-04	1.88E-04	1.84E-04	1.76E-04	1.65E-04	1.43E-04
494.42	1.89E-04	1.89E-04	1.88E-04	1.88E-04	1.88E-04	1.87E-04	1.86E-04	1.79E-04	1.73E-04	1.63E-04	1.42E-04
557.57	1.84E-04	1.83E-04	1.82E-04	1.82E-04	1.81E-04	1.80E-04	1.79E-04	1.77E-04	1.67E-04	1.58E-04	1.37E-04
628.79	1.77E-04	1.75E-04	1.74E-04	1.74E-04	1.73E-04	1.71E-04	1.71E-04	1.68E-04	1.59E-04	1.50E-04	1.32E-04
709.09	1.67E-04	1.64E-04	1.63E-04	1.62E-04	1.61E-04	1.59E-04	1.59E-04	1.56E-04	1.49E-04	1.42E-04	1.23E-04
799.66	1.56E-04	1.55E-04	1.53E-04	1.51E-04	1.50E-04	1.50E-04	1.49E-04	1.46E-04	1.37E-04	1.31E-04	1.16E-04
901.79	1.42E-04	1.40E-04	1.38E-04	1.36E-04	1.35E-04	1.34E-04	1.33E-04	1.32E-04	1.25E-04	1.19E-04	1.07E-04
1017.00	1.27E-04	1.24E-04	1.23E-04	1.21E-04	1.20E-04	1.19E-04	1.18E-04	1.17E-04	1.12E-04	1.08E-04	9.68E-05
1146.90	1.14E-04	1.12E-04	1.11E-04	1.09E-04	1.08E-04	1.08E-04	1.07E-04	1.06E-04	1.02E-04	9.76E-05	8.95E-05
1293.30	9.97E-05	9.77E-05	9.72E-05	9.67E-05	9.62E-05	9.56E-05	9.50E-05	9.42E-05	9.14E-05	8.84E-05	8.14E-05
1458.50	8.82E-05	8.64E-05	8.57E-05	8.53E-05	8.48E-05	8.43E-05	8.39E-05	8.31E-05	8.08E-05	7.85E-05	7.29E-05
1644.80	7.80E-05	7.71E-05	7.61E-05	7.52E-05	7.43E-05	7.37E-05	7.33E-05	7.27E-05	7.09E-05	6.91E-05	6.50E-05
1854.90	6.80E-05	6.67E-05	6.55E-05	6.47E-05	6.38E-05	6.32E-05	6.29E-05	6.24E-05	6.08E-05	5.94E-05	5.59E-05
2091.80	5.93E-05	5.89E-05	5.84E-05	5.80E-05	5.75E-05	5.71E-05	5.68E-05	5.63E-05	5.51E-05	5.39E-05	5.08E-05
2358.90	5.06E-05	5.01E-05	4.96E-05	4.91E-05	4.85E-05	4.80E-05	4.77E-05	4.72E-05	4.60E-05	4.49E-05	4.21E-05
2660.20	4.14E-05	4.08E-05	4.01E-05	3.93E-05	3.82E-05	3.71E-05	3.65E-05	3.57E-05	2.98E-05	2.16E-05	8.67E-06

TABLE 27B





\*COBE\* COSMIC RAY ANALYSIS (SOLAR MINIMUM) FOR: NI  
 MODEL= BARR/75; TIME= 1989.1; PERIOD= 1.720  
 (ATOMIC NUMBER= 28; ATOMIC WEIGHT= 58.71)  
 INCLIN= 81.0 DEG; ALT= 900/900 KM

\*\*\*\*\*  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS (PARTICLES/CM\*\*2\*DAY\*MEV/N)  
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SHIELD THICKNESS (GM/CM\*\*2)

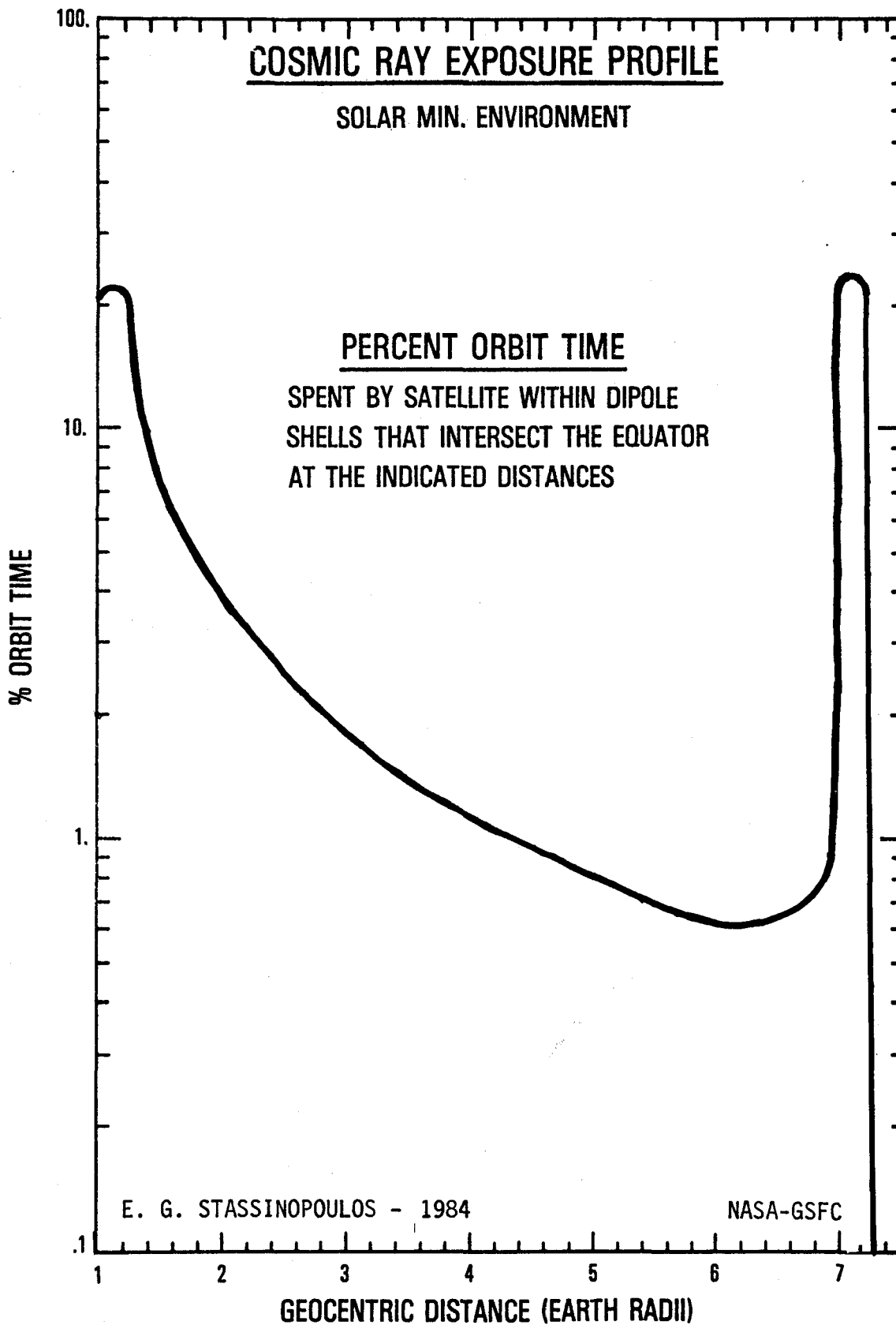
ENERGY	0.01	0.03	0.05	0.07	0.10	0.30	0.50	1.00	3.00	5.00	10.00
39.62	4.19E-04	4.16E-04	4.09E-04	3.93E-04	3.92E-04	3.65E-04	3.59E-04	3.79E-04	3.91E-04	3.62E-04	3.23E-04
44.68	4.36E-04	4.25E-04	4.18E-04	4.22E-04	4.04E-04	4.02E-04	3.84E-04	4.12E-04	4.21E-04	3.90E-04	3.47E-04
50.38	4.58E-04	4.58E-04	4.43E-04	4.52E-04	4.45E-04	4.19E-04	4.33E-04	4.24E-04	4.63E-04	4.28E-04	3.81E-04
56.82	4.95E-04	4.87E-04	4.91E-04	4.89E-04	4.85E-04	4.84E-04	4.72E-04	4.80E-04	5.15E-04	4.75E-04	4.21E-04
64.07	5.29E-04	5.31E-04	5.23E-04	5.13E-04	5.25E-04	5.03E-04	5.12E-04	5.34E-04	5.58E-04	5.16E-04	4.56E-04
72.26	5.75E-04	5.64E-04	5.59E-04	5.68E-04	5.61E-04	5.72E-04	5.62E-04	5.96E-04	5.77E-04	5.65E-04	4.98E-04
81.49	6.18E-04	6.19E-04	6.06E-04	6.12E-04	6.04E-04	6.09E-04	6.15E-04	6.23E-04	6.33E-04	6.16E-04	5.42E-04
91.89	6.57E-04	6.65E-04	6.65E-04	6.66E-04	6.61E-04	6.69E-04	6.83E-04	7.05E-04	6.94E-04	6.71E-04	5.88E-04
103.63	7.39E-04	7.38E-04	7.37E-04	7.43E-04	7.45E-04	7.53E-04	7.85E-04	7.77E-04	7.85E-04	7.51E-04	6.35E-04
116.86	7.98E-04	8.02E-04	8.09E-04	8.15E-04	8.07E-04	8.17E-04	8.10E-04	8.52E-04	8.39E-04	7.97E-04	6.65E-04
131.79	8.68E-04	8.83E-04	8.88E-04	8.95E-04	9.04E-04	8.95E-04	9.00E-04	9.13E-04	8.74E-04	8.26E-04	7.22E-04
148.62	9.72E-04	9.77E-04	9.82E-04	9.87E-04	9.75E-04	9.87E-04	1.00E-03	1.02E-03	9.64E-04	9.02E-04	7.83E-04
167.60	1.03E-03	1.05E-03	1.05E-03	1.06E-03	1.06E-03	1.06E-03	1.07E-03	1.05E-03	1.04E-03	9.65E-04	8.34E-04
189.01	1.16E-03	1.16E-03	1.17E-03	1.17E-03	1.17E-03	1.16E-03	1.15E-03	1.14E-03	1.09E-03	1.02E-03	9.08E-04
213.15	1.25E-03	1.26E-03	1.26E-03	1.26E-03	1.24E-03	1.25E-03	1.22E-03	1.23E-03	1.17E-03	1.10E-03	9.61E-04
240.38	1.28E-03	1.29E-03	1.30E-03	1.30E-03	1.30E-03	1.29E-03	1.31E-03	1.28E-03	1.21E-03	1.16E-03	9.78E-04
271.08	1.37E-03	1.36E-03	1.37E-03	1.37E-03	1.37E-03	1.36E-03	1.37E-03	1.35E-03	1.28E-03	1.19E-03	1.04E-03
305.70	1.44E-03	1.45E-03	1.44E-03	1.45E-03	1.44E-03	1.43E-03	1.44E-03	1.39E-03	1.33E-03	1.25E-03	1.08E-03
344.74	1.47E-03	1.47E-03	1.48E-03	1.48E-03	1.48E-03	1.48E-03	1.46E-03	1.43E-03	1.35E-03	1.28E-03	1.10E-03
388.77	1.49E-03	1.49E-03	1.50E-03	1.50E-03	1.50E-03	1.50E-03	1.50E-03	1.46E-03	1.38E-03	1.30E-03	1.13E-03
438.43	1.51E-03	1.51E-03	1.51E-03	1.51E-03	1.51E-03	1.51E-03	1.50E-03	1.47E-03	1.39E-03	1.30E-03	1.11E-03
494.42	1.51E-03	1.51E-03	1.51E-03	1.51E-03	1.51E-03	1.49E-03	1.48E-03	1.43E-03	1.37E-03	1.28E-03	1.10E-03
557.57	1.47E-03	1.46E-03	1.46E-03	1.45E-03	1.45E-03	1.44E-03	1.43E-03	1.42E-03	1.33E-03	1.25E-03	1.08E-03
628.79	1.41E-03	1.40E-03	1.39E-03	1.39E-03	1.39E-03	1.37E-03	1.36E-03	1.34E-03	1.26E-03	1.19E-03	1.03E-03
709.09	1.34E-03	1.31E-03	1.30E-03	1.30E-03	1.29E-03	1.27E-03	1.27E-03	1.25E-03	1.19E-03	1.12E-03	9.68E-04
799.66	1.25E-03	1.23E-03	1.22E-03	1.21E-03	1.20E-03	1.20E-03	1.19E-03	1.17E-03	1.09E-03	1.04E-03	9.12E-04
901.79	1.14E-03	1.12E-03	1.10E-03	1.09E-03	1.08E-03	1.07E-03	1.07E-03	1.05E-03	9.96E-04	9.47E-04	8.40E-04
1017.00	1.01E-03	9.92E-04	9.81E-04	9.71E-04	9.62E-04	9.50E-04	9.46E-04	9.34E-04	8.89E-04	8.56E-04	7.63E-04
1146.90	9.13E-04	9.00E-04	8.86E-04	8.75E-04	8.67E-04	8.61E-04	8.57E-04	8.45E-04	8.11E-04	7.76E-04	7.05E-04
1293.30	7.98E-04	7.82E-04	7.77E-04	7.73E-04	7.69E-04	7.64E-04	7.59E-04	7.52E-04	7.29E-04	7.04E-04	6.44E-04
1458.50	7.05E-04	6.91E-04	6.85E-04	6.82E-04	6.78E-04	6.74E-04	6.70E-04	6.63E-04	6.44E-04	6.24E-04	5.76E-04
1644.80	6.24E-04	6.17E-04	6.09E-04	6.02E-04	5.95E-04	5.89E-04	5.87E-04	5.82E-04	5.66E-04	5.51E-04	5.13E-04
1854.90	5.44E-04	5.33E-04	5.24E-04	5.18E-04	5.11E-04	5.06E-04	5.03E-04	4.99E-04	4.85E-04	4.73E-04	4.45E-04
2091.80	4.75E-04	4.71E-04	4.67E-04	4.63E-04	4.59E-04	4.56E-04	4.54E-04	4.50E-04	4.39E-04	4.29E-04	4.02E-04
2358.90	4.05E-04	4.01E-04	3.97E-04	3.92E-04	3.88E-04	3.84E-04	3.81E-04	3.77E-04	3.67E-04	3.58E-04	3.34E-04
2660.20	3.31E-04	3.26E-04	3.20E-04	3.13E-04	3.03E-04	2.94E-04	2.90E-04	2.84E-04	2.09E-04	1.68E-04	6.65E-05

TABLE 28B



Figure 1

# COBE COSMIC RAY STUDY



**COBE COSMIC RAY STUDY**

**Figure 2**

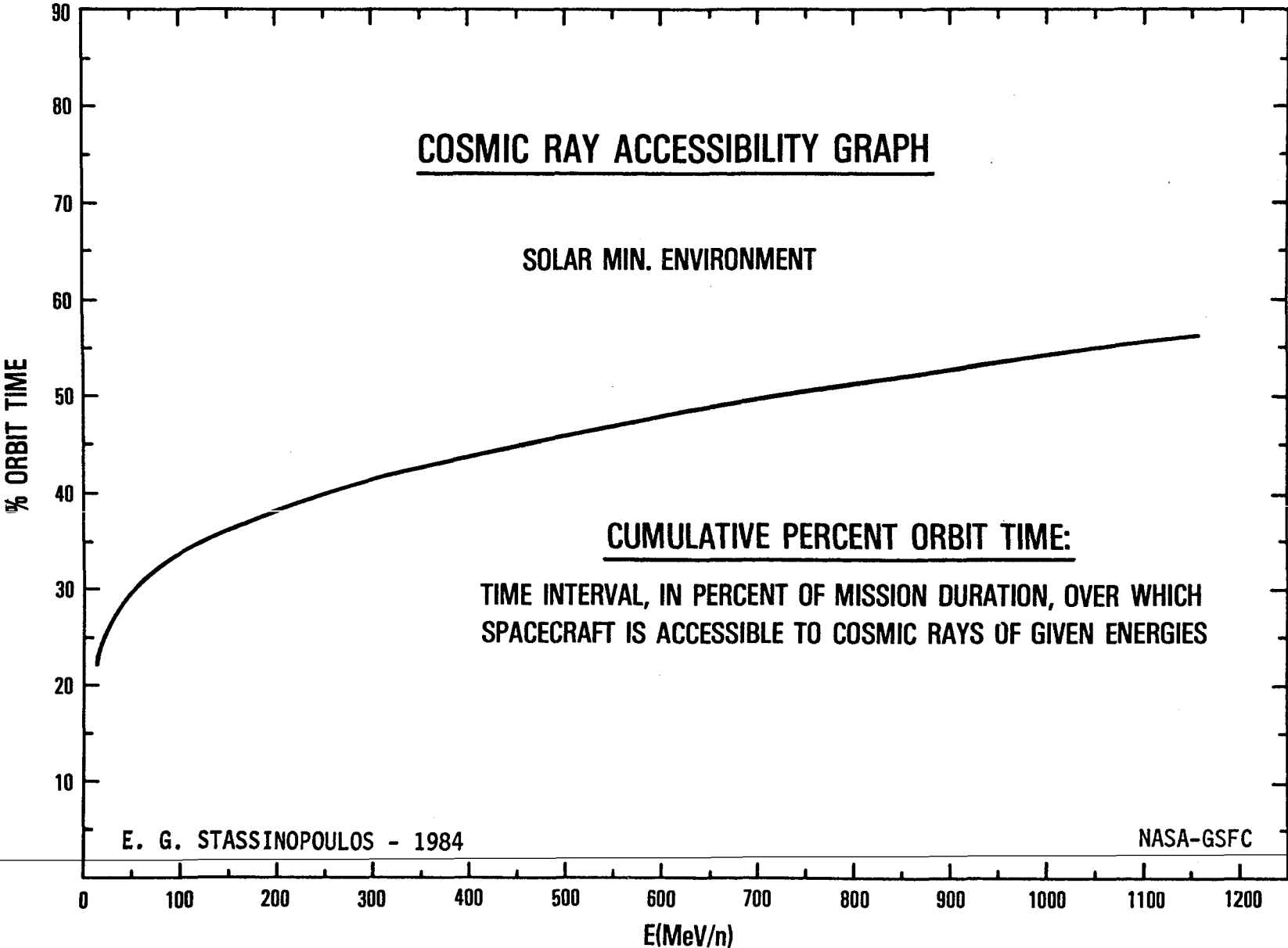


FIGURE 3

COBE COSMIC RAY ANALYSIS  
 MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: HE  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
 ALUMINUM SHIELDS  
 $Z = 2$   $A = 4.00$

