

IMP 7 (EXPLORER 47) TRAJECTORY
SEPTEMBER 26, 1972 TO SEPTEMBER 25, 1978

by

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CSR-TR-88-3

April 21, 1988

This report contains trajectory plots for IMP-7 (Explorer 47). For each orbit the trajectory is shown in five panels on two pages; each panel is a different representation or projection. The trajectory parameters were obtained from the multi-coordinate ephemeris (MCE) tapes supplied to IMP experimenters by the IMP project.

The plots on the right hand pages use a geocentric, solar-ecliptic coordinate system (the XSE-axis points towards the Sun; the YSE-axis is in the ecliptic plane oppositely directed to the motion of the earth in its orbit; and the ZSE-axis completes the right-handed coordinate system). Distances are in units of Earth radii (6371 km). The upper panel shows the trajectory in cylindrical coordinates. The Sun-Earth line is the axis of the cylinder and one would expect the earth's bow shock and magnetopause to be roughly symmetric about that axis (neglecting aberration of the flow). Average shock and magnetopause shapes¹ are shown on the plot to give a sense of the region which the spacecraft is traversing. The moon's position is also shown in the upper panel of most of the plots; the orbit of the moon clearly is badly distorted on the remaining plots due to bad data on the MCE tapes. Note that the node number may also be incorrect.

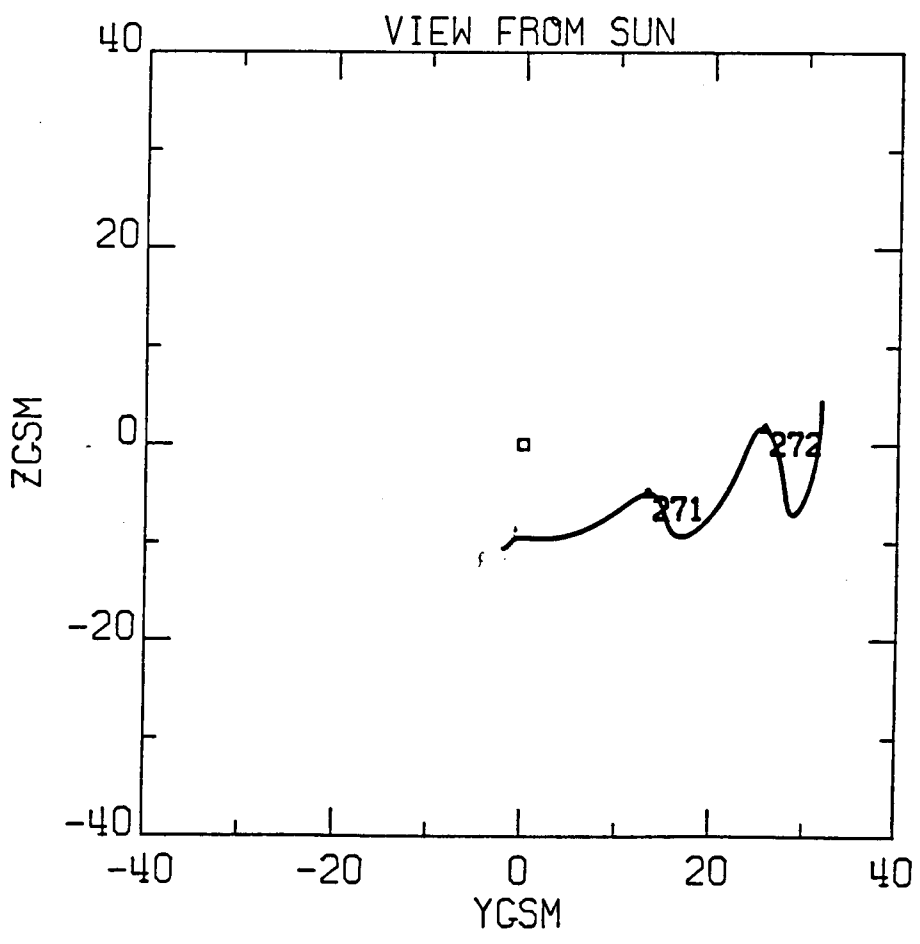
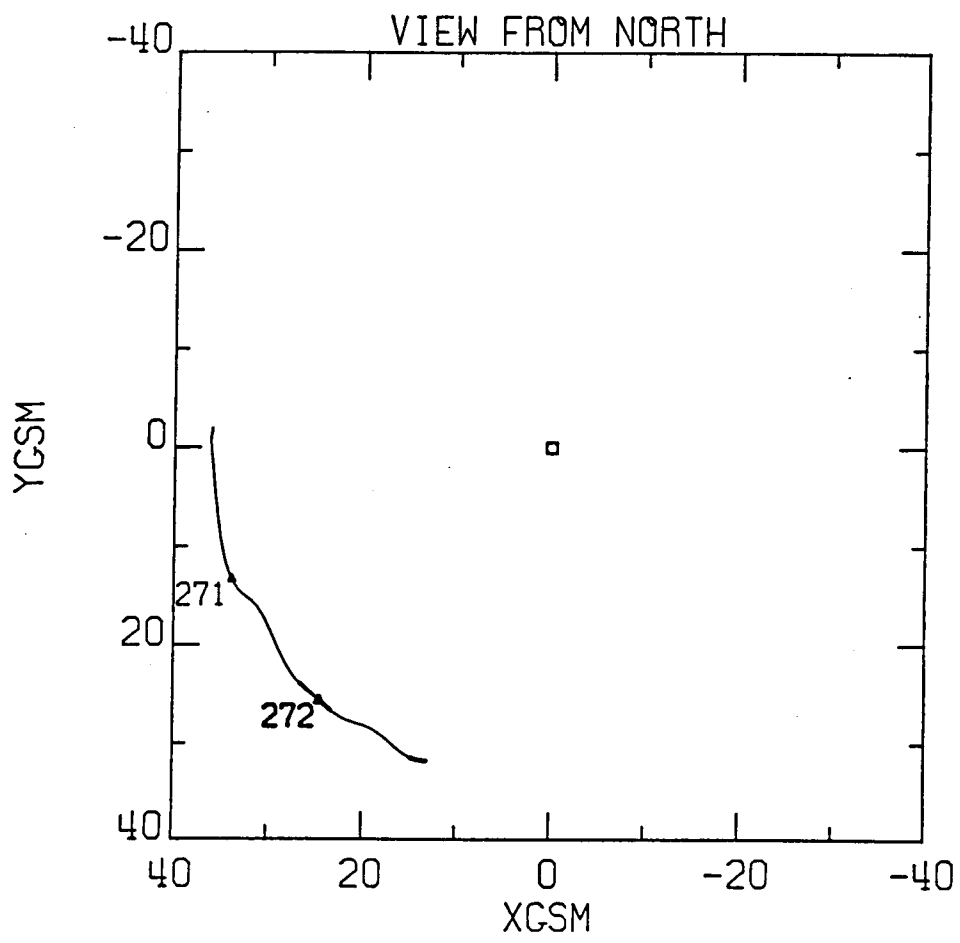
The plots on the left-hand pages use geocentric, solar magnetospheric coordinates with distances in Earth radii (the XGSM-axis points at the sun; the XGSM-ZGSM plane contains the geomagnetic dipole such that ZGSM is positive northward; and the YGSM-axis completes the right-handed coordinate system). Two different weight lines are used; the lighter line corresponds to negative values of ZGSM in the upper panel and to values of XGSM less than -10 in the lower panel.

Time is indicated by a symbol at the beginning of each day; normally the day number for every second day is given. Similar plots of the trajectory have been distributed by King and Teague.²

¹Model shock and magnetopause are taken from, "Explorer 33 and 35 Plasma observations of Magnetosheath Flow," H. C. Howe, Jr., and J. H. Binsack, JGR 77, 3334 (1972), Equations 1 and 2.

²J. H. King and M. J. Teague, Trajectories of Explorer 43, 47 and 50, September 1972-December 1975, GSFC-X-601-76-38.

IMP 7 FROM SEP 26 TO SEP 28 1972



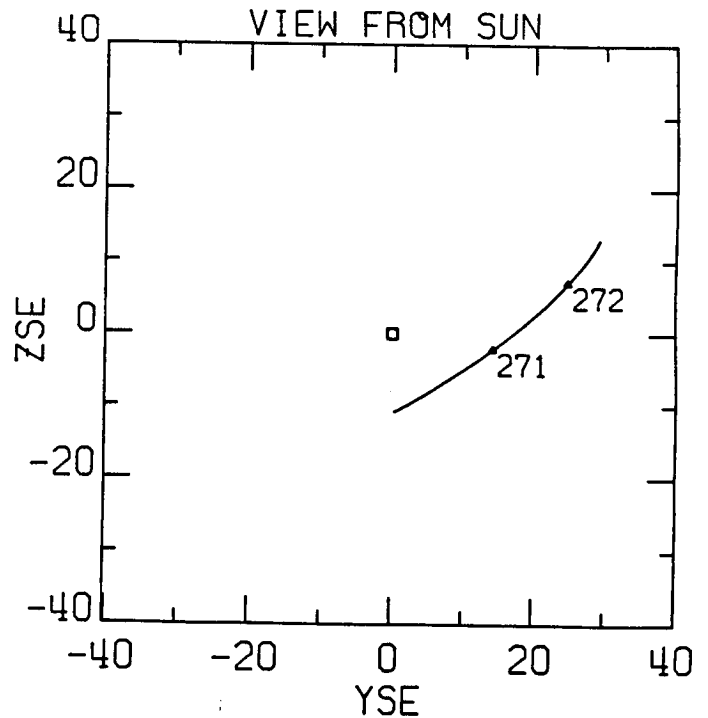
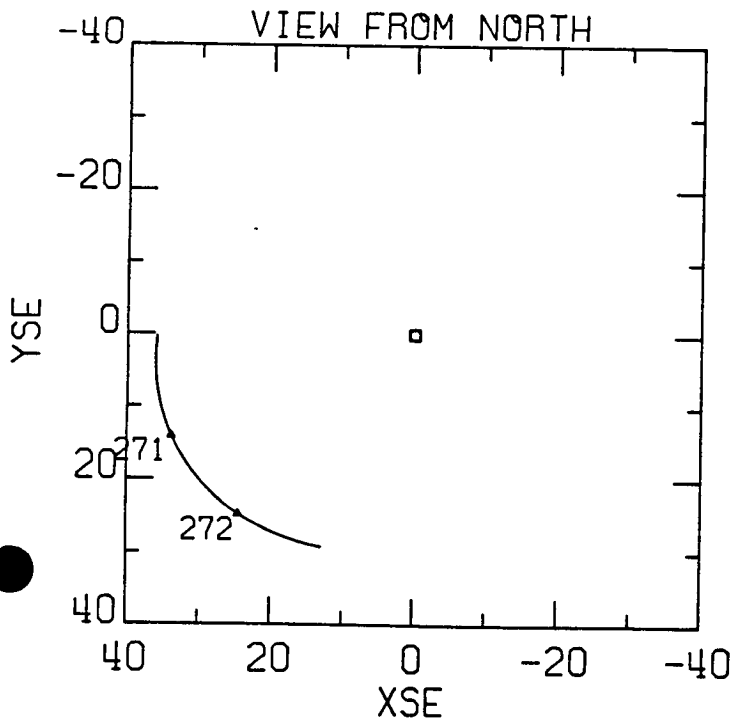
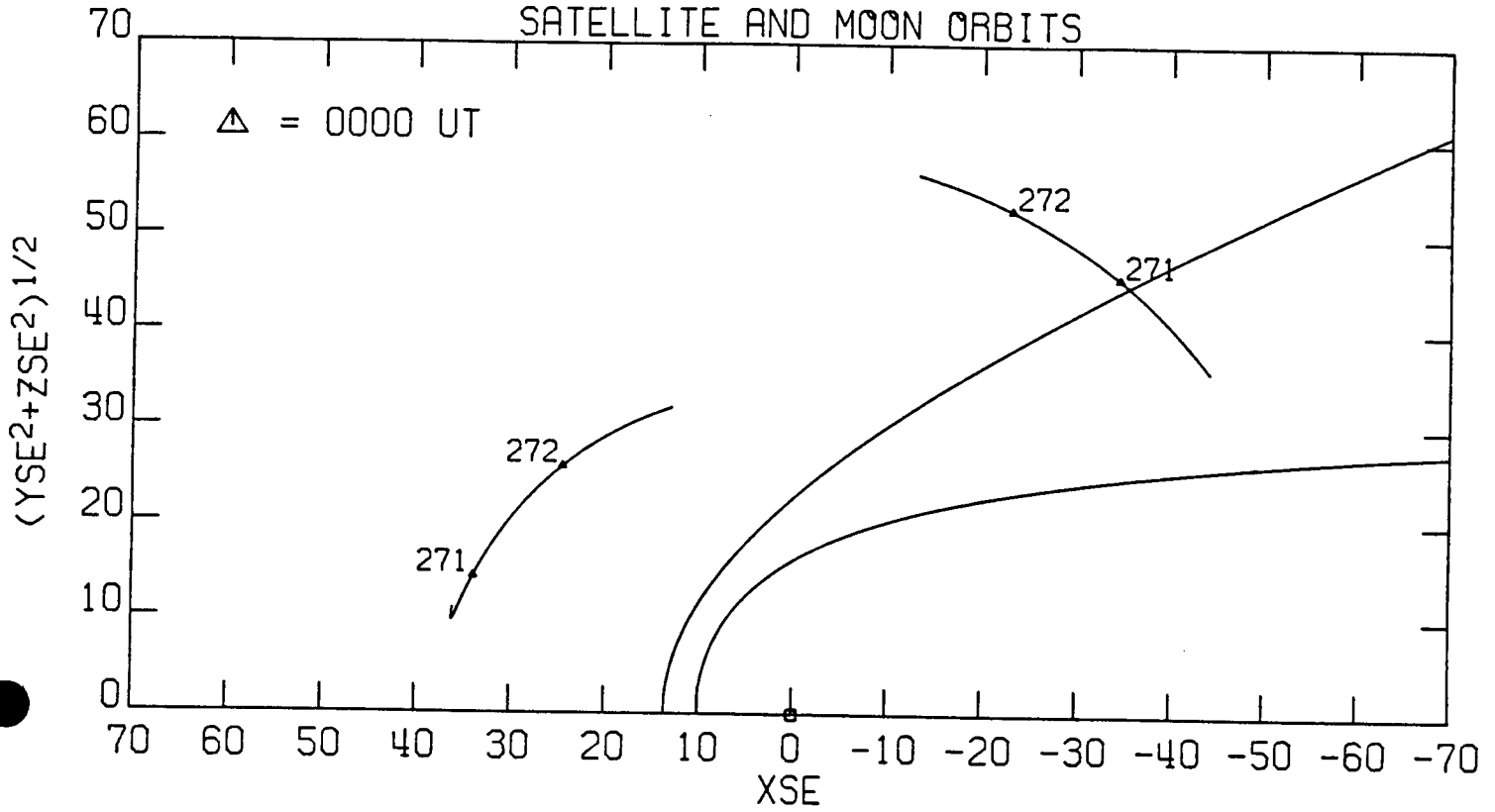
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IMP 7 TRAJECTORY. ASCENDING NODE 0

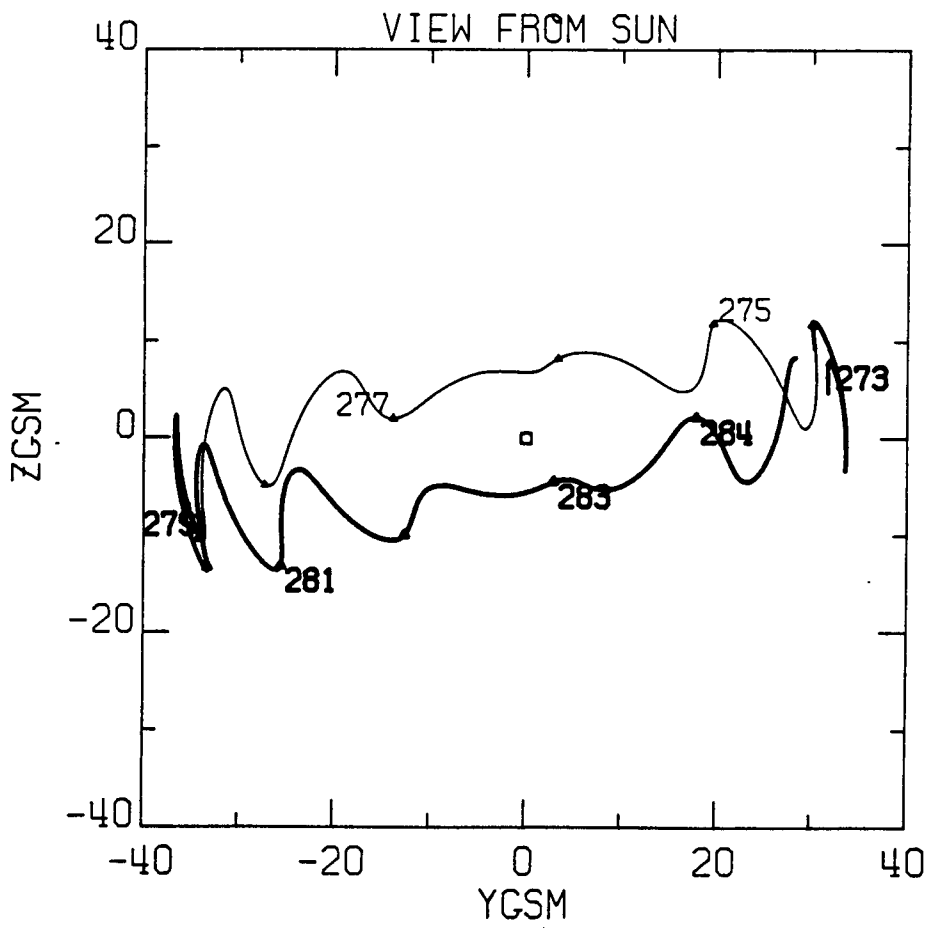
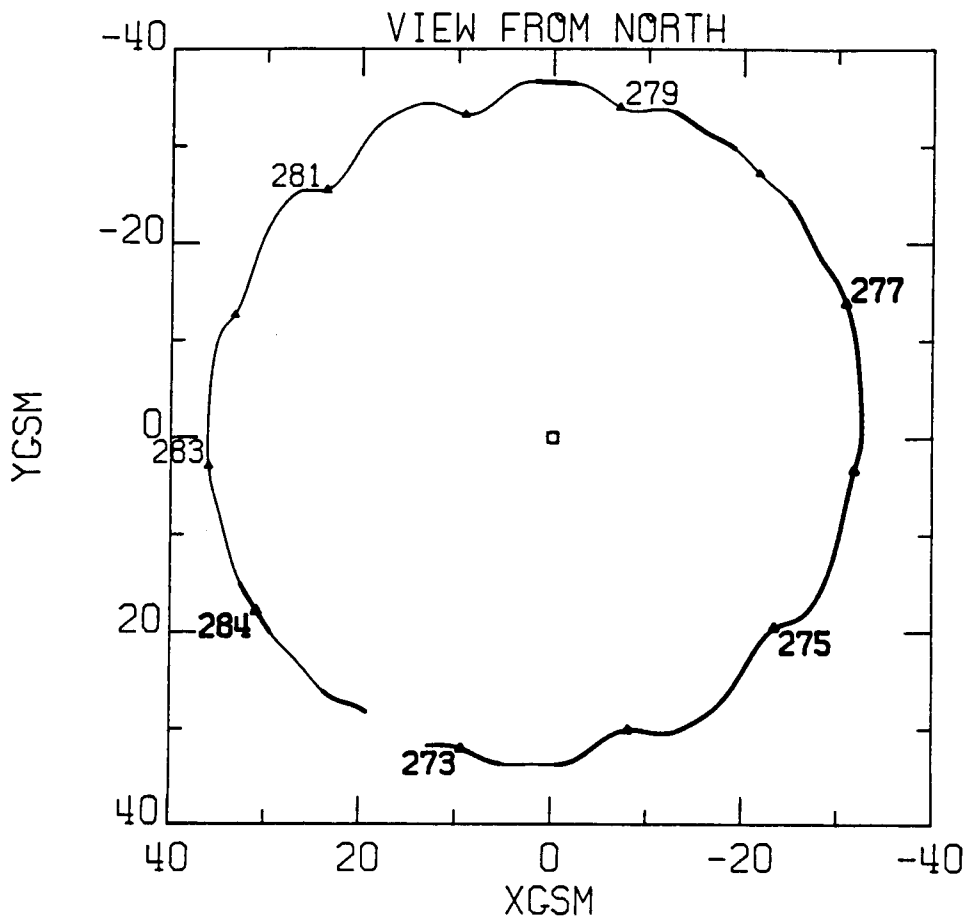
FROM SEP 26 TO SEP 28 1972

DAYS 270 THRU 272

SATELLITE AND MOON ORBITS



IMP 7 FROM SEP 28 TO OCT 10 1972

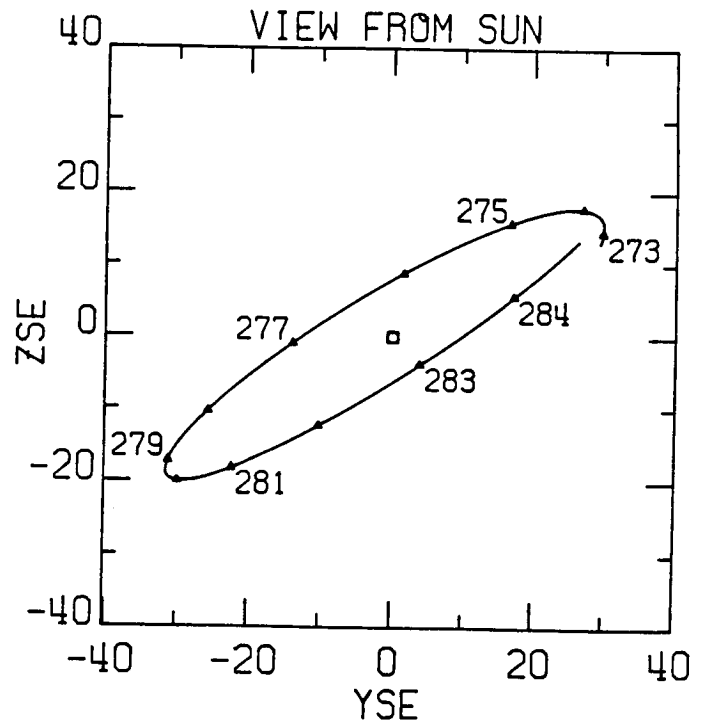
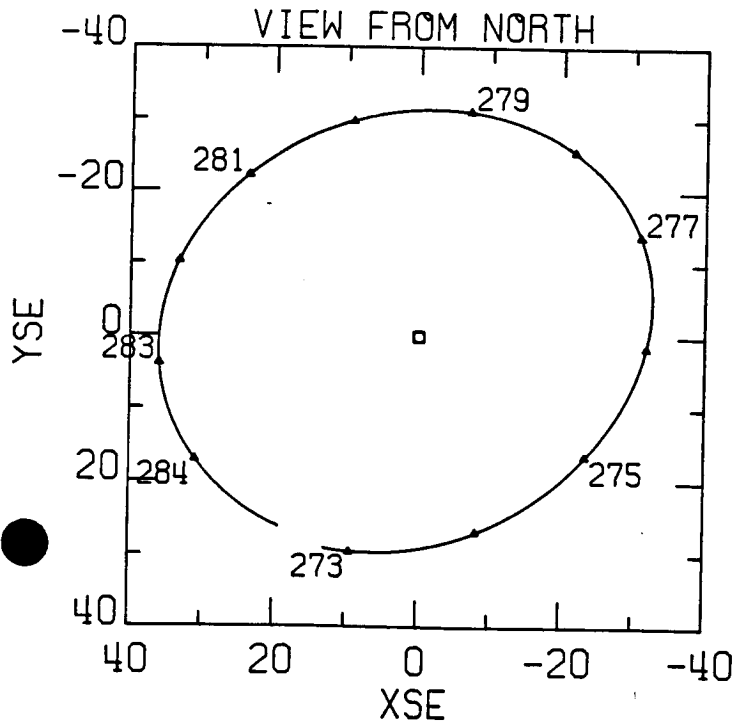
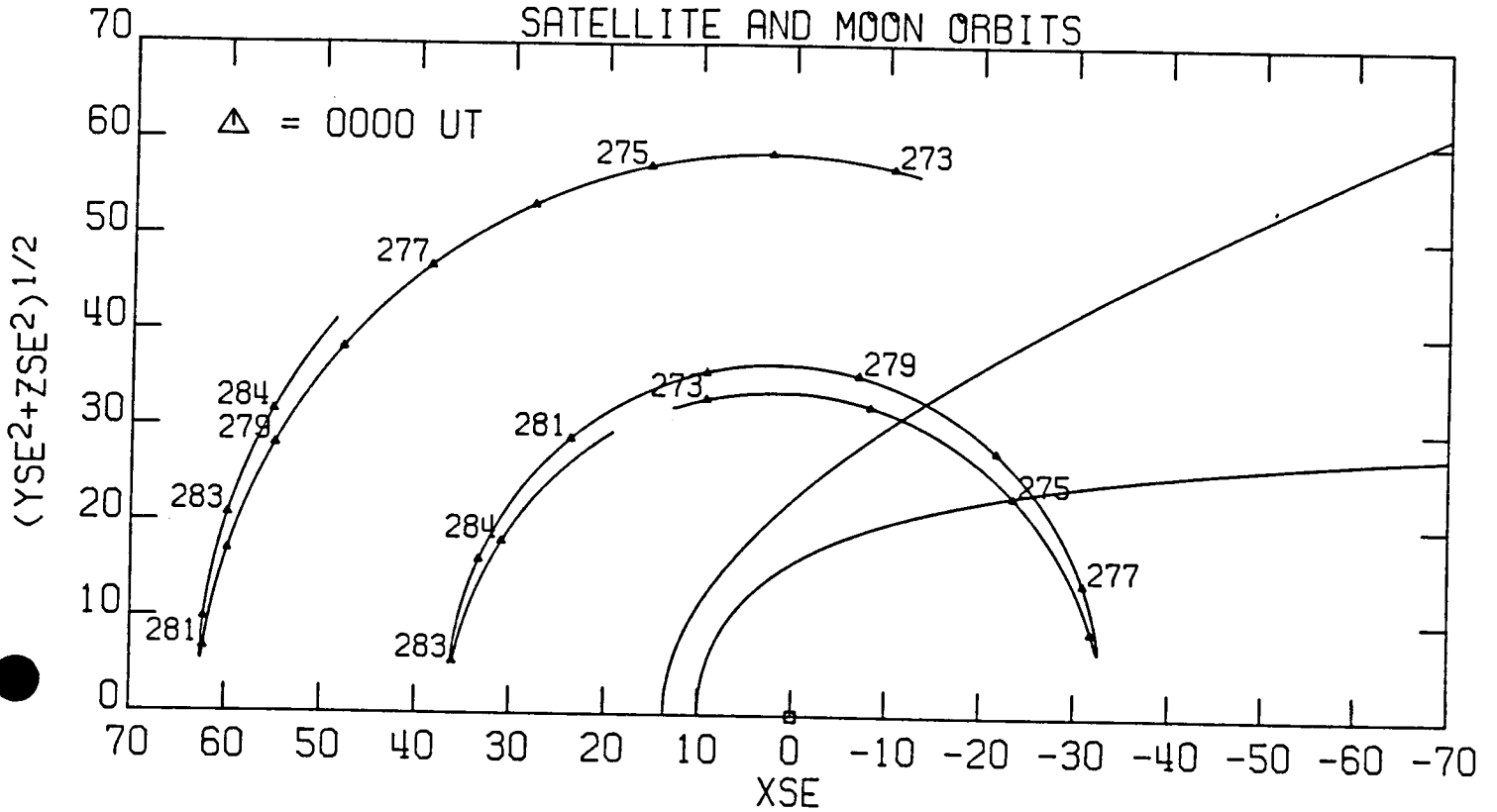


IMP 7 TRAJECTORY. ASCENDING NODE 1

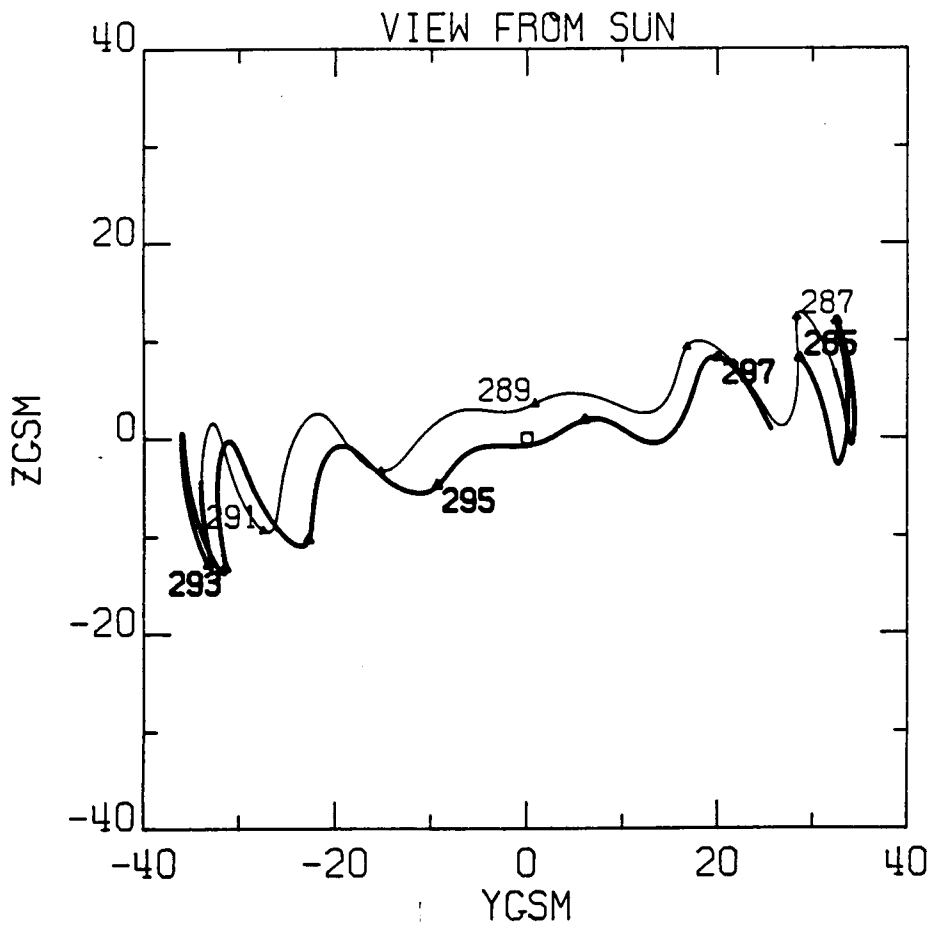
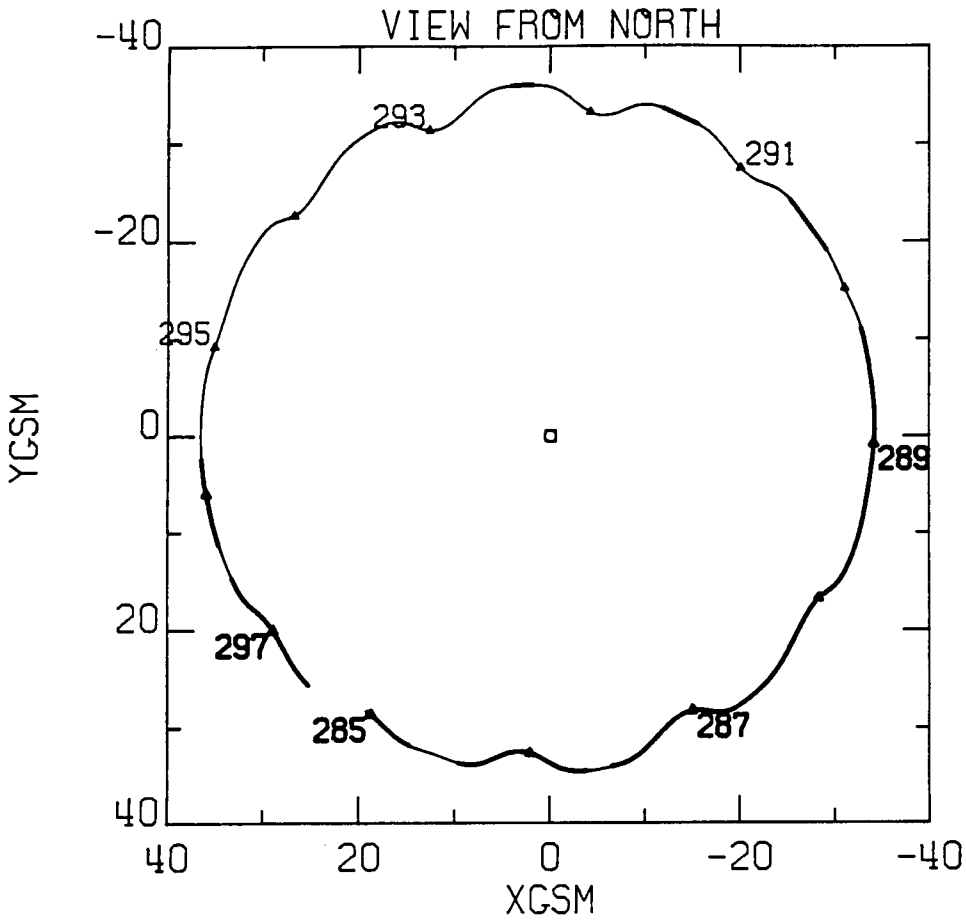
FROM SEP 28 TO OCT 10 1972

DAYS 272 THRU 284

SATELLITE AND MOON ORBITS



IMP 7 FROM OCT 10 TO OCT 23 1972

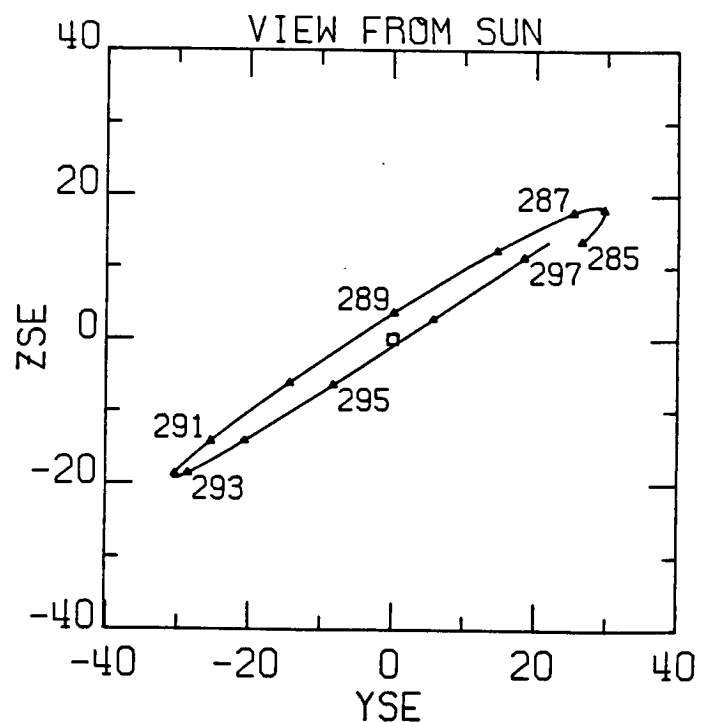
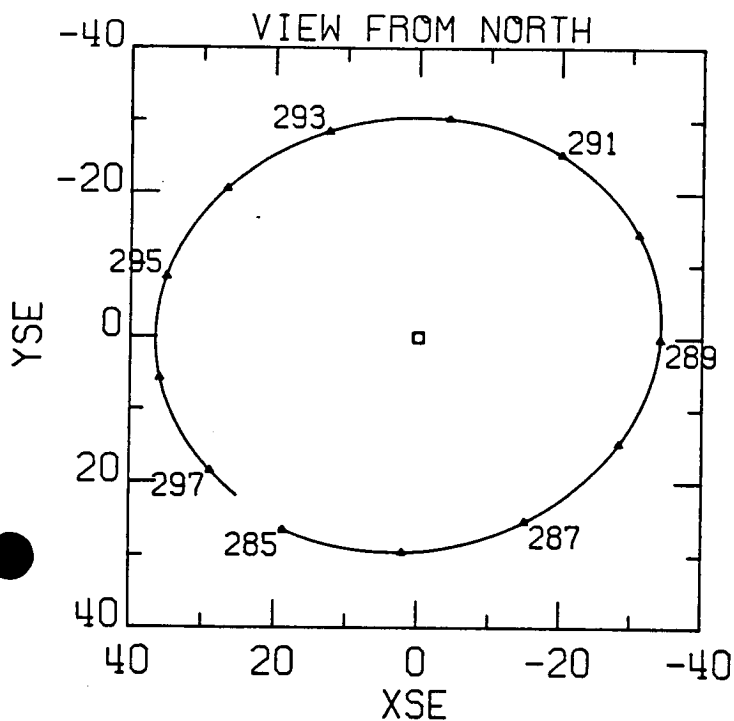
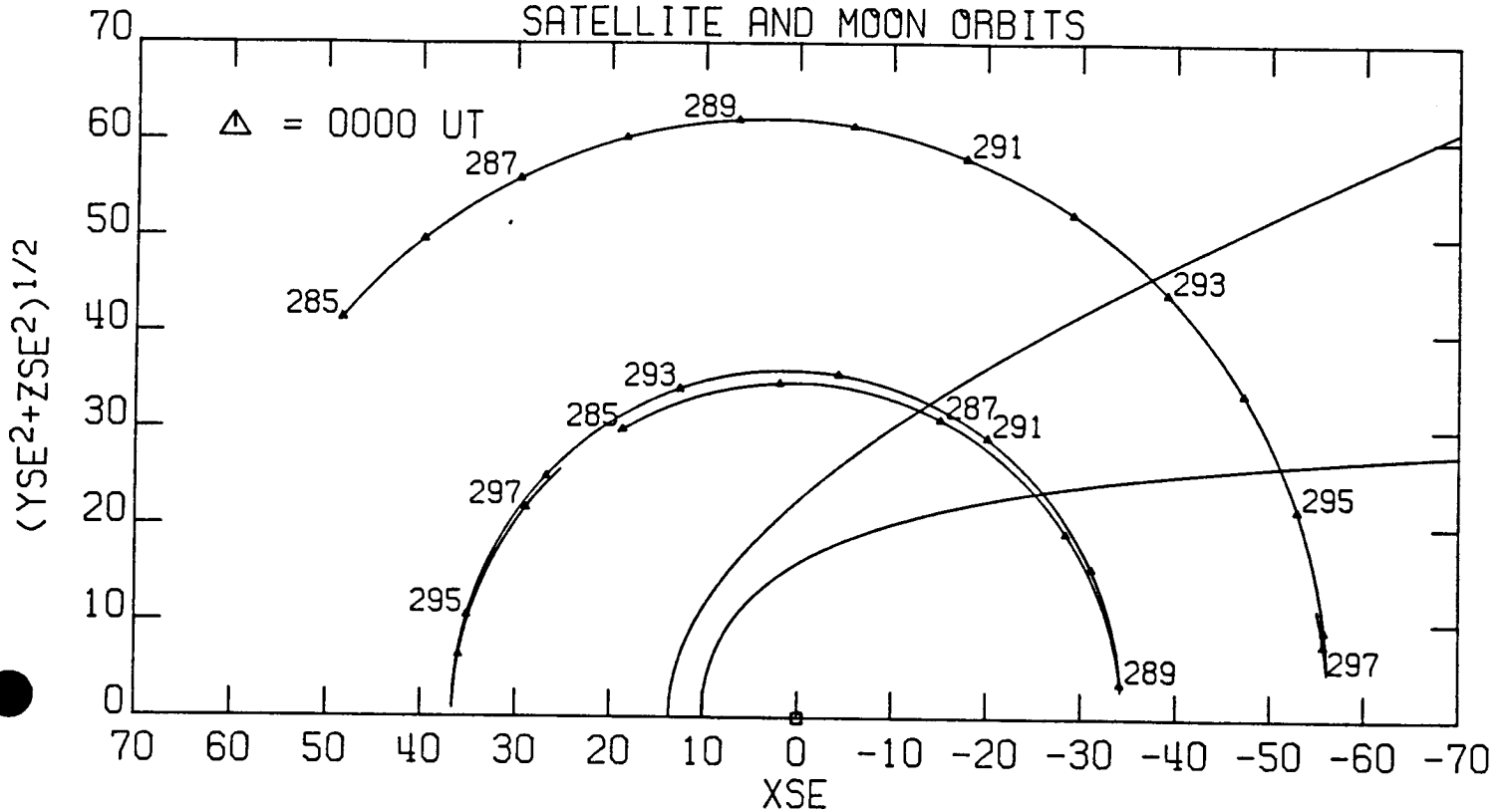


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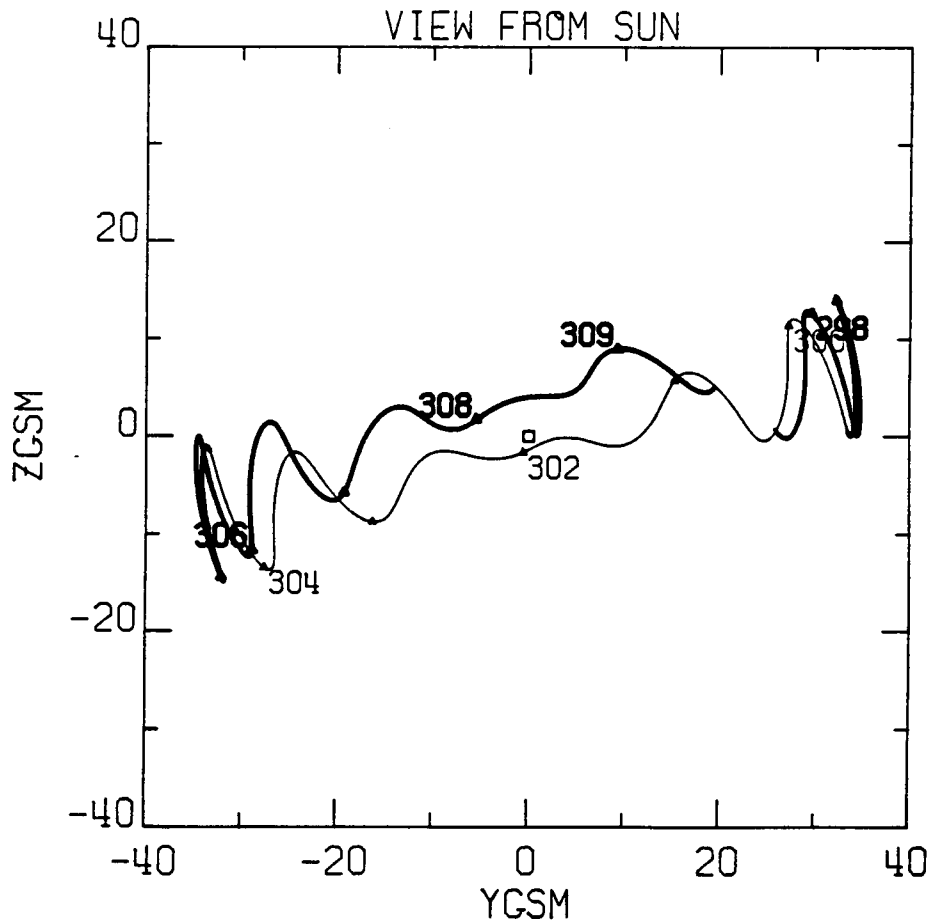
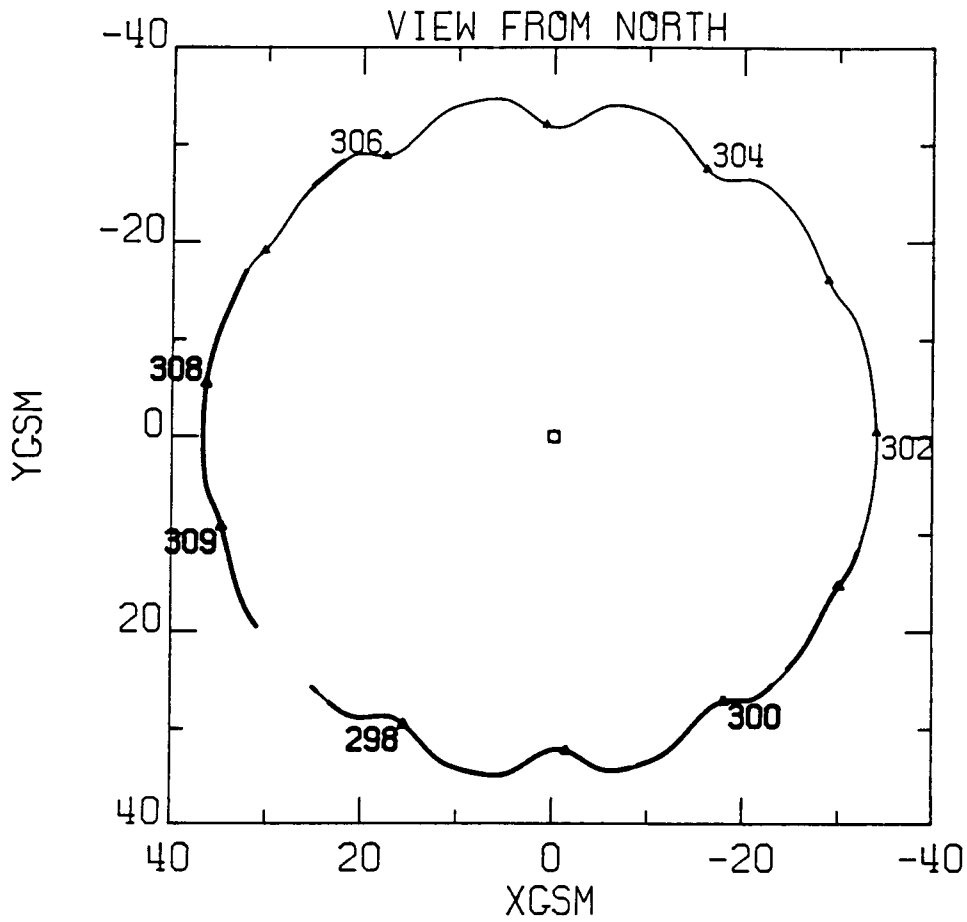
FROM OCT 10 TO OCT 23 1972

DAYS 284 THRU 297

SATELLITE AND MOON ORBITS



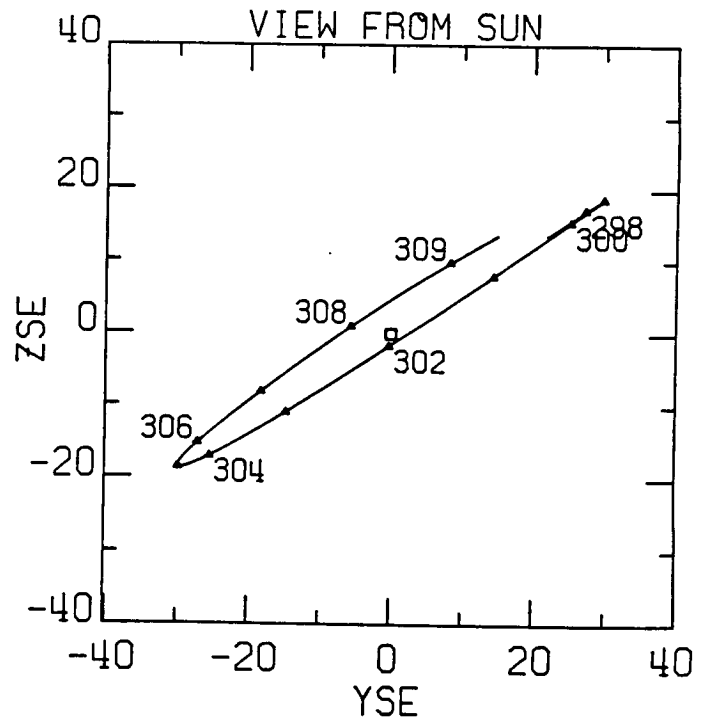
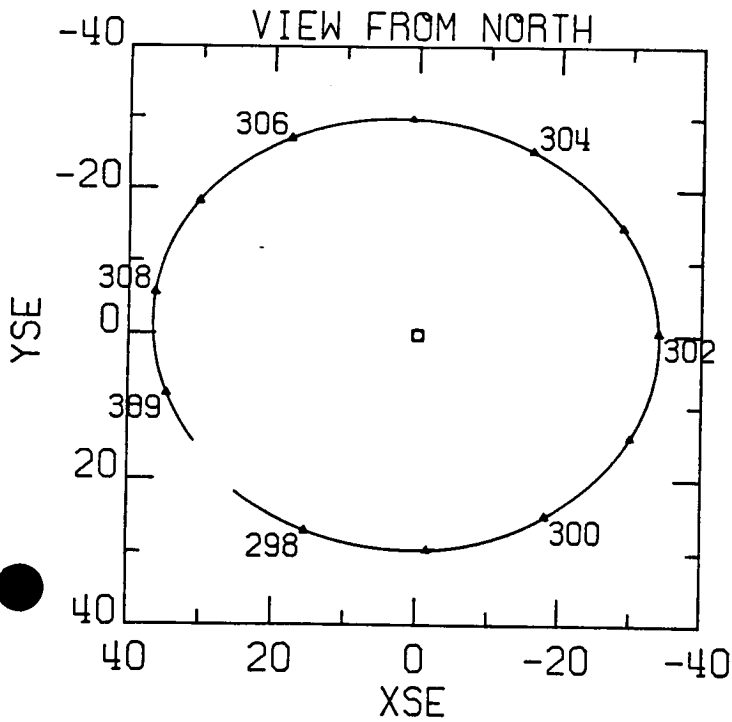
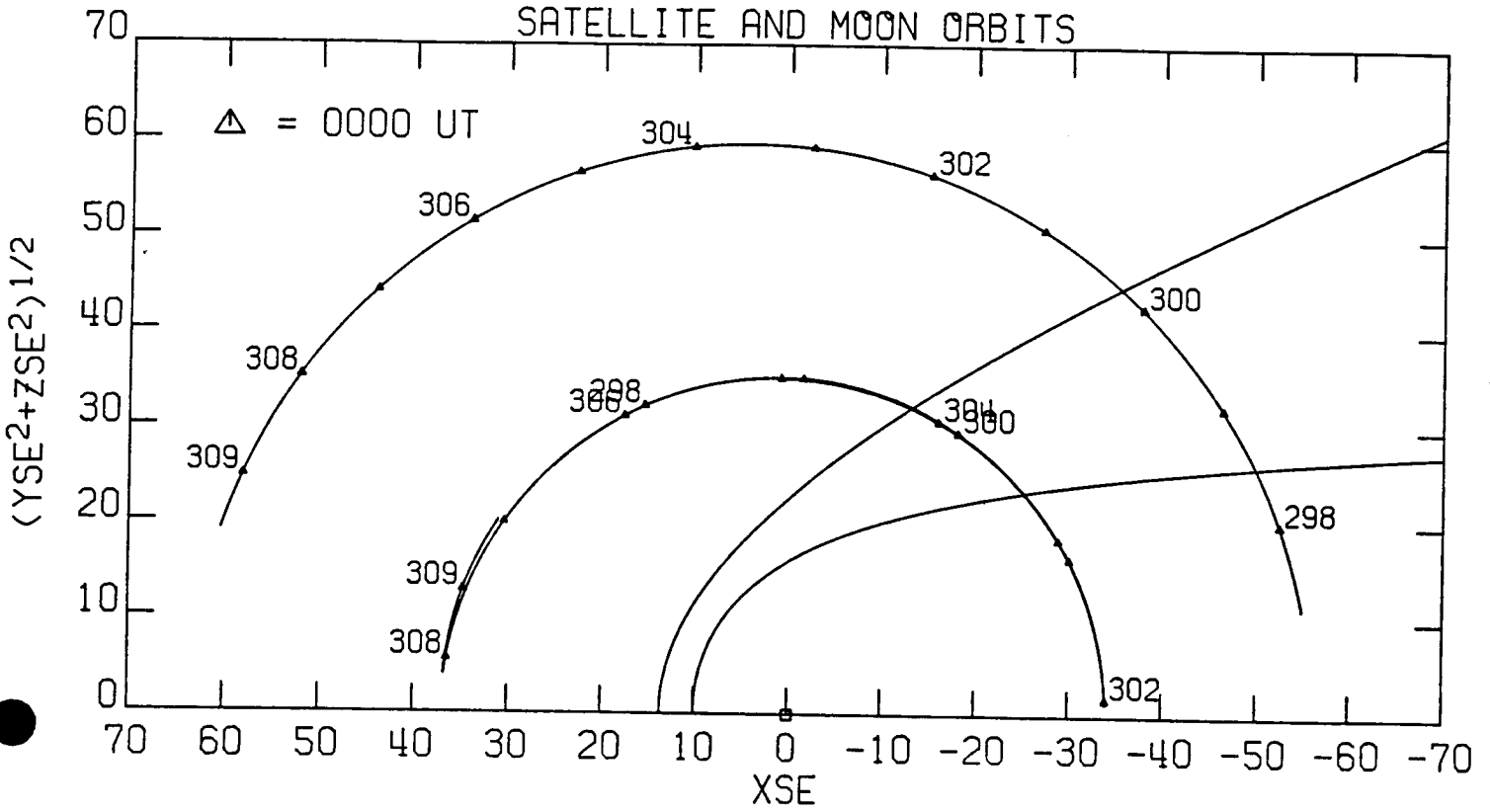
IMP 7 FROM OCT 23 TO NOV 4 1972



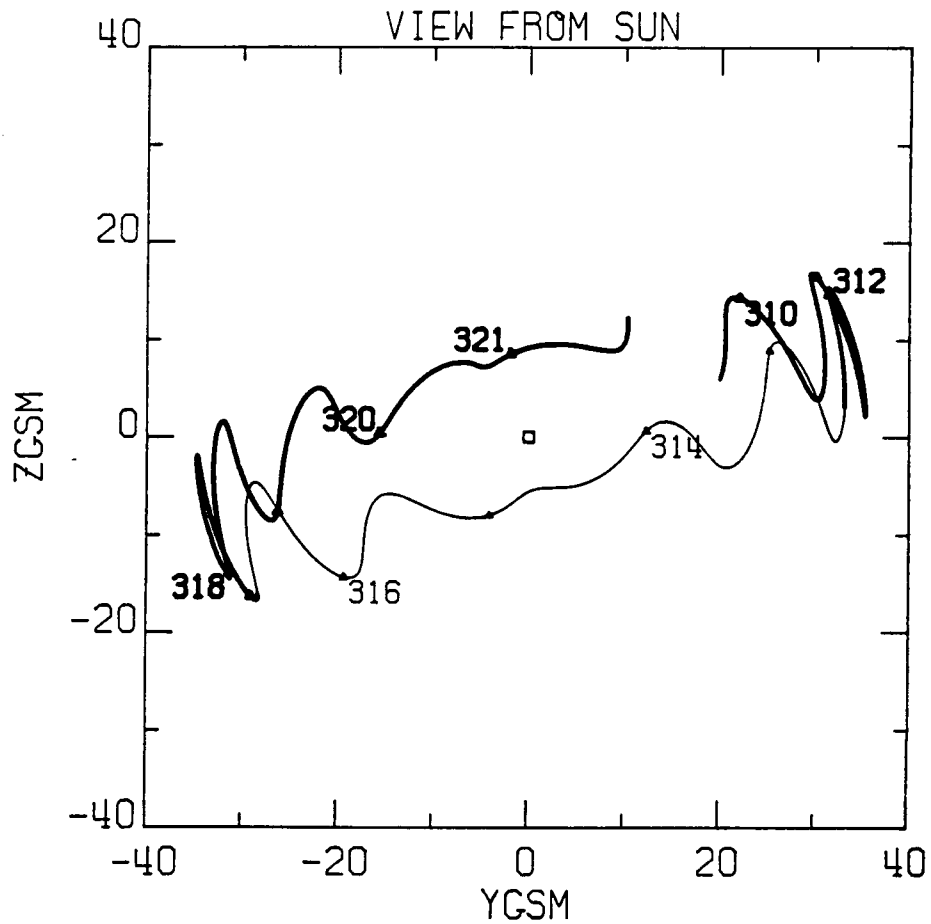
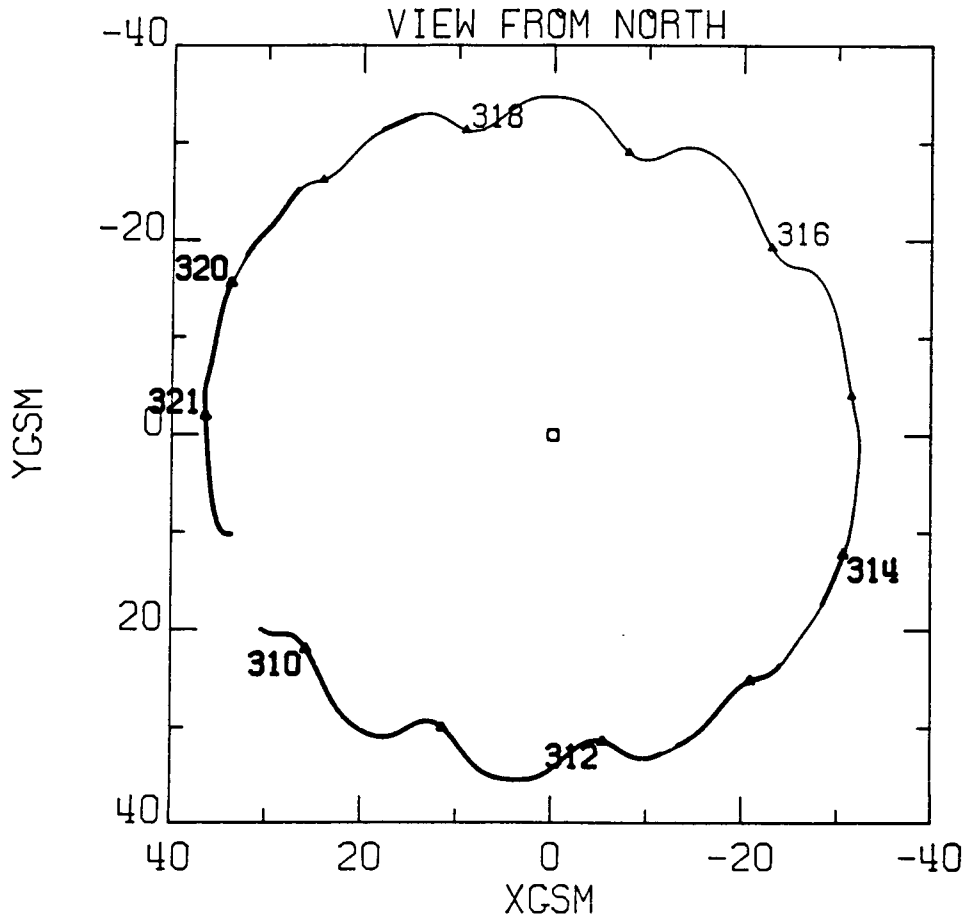
IMP 7 TRAJECTORY. ASCENDING NODE 3

FROM OCT 23 TO NOV 4 1972

DAYS 297 THRU 309



IMP 7 FROM NOV 4 TO NOV 16 1972

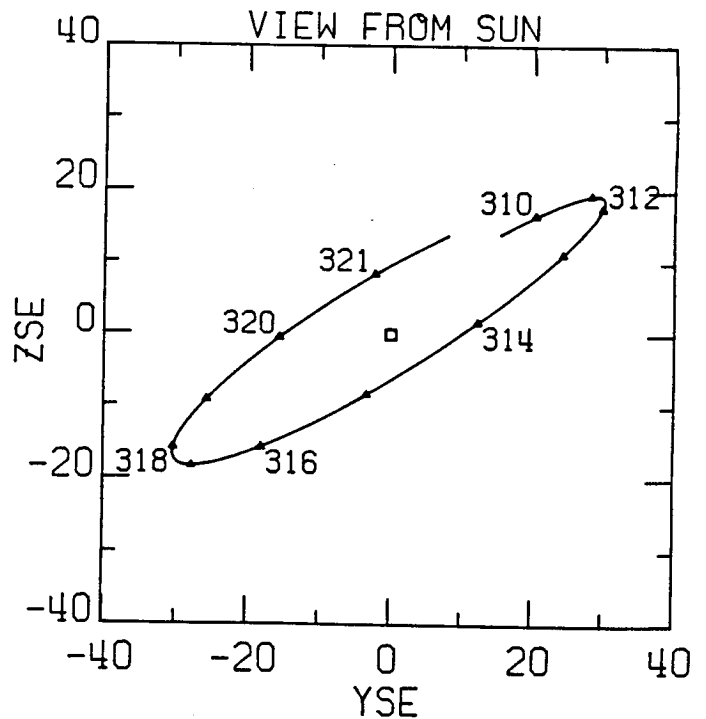
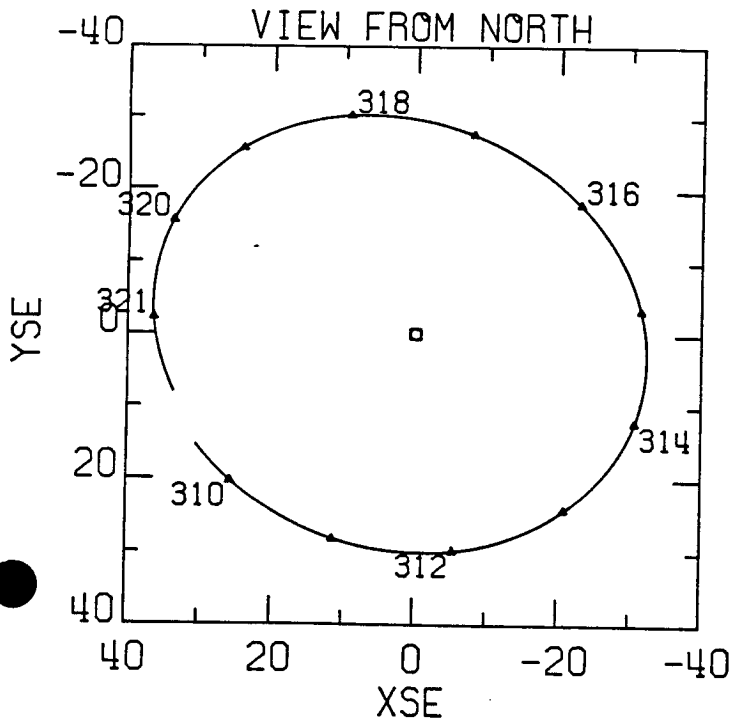
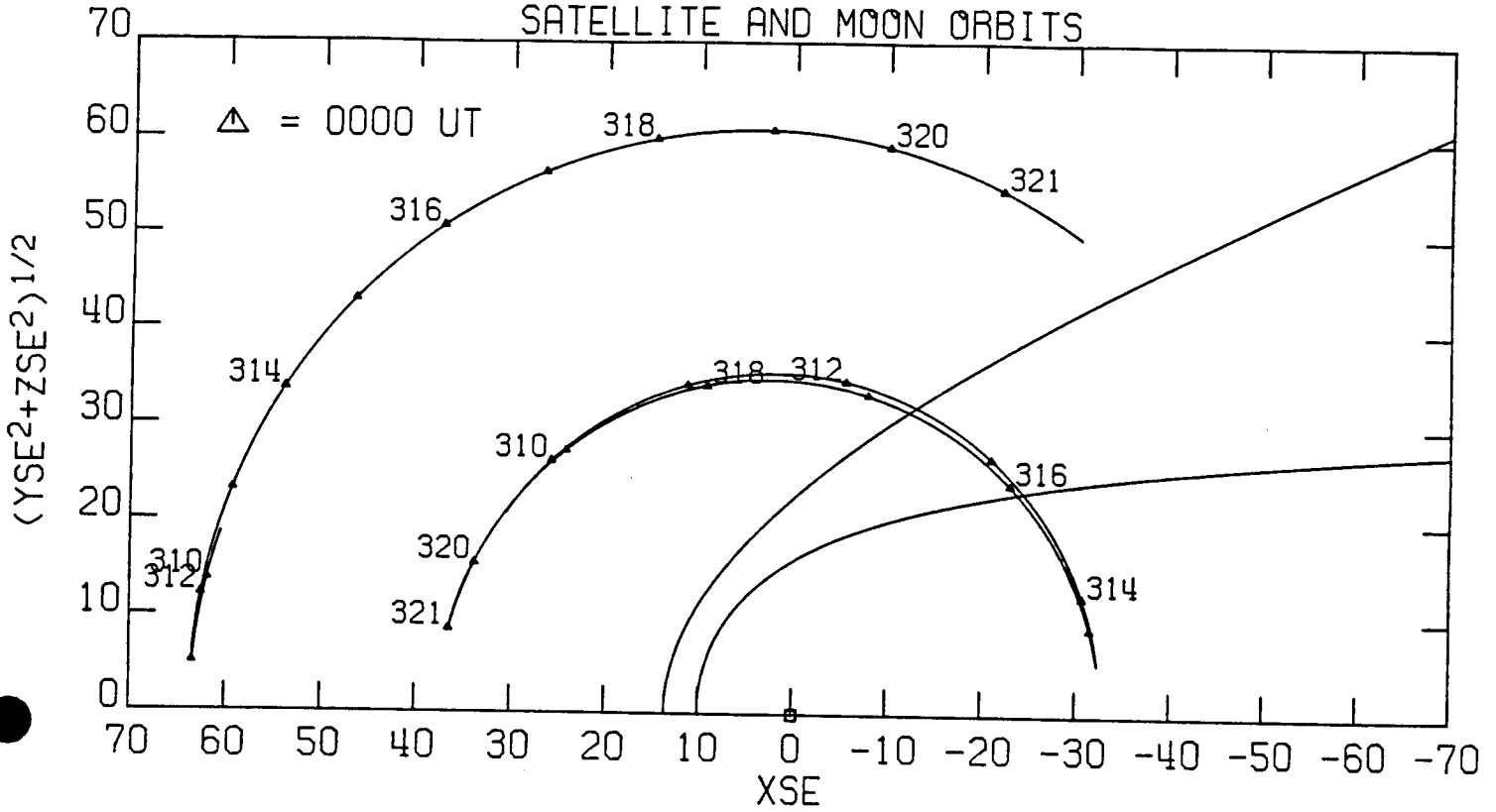


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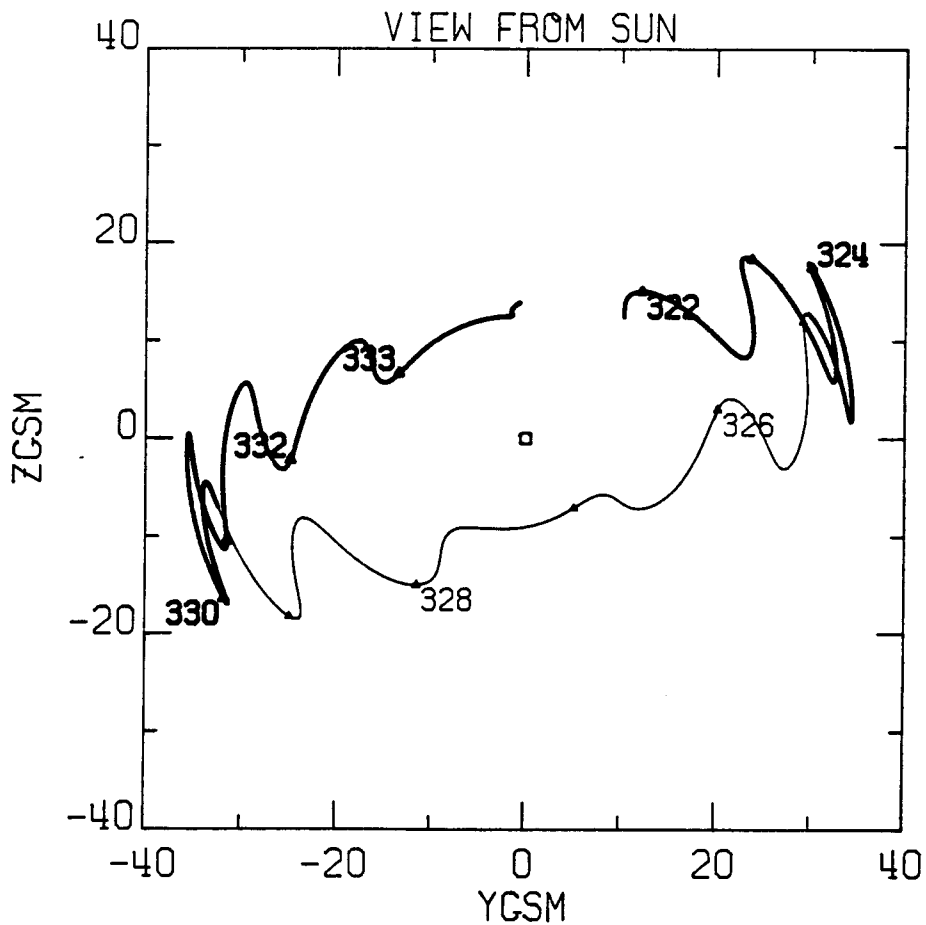
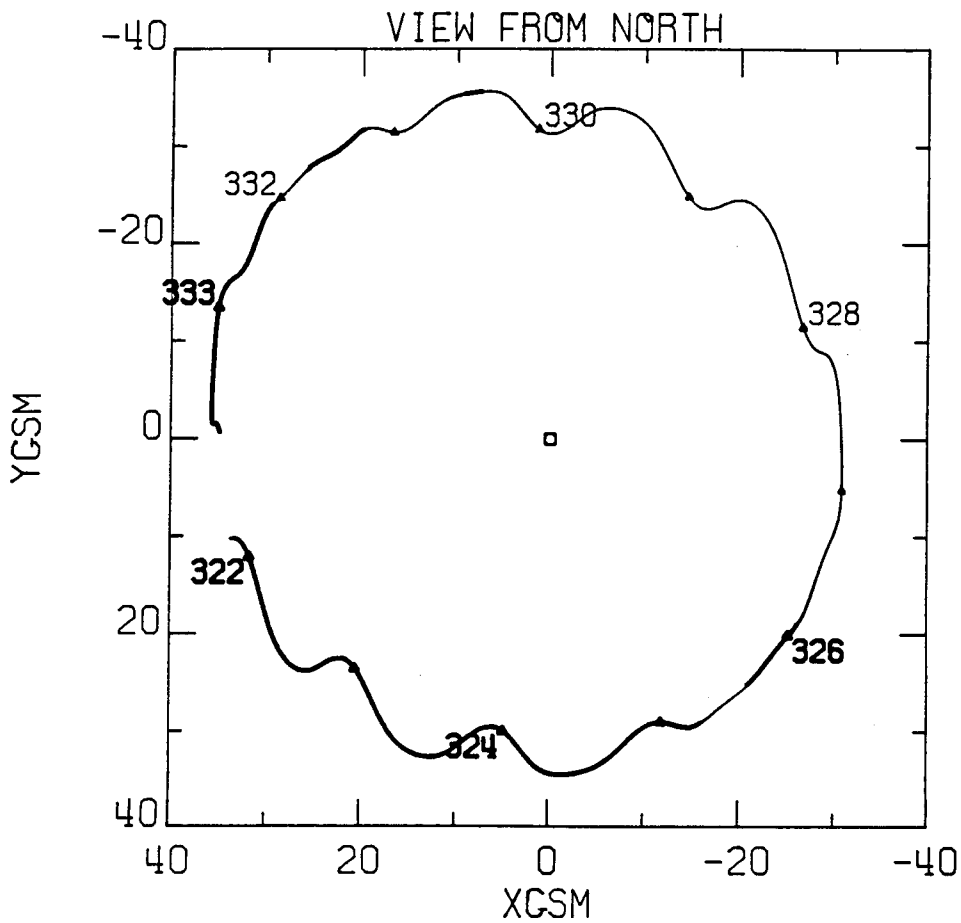
FROM NOV 4 TO NOV 16 1972

DAYS 309 THRU 321

SATELLITE AND MOON ORBITS



IMP 7 FROM NOV 16 TO NOV 28 1972

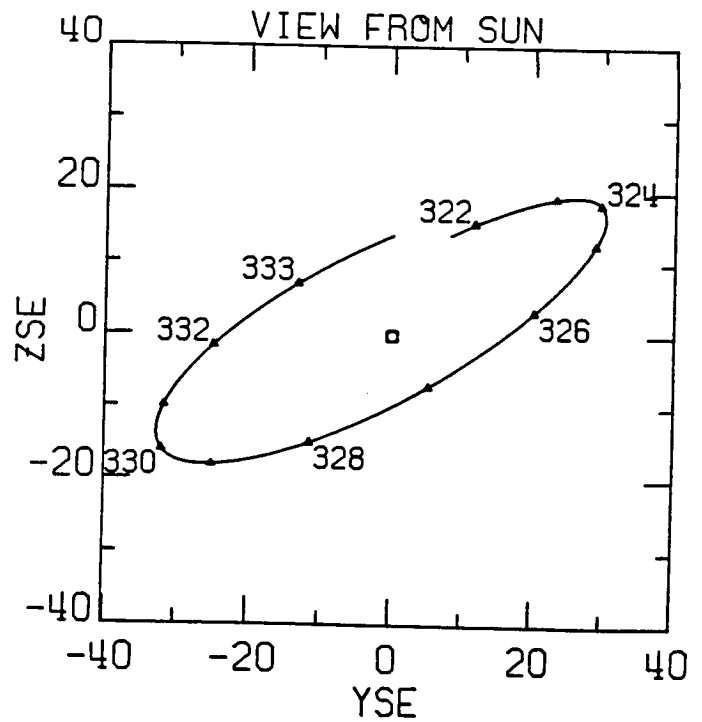
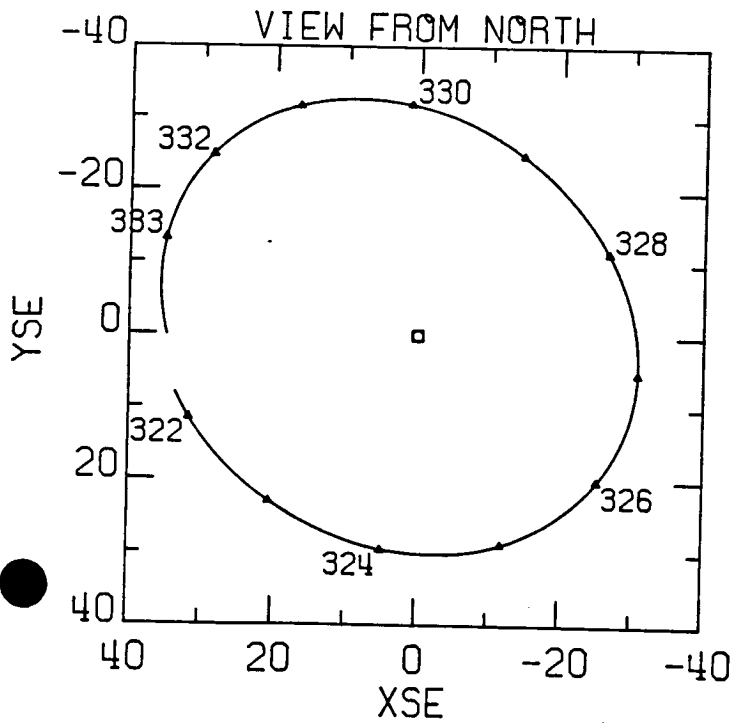
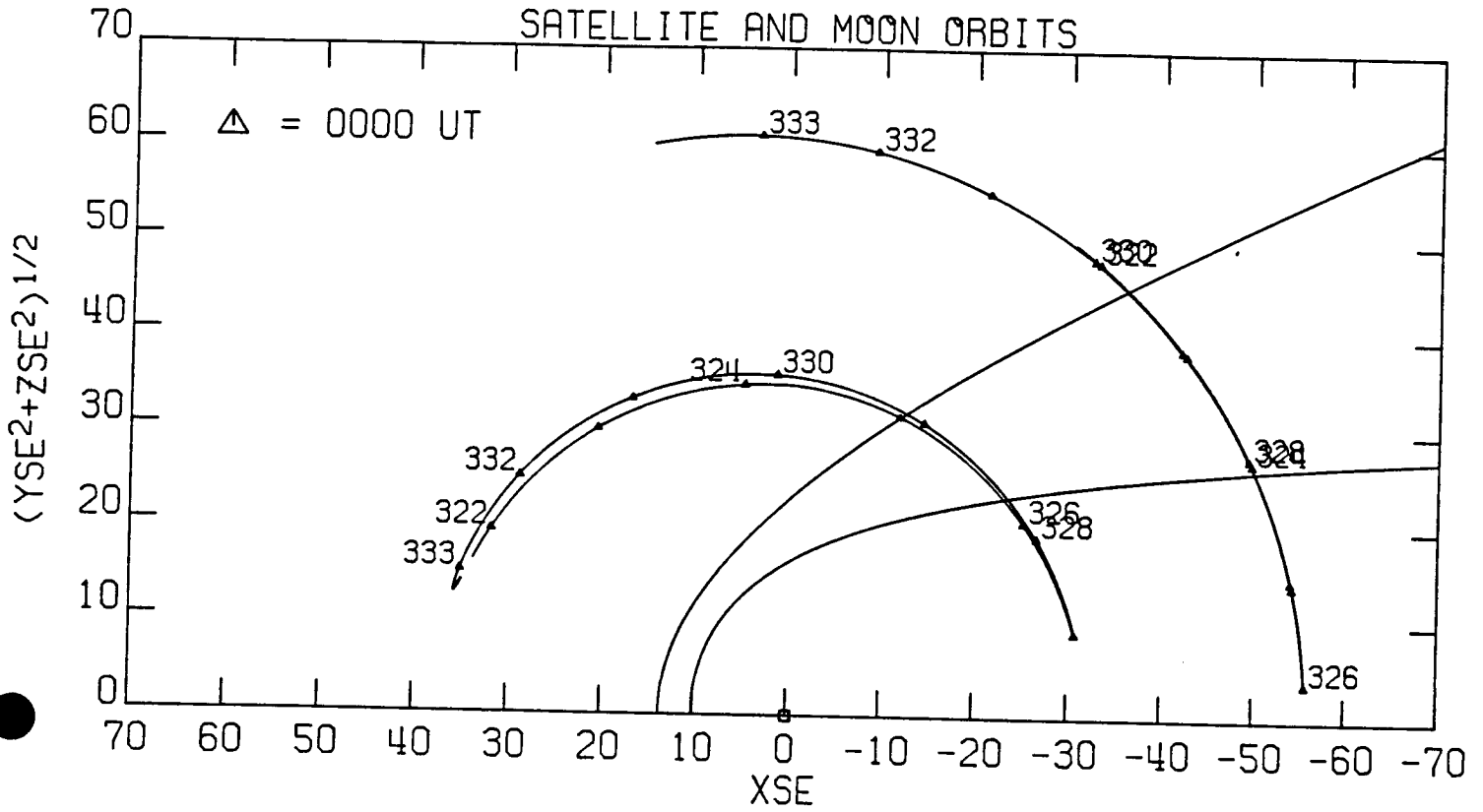


