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SPACE OPERATIONS CONTROL CENTER
GODDARD SPACE FLIGHT CENTER
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GREENBELT, MARYLAND

Volume 1, No. 7, **SATELLITE SITUATION REPORT**, May 9, 1961

The following report reflects data computed and compiled by Goddard Space Flight Center, NORAD, and the Smithsonian Astrophysical Observatory as of 1200Z on May 9, 1961.

Harry E. Carpenter Jr.
HARRY E. CARPENTER, JR.
Head, Operations Control Branch

May 9, 1961

(NASA TMX 50325)

N63 85309

of Codes

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE	PERIGEE	TRANSMITTING FREQ. (MC/S)
1958 ALPHA	EXPLORER I	US	1 FEB 58	106.6	33.21	1124	217	
1958 BETA 1	ROCKET BODY	US	17 MAR 58	138.2	34.25	2679	406	
1958 BETA 2	VANGUARD I	US	17 MAR 58	133.9	34.24	2449	407	108.022
1959 ALPHA 1	VANGUARD II	US	17 FEB 59	125.3	32.88	2049	343	
1959 ALPHA 2	ROCKET BODY	US	17 FEB 59	129.5	32.98	2270	348	
1959 DELTA	EXPLORER VI	US	7 AUG 59	POSITION UNCERTAIN				
1959 ETA	VANGUARD III	US	18 SEP 59	129.7	33.34	2308	322	
1959 IOTA 1	EXPLORER VII	US	13 OCT 59	101.1	50.31	6769	344	19.9904
1959 IOTA 2	ROCKET BODY	US	13 OCT 59	100.9	50.30	661	342	
1960 ALPHA*	PIONEER V	US	11 MAR 60	311.6D	3.35	.9931AU	.8061AU	
1960 BETA 1	ROCKET BODY	US	1 APR 60	99.1	48.41	463	429	
1960 BETA 2	TIROS I	US	1 APR 60	99.1	48.39	467	429	107.997
1960 BETA 3	NONE	US	1 APR 60	97.9	48.46	446	375	
1960 GAMMA 1	ROCKET BODY	US	13 APR 60	91.6	51.25	265	179	
1960 GAMMA 2	TRANSIT 1B	US	13 APR 60	95.0	51.28	420	229	
1960 GAMMA 4	NONE	US	13 APR 60	96.9	51.20	469	291	
1960 EPSILON 1	SPUTNIK IV	USSR	15 MAY 60	92.7	65.02	329	175	
1960 EPSILON 3	NONE	USSR	15 MAY 60	93.4	64.89	376	172	
1960 EPSILON 4	NONE	USSR	15 MAY 60	POSITION UNCERTAIN				
1960 ZETA 1	MIDAS II	US	24 MAY 60	94.3	33.00	316	297	
1960 ETA 1	TRANSIT 2A	US	22 JUN 60	101.6	66.77	649	389	162;216;108.06
1960 ETA 2	GREB	US	22 JUN 60	101.6	66.77	657	381	
1960 ETA 3	ROCKET BODY	US	22 JUN 60	101.4	66.77	643	383	
1960 IOTA 1	ECHO I	US	12 AUG 60	117.0	47.26	1137	790	
1960 IOTA 2	ROCKET BODY	US	12 AUG 60	118.0	47.22	1049	932	
1960 IOTA 3	METAL OBJECT	US	12 AUG 60	118.2	47.20	1050	941	
1960 IOTA 4	METAL OBJECT	US	12 AUG 60	118.2	47.37	1044	950	
1960 IOTA 5	METAL OBJECT	US	12 AUG 60	118.3	47.20	1060	940	
1960 NU 1	COURIER 1B	US	4 OCT 60	106.9	28.30	751	604	107.9709

OBJECTS IN ORBIT (CONT'D)

