

U R G E N T

SPECIAL COMMITTEE

U R G E N T

ON

SOLAR-TERRESTRIAL PHYSICS

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IMS SPECIAL ANNOUNCEMENT

The International Magnetospheric Study begins January 1, 1976. Using orbit predictions throughout 1976, the IMS Satellite Situation Center has determined all cases of multiple simultaneous crossings of the model magnetospheric boundary, bow shock, cusp, and/or neutral sheet of satellites IMP-H, IMP-J, Hawkeye 1, and Vela 5B.

Using this information, the IMS Steering Committee has identified certain "Special IMS Spacecraft Periods" for 1976 shown in the attachment.* The main purpose of this announcement is to draw the attention of all IMS researchers to these very interesting configurations of currently operating key satellites and to urge them to schedule their own observations and analyses taking into account the potential value to magnetospheric research of data from as many simultaneous measurements as possible made during the designated periods. The IMS Steering Committee anticipates the imminent establishment of a temporary Office of Coordination at World Data Center A, with a European area counterpart in Meudon, France, which will act as a quick information relay between all participating experimenters.

Detailed information on the satellite positions during these special periods and on planned balloon, rocket, and aircraft observations is forthcoming in a special report of the Satellite Situation Center. Attention is also called to the "Predicted Orbit Plots for Hawkeye 1-1976" (IMS/Satellite Situation Center (SSC) Report No. 2, December 1975) which, besides the predicted orbit plots, provides listing of times of cusp passes of the satellite during 1976, and to similar reports on IMP-H, IMP-J, and Vela 5B (SSC Reports No. 3, 4, and 5), all of which will be distributed shortly. We note that the first dedicated IMS satellite ISS, to be launched by Japan in February 1976, and satellites ISIS 2, AE C and AE D will have observations in the low-altitude cusp regions during some of the selected periods. The U.S. expects to launch the SOLRAD 11A and 11B satellites in February 1976; this pair of satellites orbiting at 21 earth-radii should provide additional monitoring of the solar wind plasma and solar electromagnetic spectrum. We also draw attention to the possible availability of simultaneous plasma, energetic particle and magnetic field data from synchronous satellites SMS 1, SMS 2, GOES 1, ATS 5, and ATS 6 during the special periods.

IMS Steering Committee
December 1975

* See reverse side.

S E A S O N ' S G R E E T I N G S A N D A H A P P Y I M S !

-Spacecraft Operating in Dec 1975
or to be launched in 1976
-List updated to 8 Dec 1975
-Epoch of most orbits is Oct 1975