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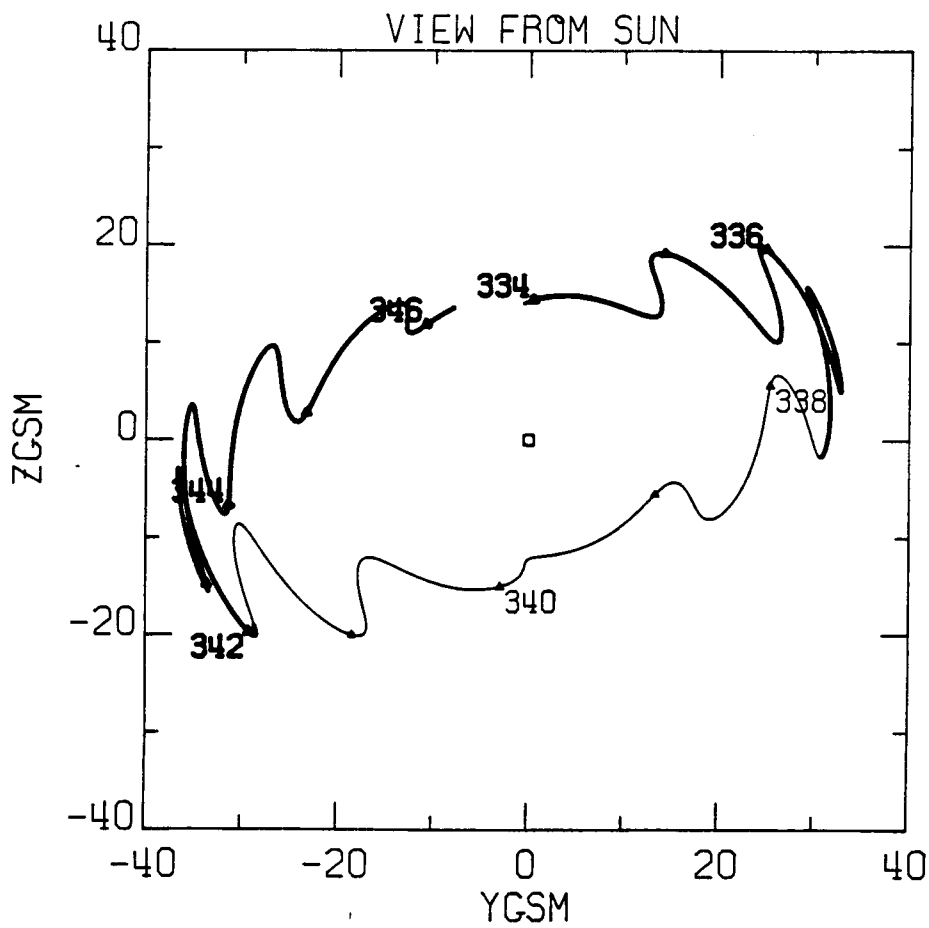
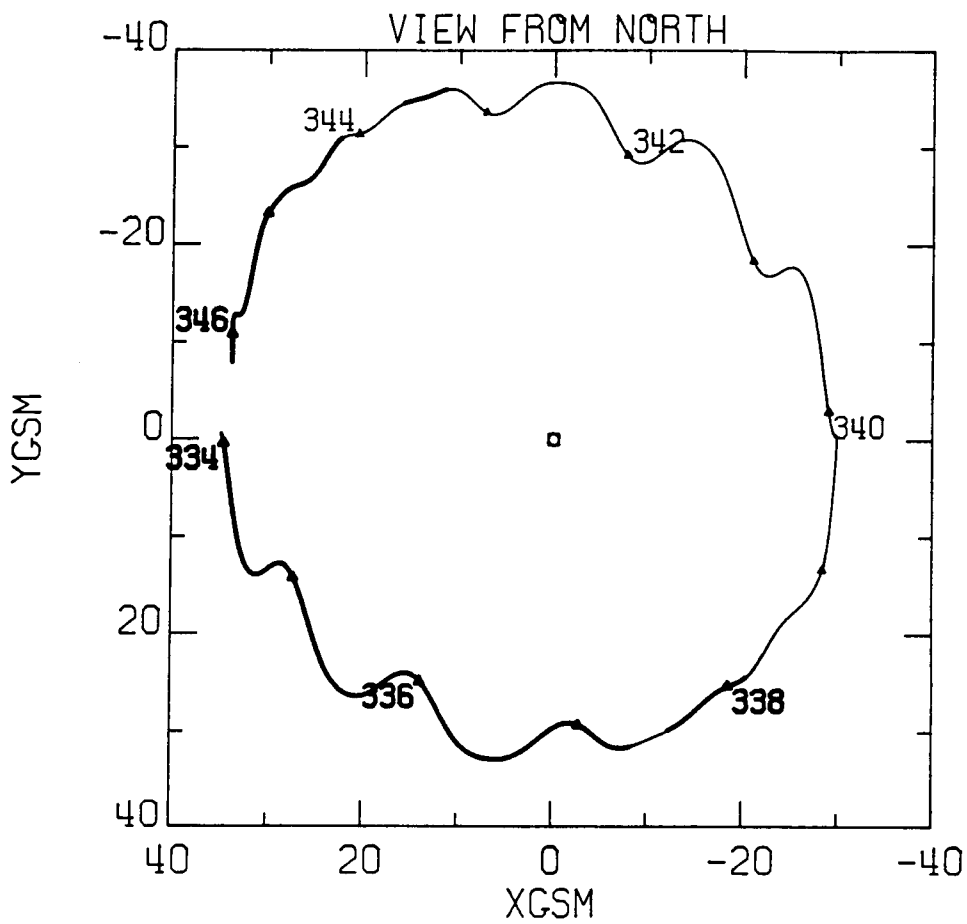
FROM NOV 16 TO NOV 28 1972

DAYS 321 THRU 333

SATELLITE AND MOON ORBITS



IMP 7 FROM NOV 28 TO DEC 11 1972

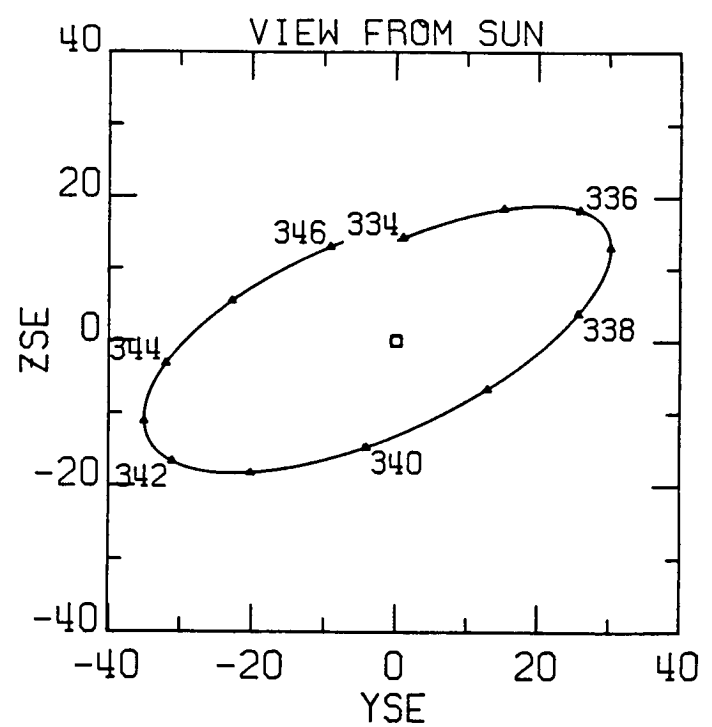
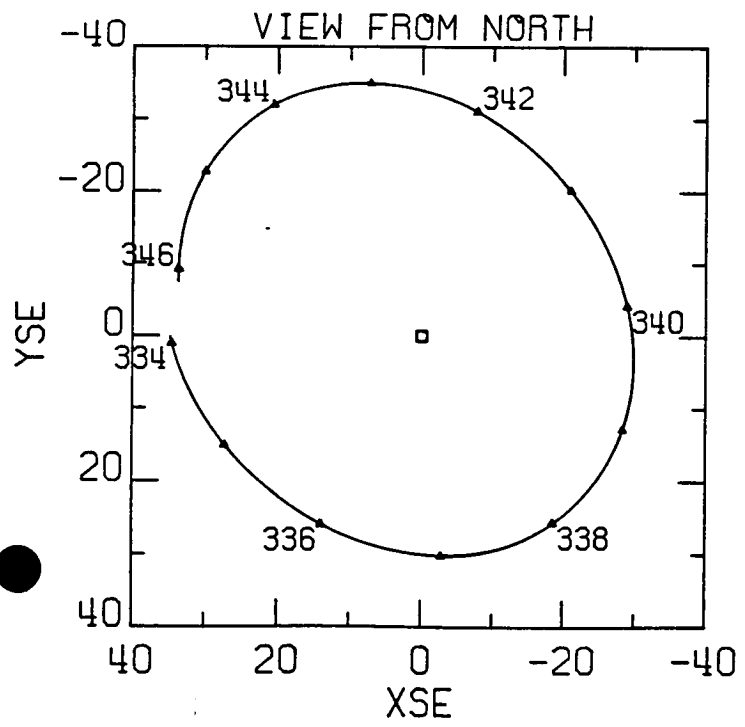
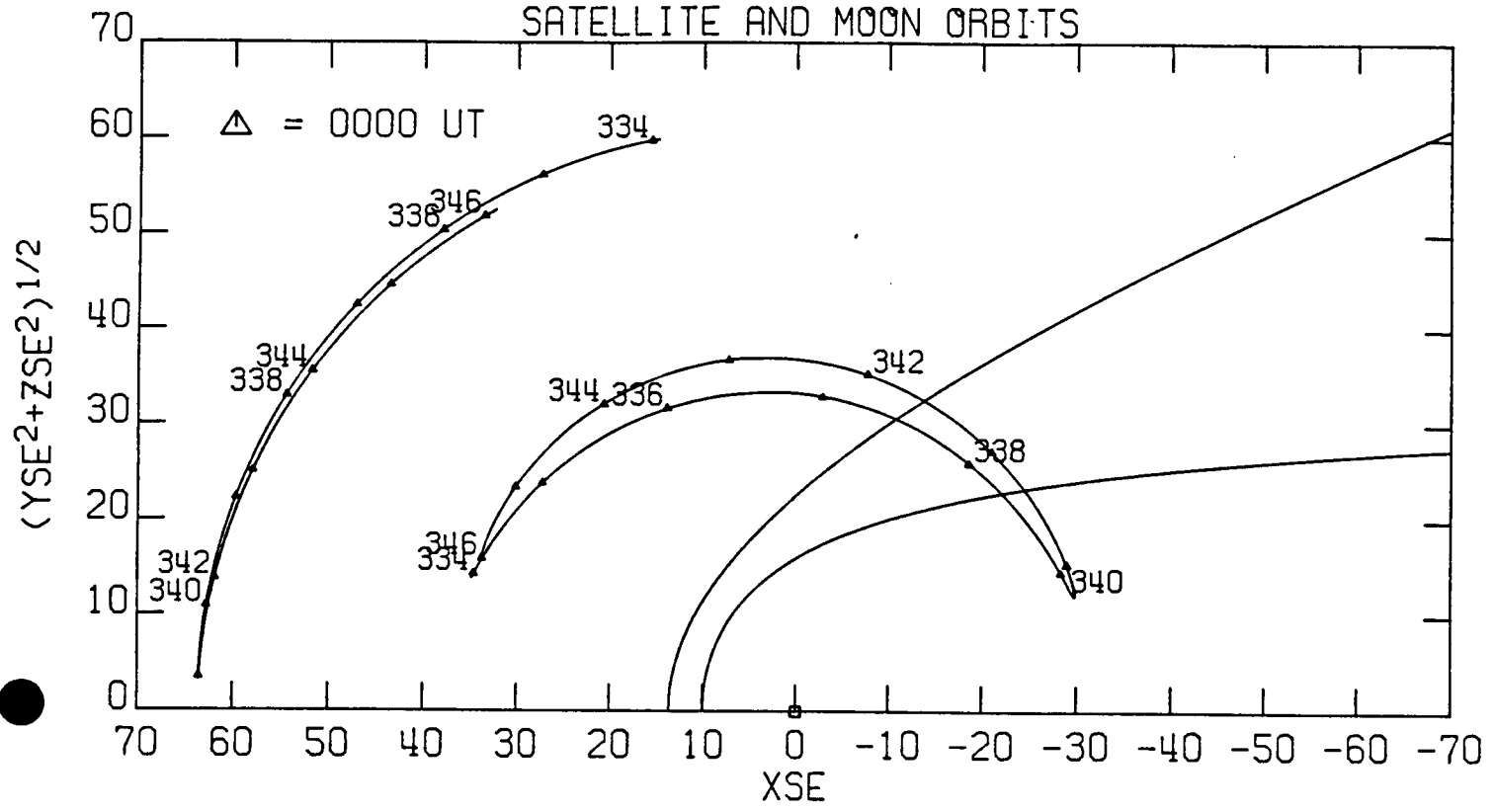


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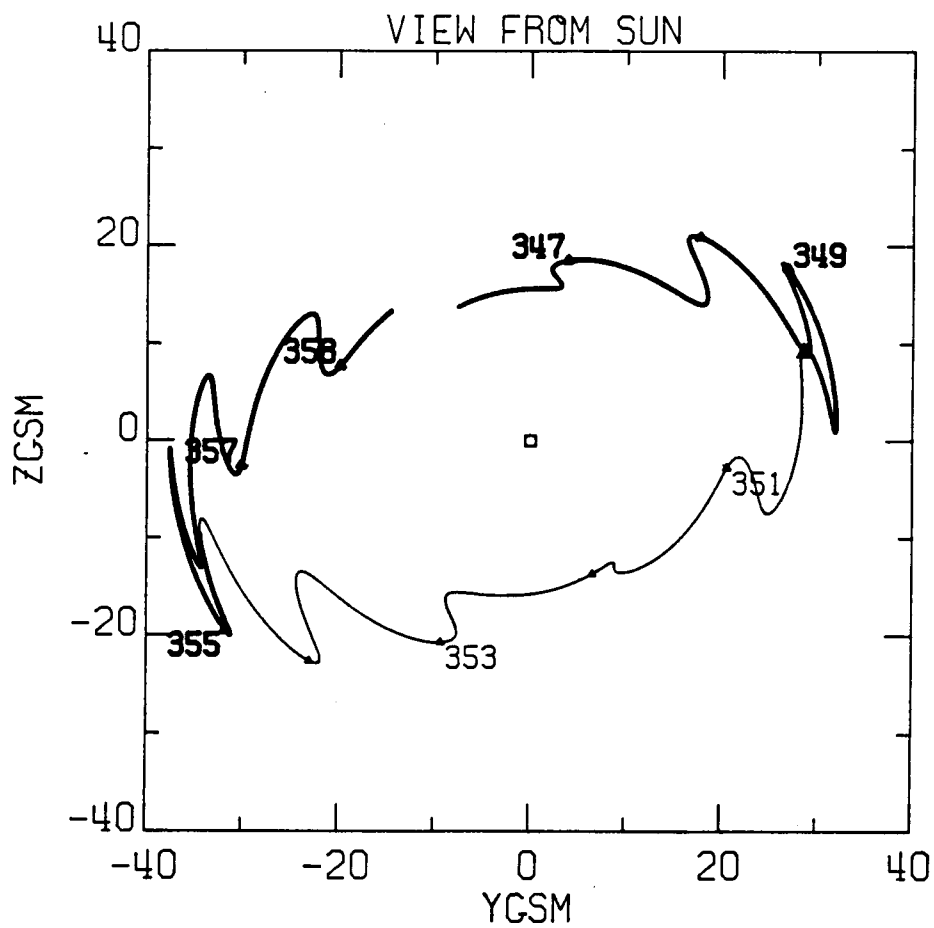
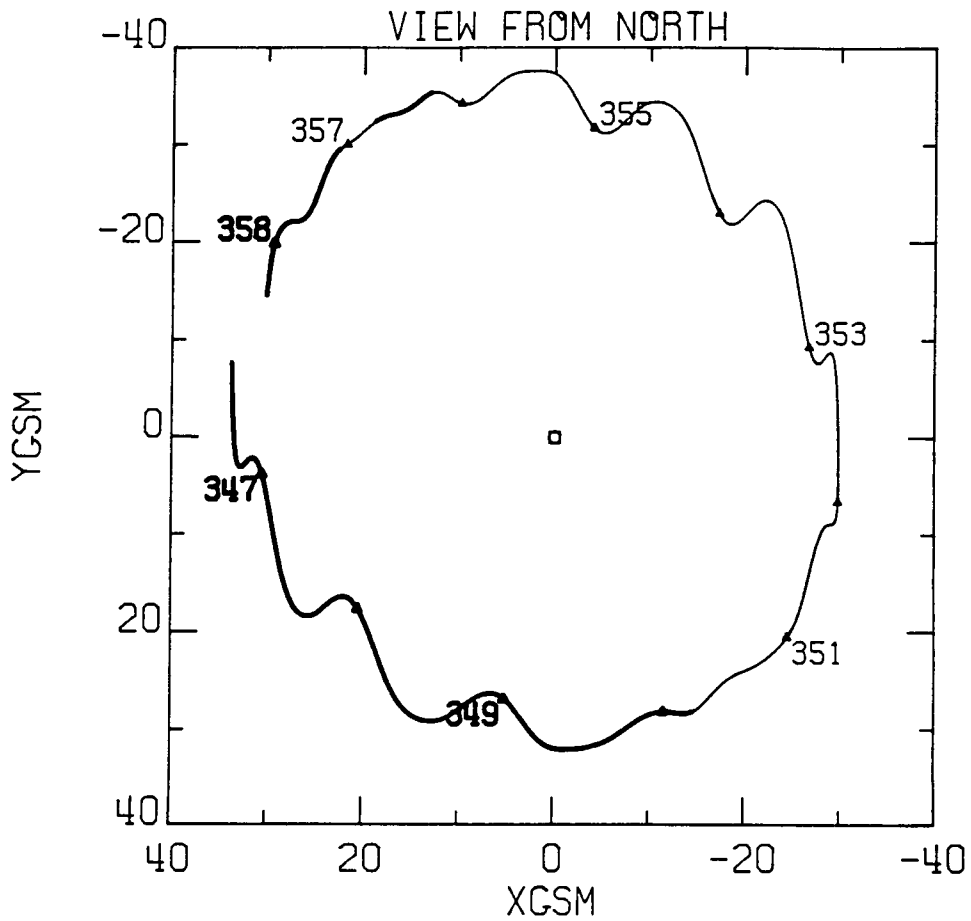
FROM NOV 28 TO DEC 11 1972

DAYS 333 THRU 346

SATELLITE AND MOON ORBITS



IMP 7 FROM DEC 11 TO DEC 23 1972

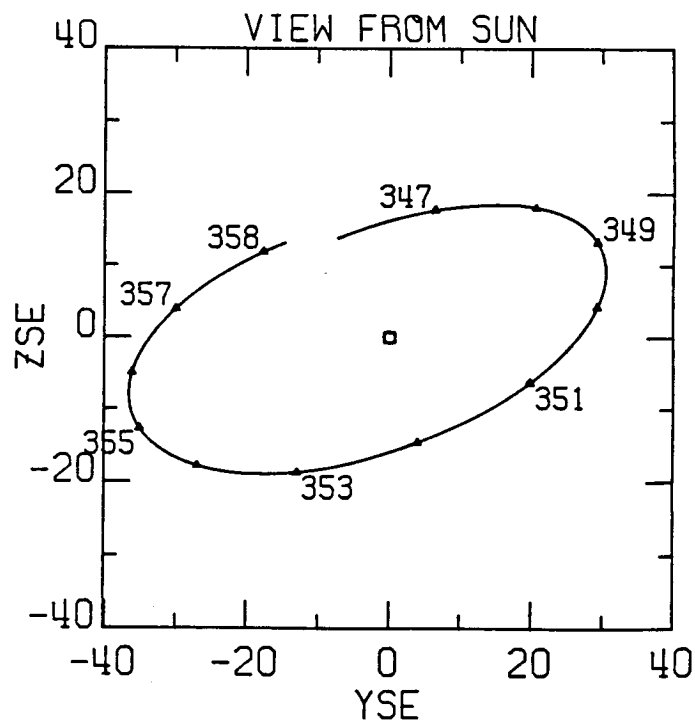
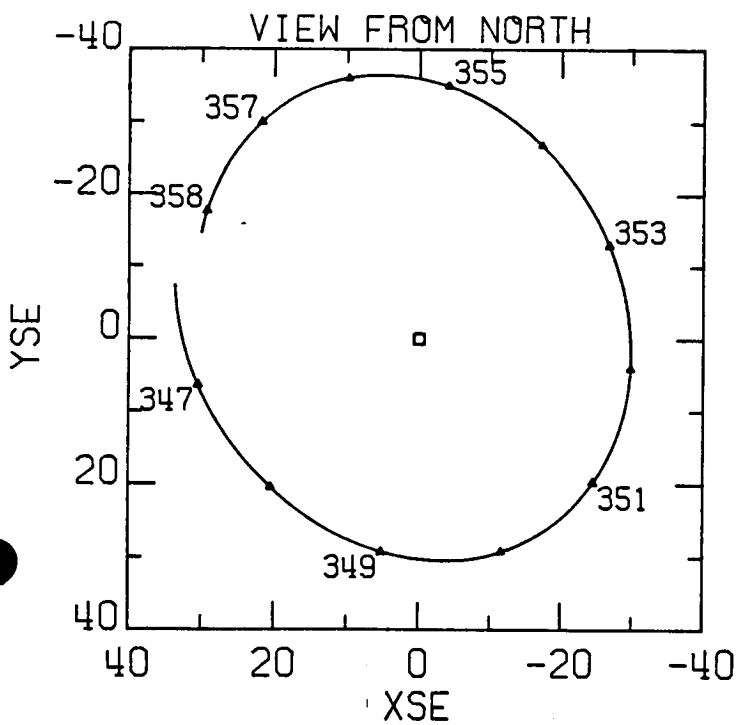
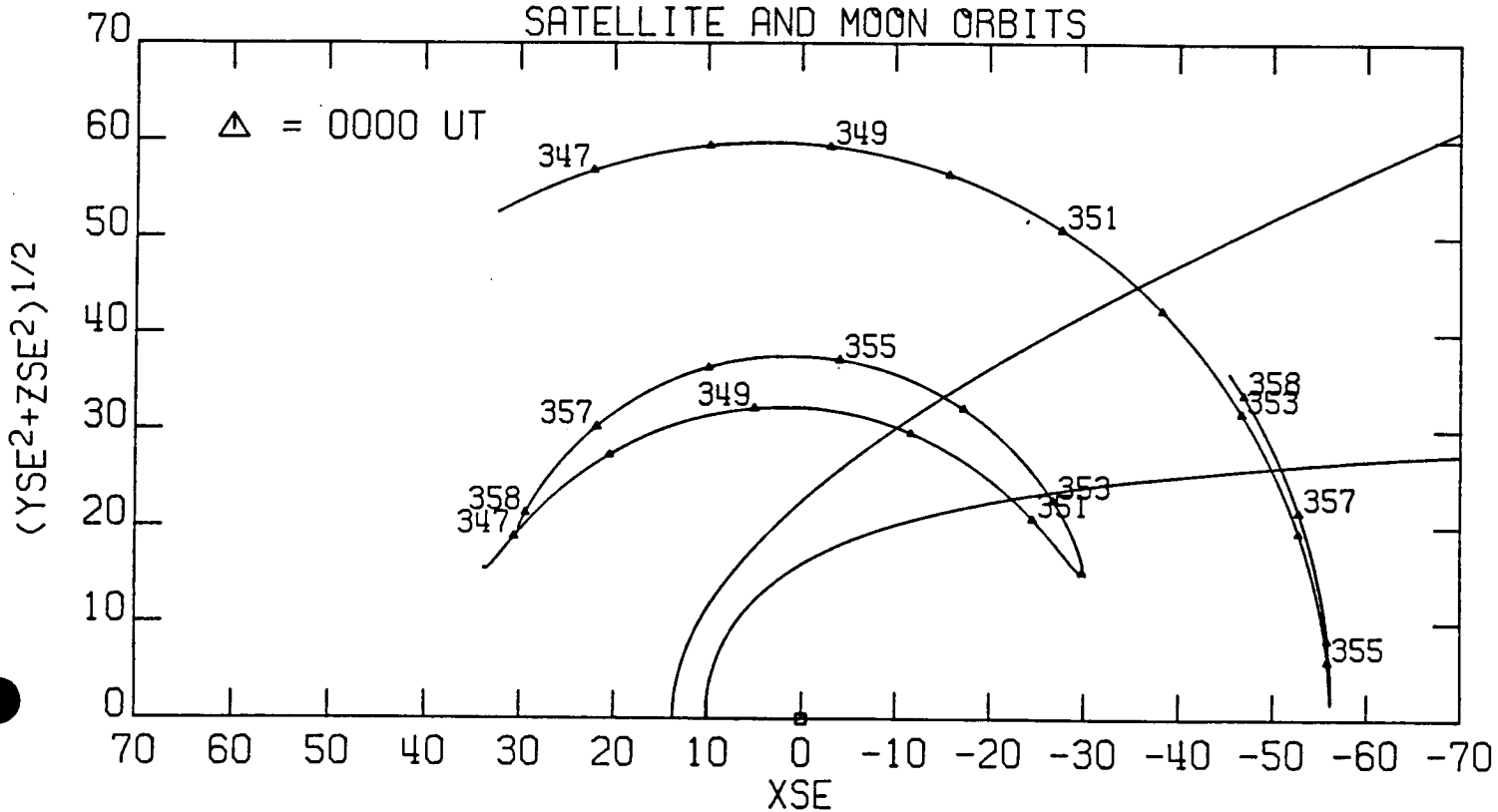


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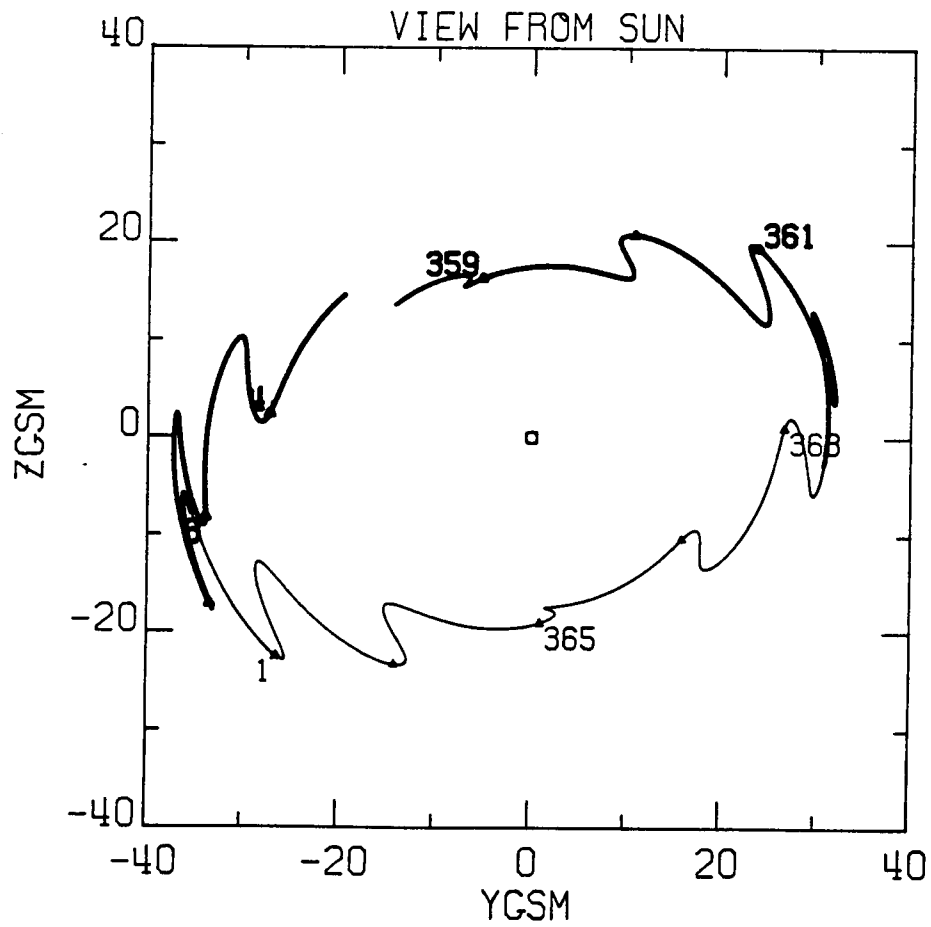
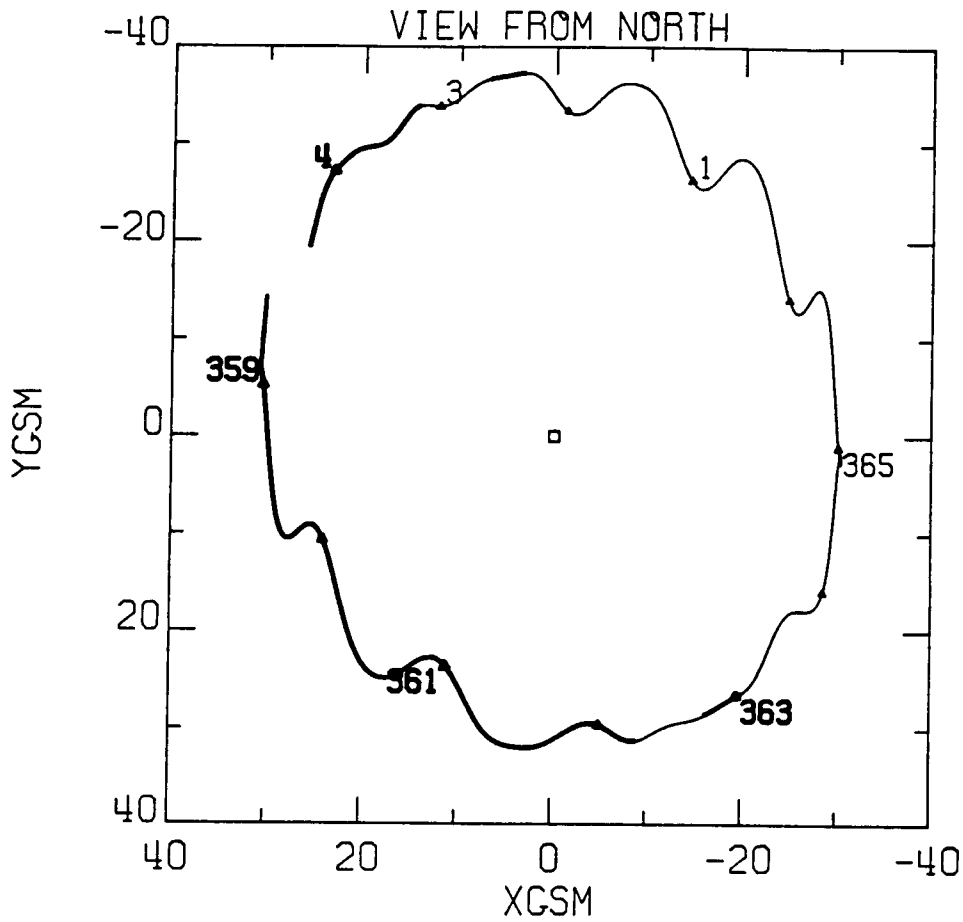
FROM DEC 11 TO DEC 23 1972

DAYS 346 THRU 358

SATELLITE AND MOON ORBITS



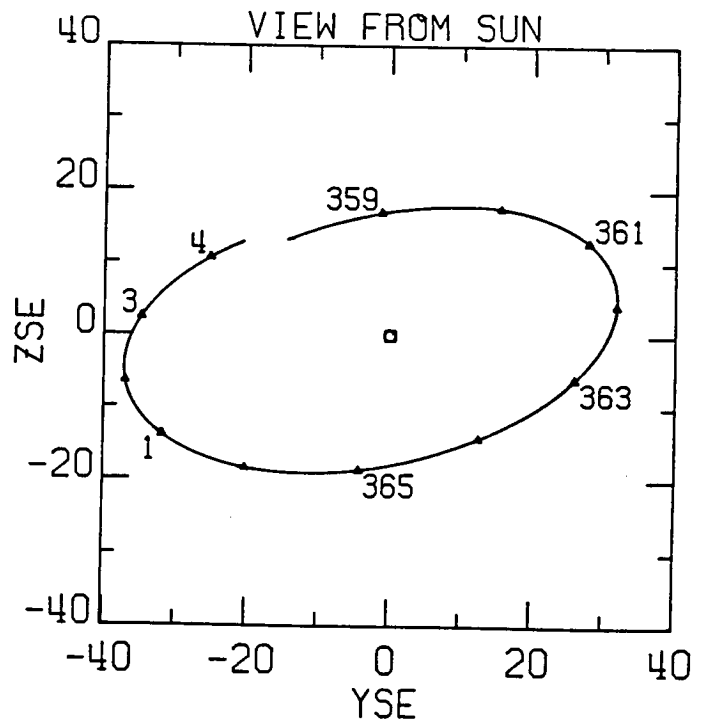
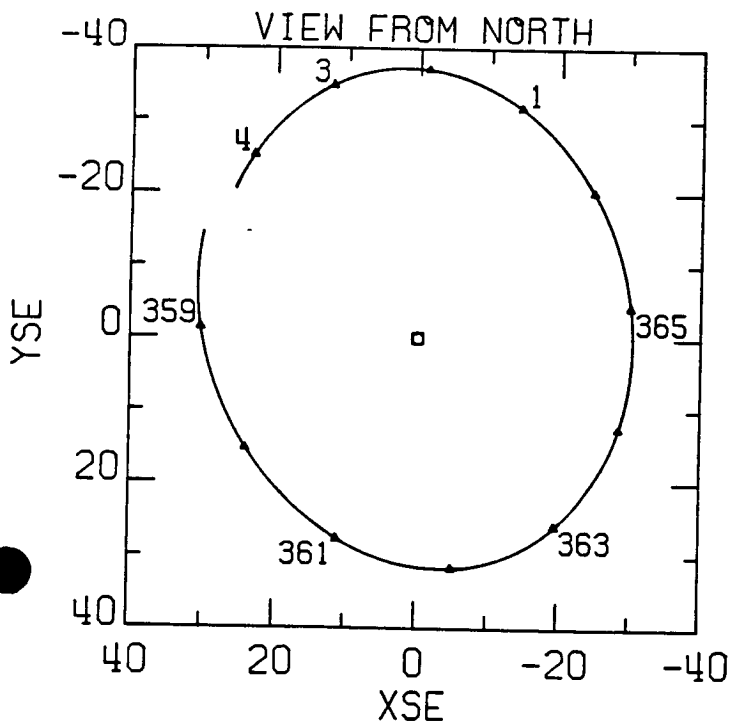
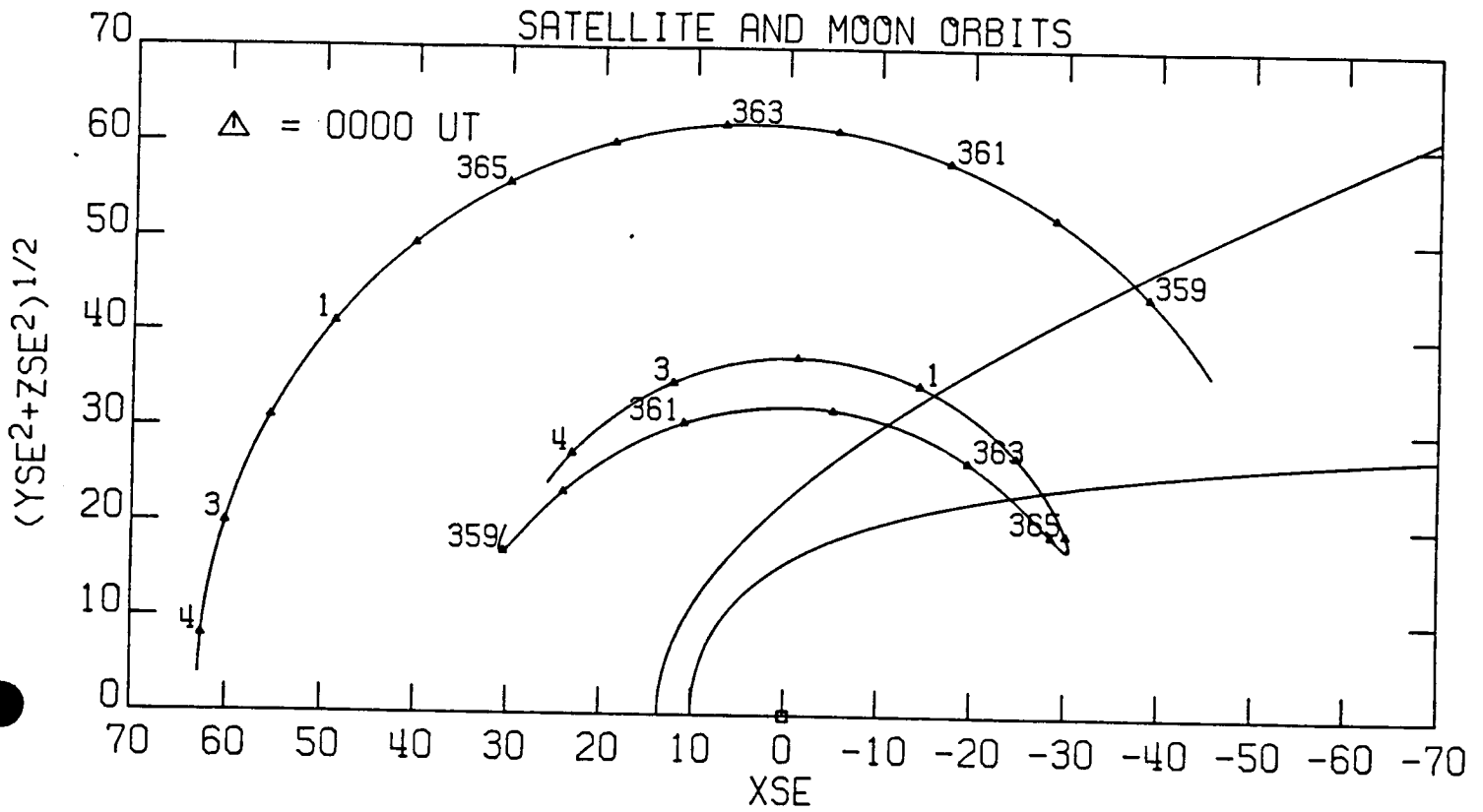
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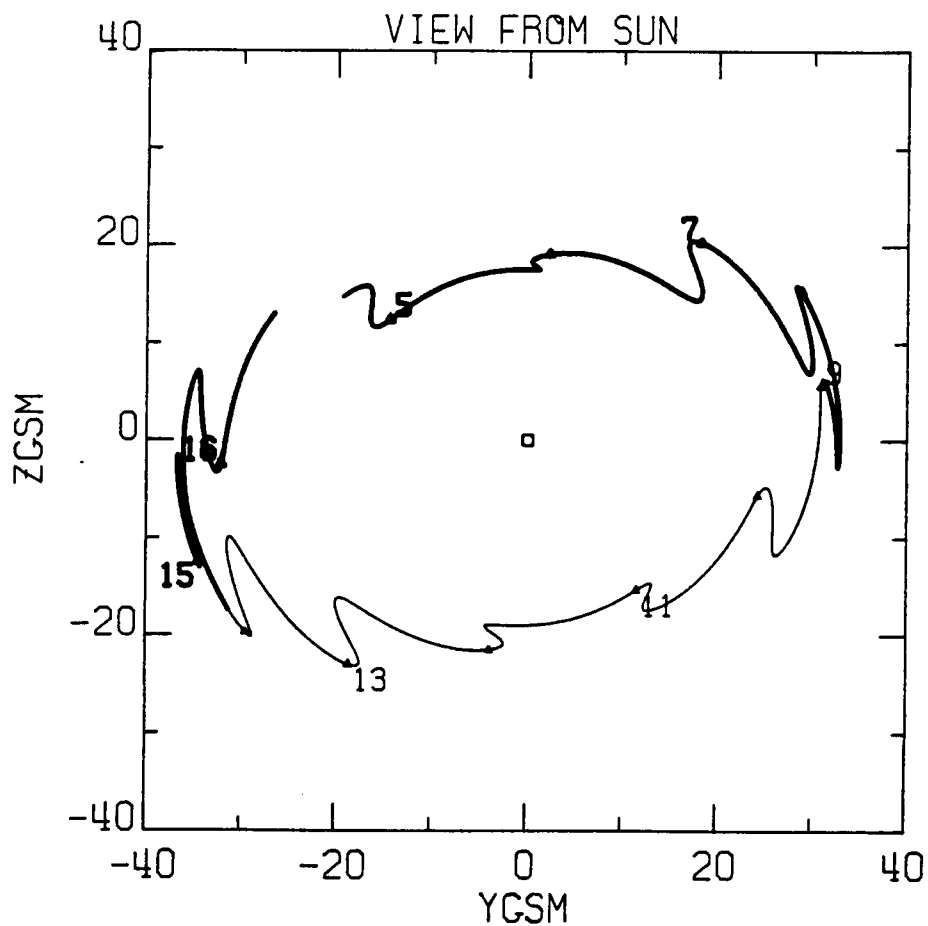
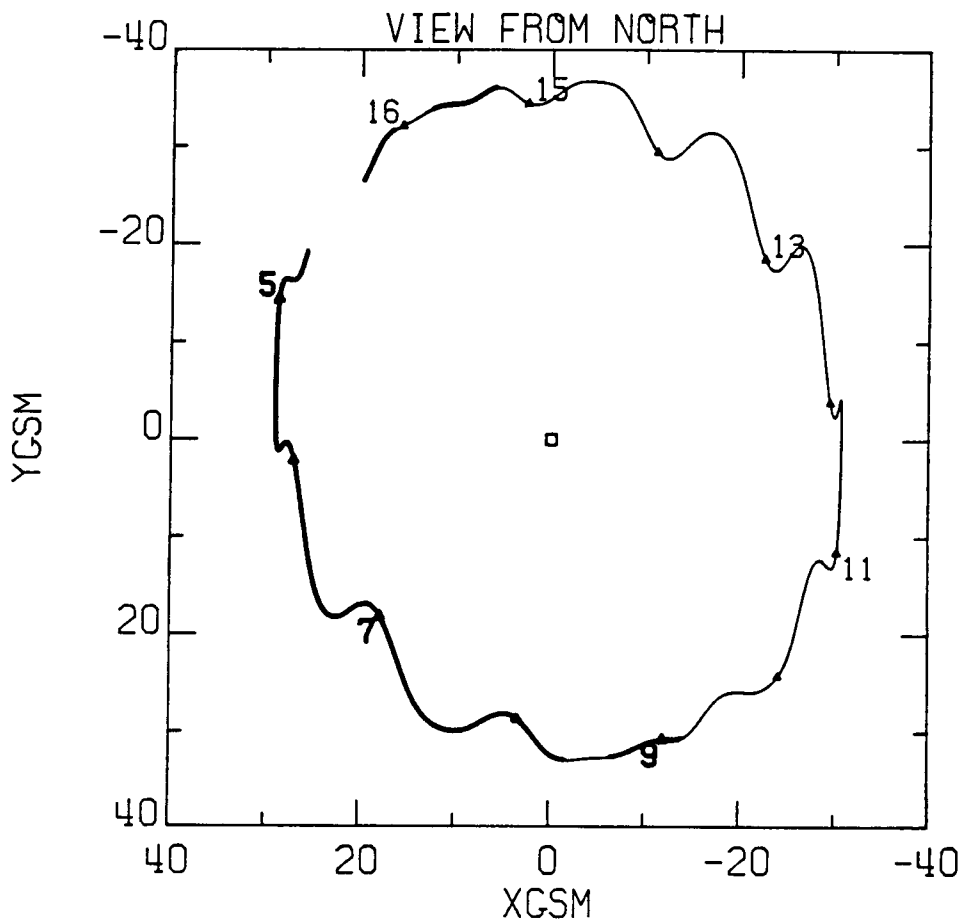
IMP 7 TRAJECTORY. ASCENDING NODE 8

FROM DEC 23 TO JAN 4 1973

DAYS 358 THRU 4



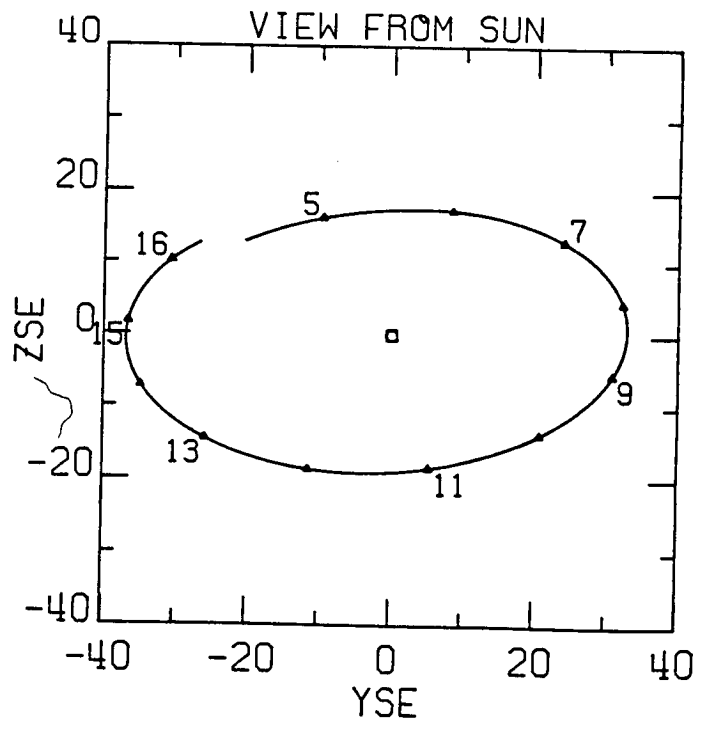
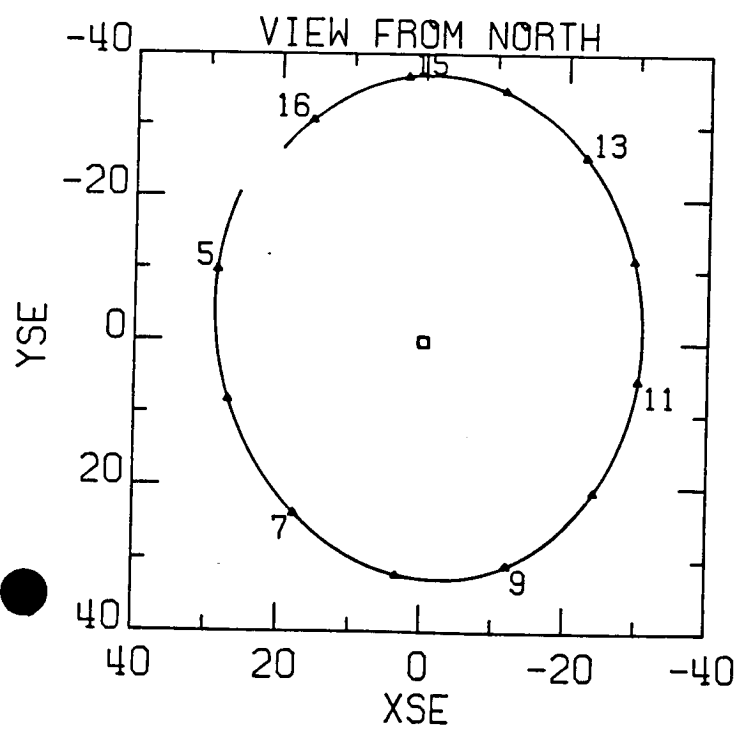
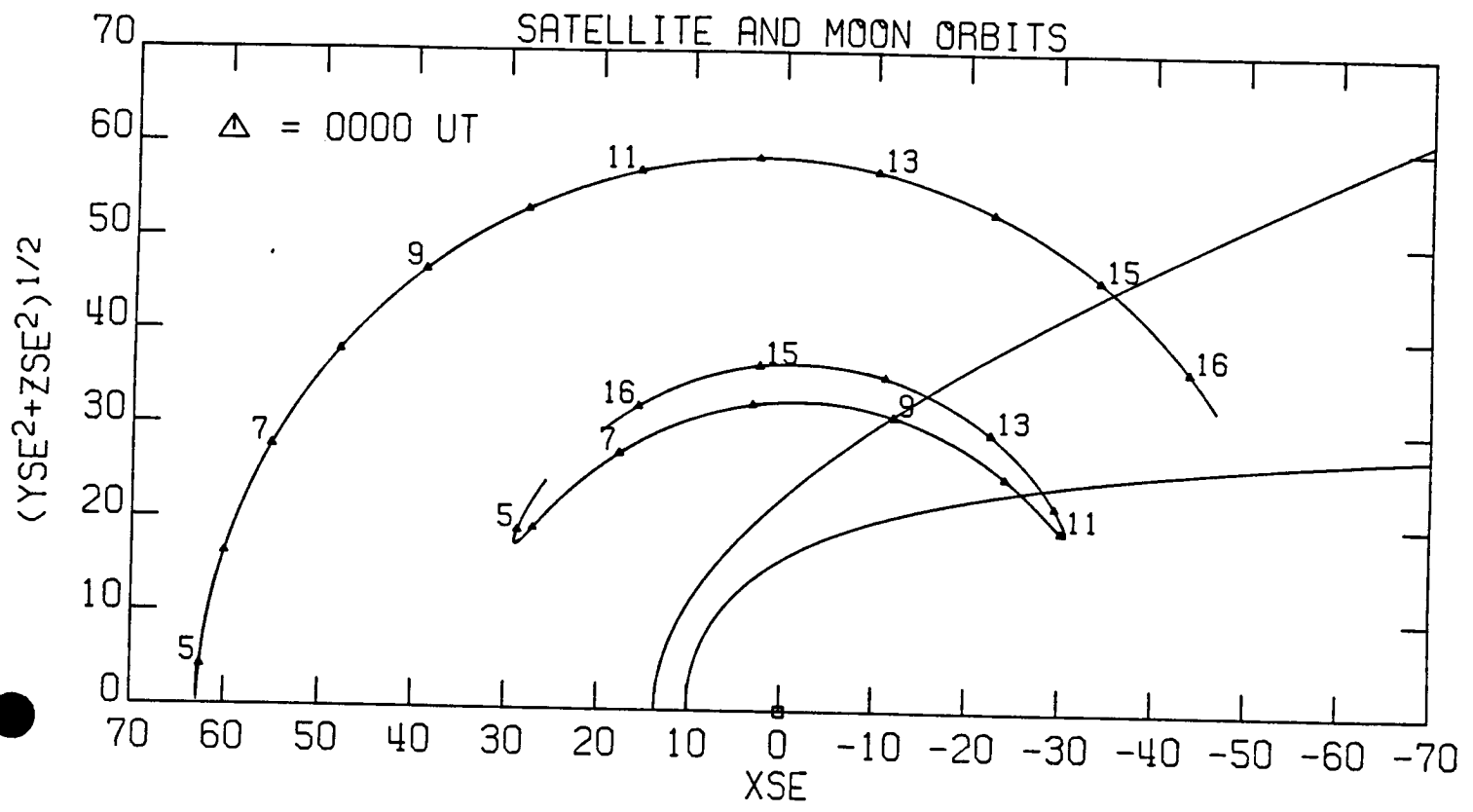
IMP 7 FROM JAN 4 TO JAN 16 1973



IMP 7 TRAJECTORY. ASCENDING NODE 9

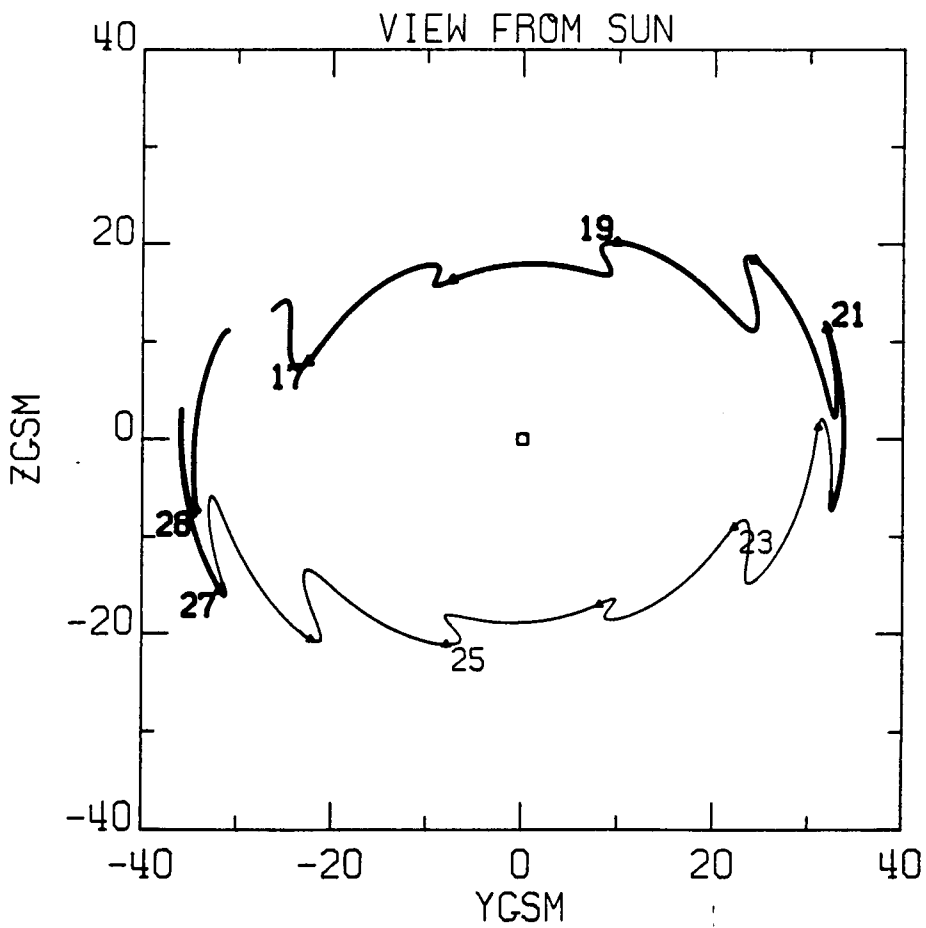
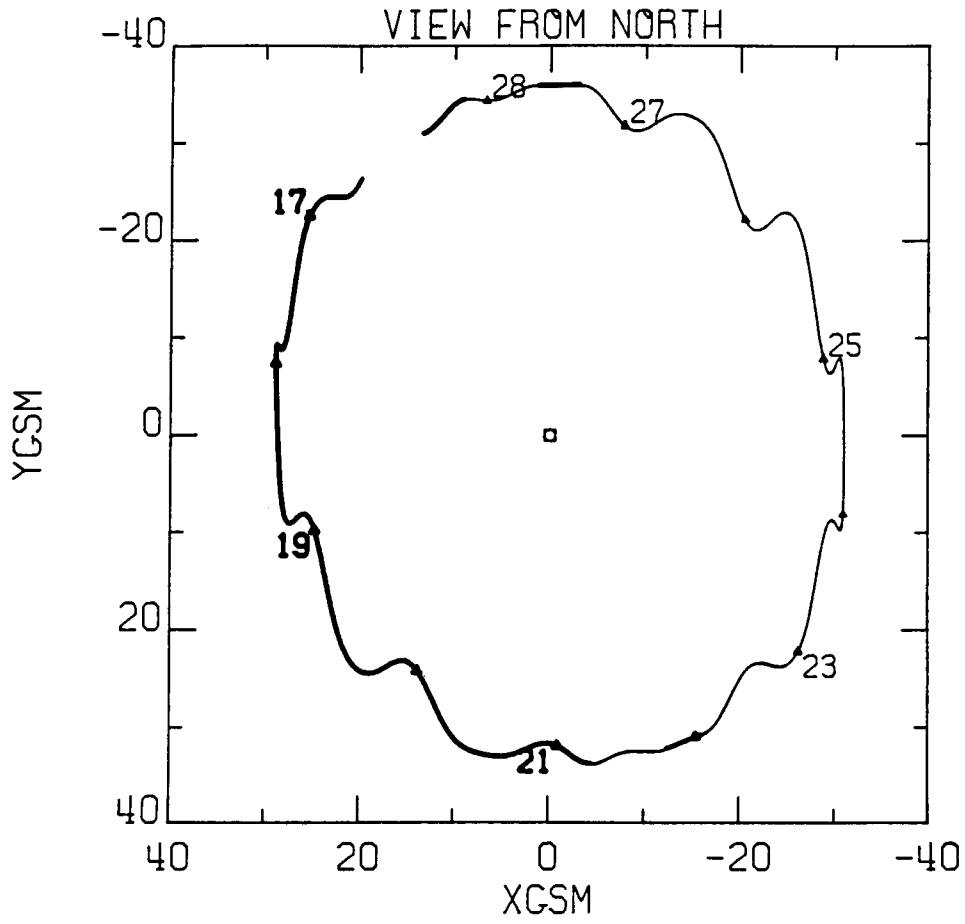
FROM JAN 4 TO JAN 16 1973

DAYS 4 THRU 16



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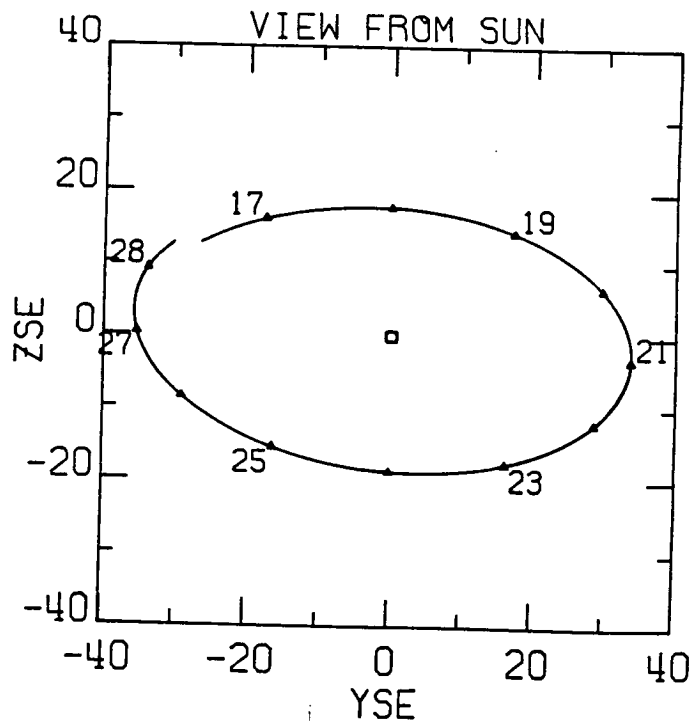
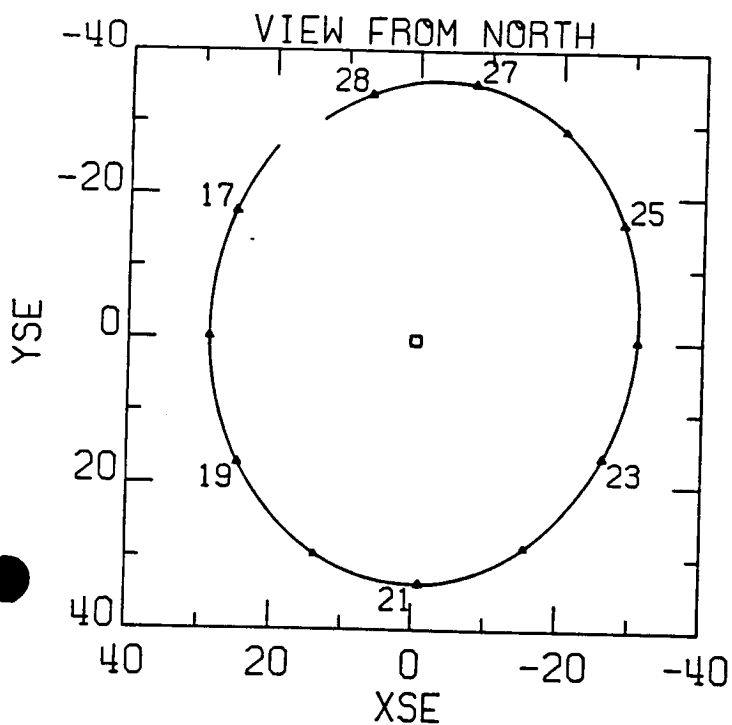
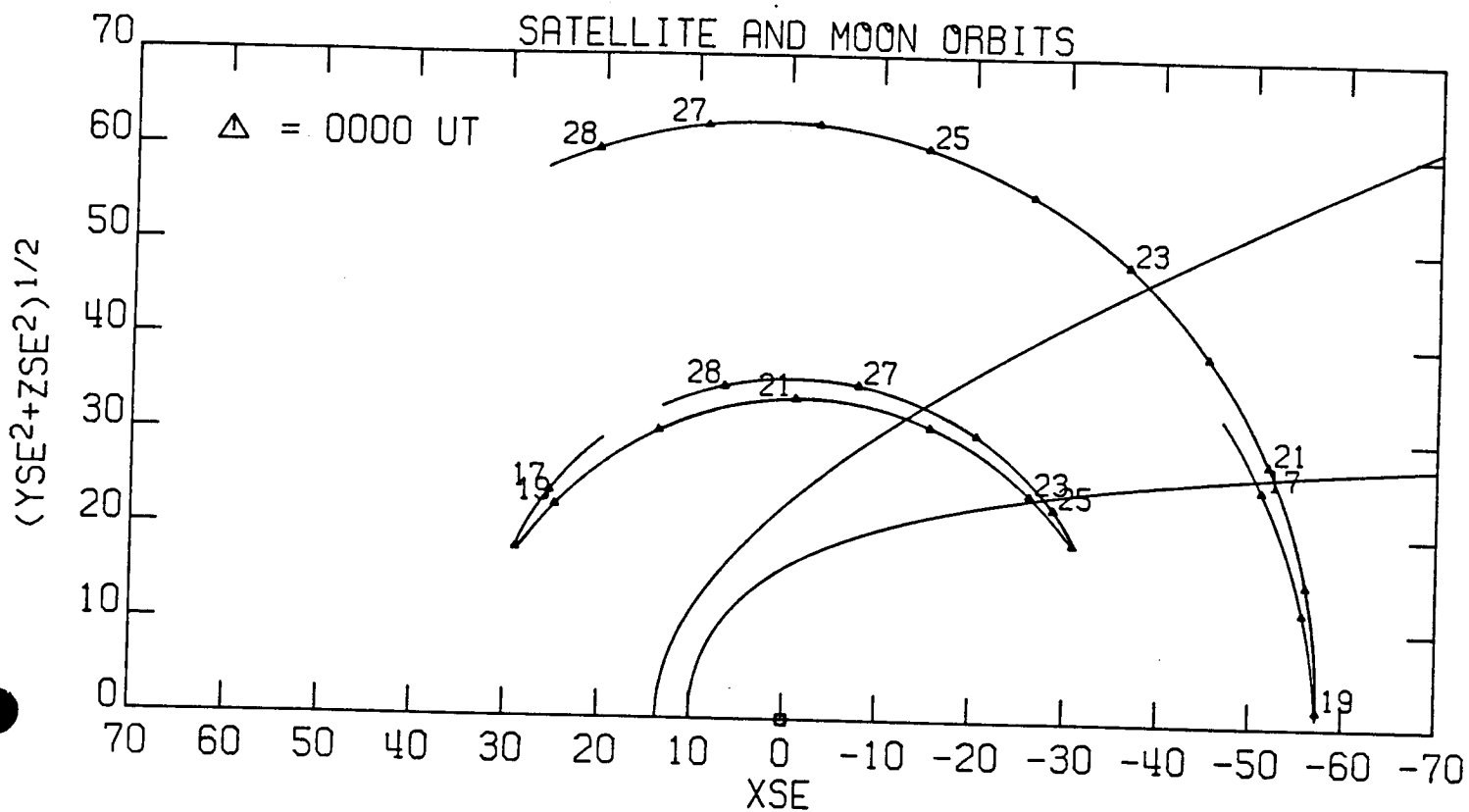
IMP 7 FROM JAN 16 TO JAN 28 1973



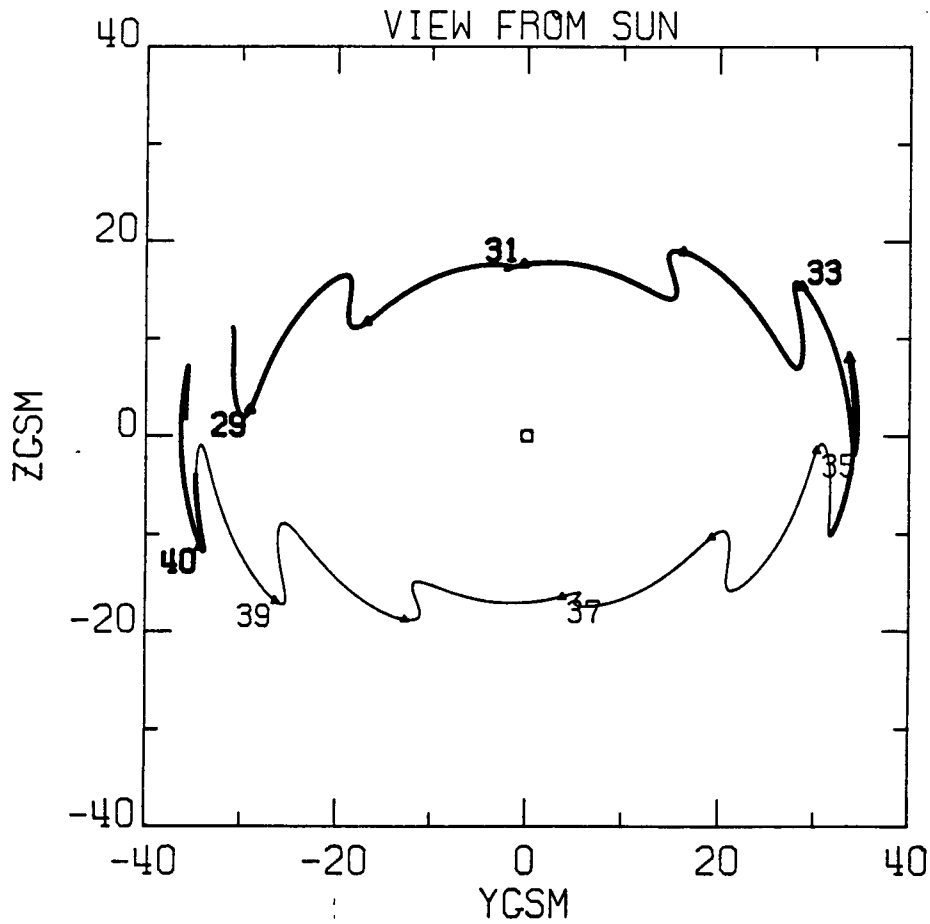
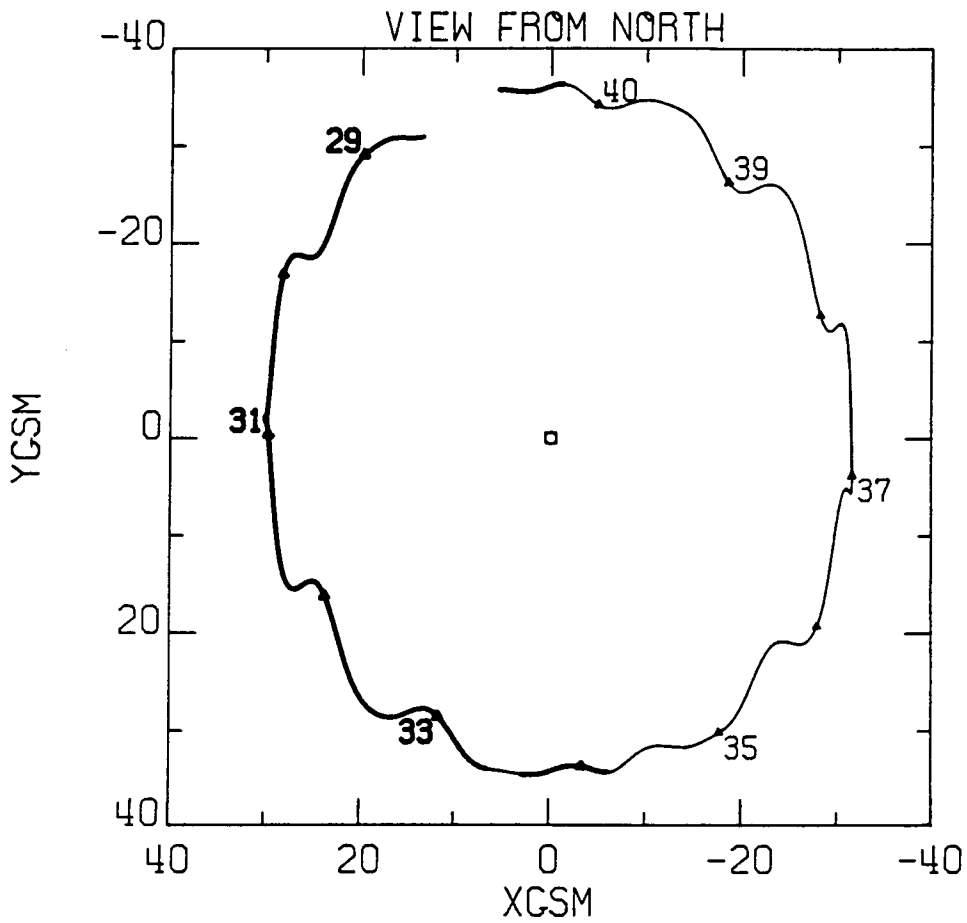
IMP 7 TRAJECTORY. ASCENDING NODE 10

FROM JAN 16 TO JAN 28 1973

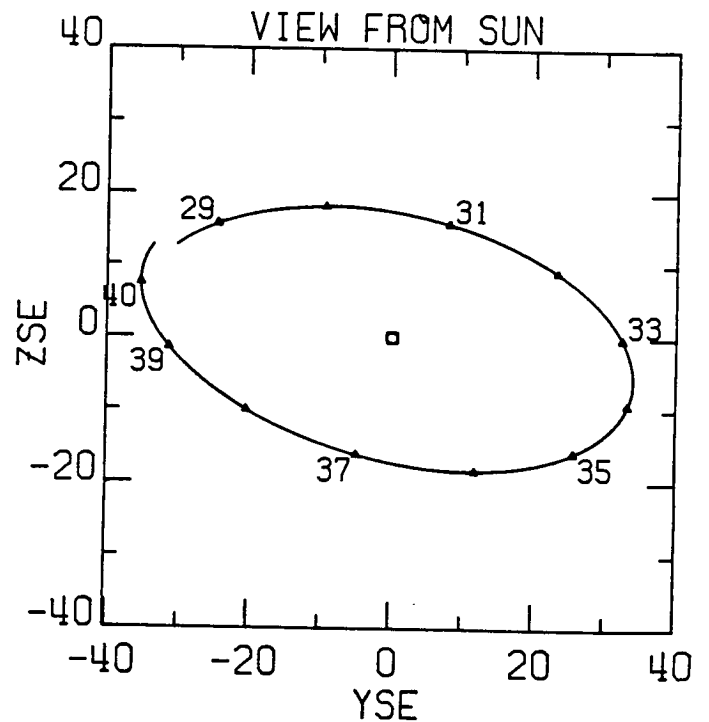
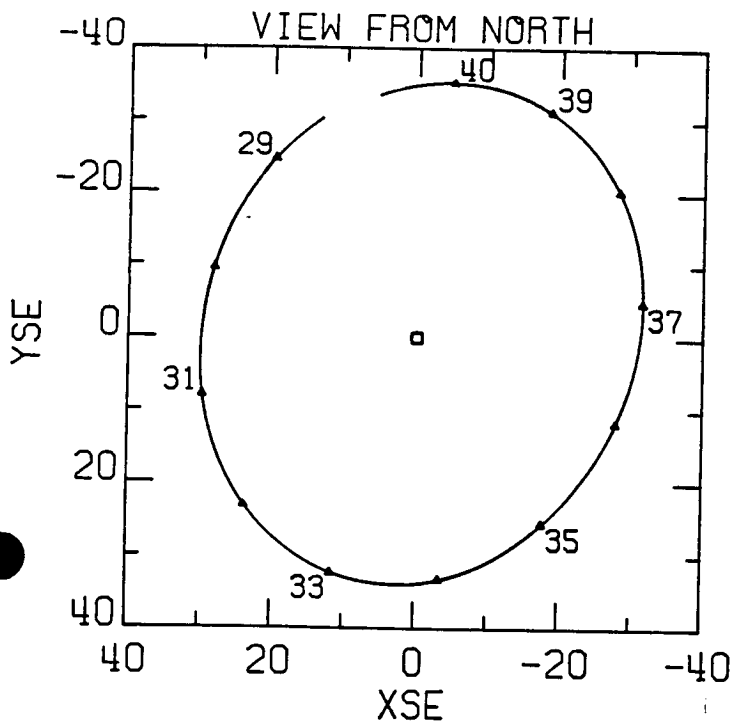
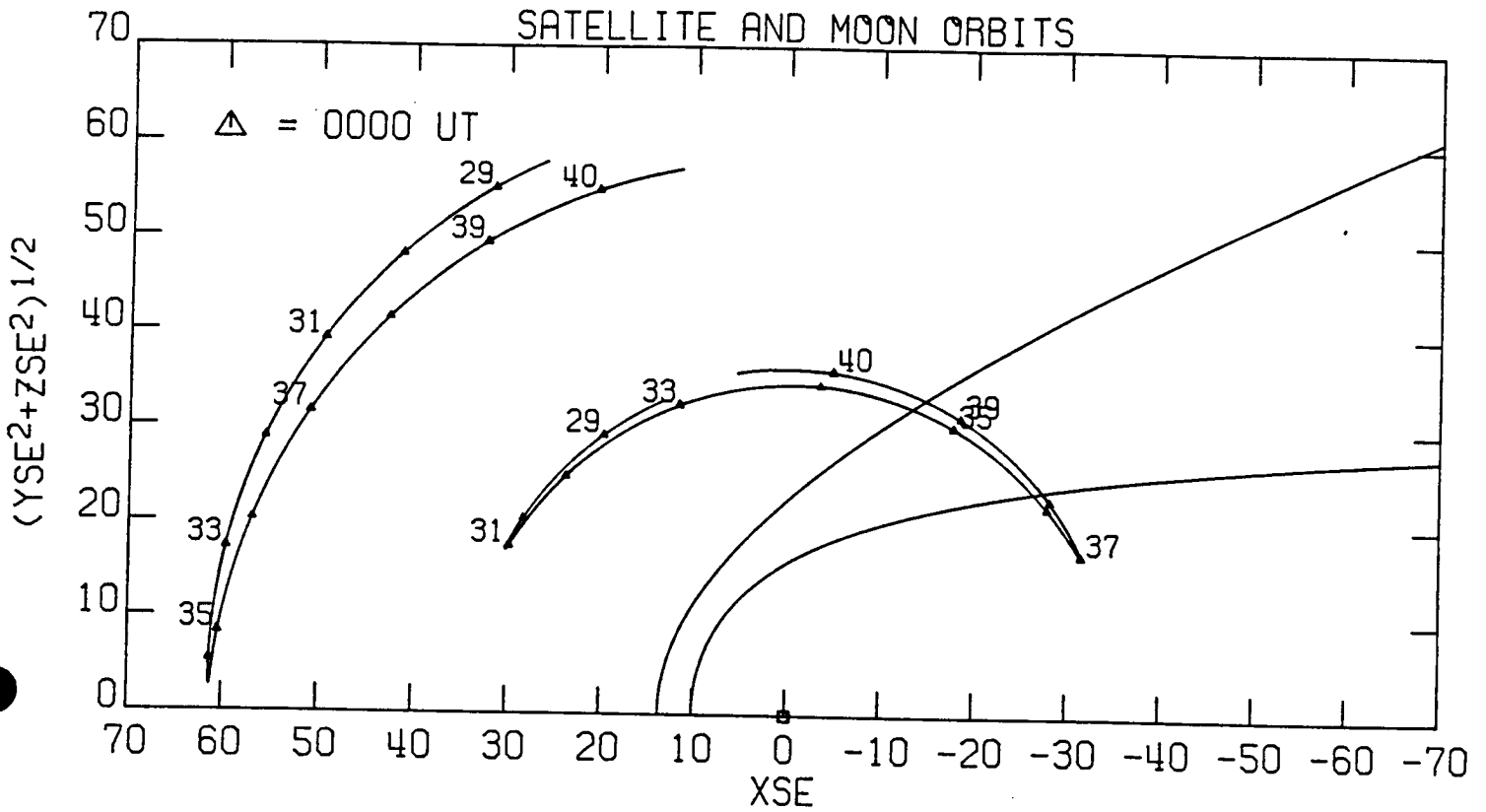
DAYS 16 THRU 28



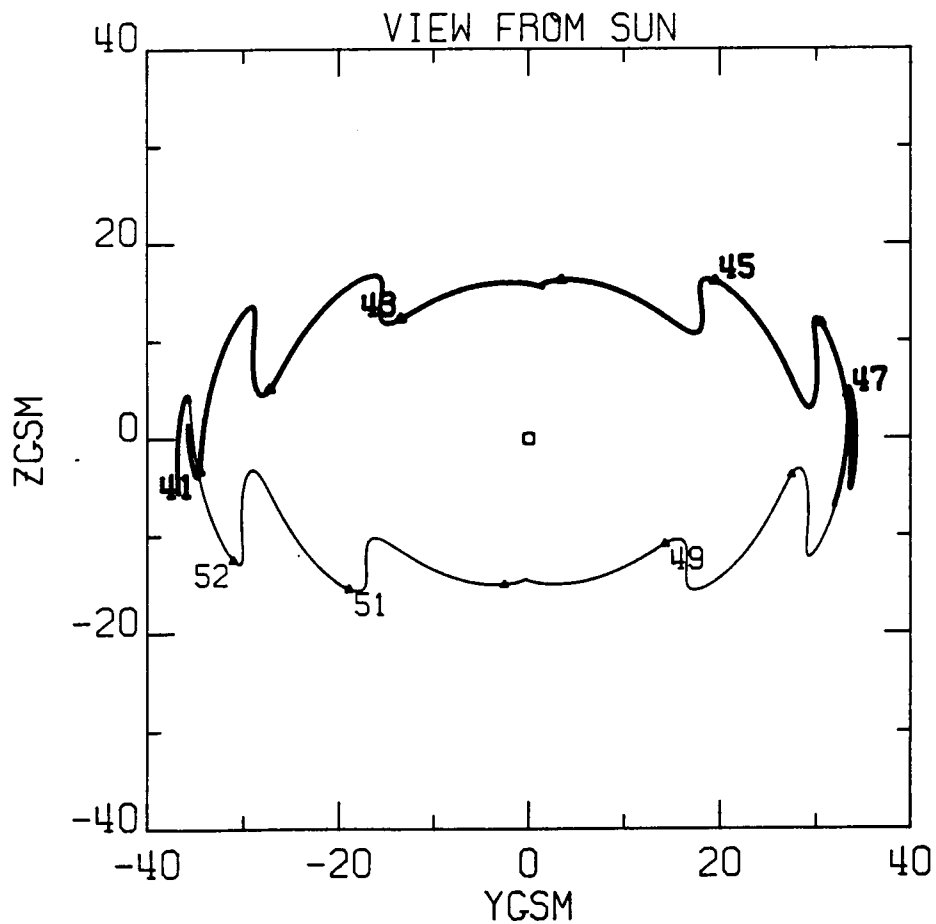
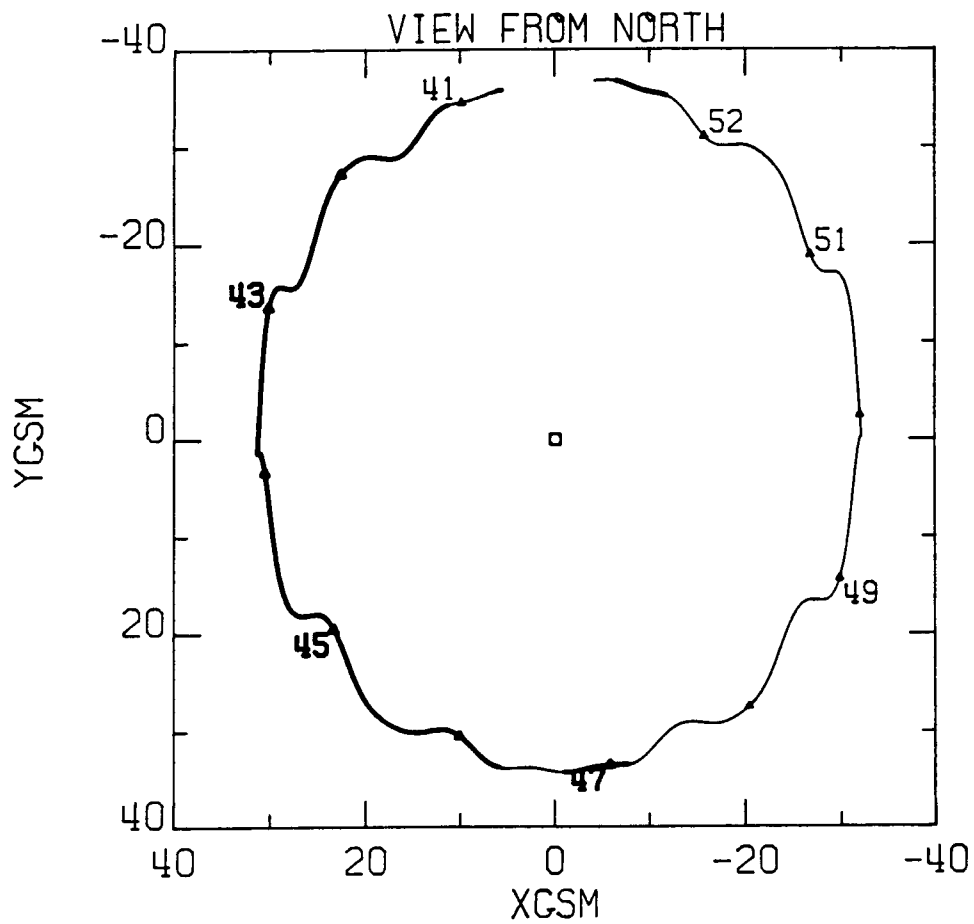
IMP 7 FROM JAN 28 TO FEB 9 1973



