



PHA LET RANGE:

Channels: 12 $\longrightarrow$ 127

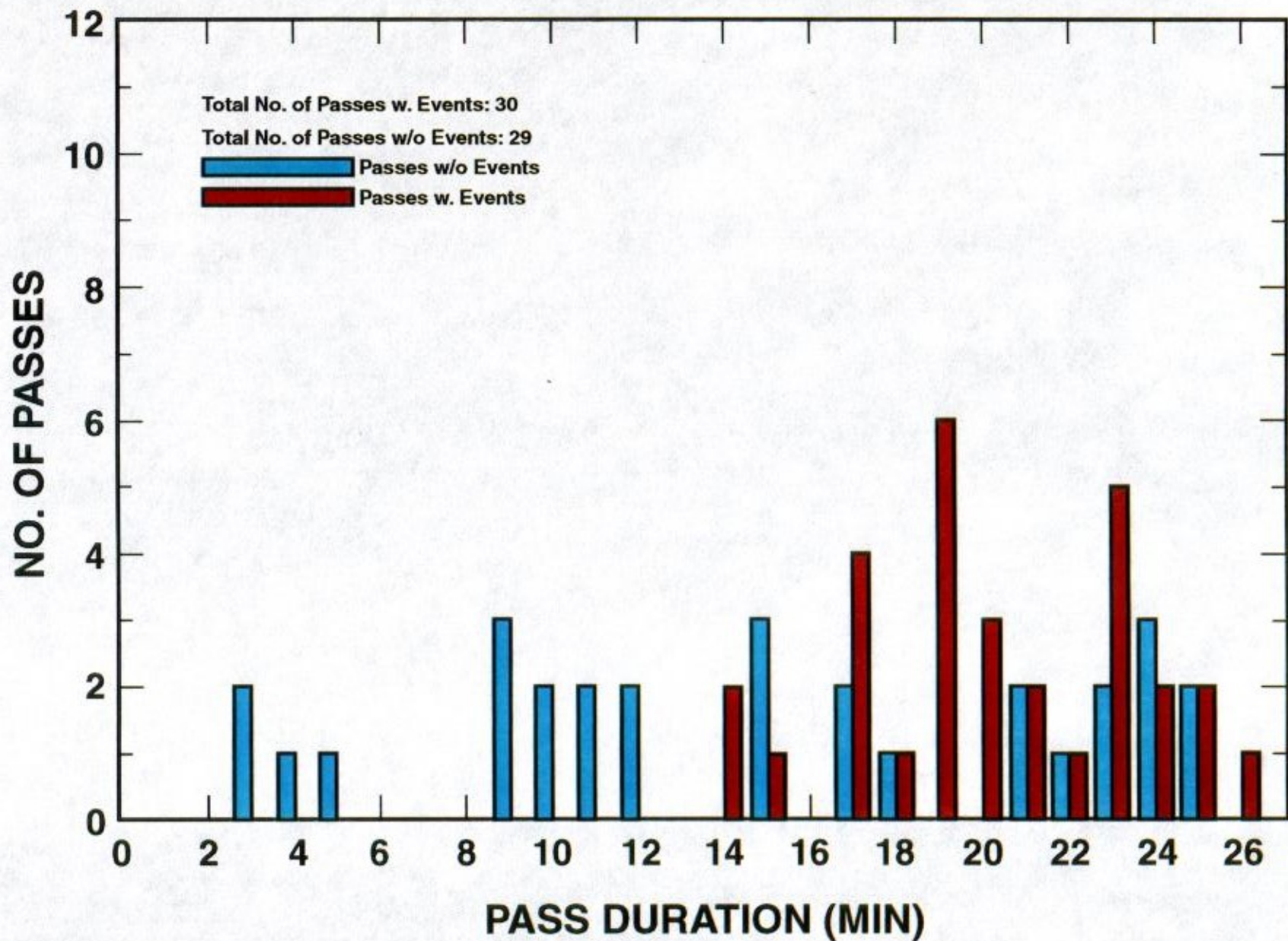
LET (MeV $\cdot$ cm²/mg): 1.123 $\longrightarrow$ 16.1

LET (keV/ μ m): 263.9 $\longrightarrow$ 3783.8

COSMIC - RAY - EVENT RIGIDITY & LET VALUES

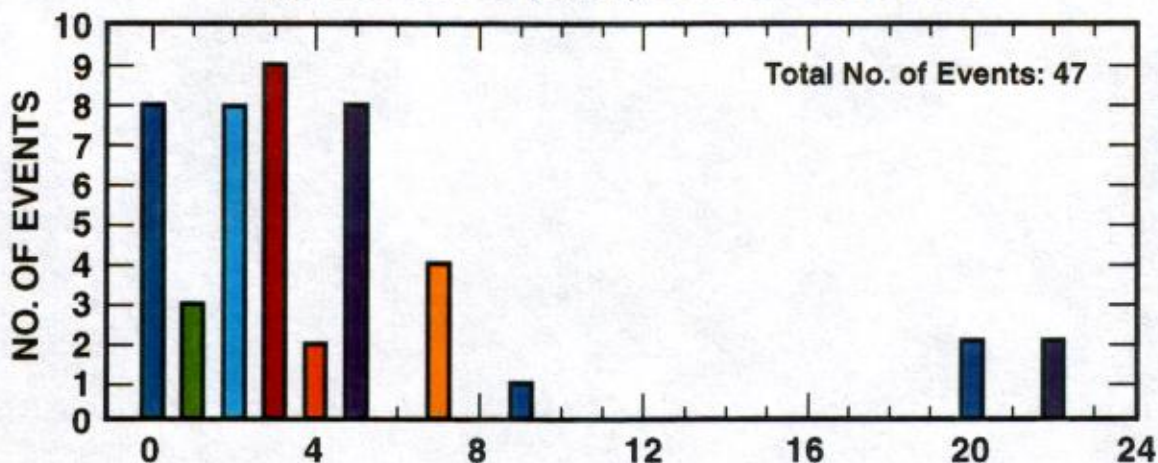
LON	LAT	Rigidity	LET(MeV $\cdot$ cm ² /mg)	LET (keV/ μ m)
91.80	7.24	14.045	1.261	296.4
123.50	10.70	13.776	1.912	449.4
123.50	-2.00	13.776	1.149	270.0
171.90	1.89	13.644	1.149	270.0
52.46	16.73	13.644	1.149	270.0
42.44	6.27	13.515	1.176	276.4
-159.00	-4.48	13.014	1.176	276.4
-175.84	-12.67	12.093	1.321	310.5
111.90	-16.20	11.267	1.149	270.0
-10.99	-5.87	11.073	1.149	270.0
30.10	-11.41	10.885	1.149	270.0
157.60	-16.95	10.701	1.261	296.4
153.76	-28.23	8.176	1.123	263.9
109.98	-28.21	7.389	2.098	493.1
51.37	-28.60	7.087	1.352	317.7