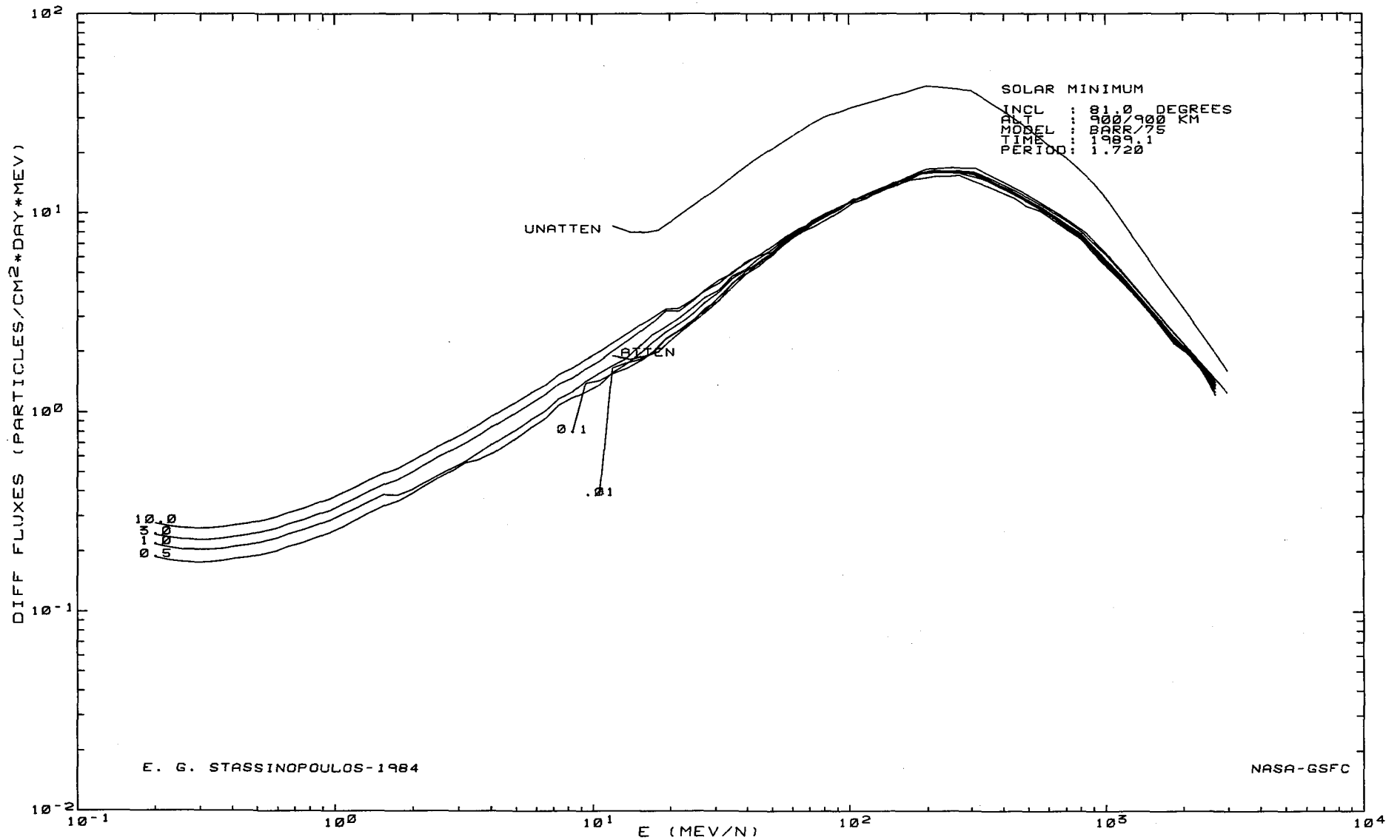
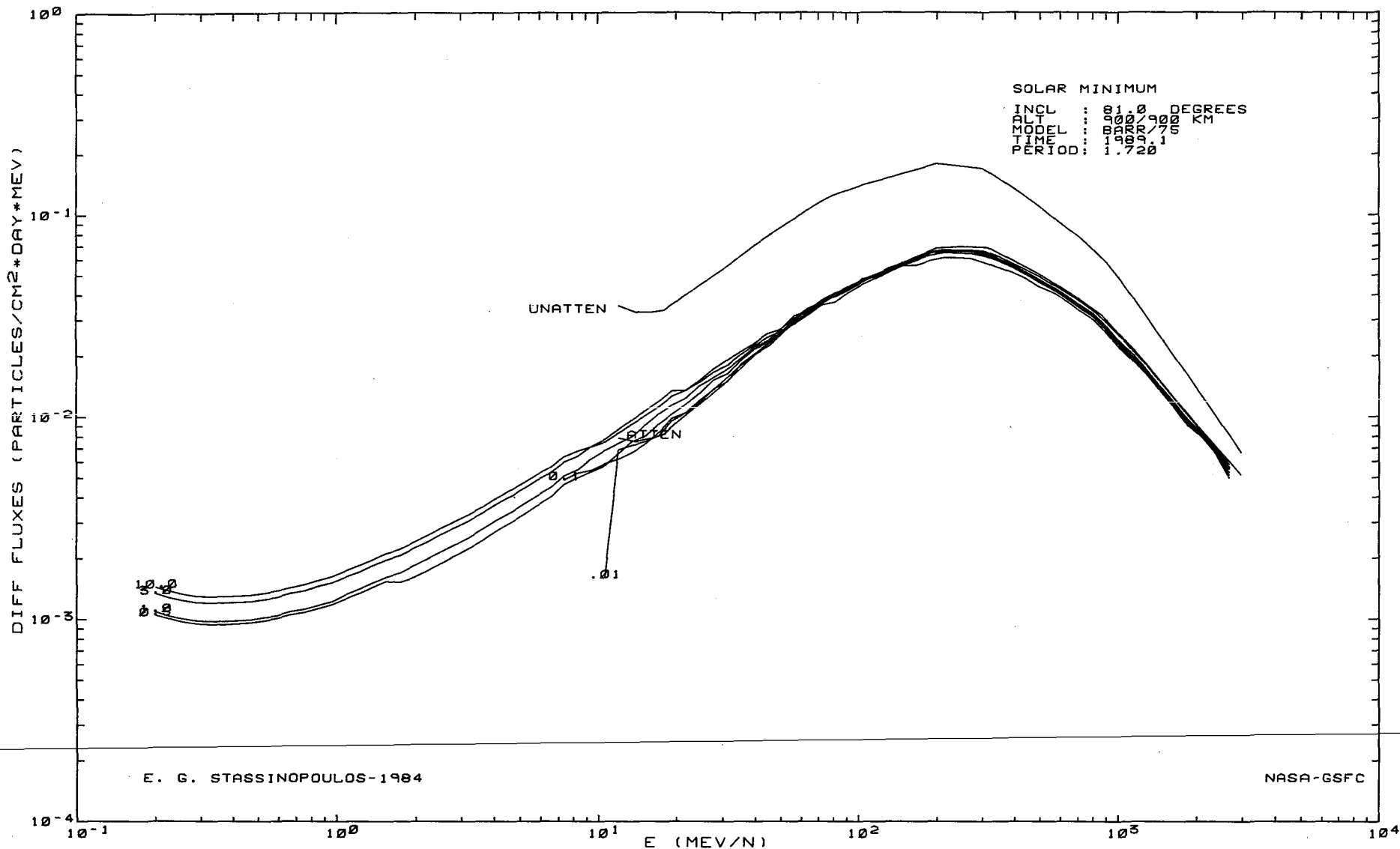


FIGURE 4

MAGNETOSPHERICALLY DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL ALUMINUM SHIELDS  
 COSMIC RAY ANALYSIS  
 Z = 3 A = 6.94



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FIGURE 5

COBE COSMIC RAY ANALYSIS  
 MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: BE  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
 ALUMINUM SHIELDS  
 $Z = 4$   $A = 9.01$

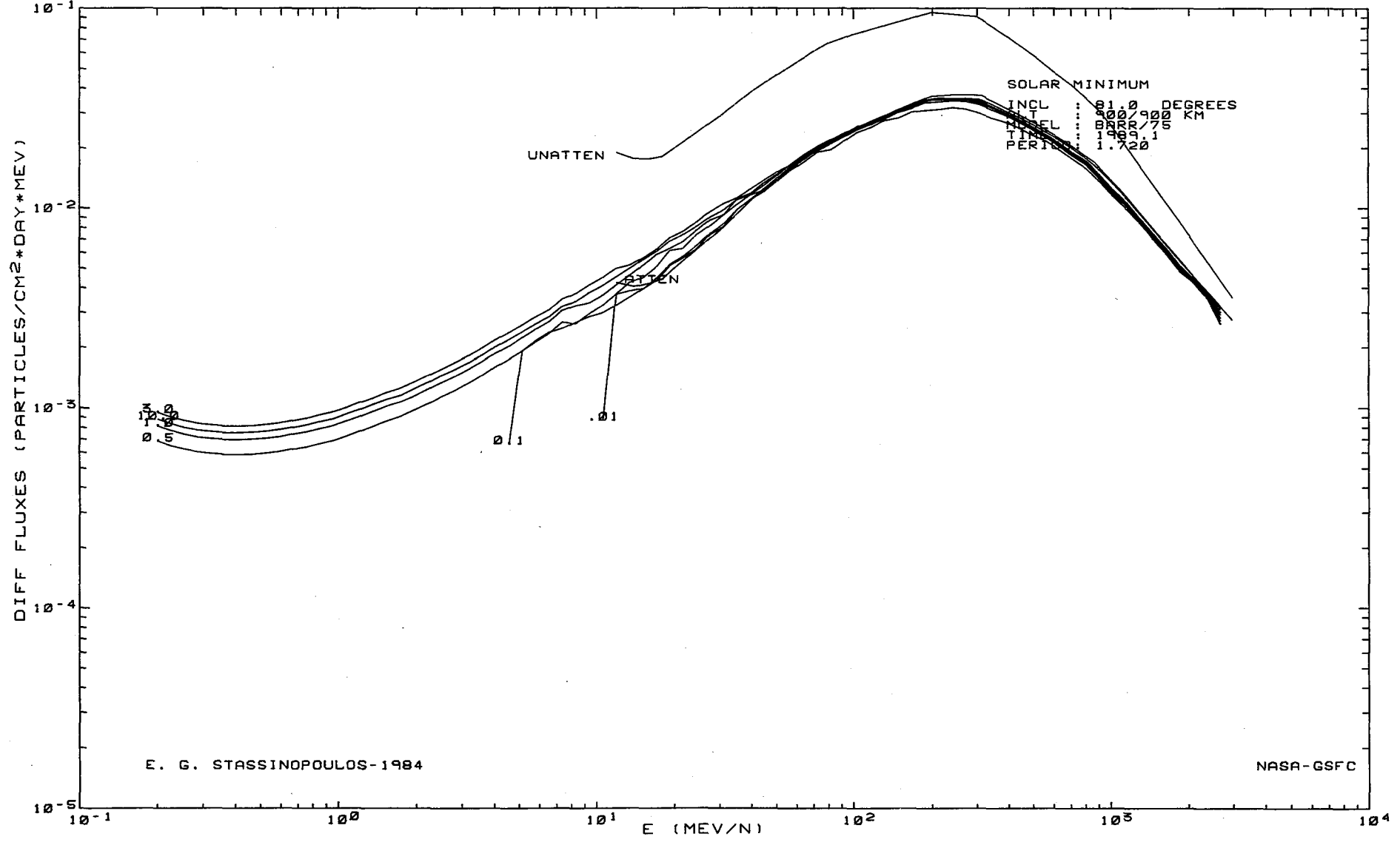




FIGURE 6

MAGNETOSPHERICALLY COBALT COSMIC RAY ANALYSIS  
 DIFFERENTIAL FLUX ATTENUATED SPECTRUM FOR: B  
 ALUMINUM SHIELDS BEHIND SPHERICAL  
 Z = 5 A = 10.02

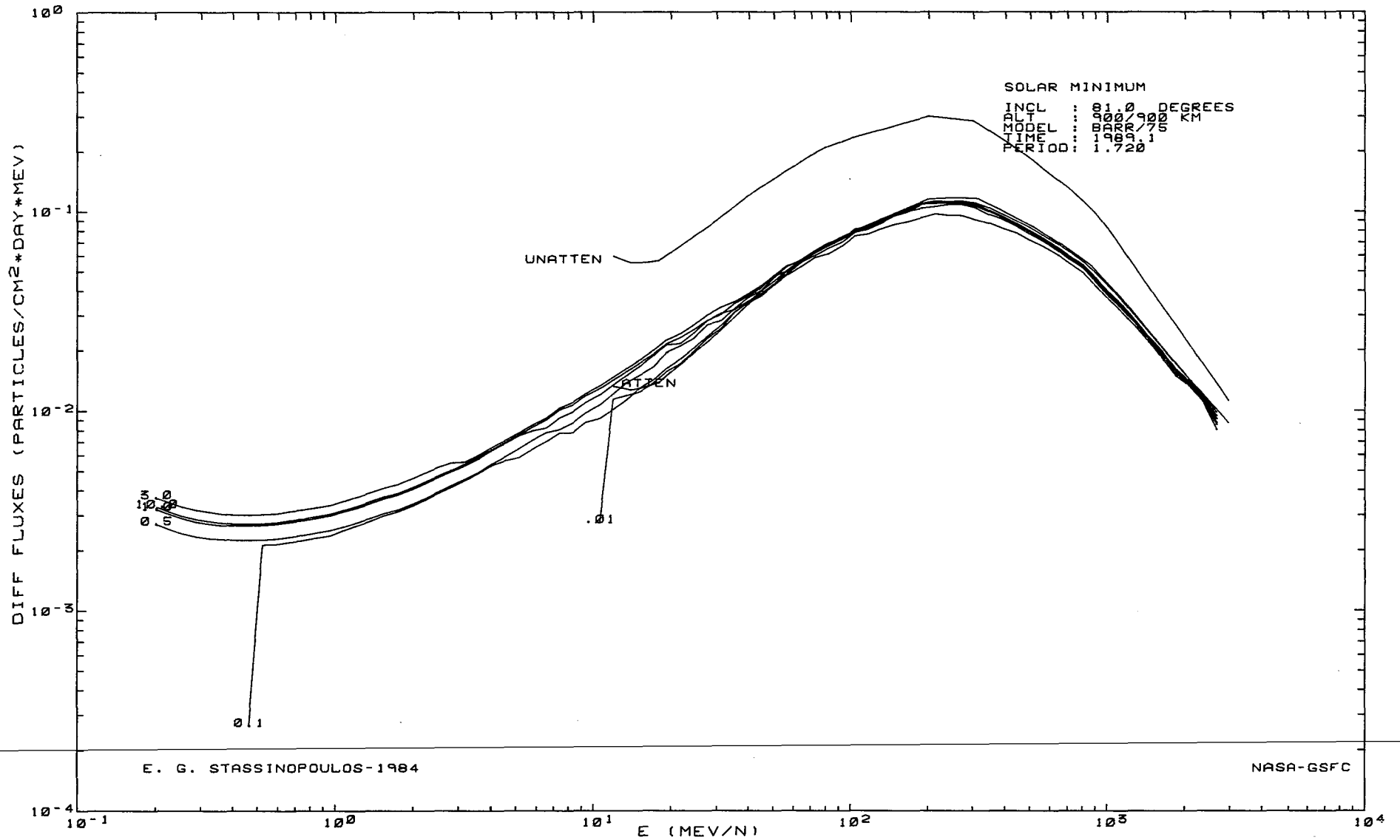


FIGURE 7

COBE COSMIC RAY ANALYSIS  
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: C  
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
ALUMINUM SHIELDS  
Z = 6 A = 12.01

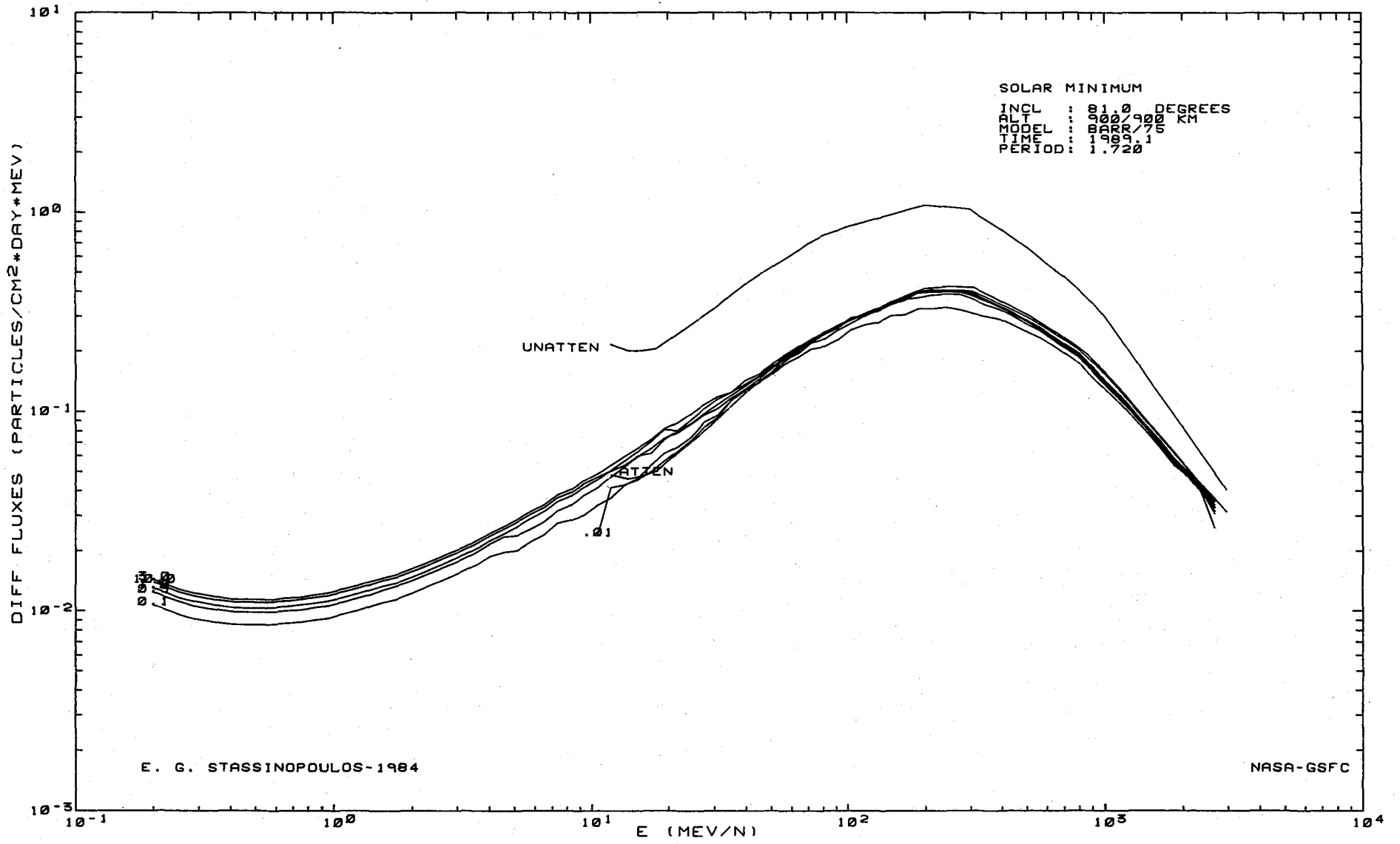


FIGURE 8

MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: N  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
 ALUMINUM SHIELDS  
 Z = 7 A = 14.01