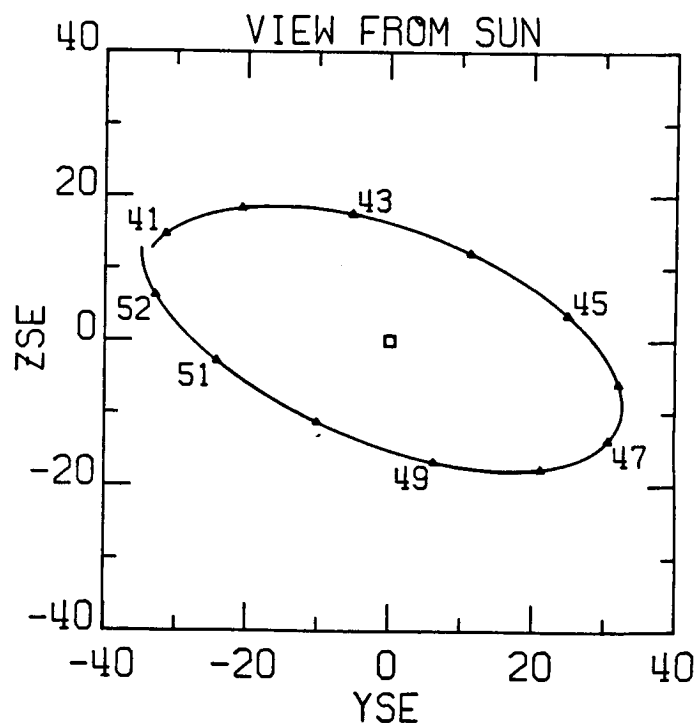
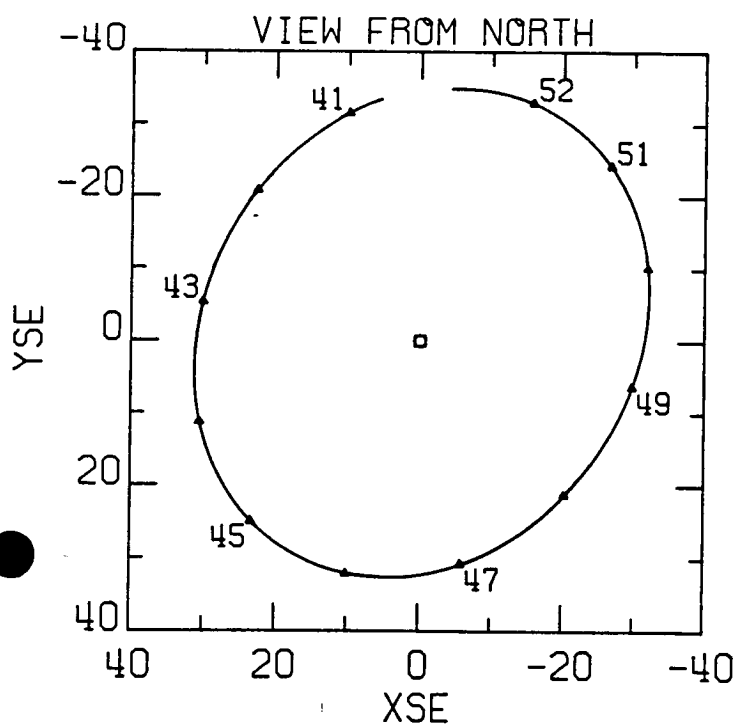
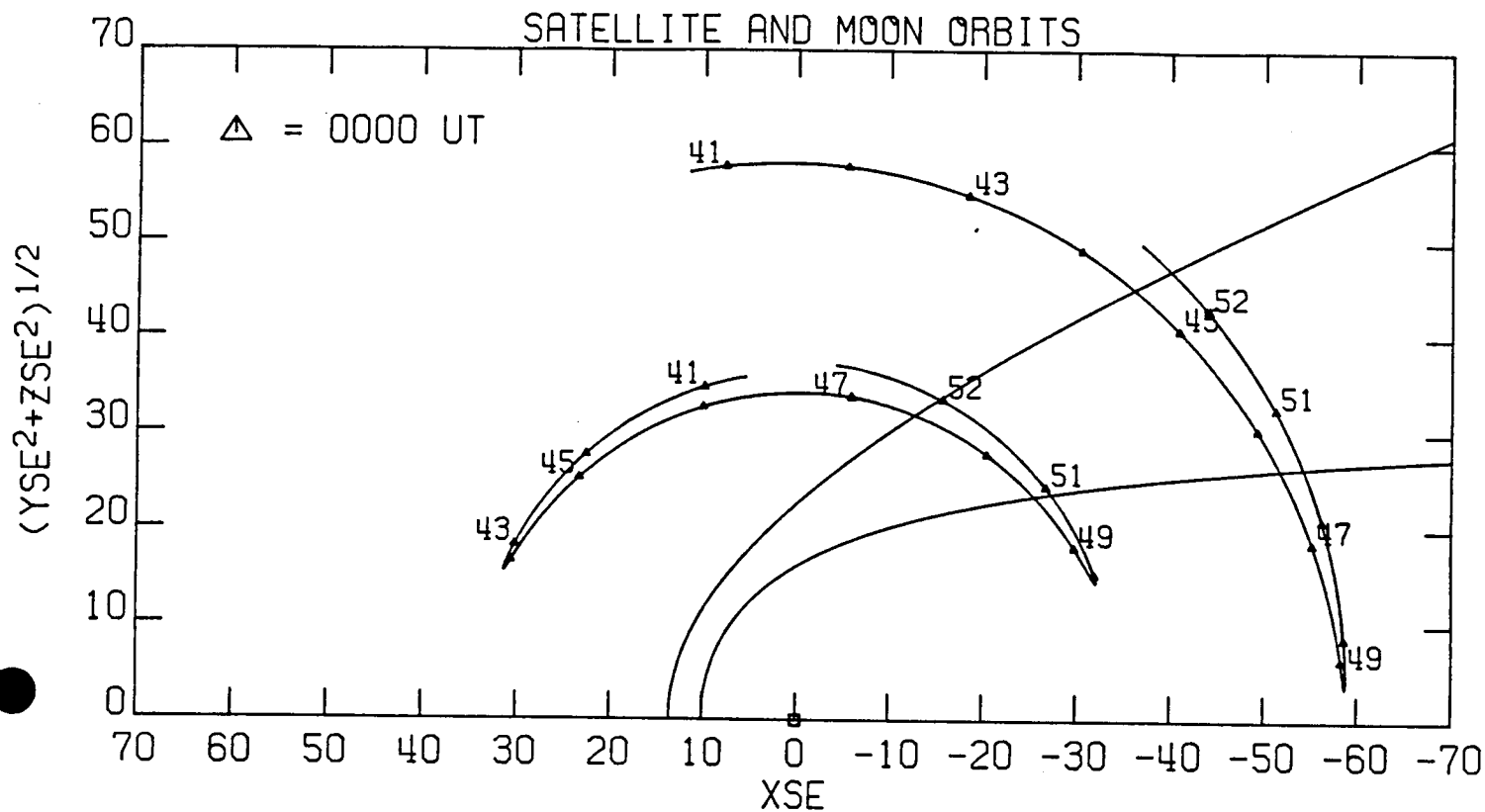
IMP 7 TRAJECTORY. ASCENDING NODE 11
 FROM JAN 28 TO FEB 9 1973
 DAYS 28 THRU 40



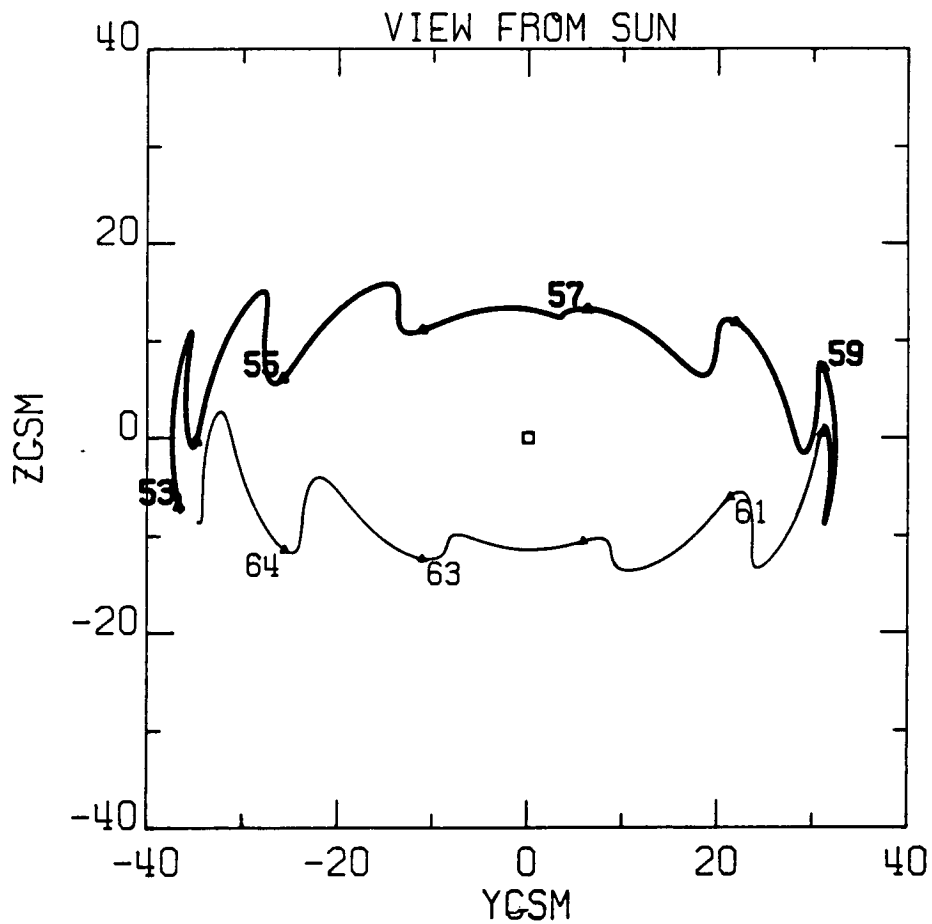
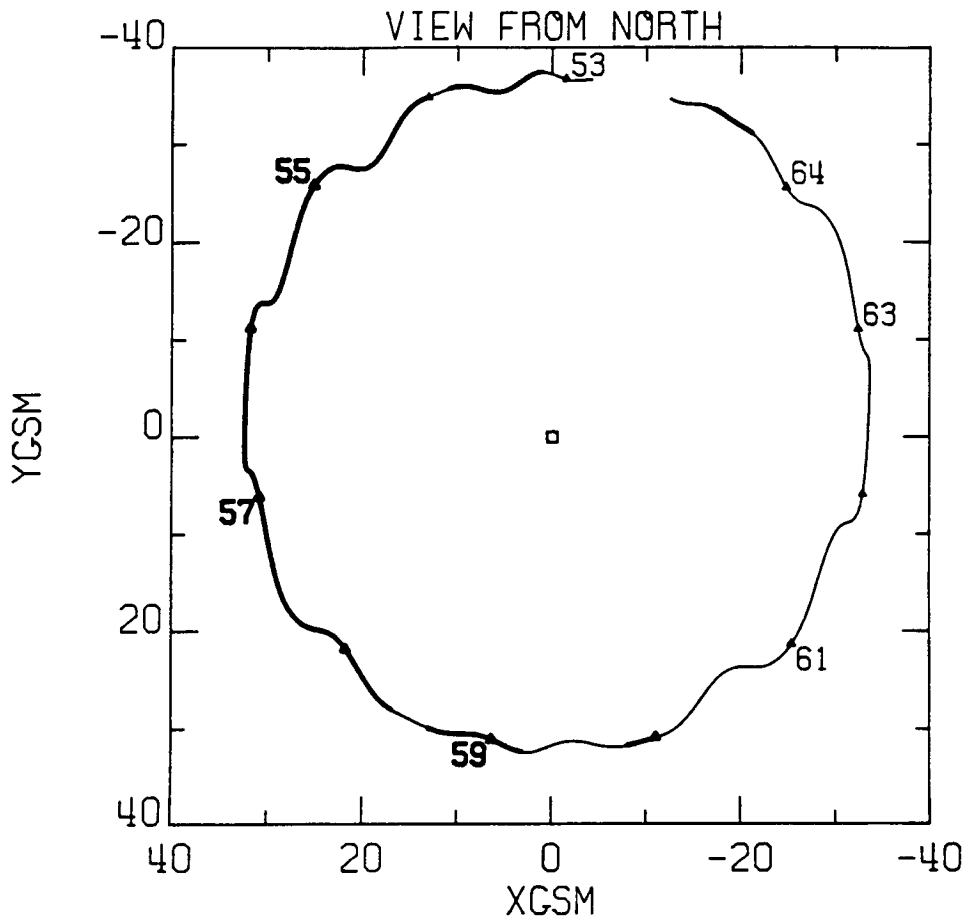
IMP 7 FROM FEB 9 TO FEB 21 1973



IMP 7 TRAJECTORY. ASCENDING NODE 12
 FROM FEB 9 TO FEB 21 1973
 DAYS 40 THRU 52



IMP 7 FROM FEB 21 TO MAR 5 1973

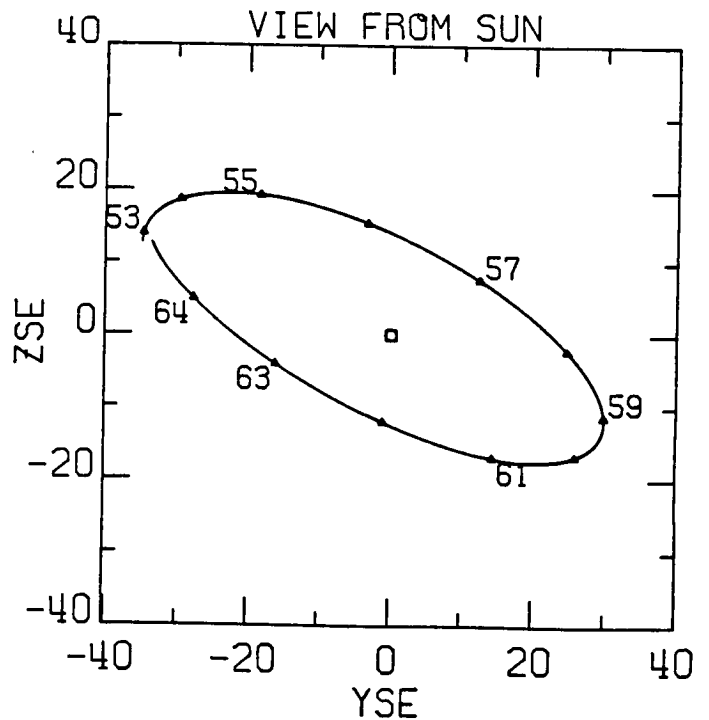
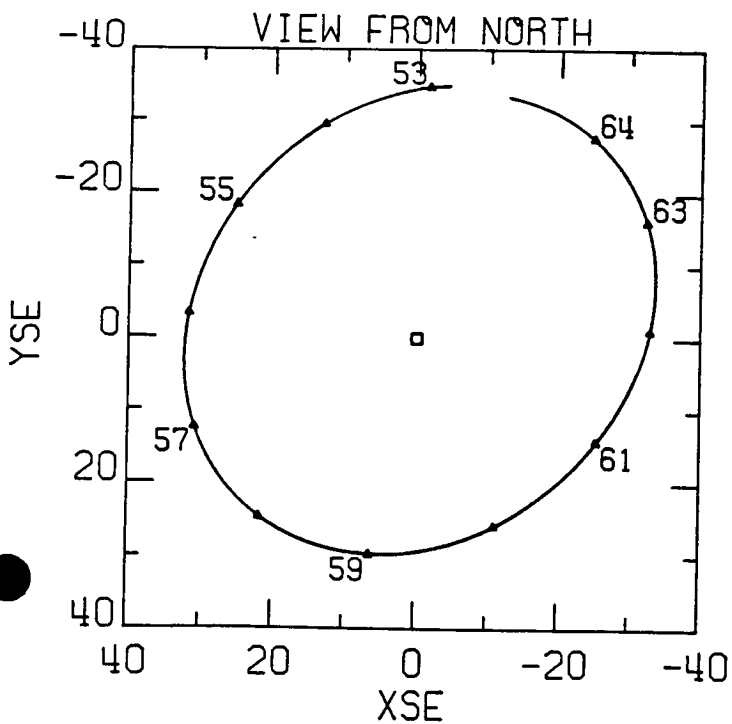
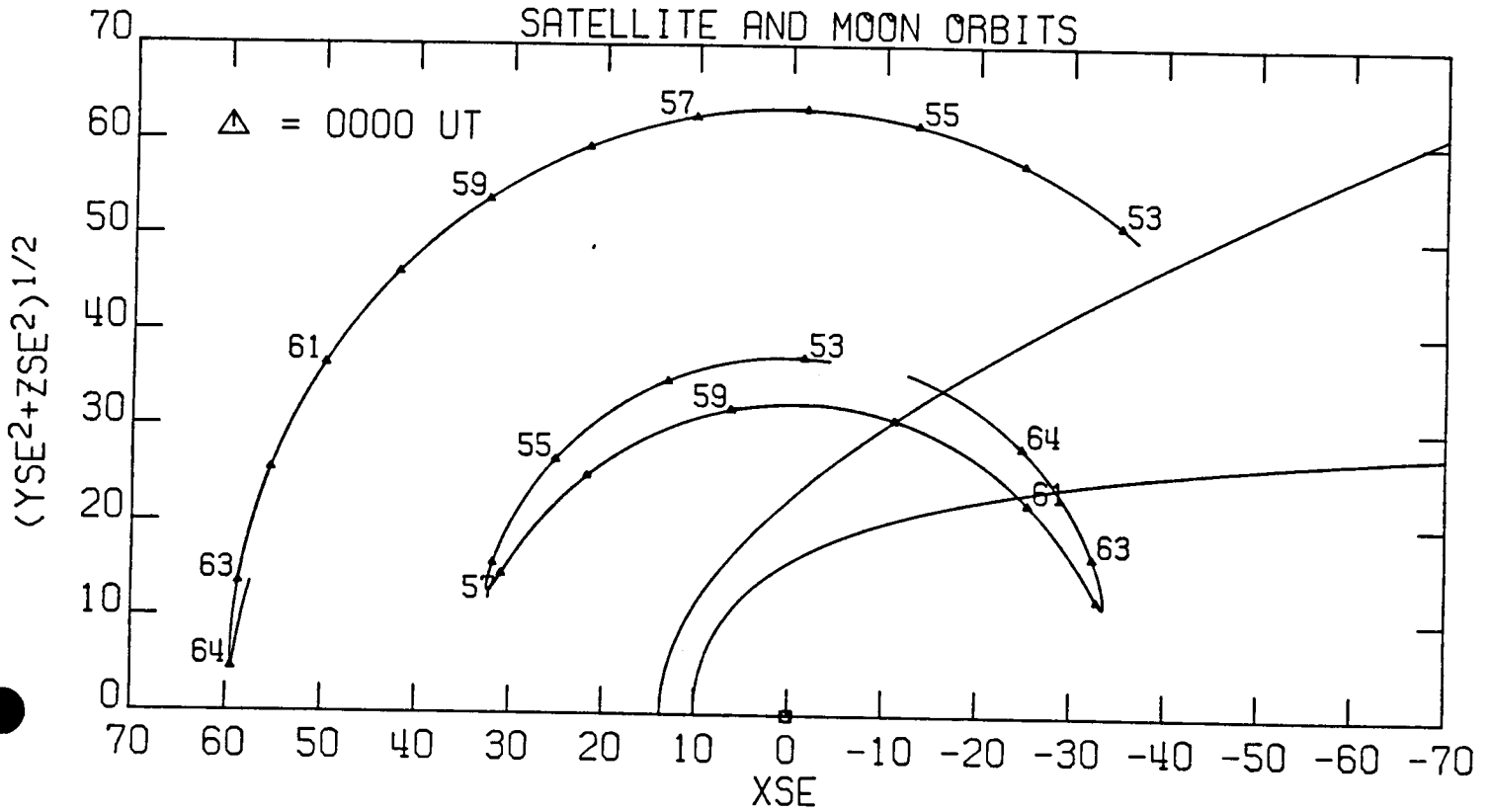


IMP 7 TRAJECTORY. ASCENDING NODE 13

FROM FEB 21 TO MAR 5 1973

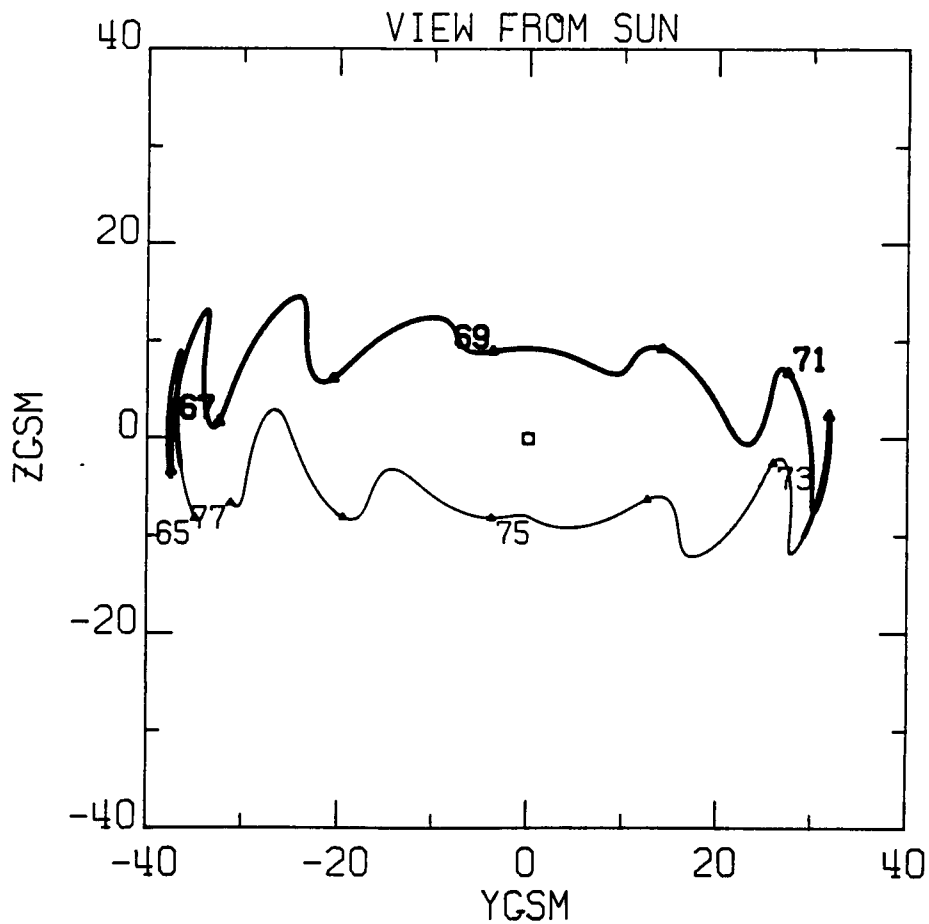
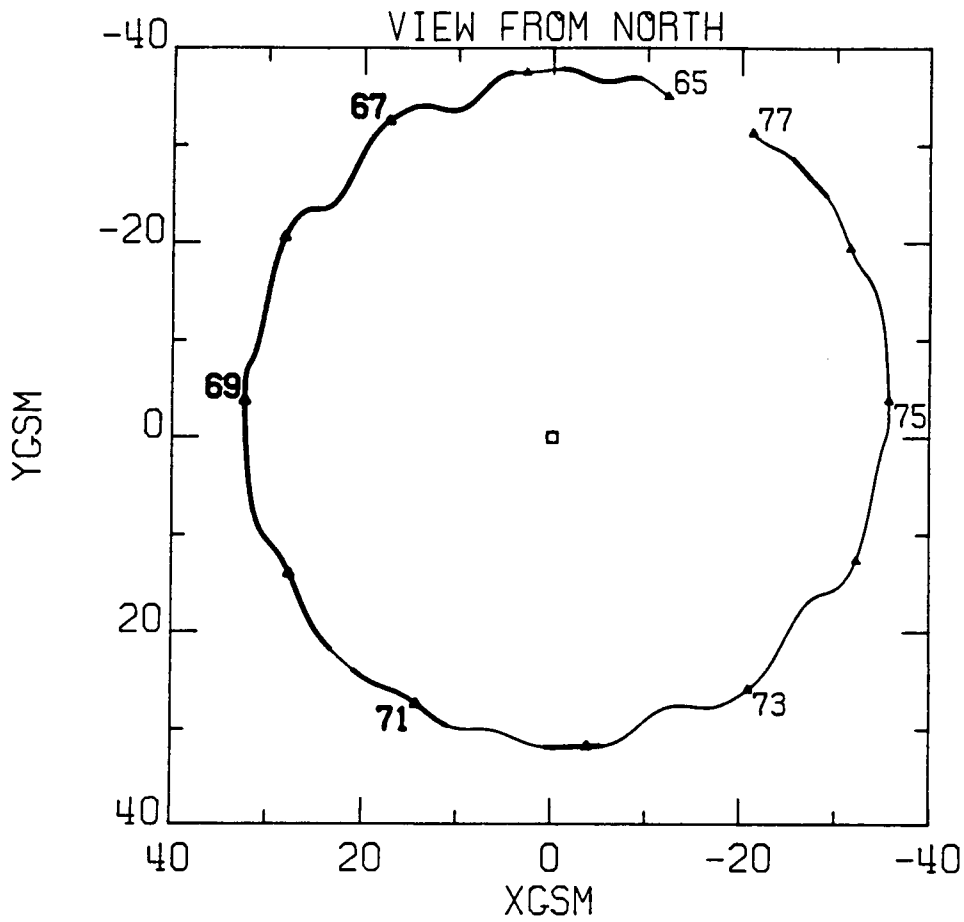
DAYS 52 THRU 64

SATELLITE AND MOON ORBITS



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IMP 7 FROM MAR 5 TO MAR 18 1973

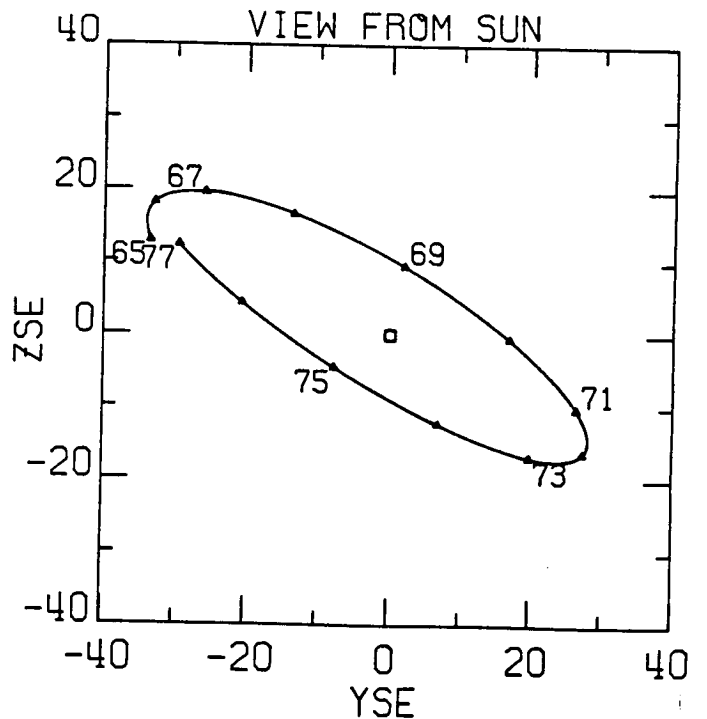
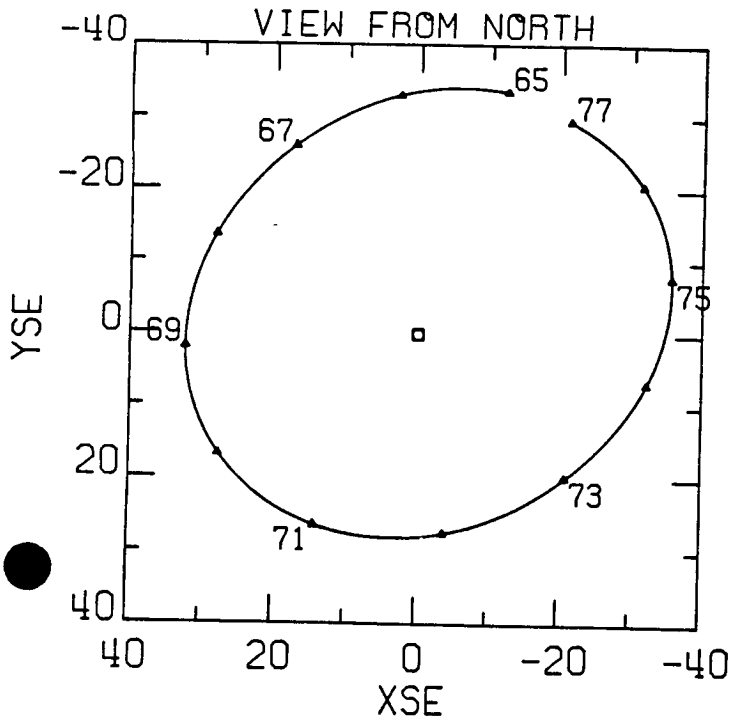
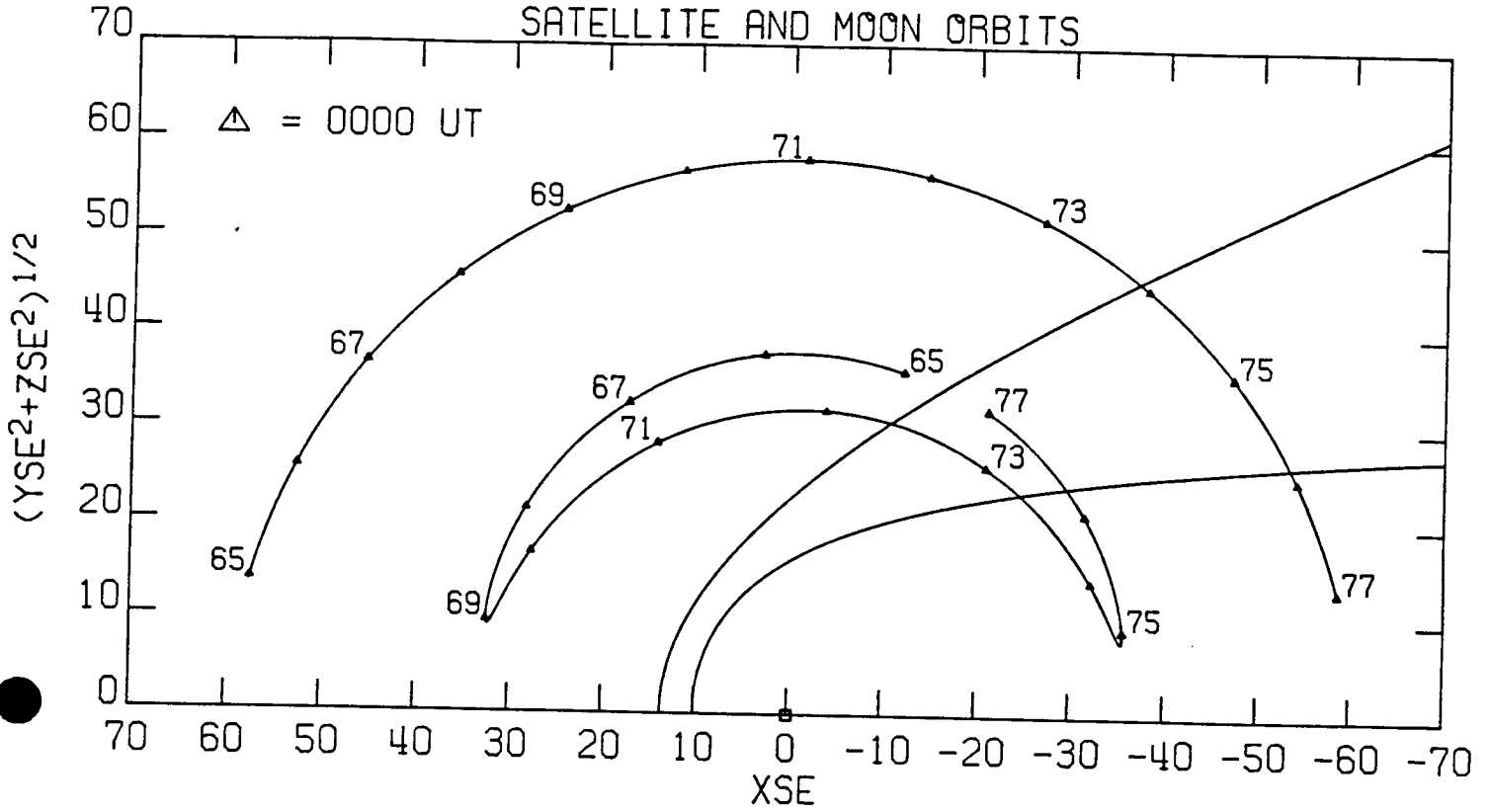


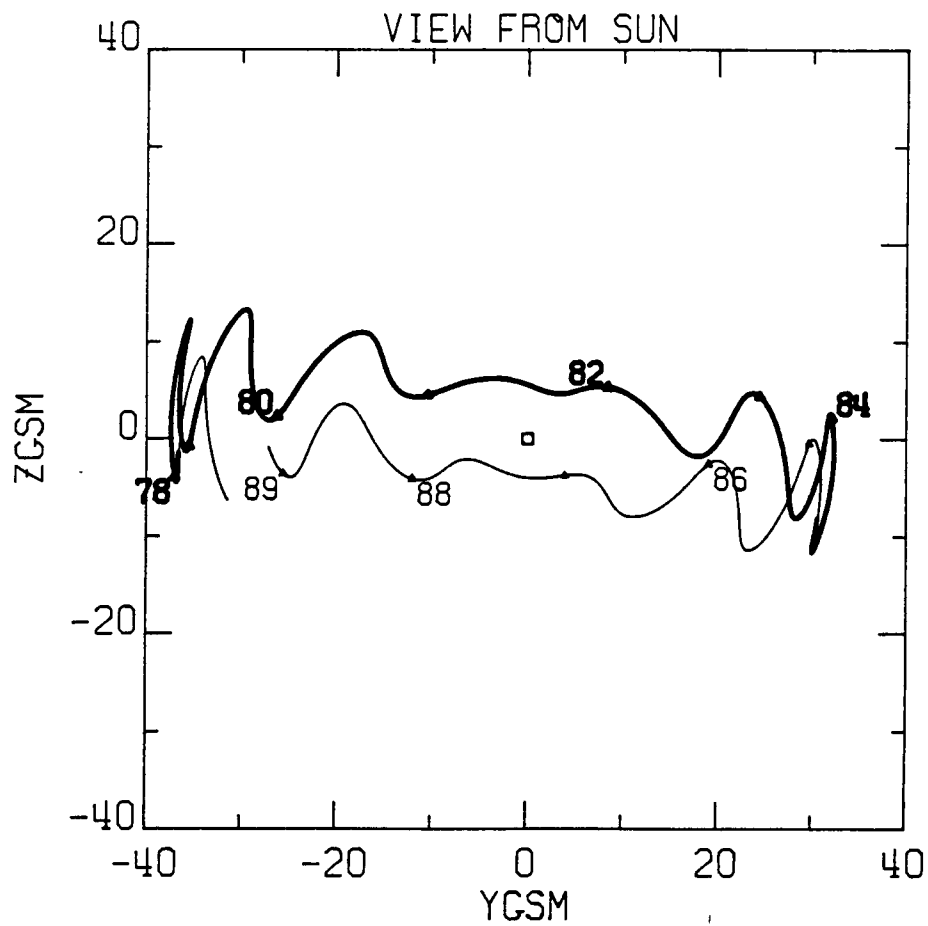
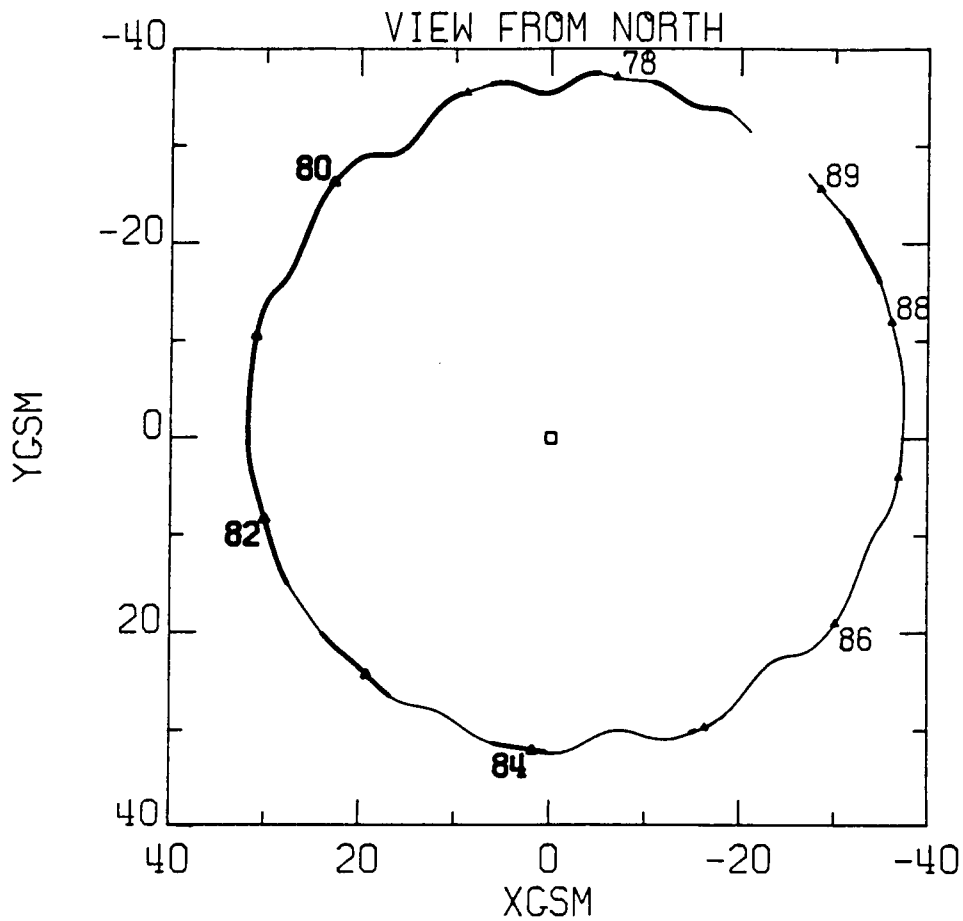
IMP 7 TRAJECTORY. ASCENDING NODE 14

FROM MAR 5 TO MAR 18 1973

DAYS 64 THRU 77

SATELLITE AND MOON ORBITS





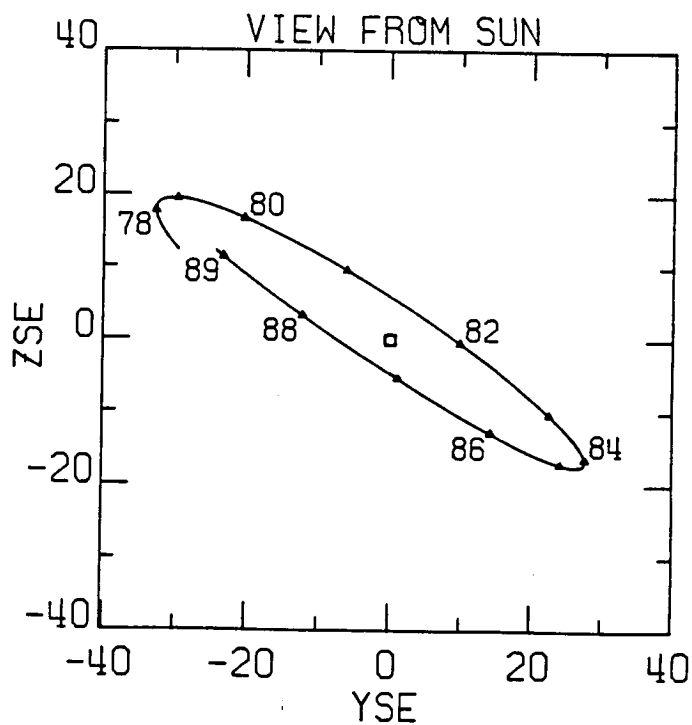
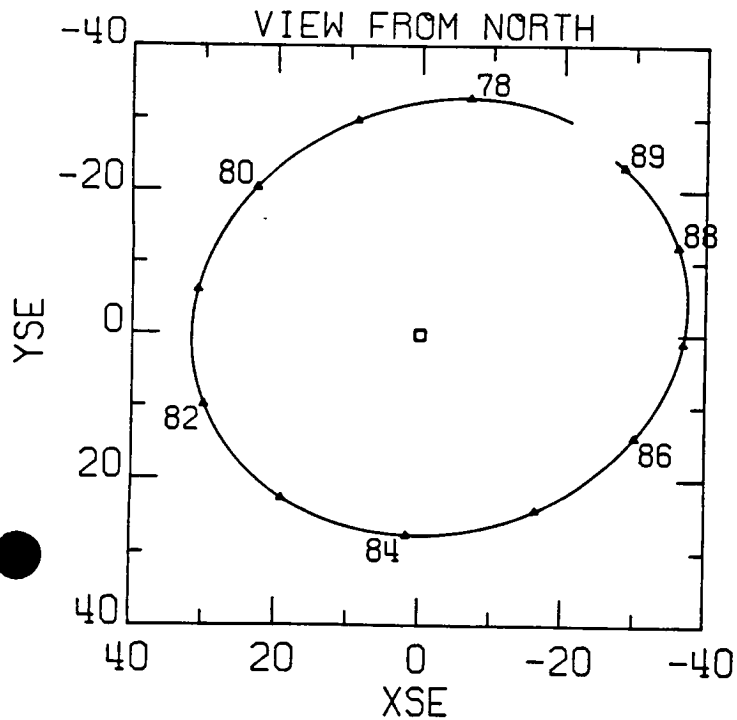
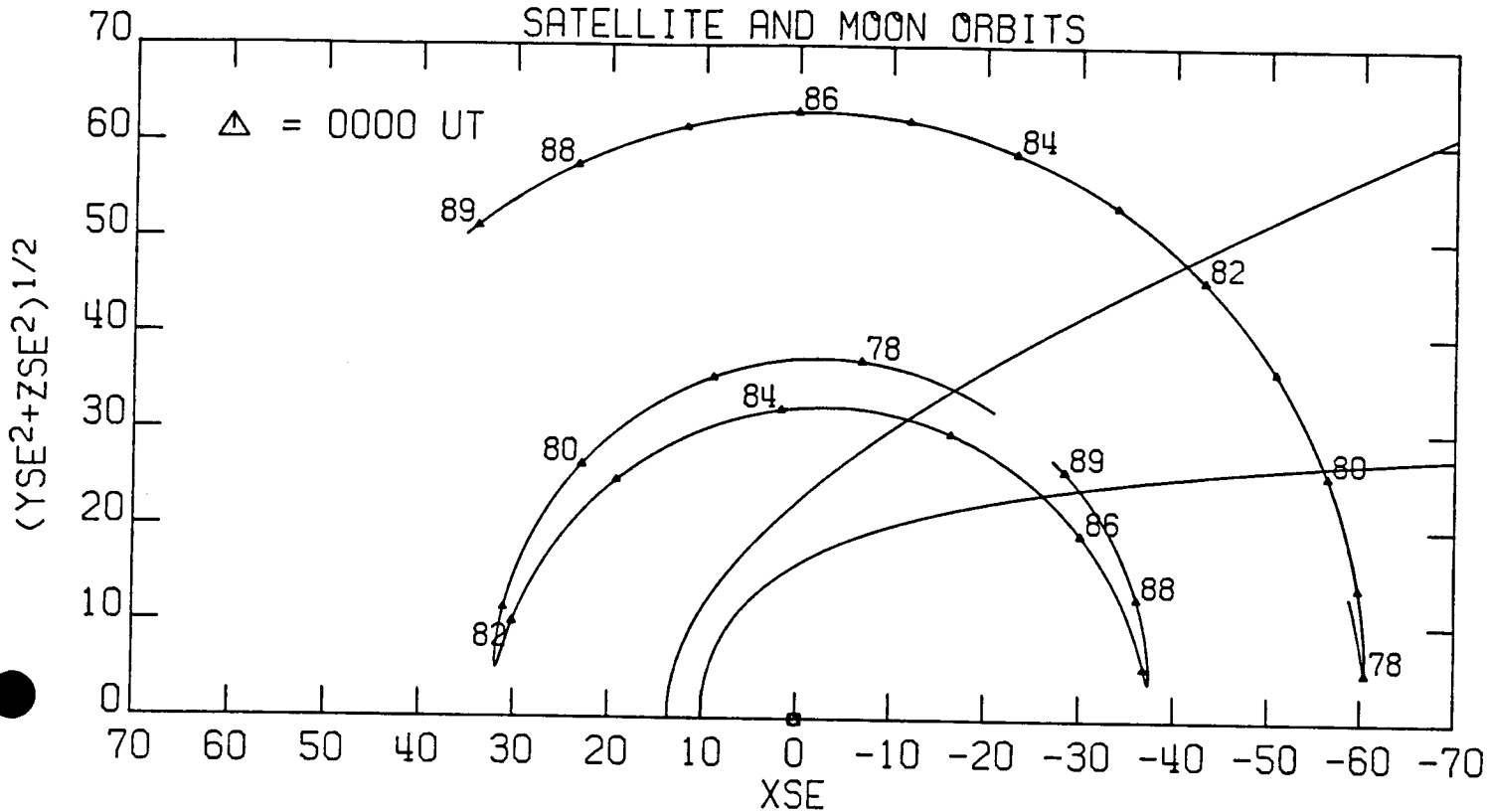
IMP 7 TRAJECTORY.

ASCENDING NODE 15

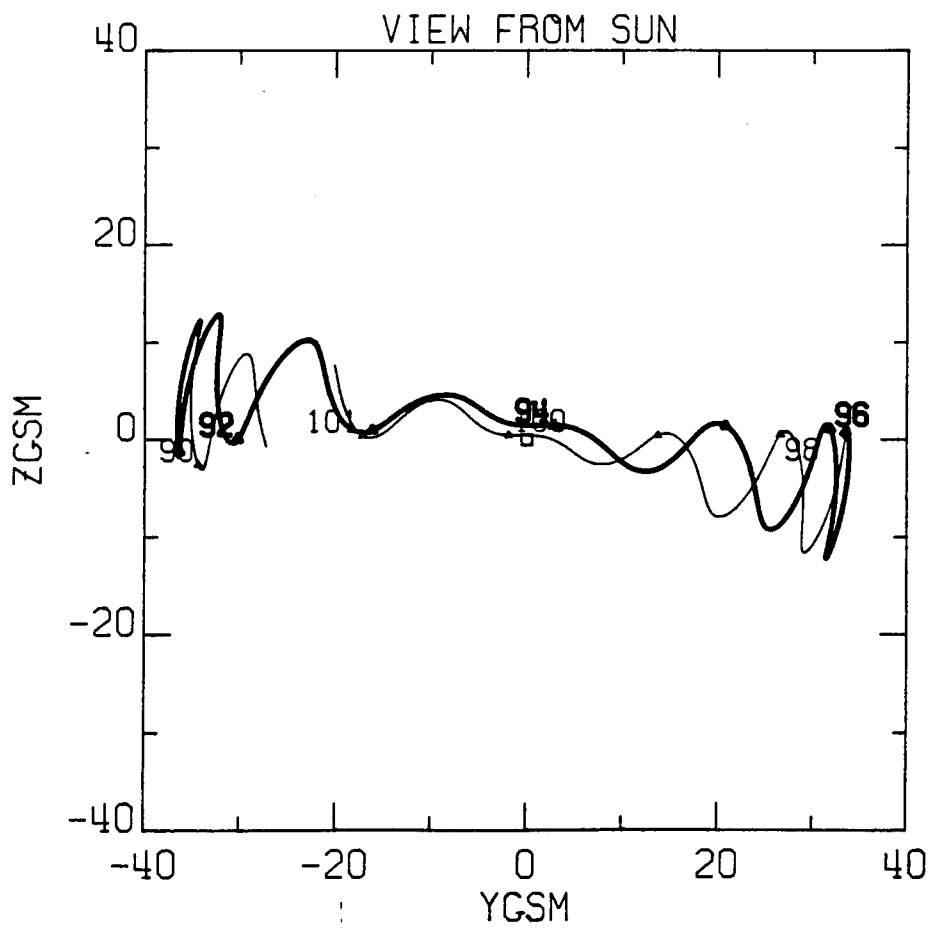
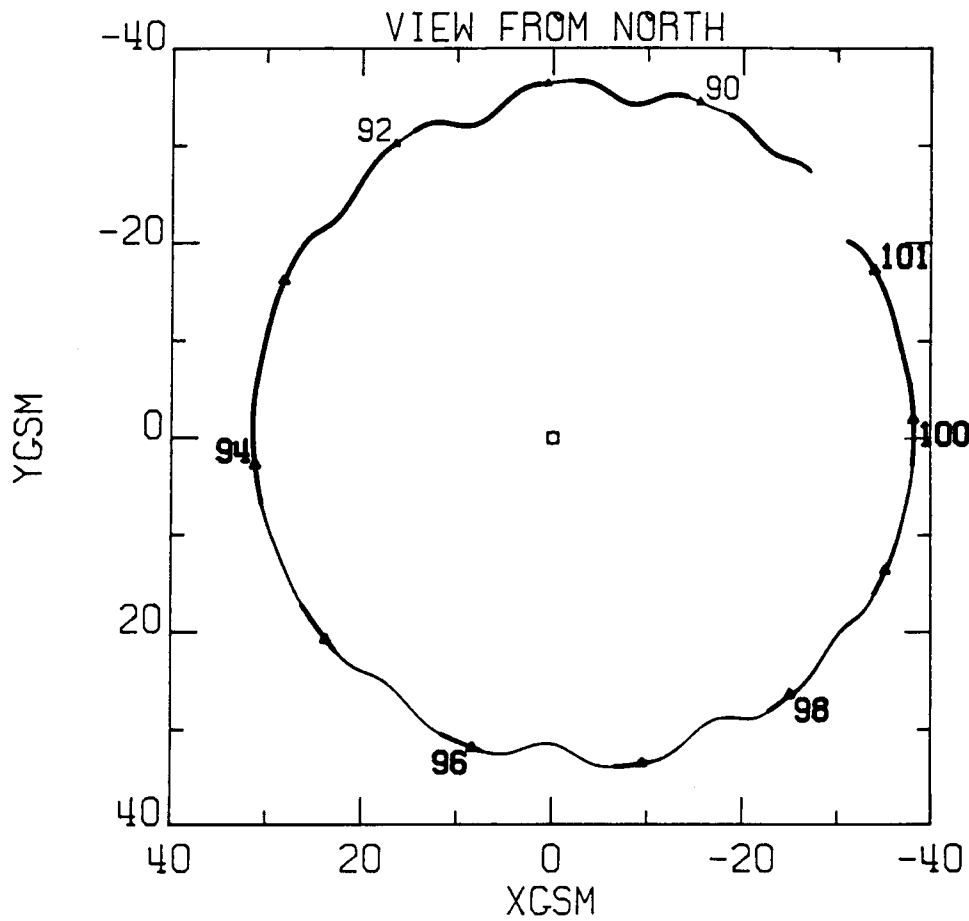
FROM MAR 18 TO MAR 30 1973

DAYS 77 THRU 89

SATELLITE AND MOON ORBITS



IMP 7 FROM MAR 30 TO APR 11 1973



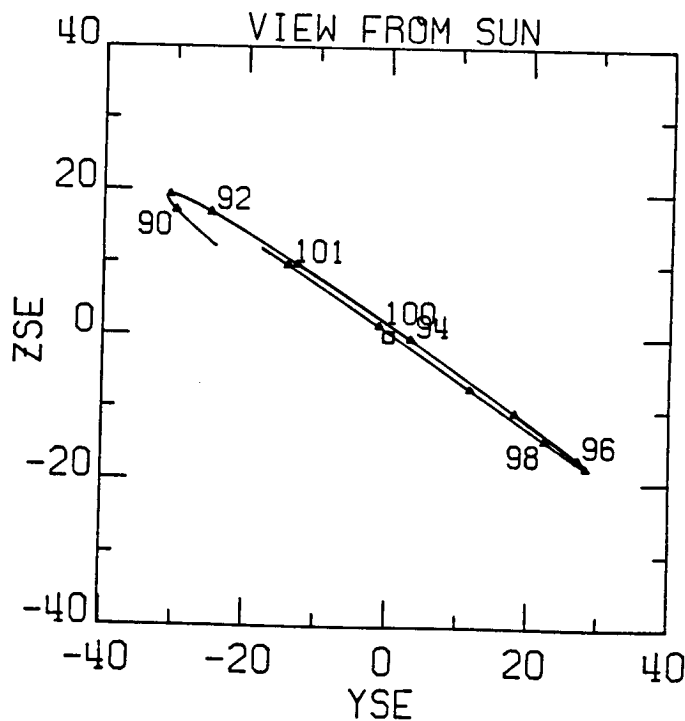
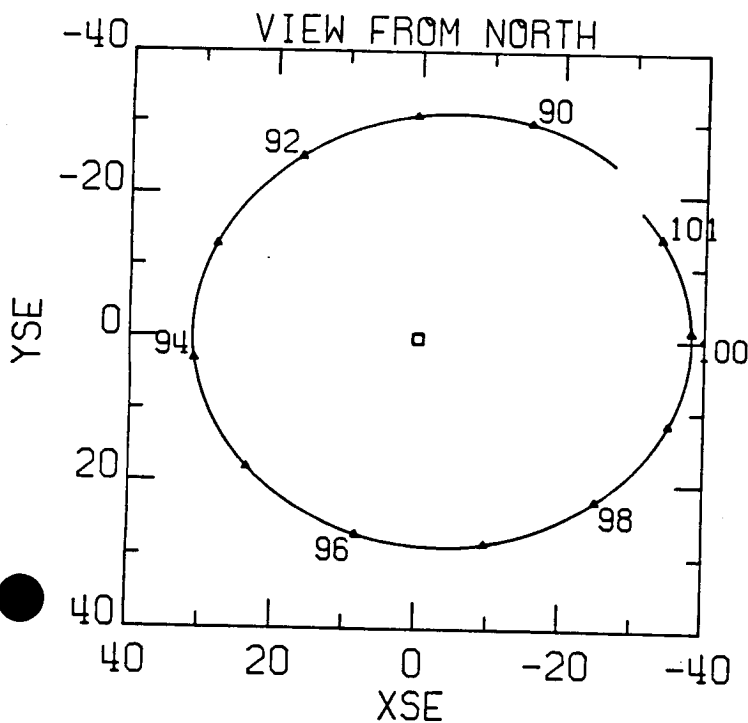
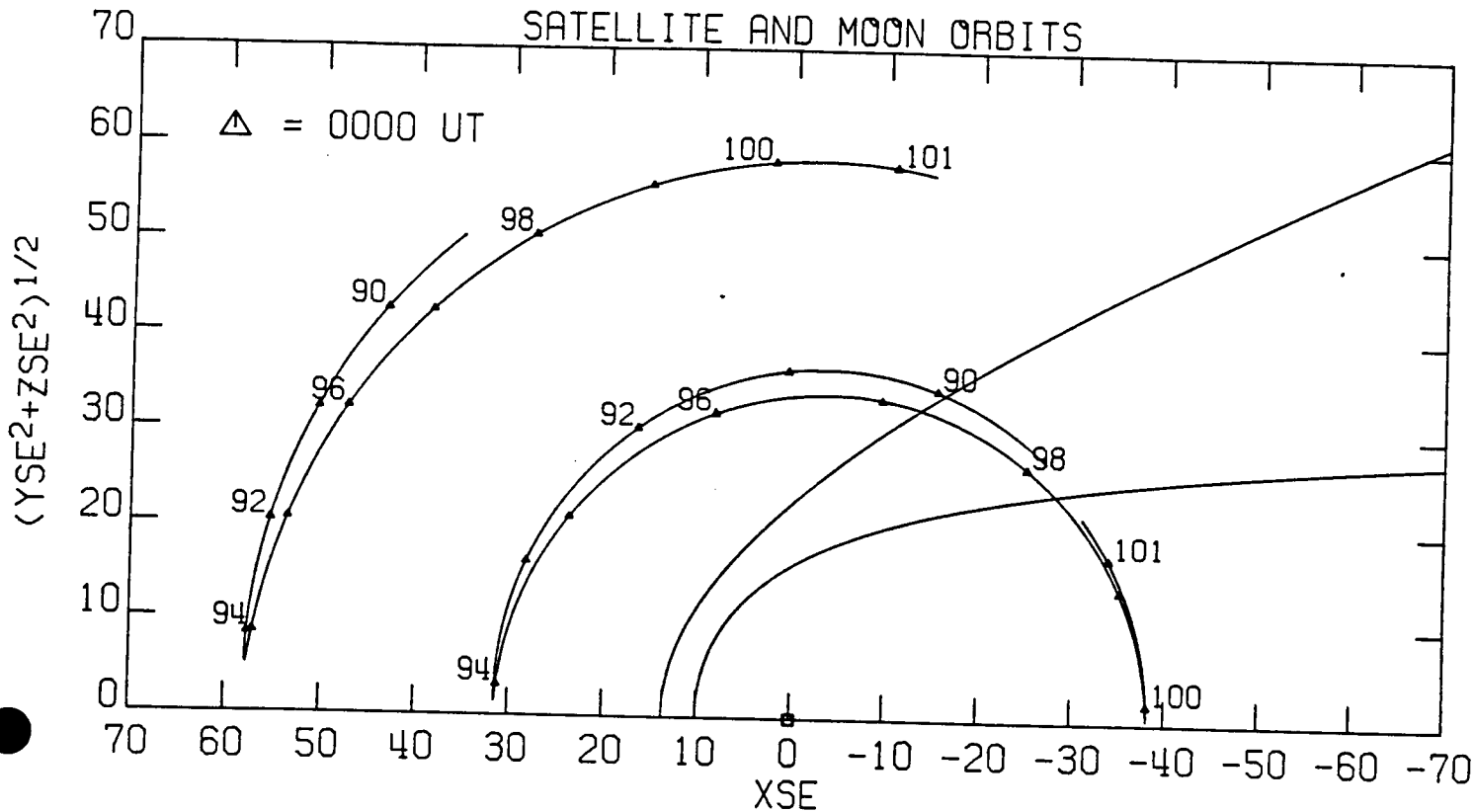
IMP 7 TRAJECTORY.

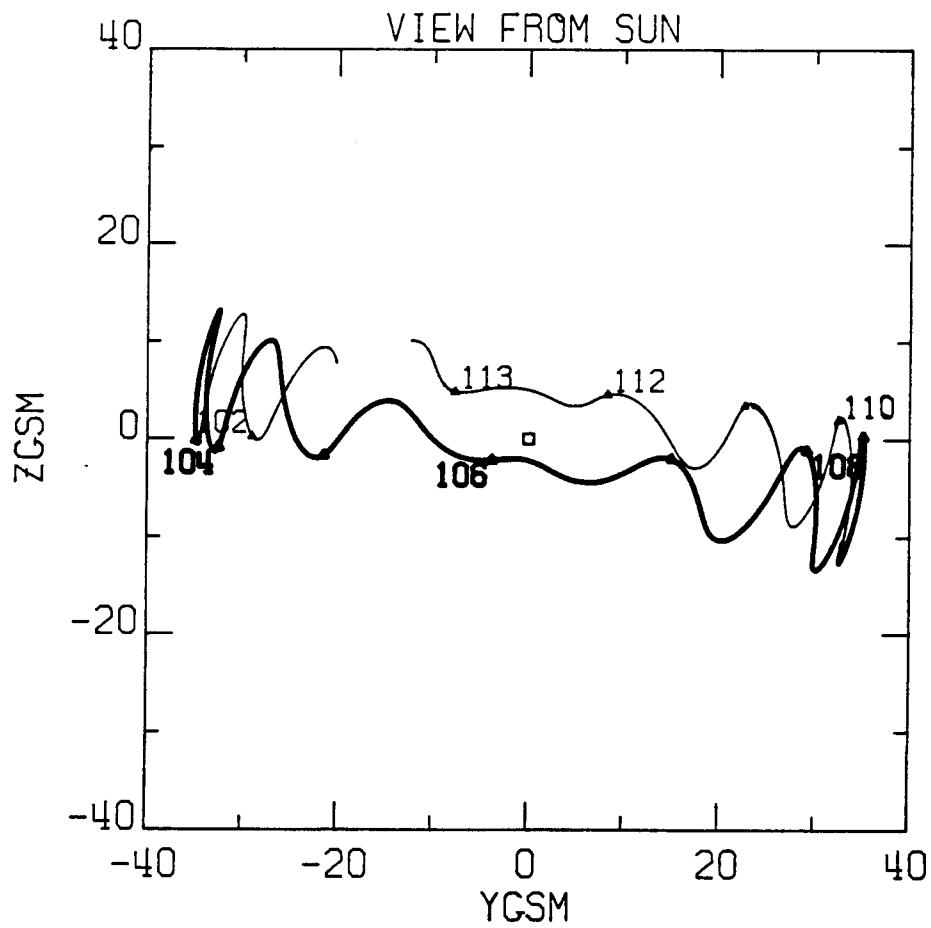
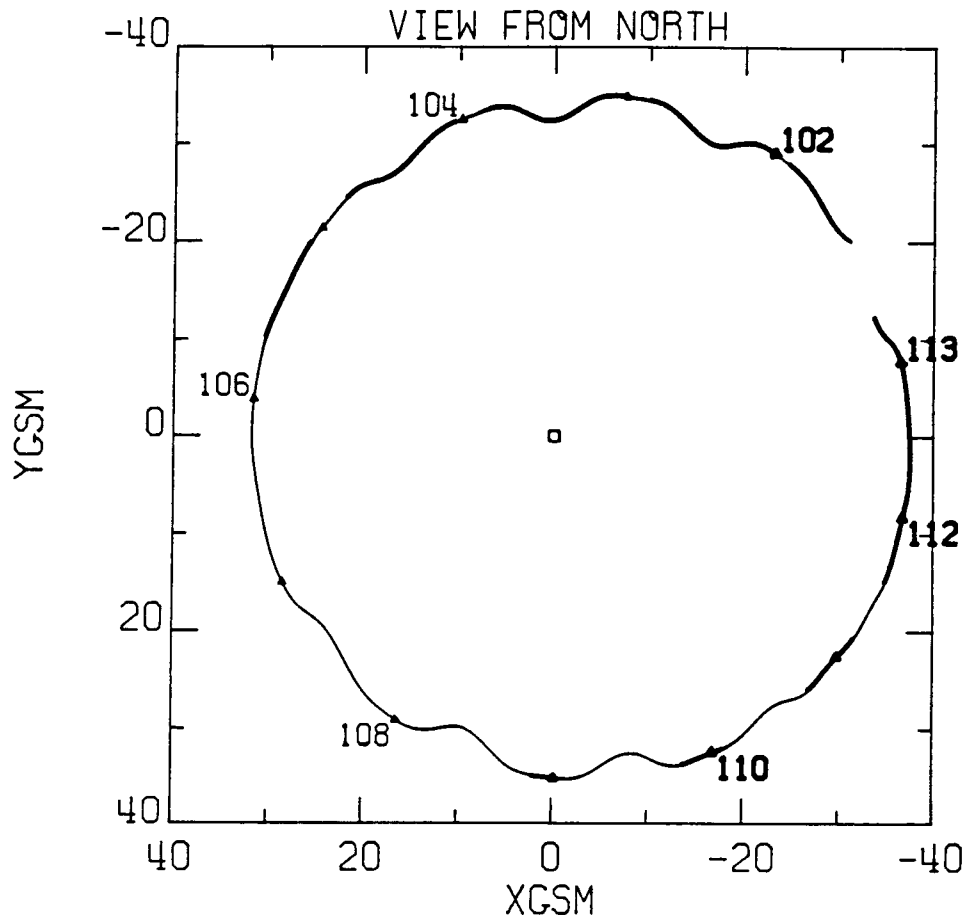
ASCENDING NODE 16

FROM MAR 30 TO APR 11 1973

DAYS 89 THRU 101

SATELLITE AND MOON ORBITS



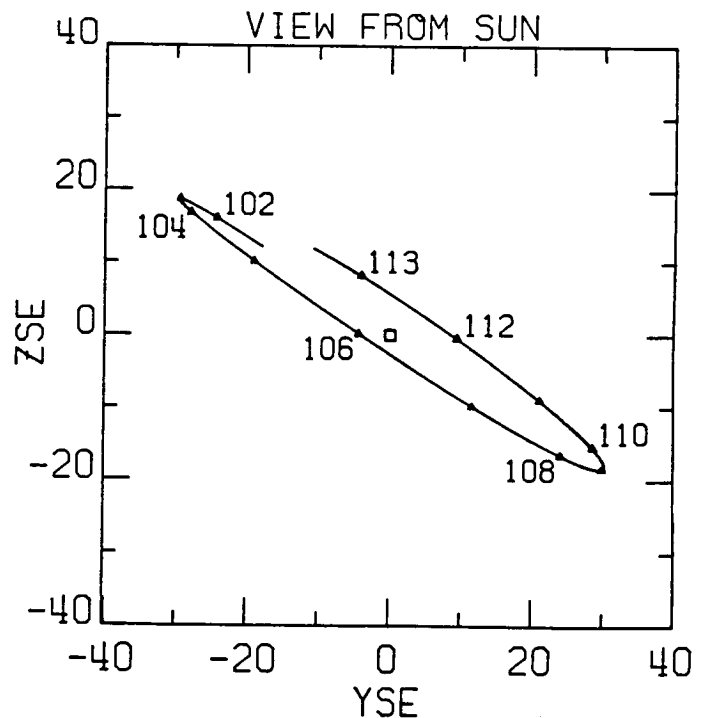
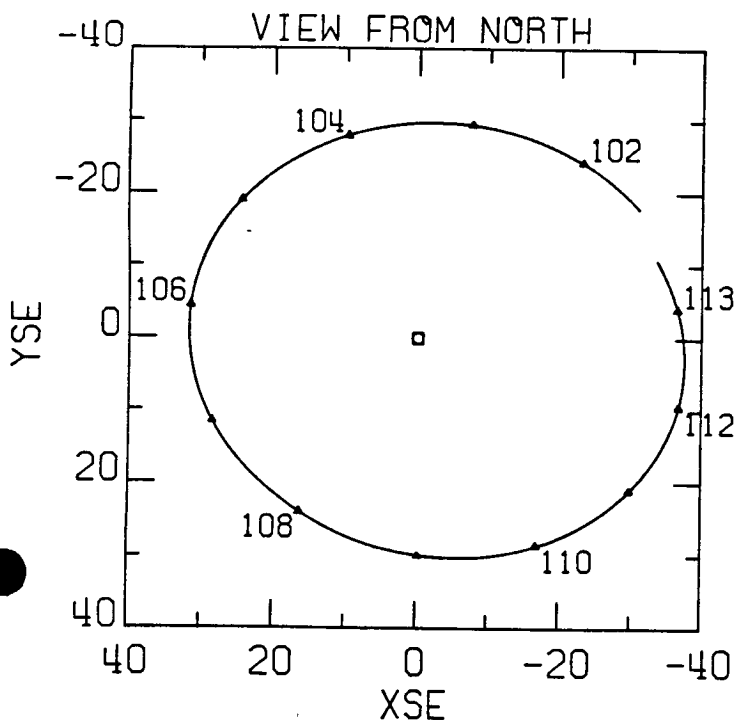
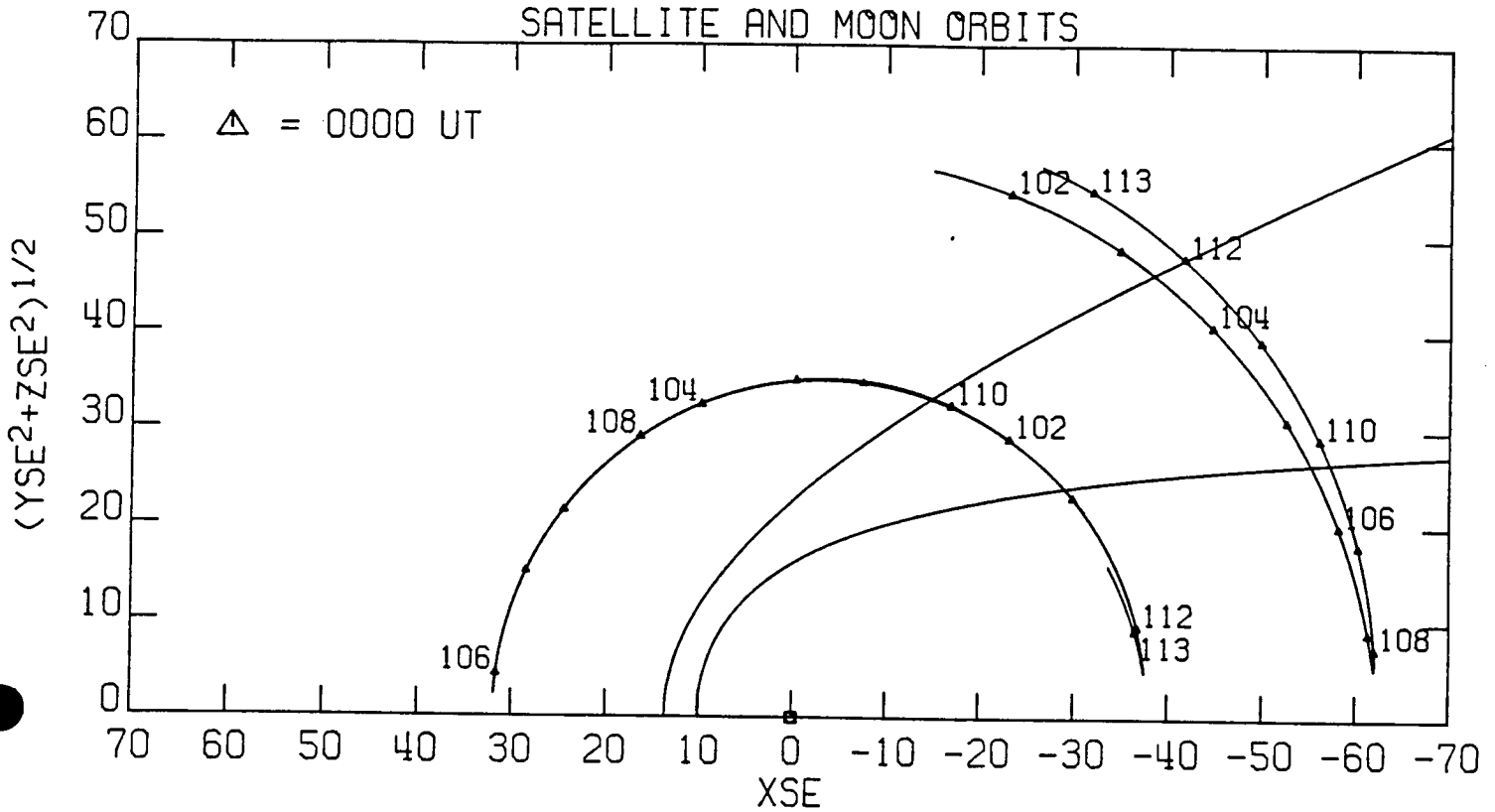


IMP 7 TRAJECTORY. ASCENDING NODE 17

FROM APR 11 TO APR 23 1973

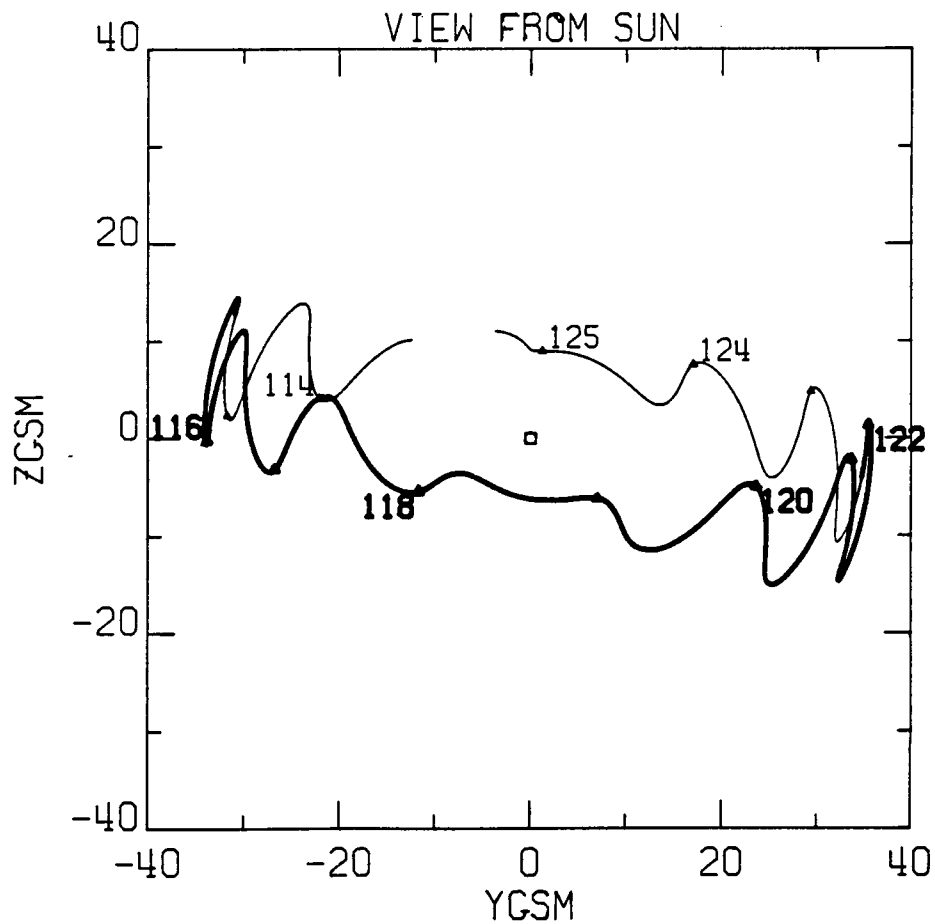
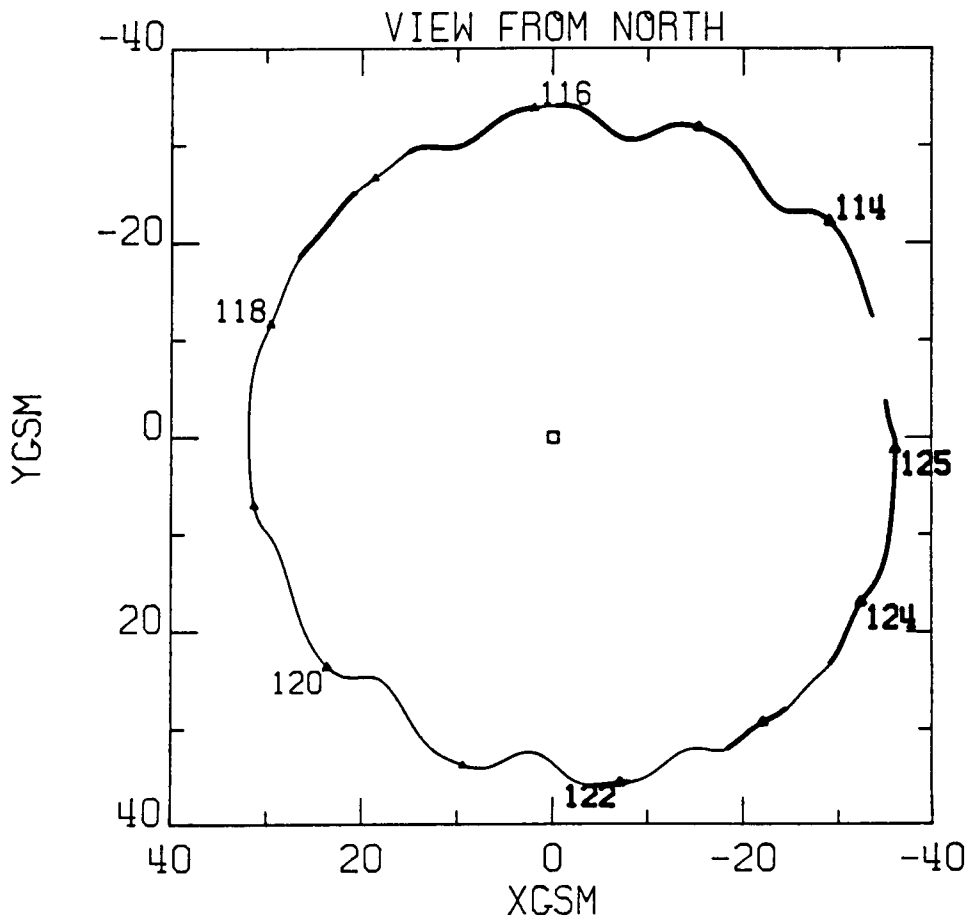
DAYS 101 THRU 113

SATELLITE AND MOON ORBITS



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 00 111 198
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 11 11 198