HST-HOST: Duration of SAA Traversals



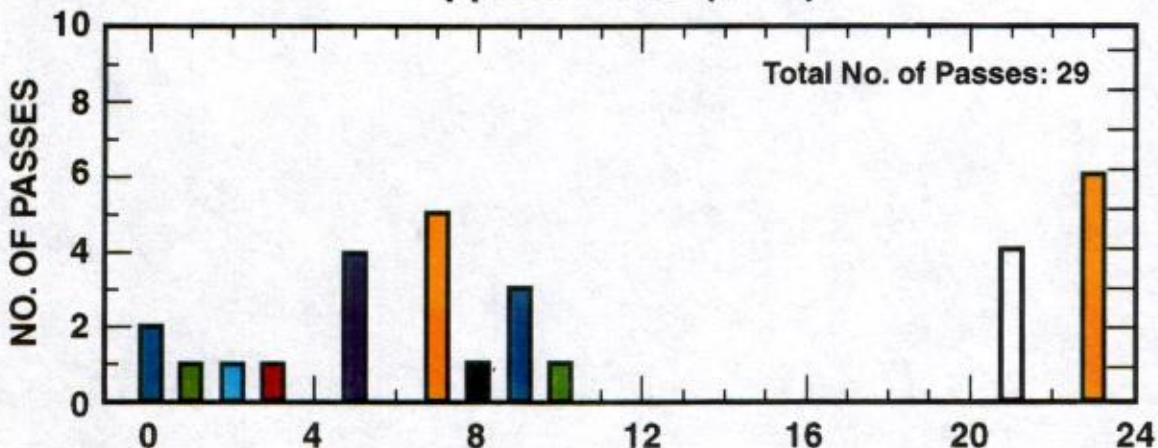
SAA Events:

Approx. Times (GMT) of SAA Traversals



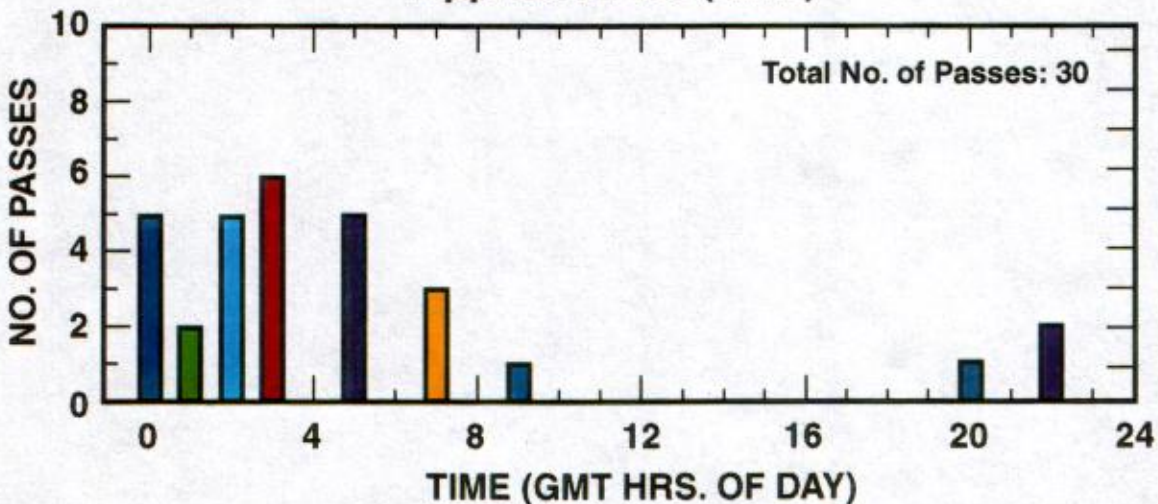
Passes Through SAA w/o Events:

Approx. Times (GMT)



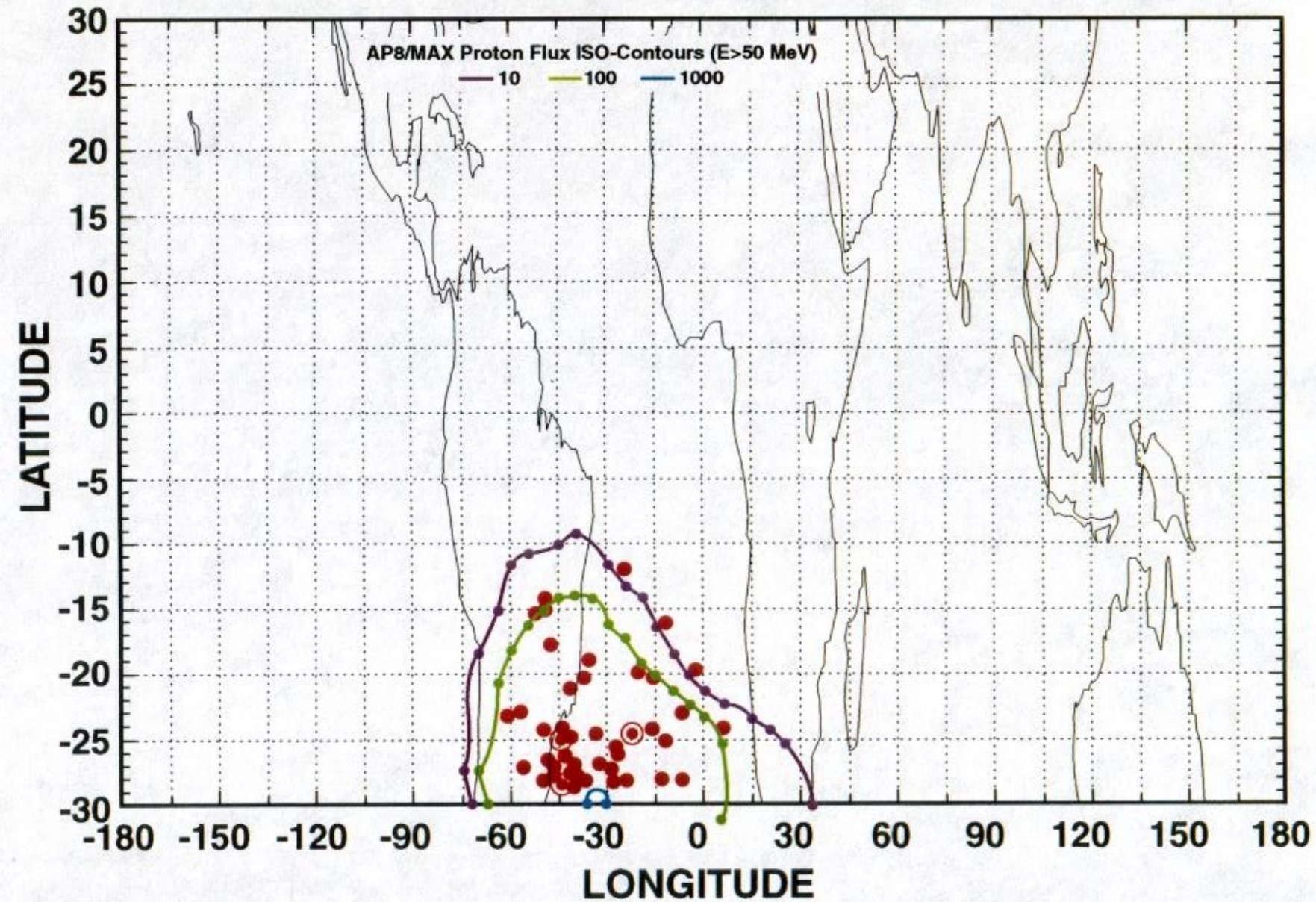
Passes Through SAA w. Events:

