Explanation of EPAM Comma Separated Variable (CSV) Files

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February 28, 2003

1. Purpose:

To render the EPAM data as tables of ASCII values in labelled columns. These files open correctly with EXCEL and probably with other spreadsheet applications.

2. Scope:

These files include all EPAM counting rates,both spin-averaged and sectored along with the pitch (look) direction, the polar and azimuthal (look) angles in RTN coordinates of the sectored data the observed magnetic field (courtesy of the HED investigation), and the spacecraft heliocentric x,y, and z coordinates.

3. Interpreting the File Names:

The files names have the format "UAVYYDDDGNN.CSV"

Where "UAV" stands for EPAM Average (same for all files)
And "YY" are the last two digits of the year (of the beginning of the data)
And "DDD" is the day of year (of the beginning of the data)
And "G" is a delimited introduction the print group selection for this listing.
And "NN" is the print group number for 01 through 64
And "CSV" is the filename extension that identifies this as Comma Separated Variable format.

4. Using the file names and print groups to find what you want:

Table 1 below gives a summary of the channels available. Column-by-column description of Table 1 follows:

Column 1: Channel name.
Column 2: Geometrical factor of that channel in units of cm^2 sr
Column 3: Dominant species that contributes to this channel.
Column 4: Average energy of particles contributing to this channel in keV or keV/nucleon.
Column 5: Lower energy threshold of particles contributing to this channel in keV or keV/nucleon
Column 6: Upper energy threshold of particles contributing to this channel in keV or keV/nucleon
Column 7: Print group number containing the spin-averaged rate of this channel
Column 8: Print group number containing the sectored rate of this channel
Column 9: Print group number containing the pitch angle of sectored rate of this channel
Column 10: Print group number containing the polar (RTN) angle of sectored rate of this channel
Column 11: Print group number containing the azimuth (RTN) angle of sectored rate of this channel

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Table 1

						Print Group Containing these Items				
Channel	**G**	**Species**	**E(KeV)**	**E-Lo(KeV)**	**E-Hi(keV)**	**SpinAvg**	**Sectored**	**PitchAng**	**PhaseAng**	**PhiAng**
	(cm2 sr)		**(keV)**	**(keV)**	**(keV)**	**Rate, c./sec.**		**Deg.**	**Deg.**	**Deg.**
E1'	0.397	Electron	52	42	65	1	8	45	46	47
E2'	0.397	Electron	85	64	112	1	9	45	46	47
E3'	0.397	Electron	141	112	178	1	10	45	46	47
E4'	0.397	Electron	227	178	290	1	11	45	46	47
FP5':	0.397	Z.GE.1	645	546	761	1	12	45	46	47
FP6':	0.397	Z.GE.1	965	761	1223	1	13	45	46	47
FP7':	0.397	Z.GE.1	2466	1223	4974	1	14	45	46	47
P1'	0.428	Z.GE.1	69	61	77	2	15	48	49	50
P2'	0.428	Z.GE.1	99	77	127	2	16	48	49	50
P3'	0.428	Z.GE.1	162	127	207	2	17	48	49	50
P4'	0.428	Z.GE.1	264	207	336	2	18	48	49	50
P5'	0.428	Z.GE.1	449	336	601	2	19	48	49	50
P6'	0.428	Z.GE.1	822	601	1123	2	20	48	49	50
P7'	0.428	Z.GE.1	1451	1123	1874	2	21	48	49	50
P8'	0.428	Z.GE.1	2984	1874	4752	2	22	48	49	50
W1(see note b.)	0.103	Z=1	681	480	966	5	23	51	52	53
W2(see note b.)	0.103	Z=1	1080	968	1204	5	24	51	52	53
W3(see note b.)	0.103	Z=2	704	389	1278	5	25	51	52	53
W4(see note b.)	0.103	Z=2	2986	1277	6984	5	26	51	52	53
W5(see note b.)	0.103	5<Z<12	891	465	1709	5	27	51	52	53
W6(see note b.)	0.103	Z>5	5714	1709	19107	5	28	51	52	53
W7(see note b.)	0.103	Z>12	448	239	840	5	29	51	52	53
W8(see note b.)	0.103	Z>12	8822	840	92663	5	30	51	52	53
Z2(see note c.)	0.279	Z > 1	741.5	167	1316	6	31	51	52	53
Z2A(see note d.)	0.279	Z > 7	1150	427	1873	6	32	51	52	53
Z3(see note e.)	0.279	Z > 5	4052.5	183	7922	6	33	51	52	53
Z4(see note f.)	0.279	Z > 10	10471.5	243	20700	6	34	51	52	53

