space sciences

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TO: Dr. Frank McDonald

FROM: Pam Schuster

SUBJECT: modulation/gradient work

MESSAGE: please check + call me

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Th, 5/23/91

Dr. McDonald,

These 3 pages are part of my documentation for the modulation/gradient work.

I have summarized all the times you gave me in 87-90 plus the times from the prior modulation work plots.

I have written what I think are the gradients to use with each modulation you requested.

Can you please verify if the time correspondences are as you intend them to be in using gradient sets to help calculate the new modulations.

Please call if you are confused about what I'm asking.

Pam

FLUX RUNS ARE PUT TOGETHER IN THIS WAY:

A TIME CARD ONLY TYPE MEMBER (SEE TEST EXAMPLES)
IS NEEDED FOR EACH TIME PERIOD, SINCE THESE ARE TO
BE QUIET TIMES, AND EXCLUDE TIMES MAY VARY . THESE MEMBERS
WILL BE NAMED IN THIS WAY:

FROM THE 4 CHAR MNEMONIC BELOW + A 2 CHARACTER PREFIX &SAT
AS BELOW

IN FLUX ACQUISITION RUNS THE
FLUXPLOT NAMING CONVENTION IS:

&SAT.&ID.&DSN.T	FT07 TYPE OUTPUTS
&SAT.&ID.&DSN	FT31
&SAT.&ID.&DSN.A	FT32

WHERE &SAT = V1, V2, IC, PF, PG, I8
&ID = G FOR A GRADIENT BIN RUN
= M FOR A MODULATION BIN RUN

&DSN = A 4 CHARACTER MNEMONIC AS FOLLOWS:
LETTER, DIGIT,DIGIT, LETTER

THE FIRST LETTER OF THIS GROUP, A-I, DETERMINES THE RELATIVE TIME
PERIOD IN EACH SATELLITE WHICH IS USED FOR THE COMPARISONS HE
IS AFTER. I.E. "A" FOR PIONEER-10 IS USED FOR A GRADIENT CALC
WITH "A" FOR VOYAGER-2, AND THAT GRADIENT SET IS USED TO CORRECT
THE MODULATIONS DONE FOR PIONEER-10 AND VOYAGER-2 FOR THE TWO
RELATIVE TIMES AS SET BELOW, JUST BEFORE 00 TIMES SEGMENT

THE NEXT TWO CHARACTERS ARE GIVEN TO THE 'GROUP NUMBER' OF THE
REQUEST, IN CASE MORE ARE COMING. GROUP 00 WILL REFER TO THE
PRIOR GRADIENT WORK WHICH IS BEING REDONE IN THIS REQUEST
BODY. GROUP 01 WILL REFER TO THE SERIES OF TIMES IN 87 - 90
WHICH FMCD HAS ALSO REQUESTED IN THE BODY OF WORK.

THE FINAL CHARACTER WILL BE A "VERSION" INDICATOR, IN
CASE ADDITIONAL EXCLUDES ARE NEEDED. IF ADDITIONAL EXCLUDES ARE
NEEDED, OR IF DIFFERENT BIN CARD SETS ARE NEEDED,
THIS WILL AFFECT ONLY THE NAMING OF THE FLUXPLOT OUTPUT
DATASETS. THE ADDITIONAL EXCLUDES WILL BE PUT INTO THE ORIGINAL
4 CHAR MNEMONIC TIMECARD MEMBERS OF THIS DATASET.

THESE ARE THE TIMES DEFINED BY FMCD FOR THE 87-90 GROUP HE IS
INTERESTED IN FIRST:

4 CHAR MNEMONIC	START			UP TO			MIDPOINT			DOY1	DOY2	DOYMD
A01A I8	87	02	19	87	05	21	87	04	05	050	140	095
B01A	87	05	30	87	08	29	87	07	14	150	240	195
C01A	87	09	22	87	12	31	87	11	11	265	364	315
D01A	88	03	15	88	06	14	88	04	29	075	165	120
E01A	88	07	28	88	11	21	88	09	24	210	325	268
F01A	89	01	01	89	03	12	89	02	05	001	070	036
G01A	89	04	05	89	07	30	89	06	02	095	210	153
H01A	89	11	16	90	01	31	89	12	24	320	030	358
I01A	90	06	09	90	08	29	90	07	19	160	240	200
A01A PF	87	08	13	87	11	12	87	09	27	225	315	270
B01A	87	12	01	88	01	11	87	12	21	335	010	355
C01A	88	02	29	88	06	14	88	04	22	060	165	113
D01A	88	09	06	88	12	06	88	10	21	250	340	295