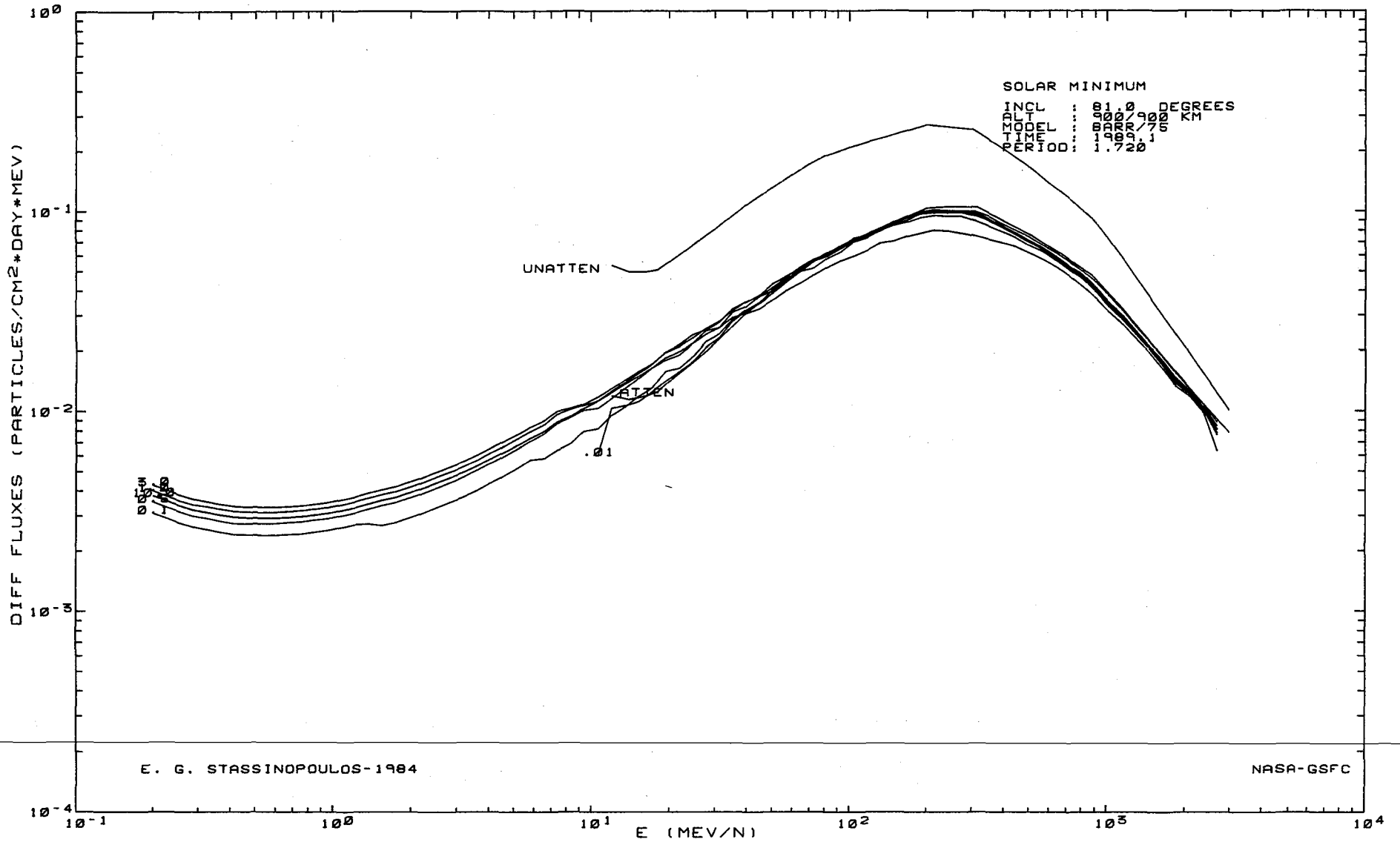


FIGURE 9

COBE COSMIC RAY ANALYSIS  
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: 0  
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
ALUMINUM SHIELDS  
Z = 8 A = 16.00

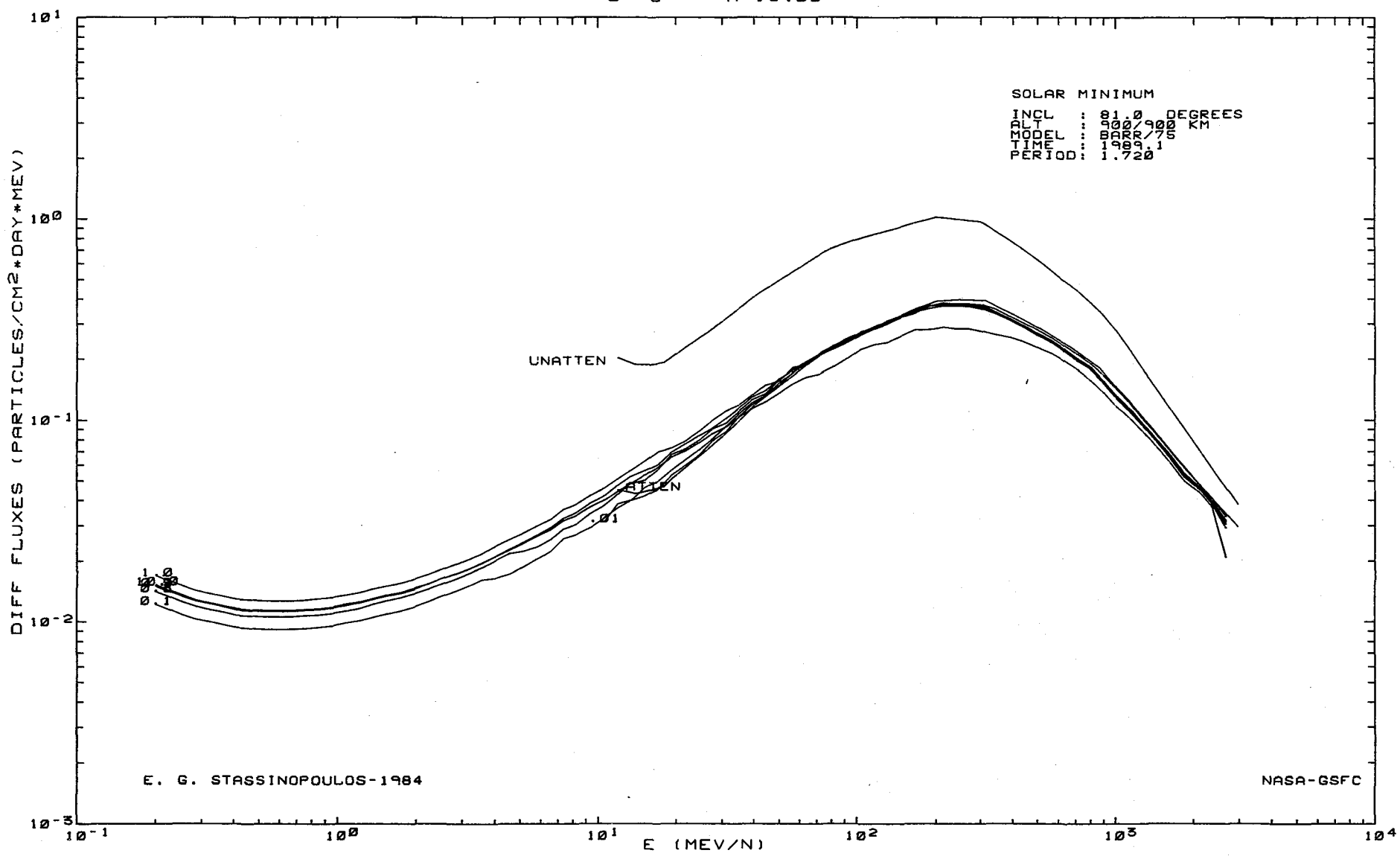


FIGURE 10

COBE COSMIC RAY ANALYSIS  
 MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: F  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
 ALUMINUM SHIELDS  
 Z = 9 A = 19.00

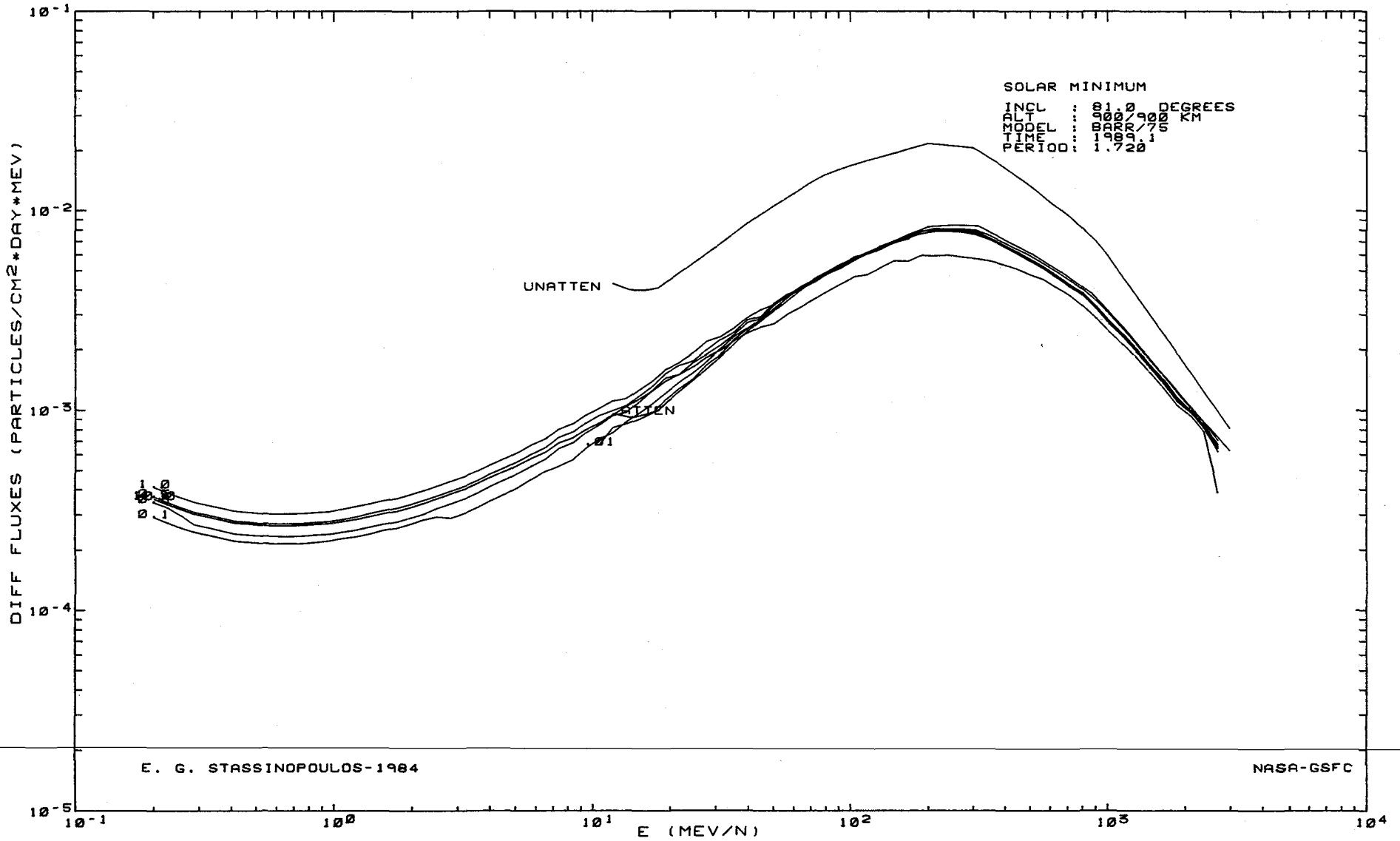


FIGURE 11

MAGNETOSPHERICALLY ATTENUATED COSMIC RAY ANALYSIS  
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
ALUMINUM SHIELDS  
Z-10 A-20.18

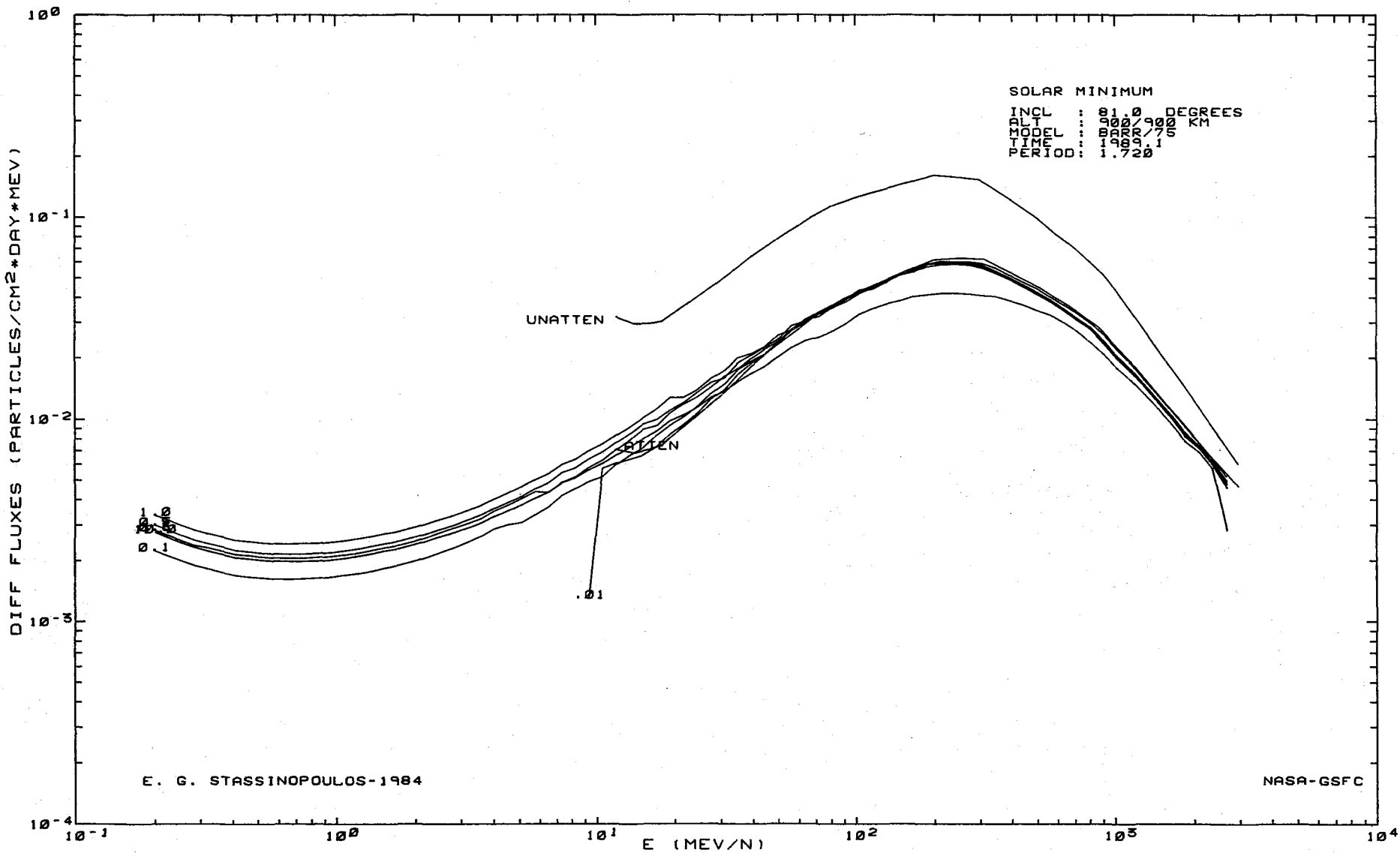
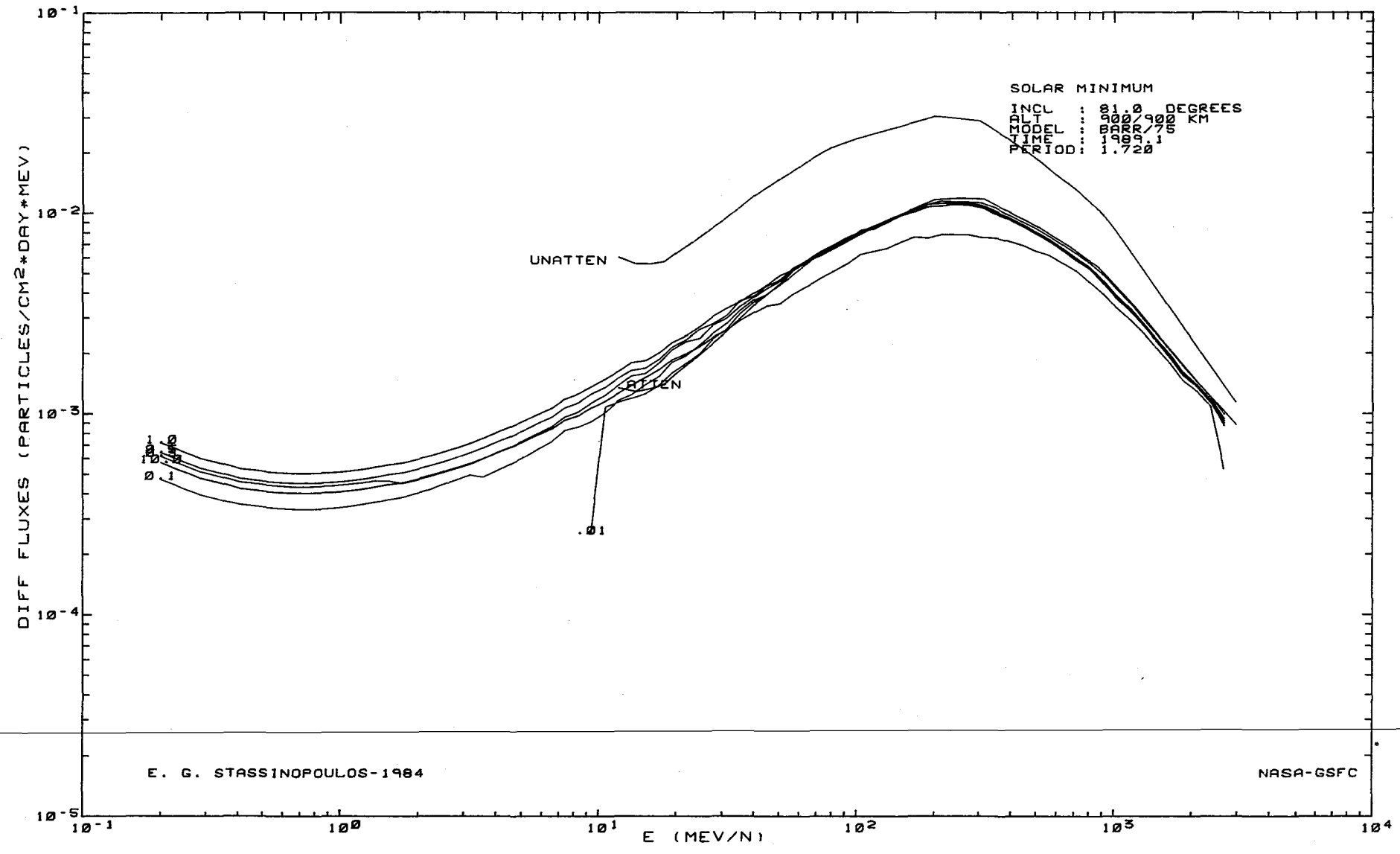