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE	PERIGEE	TRANSMITTING FREQ. (MC/S)
1960 NU 2	ROCKET BODY	US	4 OCT 60	106.4	28.30	767	560	
1960 XI 1	EXPLORER VIII	US	3 NOV 60	112.5	49.98	1411	262	
1960 XI 2	ROCKET BODY	US	3 NOV 60	112.4	49.98	1408	259	
1960 XI 3	NONE	US	3 NOV 60					
1960 PI 1	TIROS II	US	23 NOV 60	98.2	48.57	463	378	108.0;108.03
1960 PI 2	ROCKET BODY	US	23 NOV 60	98.1	48.57	457	378	
1960 PI 3	NONE	US	23 NOV 60	98.1	48.57	452	383	
1960 PI 4	NONE	US	23 NOV 60	98.3	48.57	462	383	
1961 ALPHA 1	SAMOS II	US	31 JAN 61	94.9	97.40	343	295	
1961 ALPHA 2	METAL OBJECT	US	31 JAN 61	94.9	97.40	342	295	
1961 GAMMA 1*	VENUS PROBE	USSR	12 FEB 61	300D	0.3	1.019AU	0.7183AU	
1961 DELTA 1	EXPLORER IX	US	16 FEB 61	118.2	38.86	1584	413	
1961 DELTA 2	ROCKET BODY	US	16 FEB 61	118.4	38.63	1612	395	
1961 DELTA 3	NONE	US	16 FEB 61	118.1	38.87	1590	400	
1961 DELTA 4	NONE	US	16 FEB 61	POSITION UNCERTAIN				
1961 EPSILON 1	DISCOVERER XX	US	17 FEB 61	94.9	80.91	458	176	
1961 EPSILON 4	NONE	US	17 FEB 61	95.6	80.91	434	246	
1961 ZETA	DISCOVERER XXI	US	18 FEB 61	96.9	80.74	601	151	
1961 KAPPA	EXPLORER X	US	25 MAR 61	POSITION UNCERTAIN				
1961 LAMBDA 1	DISCOVERER XXIII	US	8 APR 61	93.8	82.31	388	183	
1961 LAMBDA 2	CAPSULE	US	8 APR 61	101.2	81.94	882	126	
1961 LAMBDA 3	NONE	US	8 APR 61	101.4	81.94	841	123	
1961 NU	EXPLORER XI	US	27 APR 61	107.8	28.80	1102	309	108.058

* APHELION, PERIHELION IN ASTRONOMICAL UNITS, INCLINATION TO ECLIPTIC.

DECAYED OBJECTS

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1957 ALPHA 1	ROCKET BODY	USSR	4 OCT 57	1 DEC 57
1957 ALPHA 2	SPUTNIK I	USSR	4 OCT 57	EARLY JAN 58
1957 BETA	SPUTNIK II	USSR	3 NOV 57	14 APR 58
1958 GAMMA	EXPLORER III	US	26 MAR 58	28 JUN 58
1958 DELTA 1	ROCKET BODY	USSR	15 MAY 58	3 DEC 58
1958 DELTA 2	SPUTNIK III	USSR	15 MAY 58	6 APR 60
1958 EPSILON	EXPLORER IV	US	26 JUL 58	23 OCT 59
1958 ZETA	ATLAS	US	18 DEC 58	21 JAN 59
1959 BETA	DISCOVERER I	US	28 FEB 59	EARLY MAR 59
1959 GAMMA	DISCOVERER II	US	13 APR 59	26 APR 59
1959 EPSILON 1	DISCOVERER V	US	13 AUG 59	28 SEP 59
1959 EPSILON 2	CAPSULE	US	13 AUG 59	11 FEB 61
1959 ZETA	DISCOVERER VI	US	19 AUG 59	20 OCT 59
1959 THETA	LUNIK III	USSR	4 OCT 59	APR 60?
1959 KAPPA	DISCOVERER VII	US	7 NOV 59	26 NOV 59
1959 LAMBDA	DISCOVERER VIII	US	20 NOV 59	8 MAR 60
1960 GAMMA 3	METAL OBJECT	US	13 APR 60	JUL 60
1960 DELTA	DISCOVERER XI	US	15 APR 60	26 APR 60
1960 EPSILON 2	ROCKET BODY	USSR	15 MAY 60	17 JUL 60
1960 EPSILON 5	NONE	USSR	15 MAY 60	SEP-OCT 60
1960 EPSILON 6	NONE	USSR	15 MAY 60	SEP-OCT 60
1960 EPSILON 7	NONE	USSR	15 MAY 60	24 SEP 60
1960 EPSILON 8	NONE	USSR	15 MAY 60	SEP-OCT 60
1960 EPSILON 9	NONE	USSR	15 MAY 60	SEP-OCT 60
1960 ZETA 2	METAL OBJECT	US	24 MAY 60	5 DEC 60
1960 THETA	DISCOVERER XIII	US	10 AUG 60	14 NOV 60
1960 THETA	CAPSULE	US	10 AUG 60	11 AUG 60**
1960 KAPPA	DISCOVERER XIV	US	18 AUG 60	16 SEP 60
1960 KAPPA	CAPSULE	US	18 AUG 60	19 AUG 60**
1960 LAMBDA 1	SPUTNIK V	USSR	19 AUG 60	20 AUG 60*
1960 LAMBDA 2	ROCKET BODY	USSR	19 AUG 60	23 SEP 60