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	(cm2 sr)		**(keV)**	**(keV)**	**(keV)**	**Rate, c./sec.**		**Deg.**	**Deg.**	**Deg.**
E1	0.397	Electron	51	40	65	3	35	56	57	58
E2	0.397	Electron	80	60	107	3	36	56	57	58
E3	0.397	Electron	135	107	170	3	37	56	57	58
E4	0.397	Electron	218	170	280	3	38	56	57	58
FP5	0.397	Z.GE.1	643	540	765	3	39	56	57	58
FP6	0.397	Z.GE.1	967	765	1223	3	40	56	57	58
FP7	0.397	Z.GE.1	2458	1223	4942	3	41	56	57	58
P1	0.428	Z.GE.1	66	56	78	4	35	54	55	55
P2	0.428	Z.GE.1	101	78	130	4	36	54	55	55
P3	0.428	Z.GE.1	167	130	214	4	37	54	55	55
P4	0.428	Z.GE.1	269	214	337	4	38	54	55	55
P5	0.428	Z.GE.1	447	337	594	4	39	54	55	55
P6	0.428	Z.GE.1	798	594	1073	4	40	54	55	55
P7	0.428	Z.GE.1	1391	1073	1802	4	41	54	55	55
P8	0.428	Z.GE.1	2926	1802	4752	4	42	54	55	55
DE1(see note a.)	0.14	Electron	42	38	53	6	42	58	59	59
DE2	0.14	Electron	55	53	103	6	43	58	59	59
DE3	0.14	Electron	130	103	175	6	43	58	59	59
DE4	0.14	Electron	220	175	315	6	44	58	59	59
B (singles)	0.14	All		31.5		7				
C (singles)	0.103	All		78		7				
D (singles)	0.279	All		145		7				
M (singles)	0.428	All		30		7				
F (singles)	0.397	All		34		7				
M' (singles)	0.428	All		34		7				
F' (singles)	0.397	All		36		7				
BX (RTN, nT)						63				
BY (RTN, nT)						63				
BZ (RTN, nT)						63				
Bmag (nT)						63				
BX (HEL, nT)						63				

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BY (HEL, nT)						63				
BZ (HEL, nT)						63				
Bmag (nT)						63				
X HEL (km)						64				
X HEL (km)						64				
X HEL (km)						64				
Spin Long (deg)						64				
Spin Lat (deg)						64				
Note (a.) The commandable lower threshold for DE1 is 47.5 keV										
Note (b.) The energy units for W passbands are keV/Nucleon										
Note (c.) The passband quoted for Z2 is for $_{2}He^{4}$ keV/nucleon; responds to heavier species also.										
Note (d.) The passband quoted for Z2A is for $_{8}O^{16}$ keV/nucleon; responds to heavier species also										
Note (e.) The passband quoted for Z3 is for $_{8}O^{16}$ keV/nucleon; responds to $_{6}C^{12}$ and all heavier species										
Note (f.) The passband quoted for Z4 is for $_{26}Fe^{56}$ keV/nucleon;										

Print Groups 60, 61, and 62 are not included in Table 1 because they contain status and housekeeping information that can only be interpreted be referring to the HISCALE data system description given in: http://hiscale.ftecs.com/chapter%204/5-datasystem-index.html