FIGURE 12

MAGNETOSPHERIC COBE COSMIC RAY ANALYSIS  
DIFFERENTIAL FLUX ATTENUATED SPECTRUM FOR: NA  
ALUMINUM SHIELDS BEHIND SPHERICAL  
Z=11 R=22.99



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FIGURE 13

COBE COSMIC RAY ANALYSIS  
 MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: MG  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
 ALUMINUM SHIELDS  
 Z=12 A=24.32

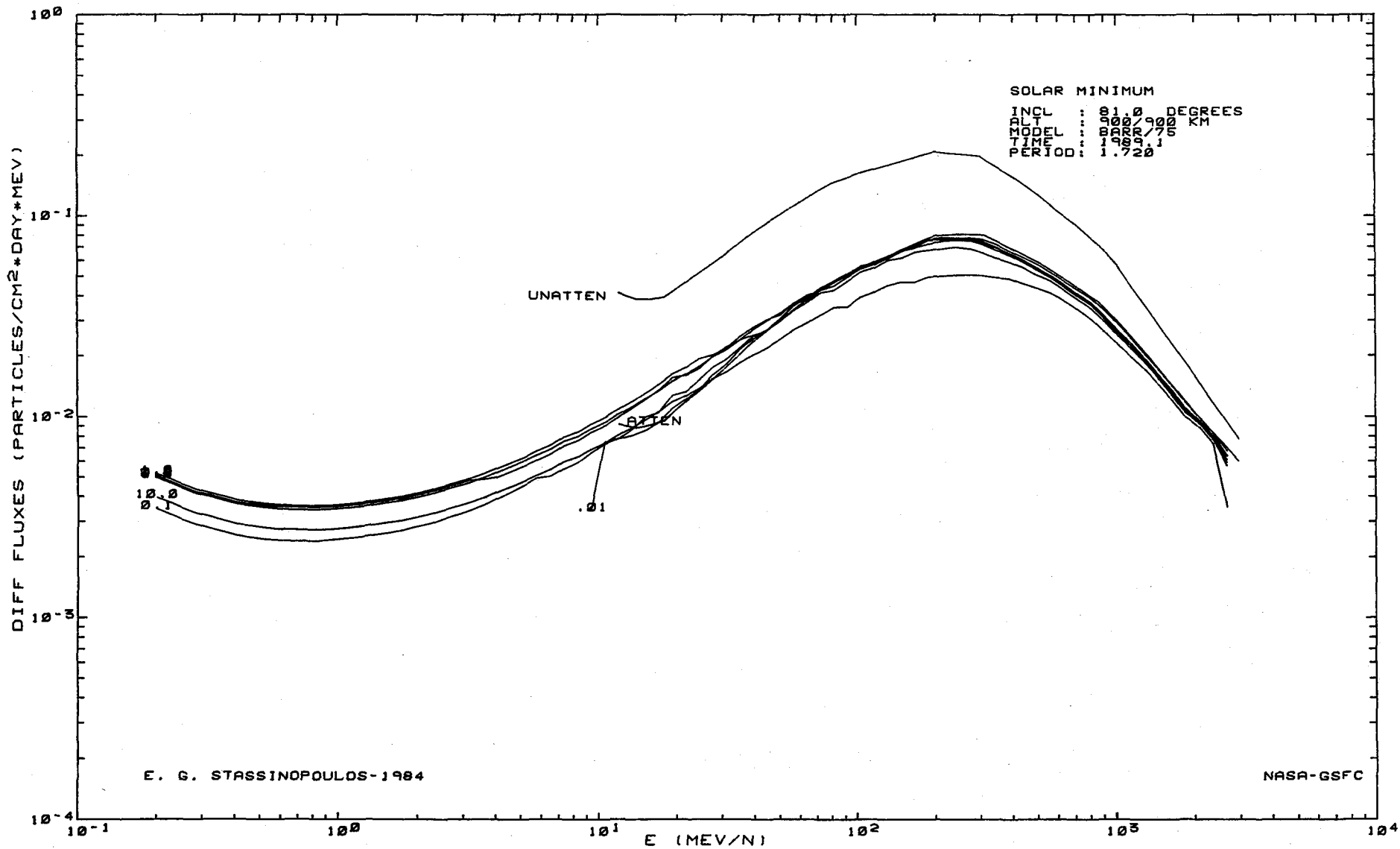




FIGURE 14

MAGNETOSPHERICALLY ATTENUATED GALACTIC COSMIC RAY ANALYSIS  
 DIFFERENTIAL FLUX BEHIND SPHERICAL ALUMINUM SHIELDS  
 Z=15 A=26.98

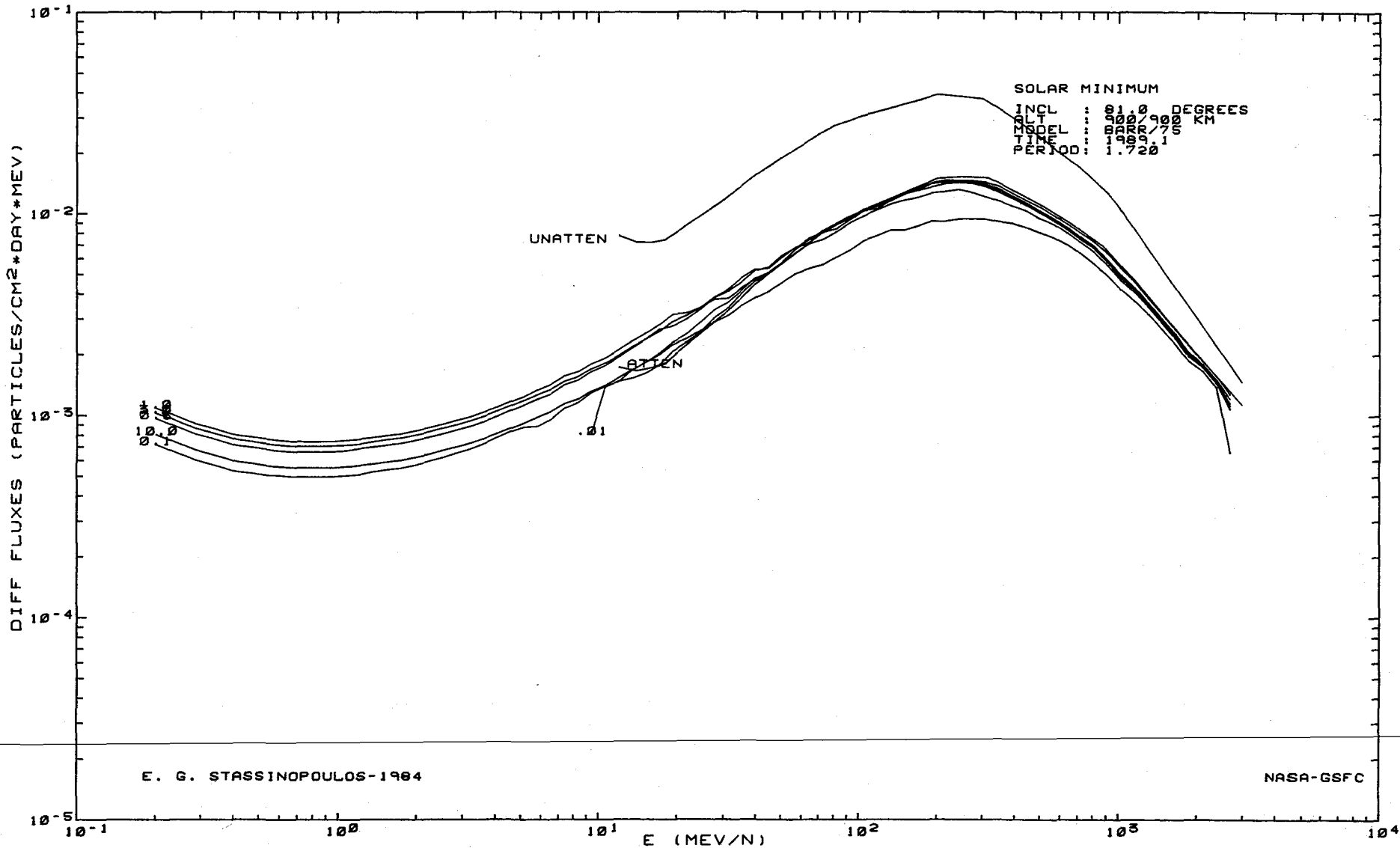


FIGURE 15

COBE COSMIC RAY ANALYSIS  
 MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: SI  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
 ALUMINUM SHIELDS  
 Z=14 A=28.09

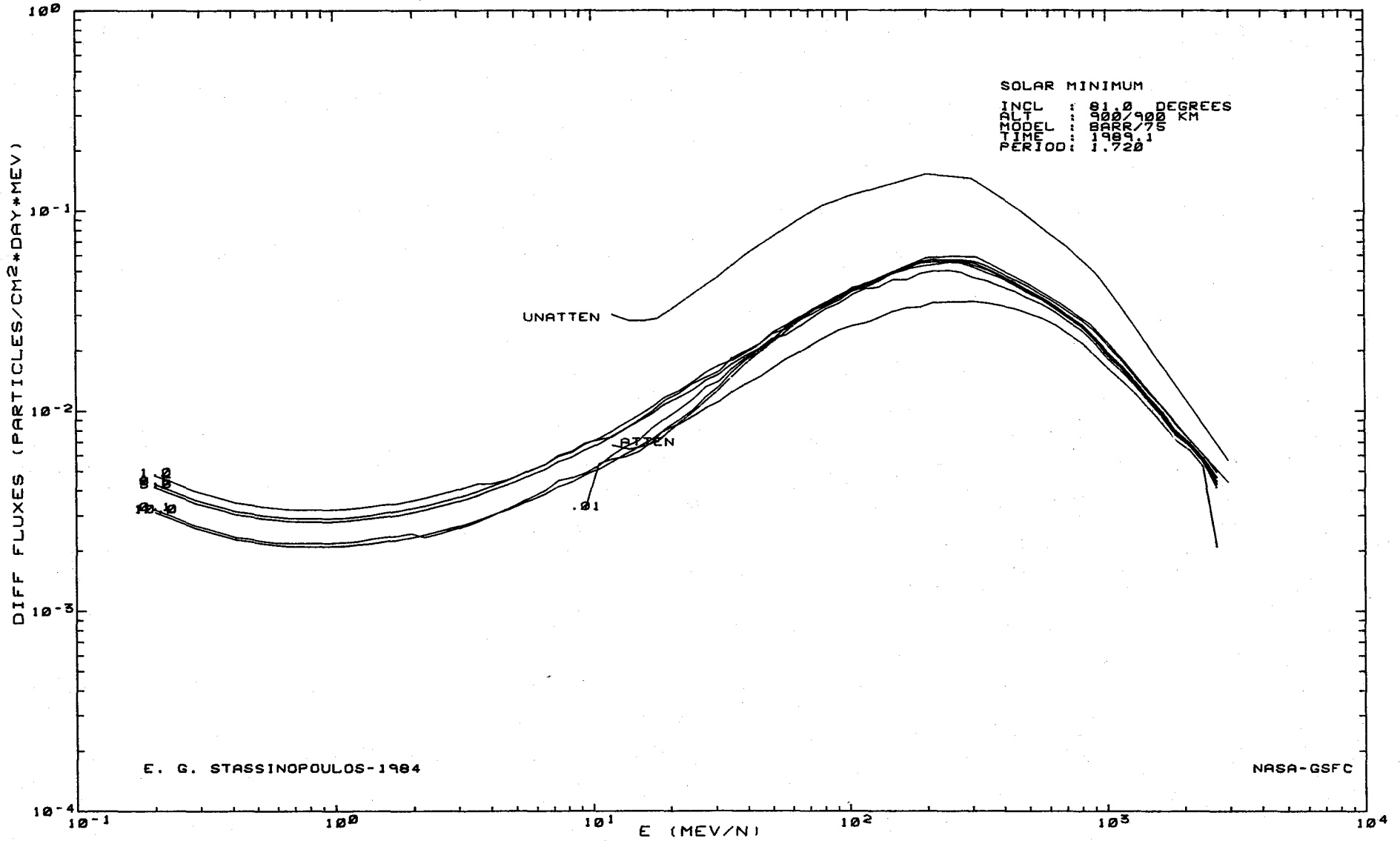
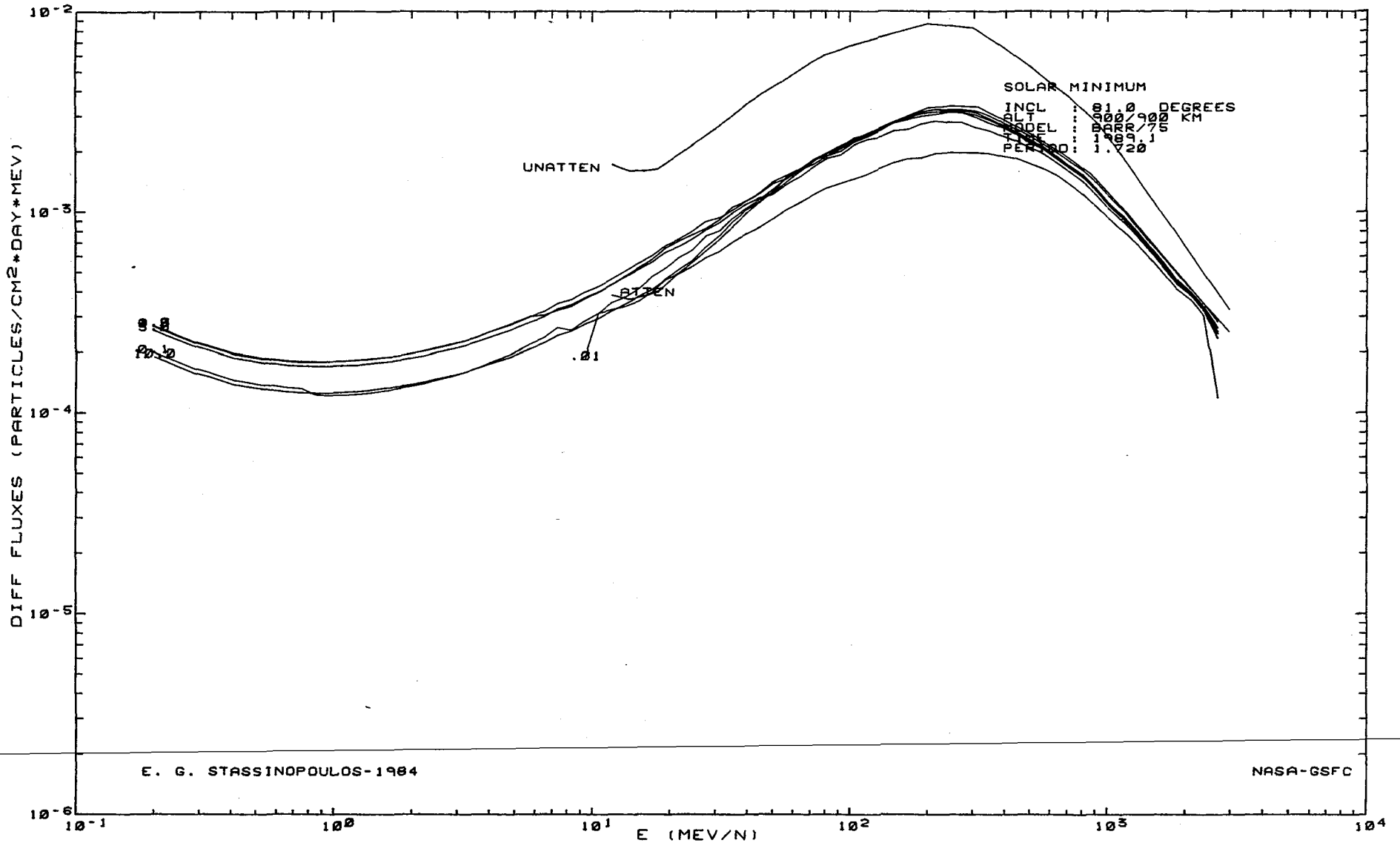


FIGURE 16

MAGNETOSPHERICALLY COULOMB SCATTERING ANALYSIS  
 DIFFERENTIAL FLUX EMERGING FROM Spherical  
 ALUMINUM SHIELDS Z=15 R=30.98



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FIGURE 17

COBE COSMIC RAY ANALYSIS  
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: S  
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
ALUMINUM SHIELDS  
Z=16 A=32.07

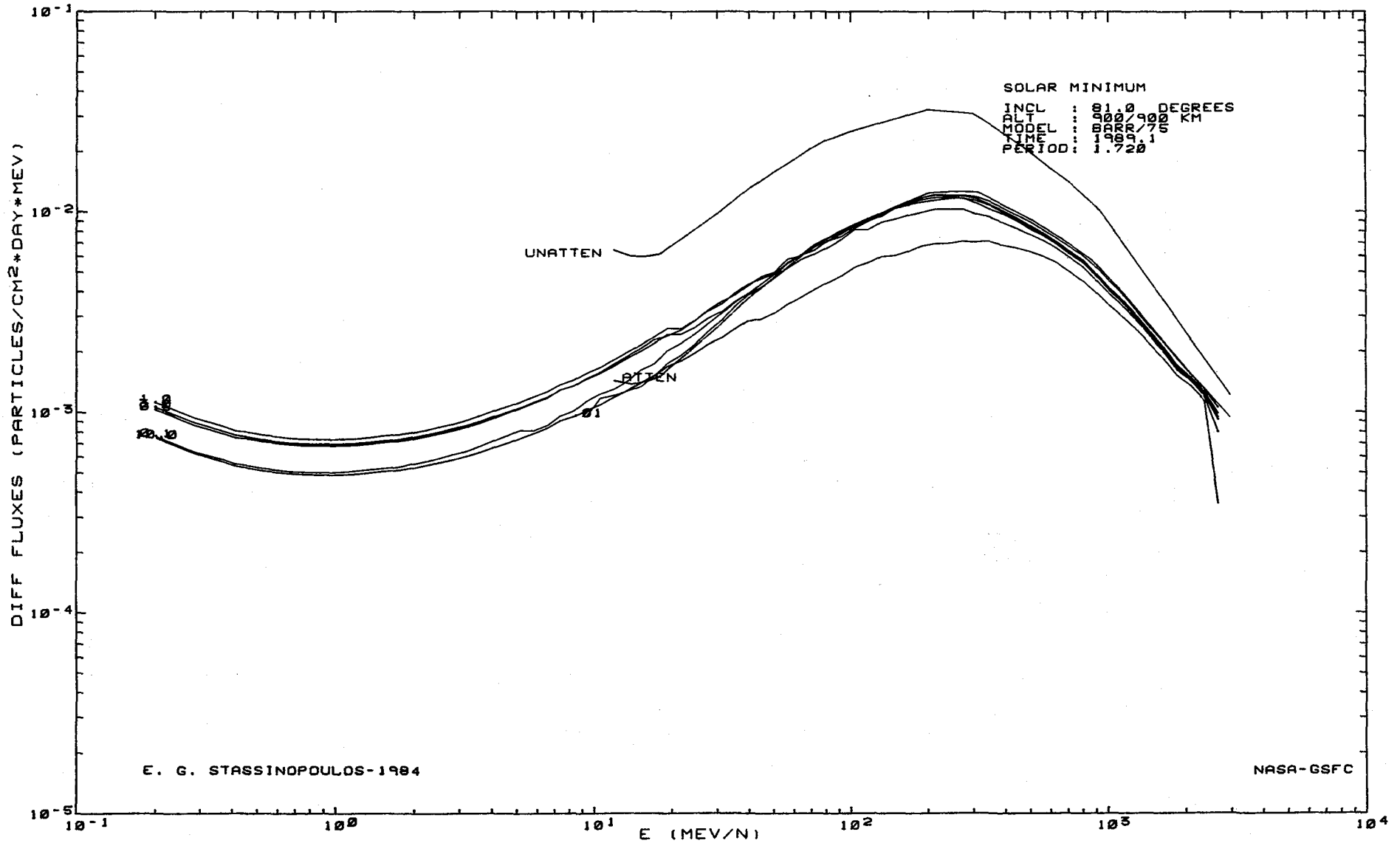


FIGURE 18

COBE COSMIC RAY ANALYSIS  
 MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: CL  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
 ALUMINUM SHIELDS  
 Z=17 A=35.46