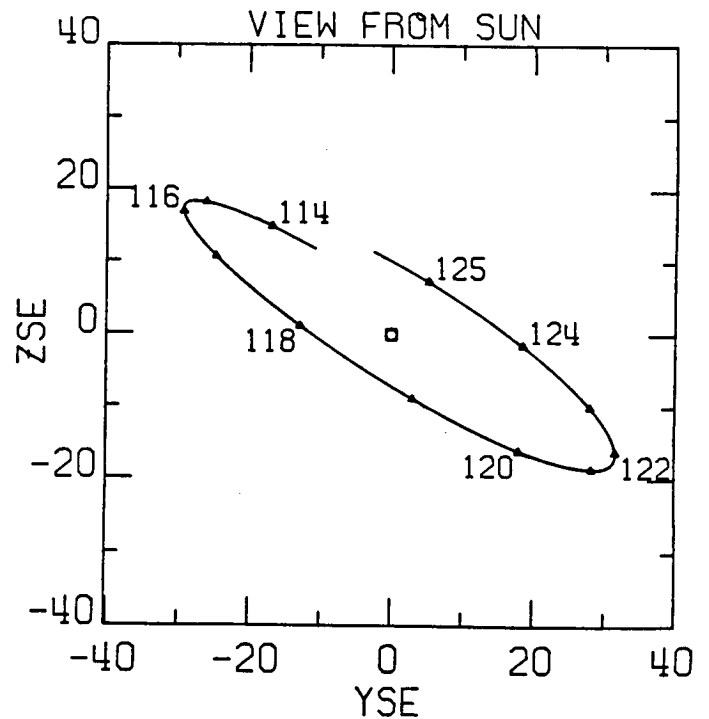
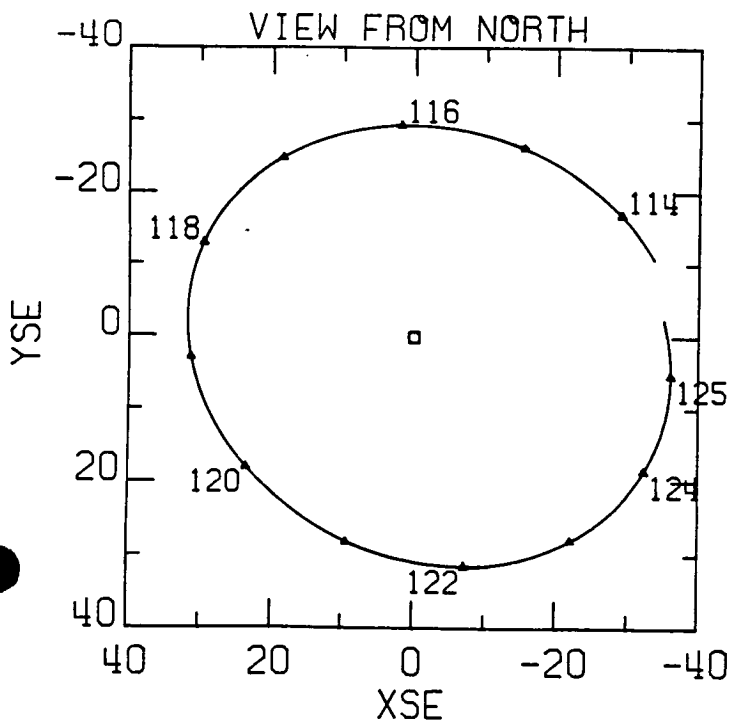
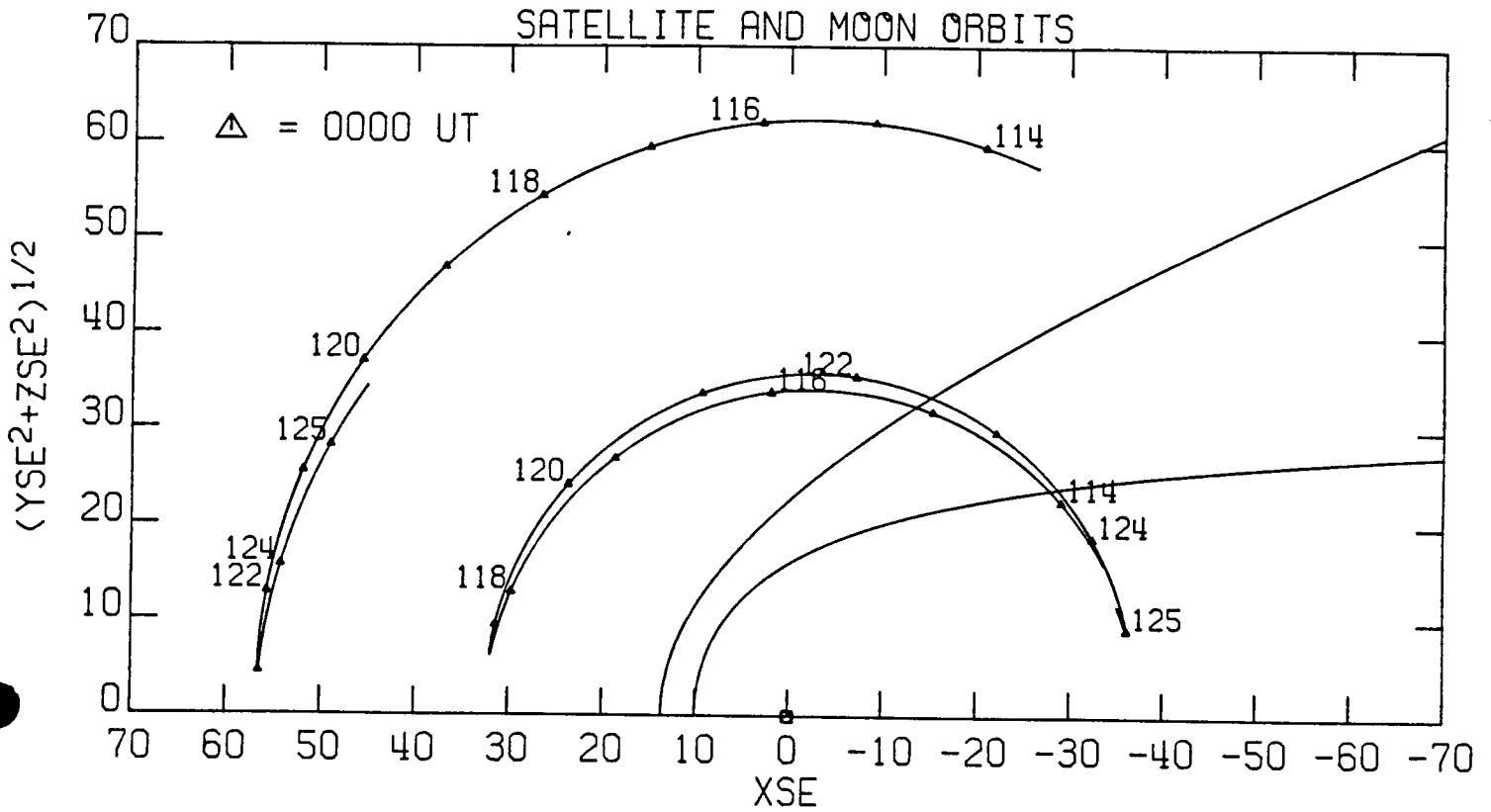
IMP 7 FROM APR 23 TO MAY 5 1973



IMP 7 TRAJECTORY. ASCENDING NODE 18

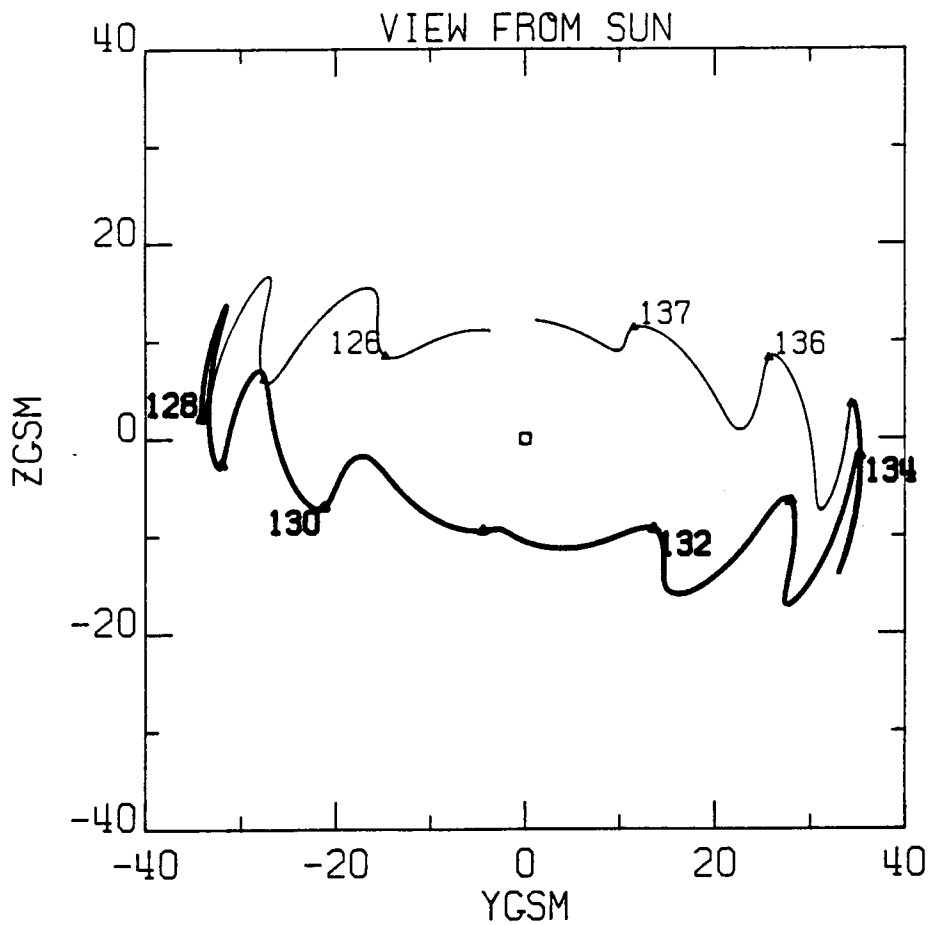
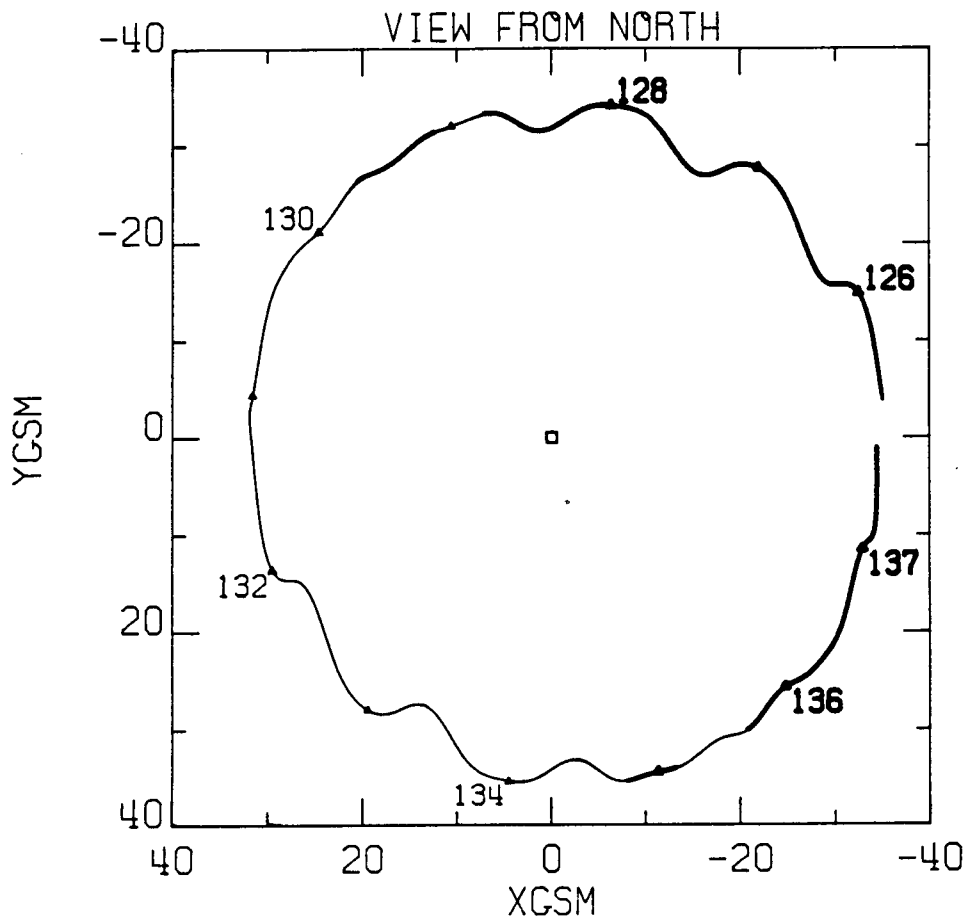
FROM APR 23 TO MAY 5 1973

DAYS 113 THRU 125



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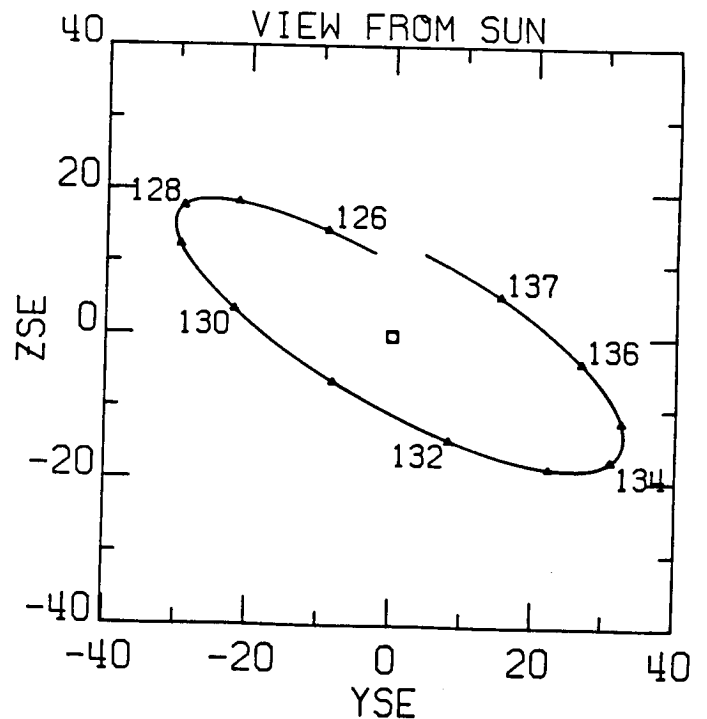
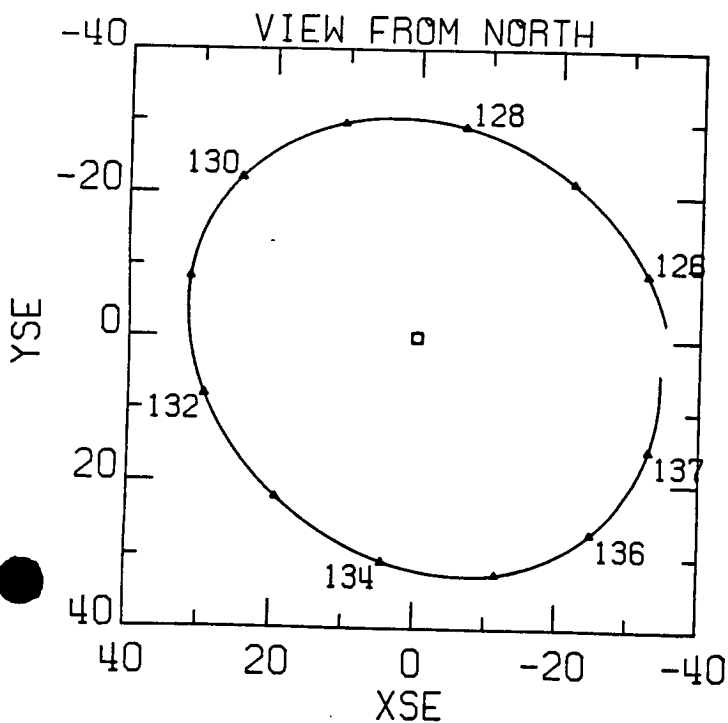
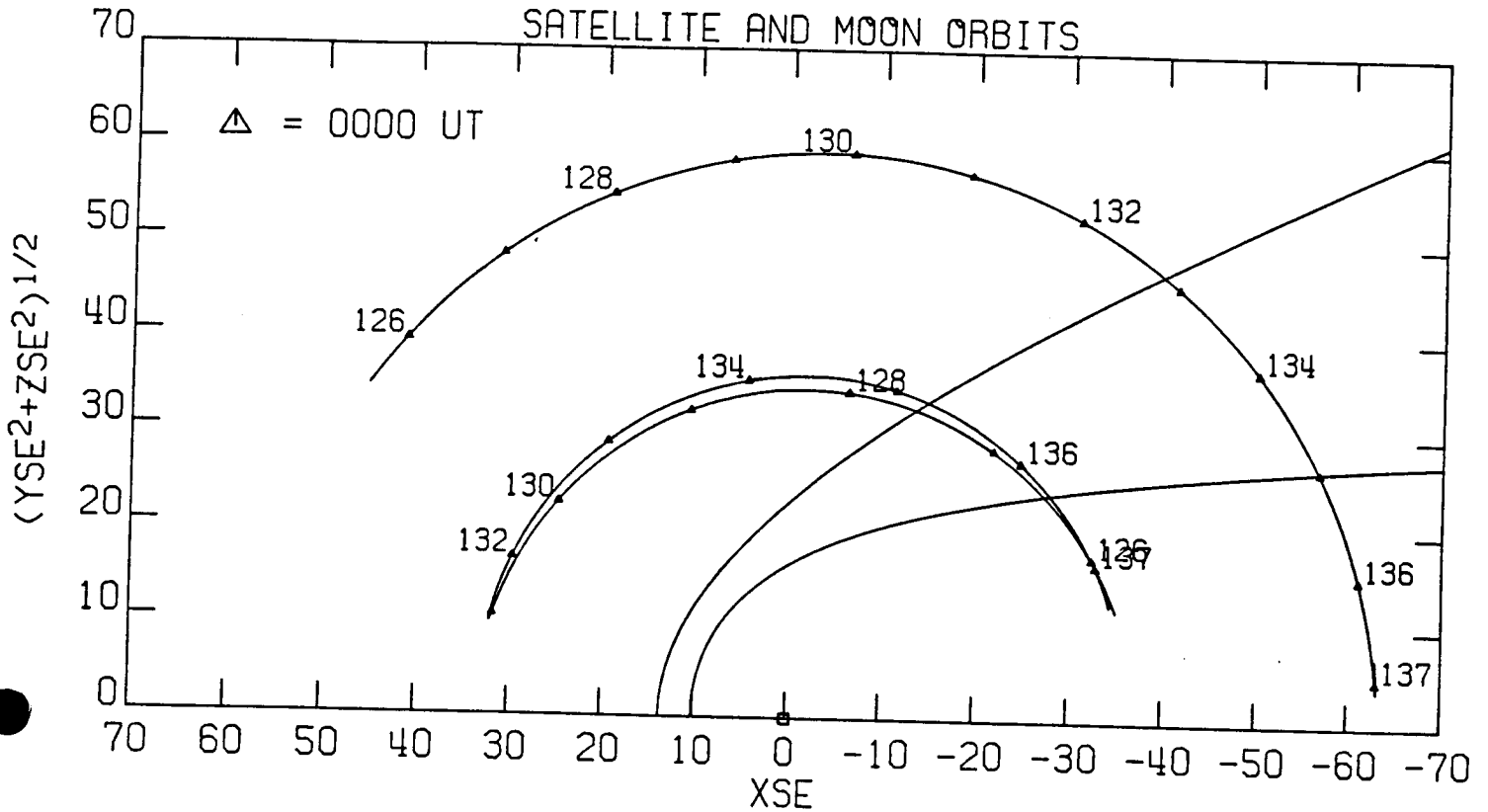
IMP 7 FROM MAY 5 TO MAY 17 1973



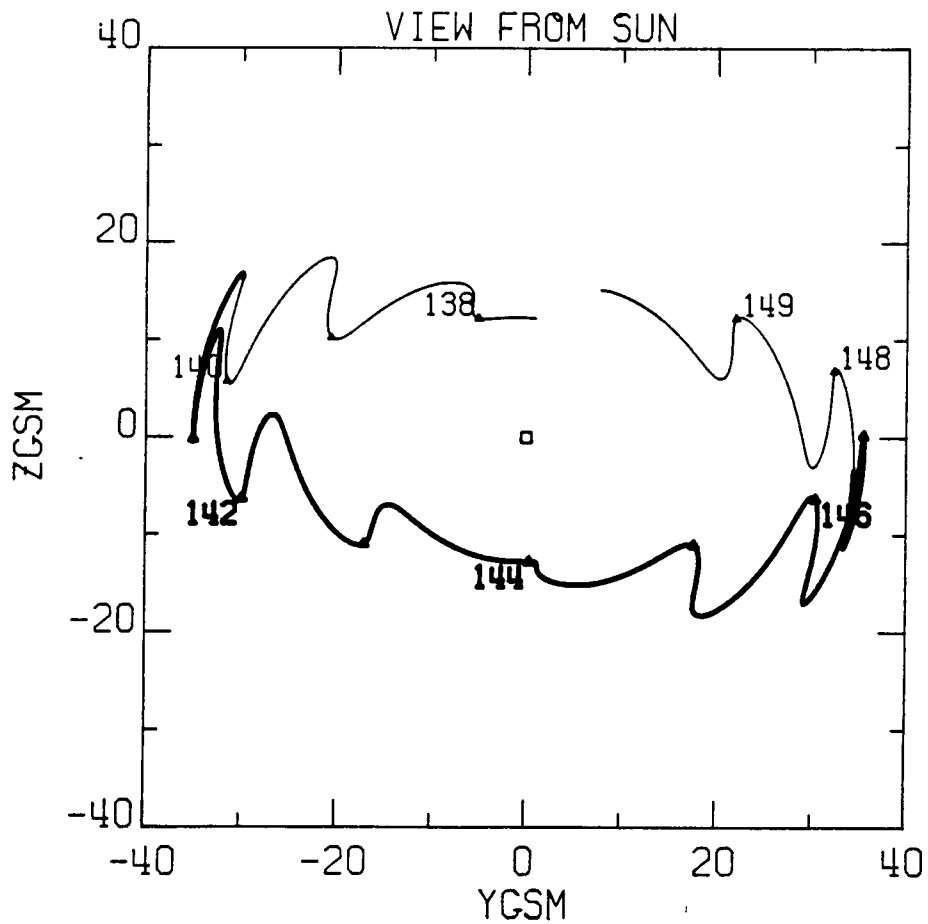
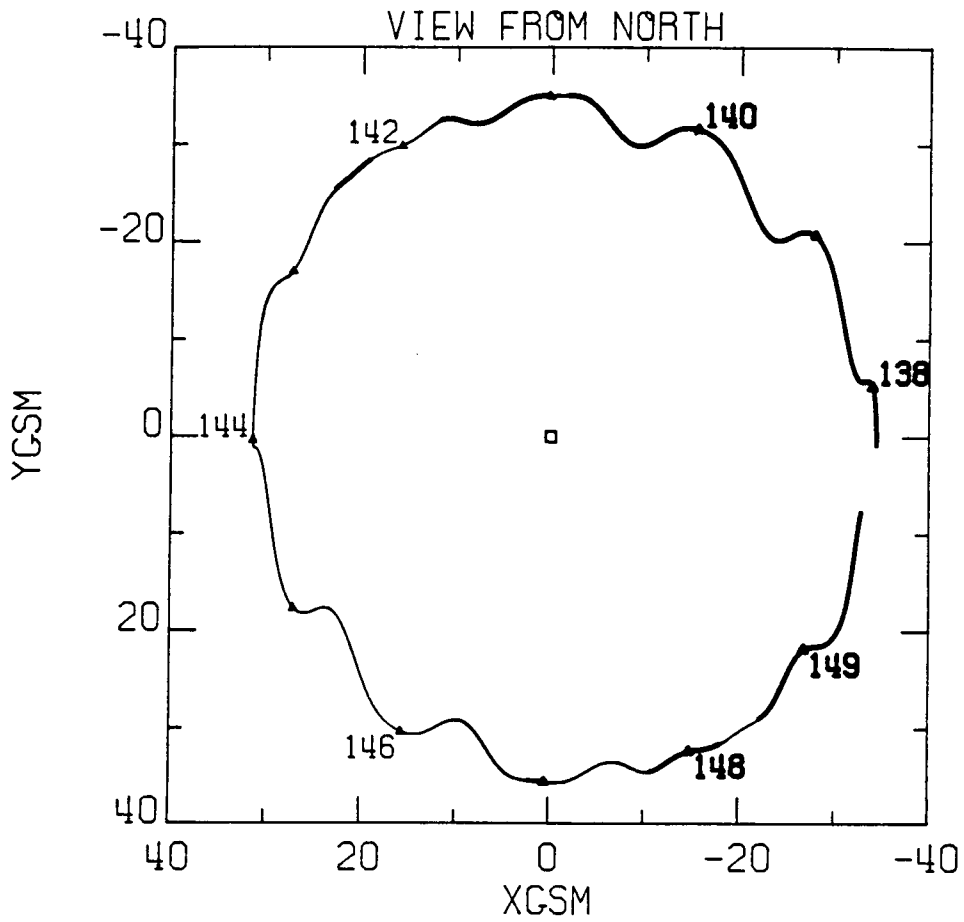
IMP 7 TRAJECTORY. ASCENDING NODE 19

FROM MAY 5 TO MAY 17 1973

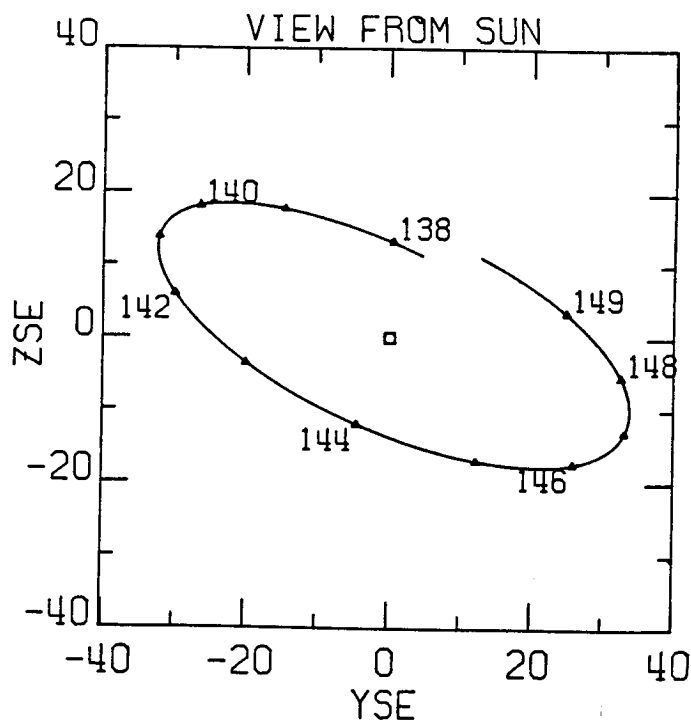
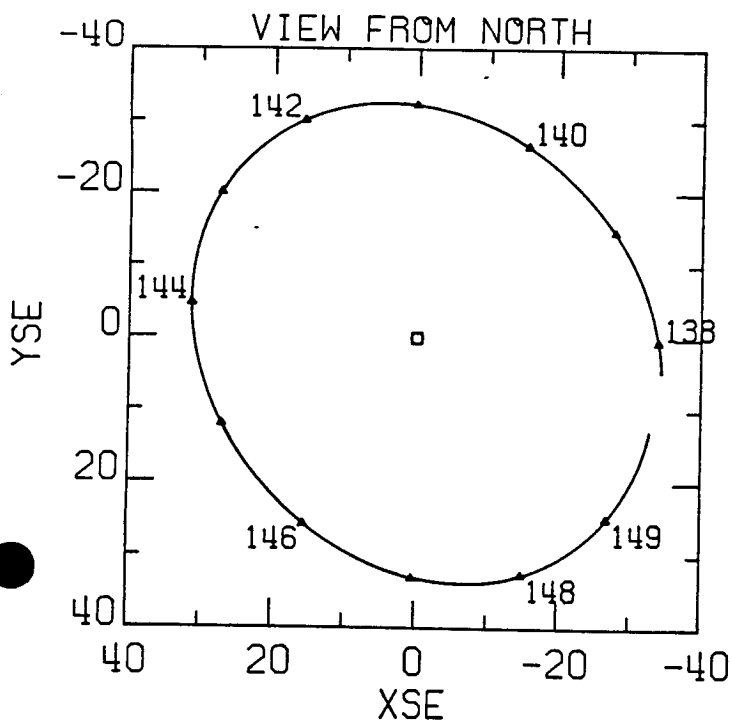
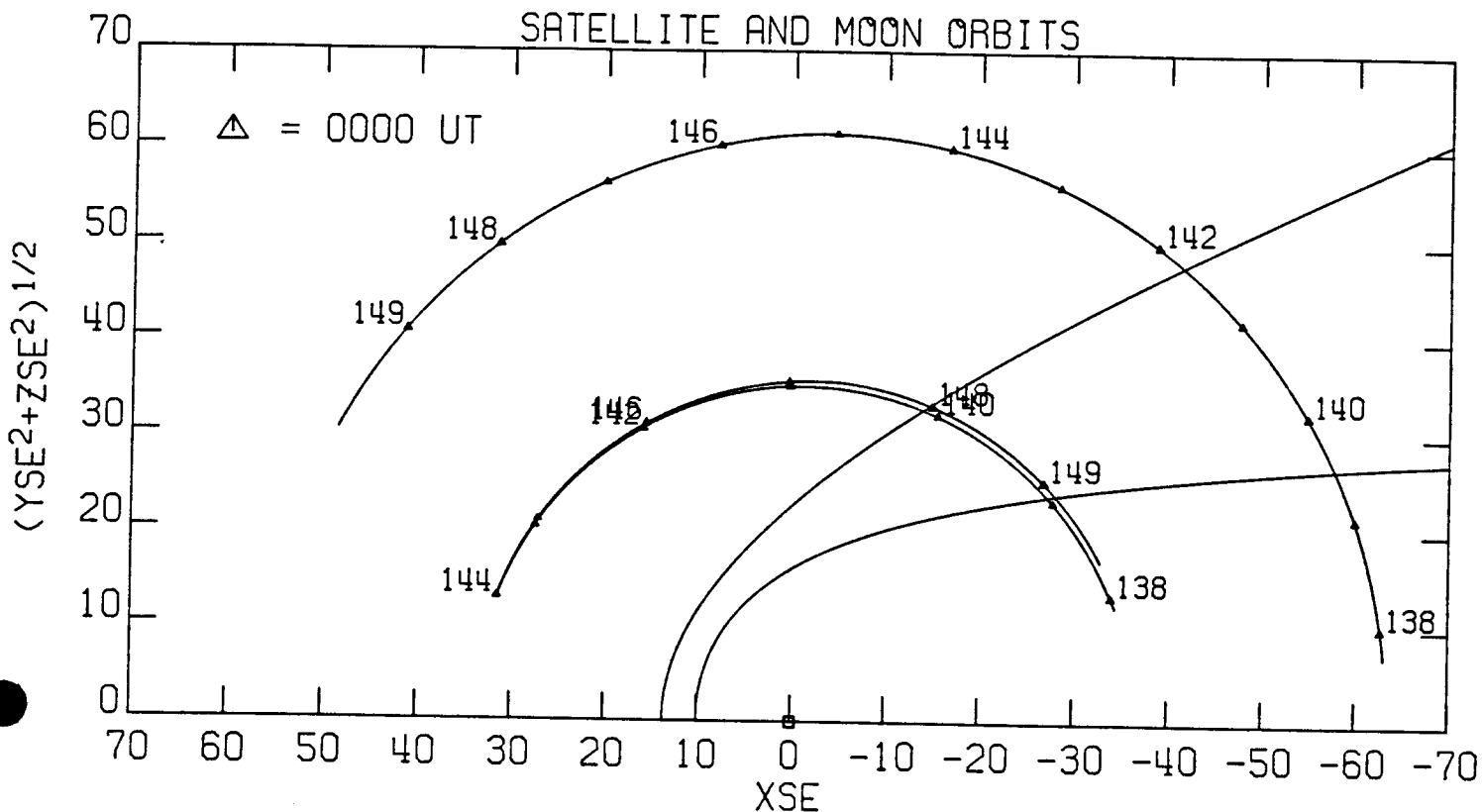
DAYS 125 THRU 137



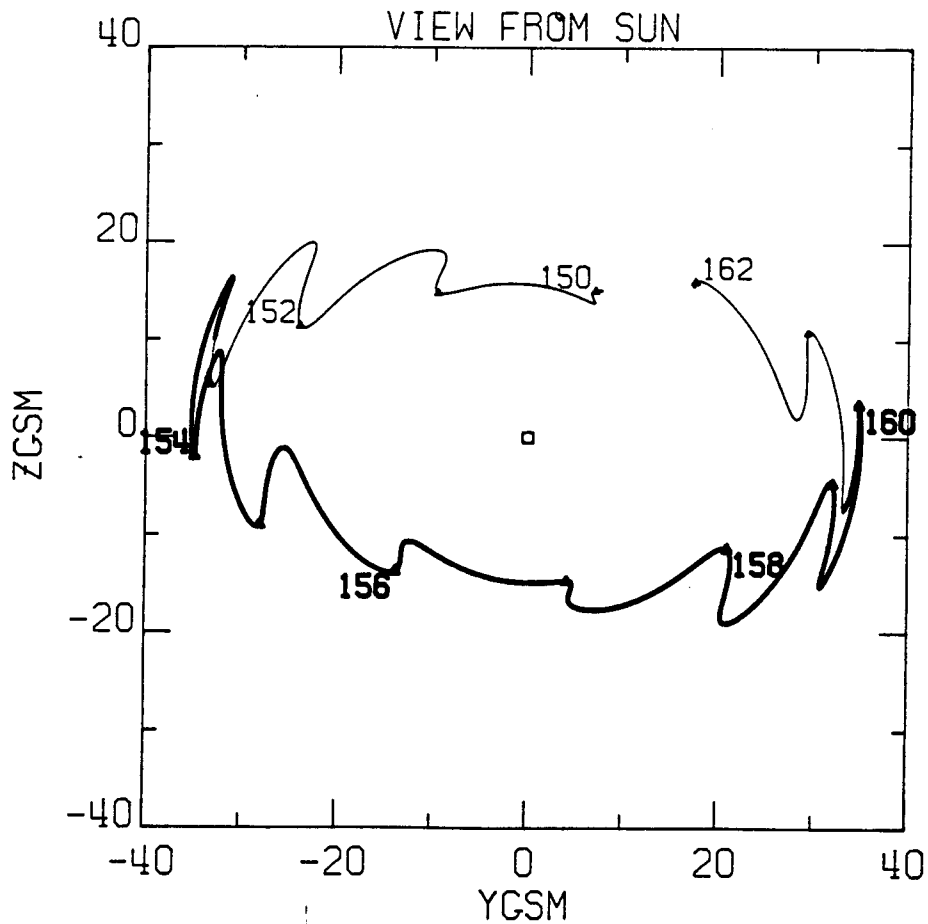
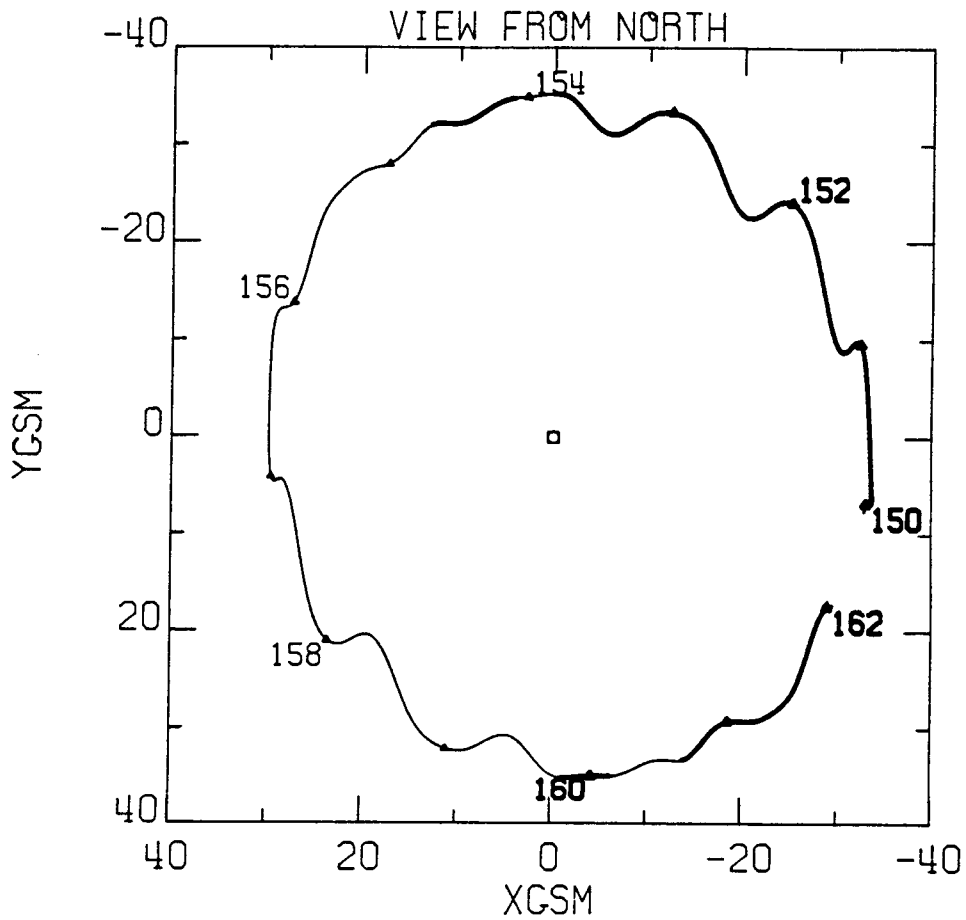
IMP 7 FROM MAY 17 TO MAY 29 1973



IMP 7 TRAJECTORY. ASCENDING NODE 20
 FROM MAY 17 TO MAY 29 1973
 DAYS 137 THRU 149



IMP 7 FROM MAY 29 TO JUN 11 1973



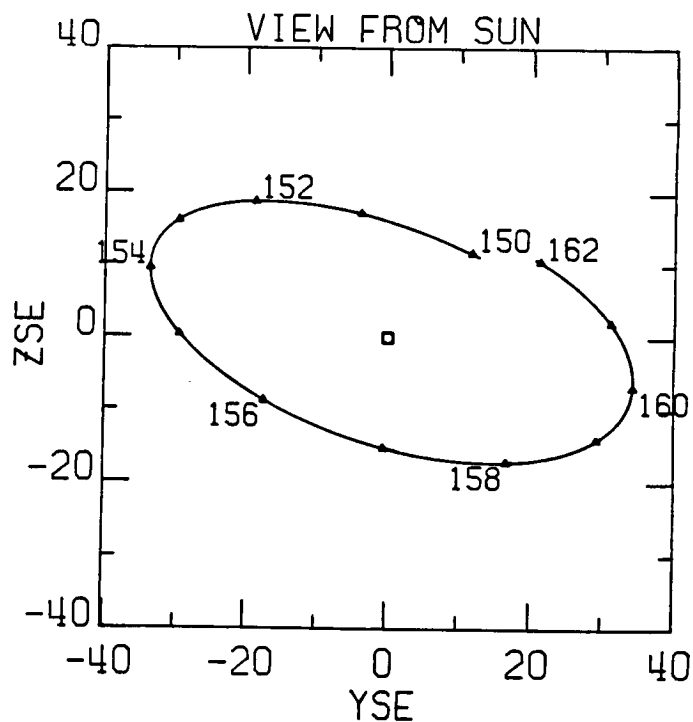
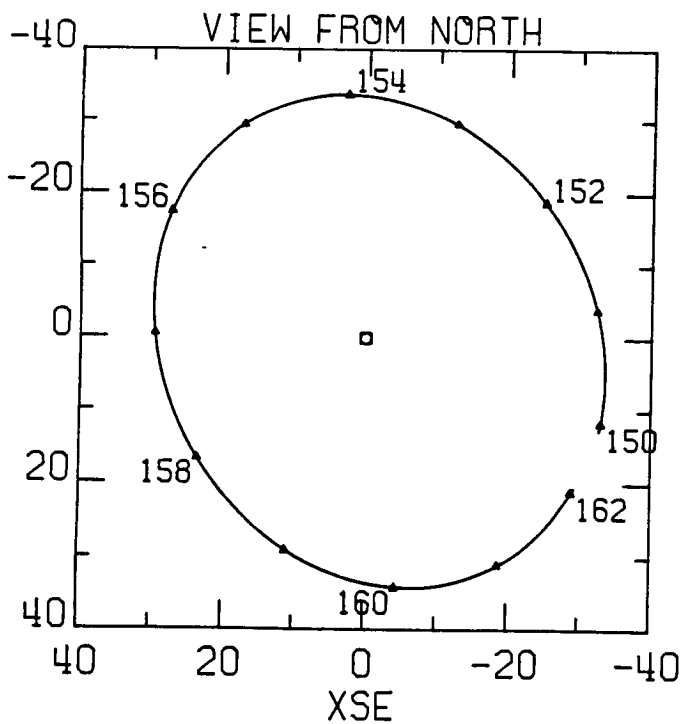
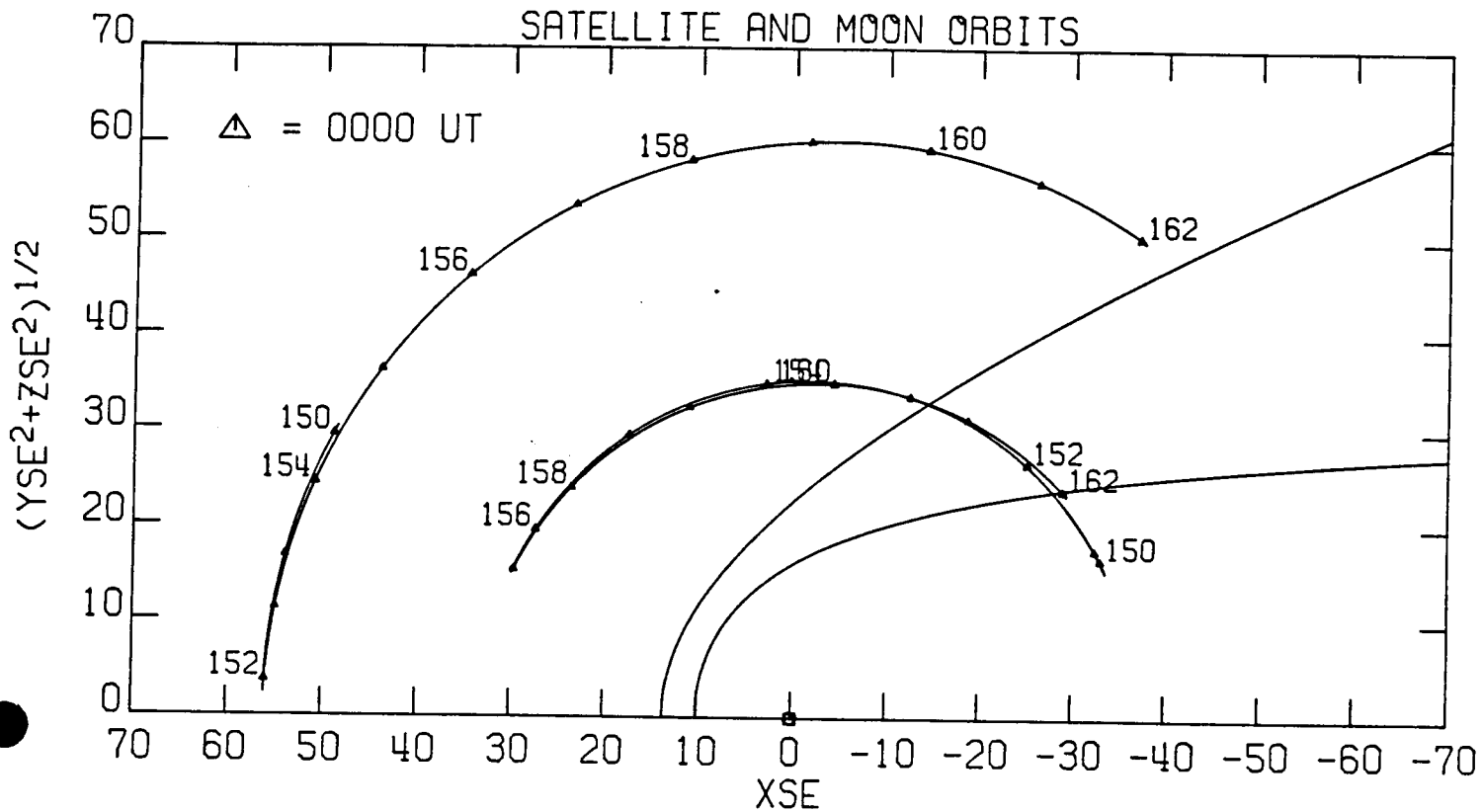
IMP 7 TRAJECTORY.

ASCENDING NODE 21

FROM MAY 29 TO JUN 11 1973

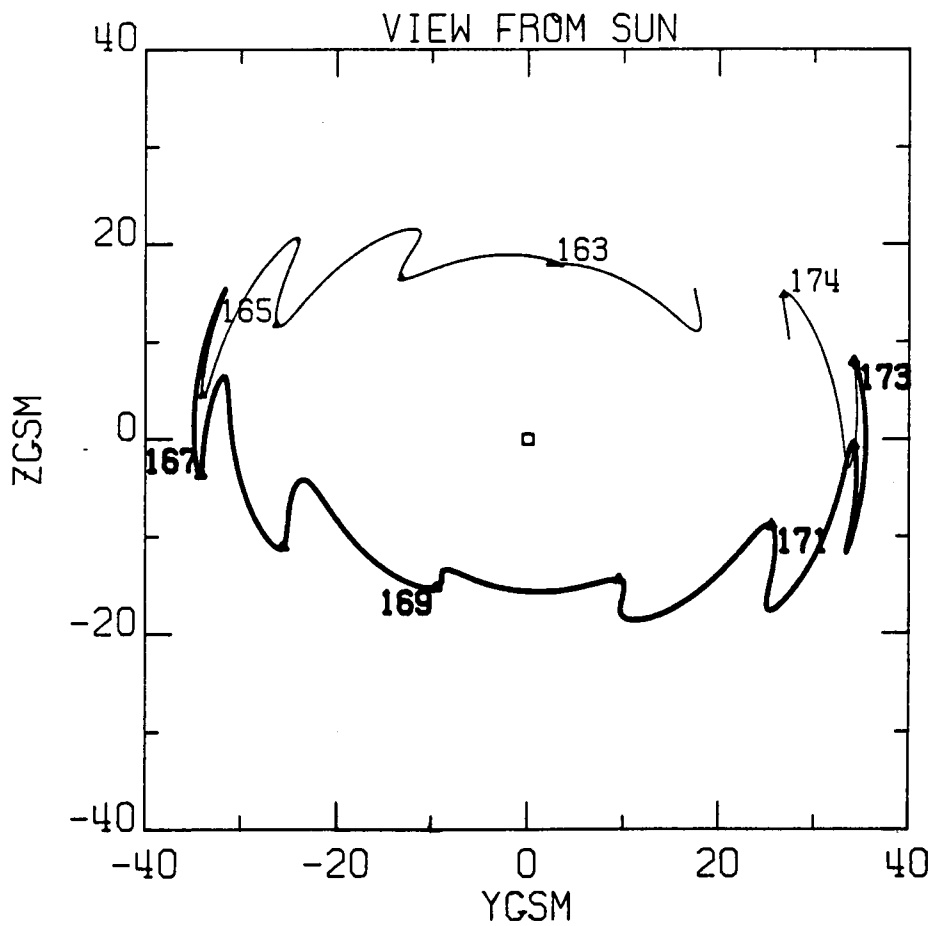
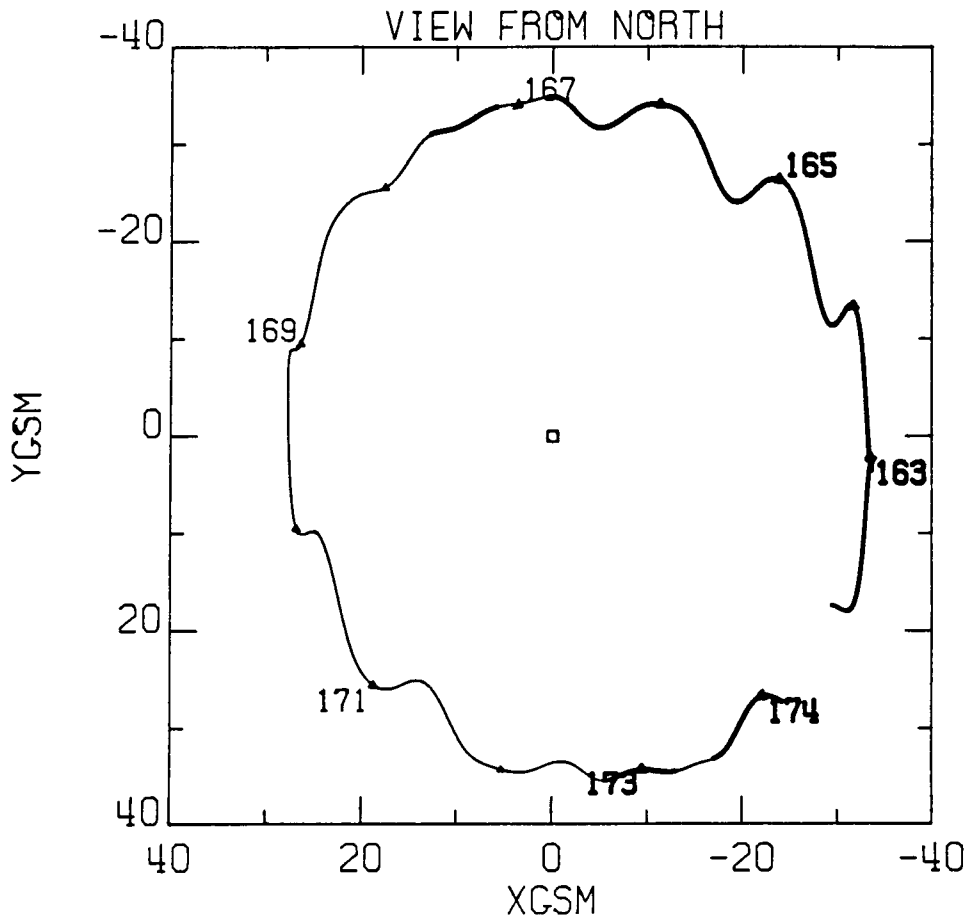
DAYS 149 THRU 162

SATELLITE AND MOON ORBITS



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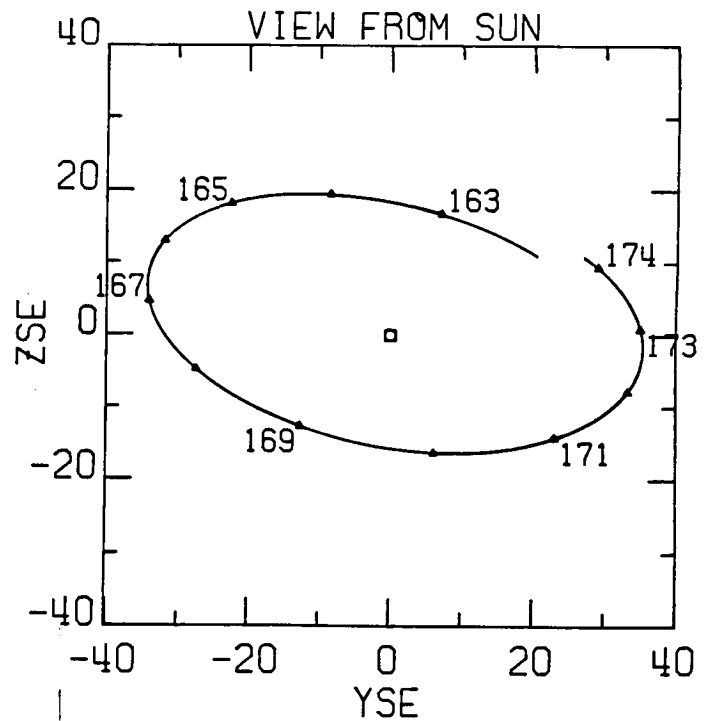
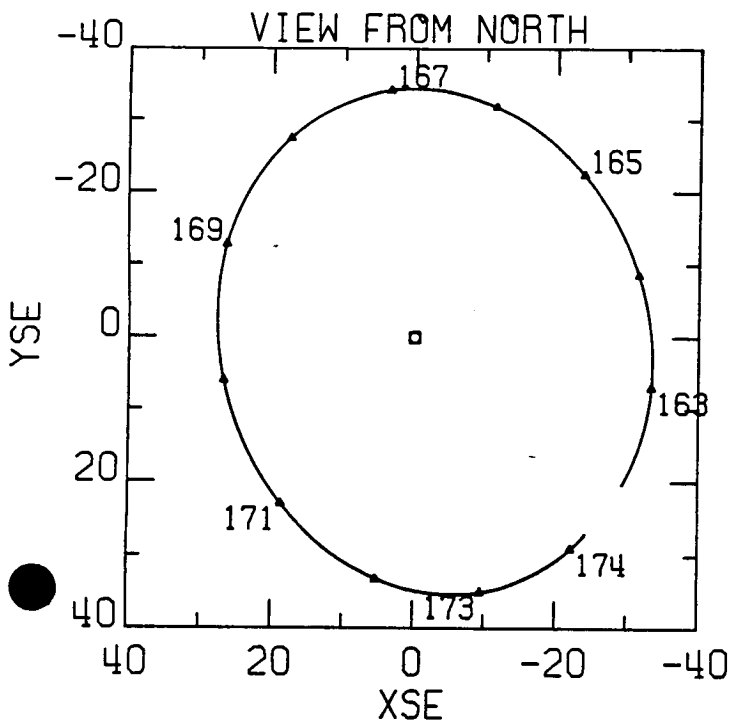
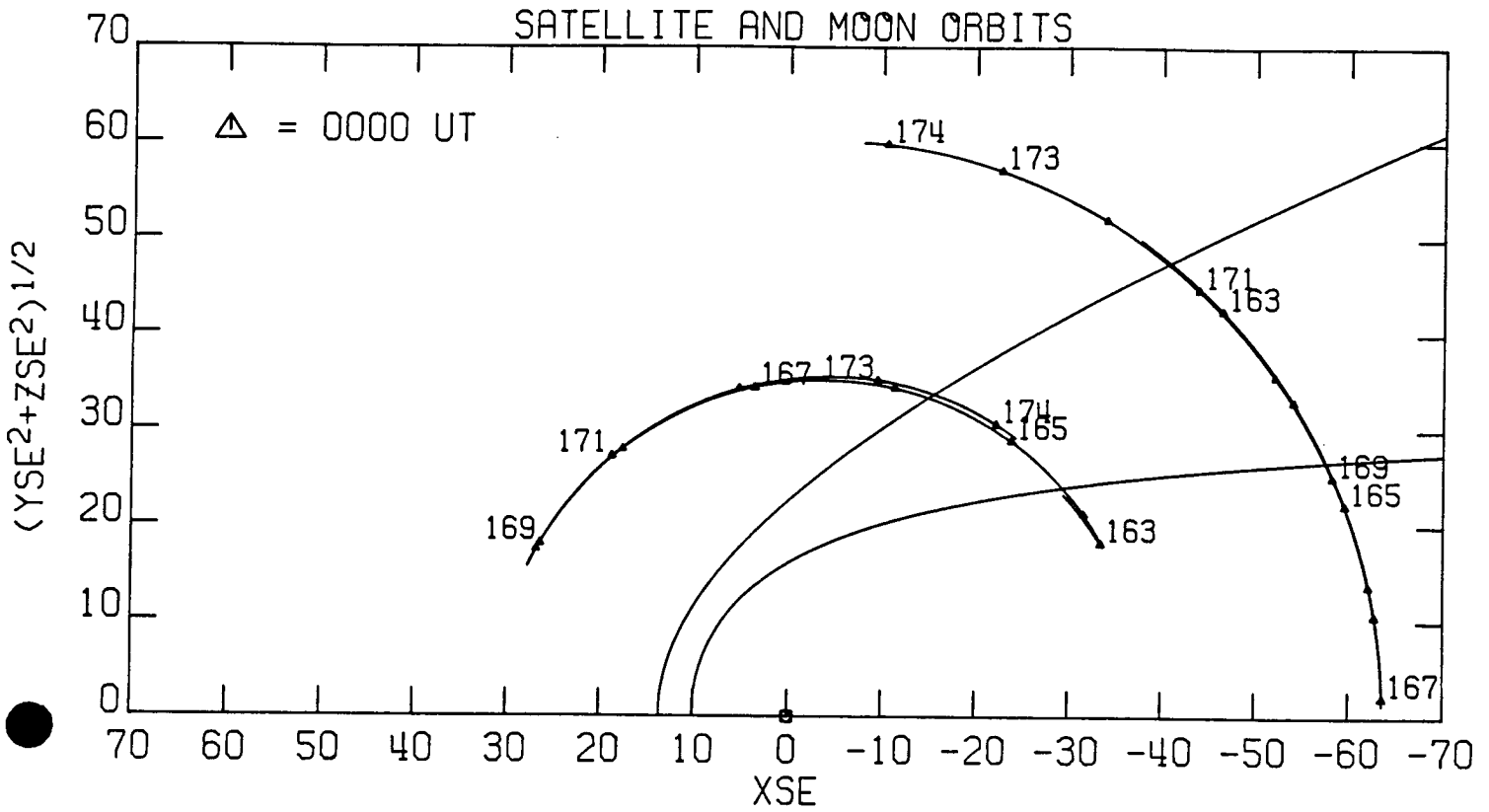
IMP 7 FROM JUN 11 TO JUN 23 1973



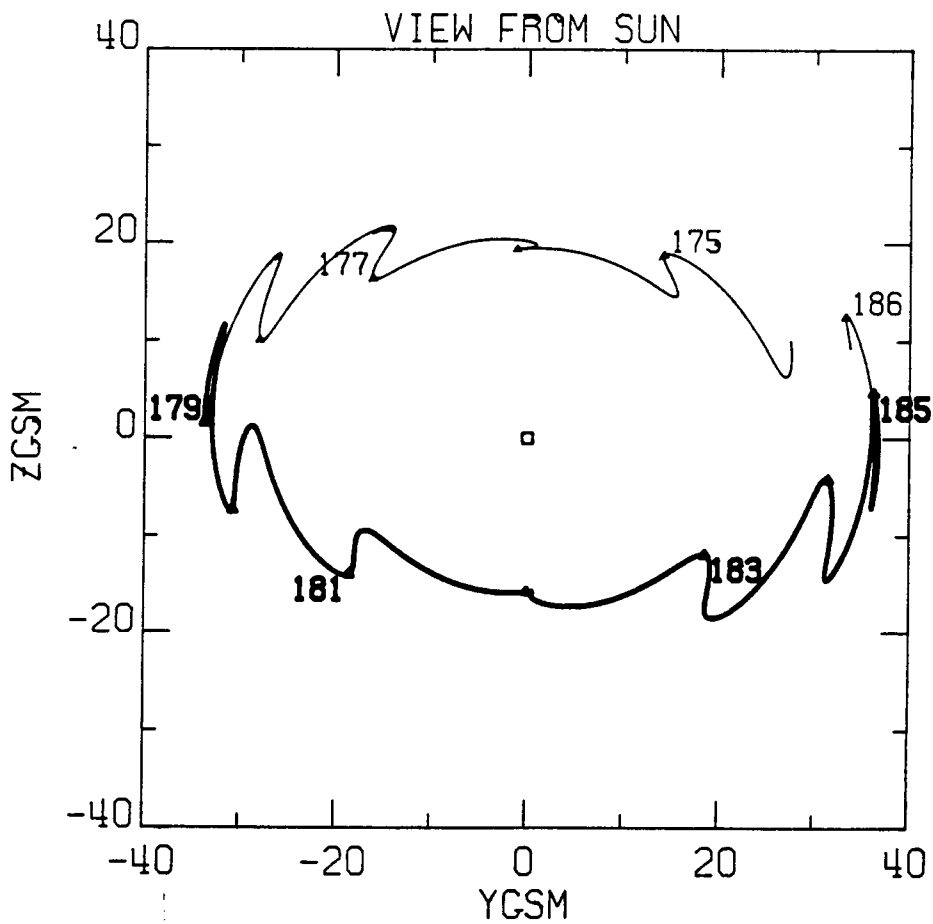
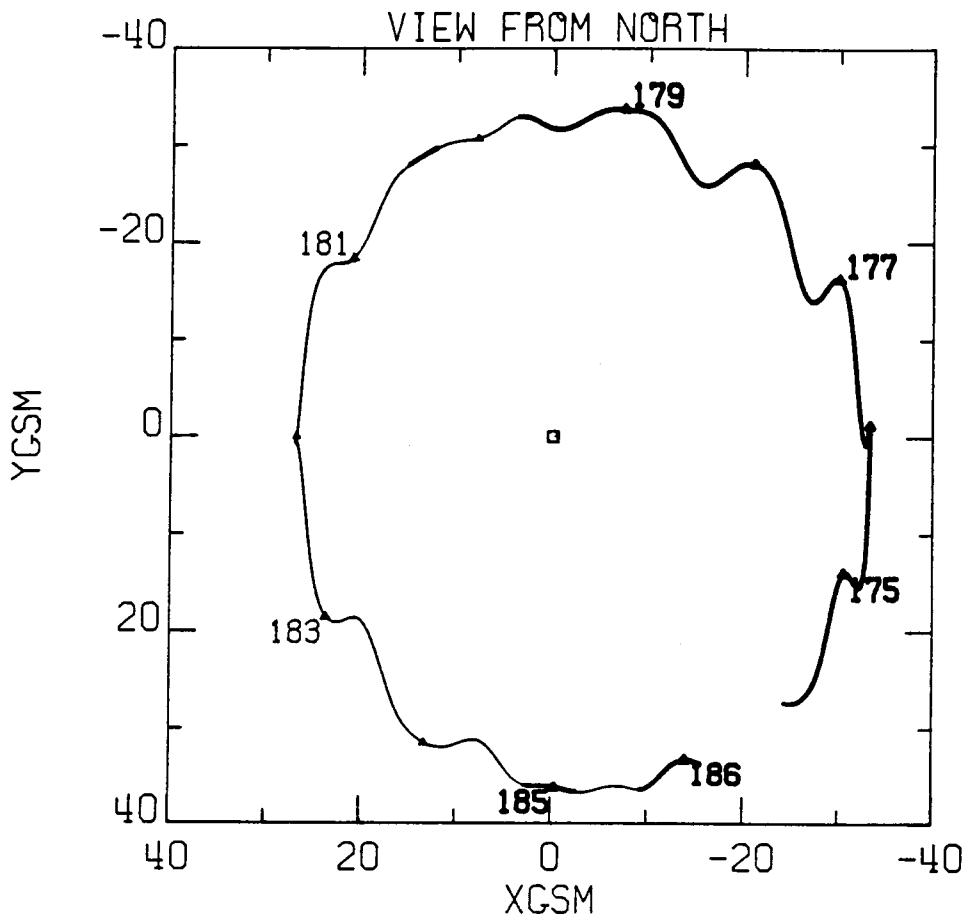
IMP 7 TRAJECTORY. ASCENDING NODE 22

FROM JUN 11 TO JUN 23 1973

DAYS 162 THRU 174



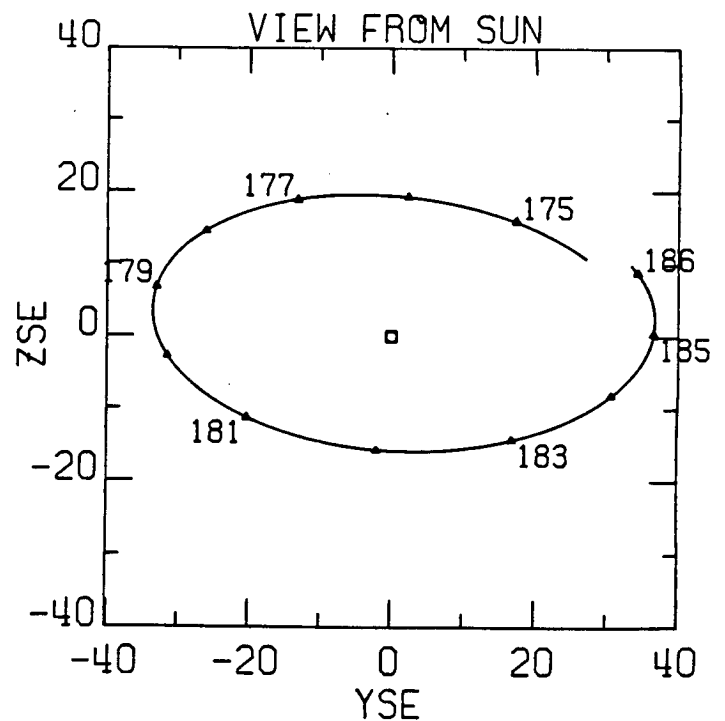
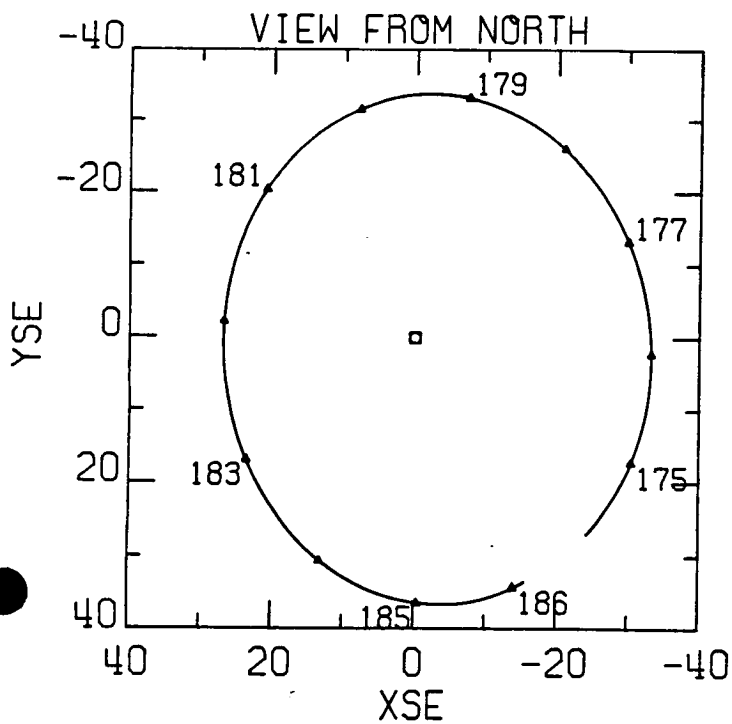
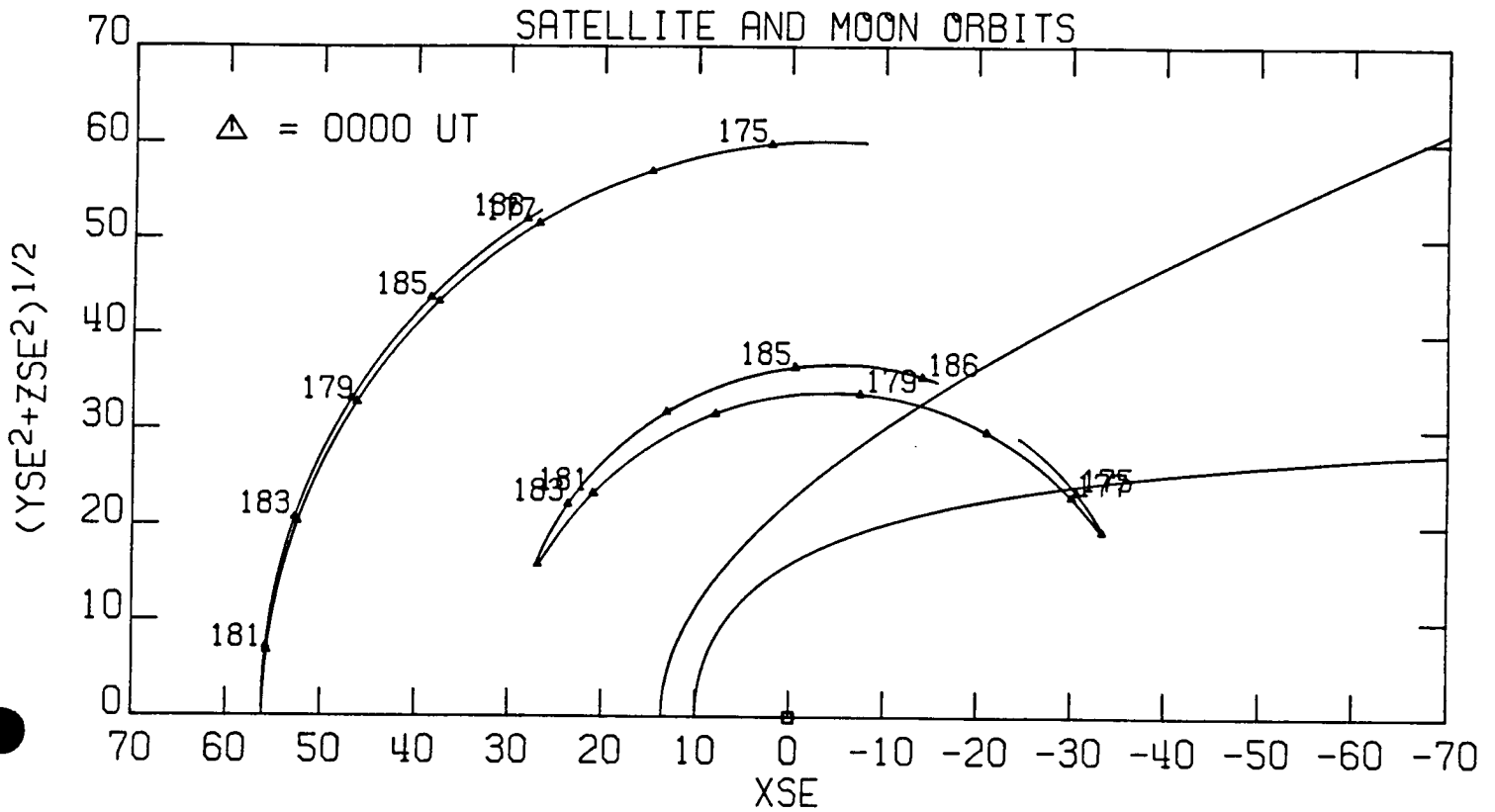
IMP 7 FROM JUN 23 TO JUL 5 1973



IMP 7 TRAJECTORY. ASCENDING NODE 23

FROM JUN 23 TO JUL 5 1973

DAYS 174 THRU 186

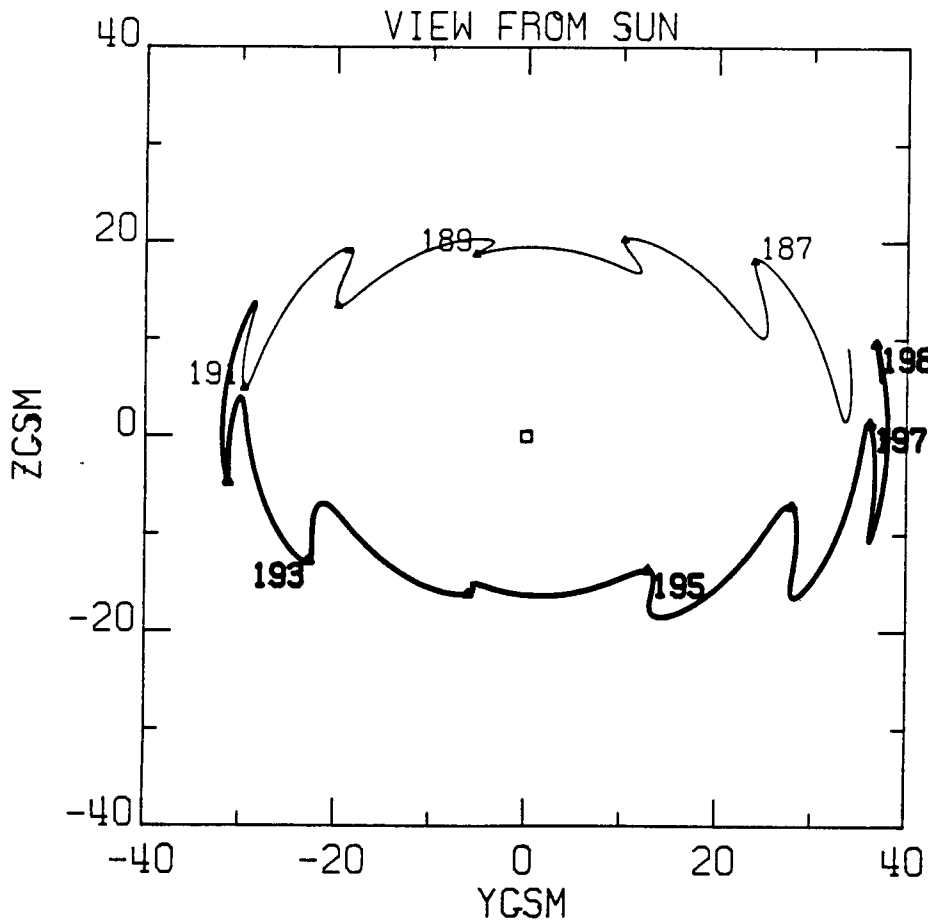
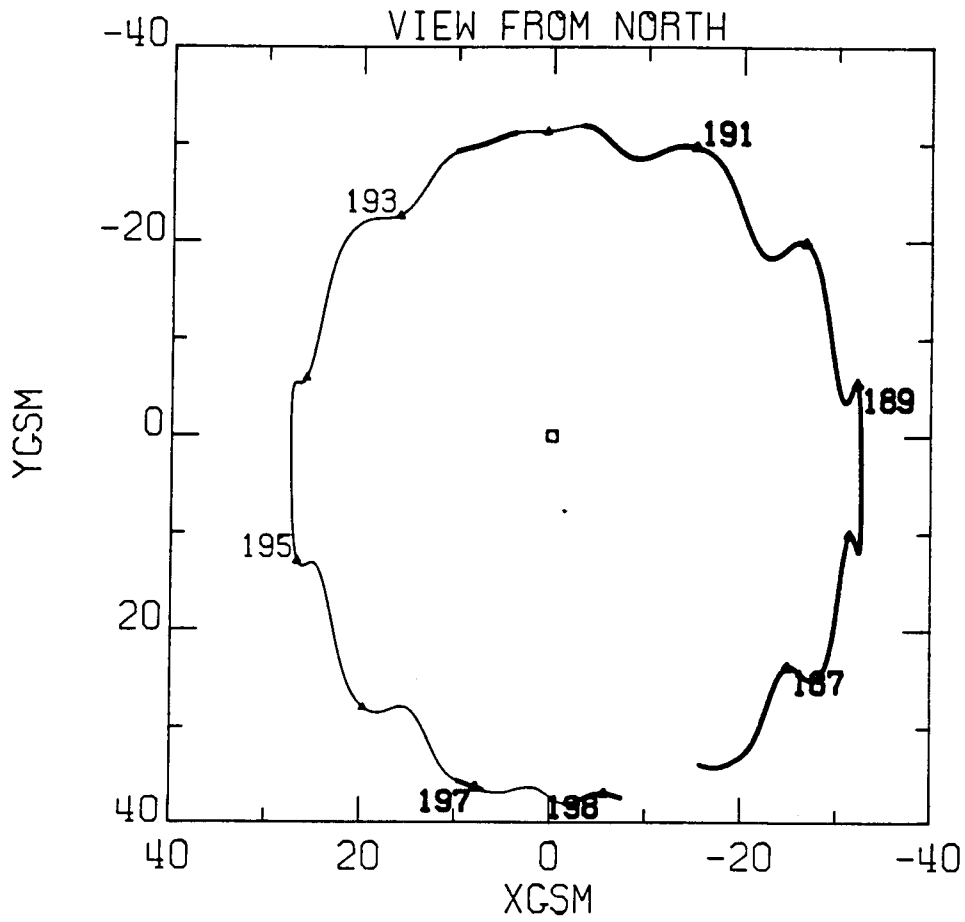


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IMP 7 FROM JUL 5 TO JUL 17 1973

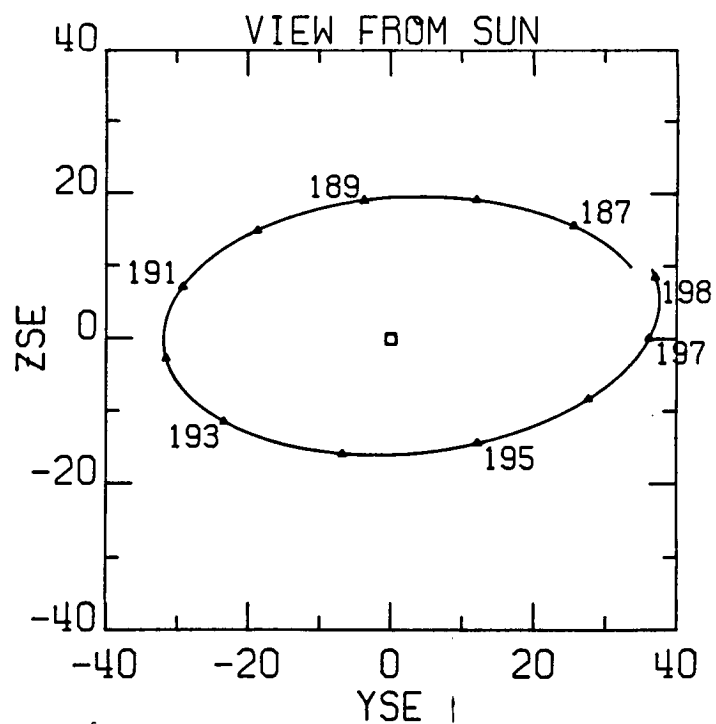
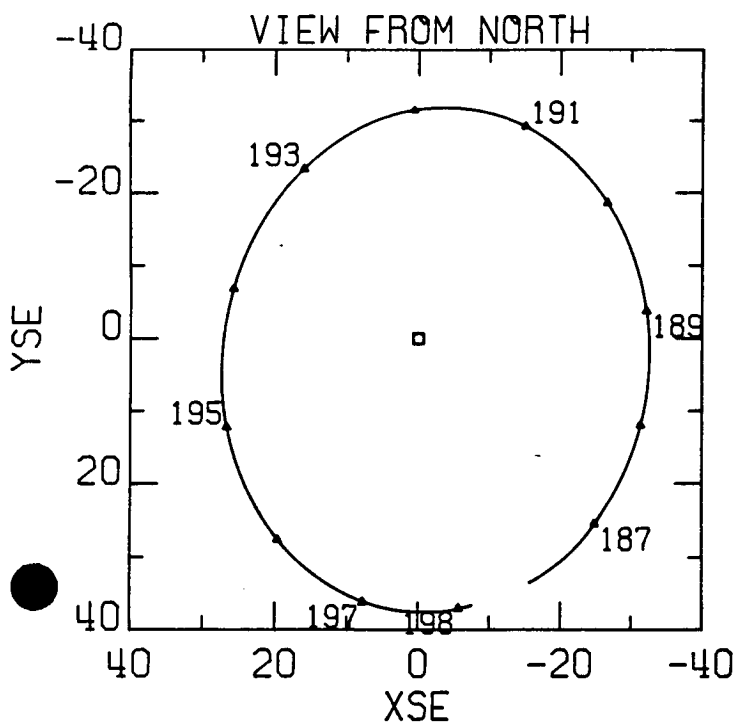
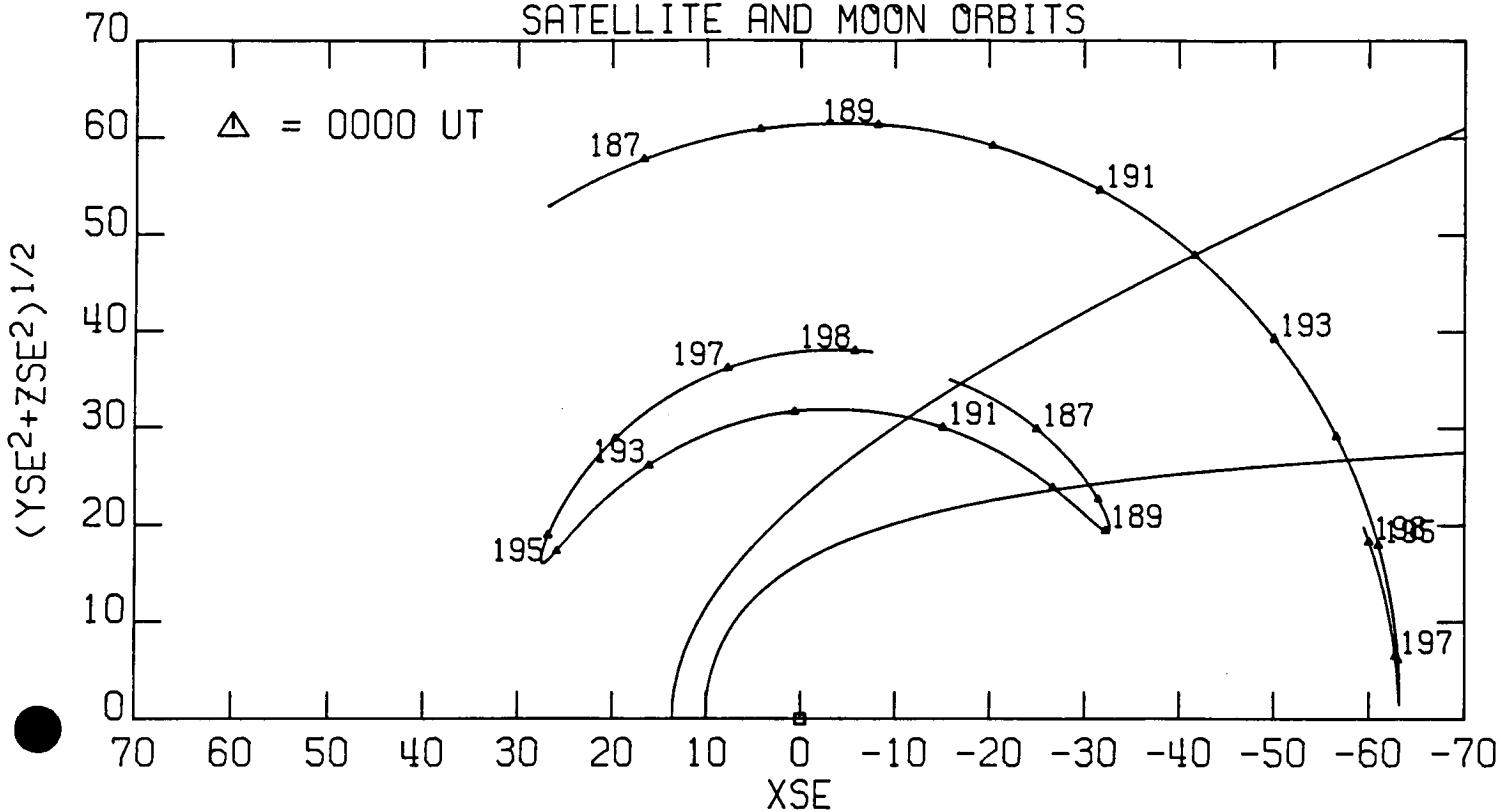