Approx. Times (GMT)



PHA Events in SAA

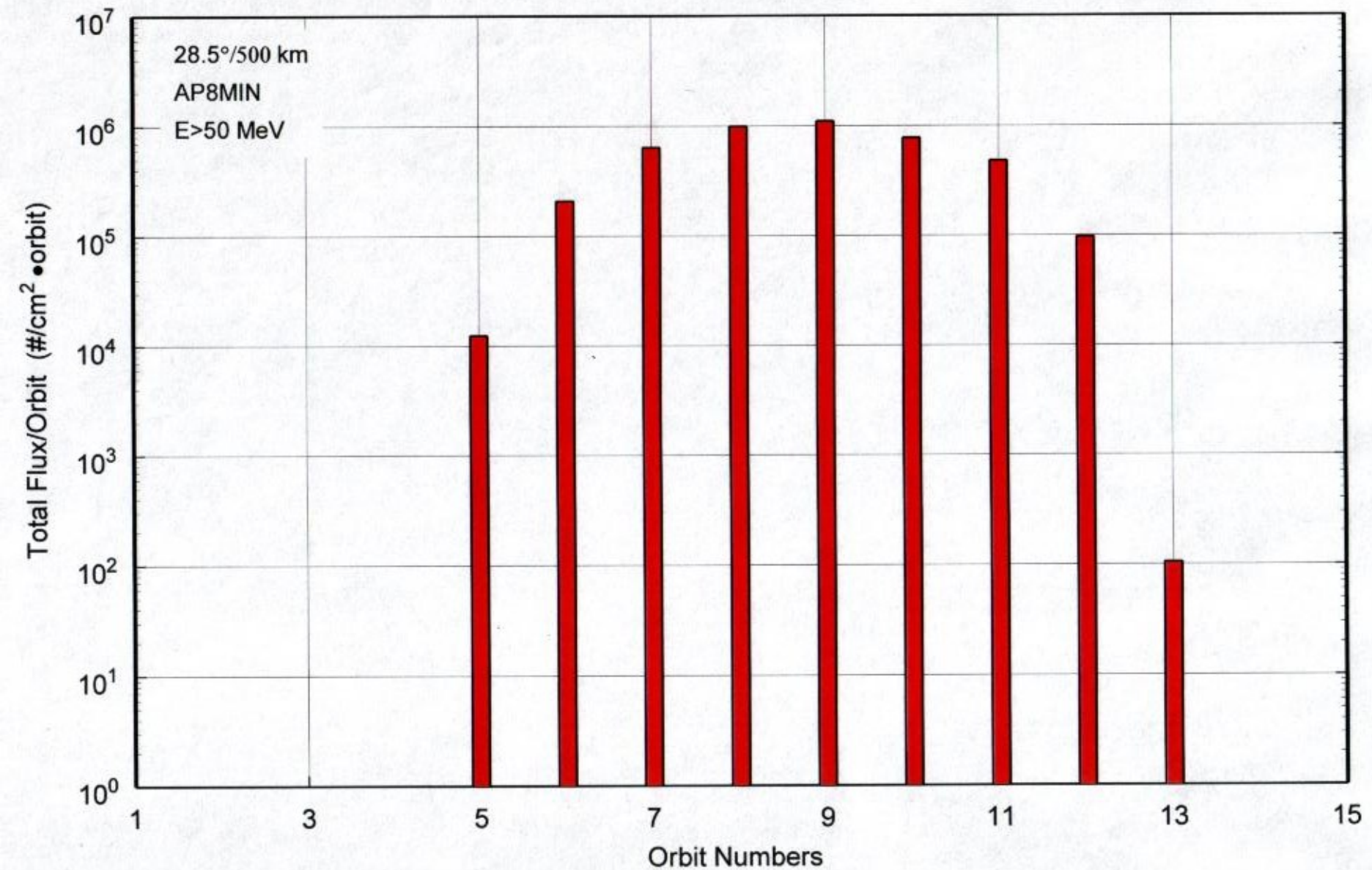
(Epoch 1998, 500km Altitude)



SAA Proton Events & LET Values

Channel#	LET (MeV•cm ² /mg)	LET keV/μm	No. of Events
12	1.12311	264	6
13	1.14940	270	2
14	1.17631	276	9
15	1.20345	282	6
16	1.23203	289	1
17	1.26087	296	4
18	1.29029	303	1
19	1.32059	310	4
20	1.35151	317	3
22	1.41553	332	5
23	1.44866	340	2
25	1.51728	356	2
27	1.58915	373	1
34	1.86859	439	1

Daily Protons Accumulated per Pass through SAA



STS-95 DISCOVERY: HST / HOST

28.5°/500 KM

<u>Day</u>	<u>Time in SAA</u> w. Events (total min.)	<u>Time in SAA</u> w/o Events (total min.)	<u>Total Time</u> (min. in SAA)
303	50	91	141
304	88	50	138
305	101	34	135
306	89	46	135
307	71	71	142
308	102	37	139
309	<u>45</u>	<u>88</u>	<u>133</u>
	546	417	963