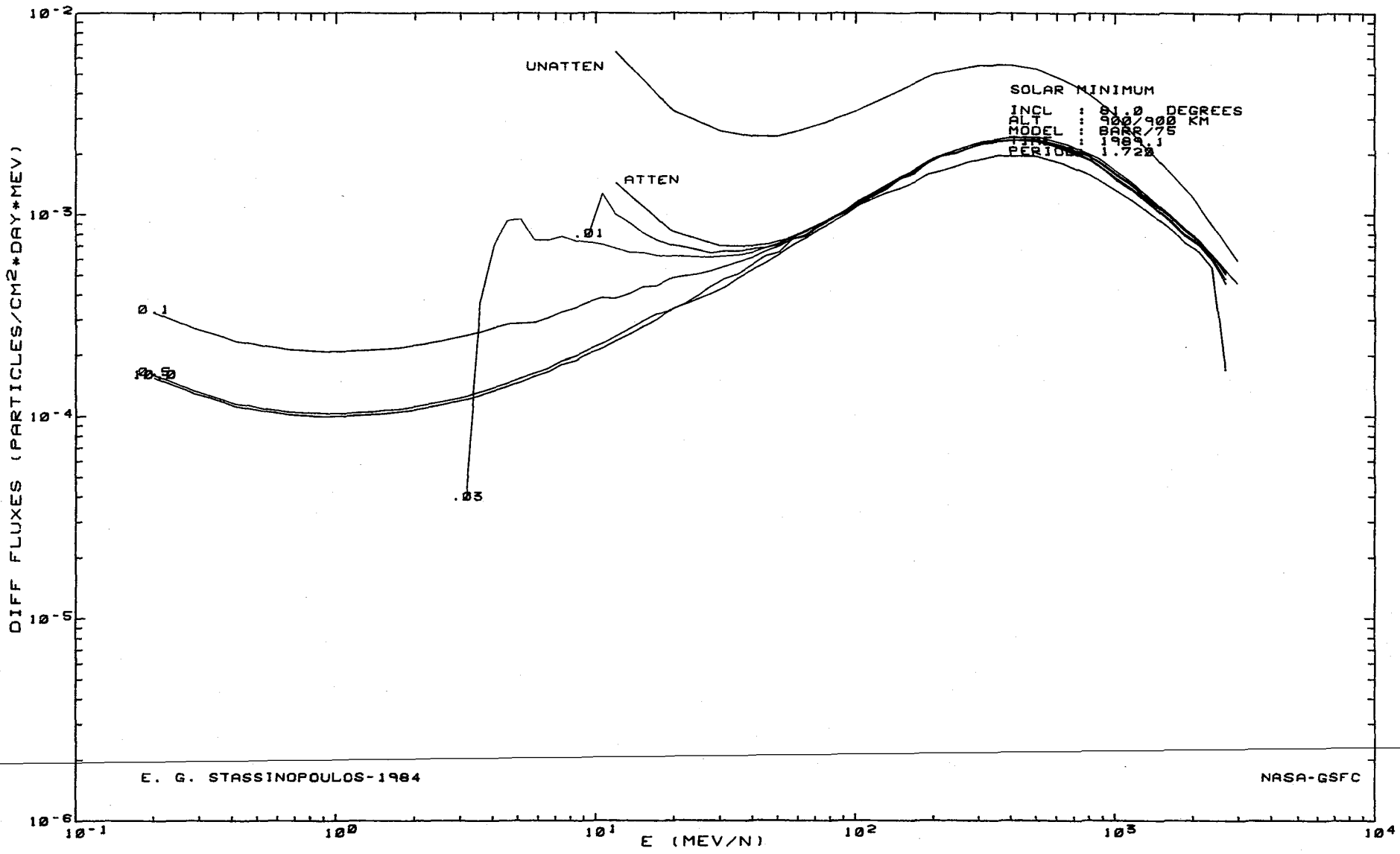
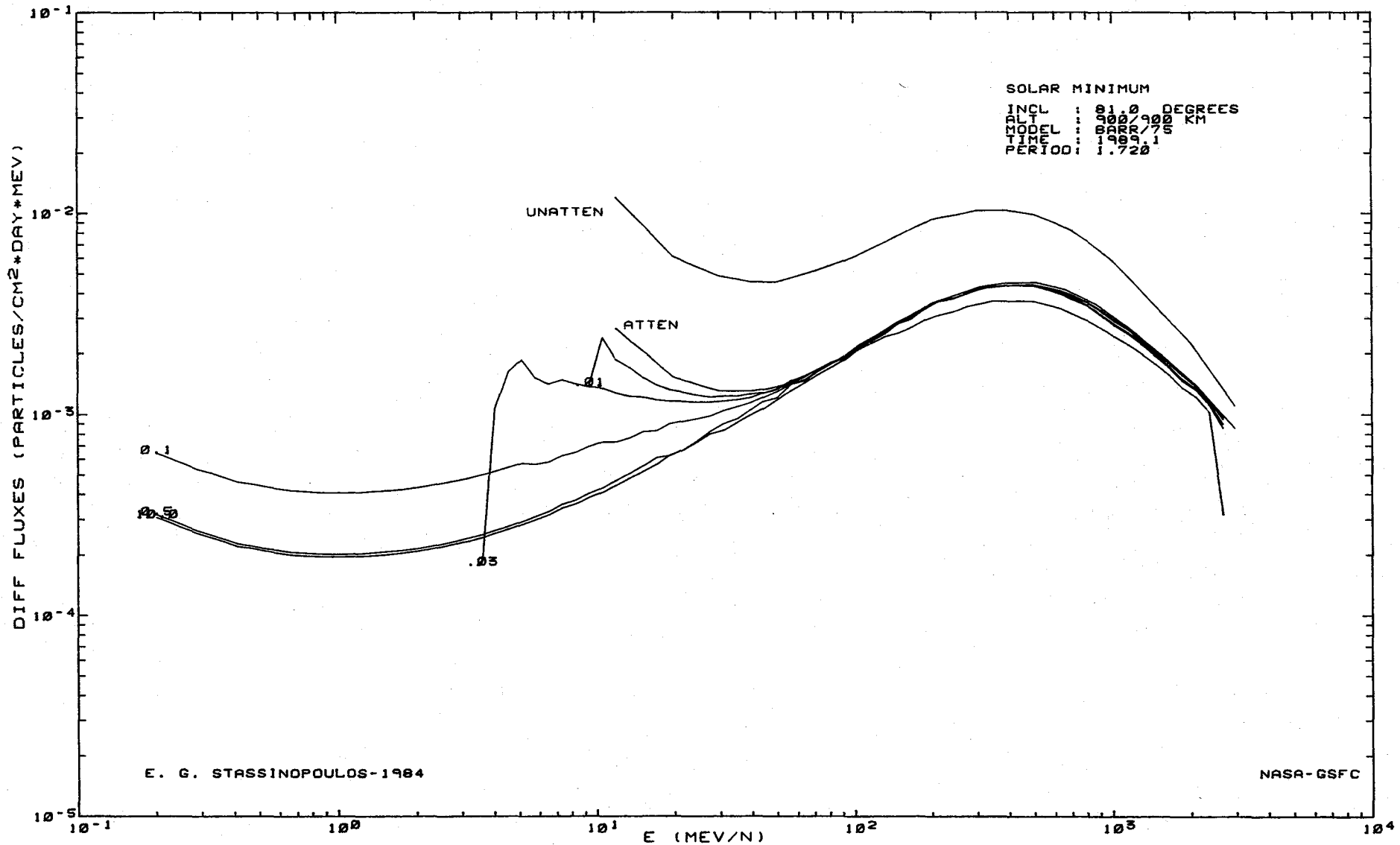


FIGURE 19

MAGNETOSPHERICALLY ATTENUATED COSMIC RAY ANALYSIS  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
 ALUMINUM SHIELDS Z=18 R=39.94

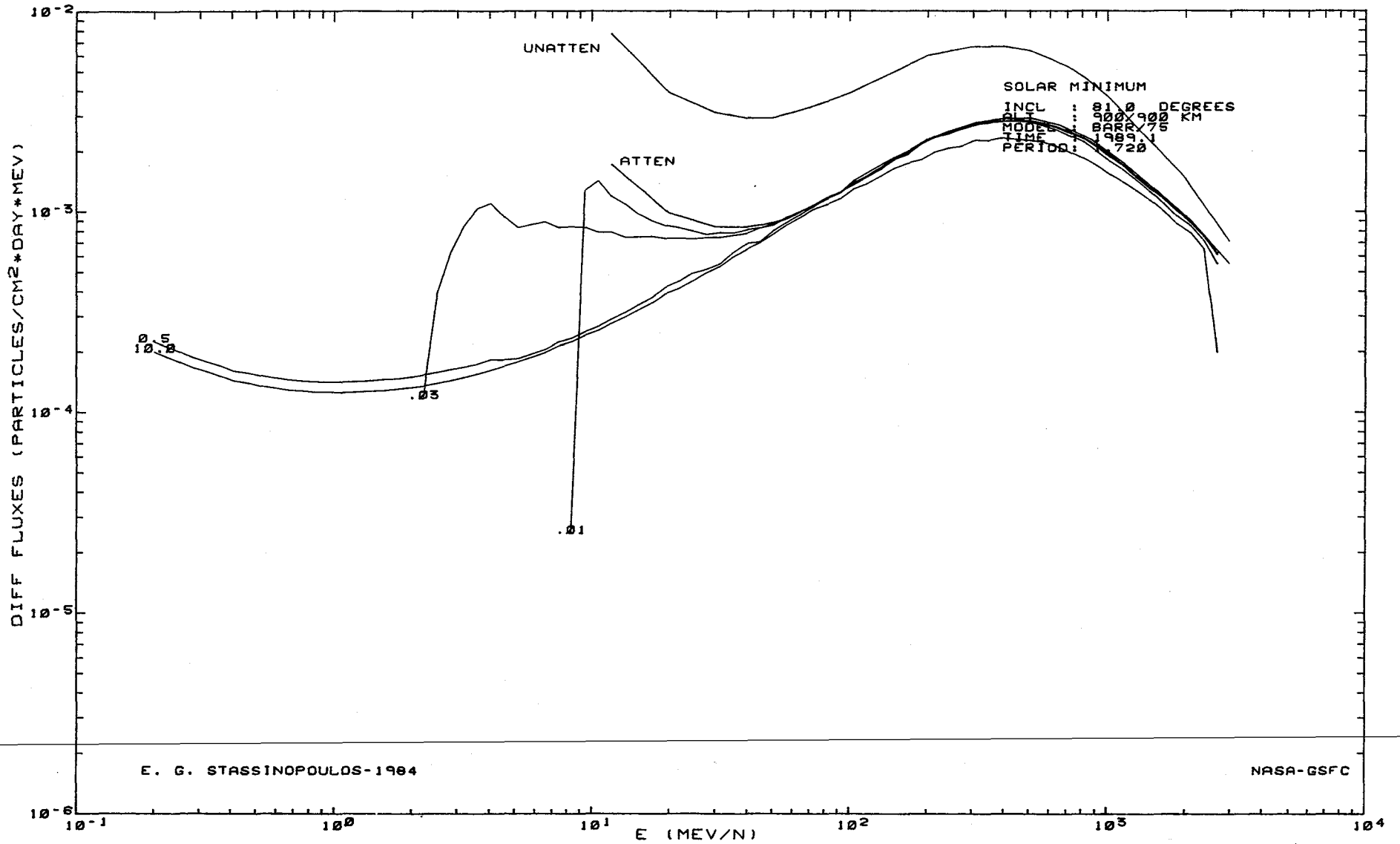


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FIGURE 20

COBE COSMIC RAY ANALYSIS  
 MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: K  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
 ALUMINUM SHIELDS  
 Z=19 A=39.10



MAGNETOSPHERICALLY MODIFIED COSMIC RAY ANALYSIS  
 DIFFERENTIAL FLUX AT THE SURFACE OF A SPHERICAL  
 ALUMINUM SHIELD  
 Z=20 R=40.08

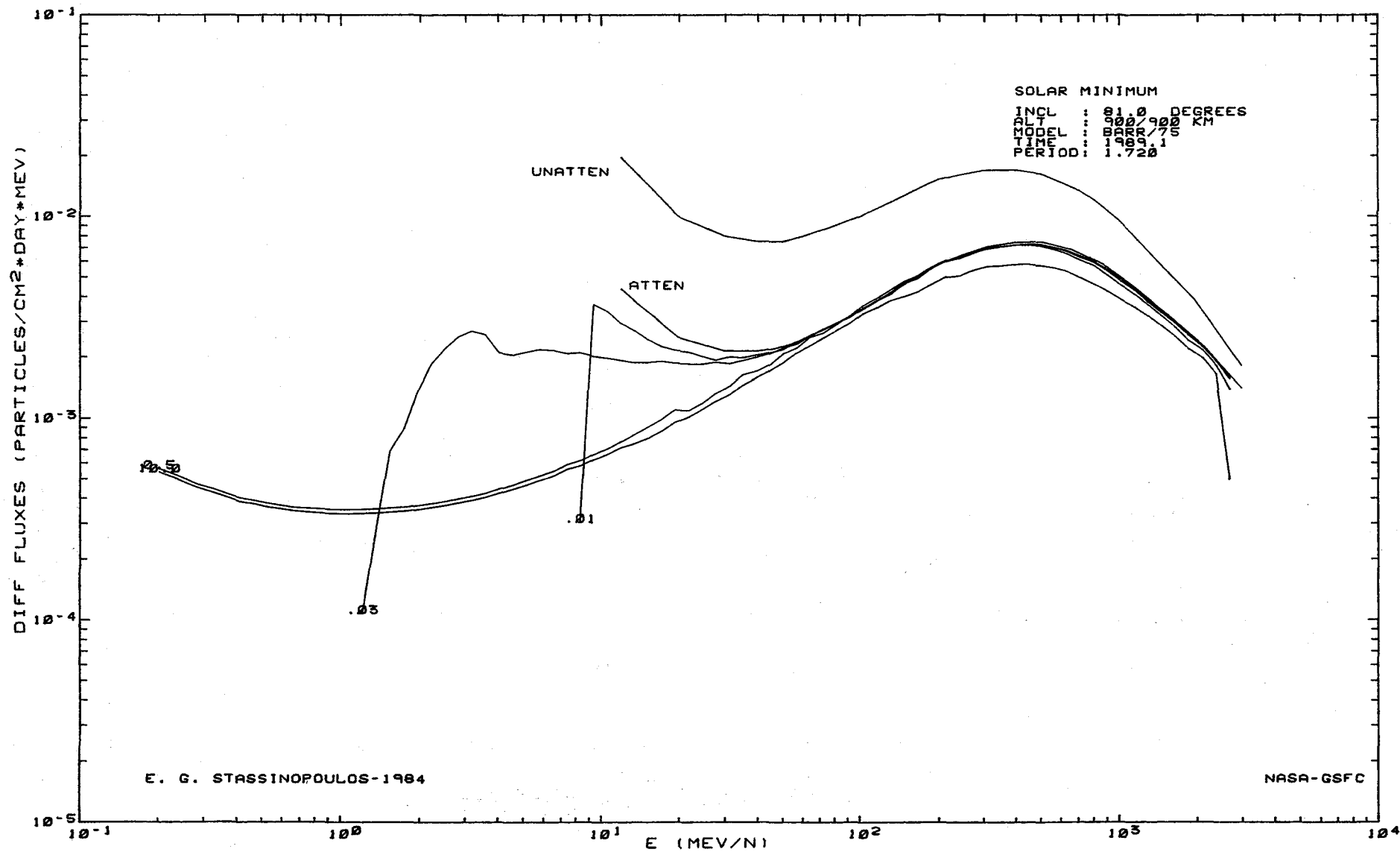




FIGURE 22

COBE COSMIC RAY ANALYSIS  
MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: SC  
DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
ALUMINUM SHIELDS  
Z=21 A=44.96

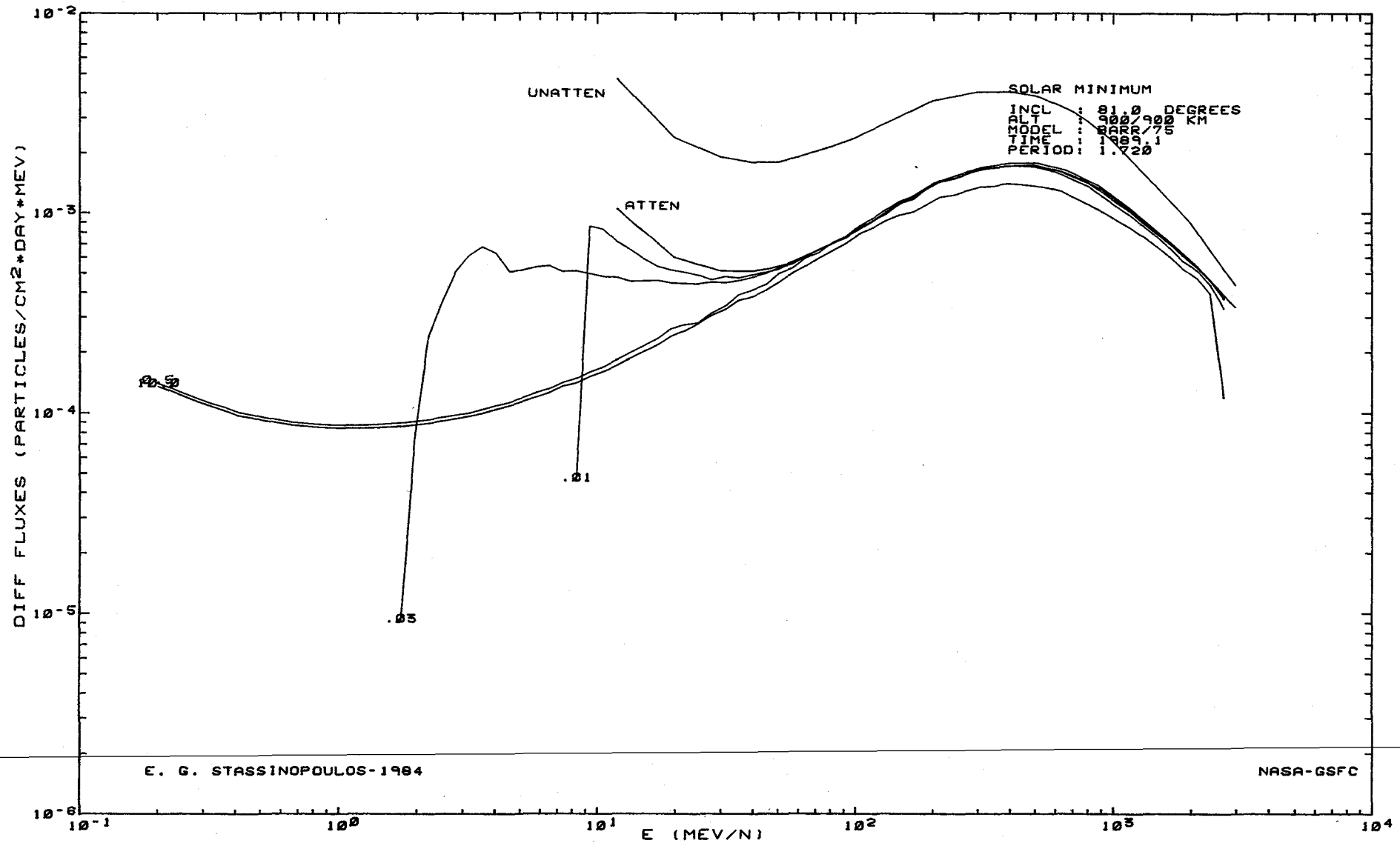


FIGURE 23

MAGNETOSPHERICALLY MODIFIED COSMIC RAY ANALYSIS  
 DIFFERENTIAL FLUX AT THE SURFACE OF THE EARTH  
 ALUMINUM SHIELDS BEHIND A SPHERICAL  
 Z=22 R=47.90