IMP 7 TRAJECTORY. ASCENDING NODE 24

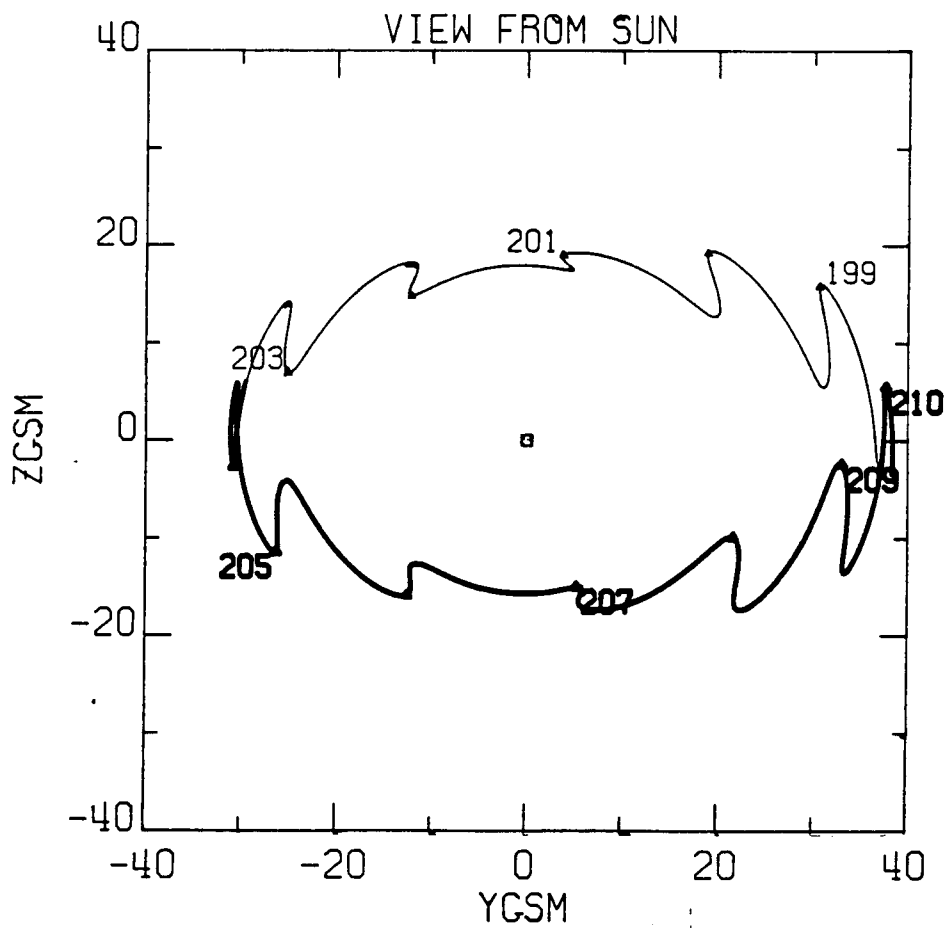
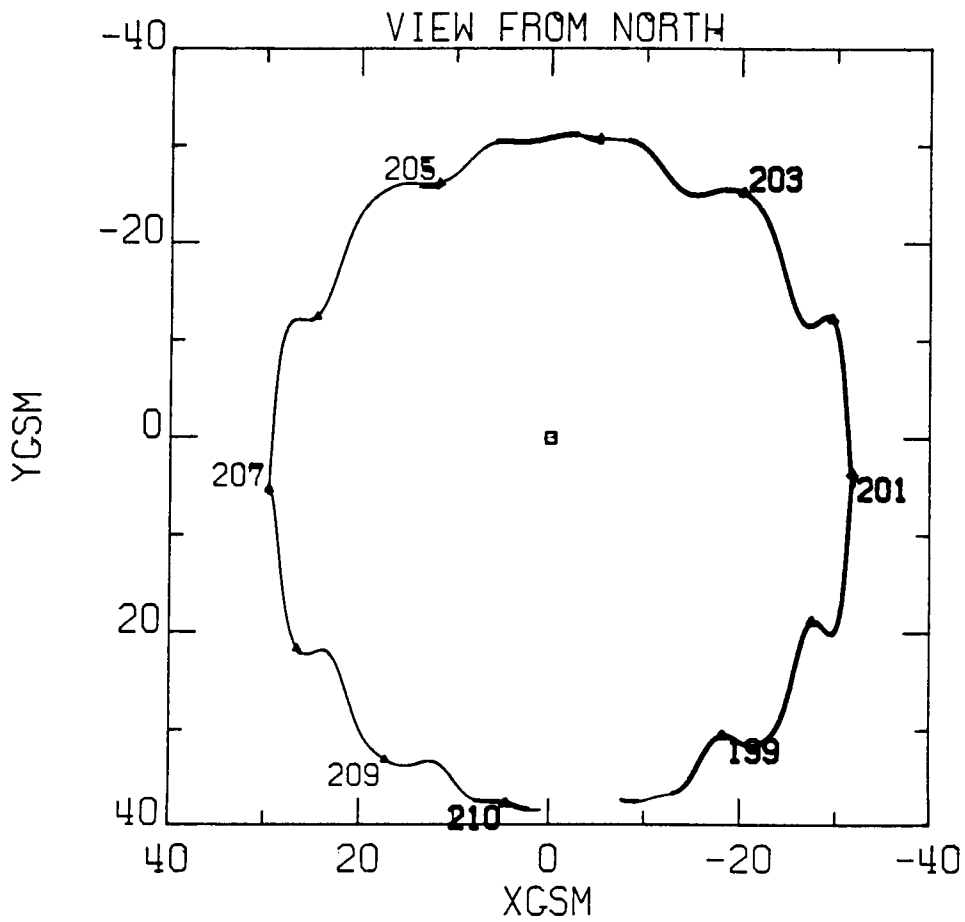
FROM JUL 5 TO JUL 17 1973

DAYS 186 THRU 198

SATELLITE AND MOON ORBITS



IMP 7 FROM JUL 17 TO JUL 29 1973

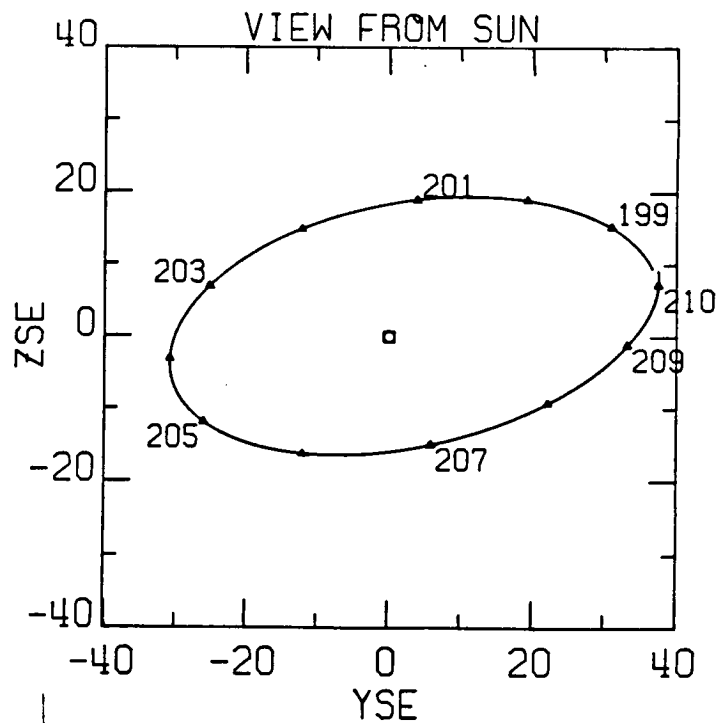
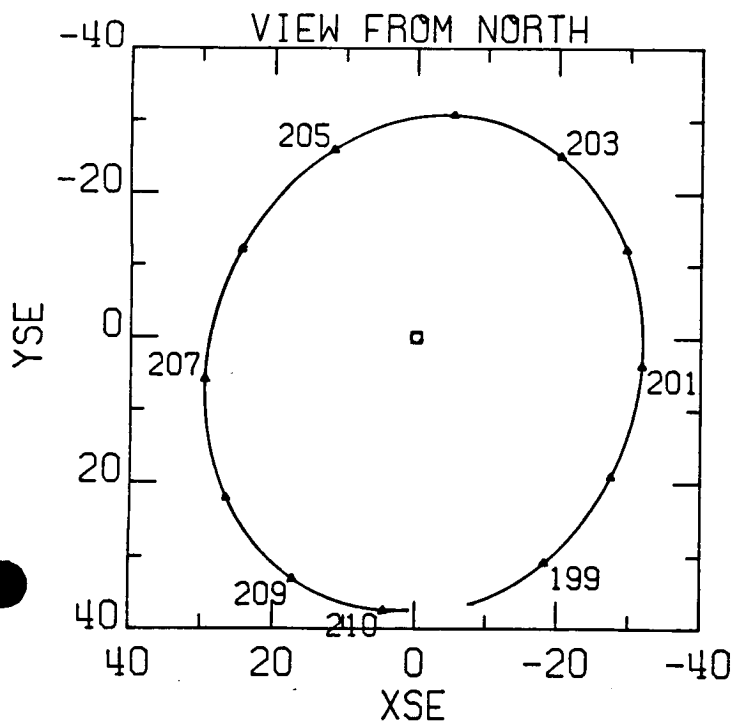
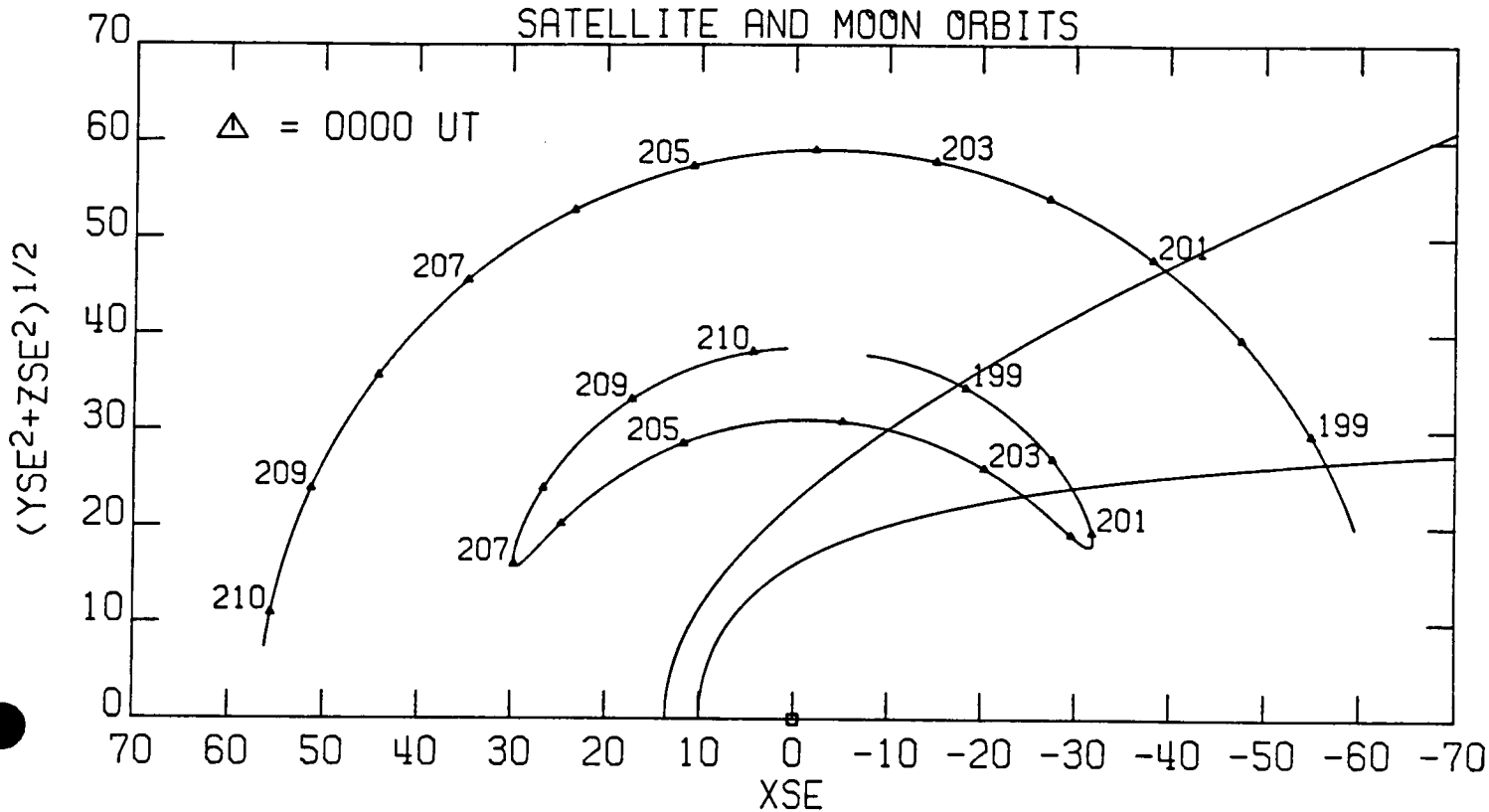


IMP 7 TRAJECTORY. ASCENDING NODE 25

FROM JUL 17 TO JUL 29 1973

DAYS 198 THRU 210

SATELLITE AND MOON ORBITS



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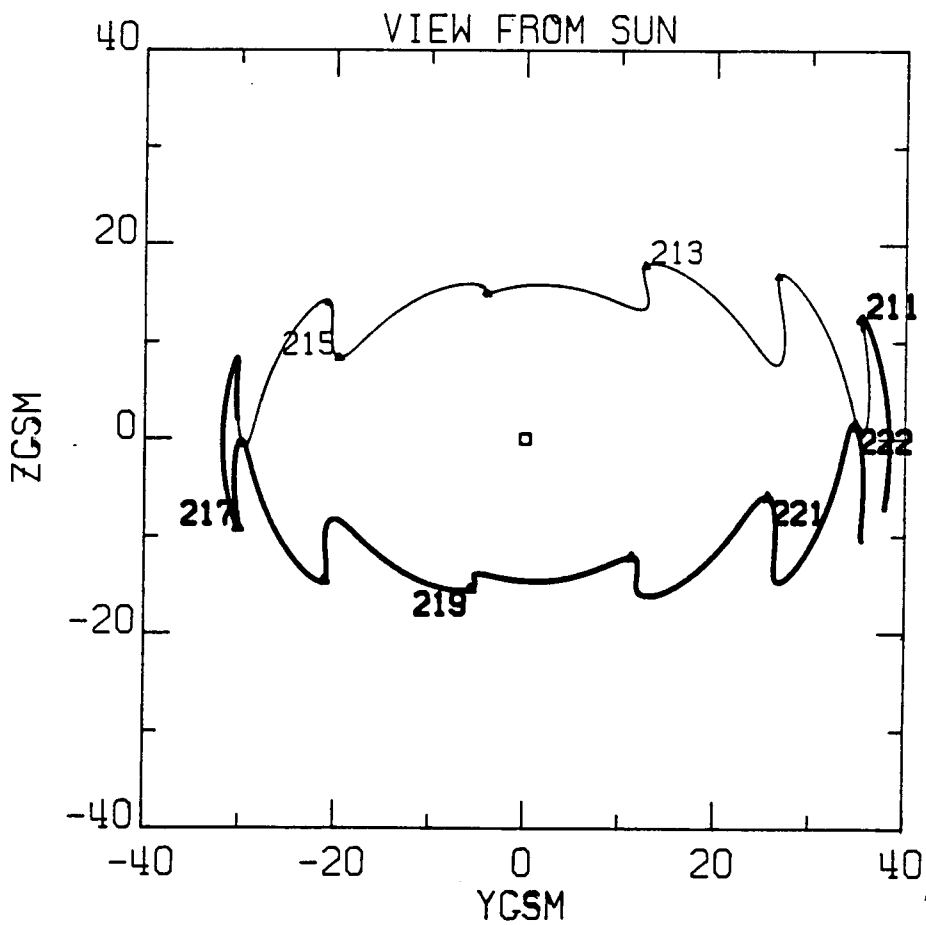
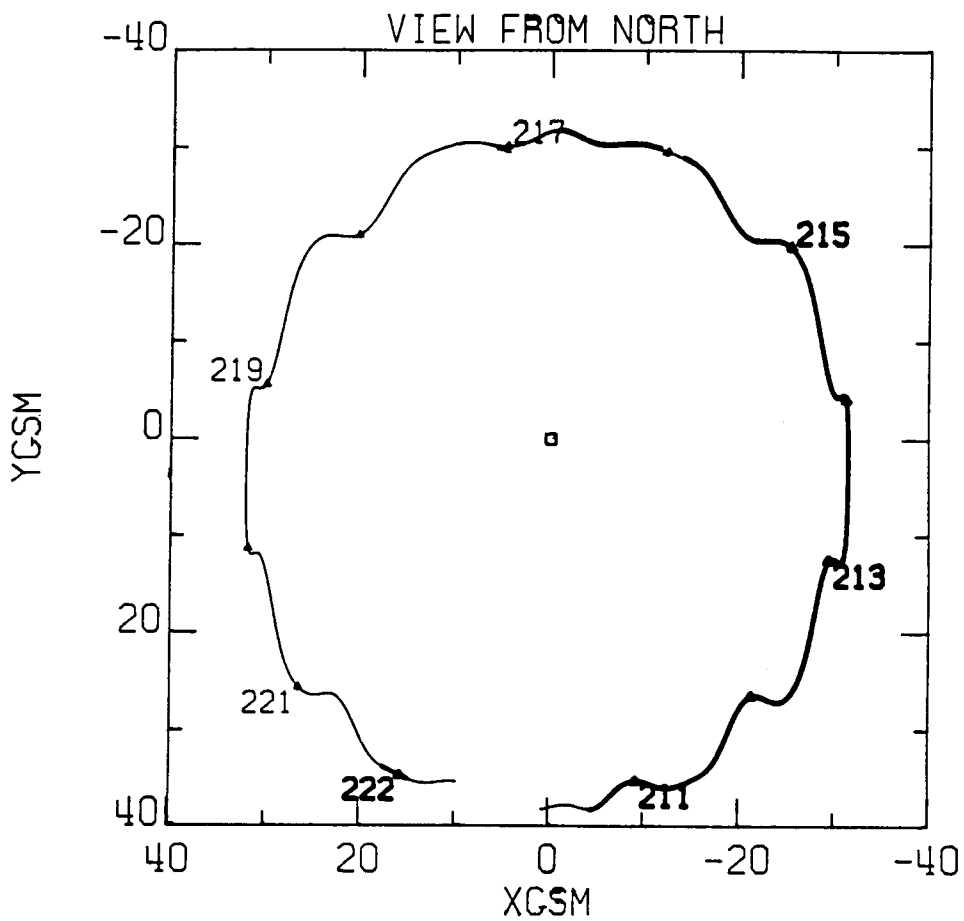
C

F

T

V

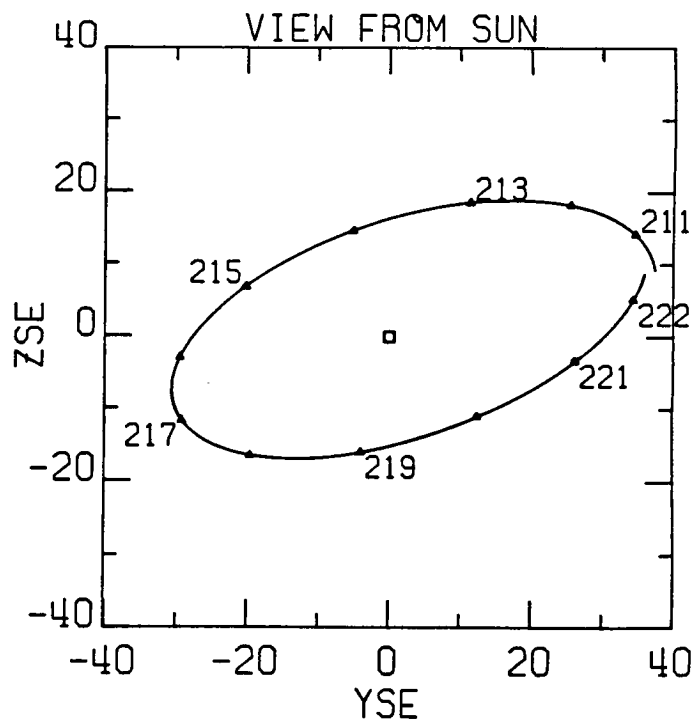
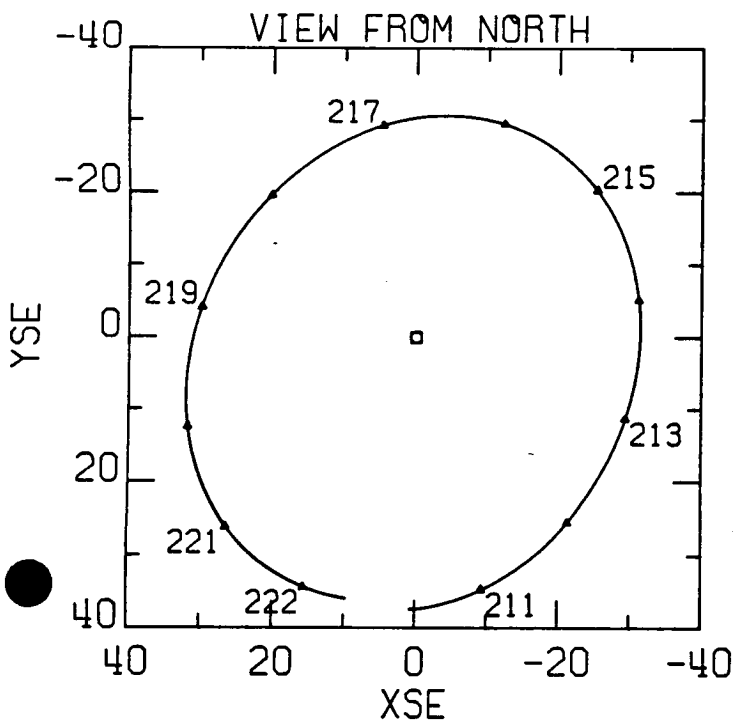
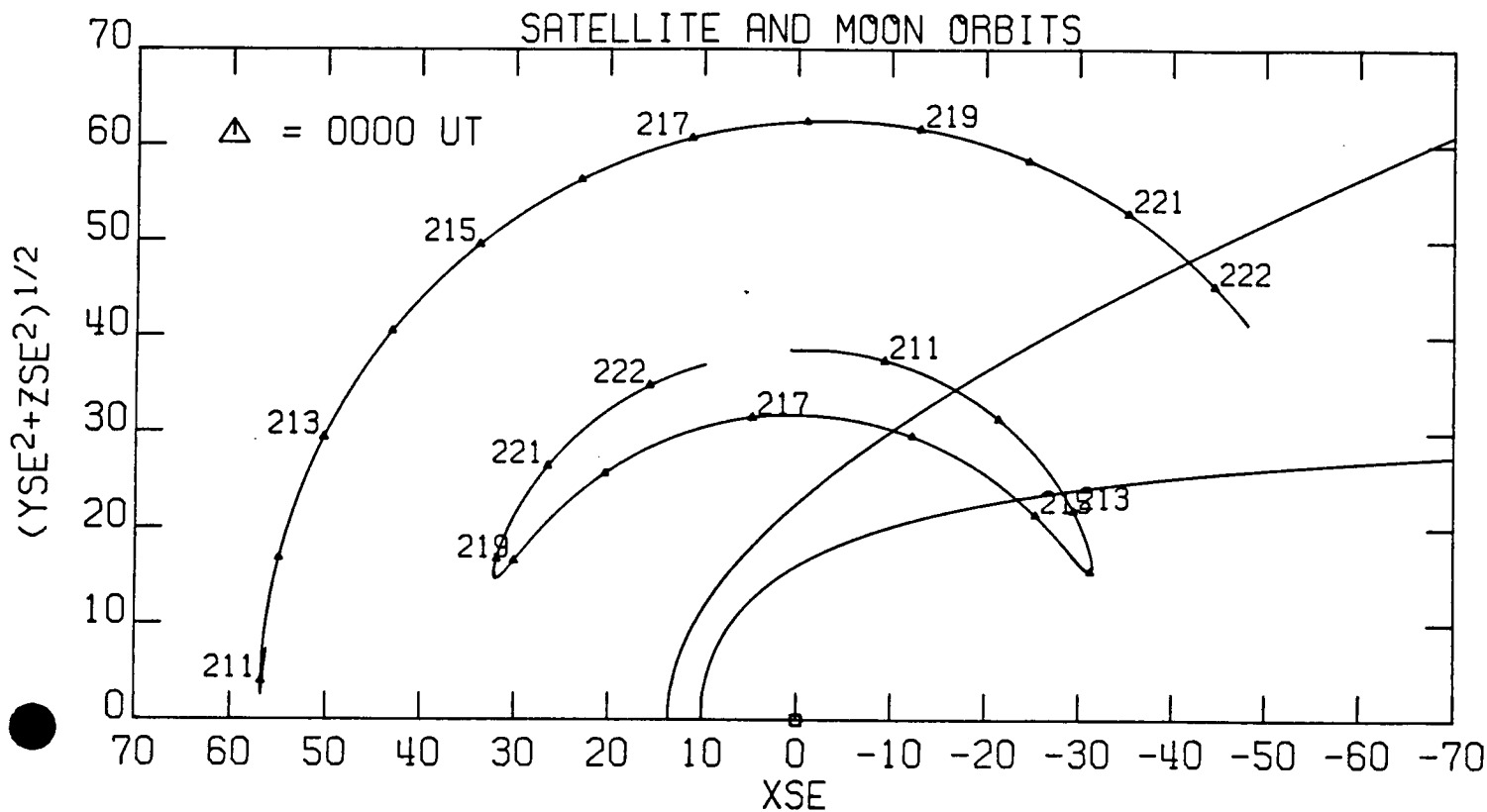
IMP 7 FROM JUL 29 TO AUG 10 1973



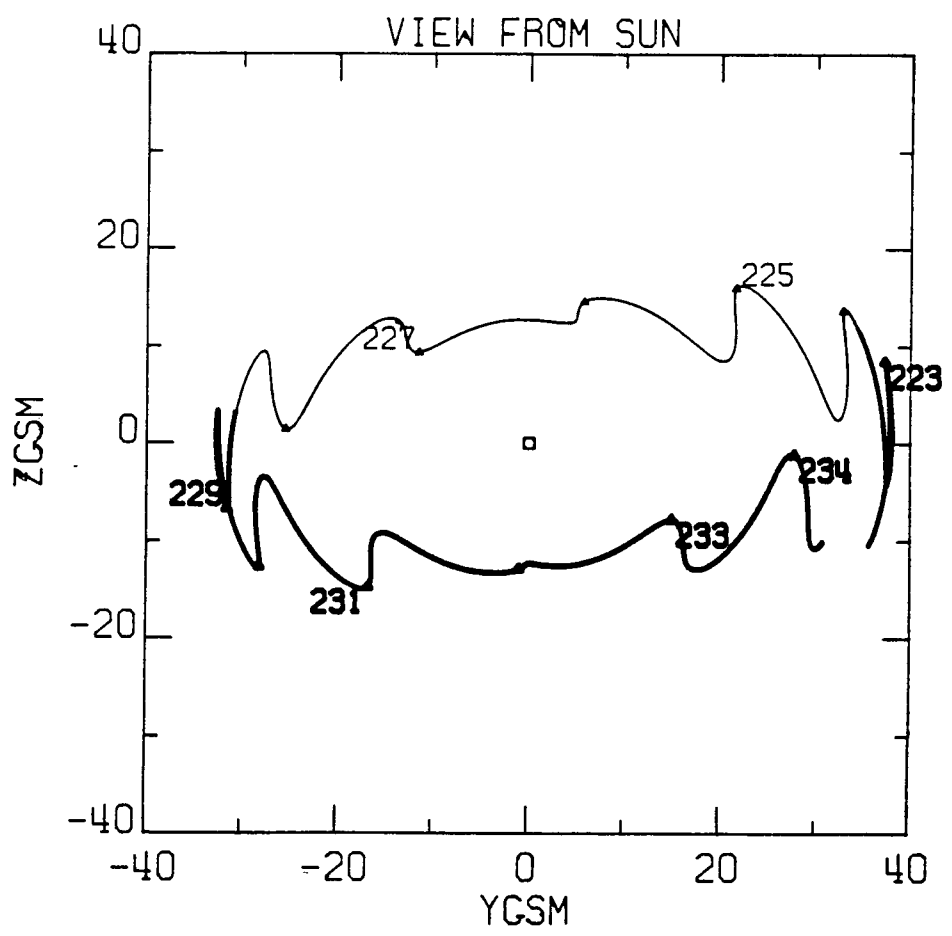
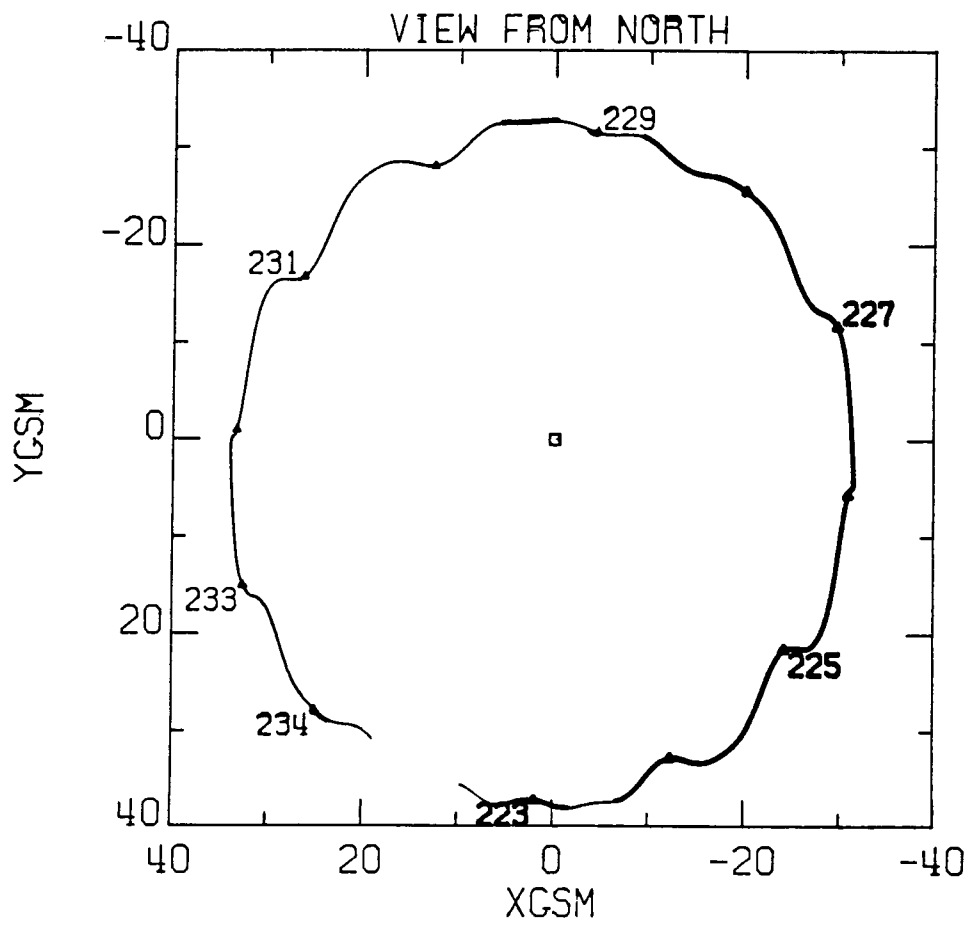
IMP 7 TRAJECTORY. ASCENDING NODE 26

FROM JUL 29 TO AUG 10 1973

DAYS 210 THRU 222



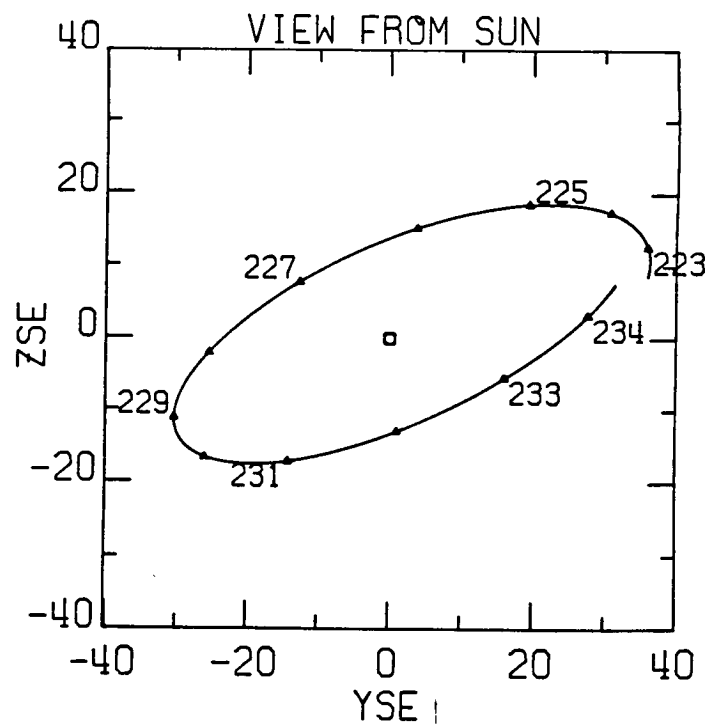
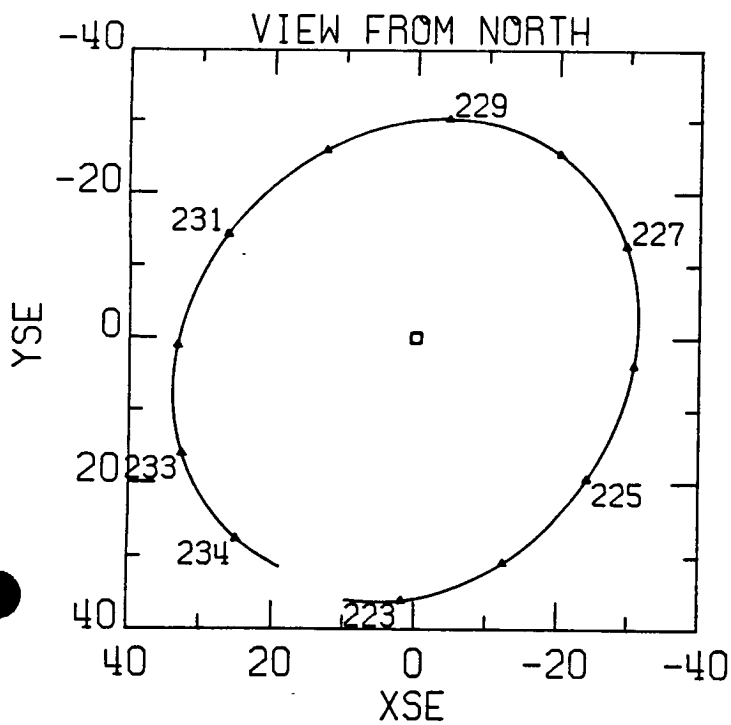
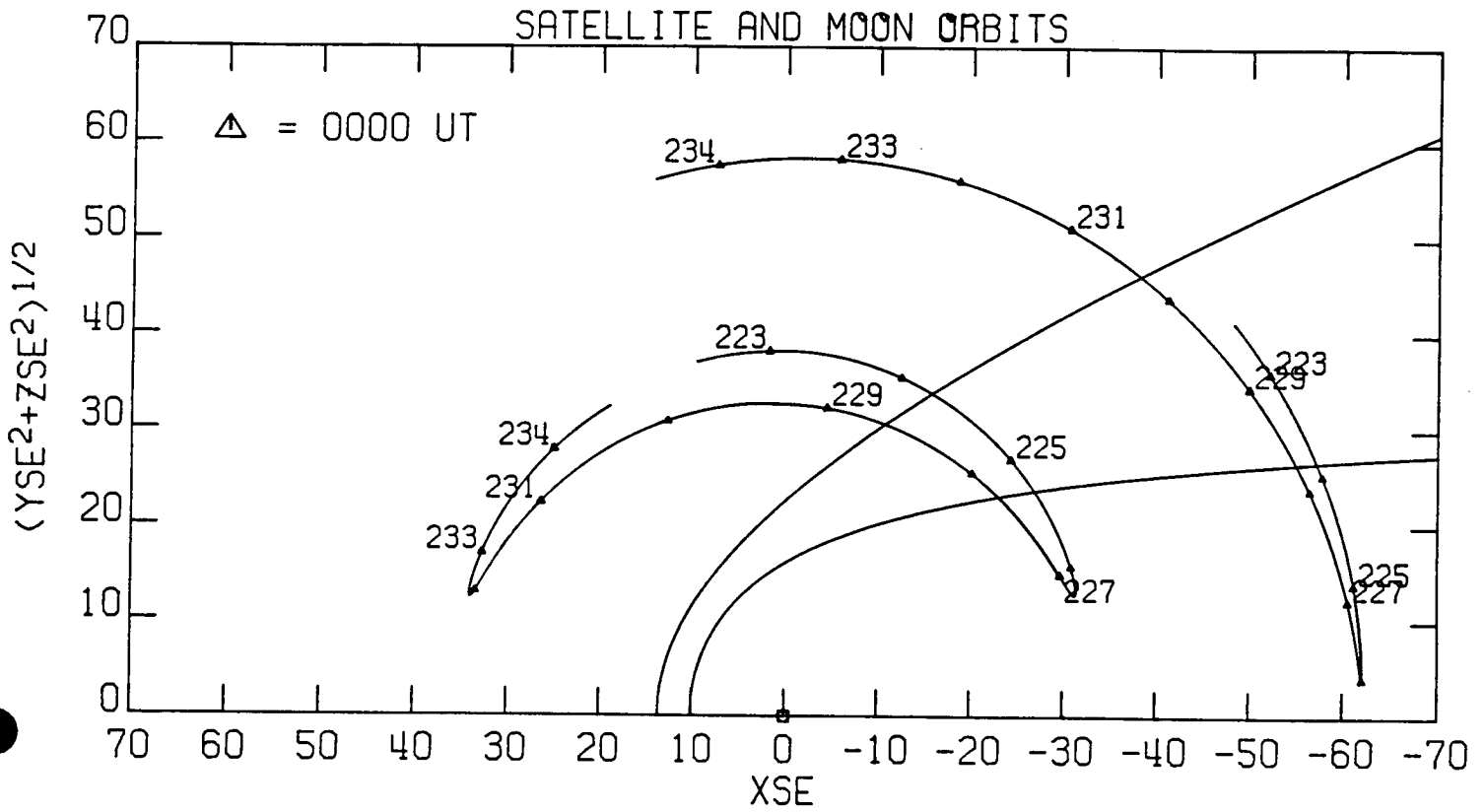
IMP 7 FROM AUG 10 TO AUG 22 1973



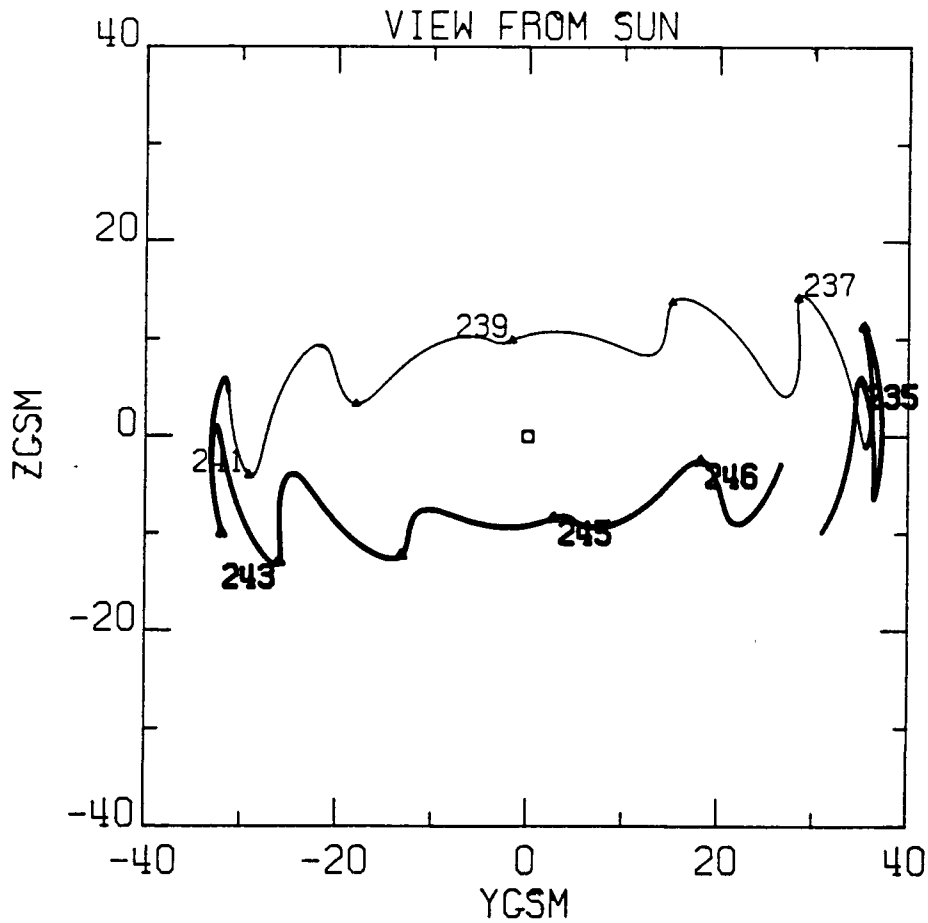
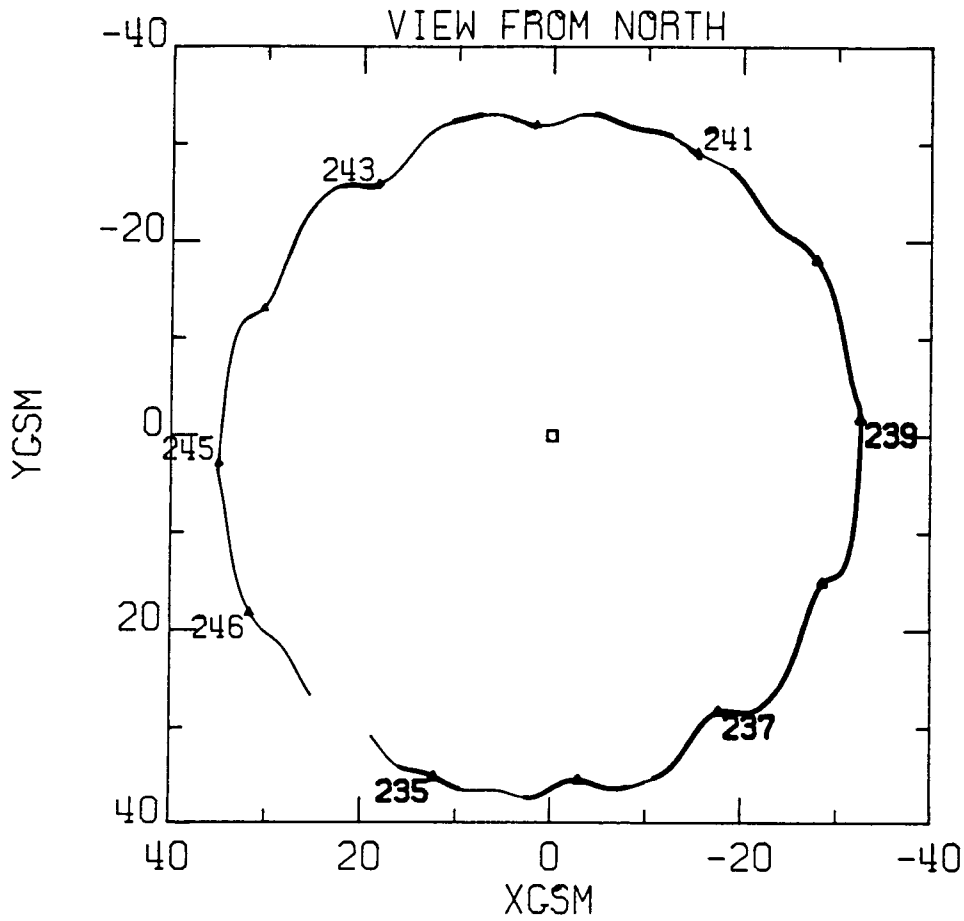
IMP 7 TRAJECTORY. ASCENDING NODE 27

FROM AUG 10 TO AUG 22 1973

DAYS 222 THRU 234



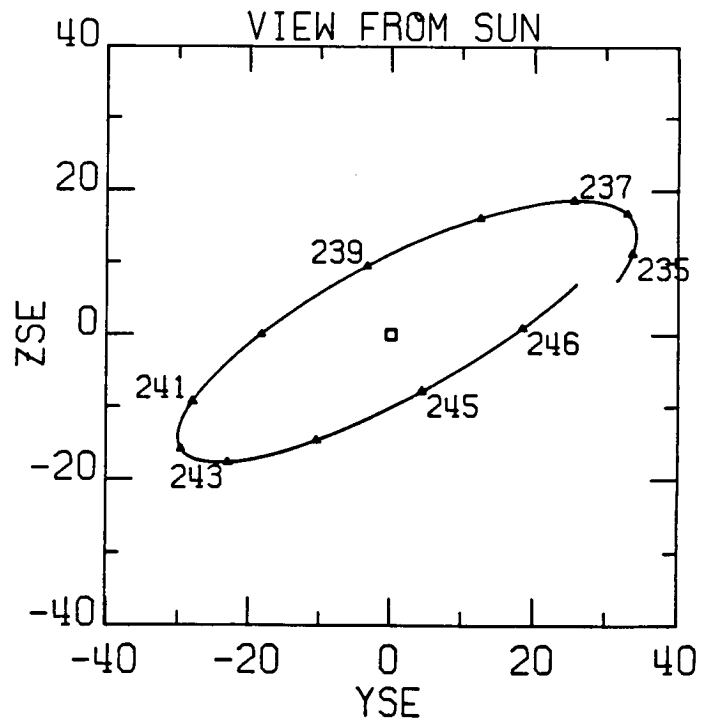
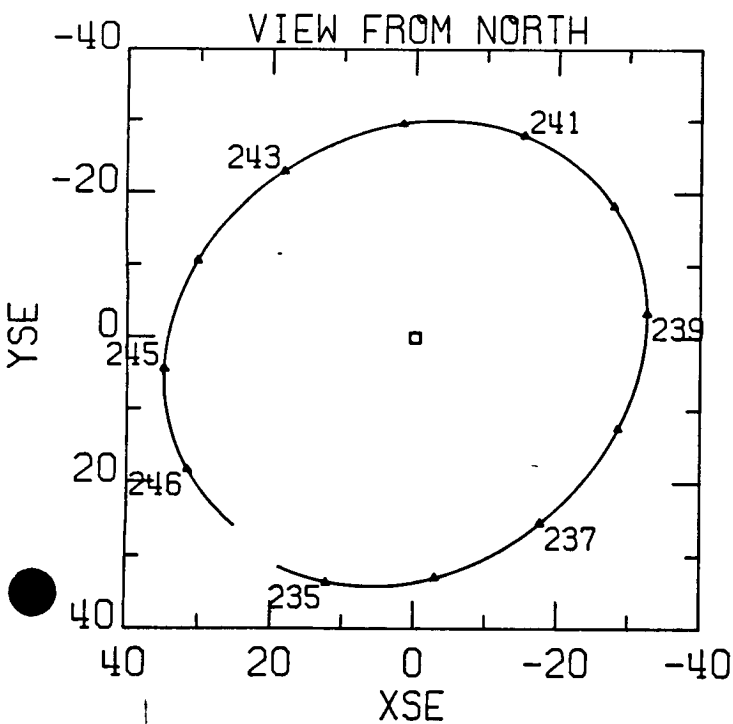
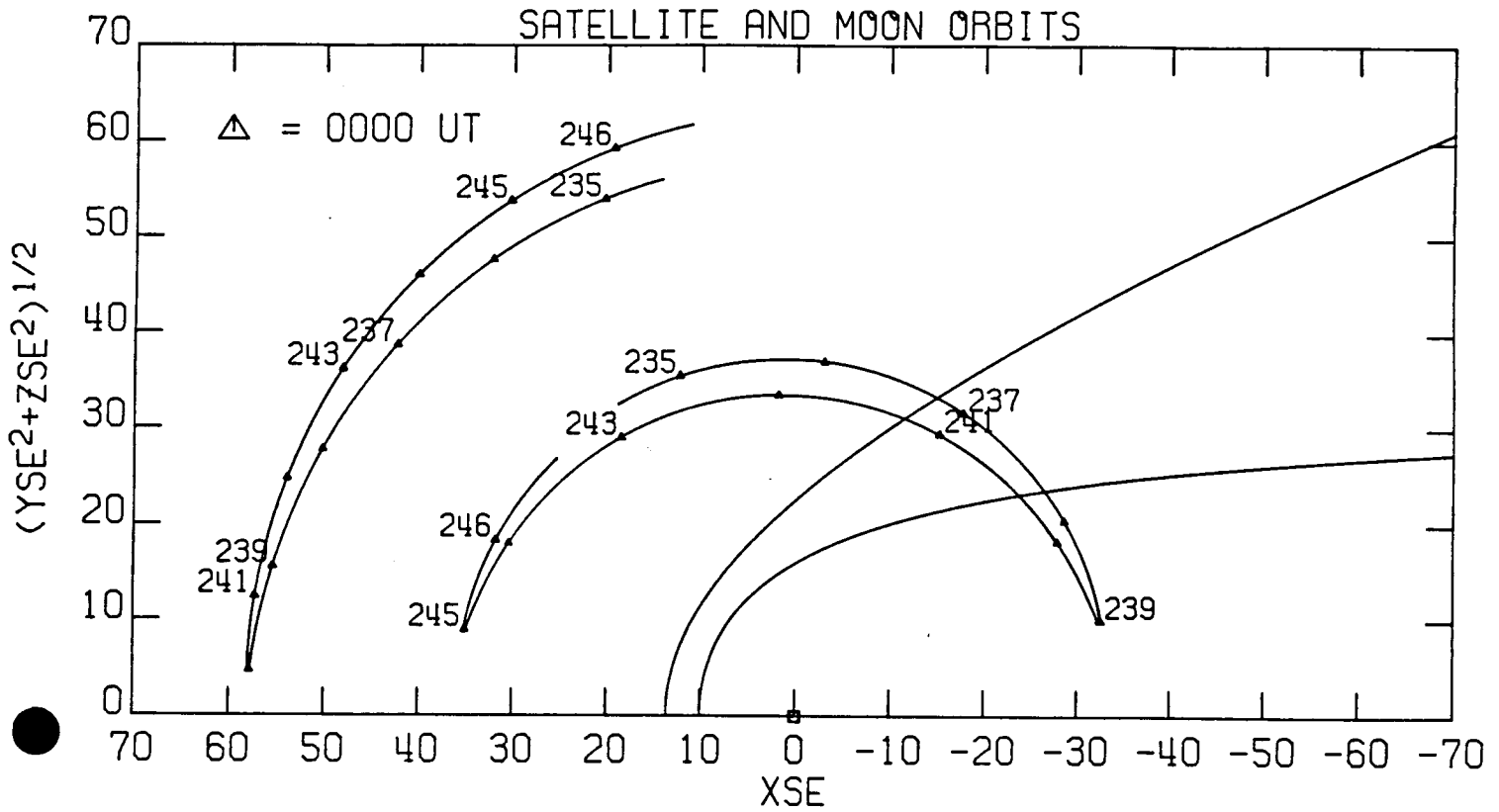
IMP 7 FROM AUG 22 TO SEP 3 1973



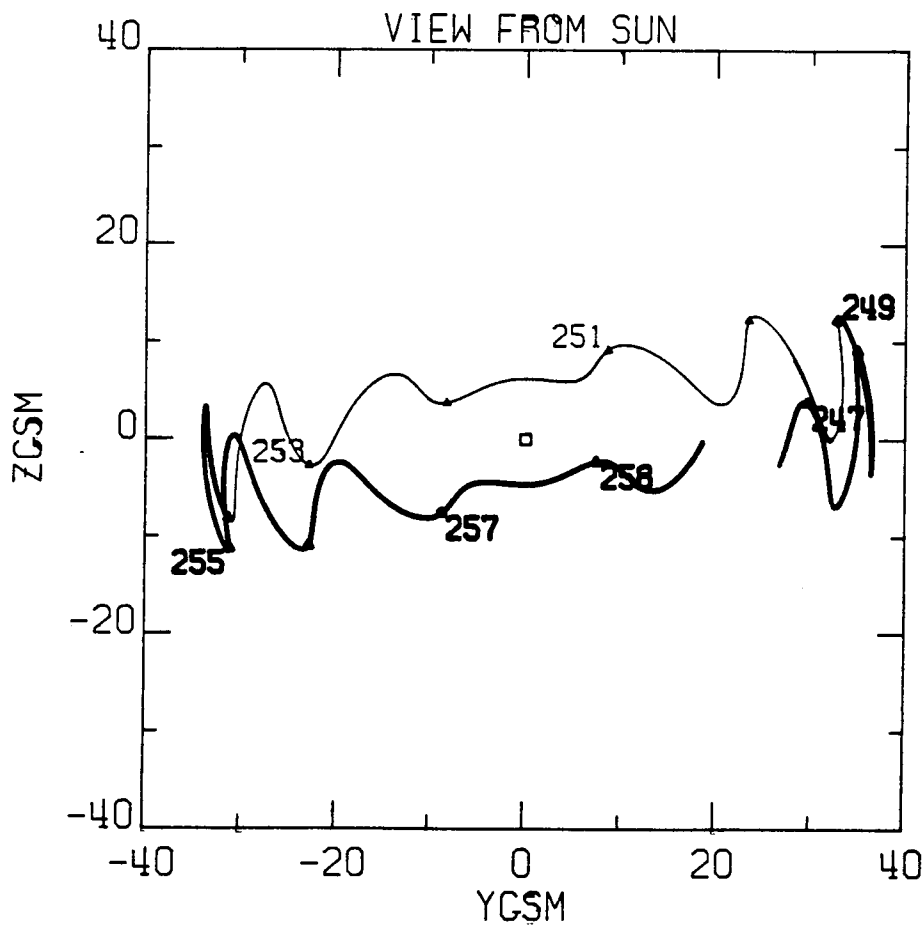
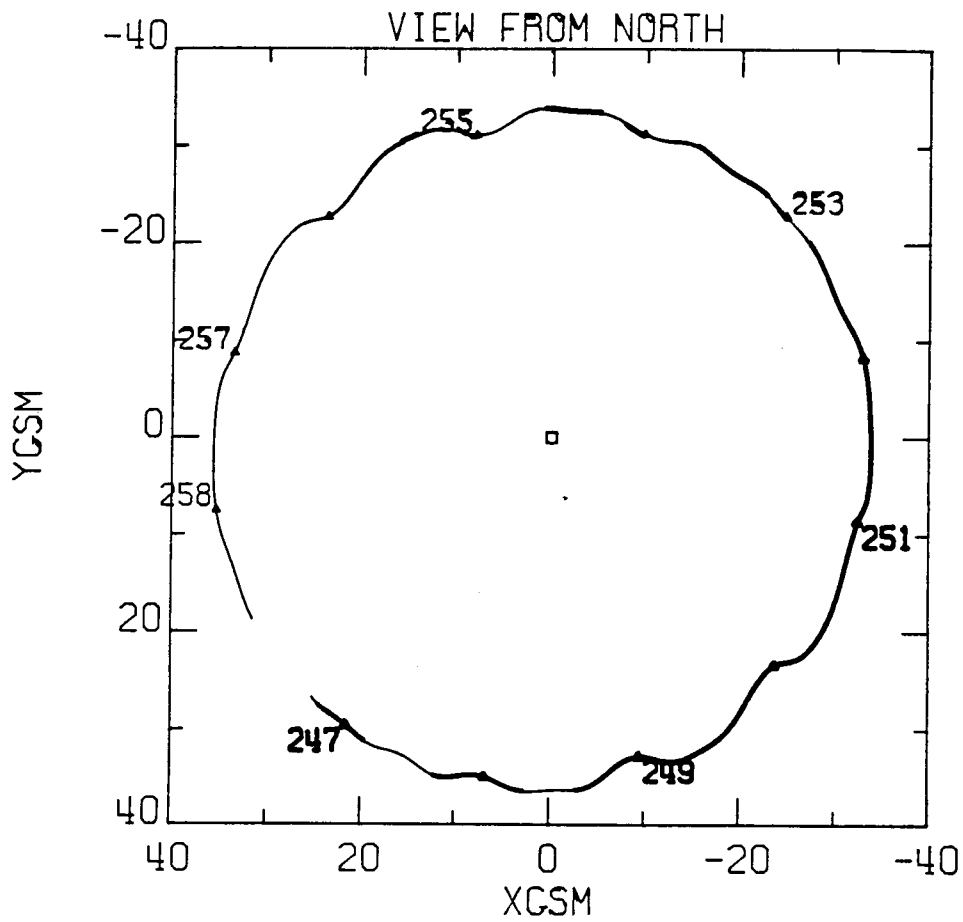
IMP 7 TRAJECTORY. ASCENDING NODE 28

FROM AUG 22 TO SEP 3 1973

DAYS 234 THRU 246



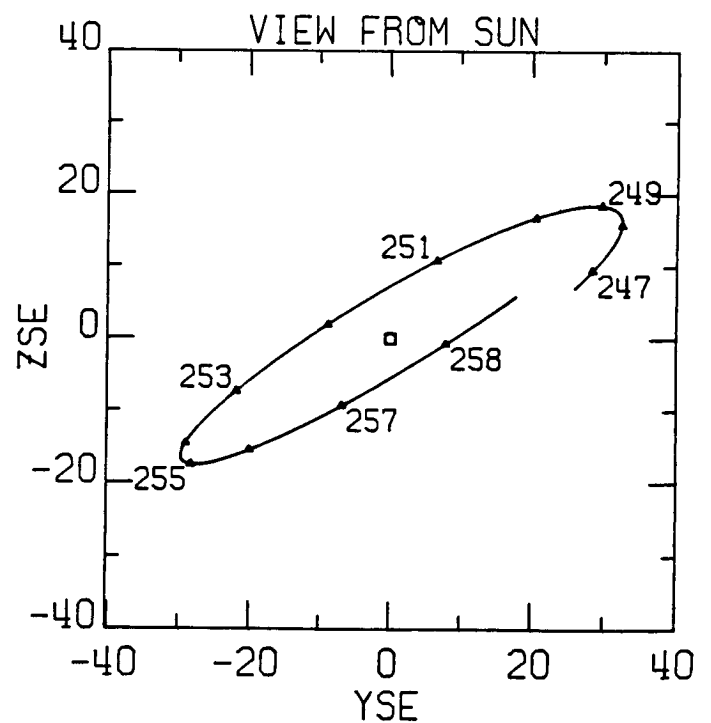
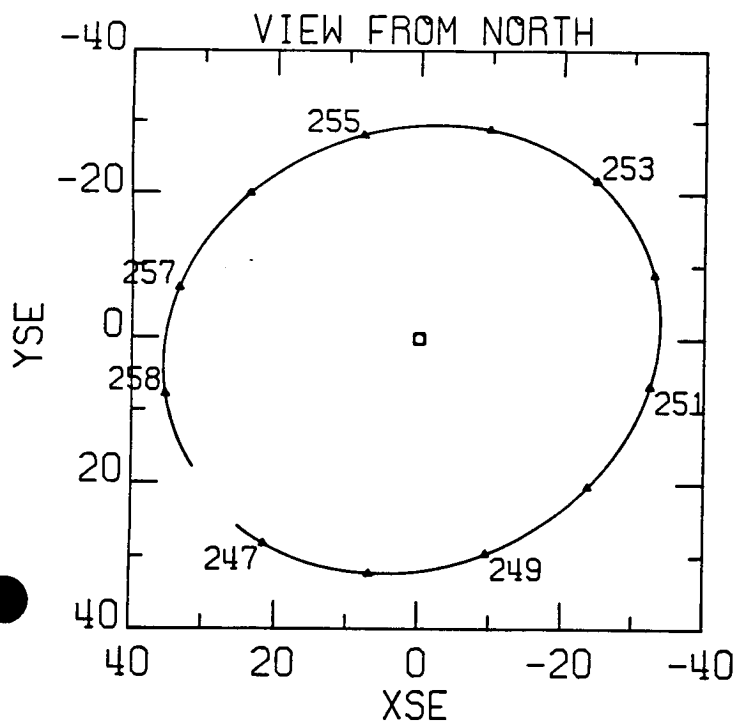
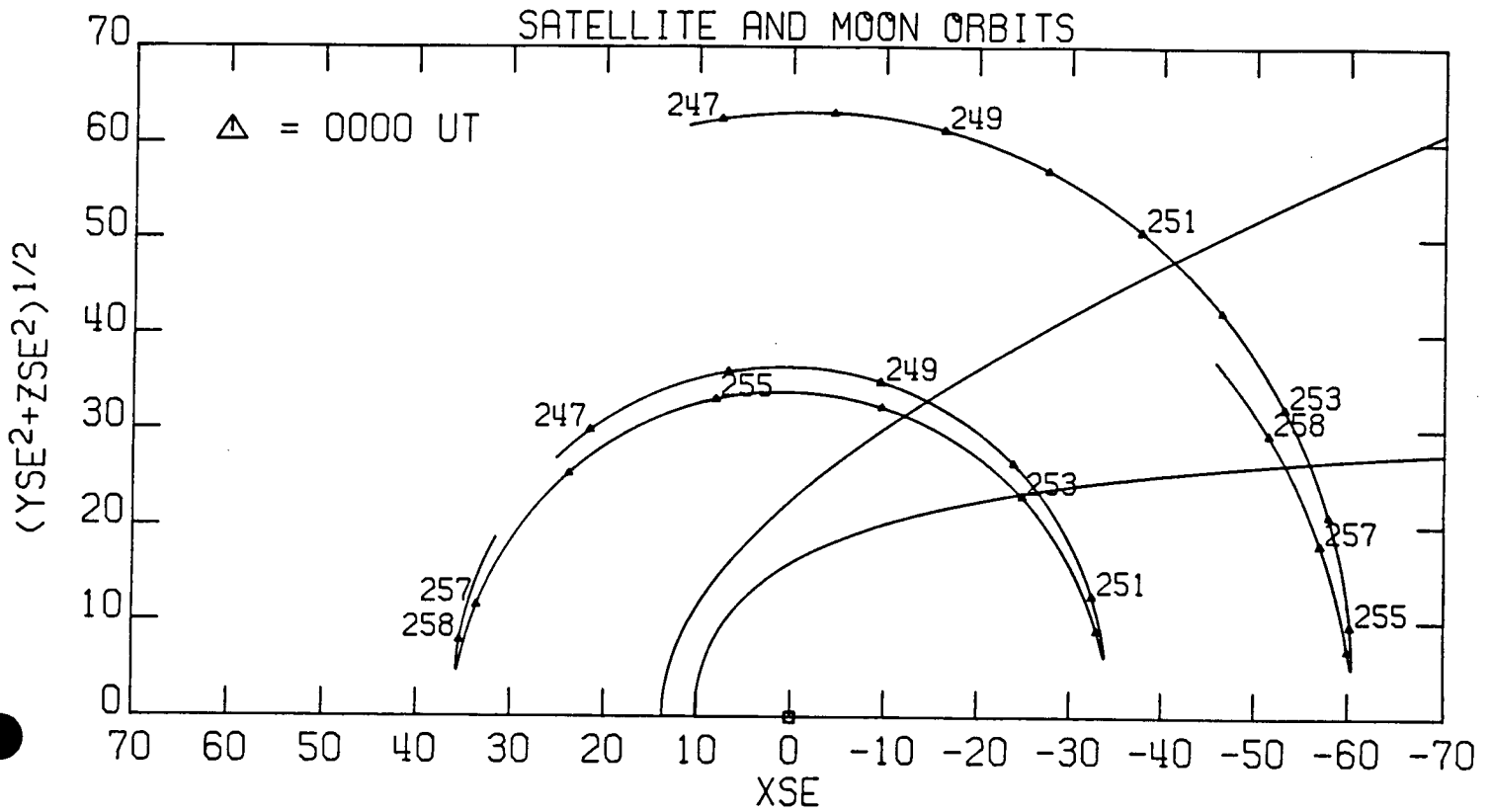
IMP 7 FROM SEP 3 TO SEP 15 1973



IMP 7 TRAJECTORY. ASCENDING NODE 29

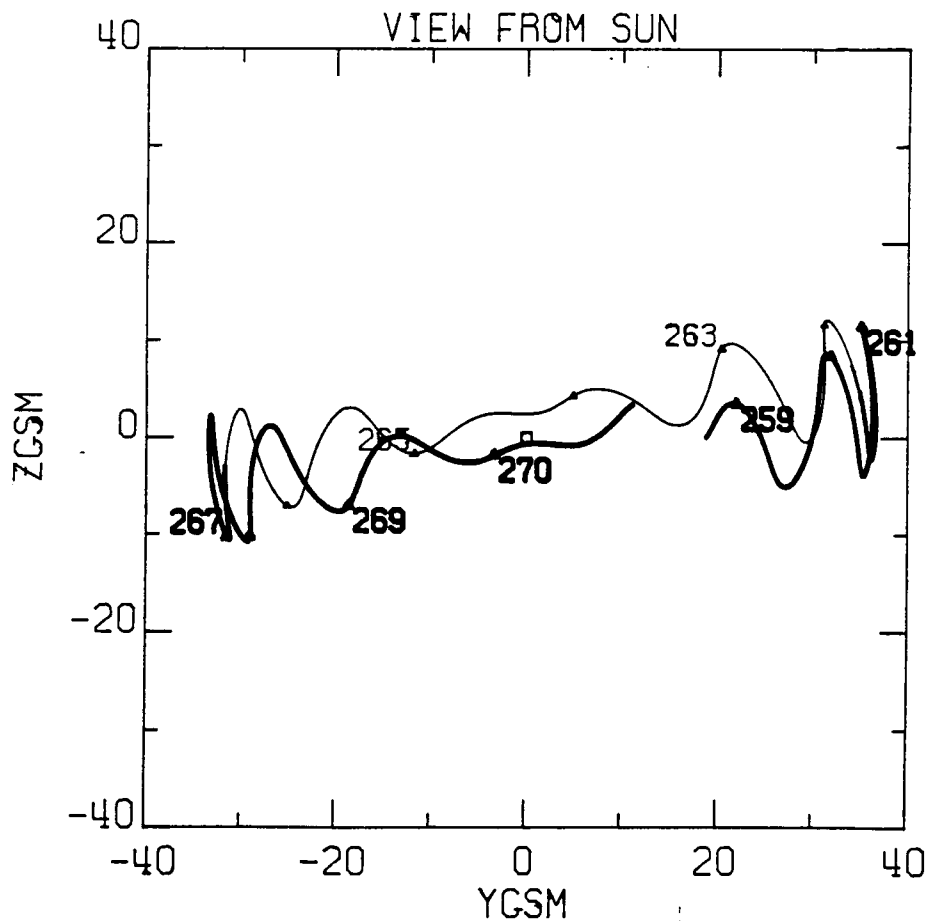
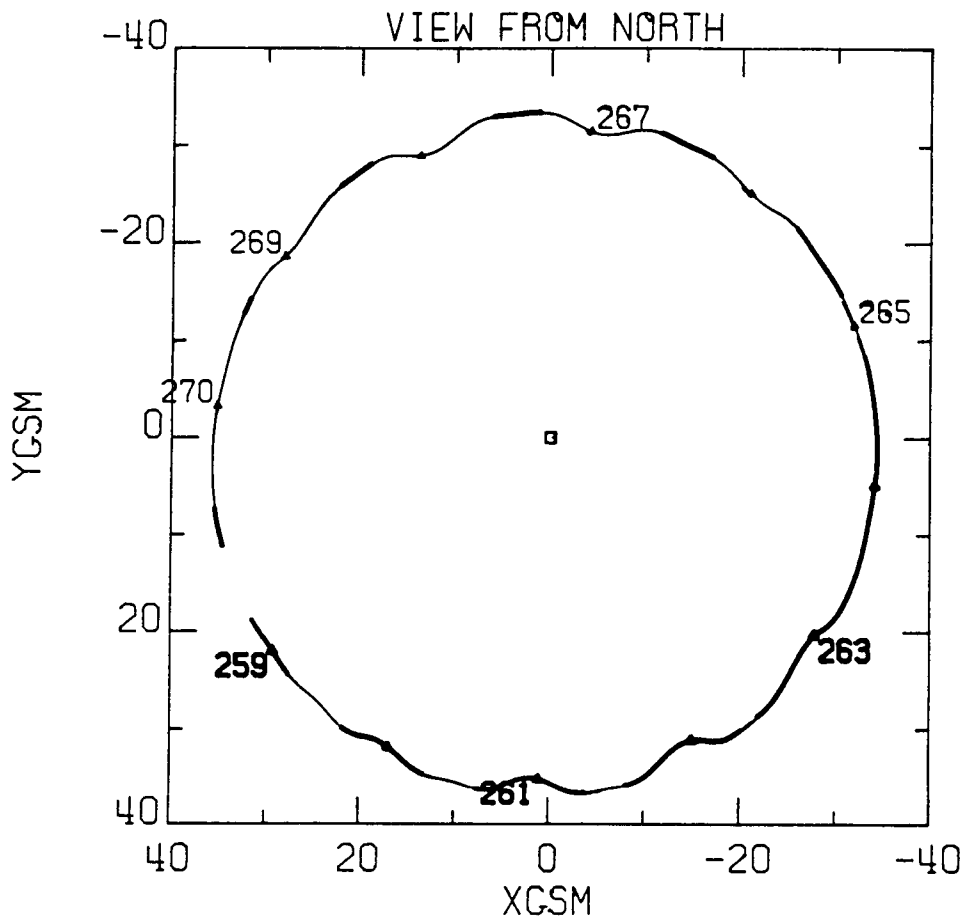
FROM SEP 3 TO SEP 15 1973

DAYS 246 THRU 258



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IMP 7 FROM SEP 15 TO SEP 27 1973

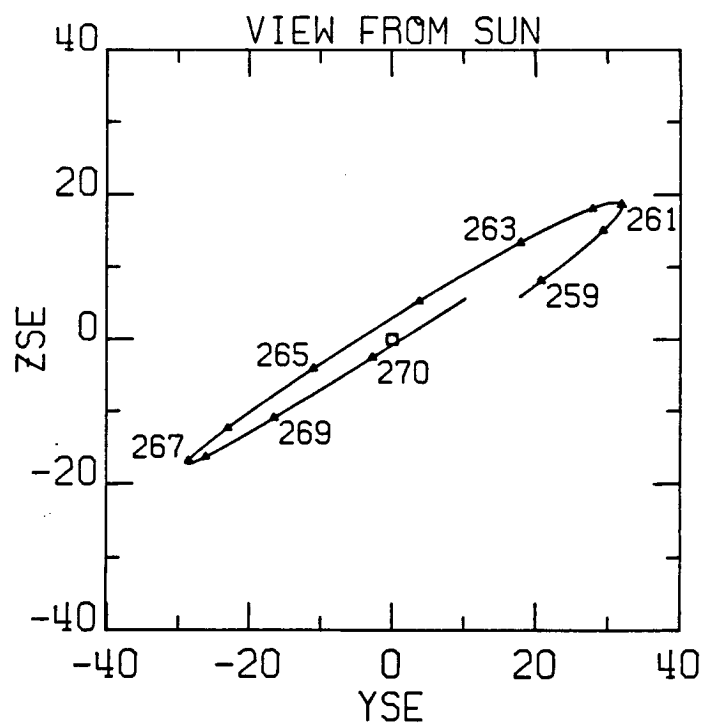
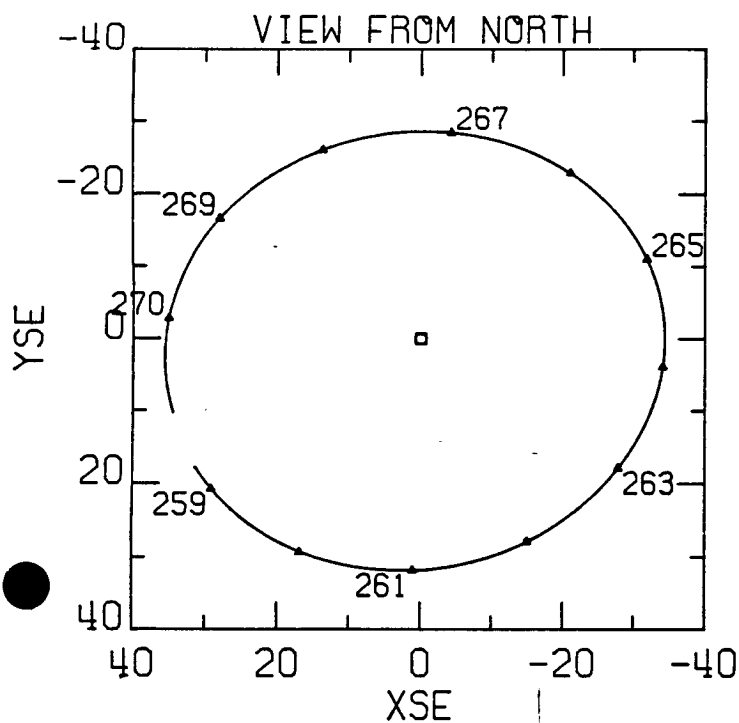
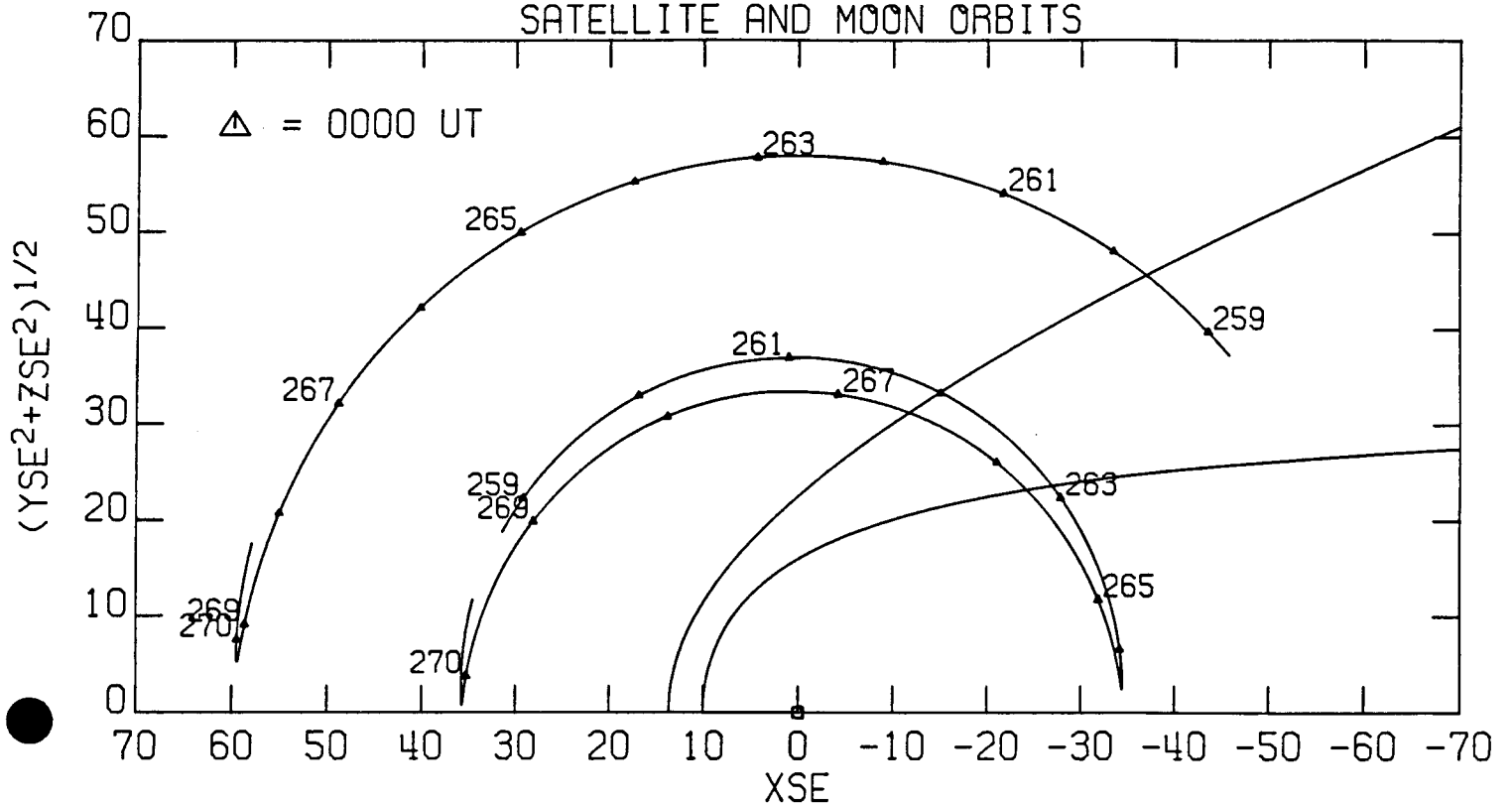