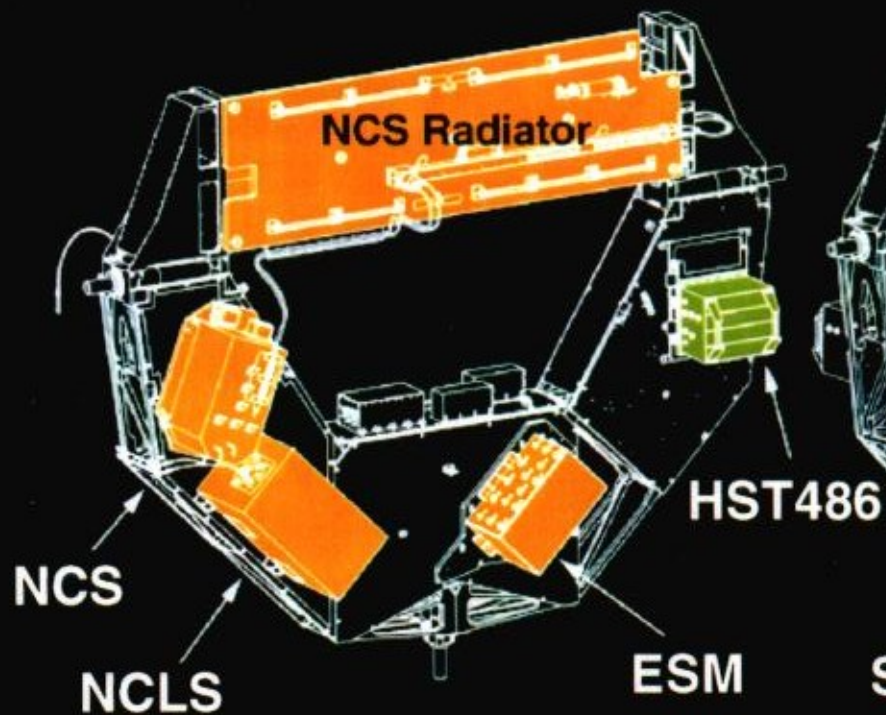
of Passes: 30

of Events: 47

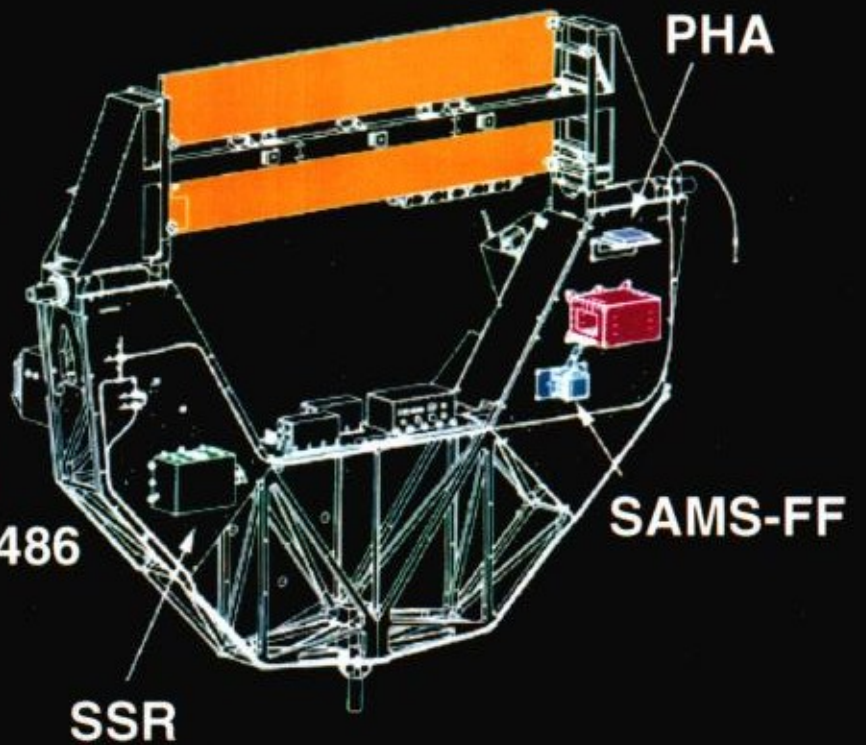
of Passes: 28

HST/HOST Cradle: Payloads