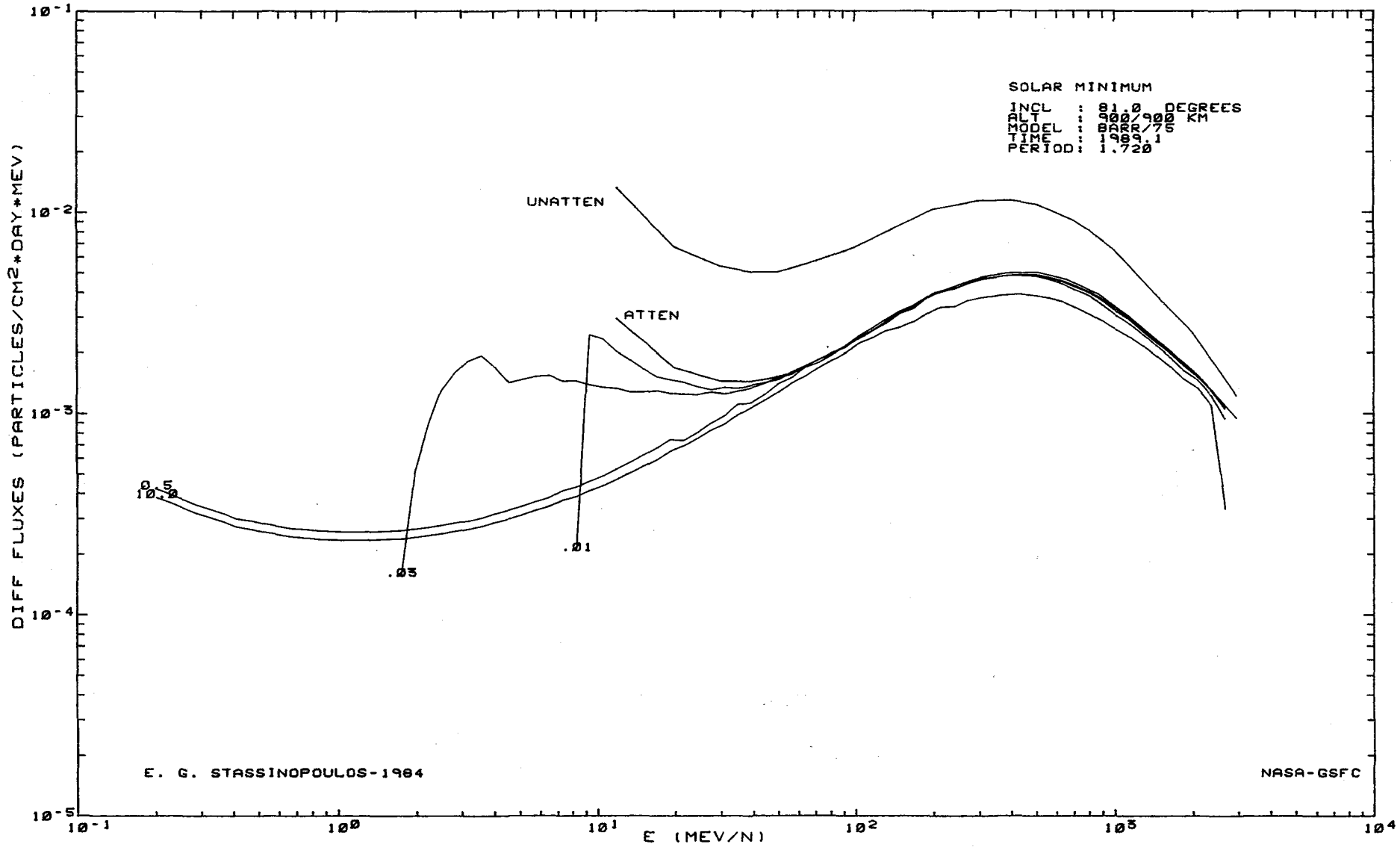


FIGURE 24

MAGNETOSPHERICALLY COSMIC RAY ANALYSIS  
 DIFFERENTIAL FLUX AT THE EQUATORIAL PLANE  
 ALUMINUM SHIELDS INDICATED FOR: V  
 Z=25 A=50.95

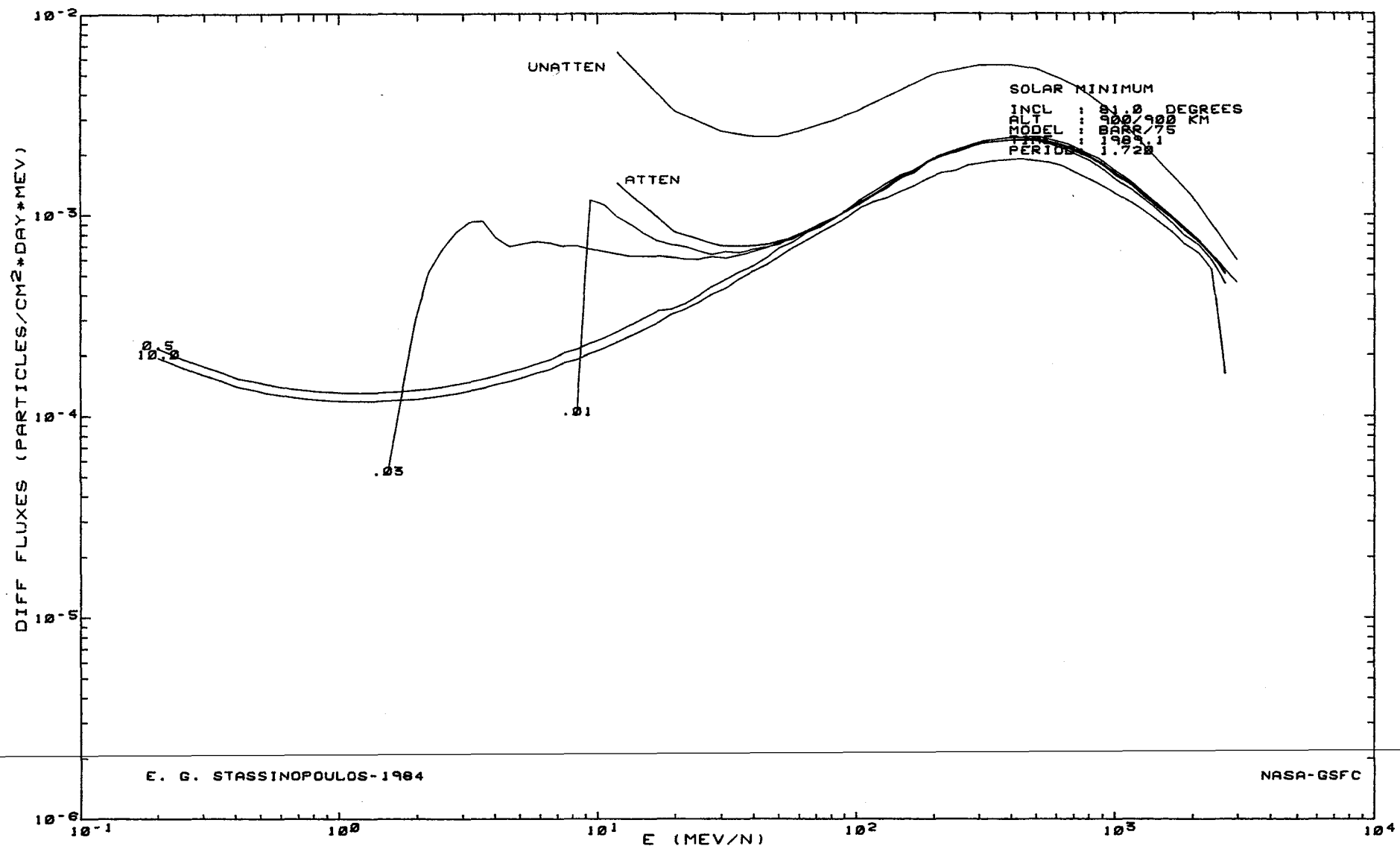


FIGURE 25

MAGNETOSPHERICALLY MODIFIED COSMIC RAY ANALYSIS  
 DIFFERENTIAL FLUX AT THE EQUATOR BEHIND A SPHERICAL  
 ALUMINUM SHIELD  
 Z=24 R=52.01

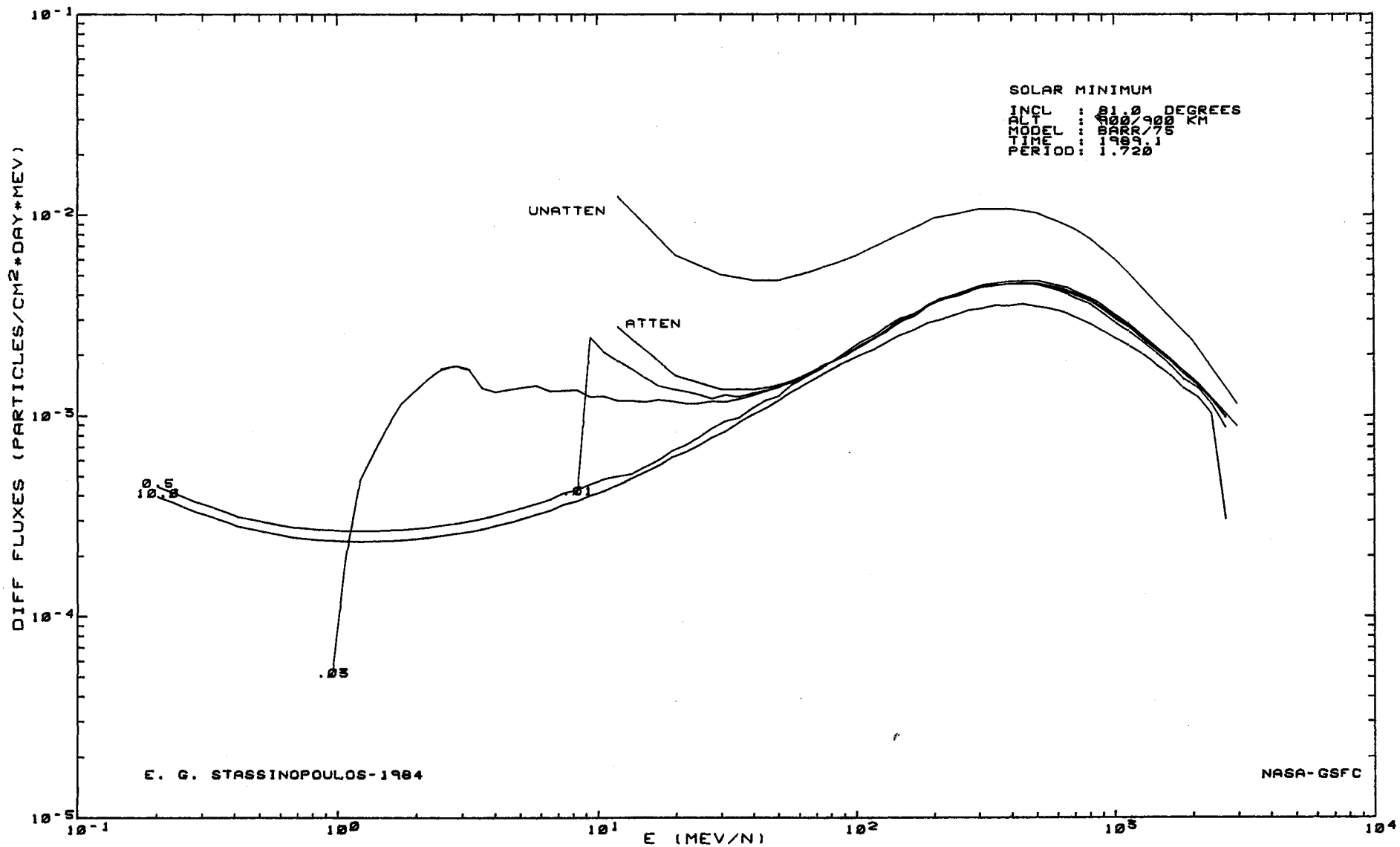


FIGURE 26

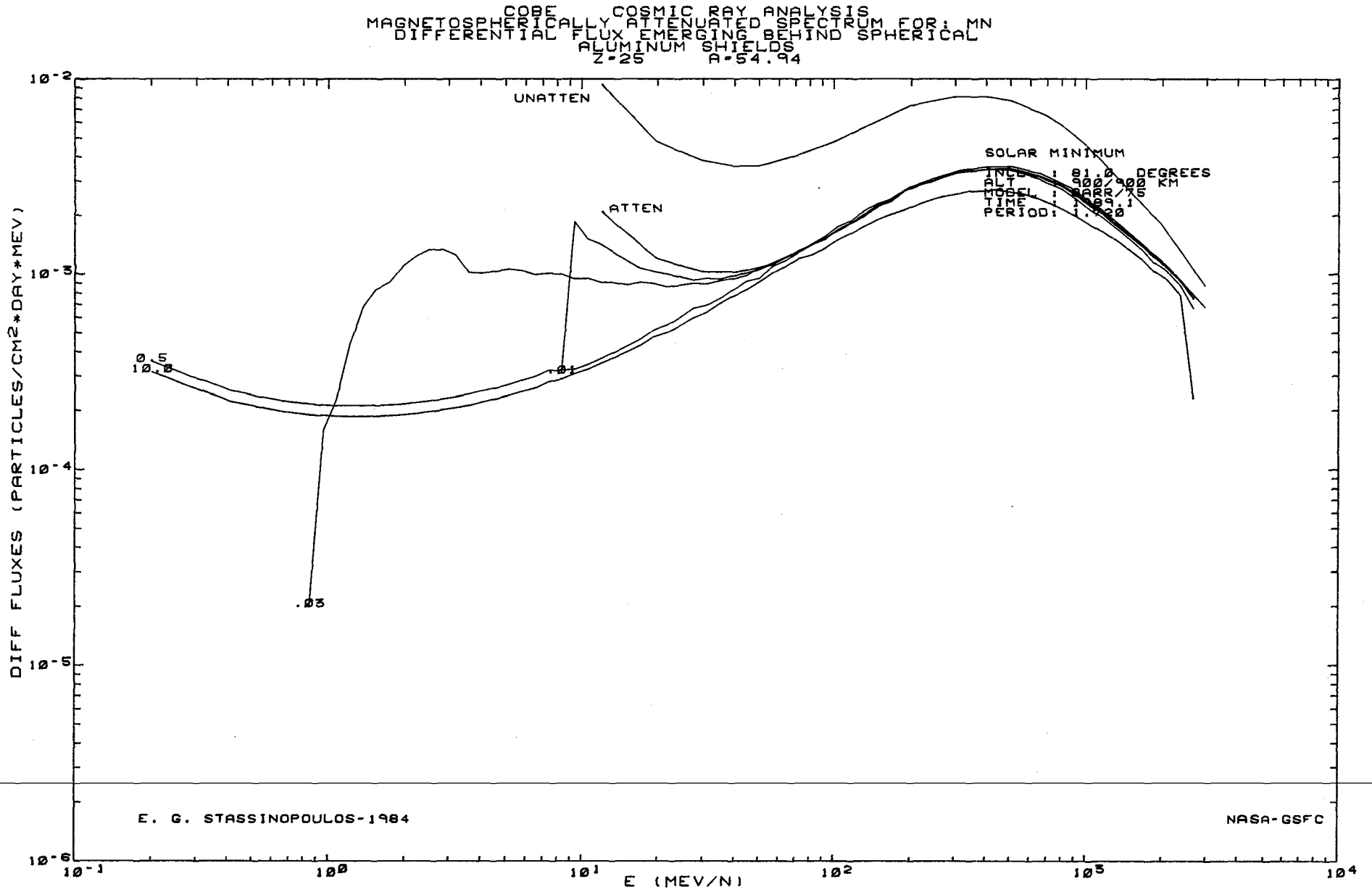


FIGURE 27

COBE COSMIC RAY ANALYSIS  
 MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR: FE  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
 ALUMINUM SHIELDS  
 Z=26 A=55.85