IMP 7 TRAJECTORY. ASCENDING NODE 30

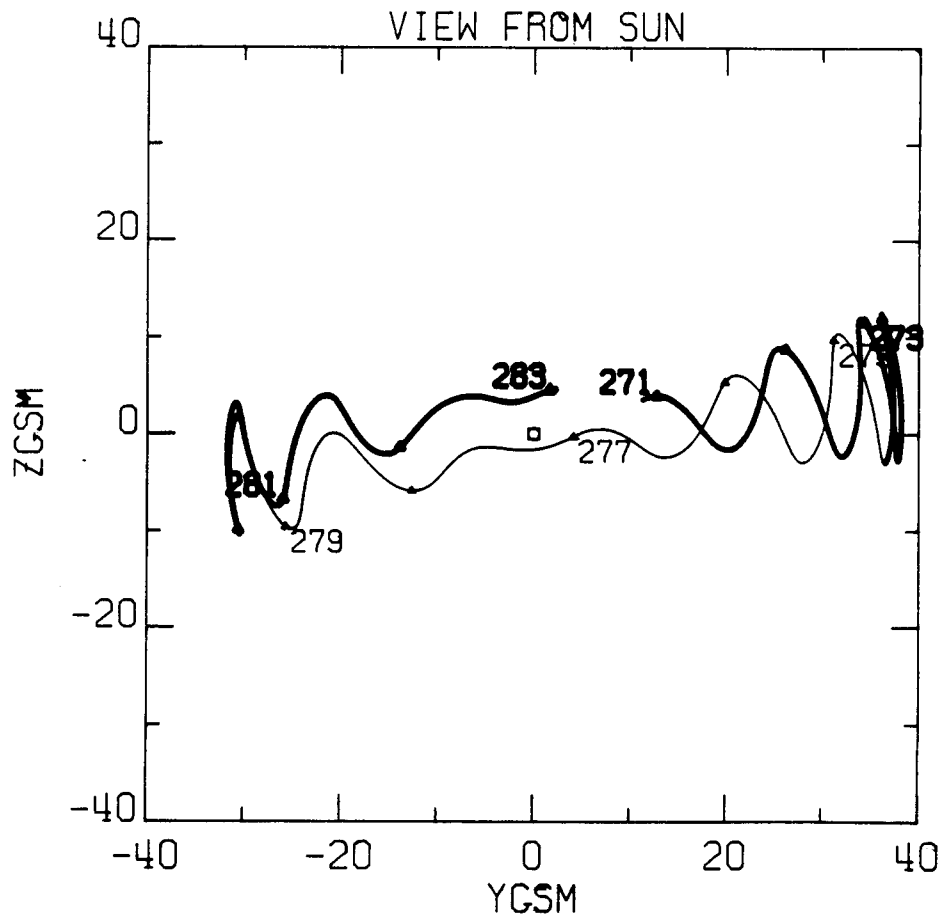
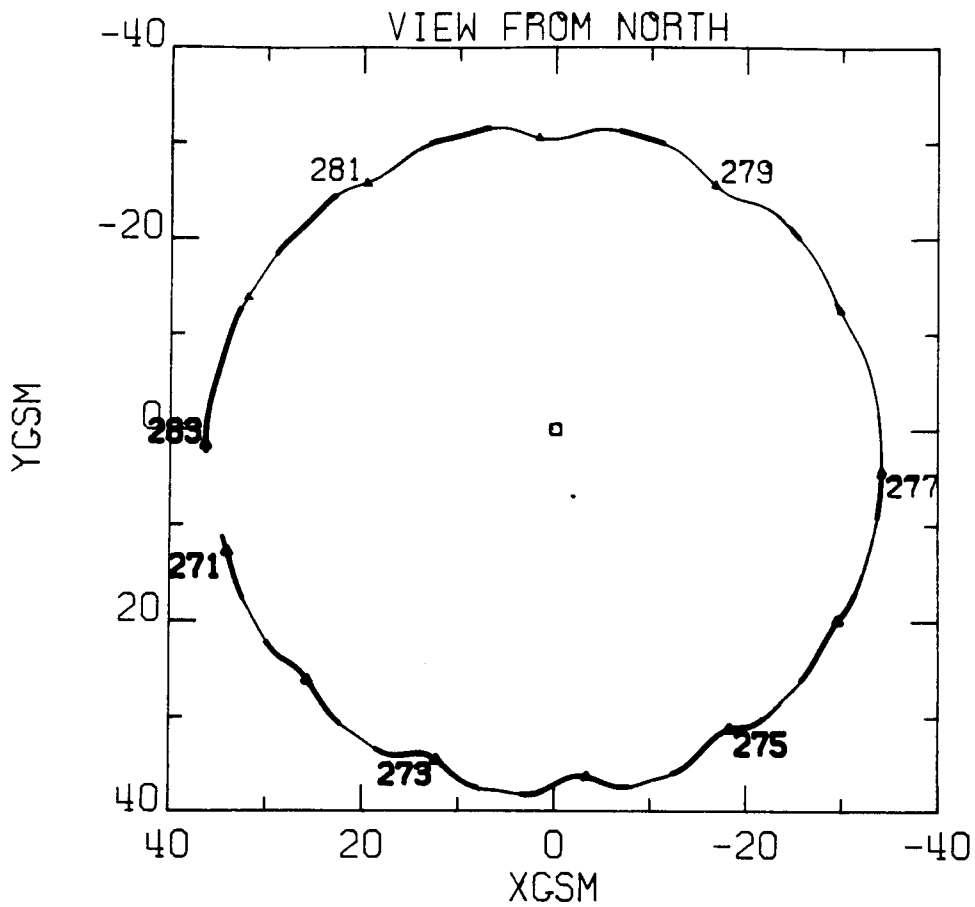
FROM SEP 15 TO SEP 27 1973

DAYS 258 THRU 270

SATELLITE AND MOON ORBITS

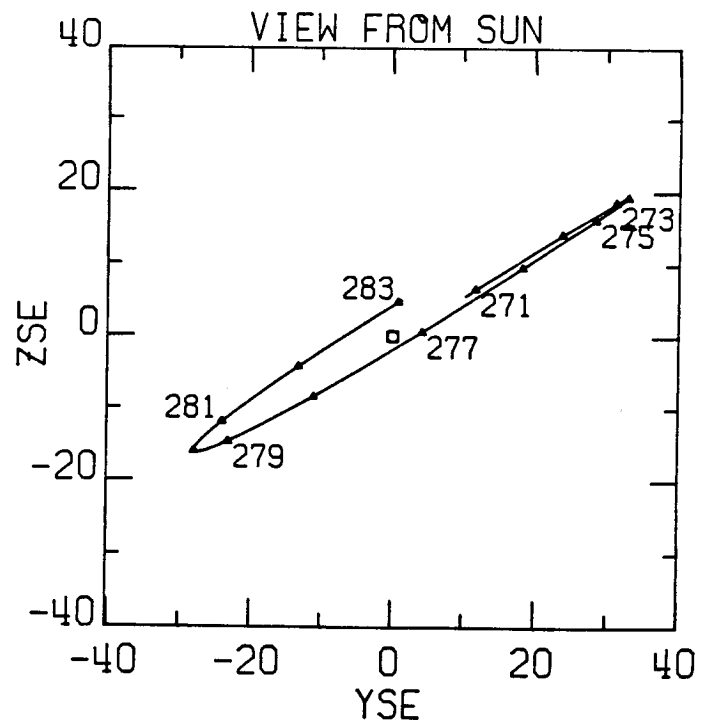
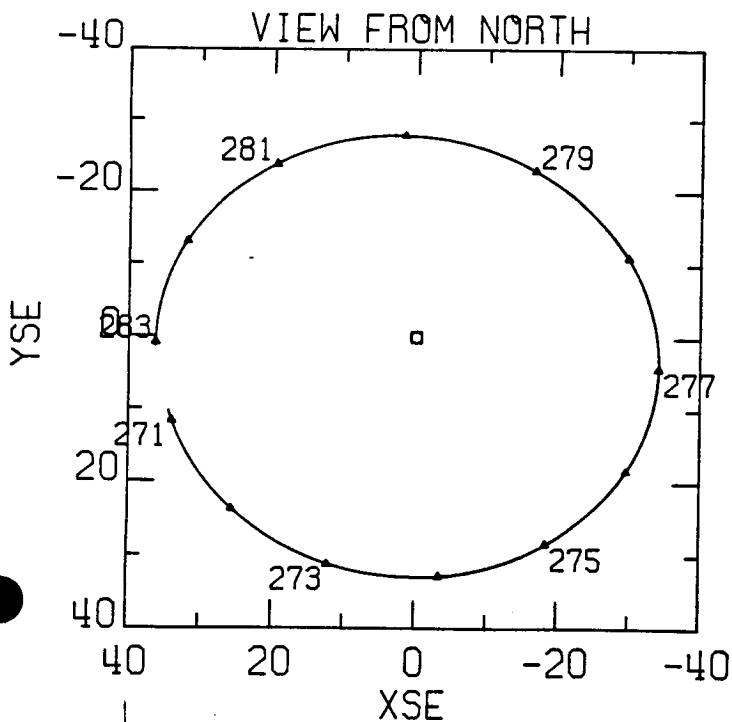
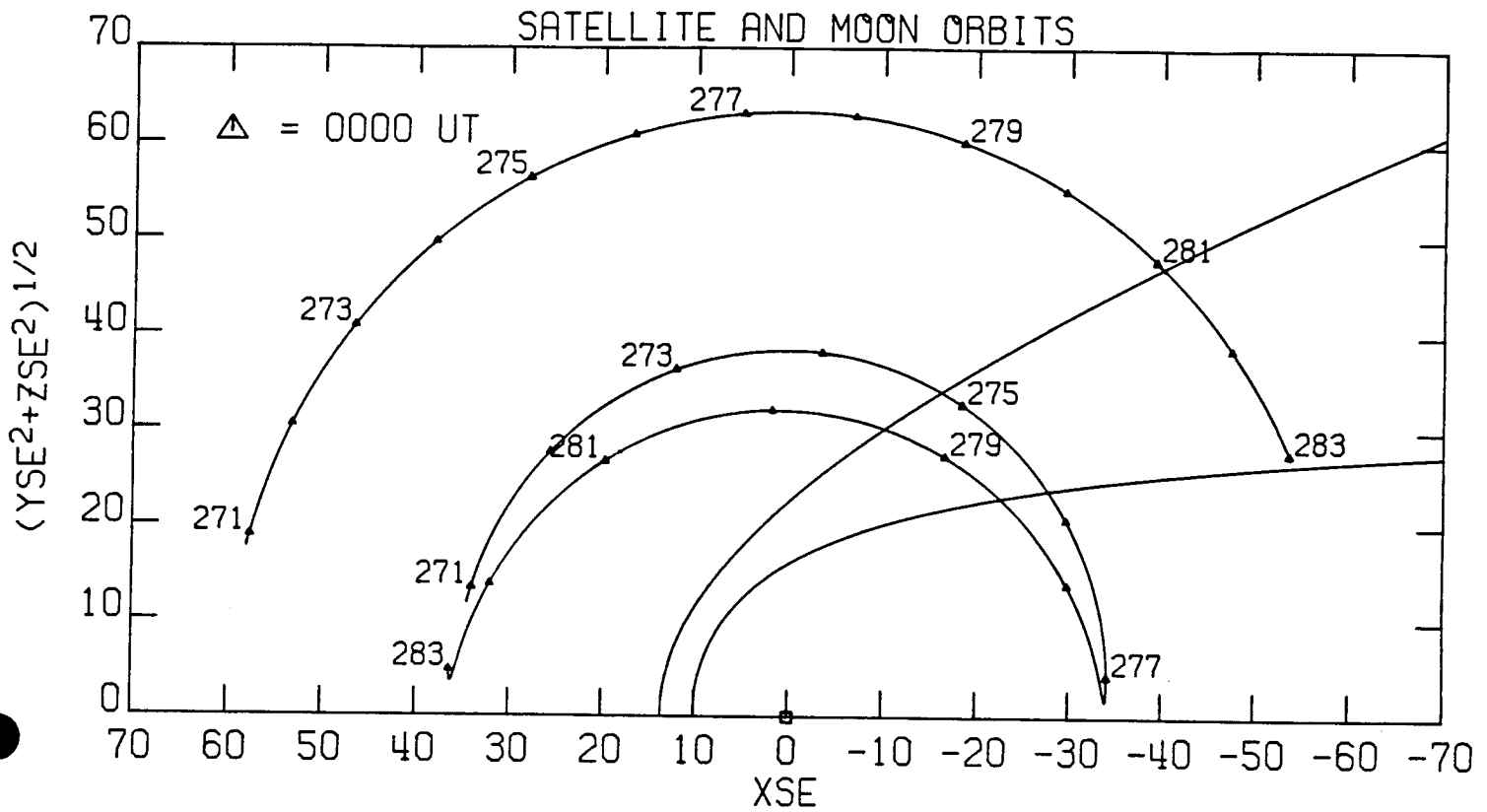


IMP 7 FROM SEP 27 TO OCT 10 1973

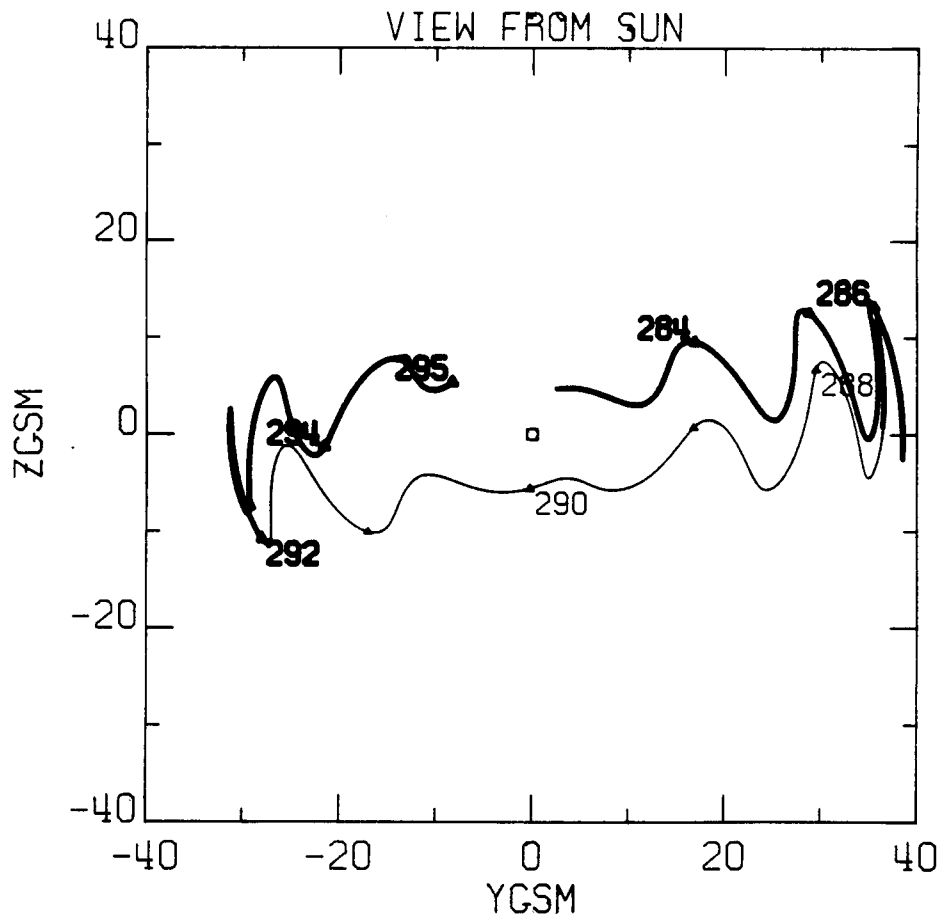
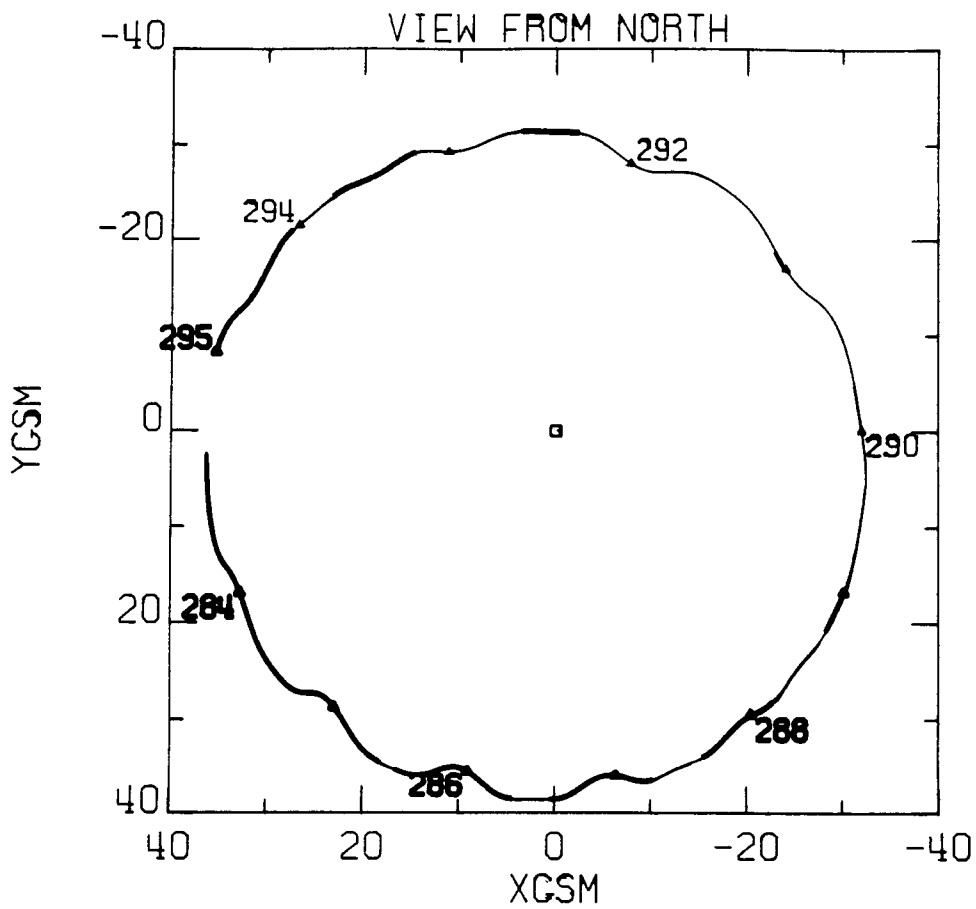


FROM SEP 27 TO OCT 10 1973

DAYS 270 THRU 283



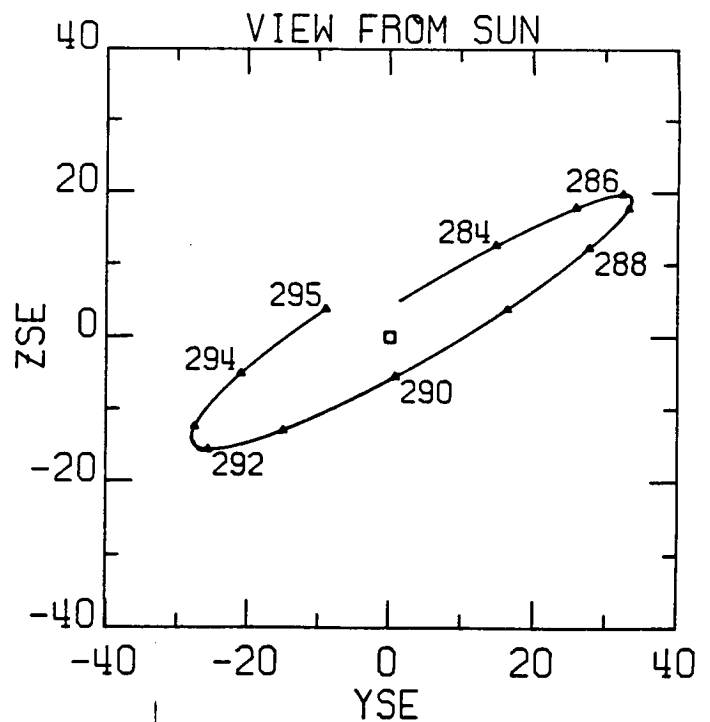
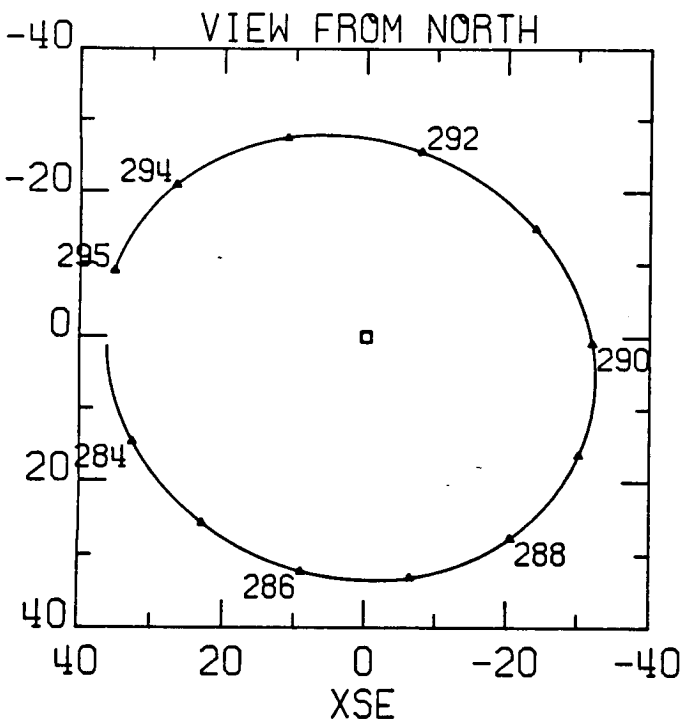
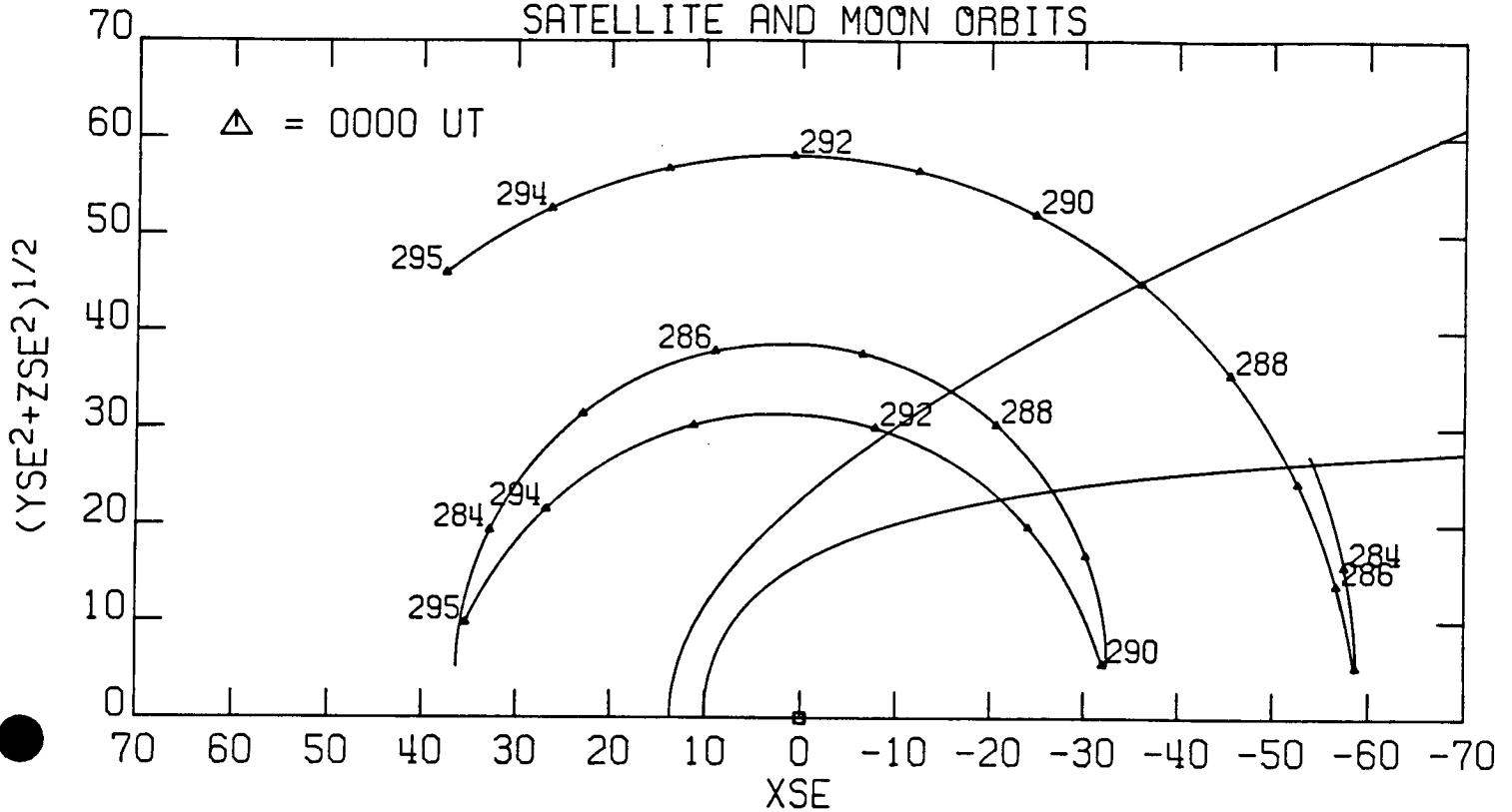
IMP 7 FROM OCT 10 TO OCT 22 1973



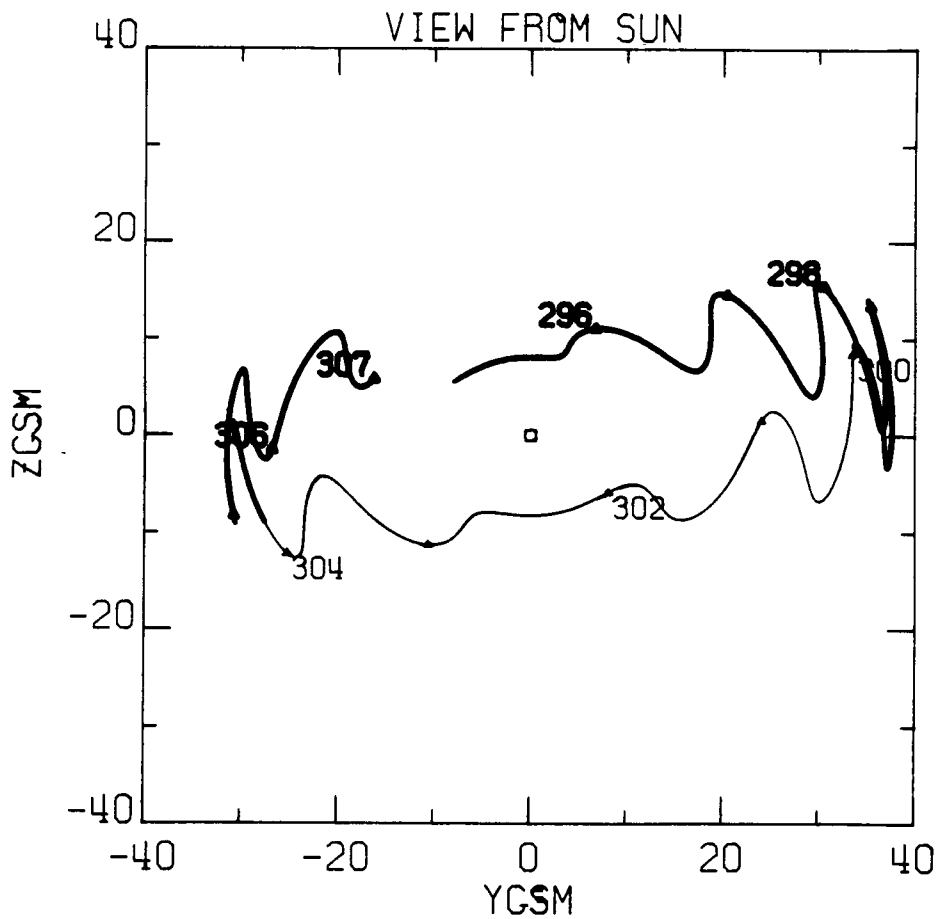
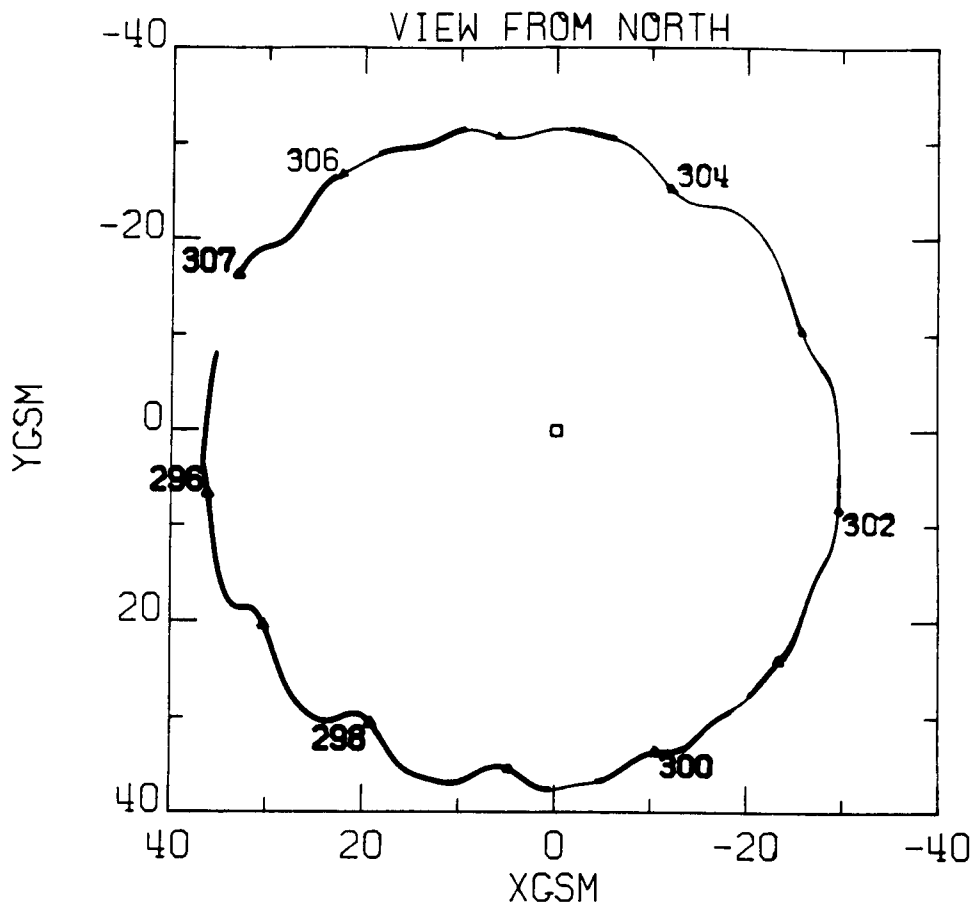
FROM OCT 10 TO OCT 22 1973

DAYS 283 THRU 295

SATELLITE AND MOON ORBITS

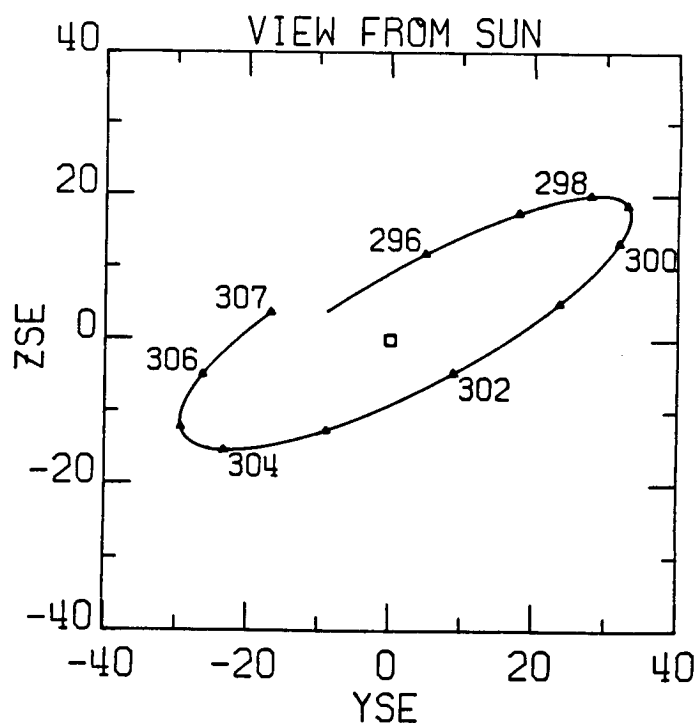
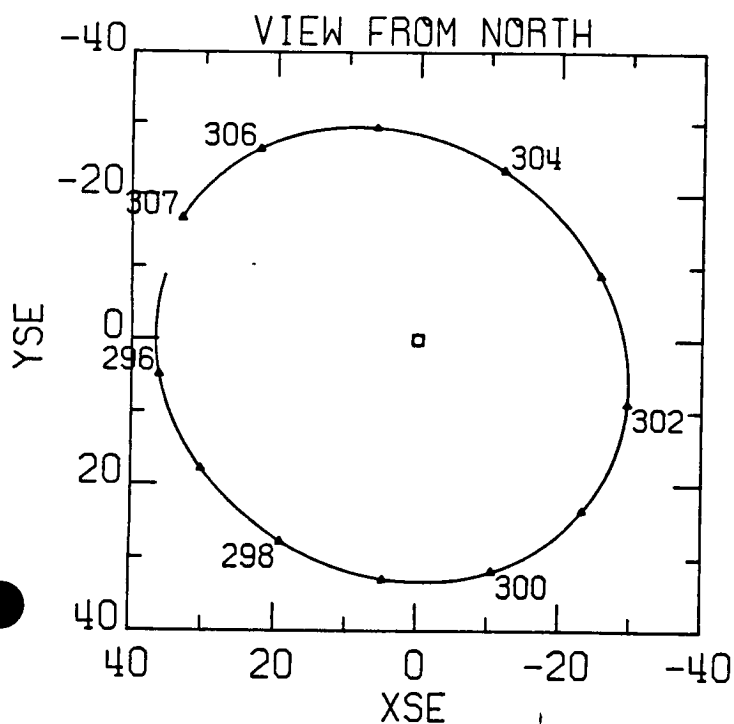
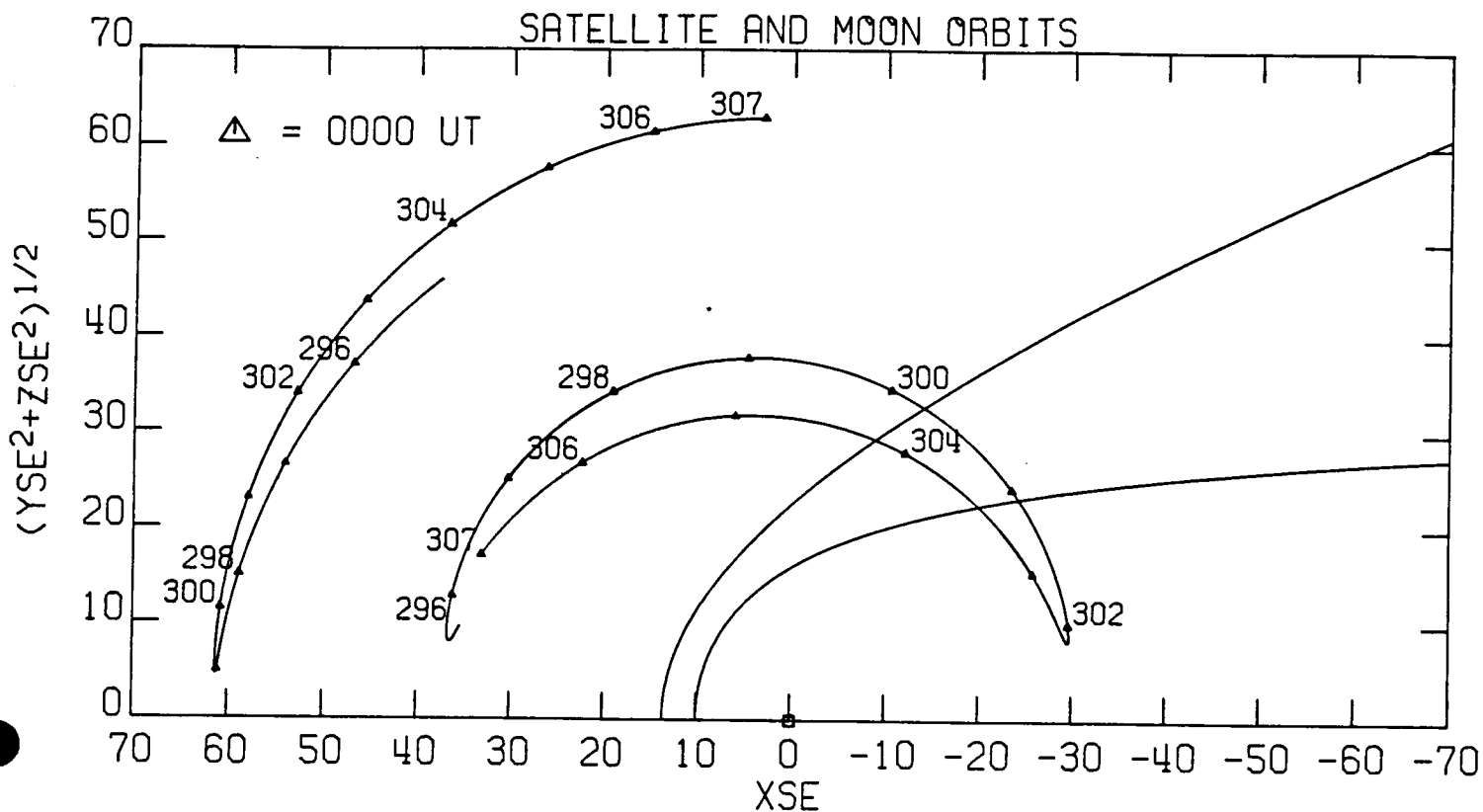


IMP 7 FROM OCT 22 TO NOV 3 1973

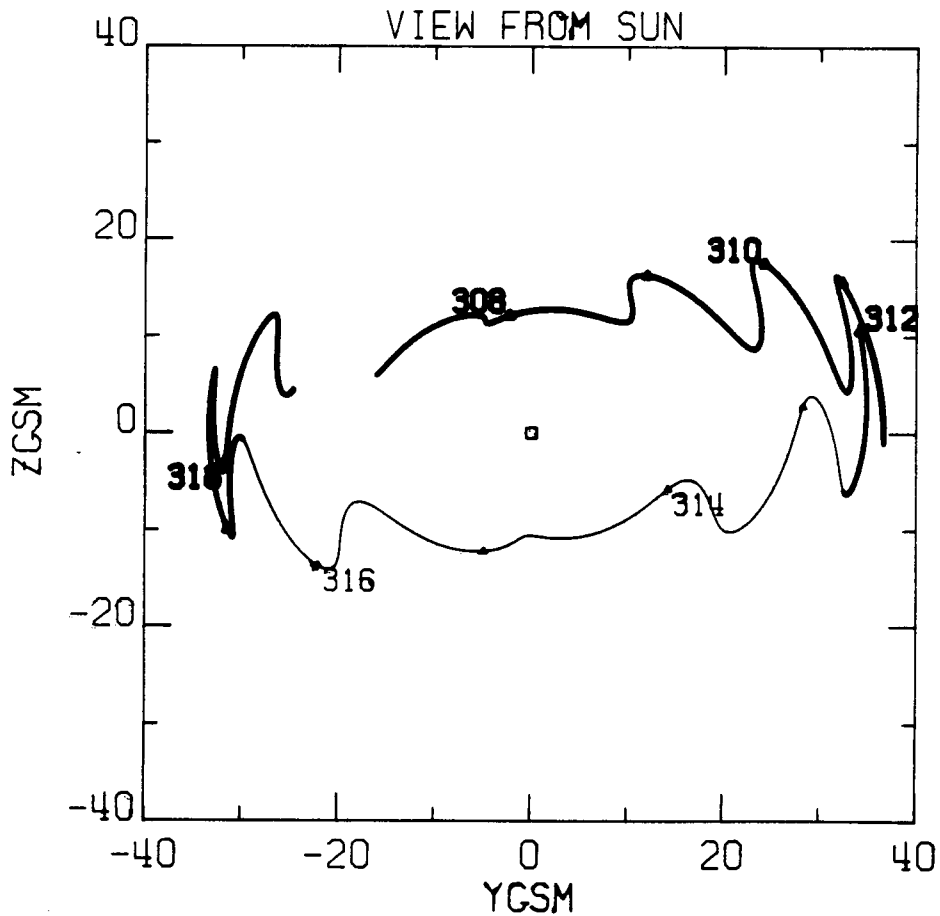
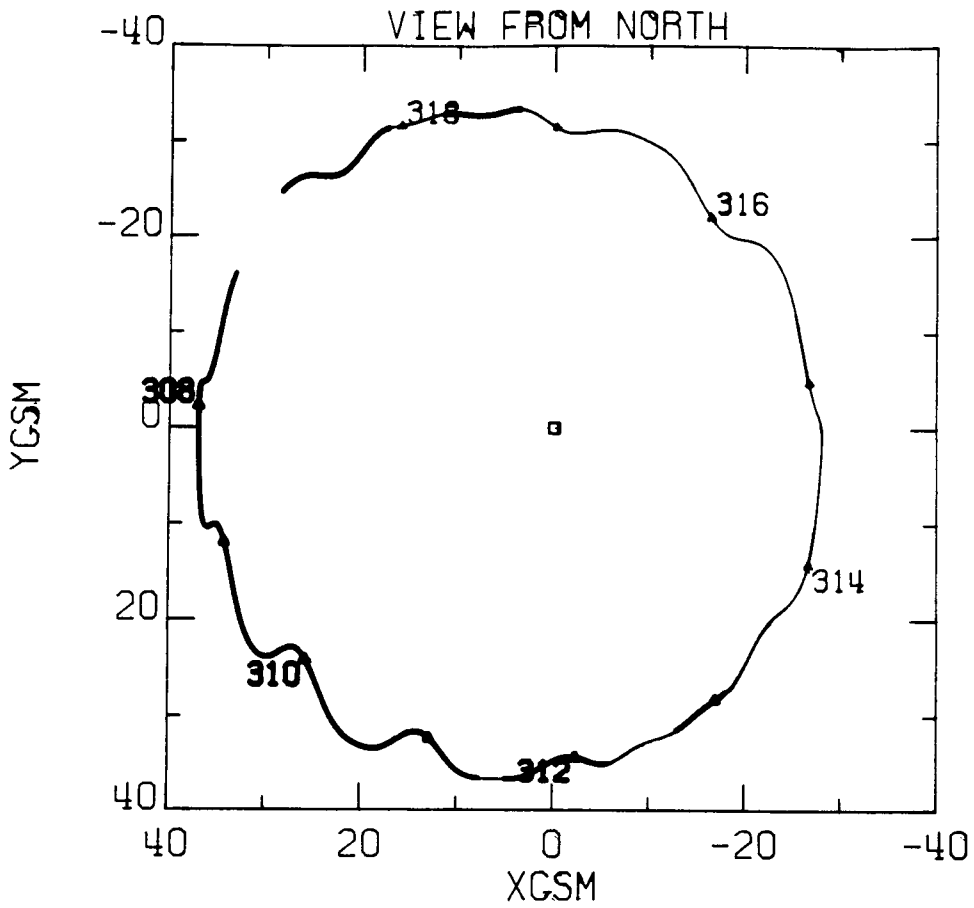


FROM OCT 22 TO NOV 3 1973

DAYS 295 THRU 307



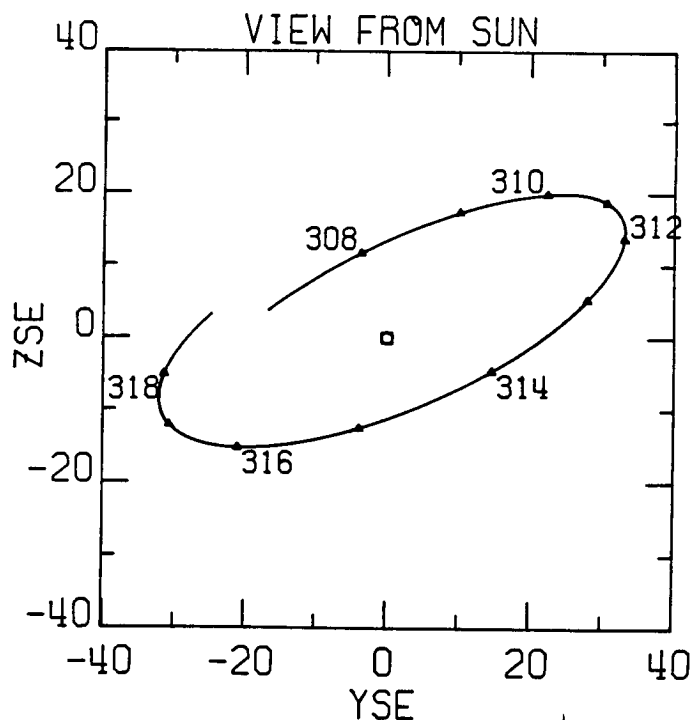
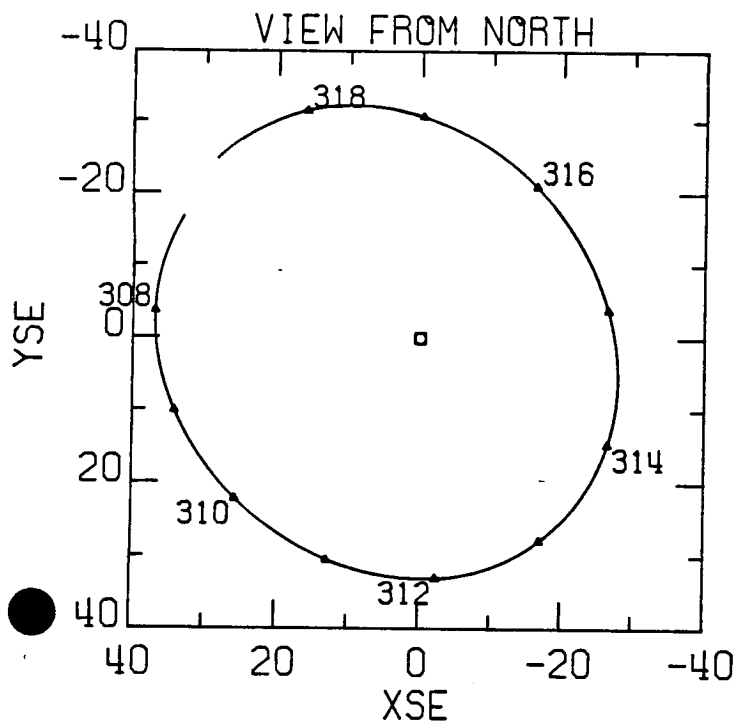
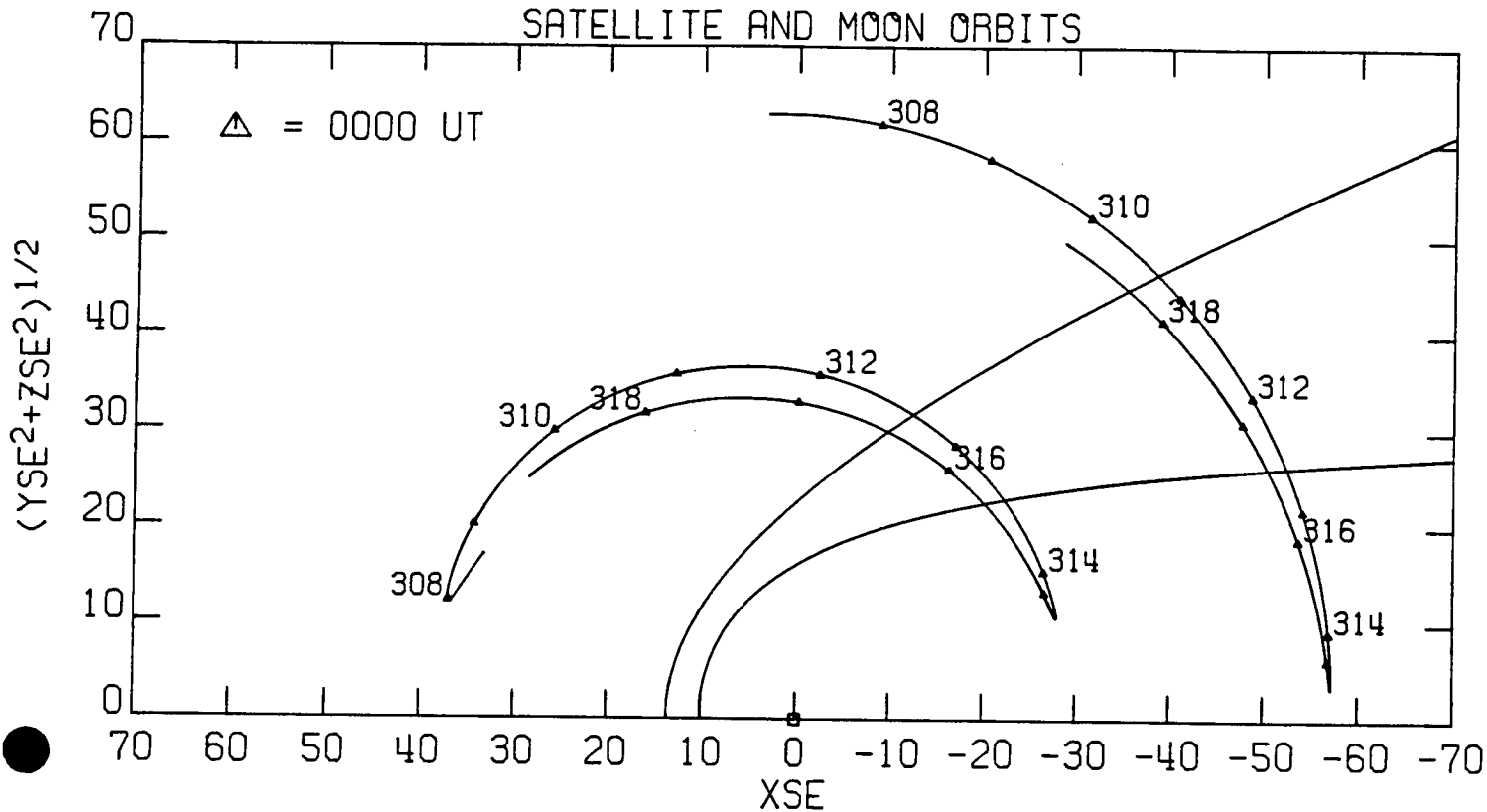
IMP 7 FROM NOV 3 TO NOV 14 1973



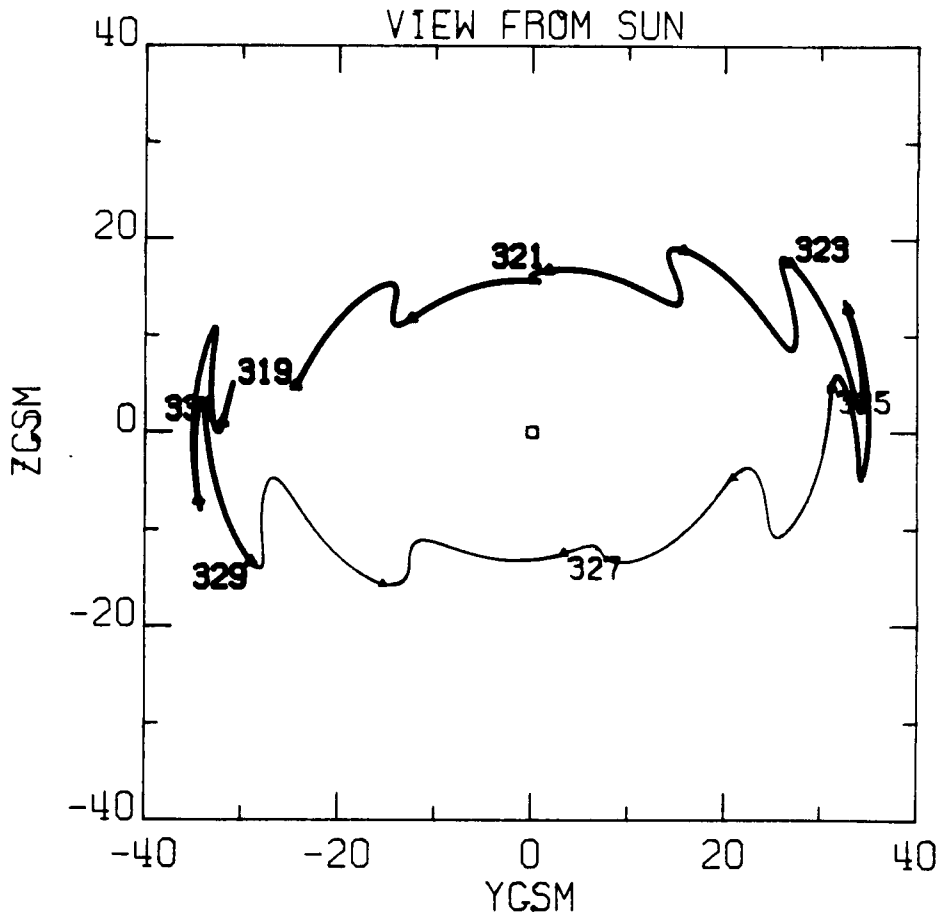
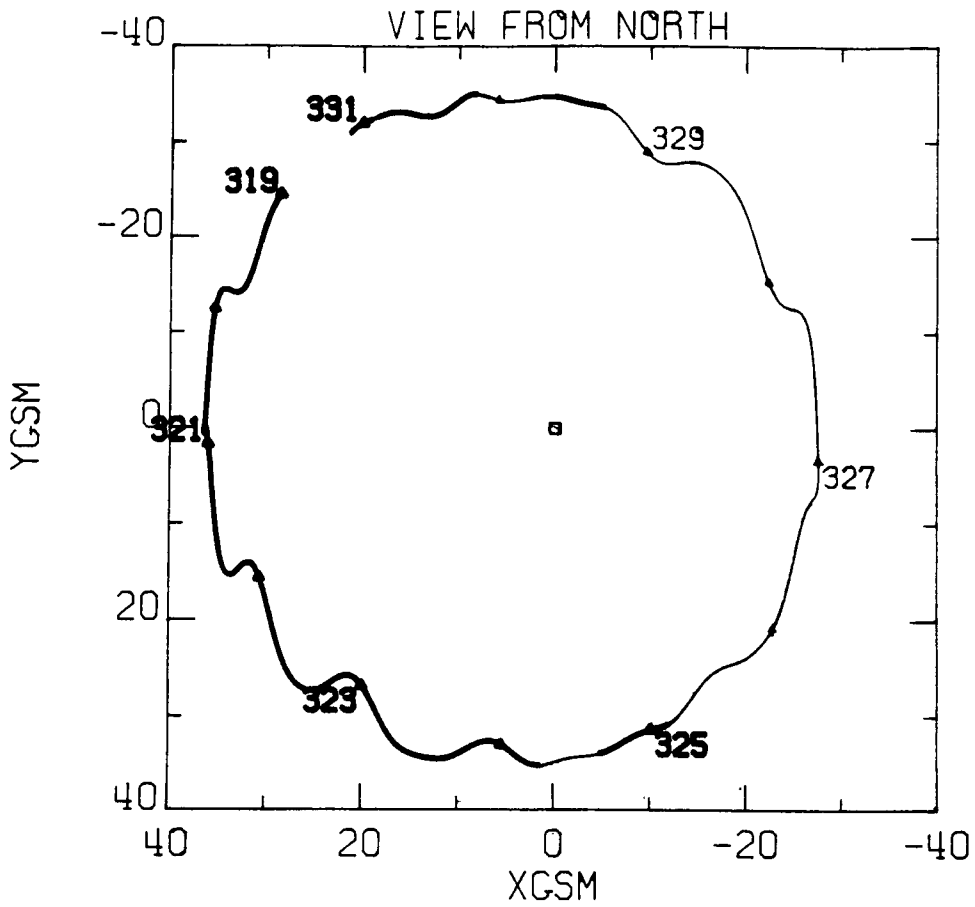
FROM NOV 3 TO NOV 14 1973

DAYS 307 THRU 318

SATELLITE AND MOON ORBITS



IMP 7 FROM NOV 14 TO NOV 27 1973

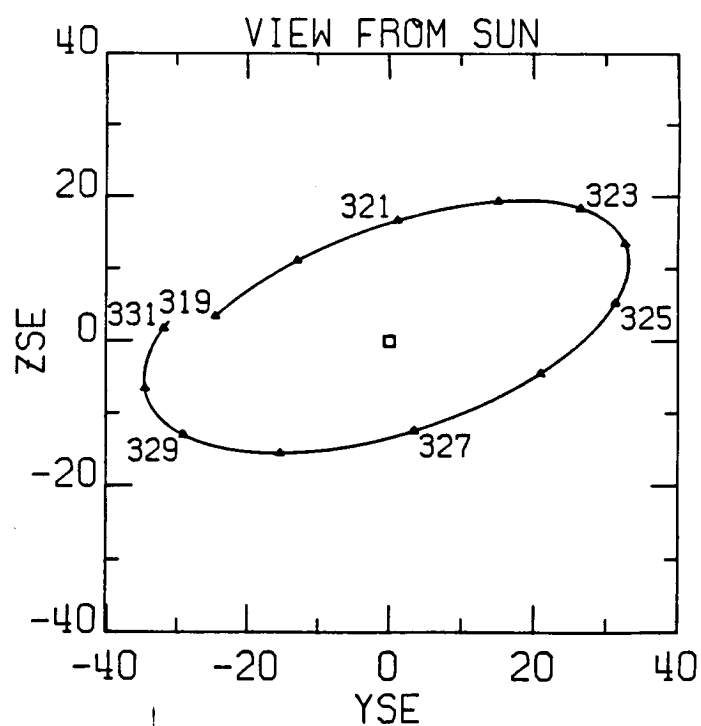
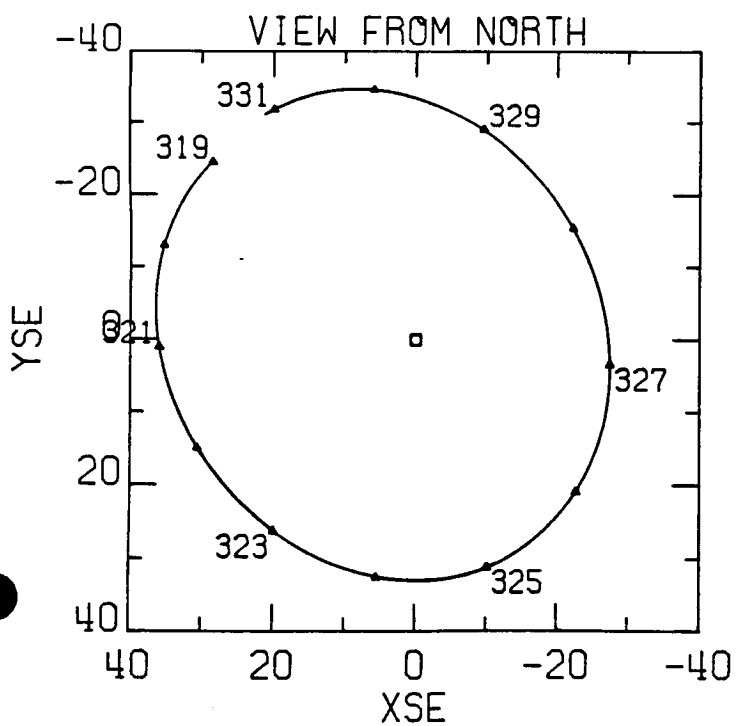
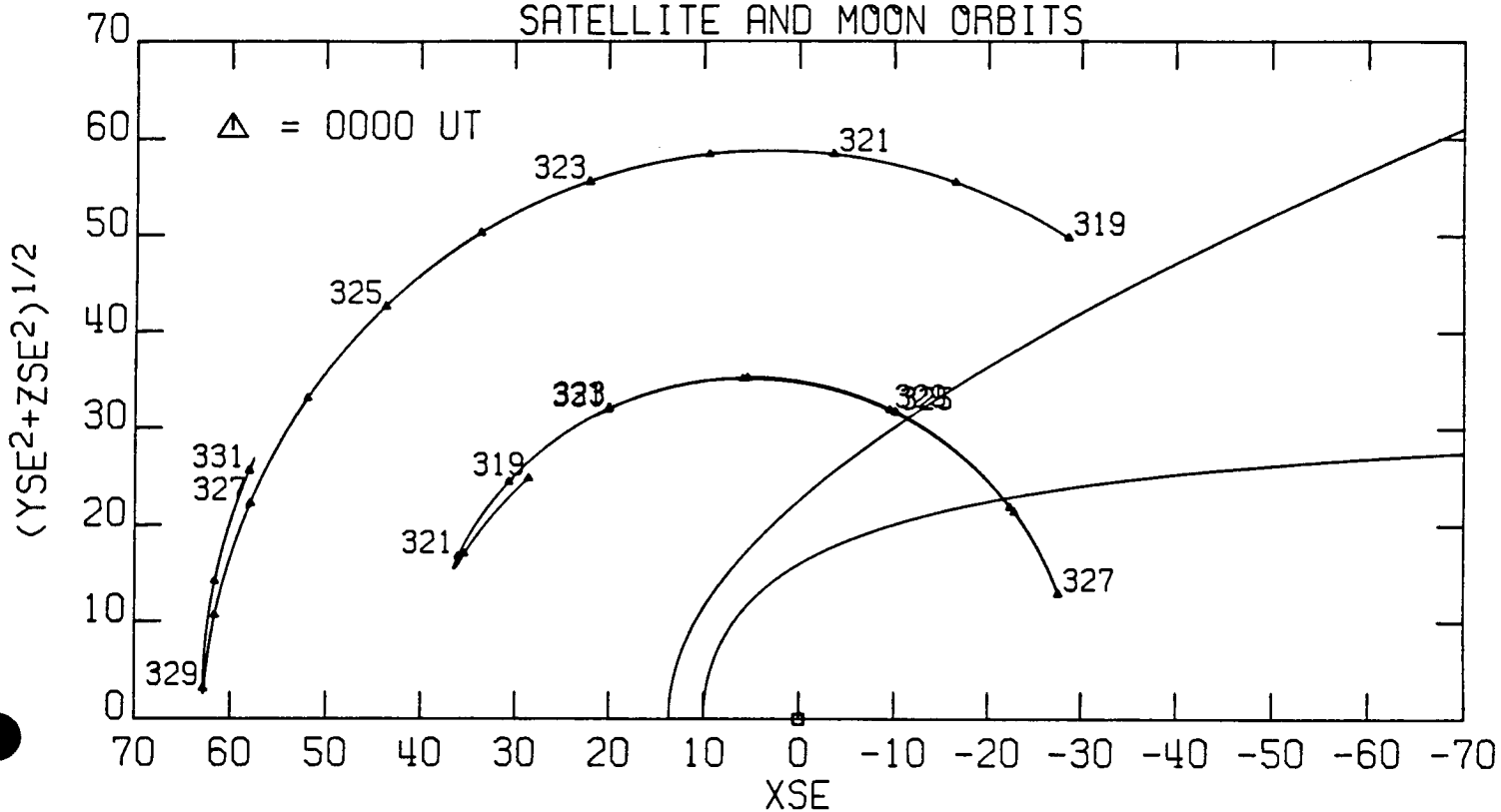


IMP 7 TRAJECTORY. ASCENDING NODE 35

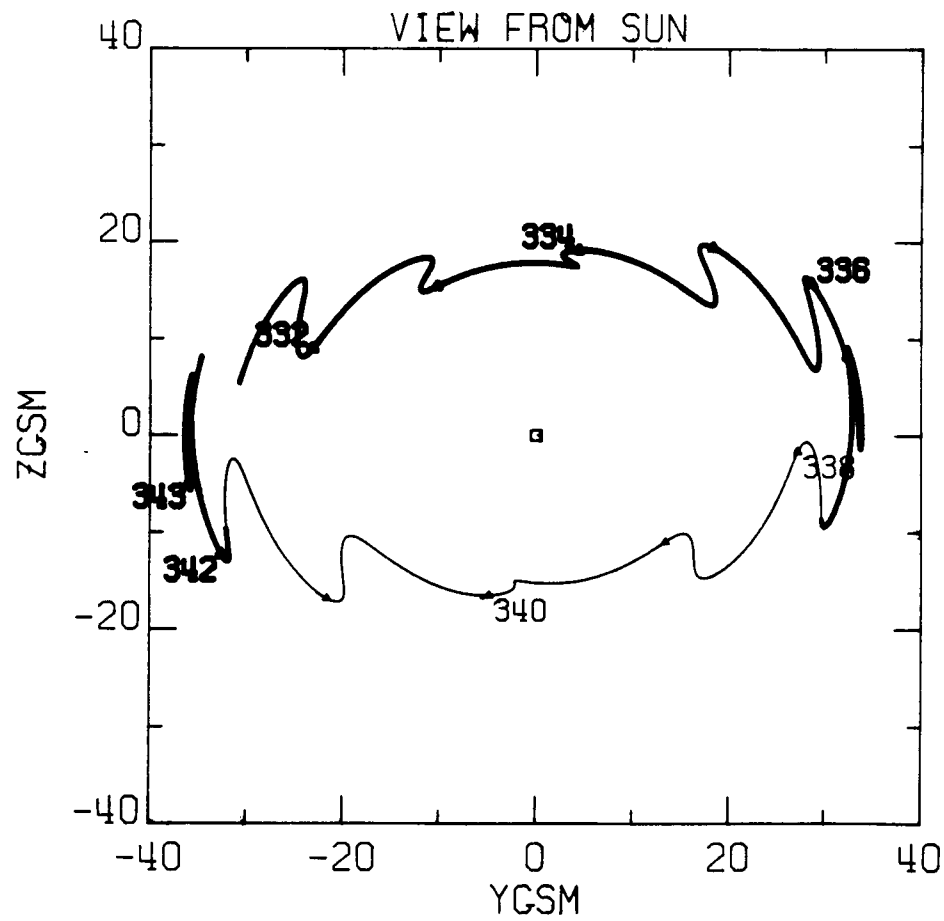
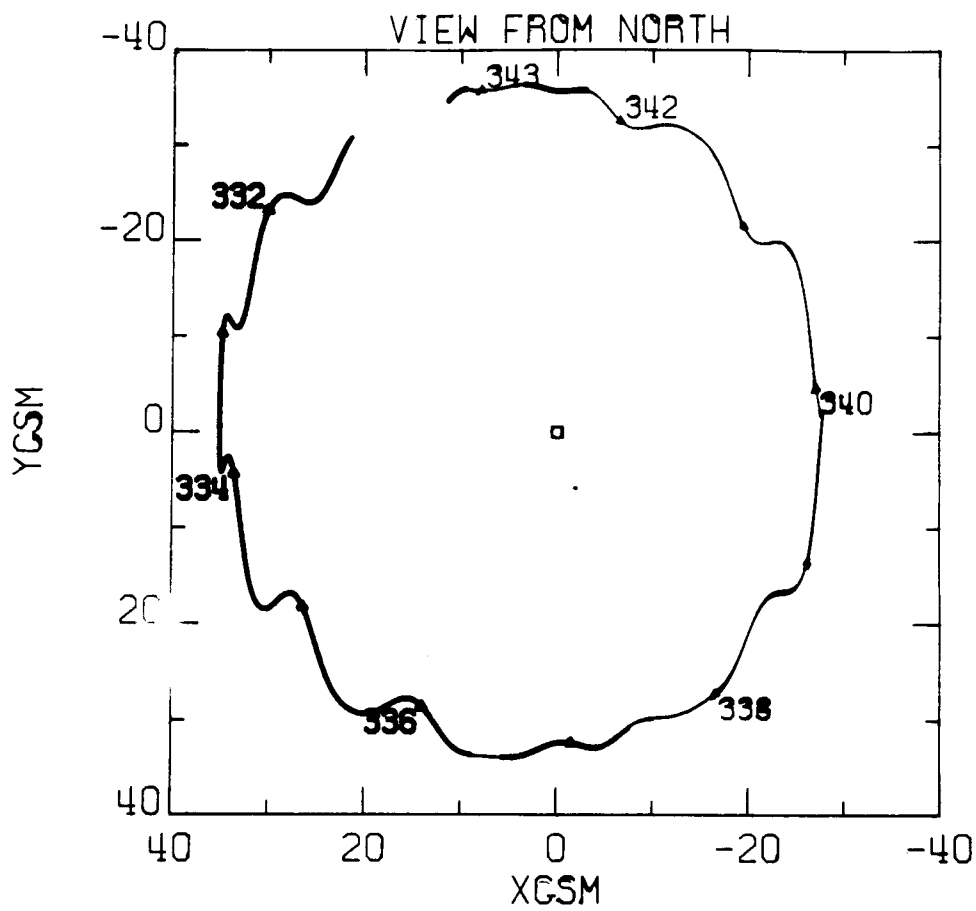
FROM NOV 14 TO NOV 27 1973

DAYS 318 THRU 331

SATELLITE AND MOON ORBITS



IMP 7 FROM NOV 27 TO DEC 9 1973

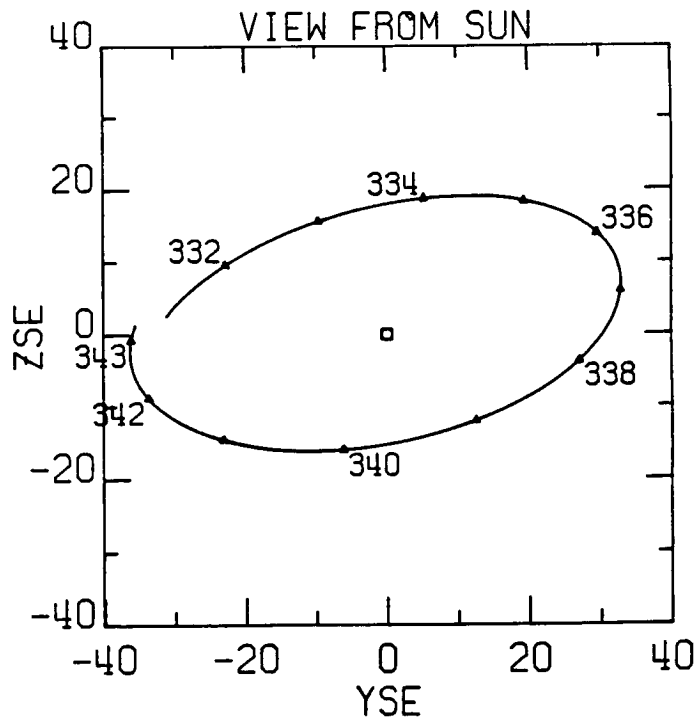
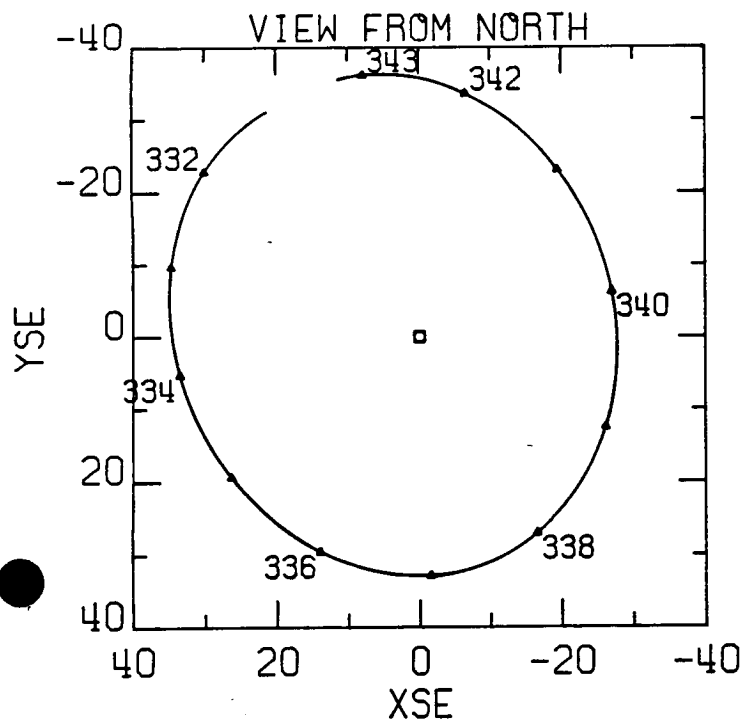
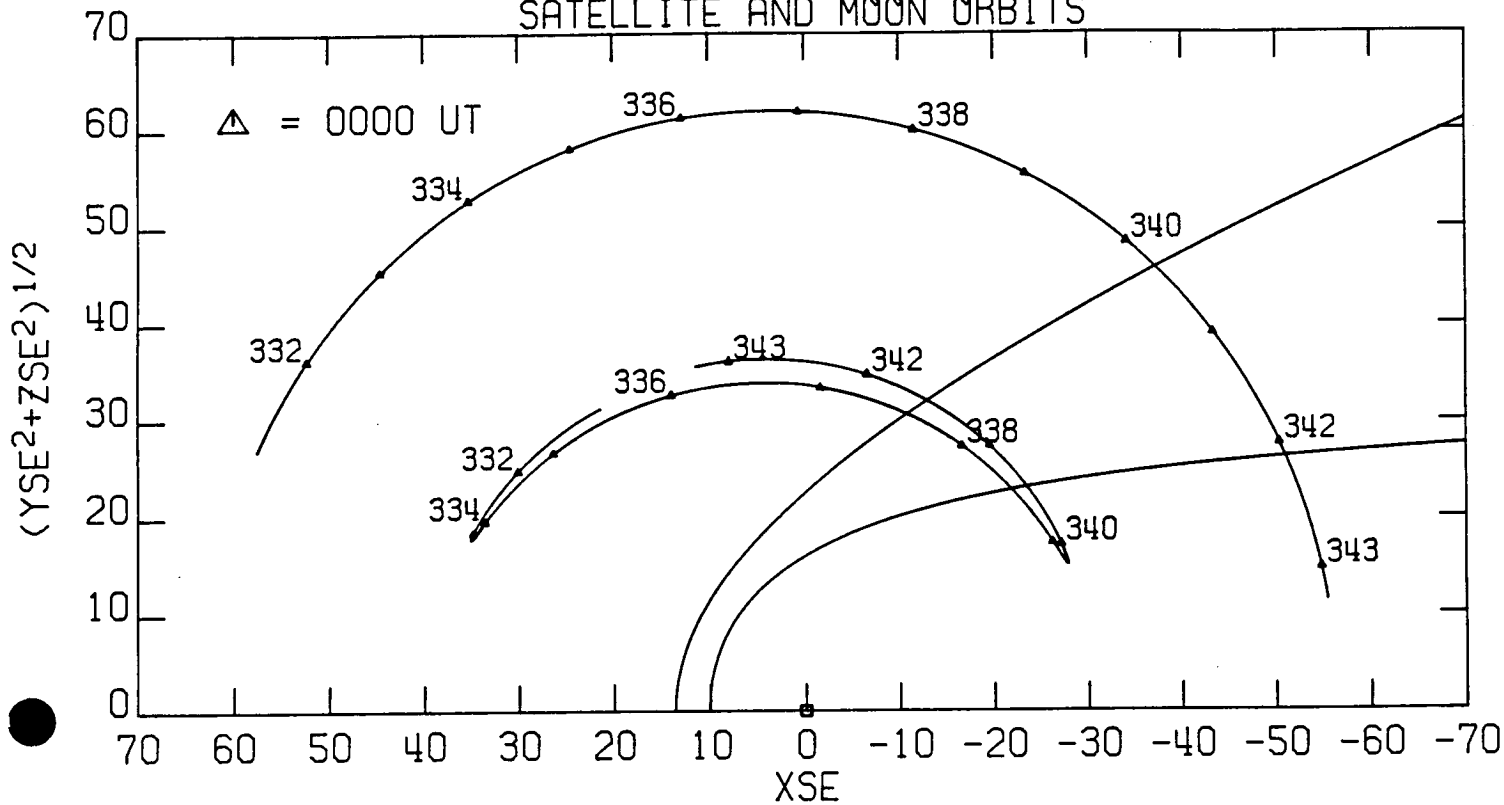