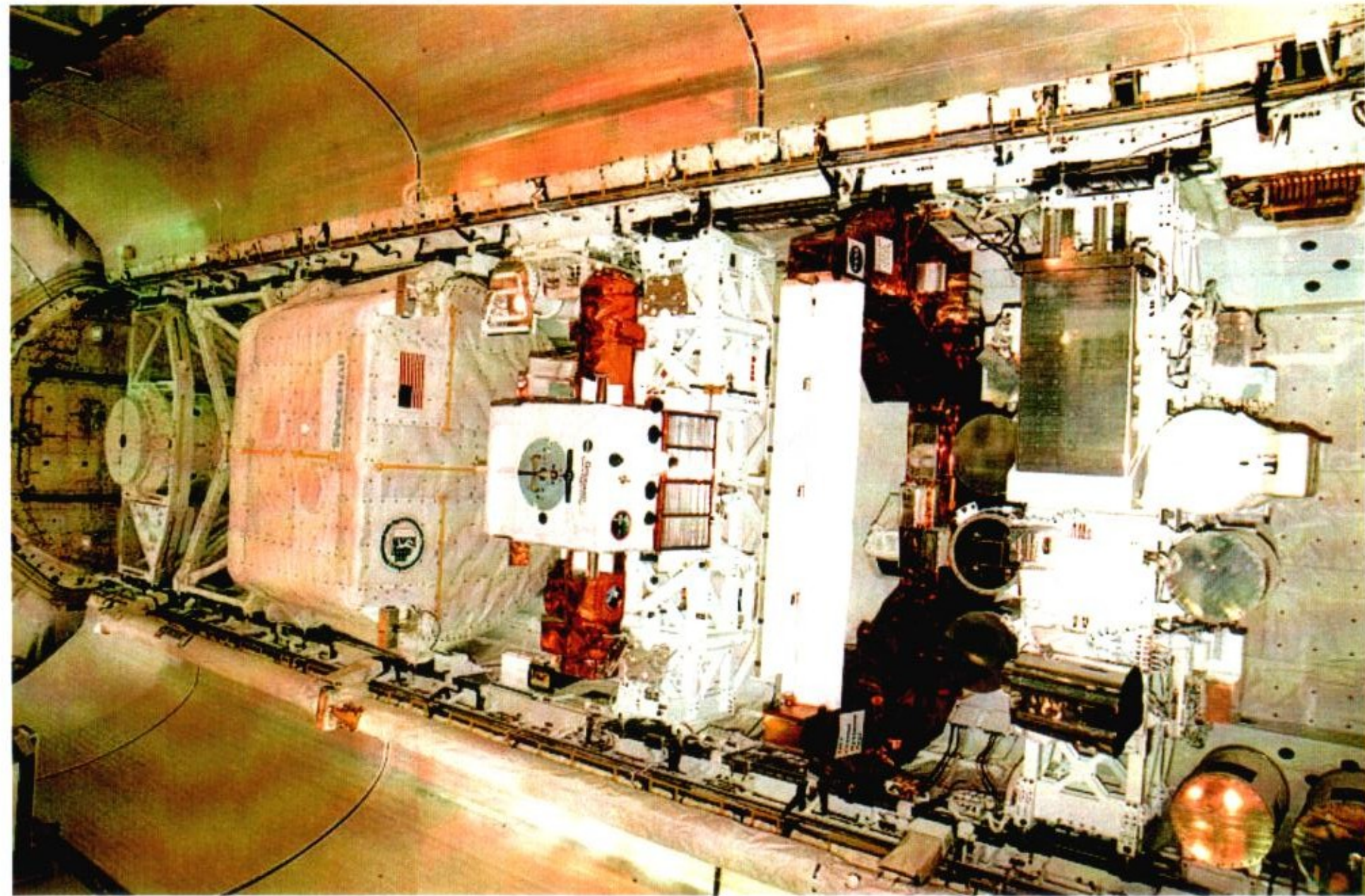
Forward Viewing Side



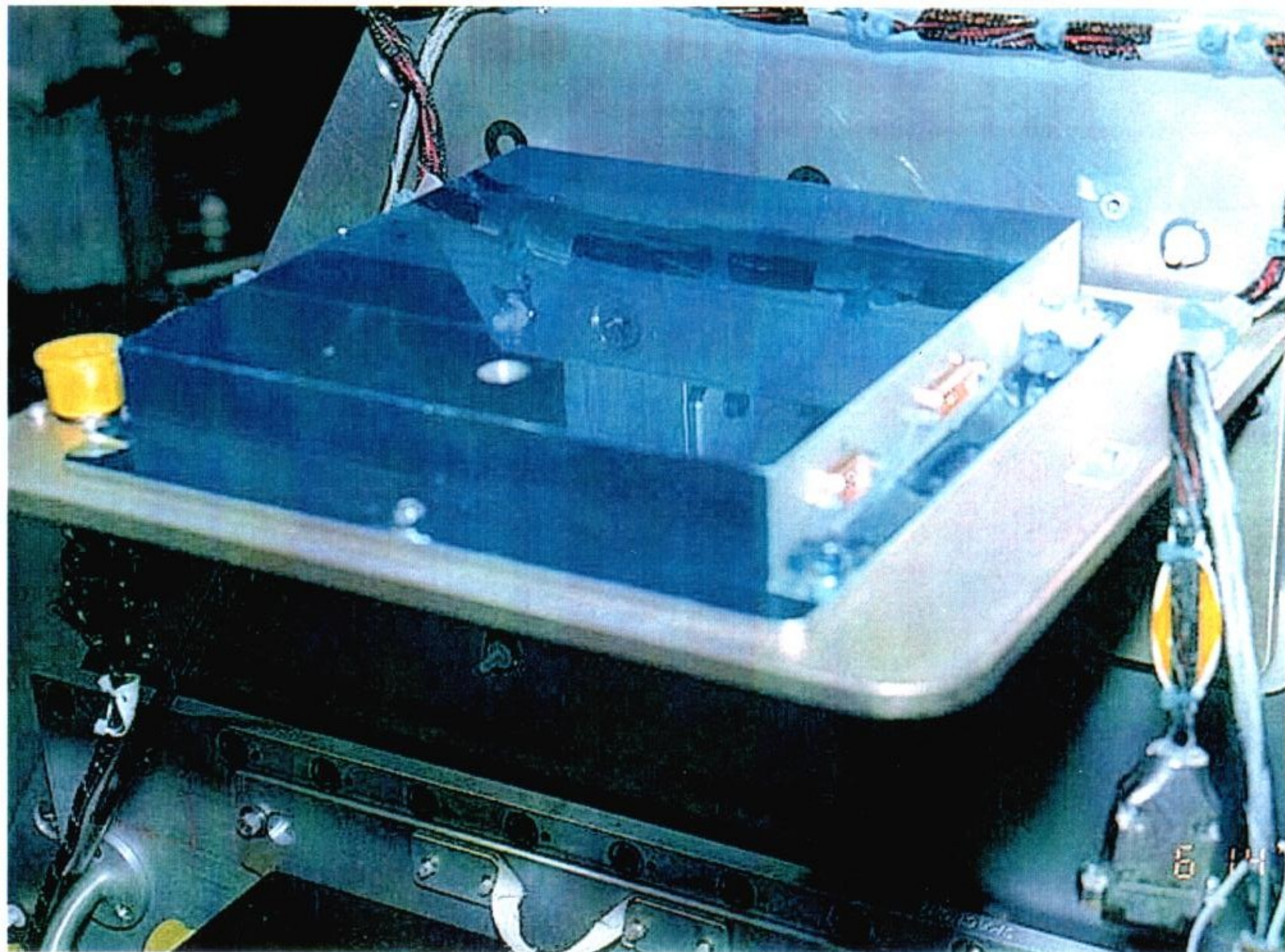
Aft Viewing Side



HST/HOST Cradle in Cargo Bay of STS-95 Discovery