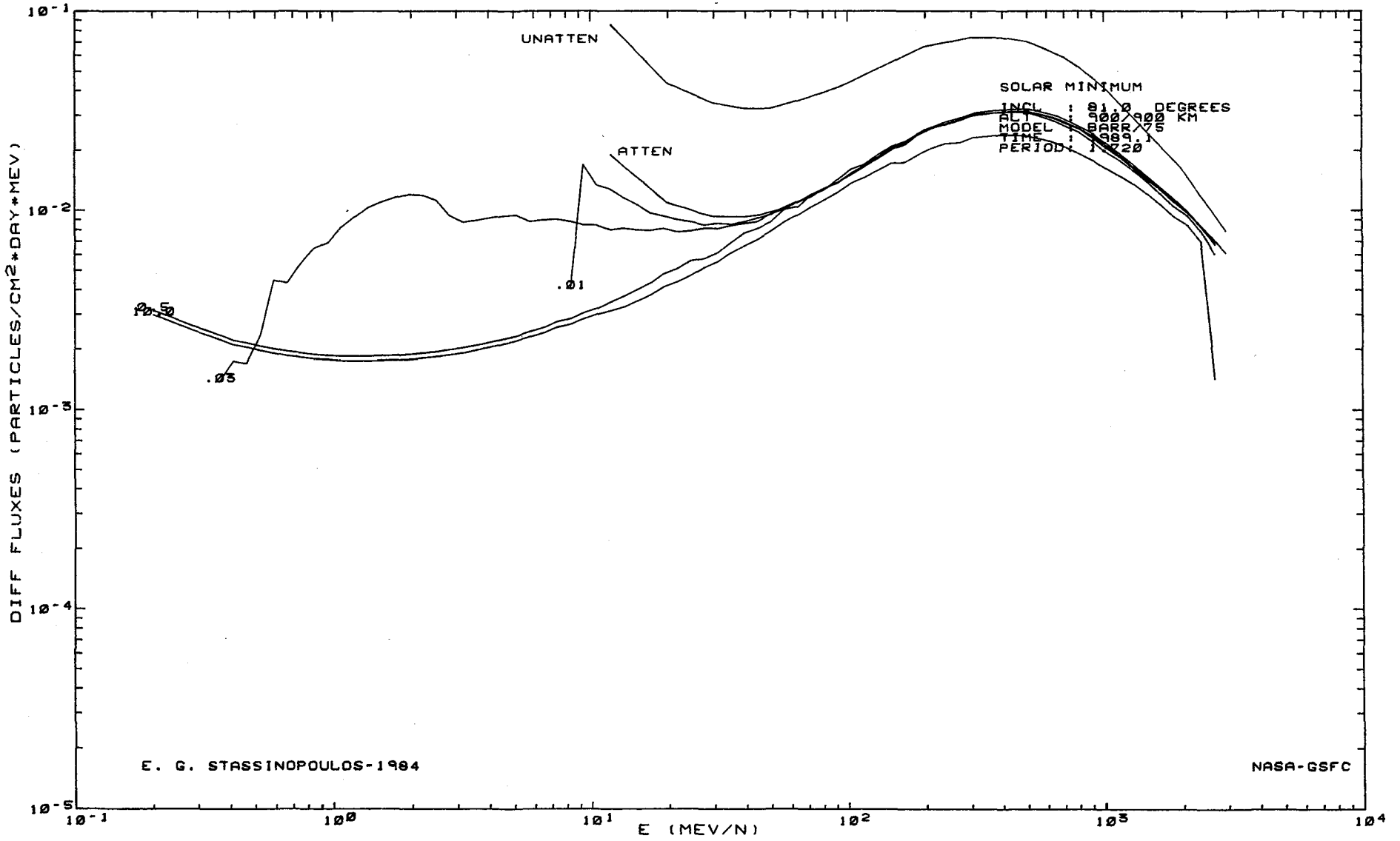


FIGURE 28

COBE COSMIC RAY ANALYSIS  
 MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR CO  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
 ALUMINUM SHIELDS  
 Z=27 A=58.94

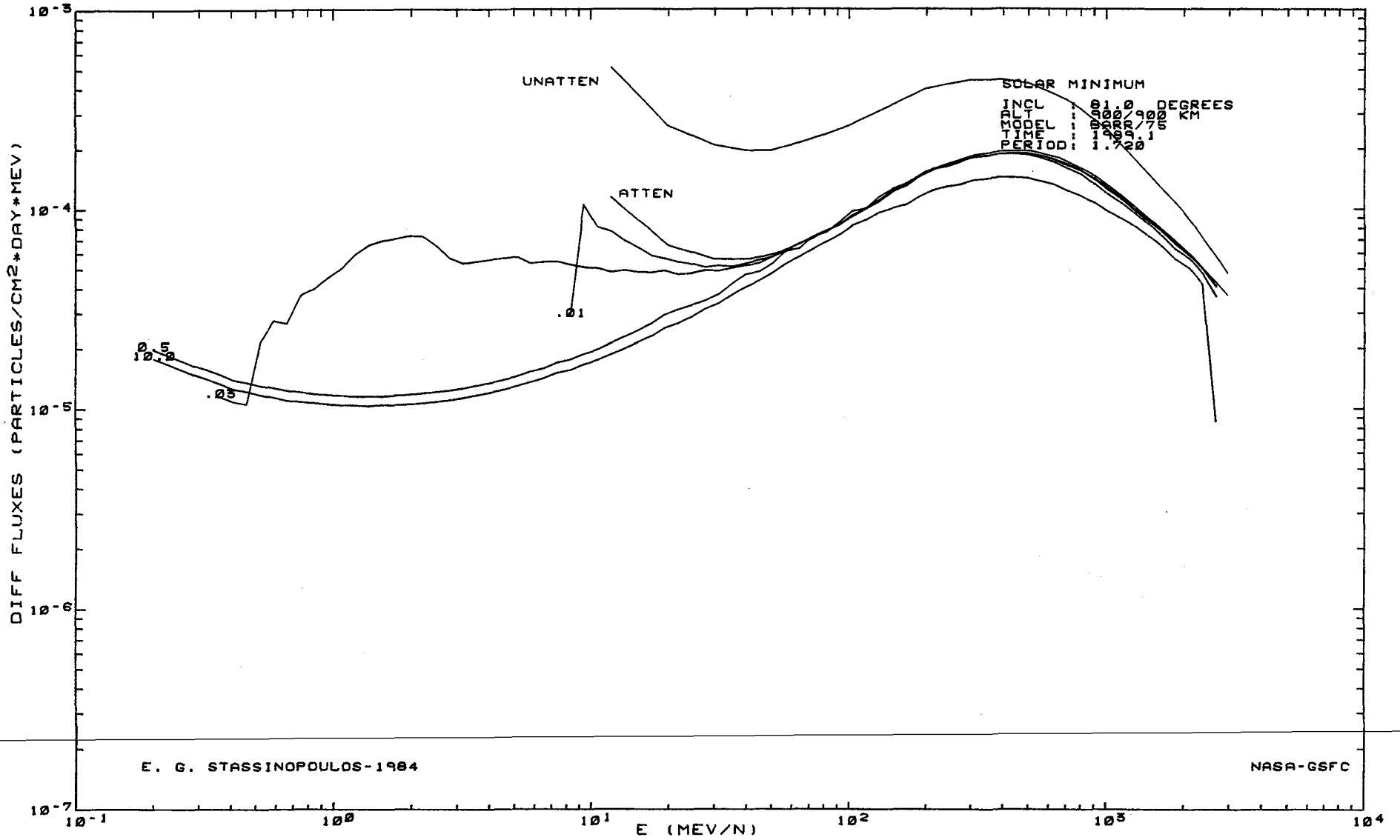


FIGURE 29

COBE COSMIC RAY ANALYSIS  
 MAGNETOSPHERICALLY ATTENUATED SPECTRUM FOR Ni  
 DIFFERENTIAL FLUX EMERGING BEHIND SPHERICAL  
 ALUMINUM SHIELDS  
 Z=28 A=58.71