IMP 7 TRAJECTORY. ASCENDING NODE 36

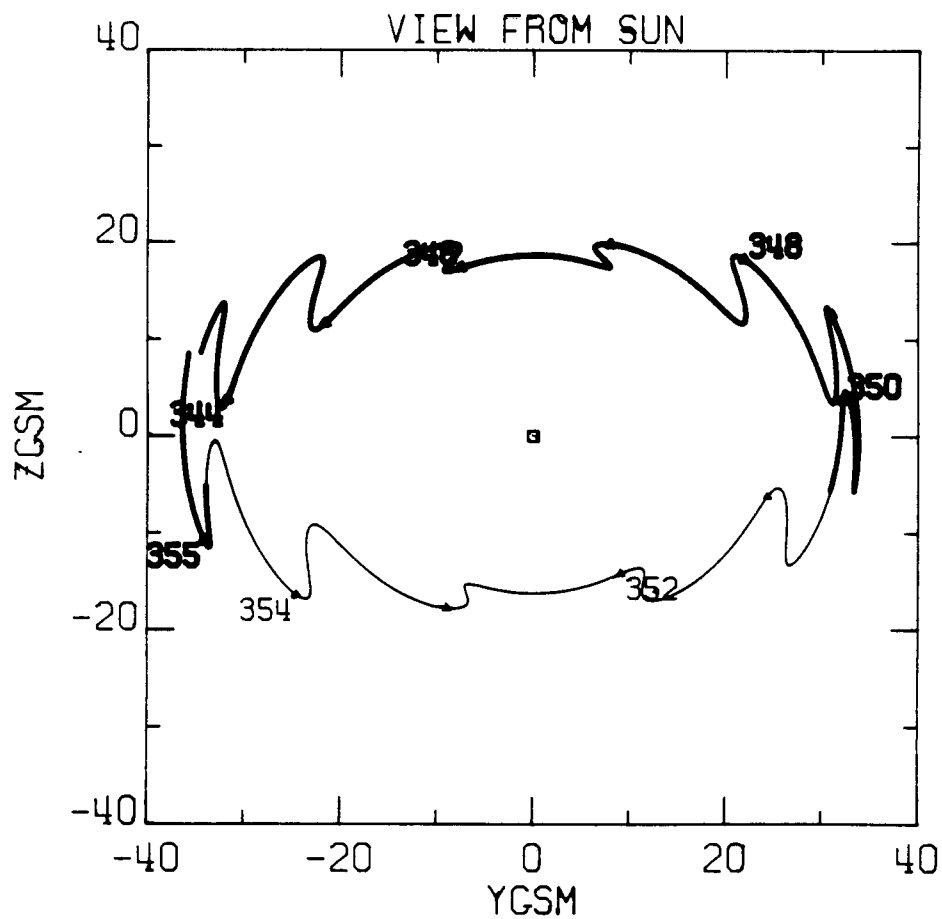
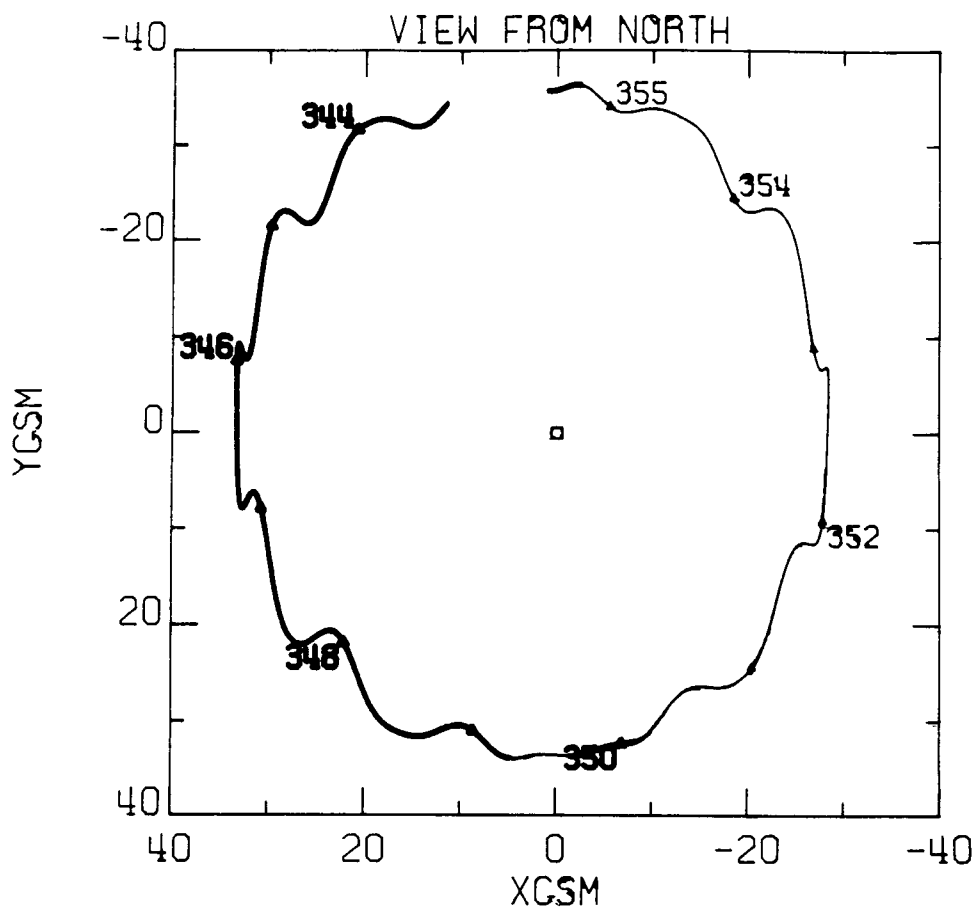
FROM NOV 27 TO DEC 9 1973

DAYS 331 THRU 343

SATELLITE AND MOON ORBITS



IMP 7 FROM DEC 9 TO DEC 21 1973

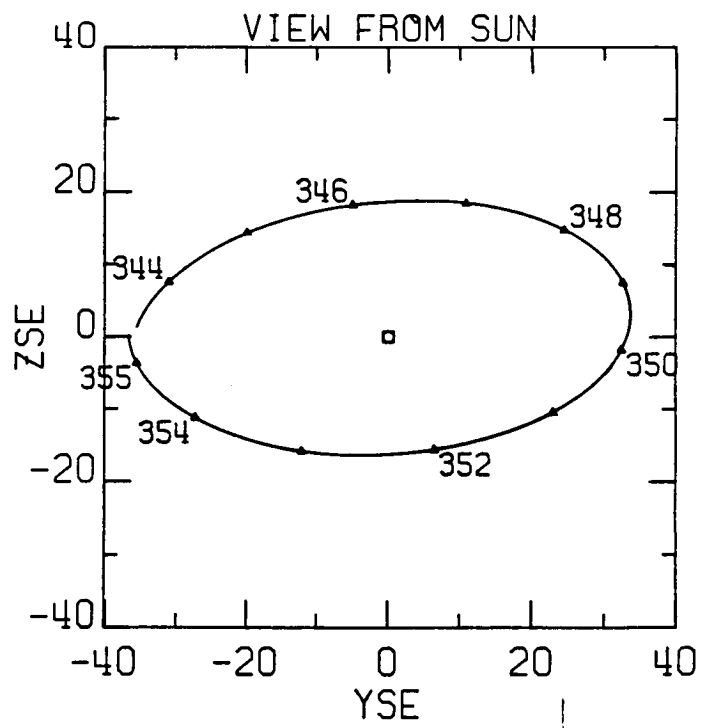
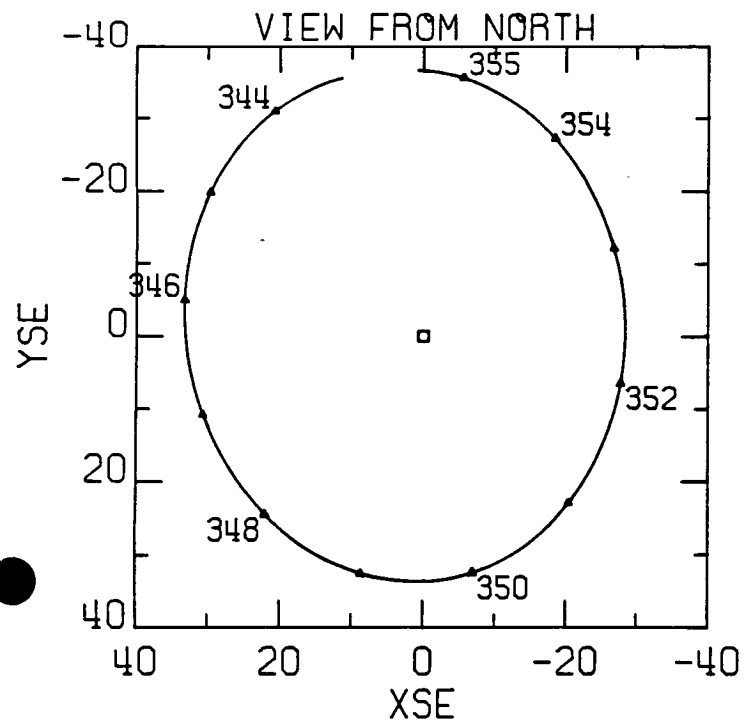
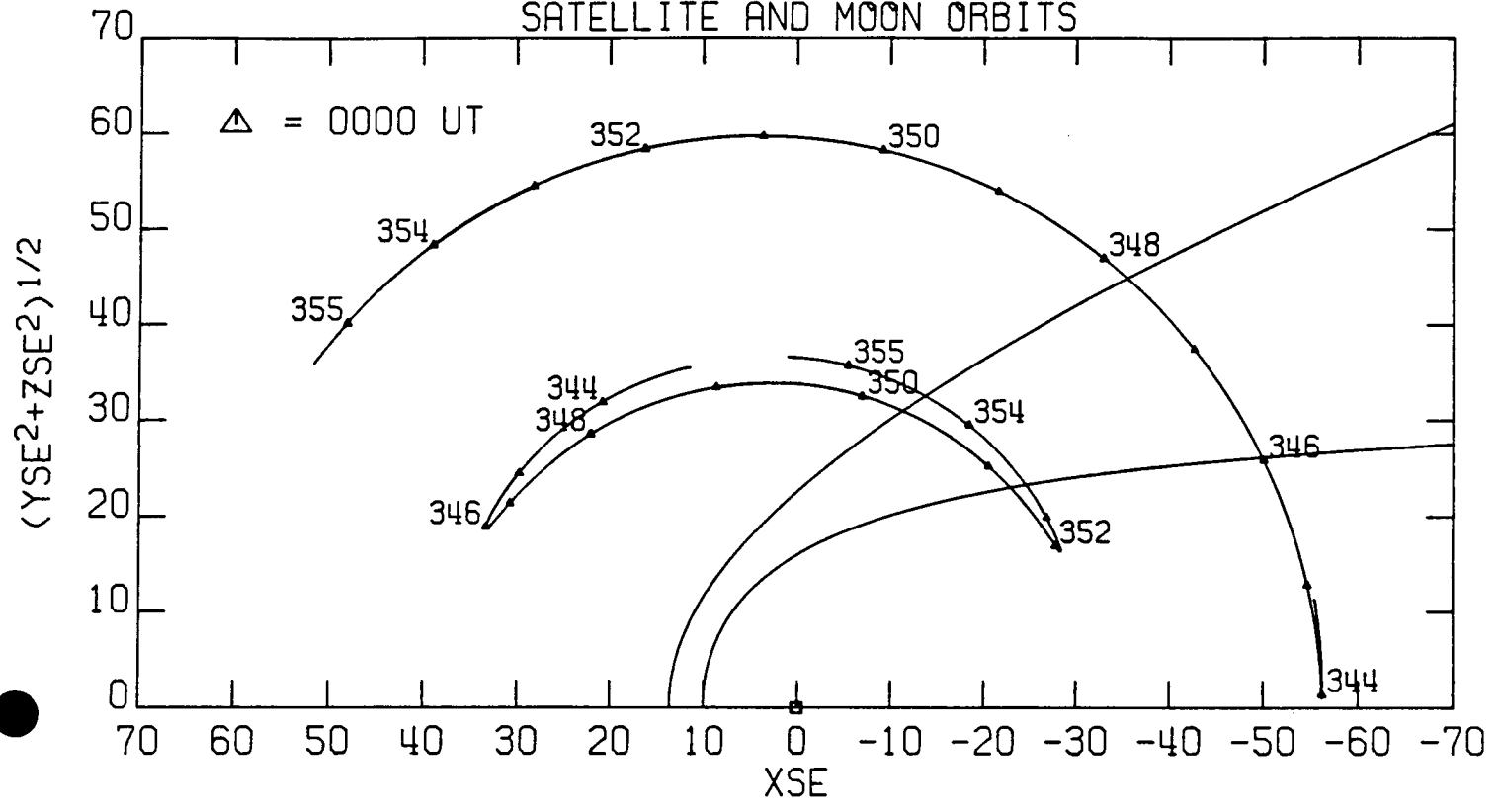


IMP 7 TRAJECTORY. ASCENDING NODE 37

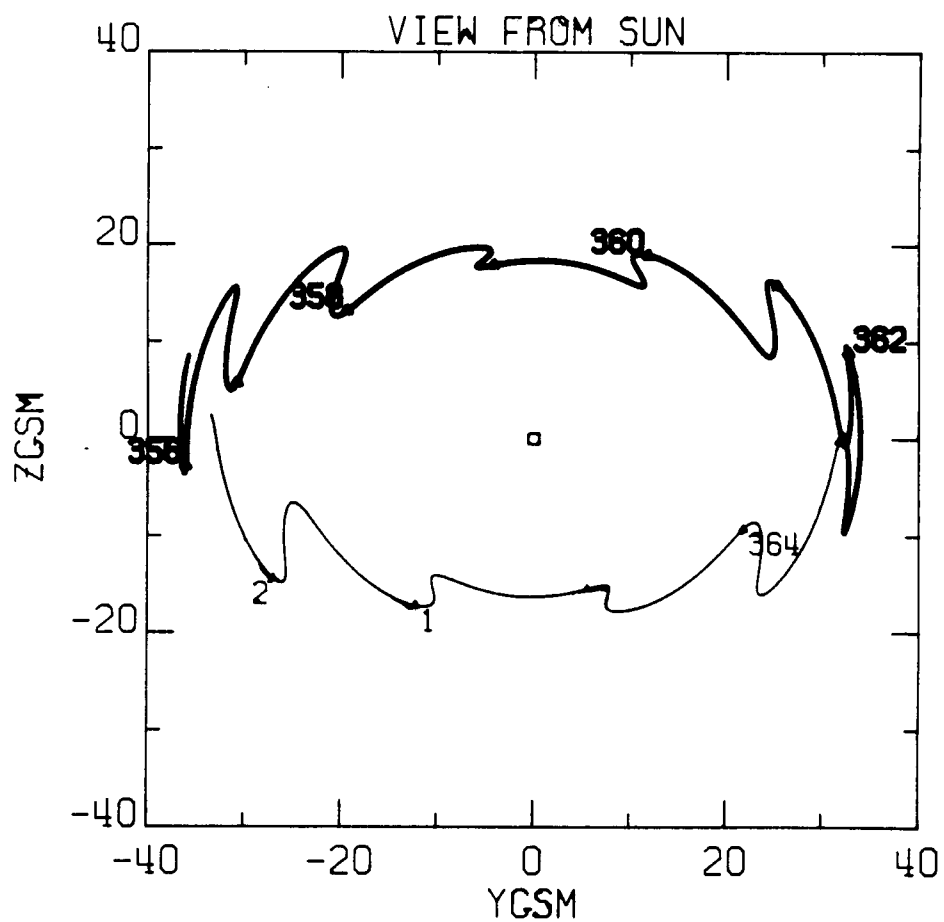
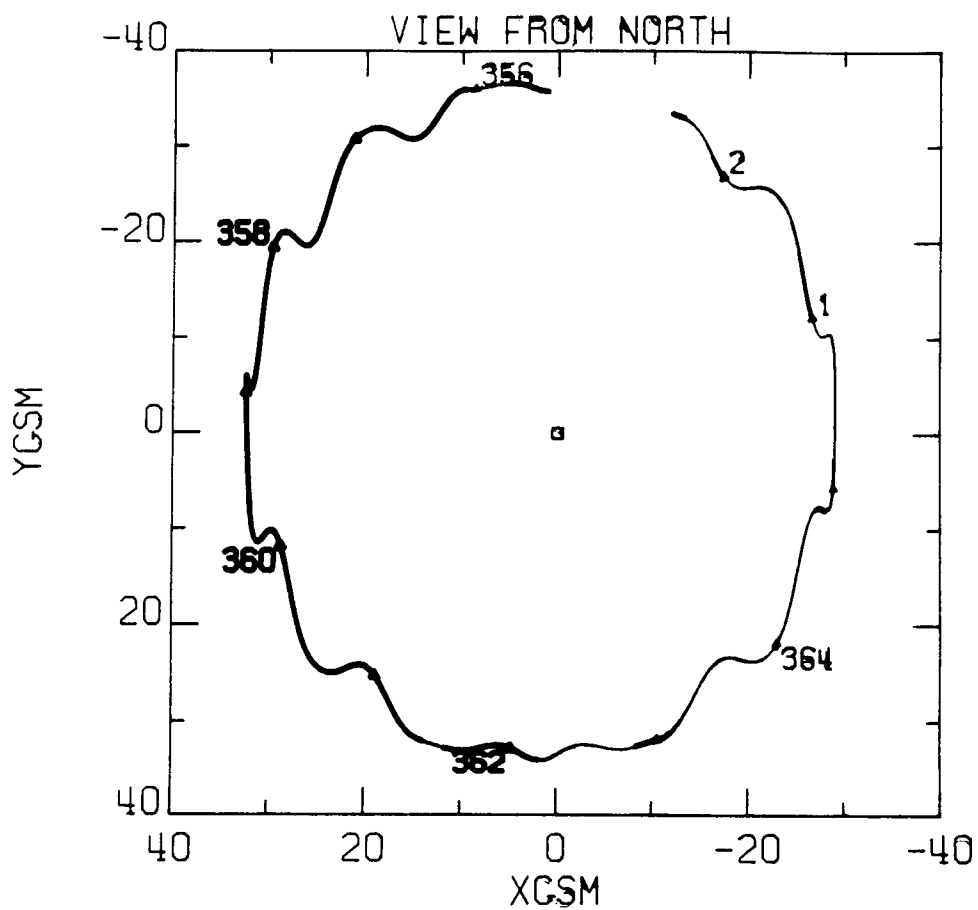
FROM DEC 9 TO DEC 21 1973

DAYS 343 THRU 355

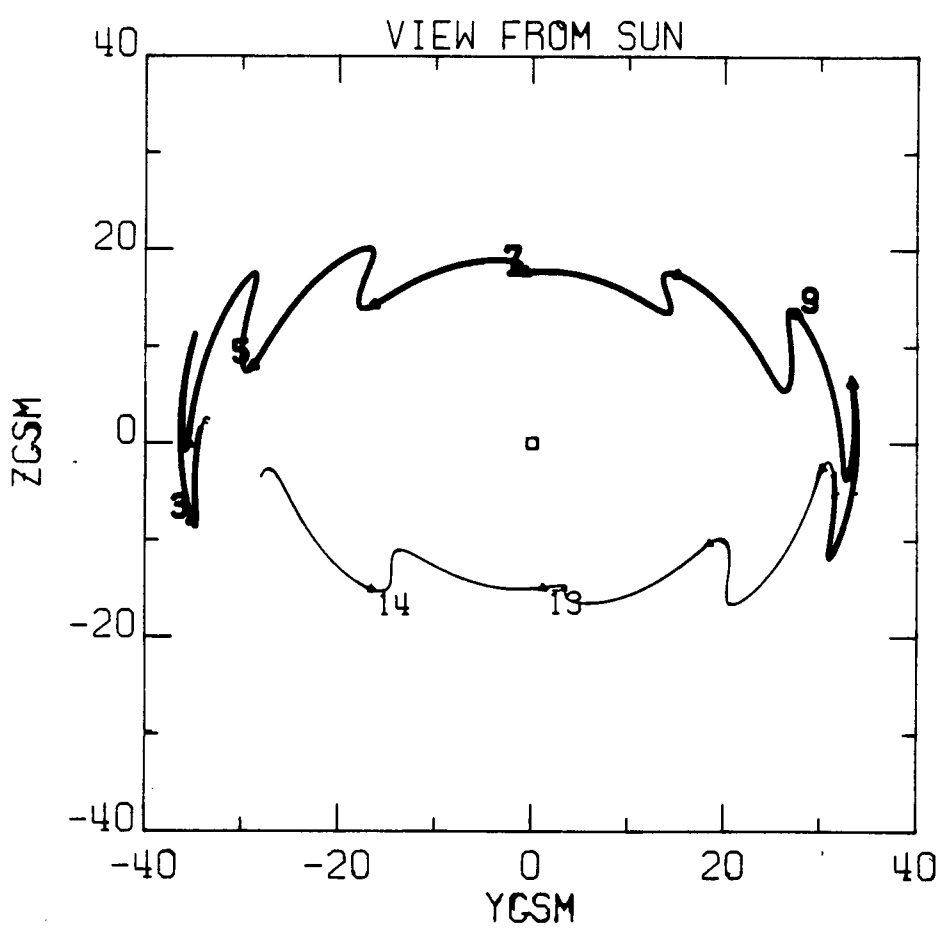
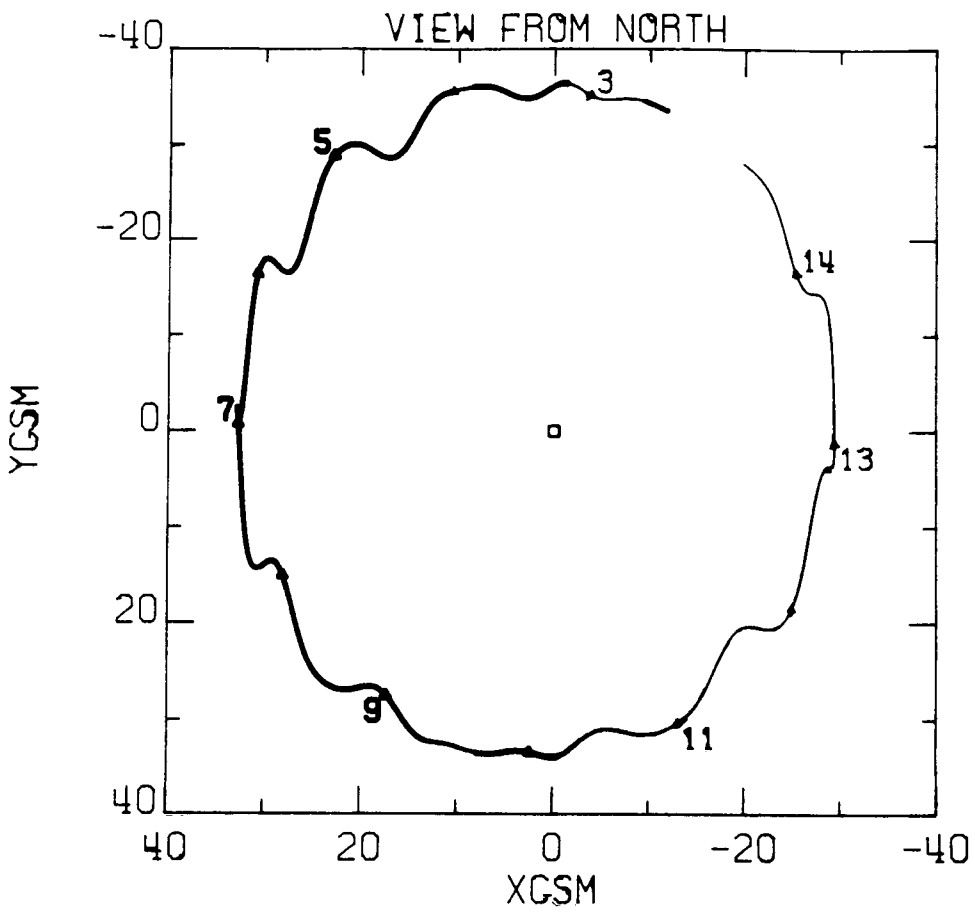
SATELLITE AND MOON ORBITS



IMP 7 FROM DEC 21 TO JAN 2 1974



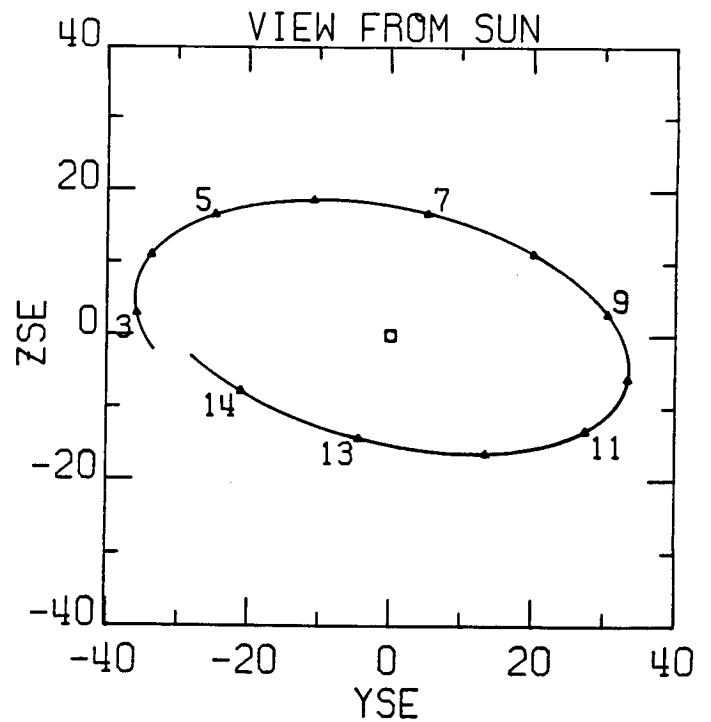
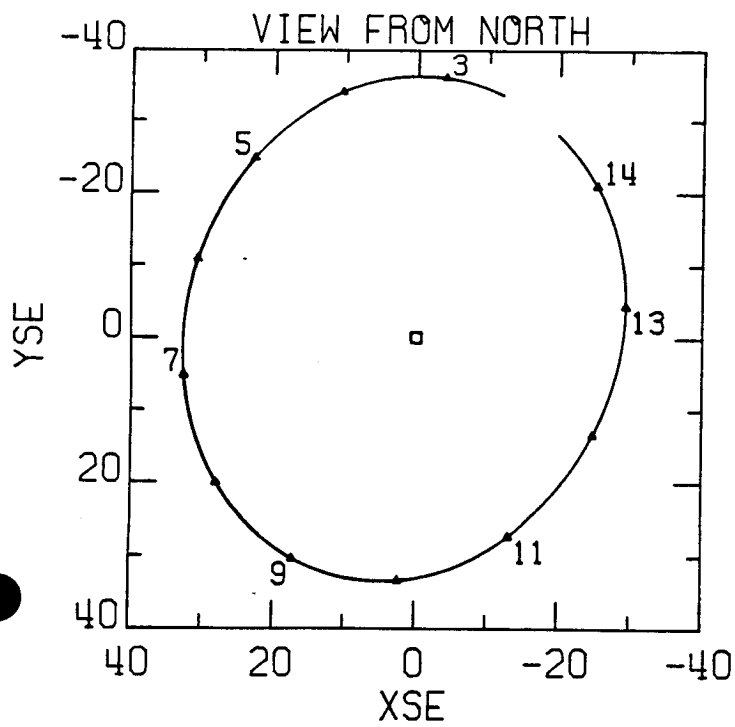
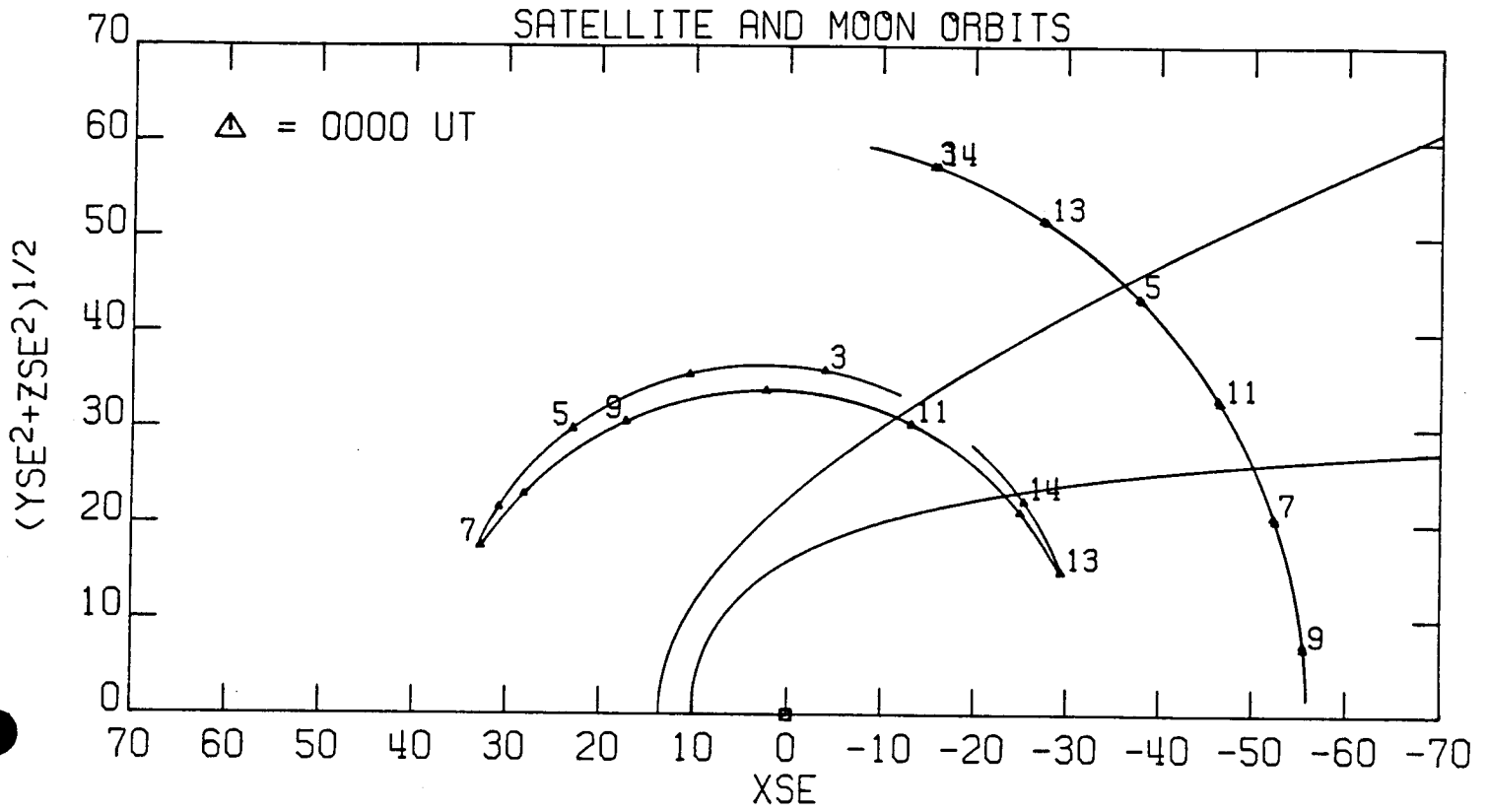
IMP 7 FROM JAN 2 TO JAN 14 1974



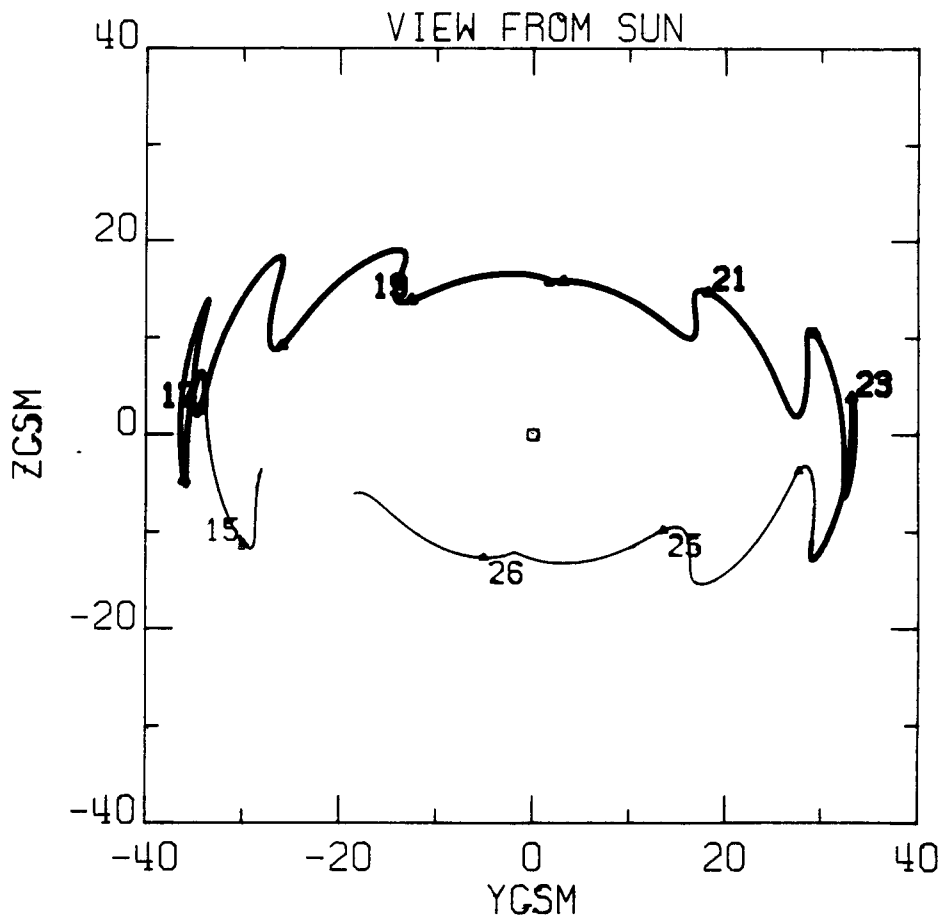
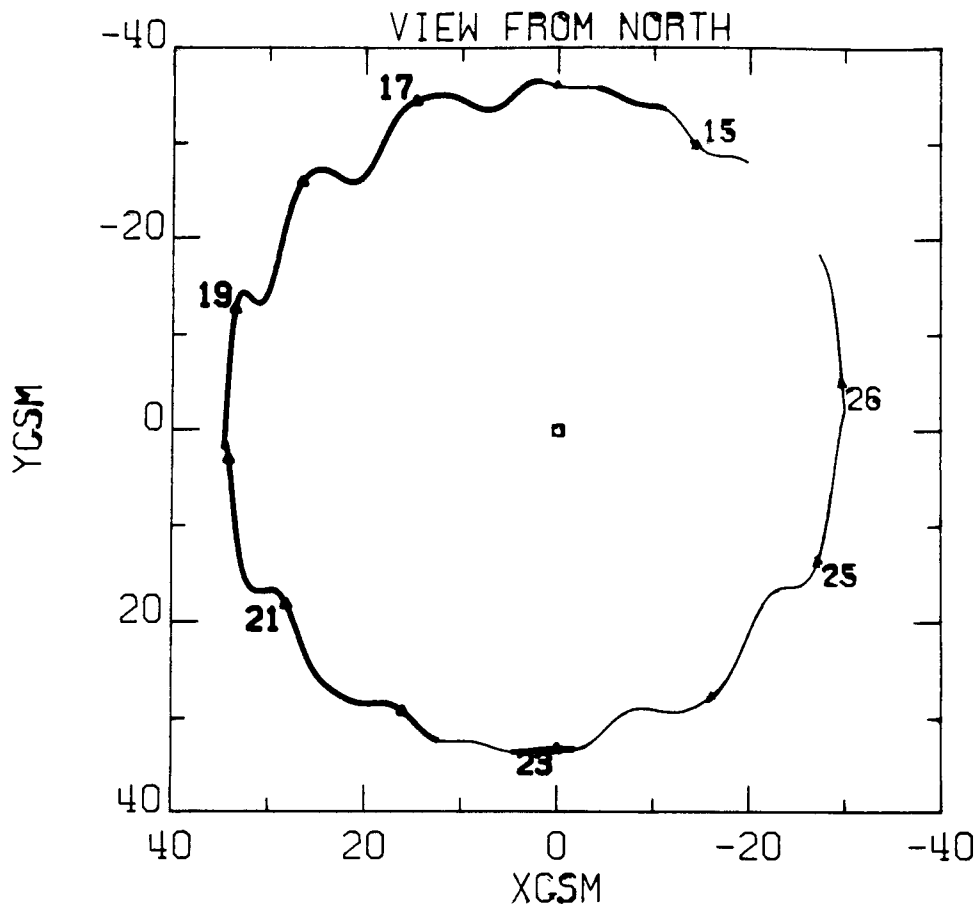
IMP 7 TRAJECTORY. ASCENDING NODE 39

FROM JAN 2 TO JAN 14 1974

DAYS 2 THRU 14



IMP 7 FROM JAN 14 TO JAN 26 1974

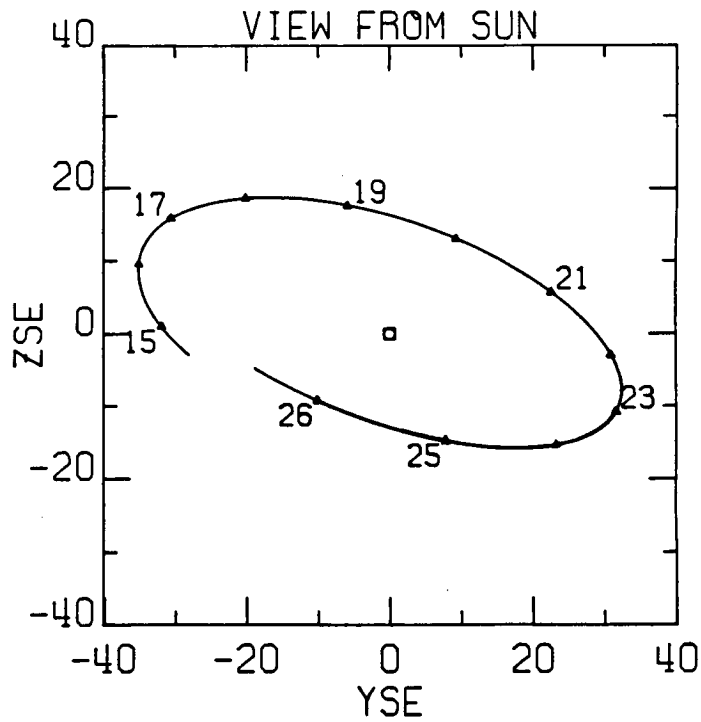
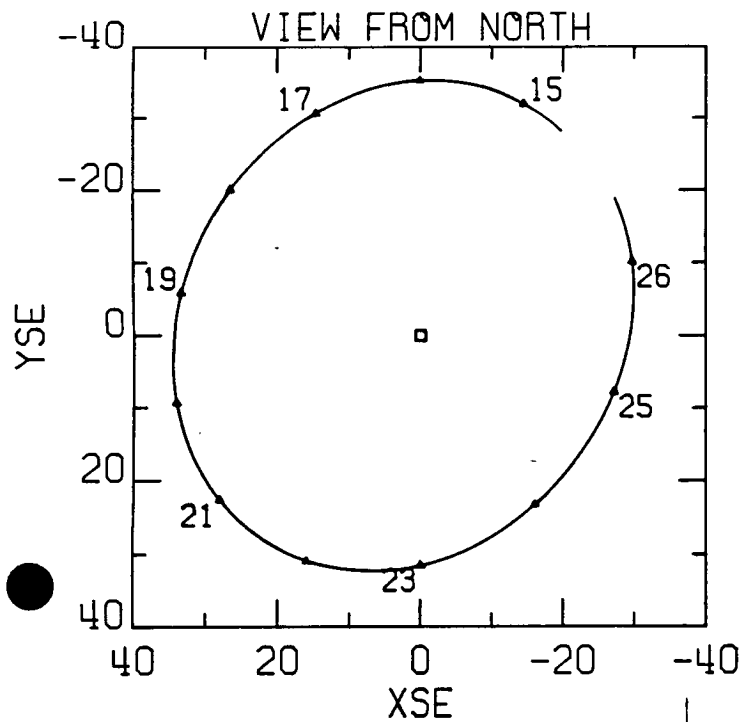
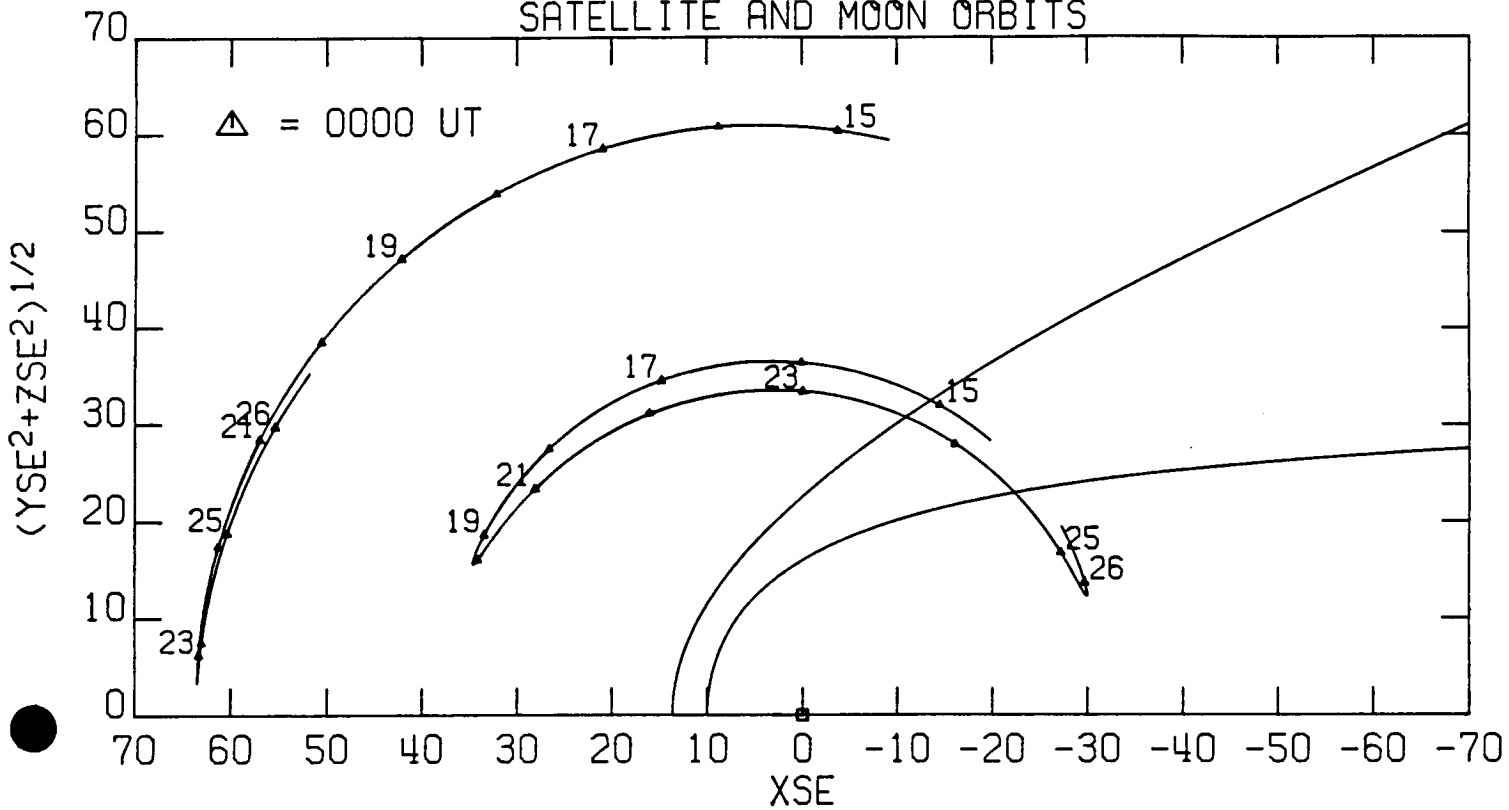


IMP 7 TRAJECTORY. ASCENDING NODE 40

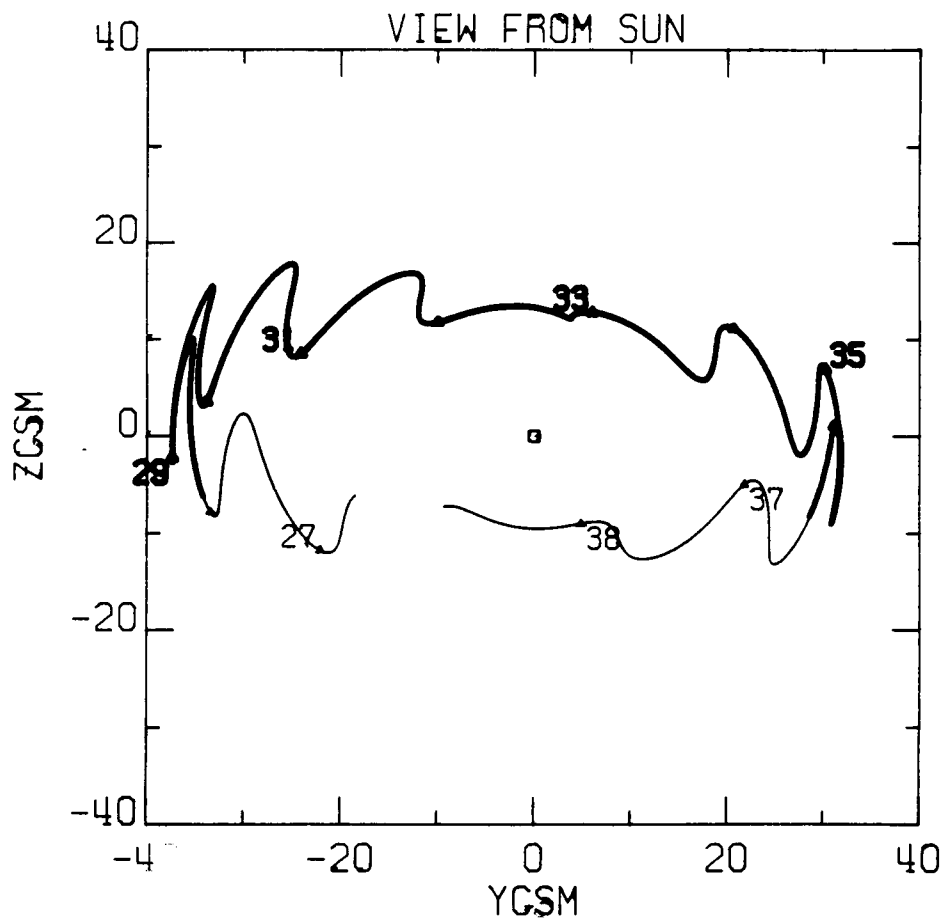
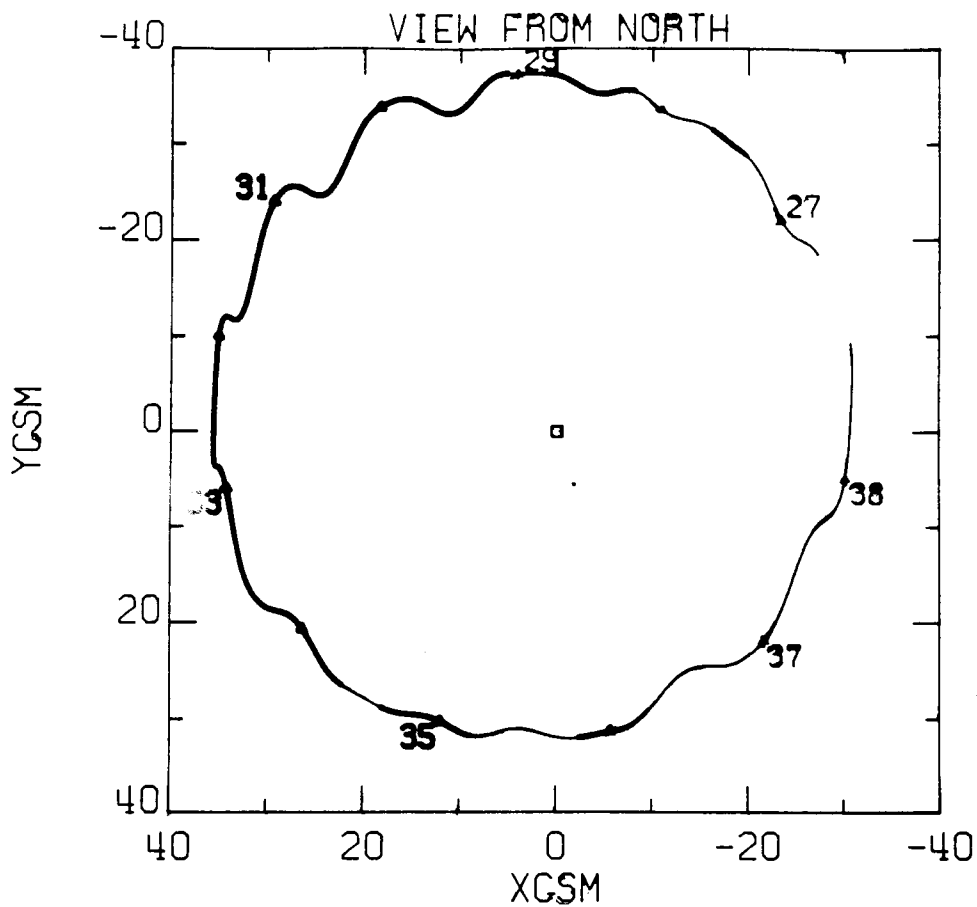
FROM JAN 14 TO JAN 26 1974

DAYS 14 THRU 26

SATELLITE AND MOON ORBITS



IMP 7 FROM JAN 26 TO FEB 7 1974

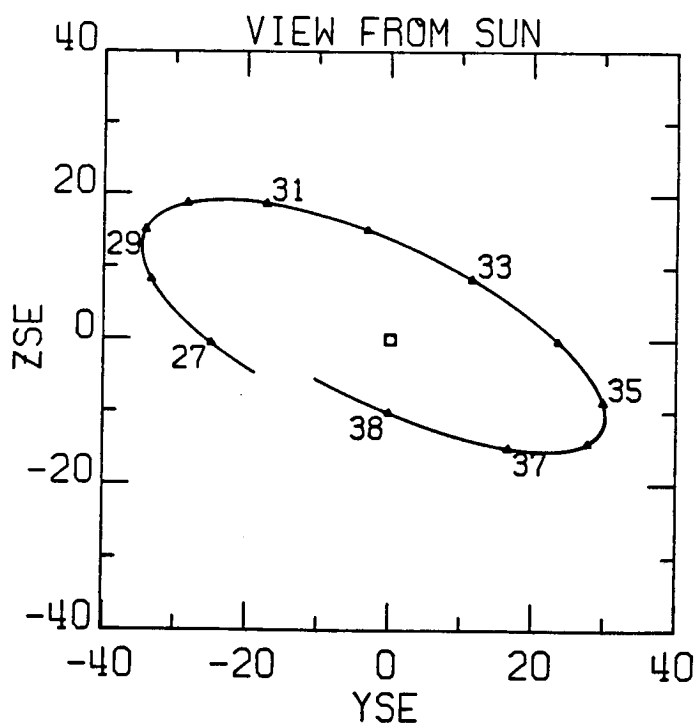
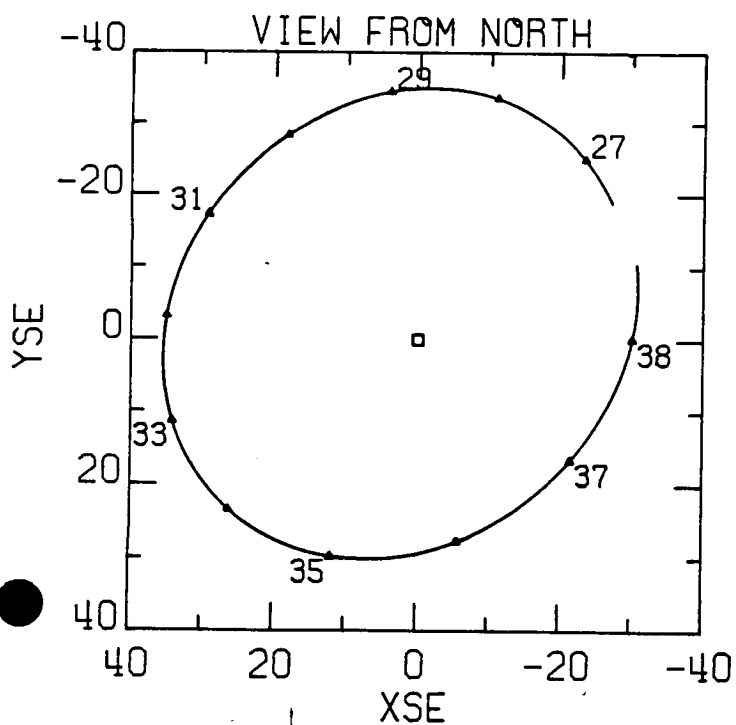
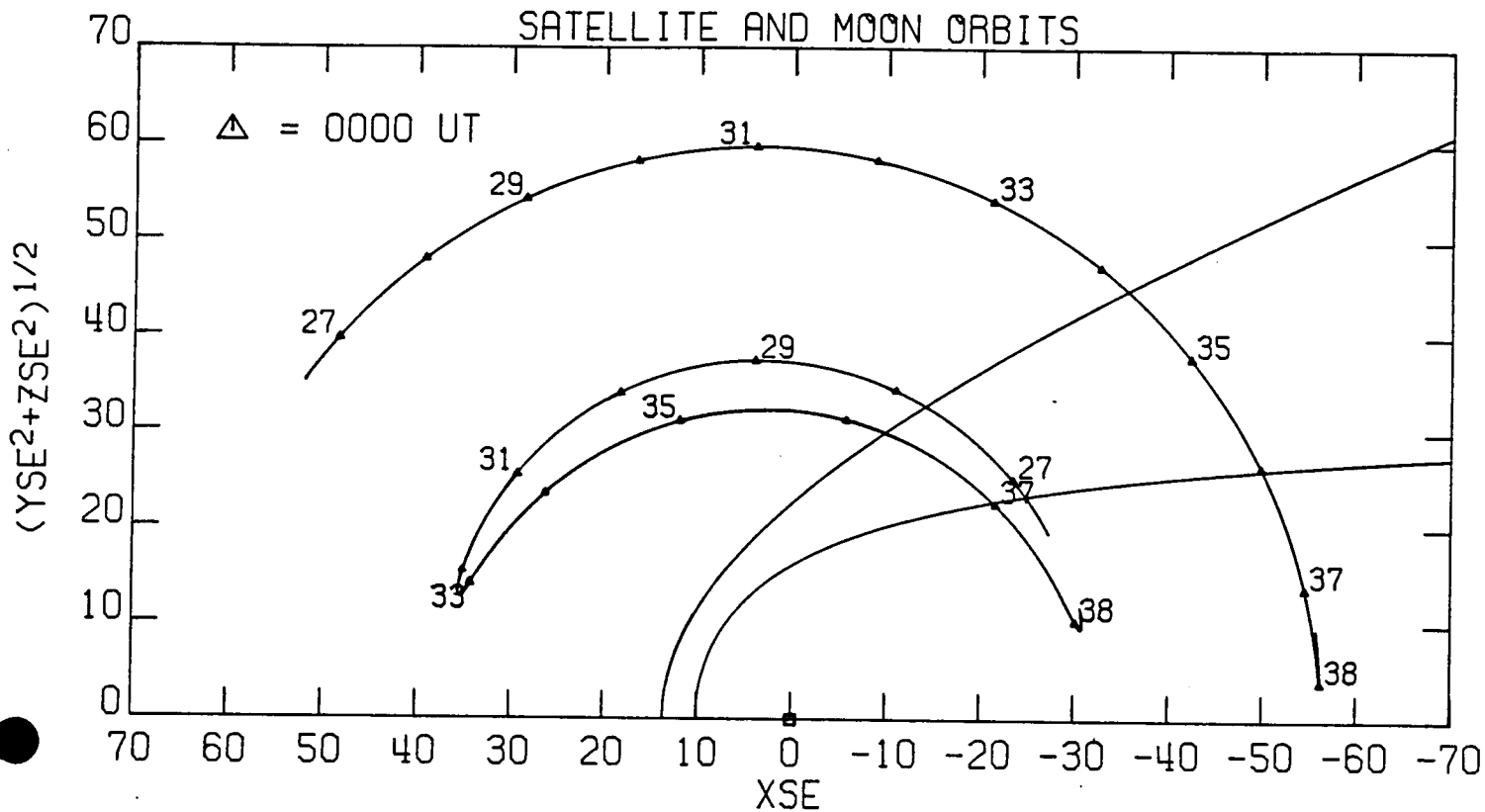


IMP 7 TRAJECTORY. ASCENDING NODE 41

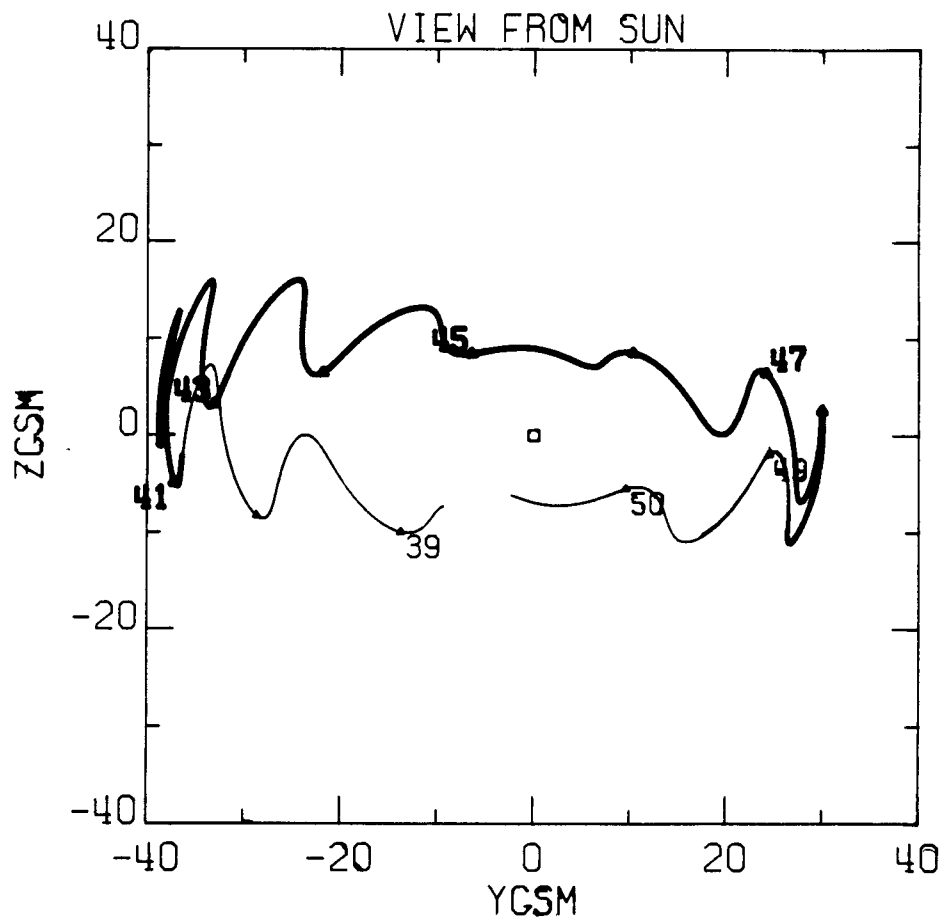
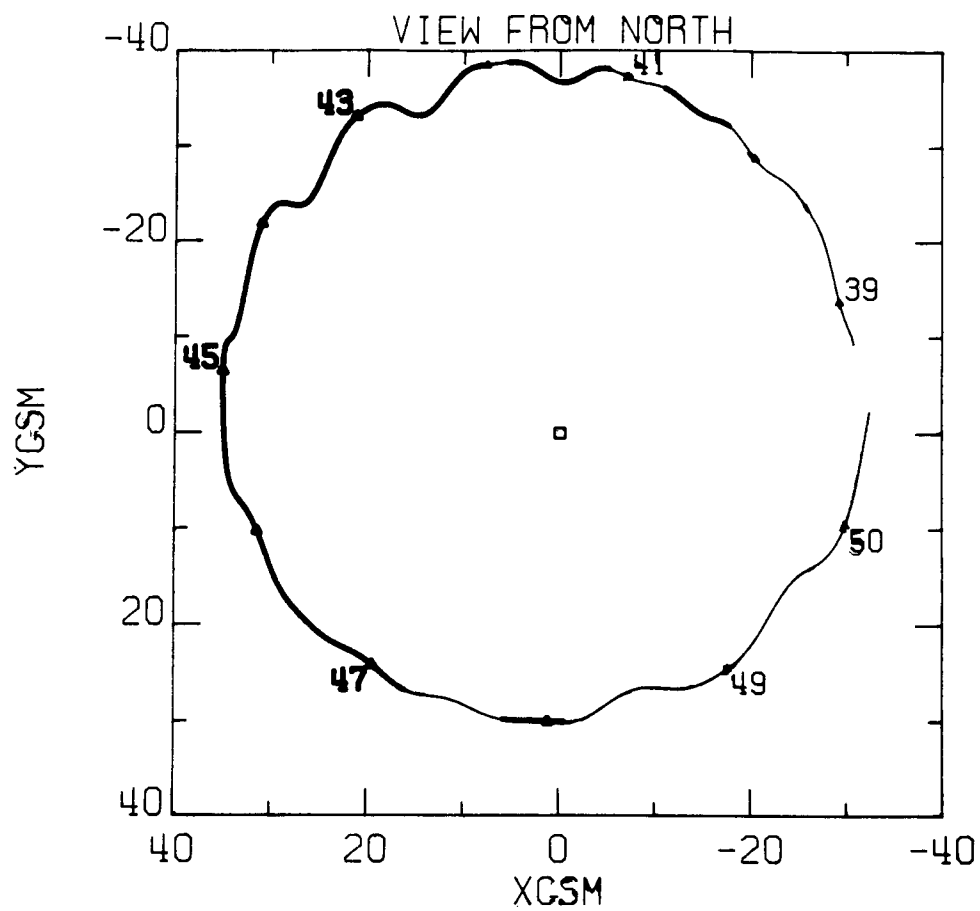
FROM JAN 26 TO FEB 7 1974

DAYS 26 THRU 38

SATELLITE AND MOON ORBITS



IMP 7 FROM FEB 7 TO FEB 19 1974

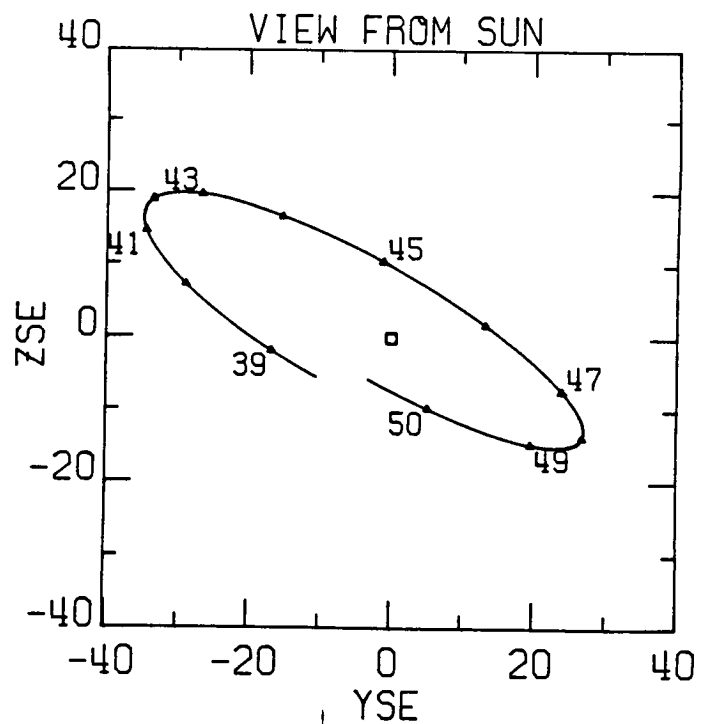
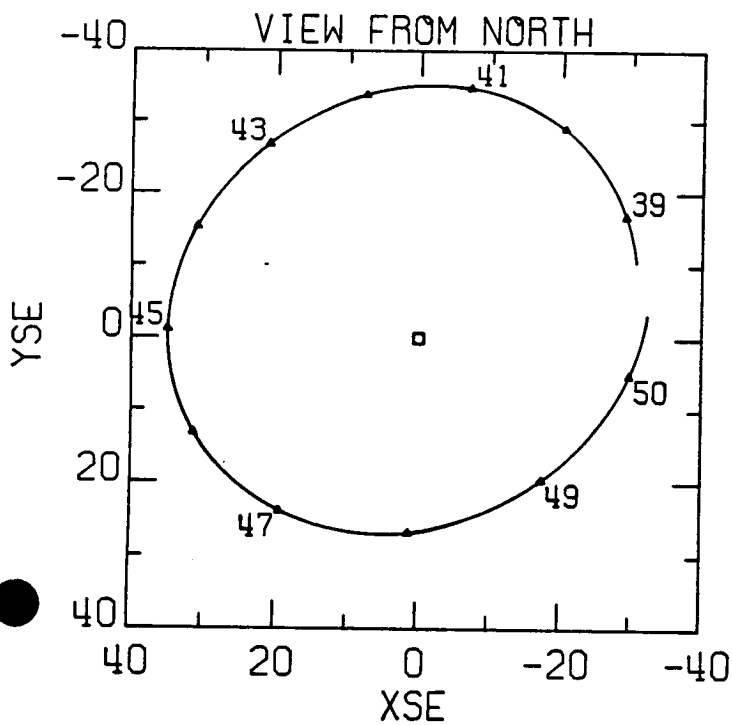
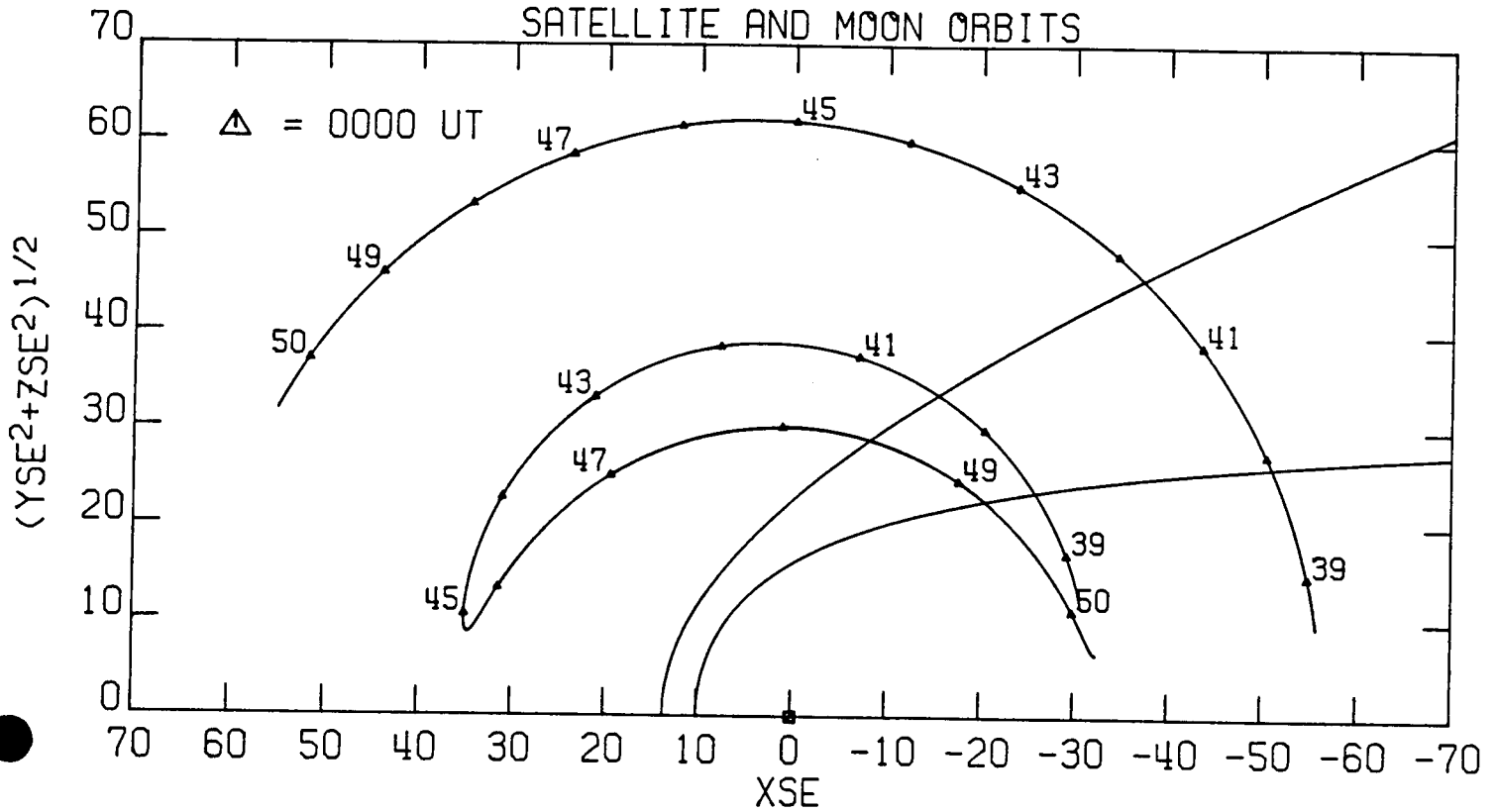


IMP 7 TRAJECTORY. ASCENDING NODE 42

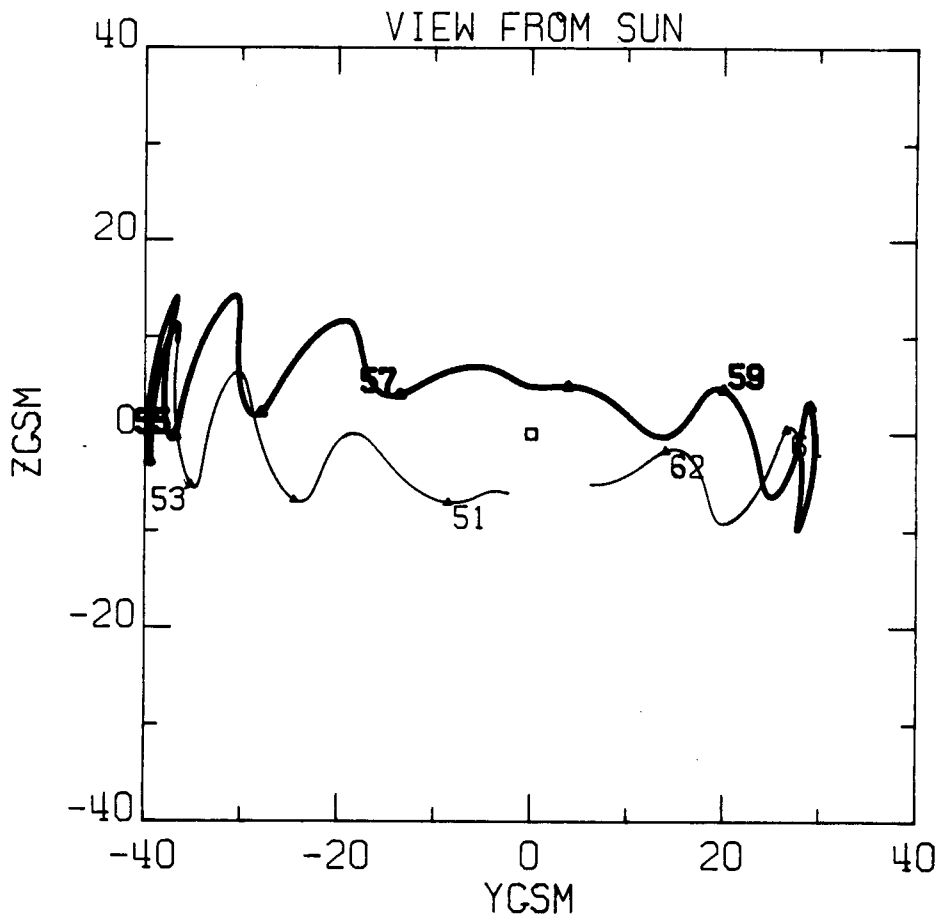
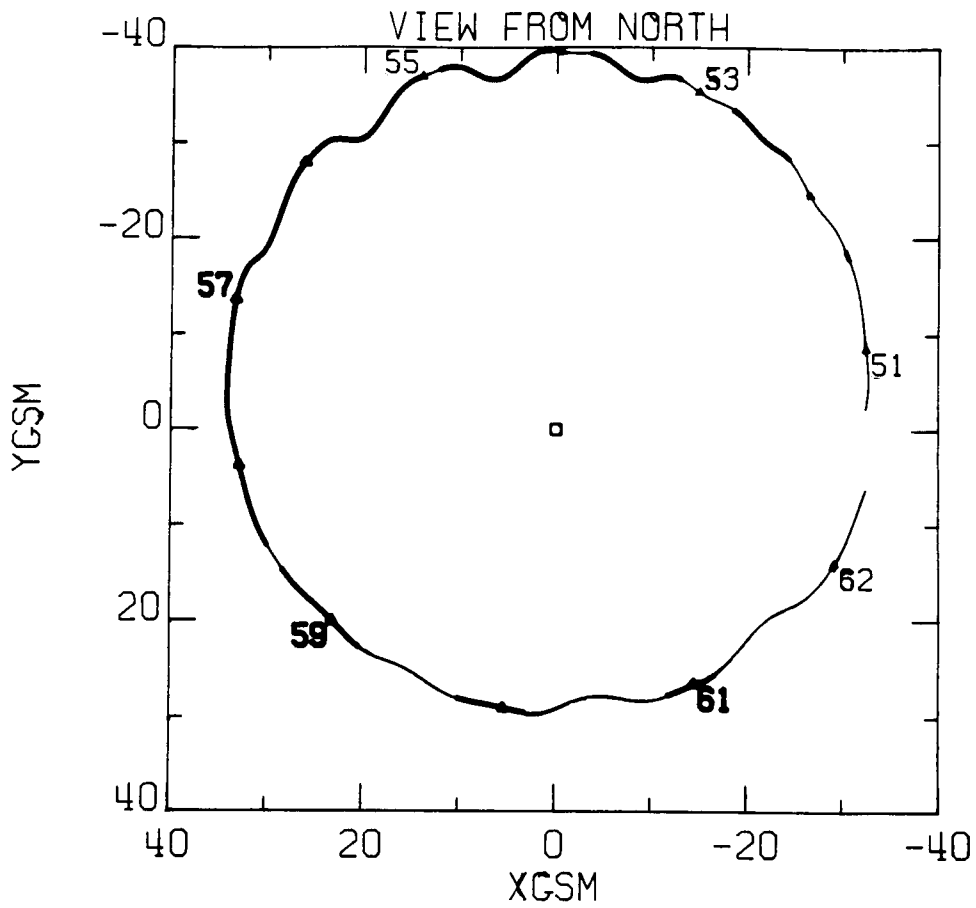
FROM FEB 7 TO FEB 19 1974

DAYS 38 THRU 50

SATELLITE AND MOON ORBITS



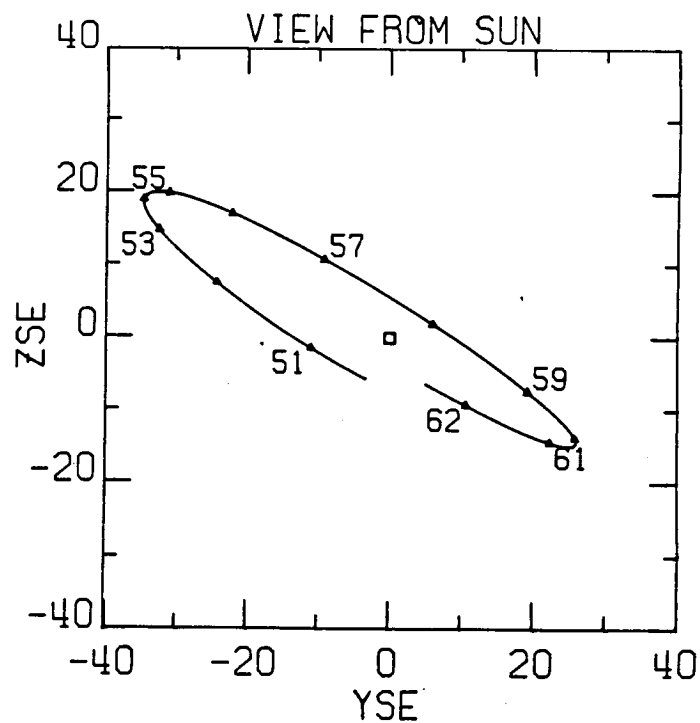
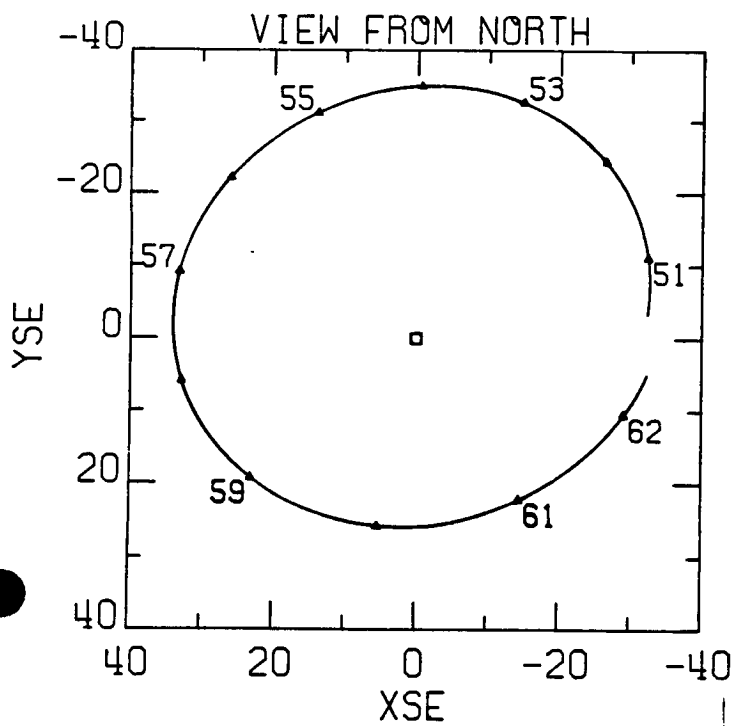
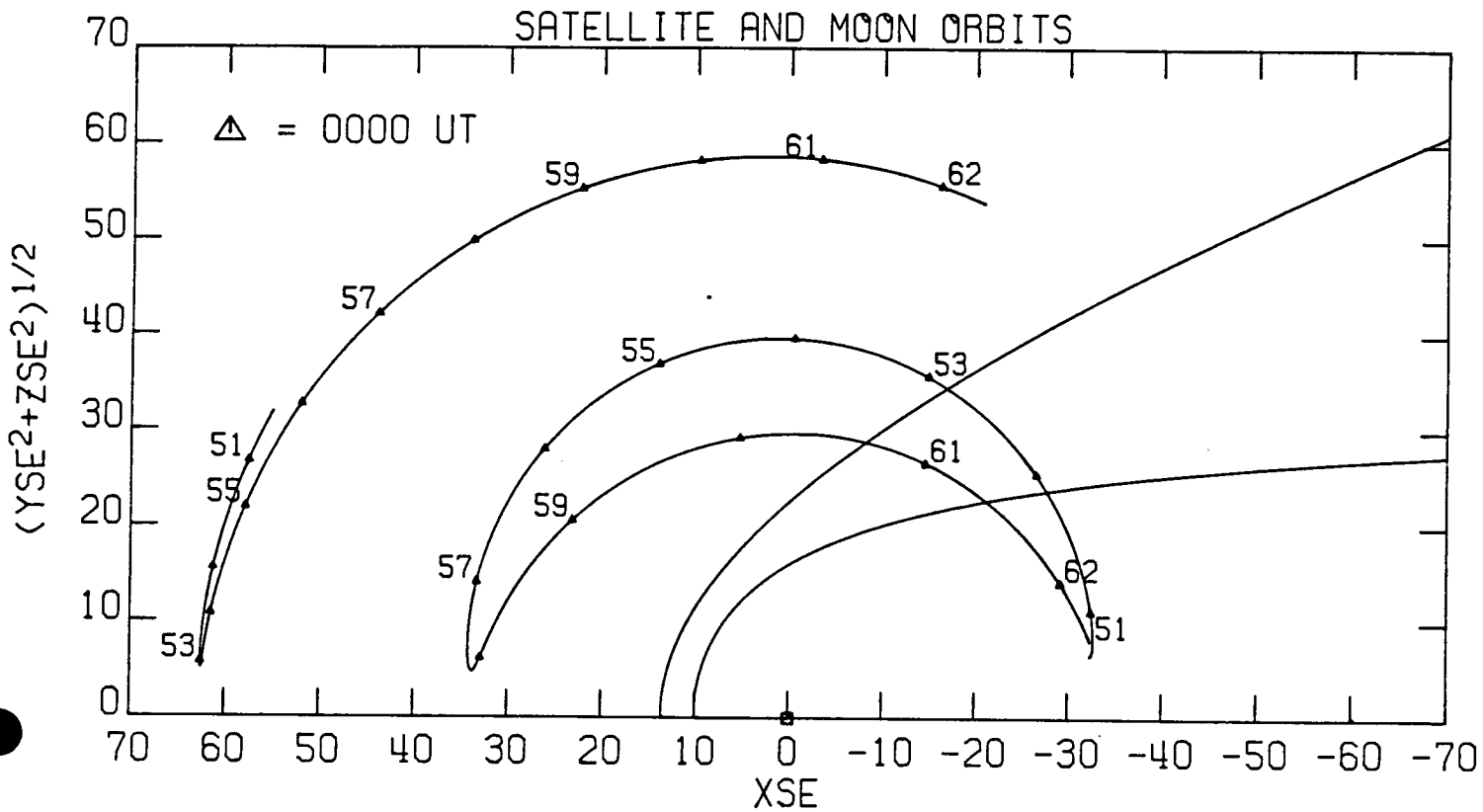
IMP 7 FROM FEB 19 TO MAR 3 1974