DECAYED OBJECTS (CONT'D)

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1960 MU	DISCOVERER XV	US	13 SEP 60	18 OCT 60
1960 MU	CAPSULE	US	13 SEP 60	15 SEP 60***
1960 OMICRON	DISCOVERER XVII	US	12 NOV 60	29 DEC 60
1960 OMICRON	CAPSULE	US	12 NOV 60	14 NOV 60**
1960 RHO 1	SPUTNIK VI	USSR	1 DEC 60	2 DEC 60
1960 RHO 2	ROCKET BODY	USSR	1 DEC 60	2 DEC 60
1960 SIGMA	CAPSULE	US	7 DEC 60	10 DEC 60**
1960 SIGMA	DISCOVERER XVIII	US	7 DEC 60	2 APR 61
1960 TAU	DISCOVERER XIX	US	20 DEC 60	23 JAN 61
1961 BETA 1	SPUTNIK VII	USSR	4 FEB 61	26 FEB 61
1961 BETA 2	ROCKET BODY	USSR	4 FEB 61	12-13 FEB 61
1961 BETA 3	NONE	USSR	4 FEB 61	17 MAR 61
1961 GAMMA 2	ROCKET BODY	USSR	12 FEB 61	18 FEB 61
1961 GAMMA 3	SPUTNIK VIII	USSR	12 FEB 61	25 FEB 61
1961 GAMMA 4	NONE	USSR	12 FEB 61	13-18 FEB 61
1961 EPSILON 2	NONE	US	17 FEB 61	30 MAR-2 APR 61
1961 EPSILON 3	NONE	US	17 FEB 61	20 APR 61
1961 ETA	TRANSIT 3B & LOFTI	US	22 FEB 61	30 MAR 61
1961 THETA 1	SPUTNIK IX	USSR	9 MAR 61	9 MAR 61*
1961 THETA 2	NONE	USSR	9 MAR 61	10 MAR 61
1961 THETA 3	NONE	USSR	9 MAR 61	10 MAR 61
1961 IOTA 1	SPUTNIK X	USSR	25 MAR 61	25 MAR 61*
1961 IOTA 2	ROCKET BODY	USSR	25 MAR 61	26 MAR 61
1961 IOTA 3	NONE	USSR	25 MAR 61	26 MAR 61
1961 MU 1	VOSTOK	USSR	12 APR 61	12 APR 61****
1961 MU 2	ROCKET BODY	USSR	12 APR 61	16 APR 61

* USSR ANNOUNCED SUCCESSFUL RE-ENTRY AND RECOVERY
** SUCCESSFUL RE-ENTRY AND RECOVERY
*** SUCCESSFUL RE-ENTRY, BUT NOT RECOVERY
**** USSR ANNOUNCED SUCCESSFUL RE-ENTRY AND RECOVERY OF A MANNED SPACE VEHICLE.

LUNAR AND SPACE PROBES

CODE NAME	SOURCE	LAUNCH	STATUS
LUNIK I	USSR	2 JAN 59	ORBITING SUN (1ST SPACE PROBE)
PIONEER IV	US	3 MAR 59	ORBITING SUN
LUNIK II	USSR	12 SEP 59	HIT MOON - 13 SEP 1959

NOTE: SEE ABOVE FOR SPACE PROBES LAUNCHED AFTER OCTOBER 1, 1959.