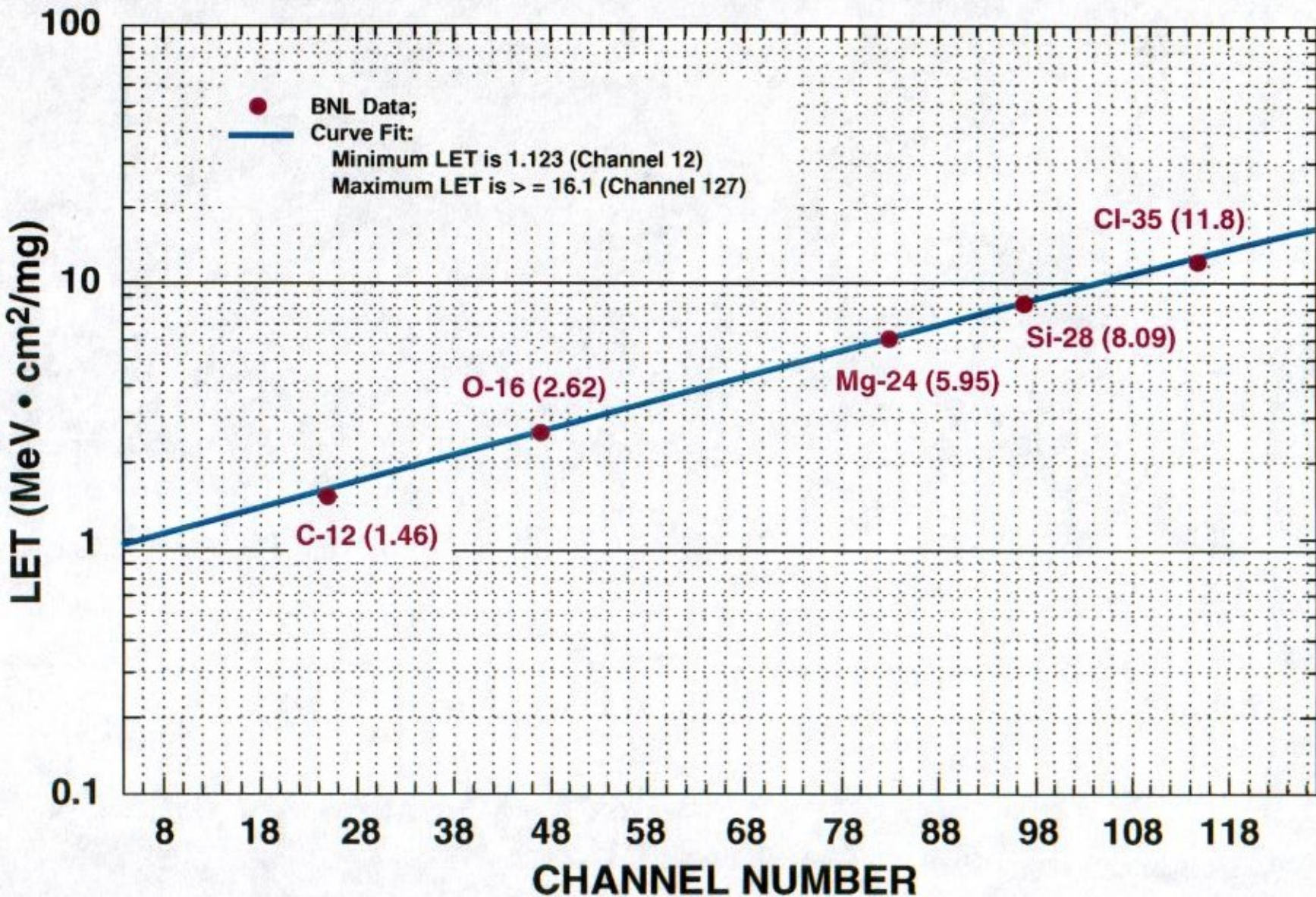


PHA: High-LET Radiation Spectrometer



PHA2 BNL Calibration Curve For Host

$$\text{LET} = 0.8508 \cdot \exp(0.02314 \cdot \text{Channel Number})$$

