superposed on a trapped, "pancake" pitch angle distribution (PAD). We suggest ... this feature that was observed on 5 orbits of the ISEE-1 spacecraft by Williams and Frank /1/ and Williams et al., /7/. We reanalyze 3 of the ISEE-1 orbits, hypothesizing that this feature is just such a convecting plasmasheet population. We use a highly efficient technique for determining this component /8/, one that is particularly easy to automate for computer fitting.

DATA

There were three ISEE-1 instruments used in the previous analysis /1,7/, MEPI, LEPEDEA, and the Lockheed mass spectrometer. In Table 1 we have collected the relevant quantities from these two papers, linearly interpolating between tickmarks where necessary. Uncertainties on the magnetic moment, μ, and the equatorial pitch angle, α_0, are typically 10–50%. (Uncertainties arise because the tabulated L value does not correspond well with the tabulated B/B_0 and B values, and instrument integration times become significant for this part of the ISEE-1 orbit.) Since the lowest energy MEPI channel has a large range, we tabulate the upper and lower limits, μ_1, μ_2, recognizing that the low energy cutoff of the channel is probably too high /1/. LEPEDEA, at higher resolution, occasionally shows two peaks which are labelled similarly. The uncertainty in the Lockheed data arises primarily from the long integration times needed (~10 min). The MEPI plots also resolved the inner edge of the penetrating flux profile, the deepest ion penetration. The model predictions for upper and lower limits of μ or the deepest penetrating μ and value of K, in R_E-$\sqrt{nT}$, used for the calculation are given in the last 3 columns.

TABLE 1: ISEE-1 DATA and MODEL PREDICTIONS

Date	UT hr	L R_E	LT hr	B/B_0	α_0 deg	μ_1 eV/nT	μ_2 eV/nT	Data note	Model μ_3	Model μ_4	Model K
17-NOV-77	21:27	2.05	15:05	1.19	66	4.9	9.0	MEPI "edge"	5.2	5.2	35
	21:09	2.80	13:38	1.05	52	11	20	MEPI hi-PA	6.2	10	85
D_{st}=-31	21:14	2.58	13:54	1.07	56	9.6	18	"	6.2	9.0	70
K_p=3.3	21:19	2.37	14:14	1.11	61	8.3	16	"	6.2	8.0	50
C9=2	21:24	2.16	14:38	1.16	66	7.0	13	"	6.0	6.8	35
	21:28	1.99	15:01	1.20	66	5.1	9.4	"	5.2	5.2	35
29-NOV-77	20:06	2.50	13:21	1.09	<73	9.4	16	MEPI hi-E			*
	20:16	2.20	14:00	1.18	<62	7.1	10	"edge"	6.6	6.6	*75
D_{st}=-15	19:32	4.00	11:57	1.00	90		25	LEPEDEA	16	36	0
K_p=2.0	19:48	3.29	12:26	1.02	83	11	17	"	14	20	5
C9=1	19:55	3.04	12:45	1.03	80	13	18	"	13	18	5
	20:01	2.75	13:05	1.06	76	6.4	13	"	11	13	10
	20:12	2.32	13:57	1.15	<68	7.1		"	8.6	8.6	*25
	19:05	4.90	11:26	1.03	81	36		Lockheed H^+	7.6	67	5
	19:15	4.60	11:39	1.02	82	32		"	13	55	5
	19:25	4.25	11:48	1.01	85	26		"	15	47	0
	19:35	3.85	12:03	1.00	90	22		"	16	34	0
	19:45	3.35	12:27	1.02	83	15		"	14	23	5
11-DEC-77	19:03	2.2	13:23	1.18	67	7.0	10	MEPI "edge"	6.2	6.2	35
	17:57	4.8	10:42	1.02	82	31		LockheedO^+	17	76	2
D_{st}=-66	18:05	4.5	10:50	1.01	84	27		"	6.5	59	2
K_p=3.0	18:15	4.1	11:04	1.01	86	25		"	3.9	44	0
C9=6	18:25	3.7	11:21	1.00	90	21		"	8.8	32	0
	18:35	3.3	11:44	1.05	77	17		"	10	22	5

(*) K deduced from L "edge", since plasmasheet is inaccessible to locally mirroring ions

Ideally one would like high energy resolution to determine μ, and high pitch angle resolution to determine K, but with limited resolution we have had to make several approximations. For all but the MEPI high resolution PA data, we have assumed that the particles are locally 90°. From the