APOGEE-PERIGEE PLOT

Chart I of this report shows the change in the Apogee and Perigee of the Echo I Satellite. The column on the left side of the chart indicates the height of the element in miles above the surface of the earth. Each division moving across the chart represents two days referenced to the launch date, August 12, 1960.

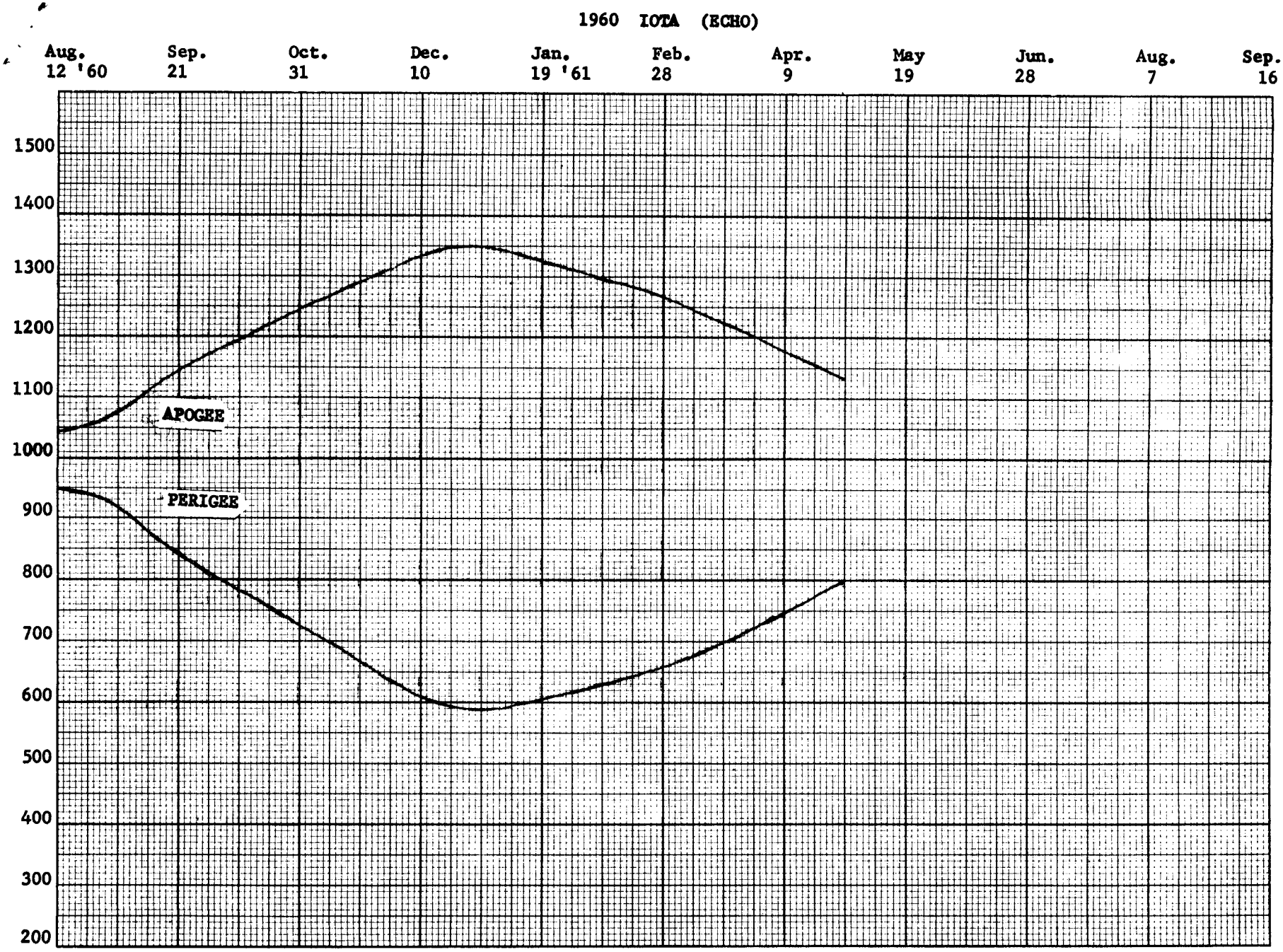

CHART I. APOGEE - PERIGEE VS. TIME