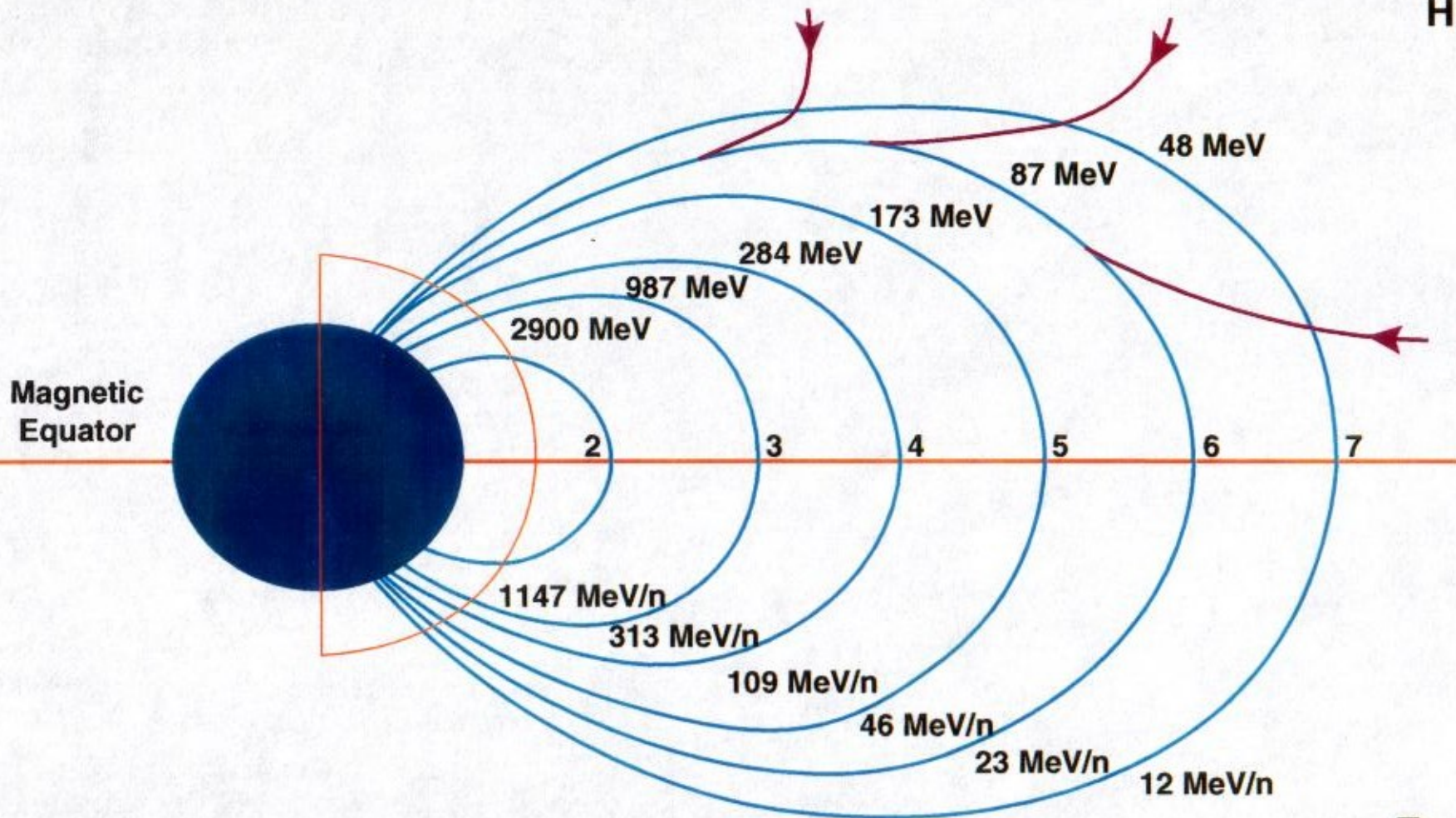


Magnetic Rigidity

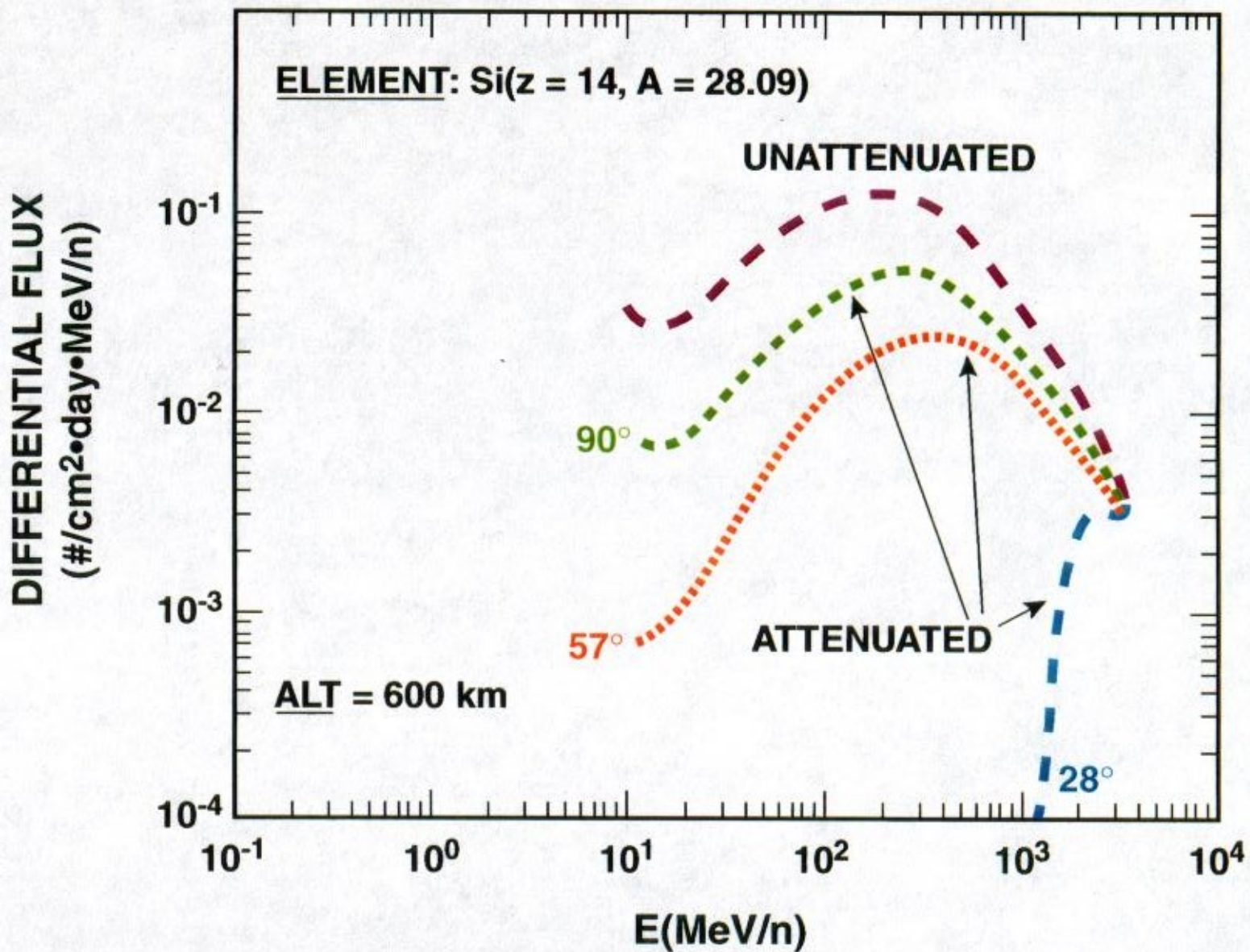
Total Energy Required to Penetrate the Magnetosphere