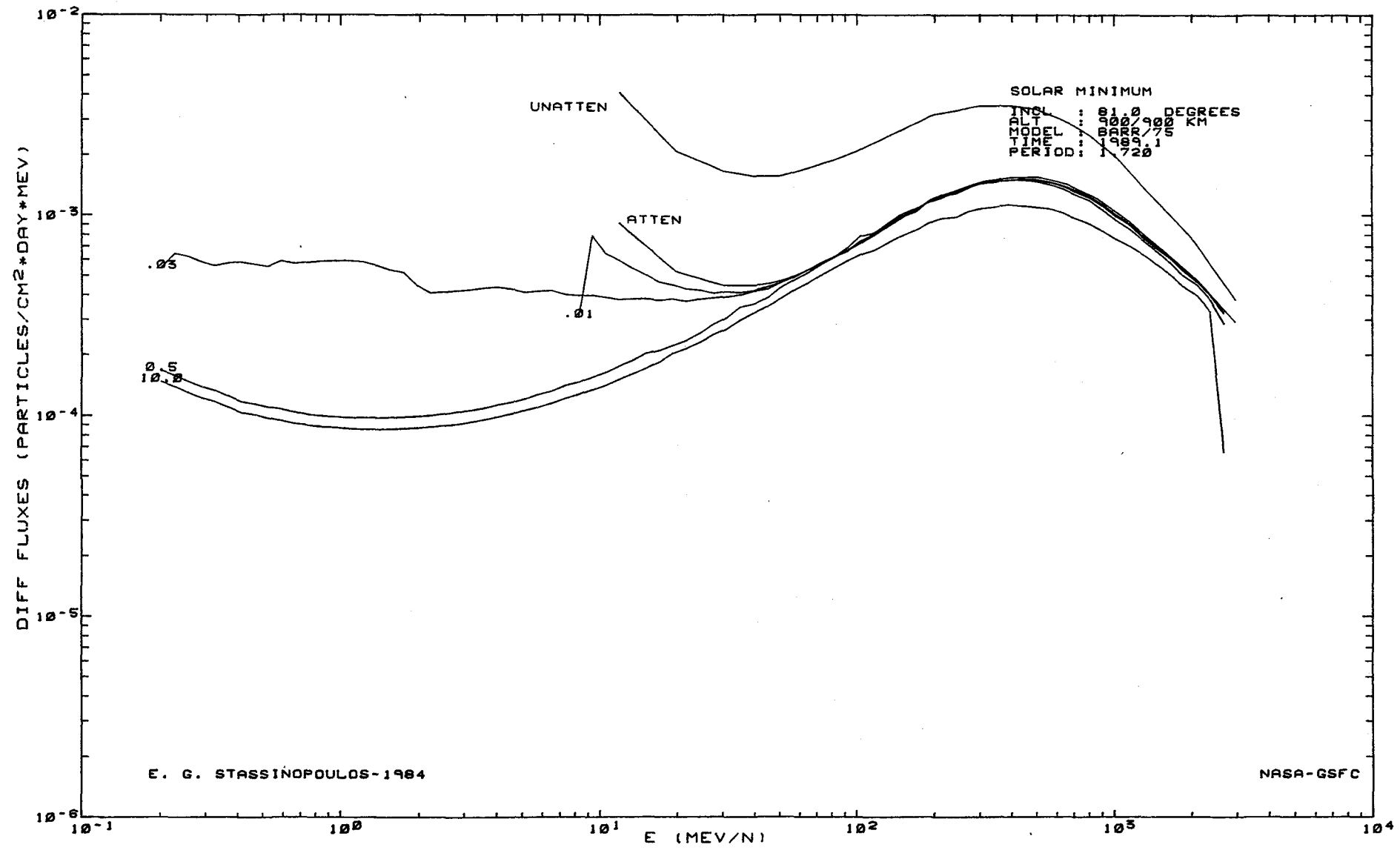




Figure 30

MAGNETOSPHERICALLY ATTENUATED COSMIC RAY LET SPECTRA  
SPHERICAL ALUMINUM SHIELD THICKNESS : 1.00E-02 GM/CM\*\*2

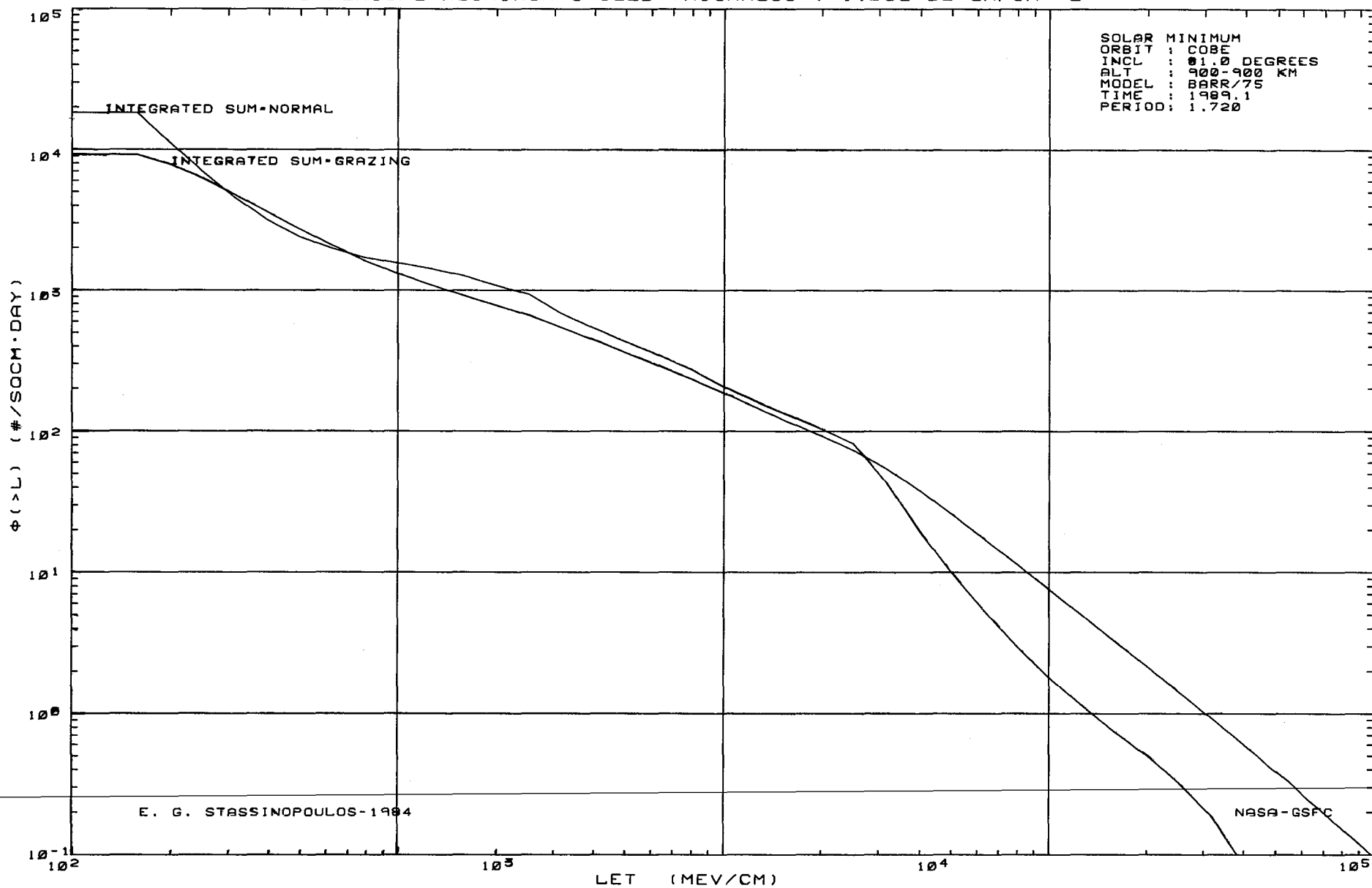


Figure 31

MAGNETOSPHERICALLY ATTENUATED COSMIC RAY LET SPECTRA  
SPHERICAL ALUMINUM SHIELD THICKNESS : 5.00E-02 GM/CM\*\*2

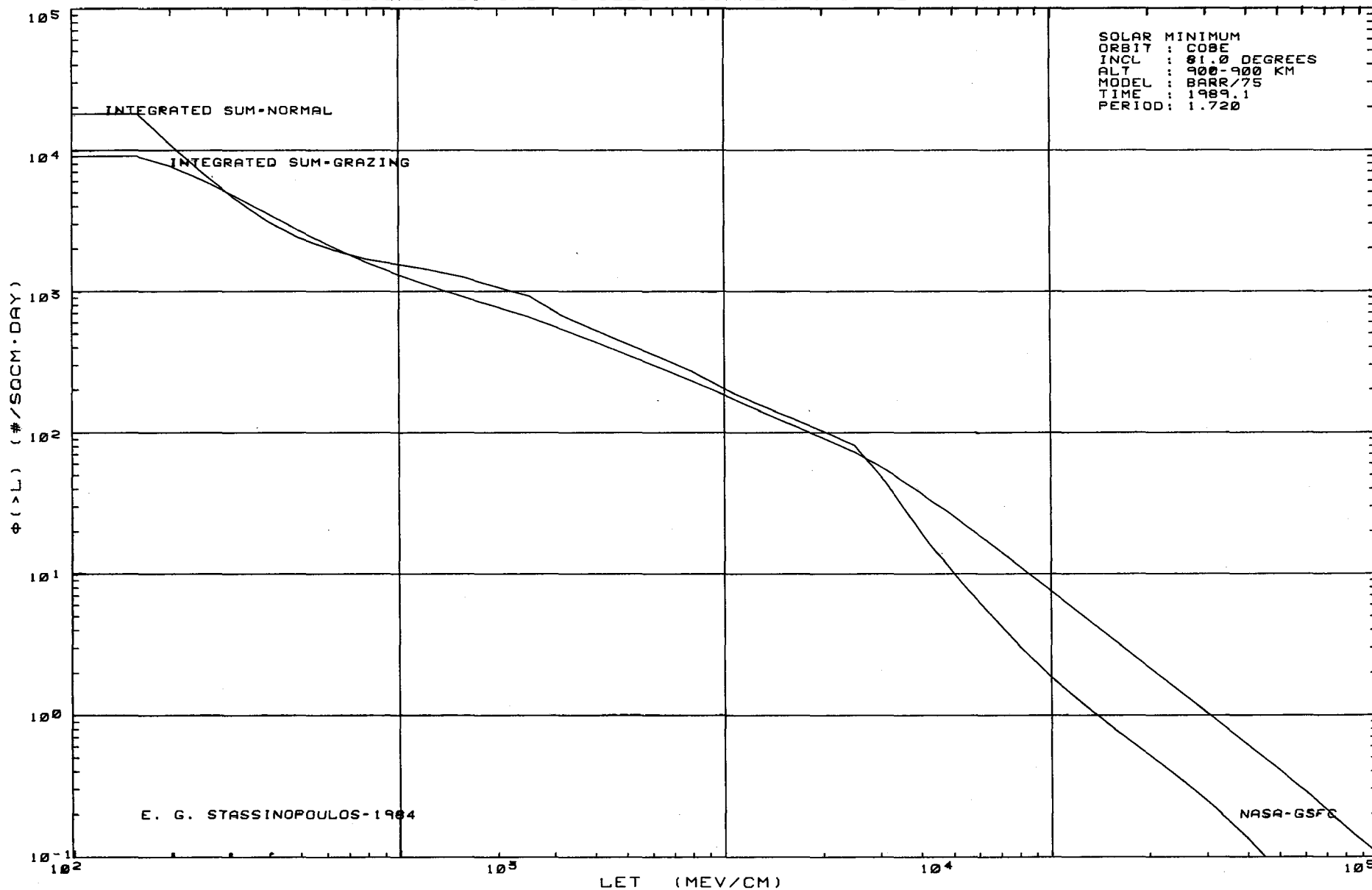


Figure 32

MAGNETOSPHERICALLY ATTENUATED COSMIC RAY LET SPECTRA  
SPHERICAL ALUMINUM SHIELD THICKNESS : 1.00E-01 GM/CM\*\*2

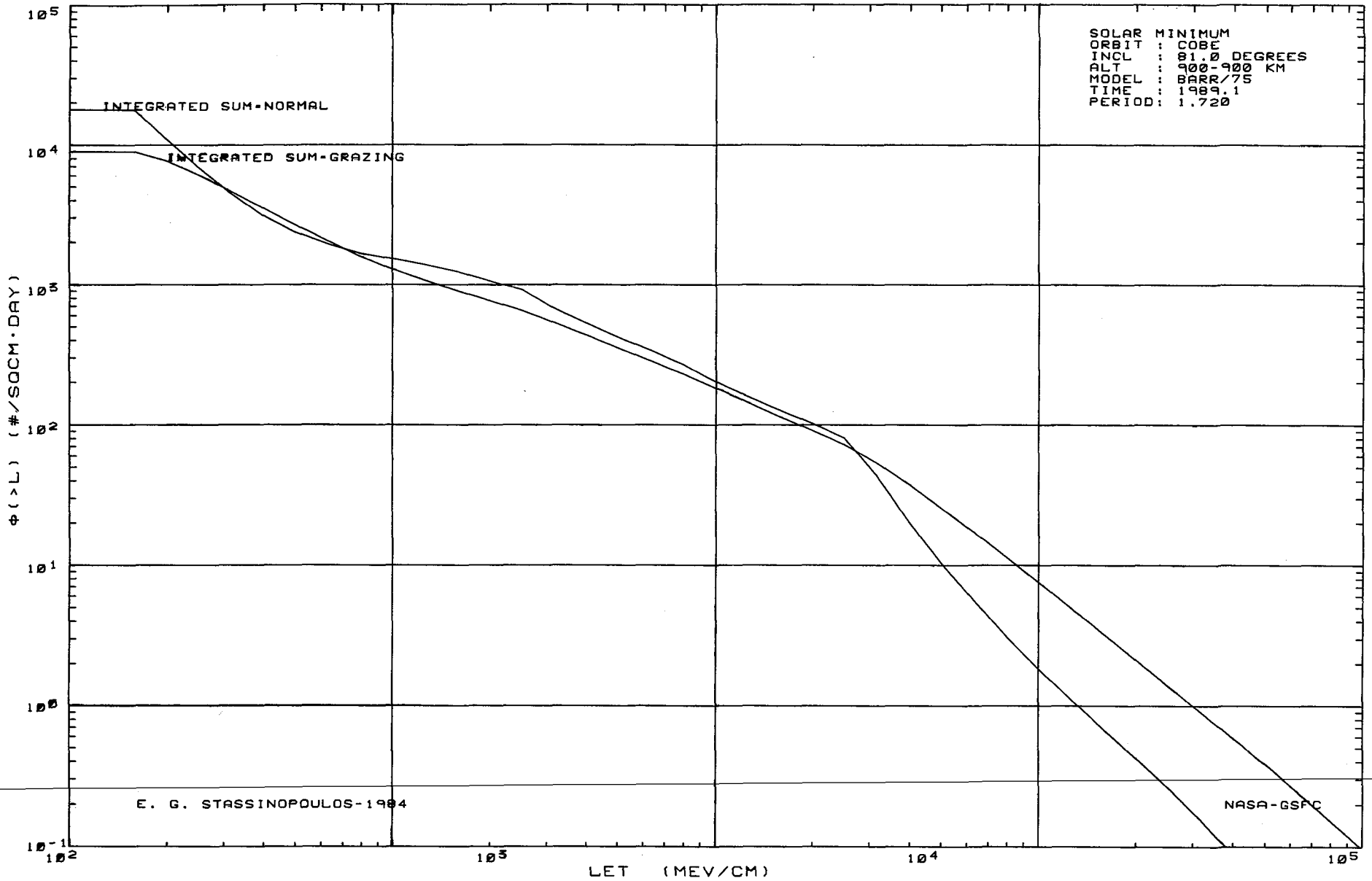


Figure 33

MAGNETOSPHERICALLY ATTENUATED COSMIC RAY LET SPECTRA  
SPHERICAL ALUMINUM SHIELD THICKNESS : 5.00E-01 GM/CM\*\*2

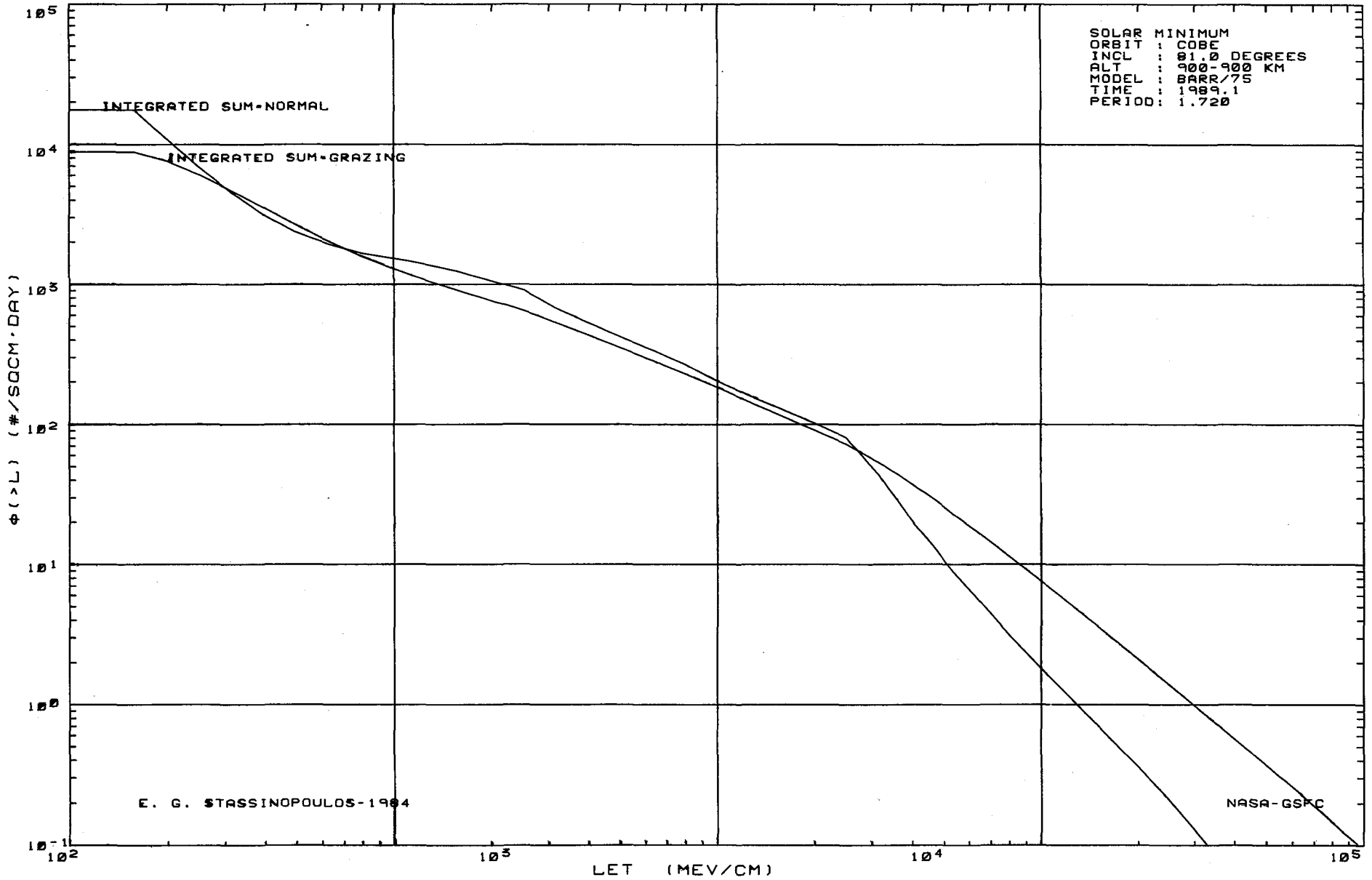


Figure 34

MAGNETOSPHERICALLY ATTENUATED COSMIC RAY LET SPECTRA  
 SPHERICAL ALUMINUM SHIELD THICKNESS : 1.00E 00 GM/CM\*\*2

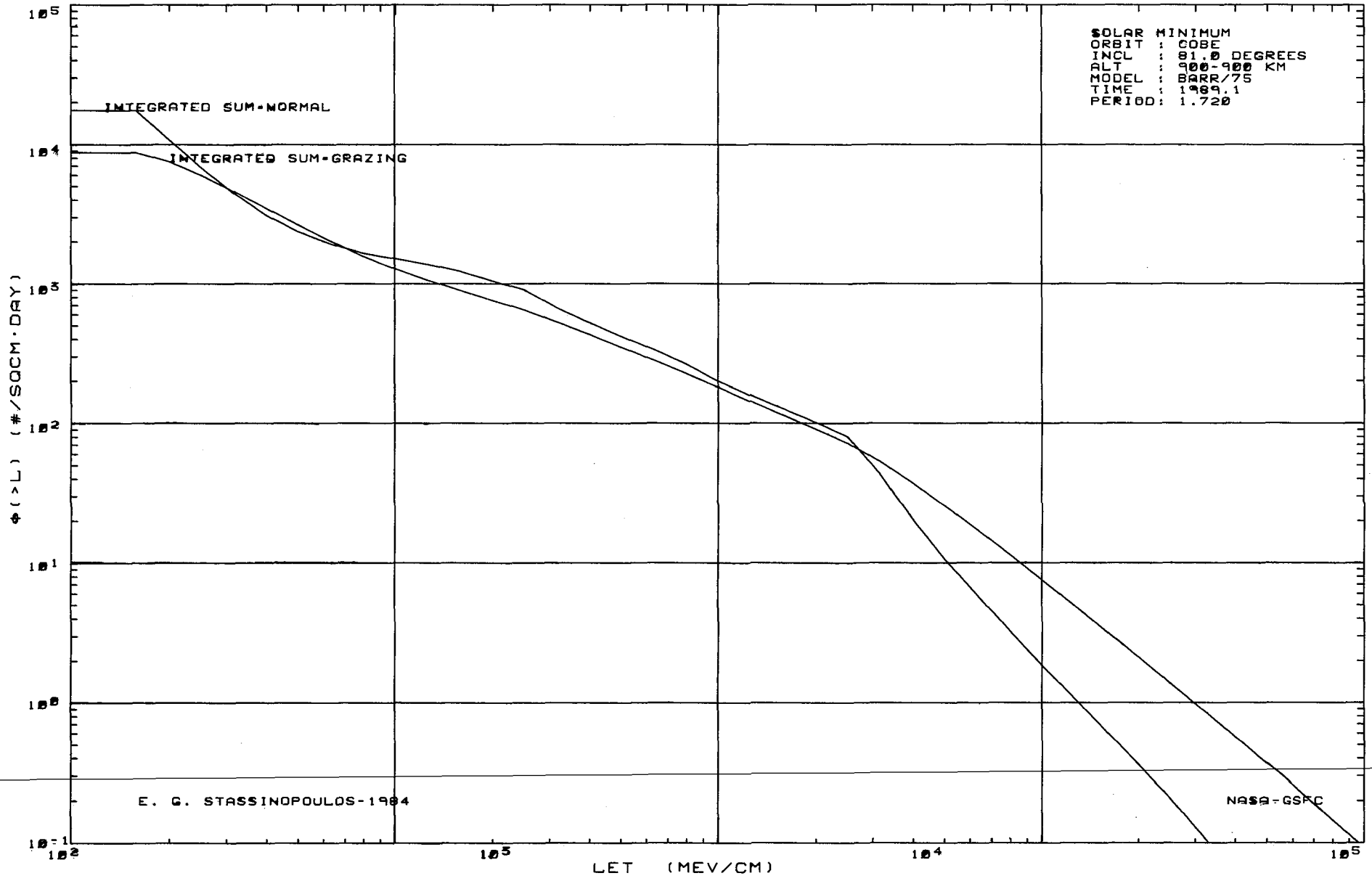


Figure 35

MAGNETOSPHERICALLY ATTENUATED COSMIC RAY LET SPECTRA  
SPHERICAL ALUMINUM SHIELD THICKNESS : 3.00E 00 GM/CM\*\*2

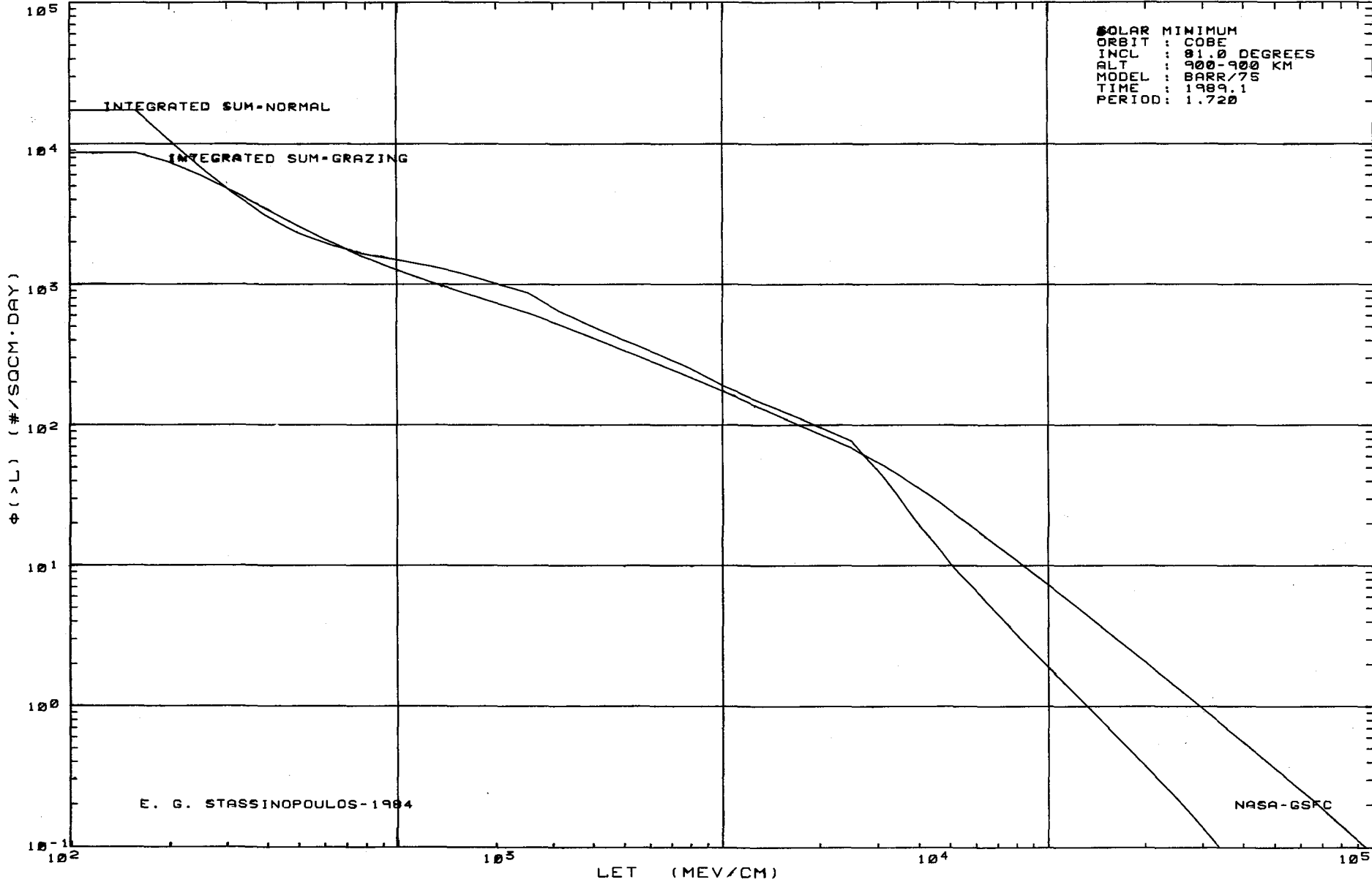


Figure 36

MAGNETOSPHERICALLY ATTENUATED COSMIC RAY LET SPECTRA  
SPHERICAL ALUMINUM SHIELD THICKNESS : 5.00E 00 GM/CM\*\*2

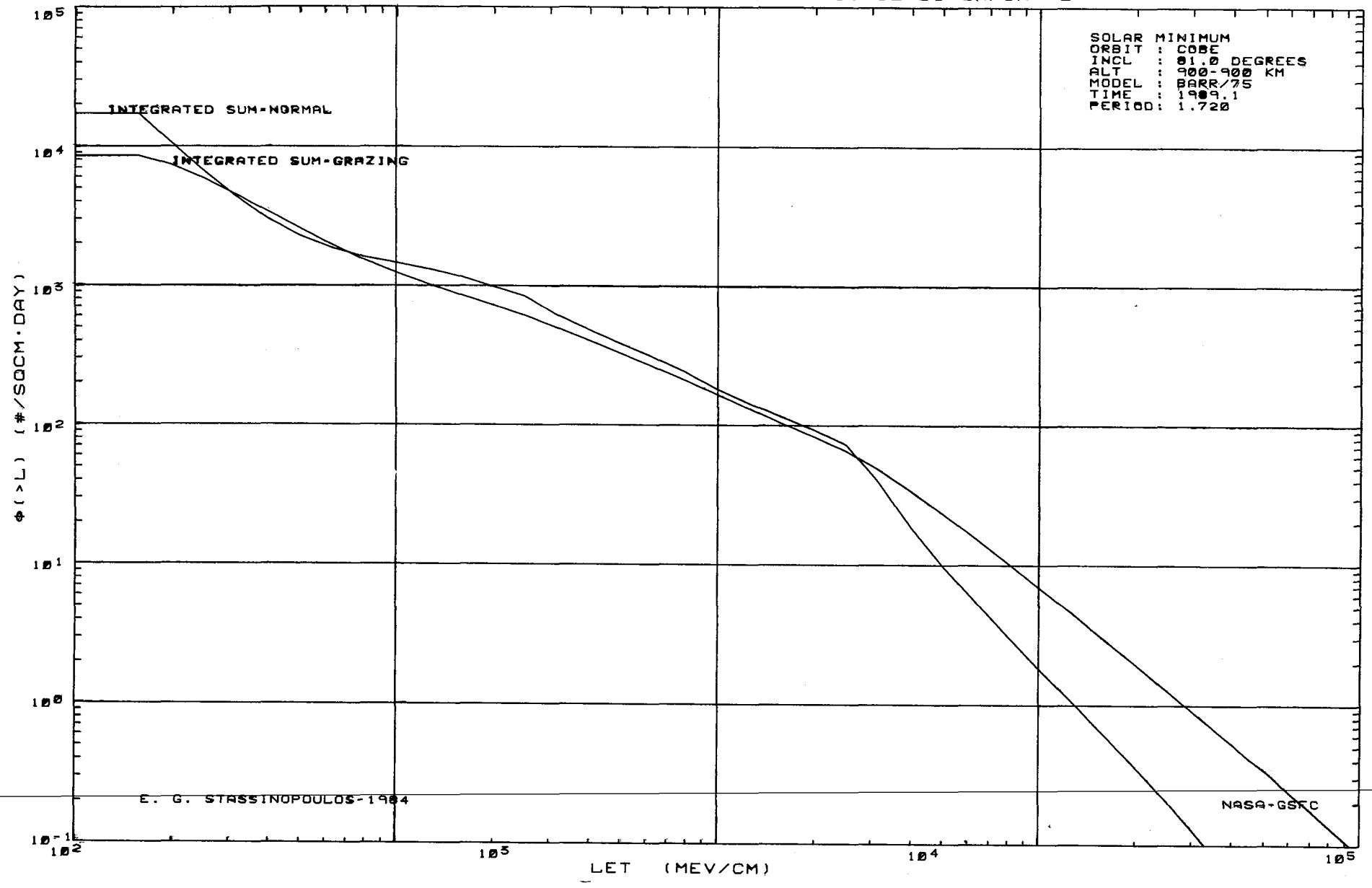


Figure 37

MAGNETOSPHERICALLY ATTENUATED COSMIC RAY LET SPECTRA  
 SPHERICAL ALUMINUM SHIELD THICKNESS : 1.00E 01 GM/CM\*\*2