Table 1: IMS AND OTHER USEFUL SCIENTIFIC SPACECRAFT

Spacecraft	Launch (Yr/Mo)	Inc. (deg)	Perigee Alt. (km)	Apogee Alt. (km)	Period (min)	Remarks	Sci. Type
OSO 8	75/06	32.9	544.1	559.4	95.6	Solar pointed & wheel expts.	S
D2 B	75/09	37.2	503.4	715.5	96.8	Some geocoronal expts. 8 mo. lifetime	O
SOLRAD 11A	76/02	0.	127622.	127622.	8140.	Several energetic particle expts. R=20R _E	L A
SOLRAD 11B	76/02	0.	127622.	127622.	8140.	Same payload as SOLRAD 11A, on opposite side of Earth from 11A	R
VELA 5B	69/05	43.0	107602.6	115193.0	6704.2	T=4.3d; R=17.8 - 19.0R _E . VELAs to operate through 1977	M F A I
VELA 6A	70/04	41.1	110420.2	112332.1	6702.4	Solar wind measurements on 6A not operating. T=4.3d; R=18.3 - 18.7R _E	G E N L
VELA 6B	70/04	40.5	110380.7	112205.9	6695.2	T=4.6d; R=18.3 - 18.6R _E . See VELA 6A	E D
IMP-H	72/09	21.9	199498.5	232820.3	17412.6	T=12.1d; R=32.3 - 37.5R _E	T S
IMP-J	73/10	20.3	198585.5	232987.4	17368.8	T=12.1d; R=32.1 - 37.5R _E	O &
HAWKEYE 1	74/06	88.9	4028.5	123388.7	3077.5	Only highly eccentric polar spacecraft during IMS. Reenters Feb-May 1978. Data acquisition after 76/06/30 not yet scheduled.	S P P T H C R L
SESP 74-2	76/2Q	90.	200.	8000.	164.5	Aerospace/AFCLR	C S
ISIS 2	71/04	88.2	1355.9	1422.8	113.5	Many TM stations around world. Canada	A &
AE-C	73/12	68.0	301.7	310.3	90.6	Limited data acquisition in 1976	T I
INTASAT	74/11	101.7	1440.9	1457.4	114.9	Beacon; will turn off before 1 Jan 77. Spain	M O O N
SRATS	75/02	31.6	255.0	3136.0	120.3	Some solar experiments. Japan	S O
ARIABAT	75/04	50.7	568.0	611.0	96.5	India	P S
D5 B	75/05	30.0	270.1	1238.7	99.9	Microaccelerometer. France	H P
AE-D	75/10	90.1	154.7	3816.2	126.9	Orbit maneuvers to change perigee; final state circular like AE-C	E H R E
AE-E	75/11	19.7	156.8	3025.5	118.1	Similar maneuvers to AE-D	I R
SESP 73-6	75/12	90.	230.	900.	131.4		C I
ISS	76/02	70.	1000.	1000.	135.1	First s/c dedicated to IMS. Japan	C

Table 2: APPLICATIONS SPACECRAFT WITH ENVIRONMENTAL EXPERIMENTS USEFUL TO IMS

Spacecraft	Launch (Yr/Mo)	Inc. (deg)	Perigee Alt. (km)	Apogee Alt. (km)	Period (min)	Remarks	Sci. Type
ATS 5	69/08	2.8	35725.4	35848.6	1436.1	Fields & particles expts.; turned on for special operations only. 105°W Long. 0700 UT = Local Midnight	C I O C M A
ATS 6	74/05	0.6	35775.9	35800.5	1436.2	Fields & particles expts. 94°W to 35°E 75/5/17-6/26. 35°E Long. until 76/7 2140 UT = Local Midnight	M T U N N S
TRIAD 1	72/09	90.1	749.5	832.1	100.6	Magnetometer; data through 1976	NAVI-
NTS 2	76/09	63.	26561.	26561.	541.7	Magnetometer	GATN
DMSP	As needed to keep 2 in orb.	90.	833.	833.	101.6	Auroral photos & precip. part. made available. Always 2 in orbit. Dawn-dusk & noon-midnight	USAF OPER S/Cs
DSP	76/?	0.	35700.	35700.	1436.2	Energetic particles expts.	
NOAA 3	73/11	102.0	1500.5	1508.8	116.1	Solar proton monitor	M
NOAA 4	74/11	101.7	1444.3	1457.3	114.9	Solar proton monitor	E
SMS 1	74/05	1.8	35776.1	35793.5	1436.0	Particles, B field & X-ray monitor; 75.3°W Long. to 105°W & put in standby by 76/1.	T E O
SMS 2	75/02	0.6	35766.1	35806.4	1436.1	Same monitors as SMS 1; 135°W Long. 0900 UT = Local Midnight	R O
GOES 1	75/10	1.0	35769.8	35796.1	1435.9	Same monitor as SMS 1; 75°W Long. Operational by 76/1/8. 0500 UT = Local Midnight	L O G
ITOS-E2	76/02	103.0	1448.0	1453.0	114.9	Solar proton monitor. ITOS becomes NOAA after launch	I C
ITOS-H	76/01	103.	1448.	1453.	114.9	Solar proton monitor	A
GOES-B	76/12	0.	35700.	35700.	1436.2	Same monitor as SMS 1	L