$\frac{\text{momentum}}{\text{charge}}$

H

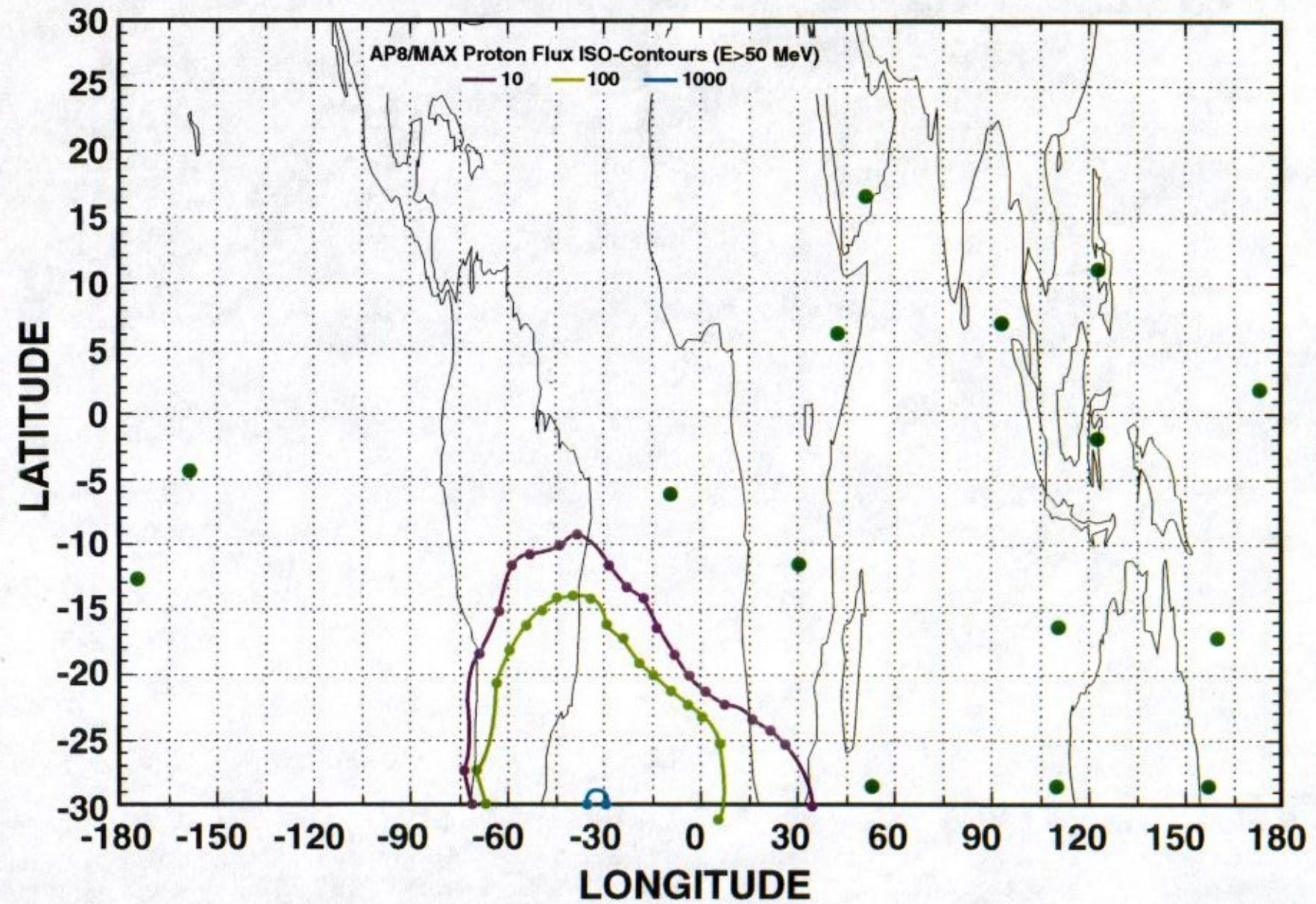


Magnetospheric Attenuation of Cosmic Rays For Leo

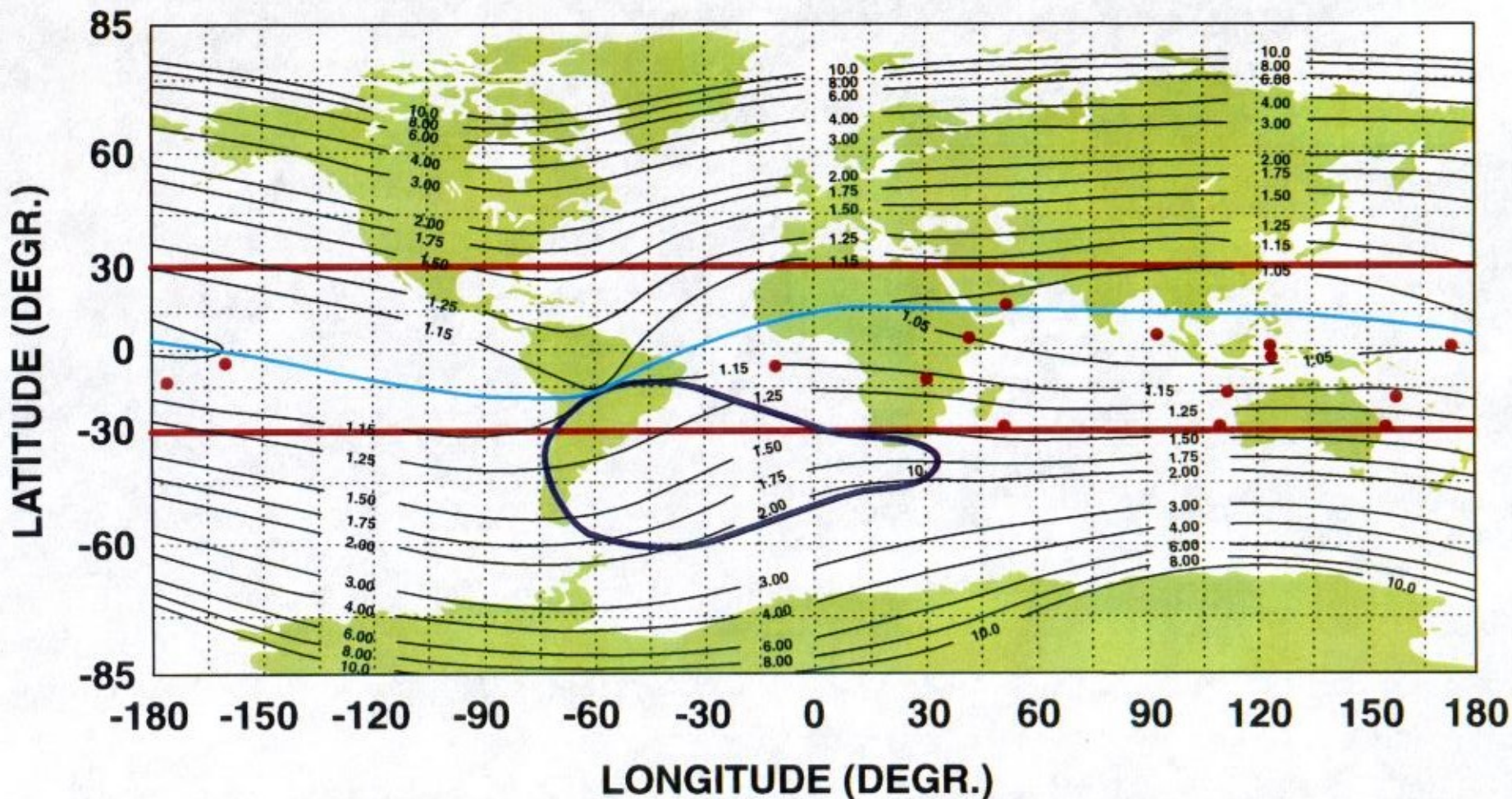


PHA Cosmic Ray Events

(Epoch 1998, 500km Altitude)



L-Contours at 500 km for Solar Min (IGRF95, Epoch 1995)



SAA PROTON DOMAIN FOR $E > 50$ MeV (AP8MIN, FLUX: $10 \text{ p/cm}^2 \cdot \text{SEC}$)