E01A		89	01	10	89	05	31	89	03	21	010	150	080	
F01A		89	09	22	89	11	17	89	10	20	265	320	293	
G01A		89	01	01	89	01	02							OMIT
H01A		90	04	20	90	08	09	90	06	14	110	220	165	
A01A	V2	87	05	30 20	87	08	29	87	07	14	150	240	195	
B01A		87	09	07	87	12	07	87	10	22	250	340	295	
C01A		88	01	01	88	03	31	88	02	15	001	090	046	
D01A		88	06	23	88	09	22	88	08	07	175	265	220	
E01A		88	11	05	89	03	02	89	01	02	310	060	002	
F01A		89	07	29	89	11	07	89	09	17	210	310	260	
G01A		89	11	06	90	01	31	89	12	19	310	030	353	
H01A		90	03	31	90	09	08	90	06	19	090	250	170	

(2)

FMCD SAYS FOR MODULATIONS, DO THE FOLLOWING COMPARISONS FOR THIS SET:

MODULATION TIMES	USES GRADIENTS	
PIONEER-10		
B/A	A(PF)/A(V2)	?
C/B	B(PF)/B(V2)	?
E/D	D(PF)/D(V2)	?
F/E	E(PF)/E(V2)	?
H/G	H(PF)/H(V2)	?
VOYAGER-2		
B/A	A(PF)/A(V2)	?
C/B	B(PF)/B(V2)	?
E/D	D(PF)/D(V2)	?
F/E	E(PF)/E(V2)	?
H/G	H(PF)/H(V2)	?
IMP-8		
B/A	NONE	
C/B	NONE	
E/D	NONE	
F/E	NONE	
H/G	NONE	

PFB01A/PFA01A etc

PFA01A/V2A01A etc

need this verified

SET 00 TIMES AS FOLLOWS:

4 CHAR MNEMON	FORMER MNEMONIC 3 CHAR	START			UP TO			MIDPOINT			DOY1	DOY2	DOYMD	TRAJMD
A00A	PF1	77	11	12	78	02	04	00	00	00	000	000	000	14.7
B00A	PF2	78	07	27	78	10	23	00	00	00	000	000	000	16.7
C00A	PF3	78	11	15	79	03	02	00	00	00	000	000	000	17.7
D00A	PF9	80	01	01	80	06	02	00	00	00	000	000	000	21.1
E00A	PF5	81	02	10	81	05	02	00	00	00	000	000	000	24.0
F00A	PF7	82	02	01	82	06	01	00	00	00	000	000	000	26.9
G00A	PF8	82	11	01	83	01	31	00	00	00	000	000	000	28.9
A00A	V11	77	12	08	77	12	26	00	00	00	000	000	000	1.8

B00A	V12	78	10	29	79	01	20	00	00	00	000	000	000	4.7
C00A	V13	79	11	19	80	03	05	00	00	00	000	000	000	7.0
D00A	V14	80	12	28	81	03	09	00	00	00	000	000	000	9.9
A00A	V21	82	03	15	82	06	02	00	00	00	000	000	000	7.9
B00A	V22	82	08	16	82	11	17	00	00	00	000	000	000	10.6
A00A	IC1	78	10	22	79	02	13	00	00	00	000	000	000	1.0
B00A	IC2	79	10	07	80	02	16	00	00	00	000	000	000	1.0
C00A	IC3	80	12	01	81	03	24	00	00	00	000	000	000	1.0
D00A	ICRE	82	03	12	82	05	29	00	00	00	000	000	000	1.0
E00A	ICLA	82	08	16	82	11	20	00	00	00	000	000	000	1.0

3

GRADIENT SET — (TIMES CIRCLED ON FMCD PLOT ZEROXES)

	MNEMONIC TIMES USED (NEW NAMES)	(OLD NAMES)
"@"	PFB00A/V1B00A	PF2/V12
"#"	PFD00A/V1C00A	PF9/V13
"$"	PFE00A/V1D00A	PF5/V14
"%"	PFG00A/V2B00A	PF8/V22

PF3?

MODULATION TIMES	(NEW NAME)	(OLD NAME)	USES GRADIENT SET
PIONEER-10			
	PFA00A/PFB00A	PF1/PF2	"@"
	PFC00A/PFD00A	PF3/PF9	"#"
	PFD00A/PFE00A	PF9/PF5	"$"
	PFF00A/PFG00A	PF7/PF8	"%"
VOYAGER-1			
	V1A00A/V1B00A	V11/V12	"@"
	V1B00A/V1C00A	V12/V13	"#"
	V1C00A/V1D00A	V13/V14	"$"
VOYAGER-2			
	V2A00A/V2B00A	V21/V22	"%"
ISEE-3			
	ICA00A/ICB00A	IC1/IC2	NONE
	ICB00A/ICC00A	IC2/IC3	NONE
	ICD00A/ICE00A	ICRE/ICLA	NONE

also just double check