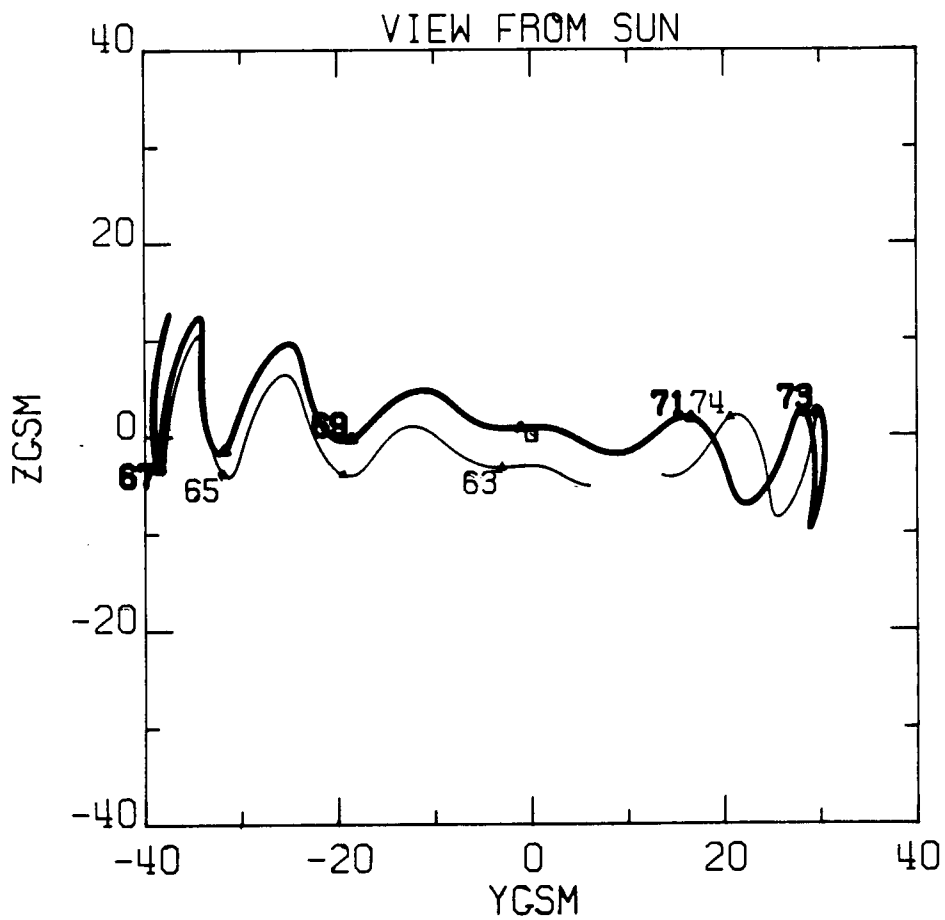
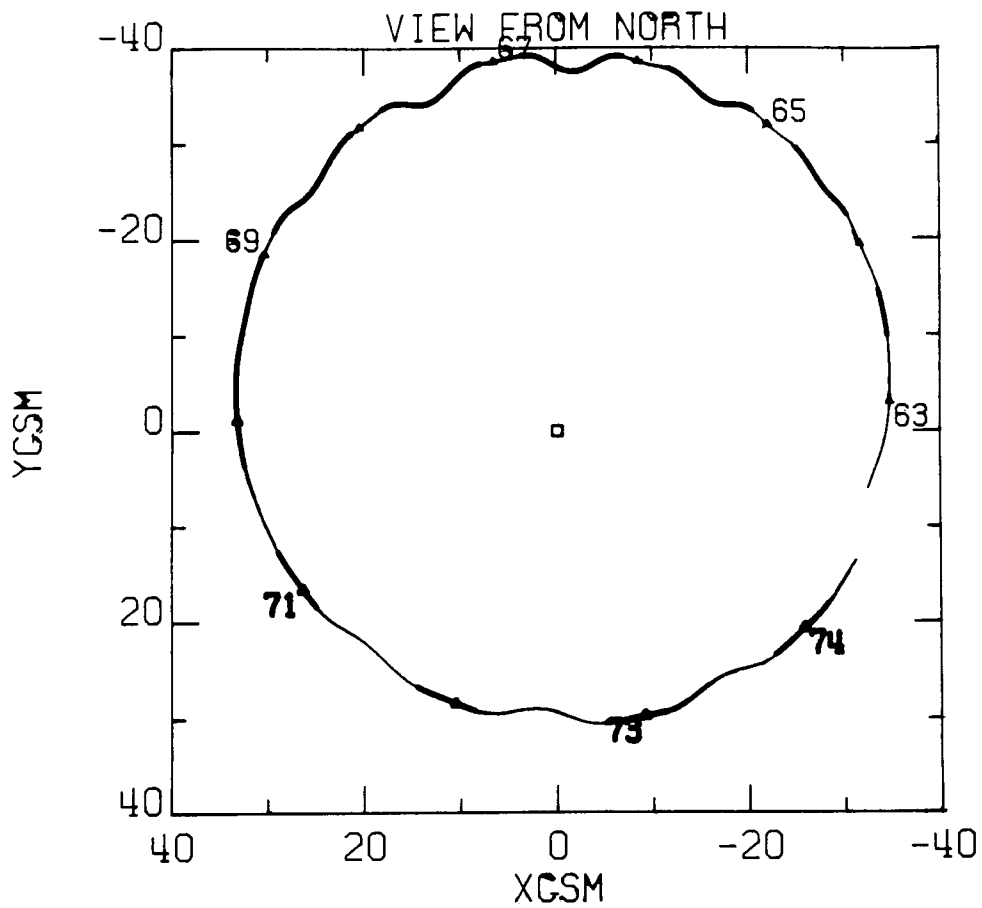
IMP 7 TRAJECTORY. ASCENDING NODE 43

FROM FEB 19 TO MAR 3 1974

DAYS 50 THRU 62



IMP 7 FROM MAR 3 TO MAR 15 1974

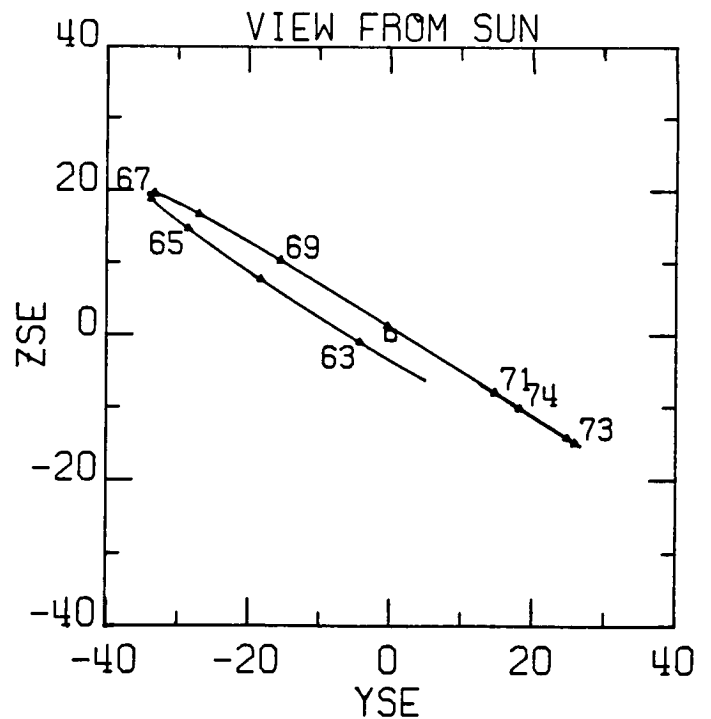
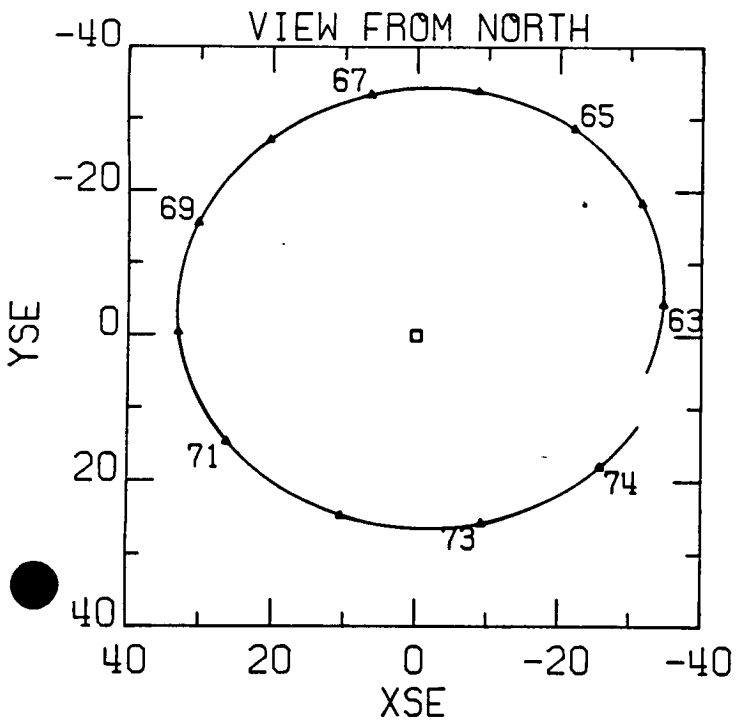
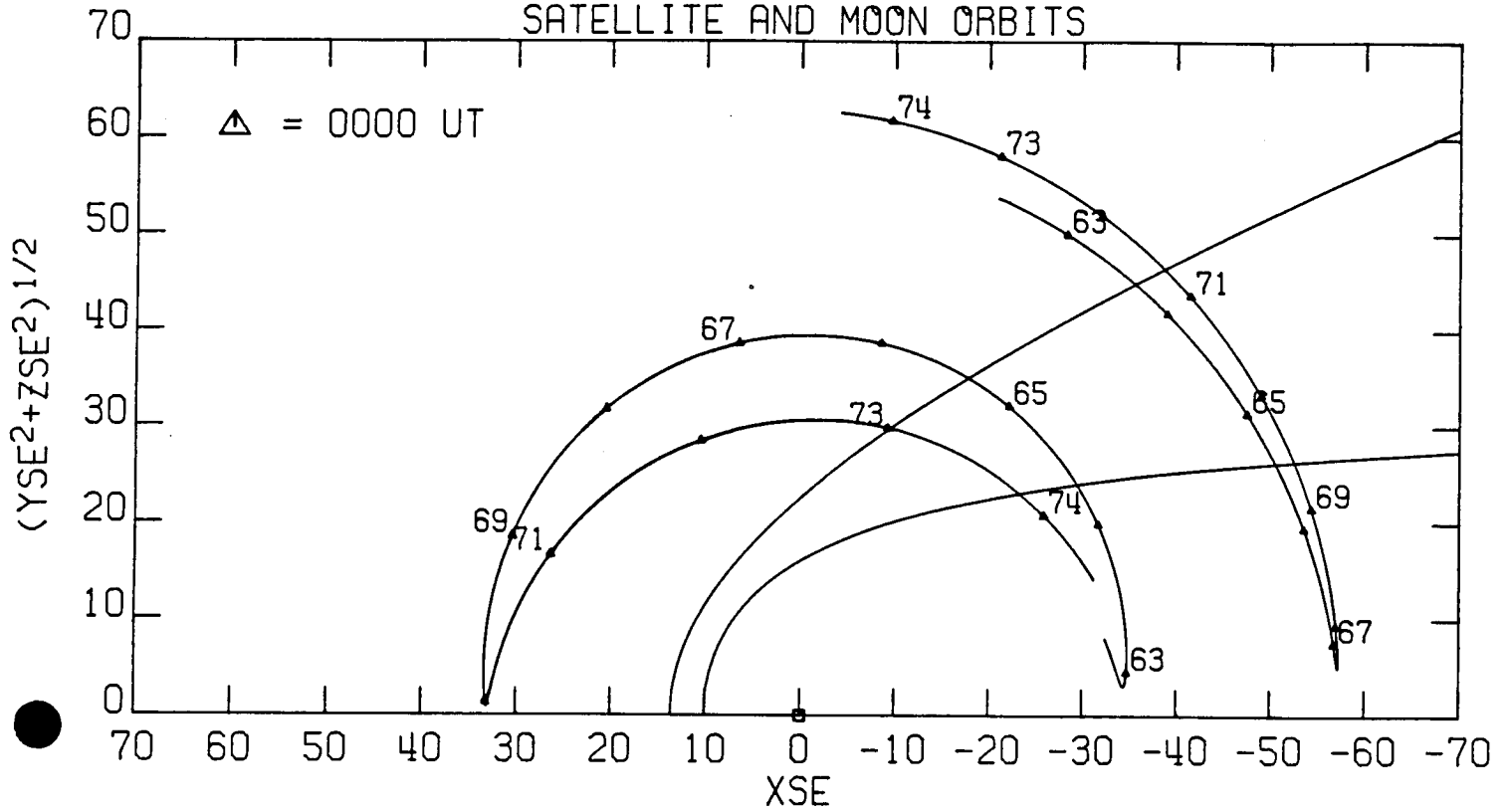


IMP 7 TRAJECTORY. ASCENDING NODE 44

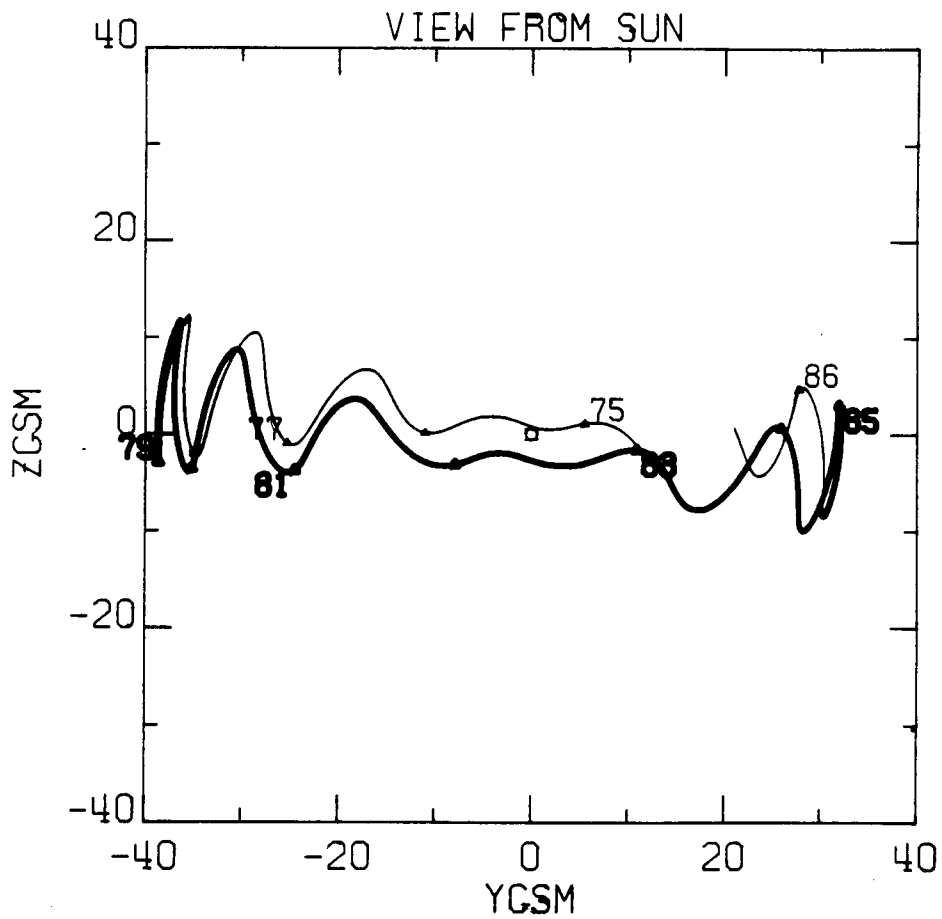
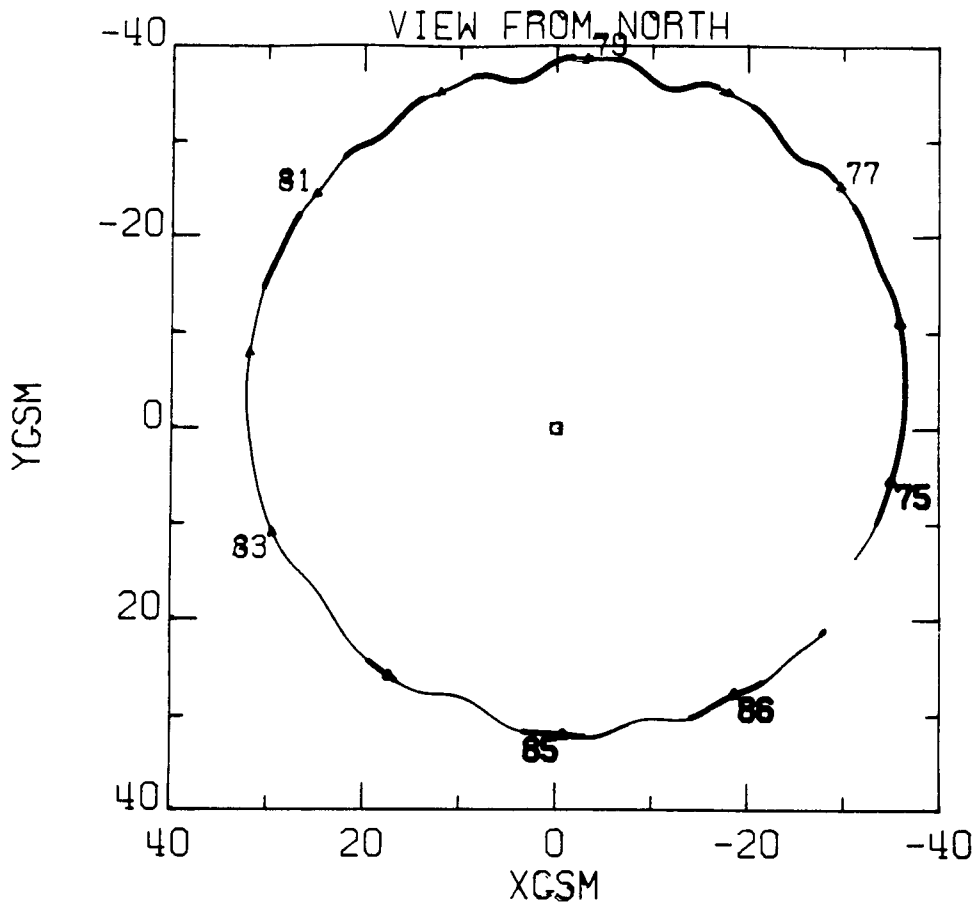
FROM MAR 3 TO MAR 15 1974

DAYS 62 THRU 74

SATELLITE AND MOON ORBITS



IMP 7 FROM MAR 15 TO MAR 27 1974

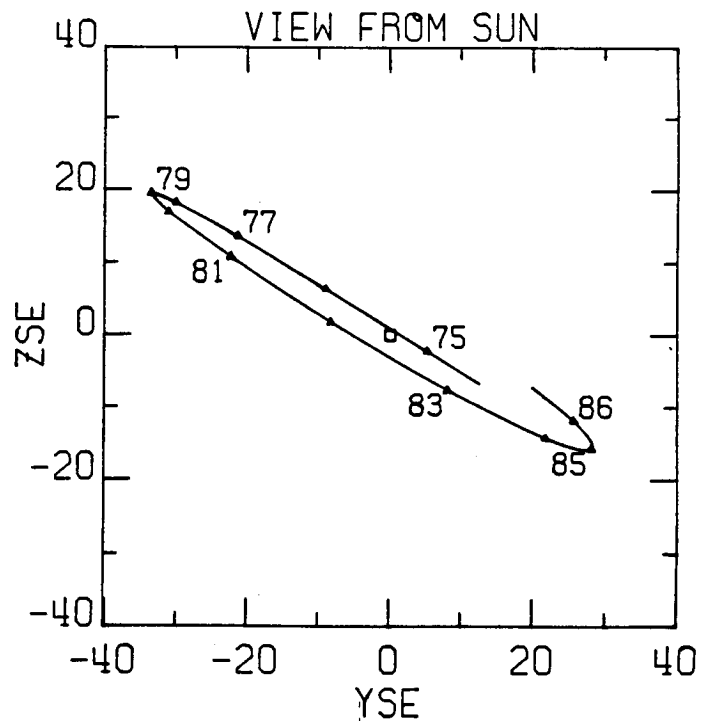
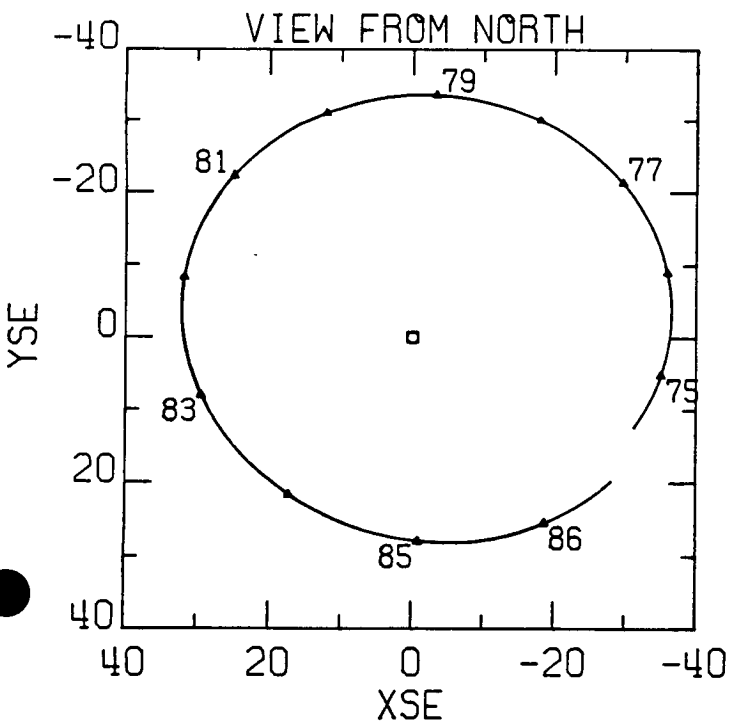
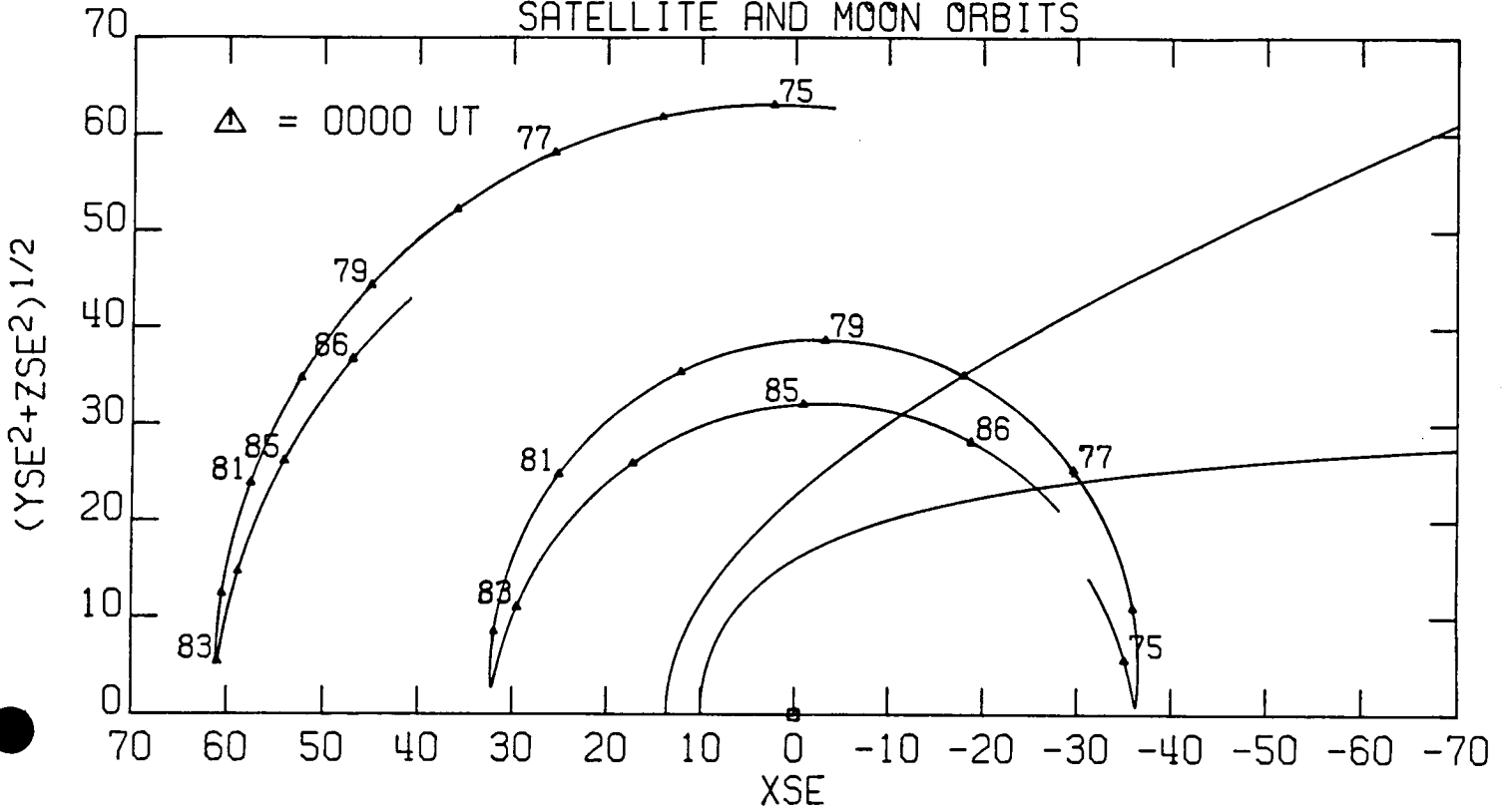


IMP 7 TRAJECTORY. ASCENDING NODE 45

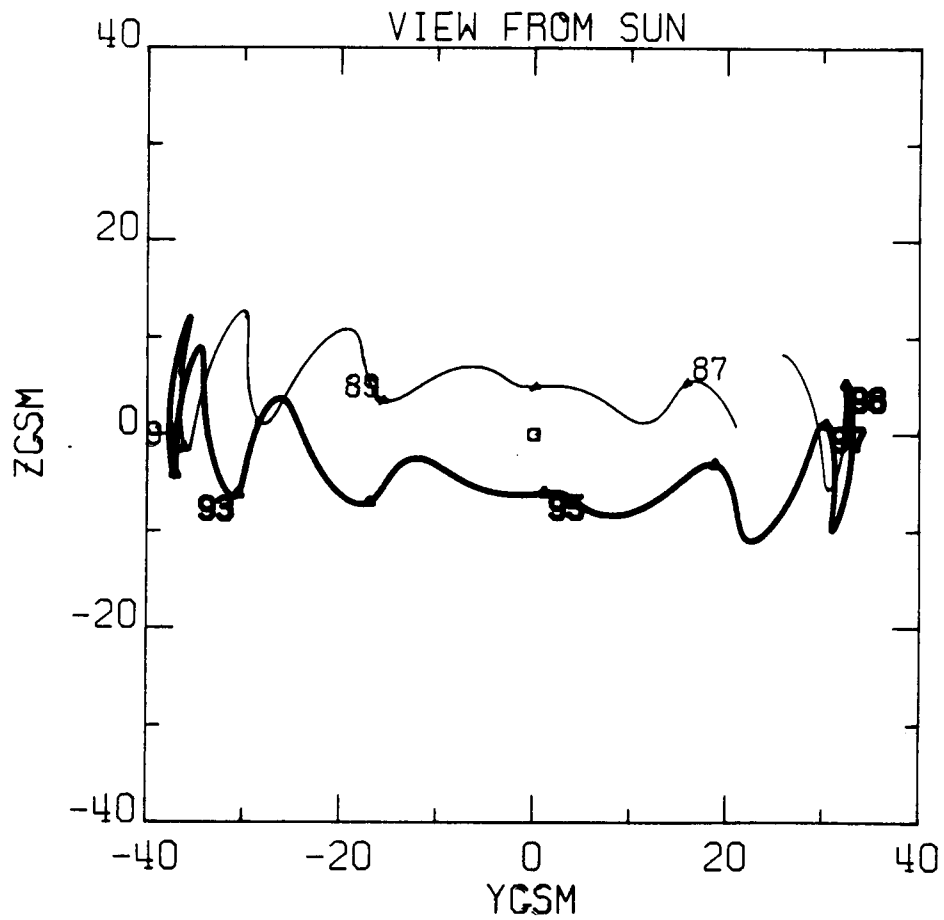
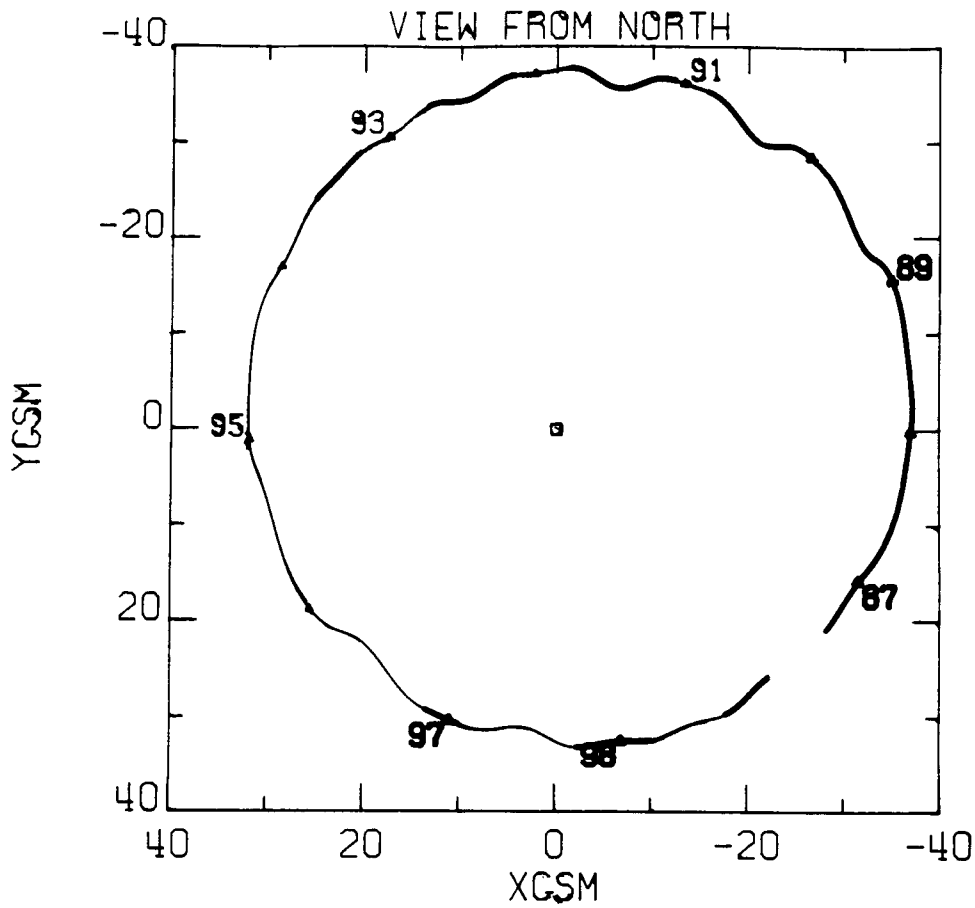
FROM MAR 15 TO MAR 27 1974

DAYS 74 THRU 86

SATELLITE AND MOON ORBITS



IMP 7 FROM MAR 27 TO APR 8 1974



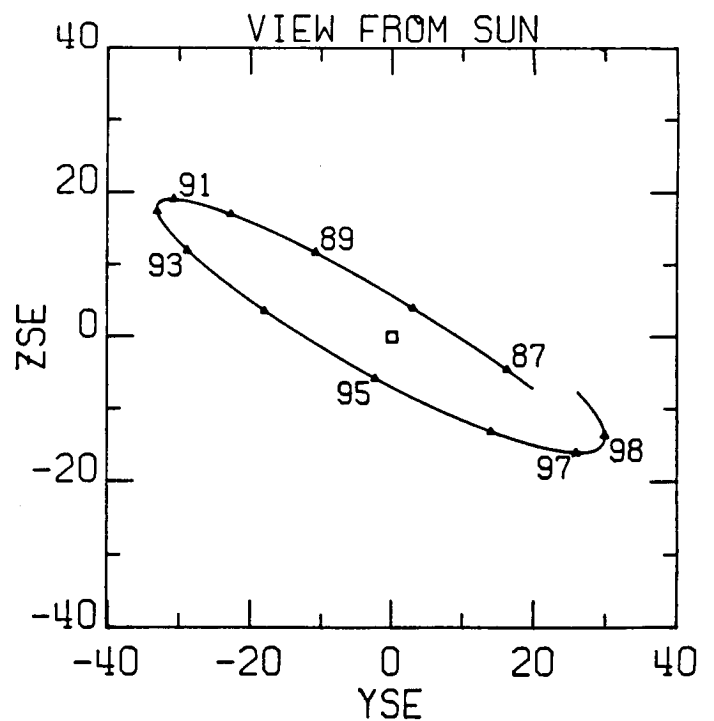
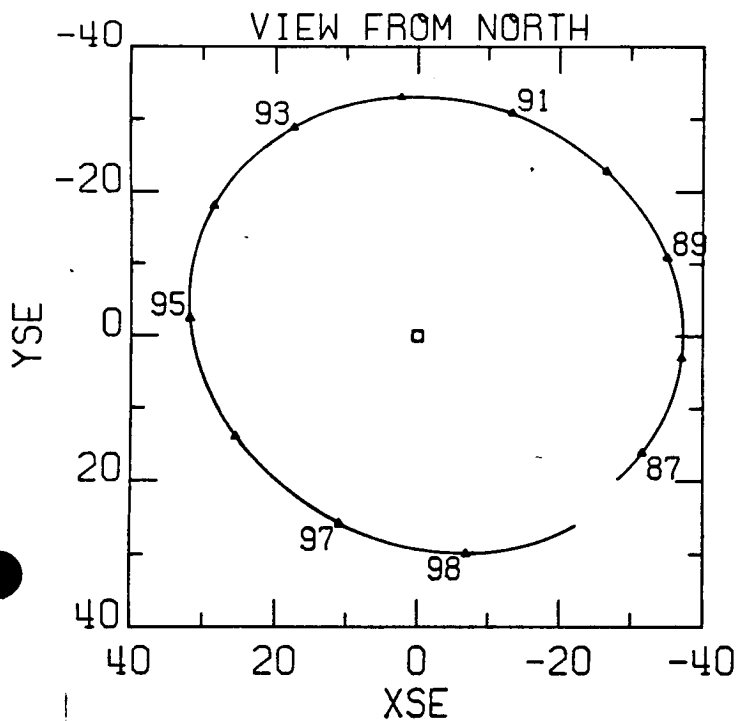
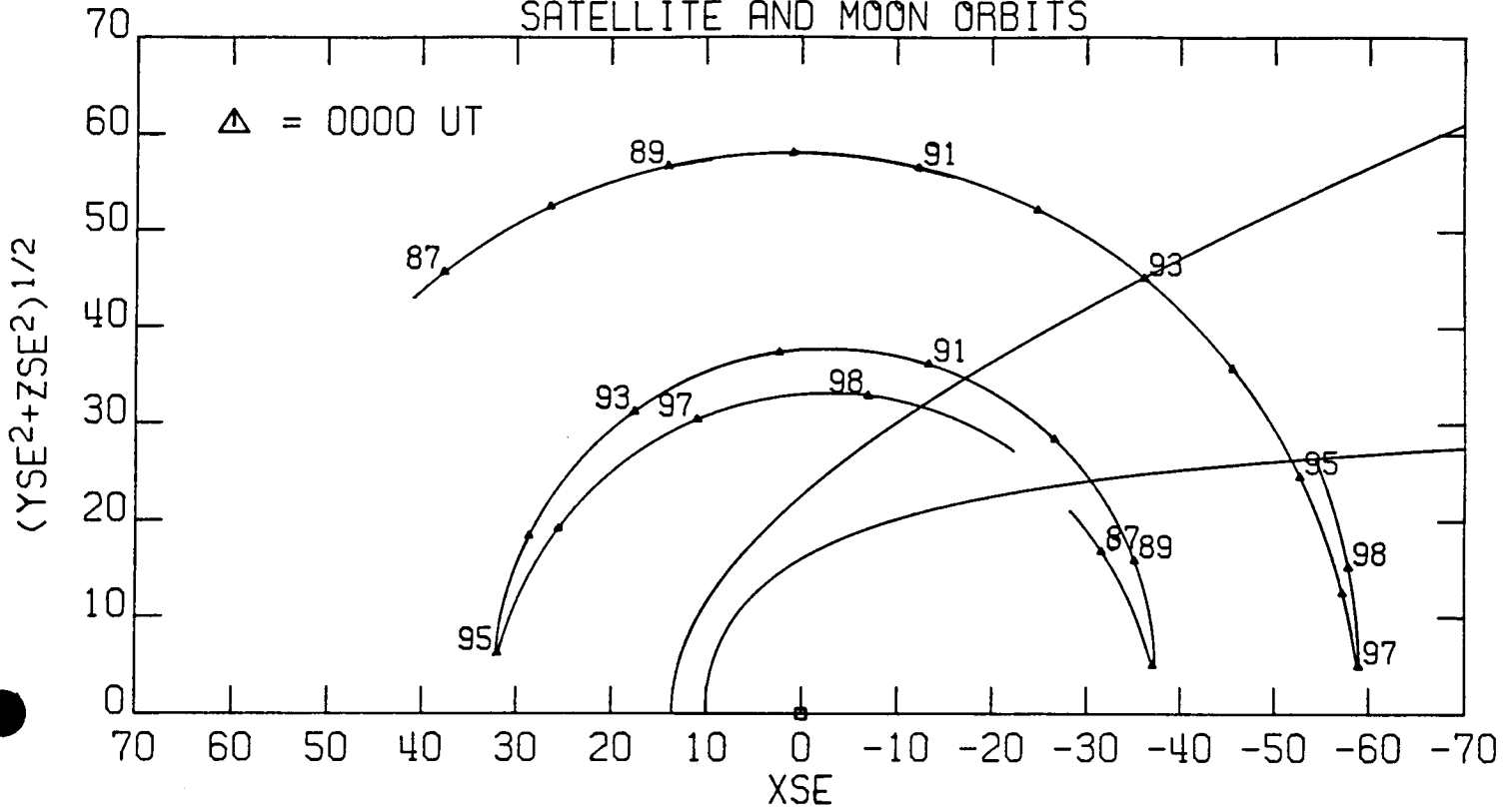
IMP 7 TRAJECTORY.

ASCENDING NODE 46

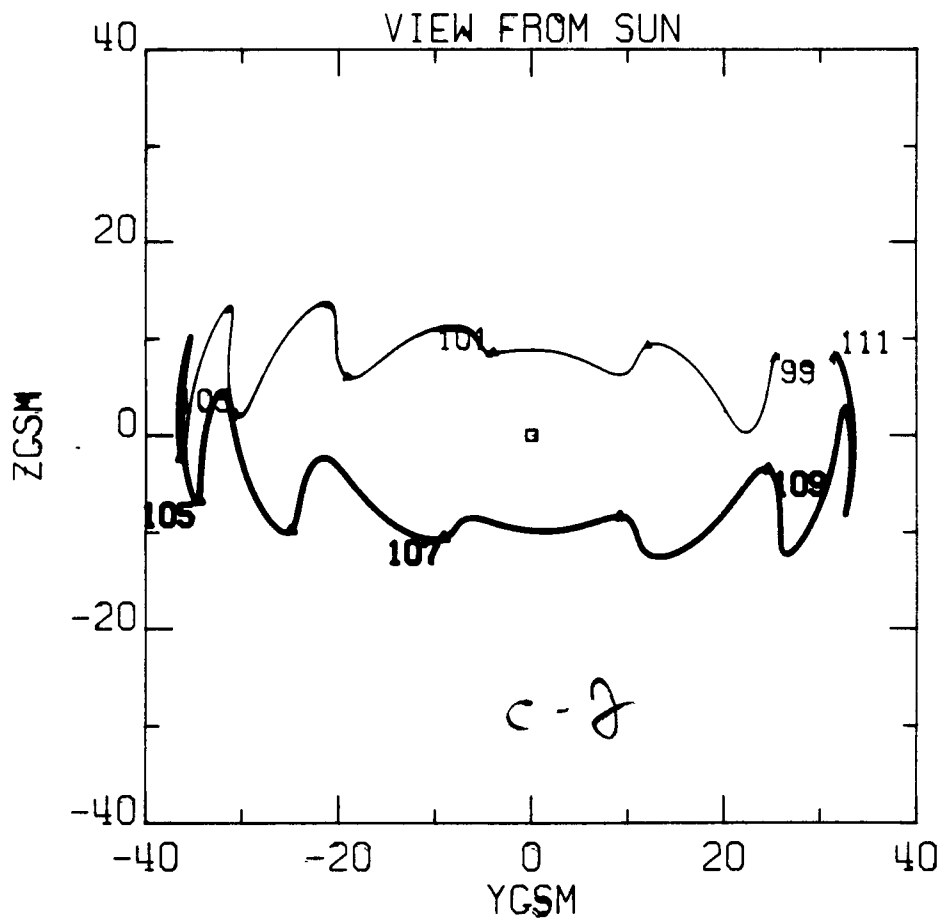
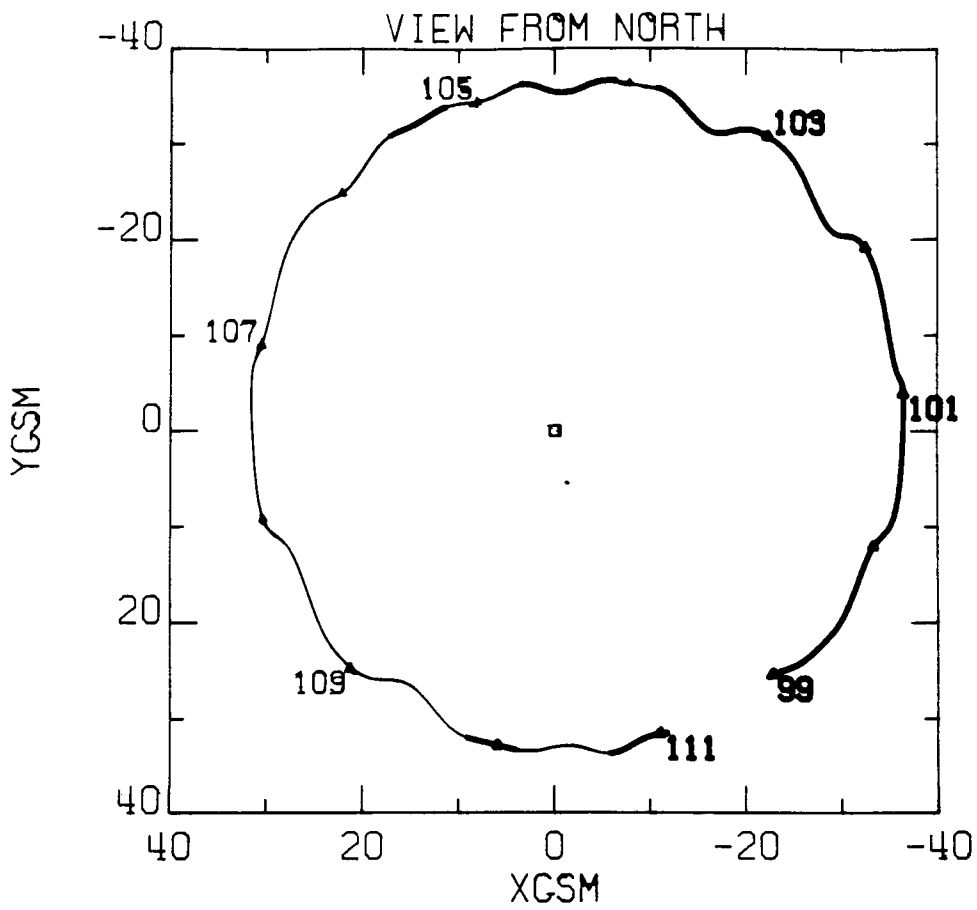
FROM MAR 27 TO APR 8 1974

DAYS 86 THRU 98

SATELLITE AND MOON ORBITS



IMP 7 FROM APR 8 TO APR 21 1974

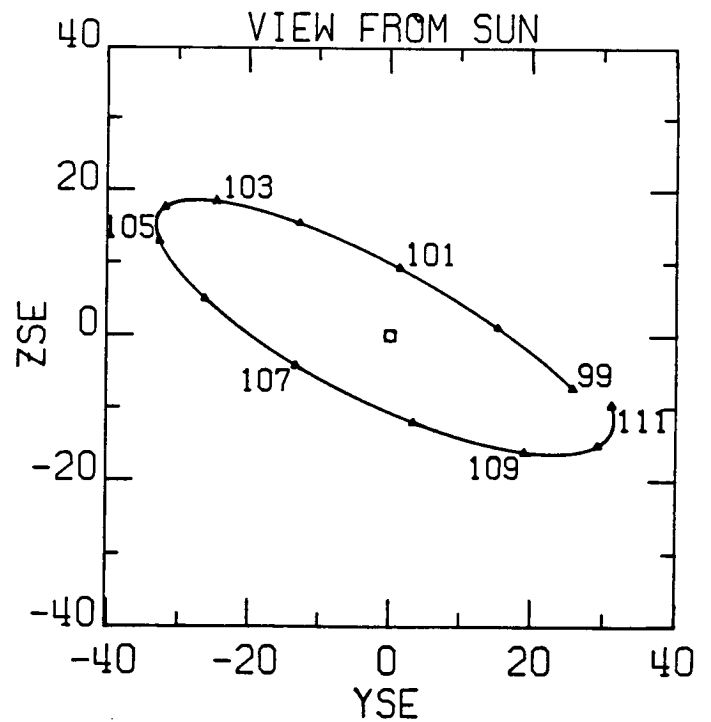
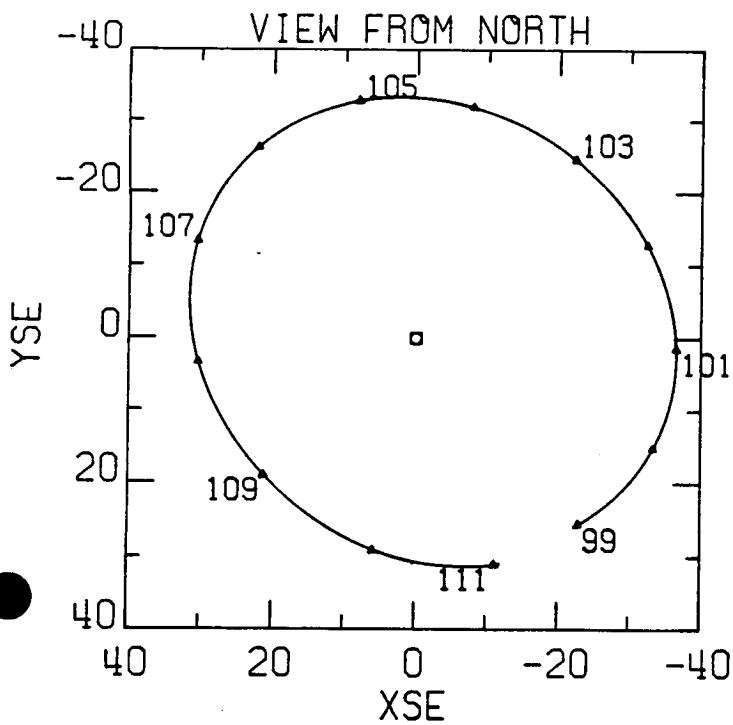
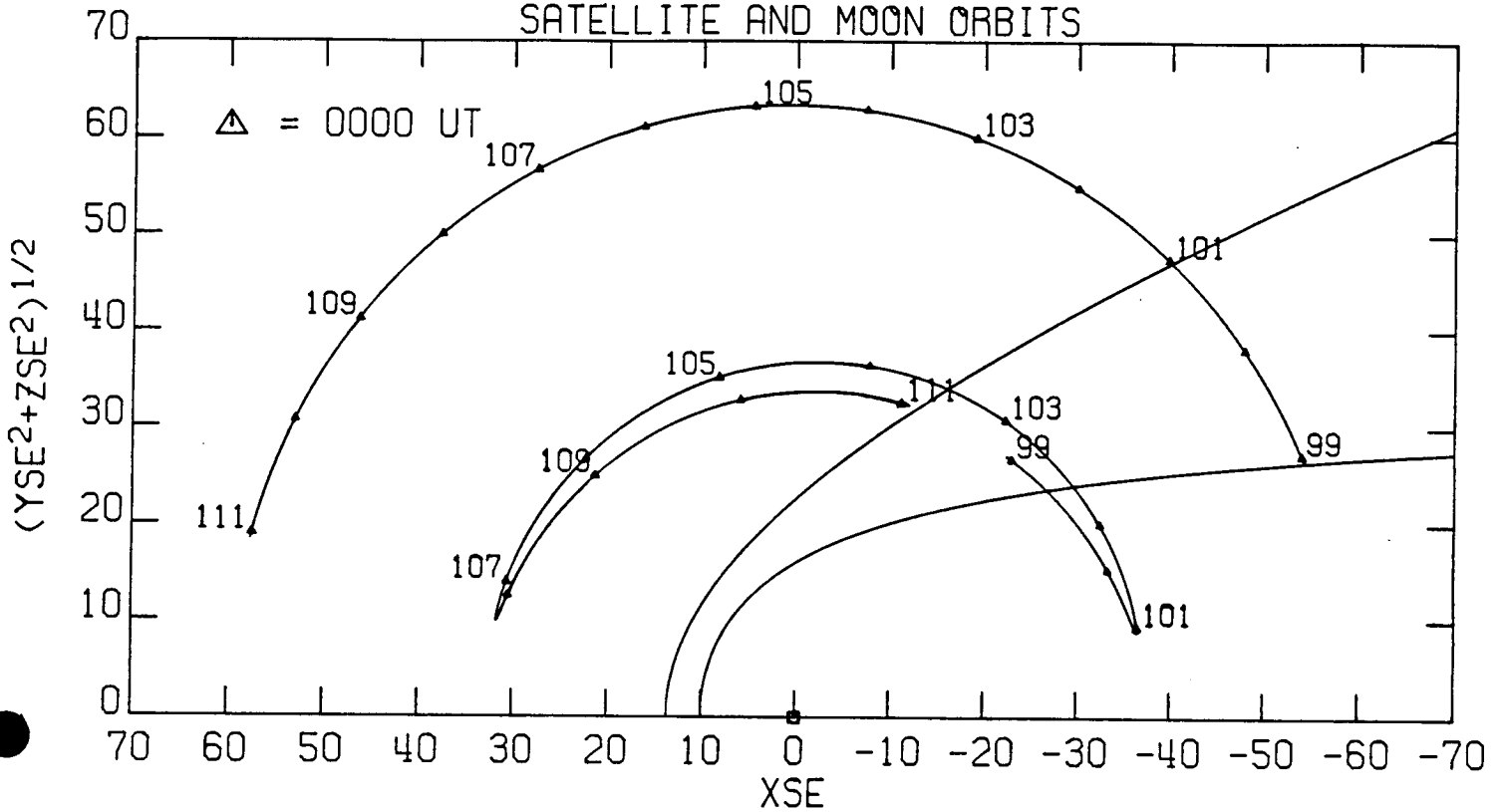


IMP 7 TRAJECTORY. ASCENDING NODE 47

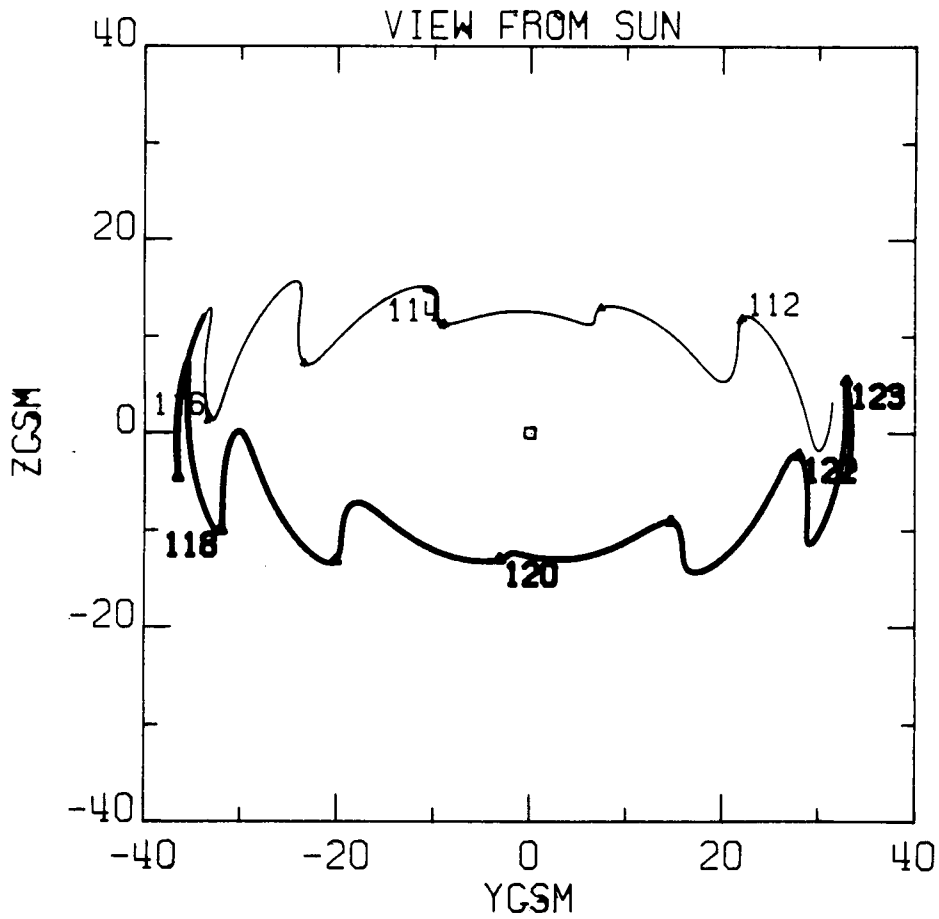
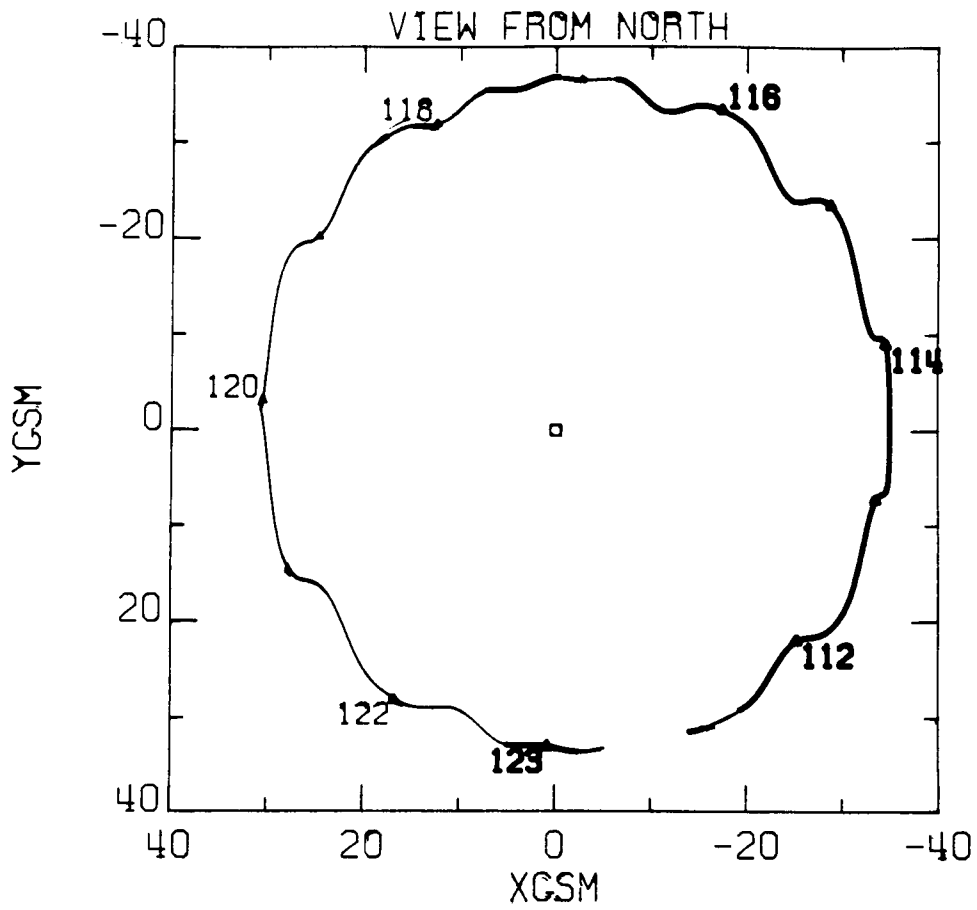
FROM APR 8 TO APR 21 1974

DAYS 98 THRU 111

SATELLITE AND MOON ORBITS



IMP 7 FROM APR 21 TO MAY 3 1974



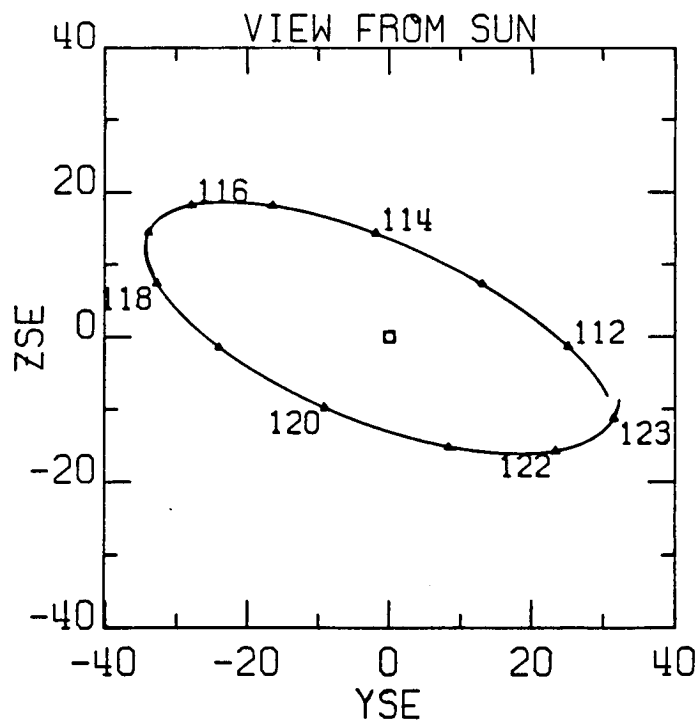
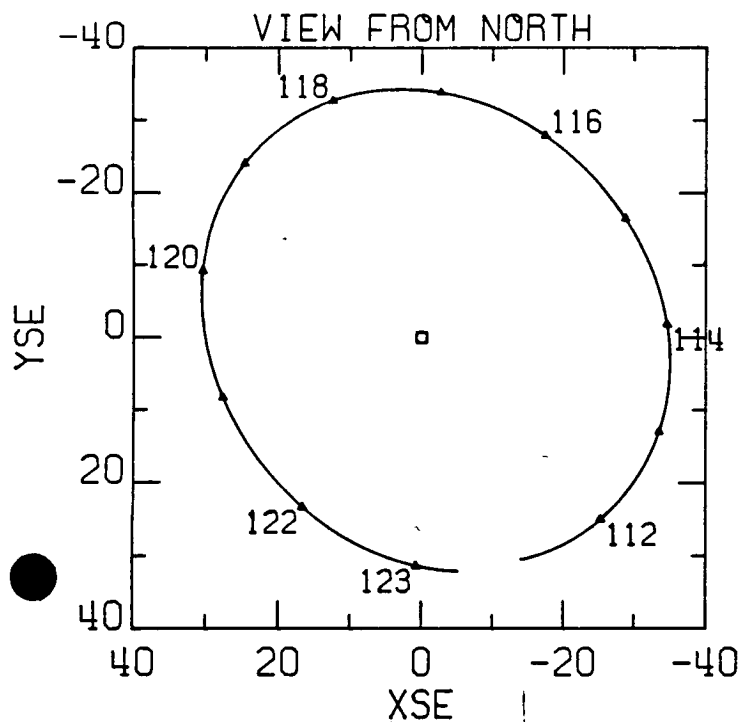
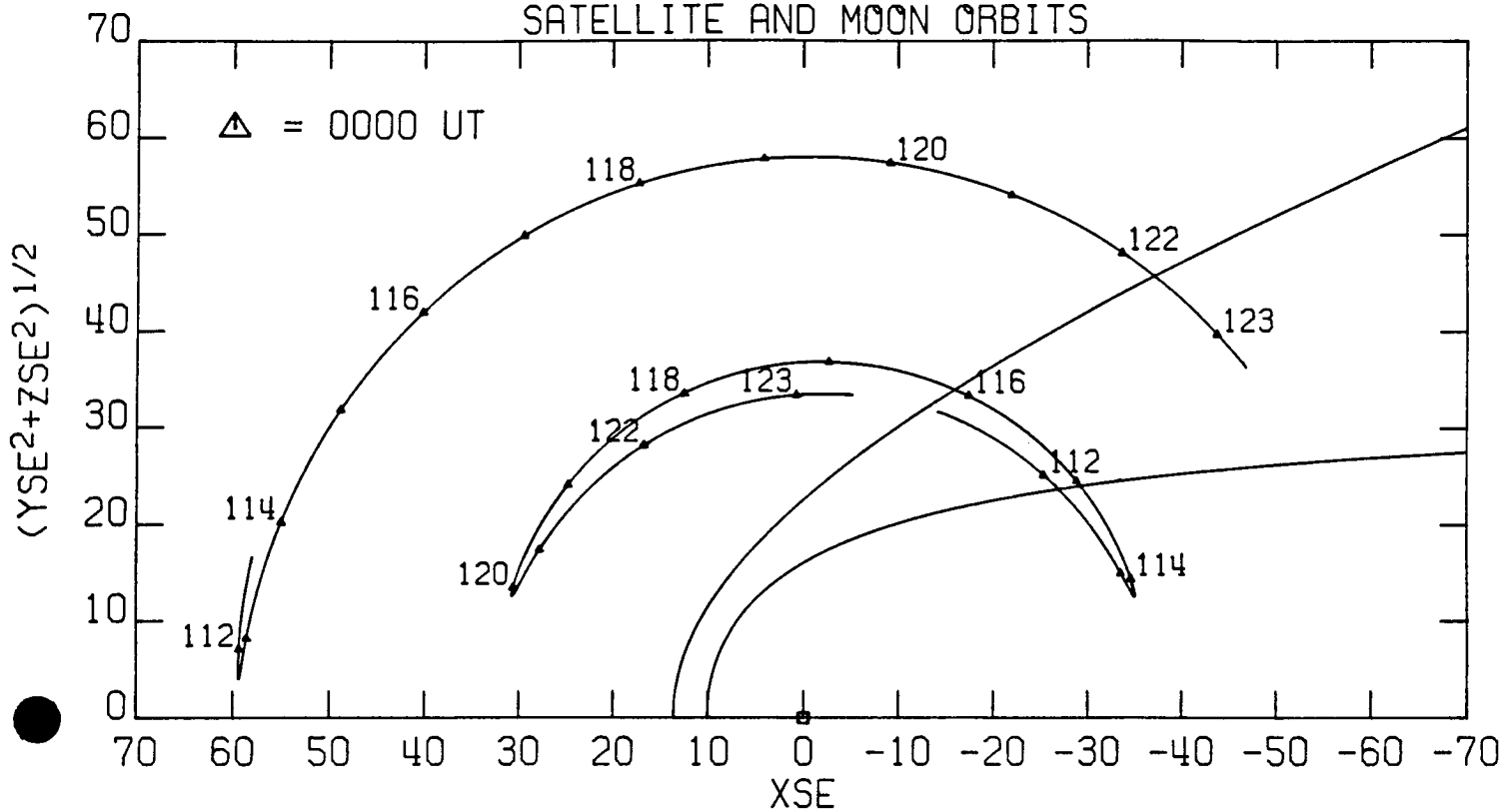
IMP 7 TRAJECTORY.

ASCENDING NODE 48

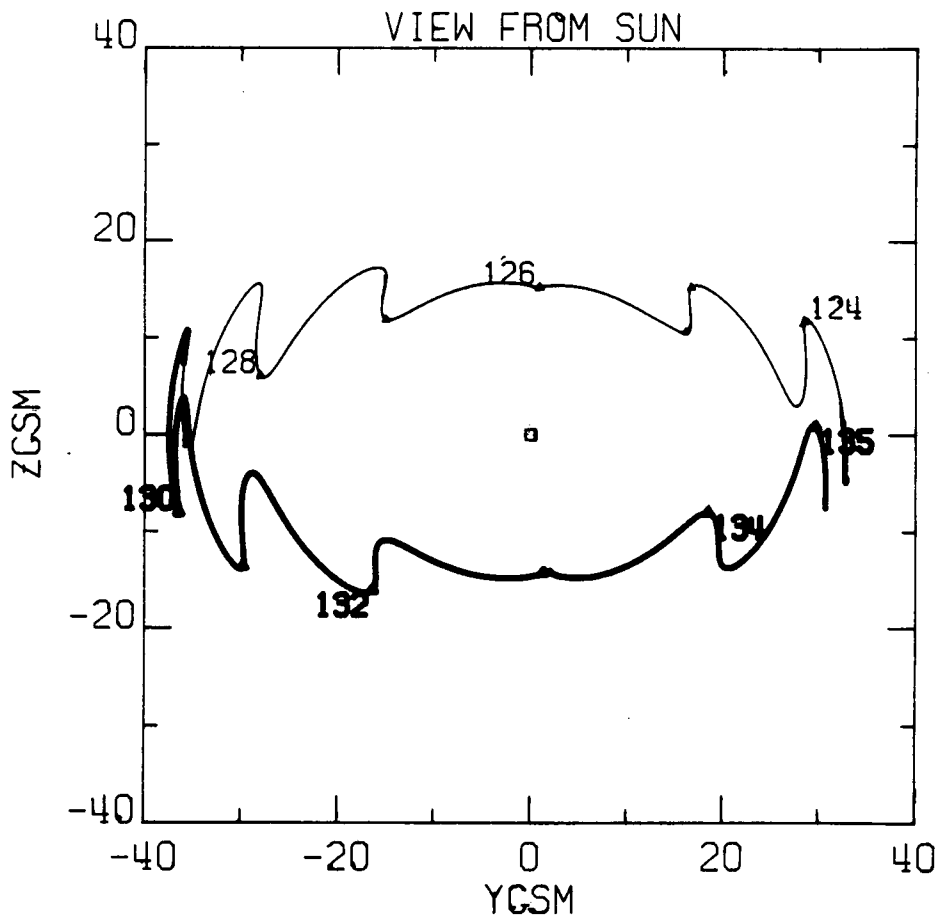
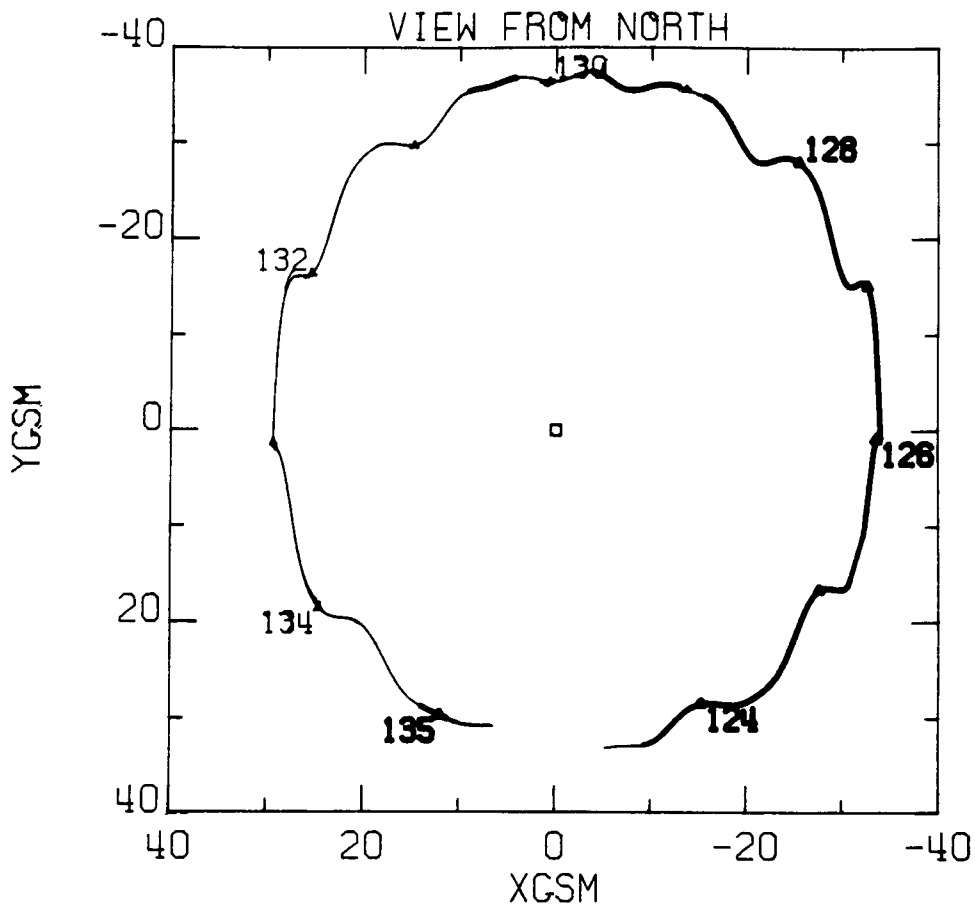
FROM APR 21 TO MAY 3 1974

DAYS 111 THRU 123

SATELLITE AND MOON ORBITS



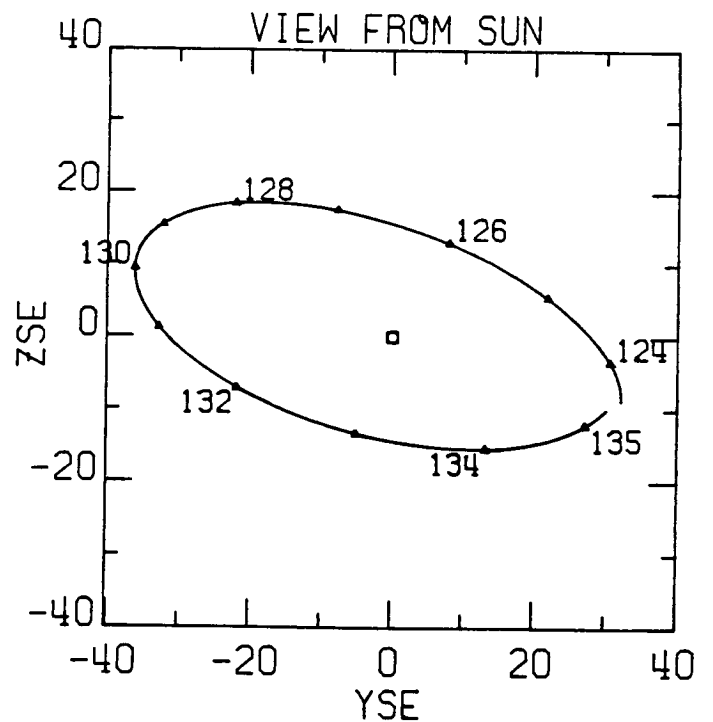
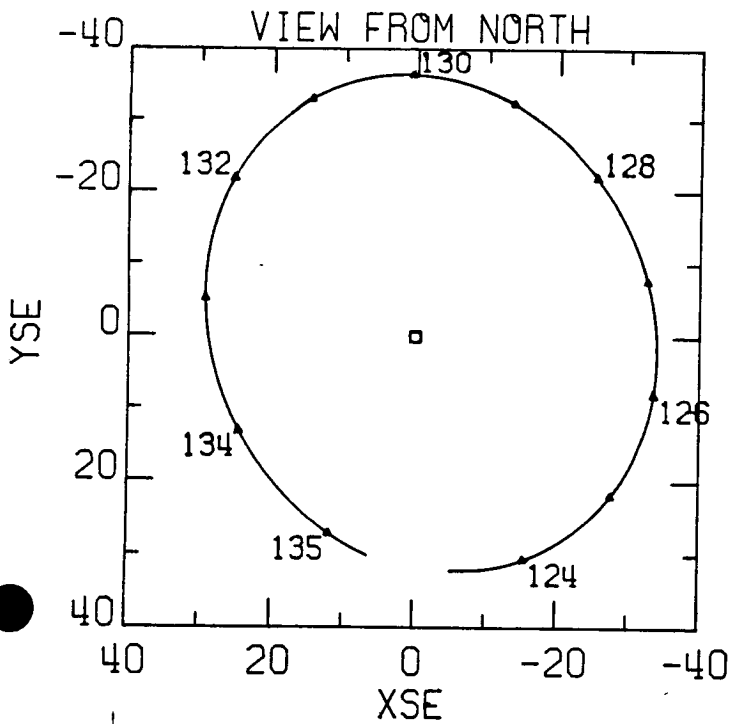
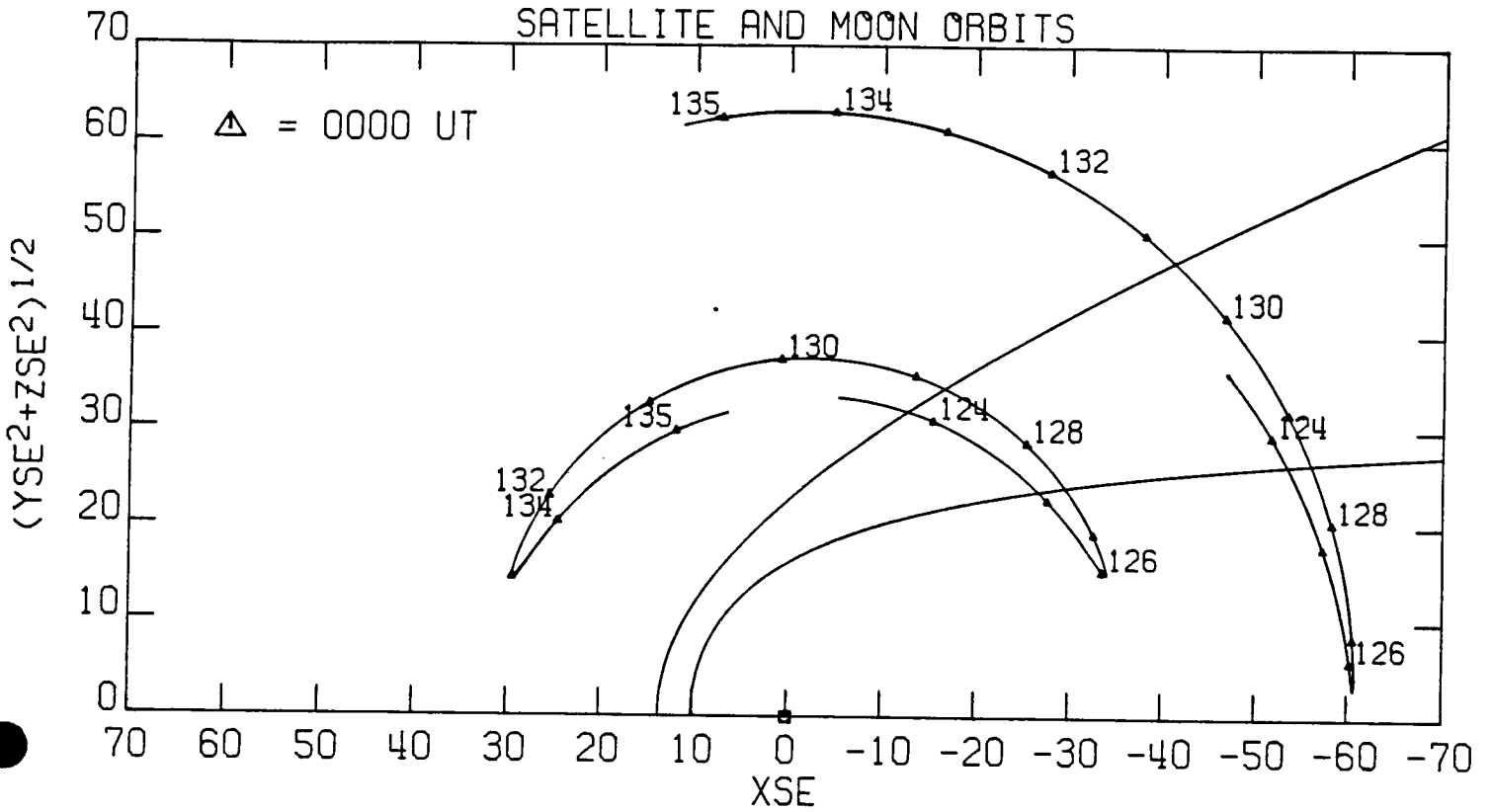
IMP 7 FROM MAY 3 TO MAY 15 1974



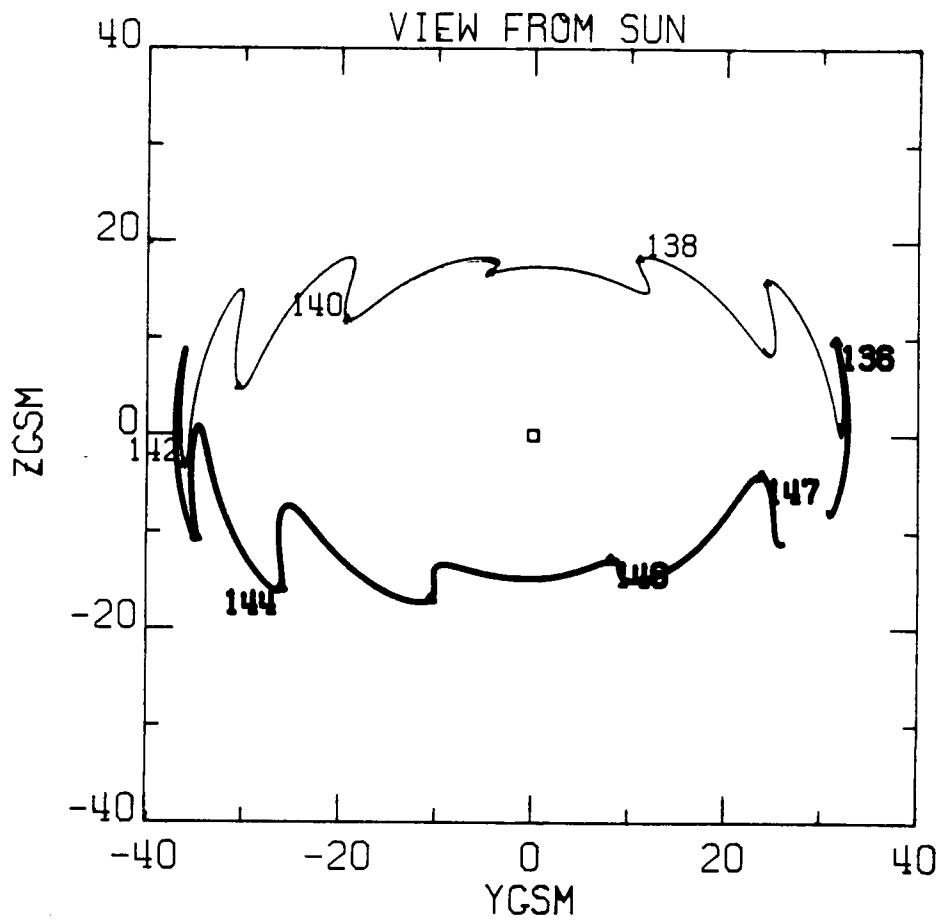
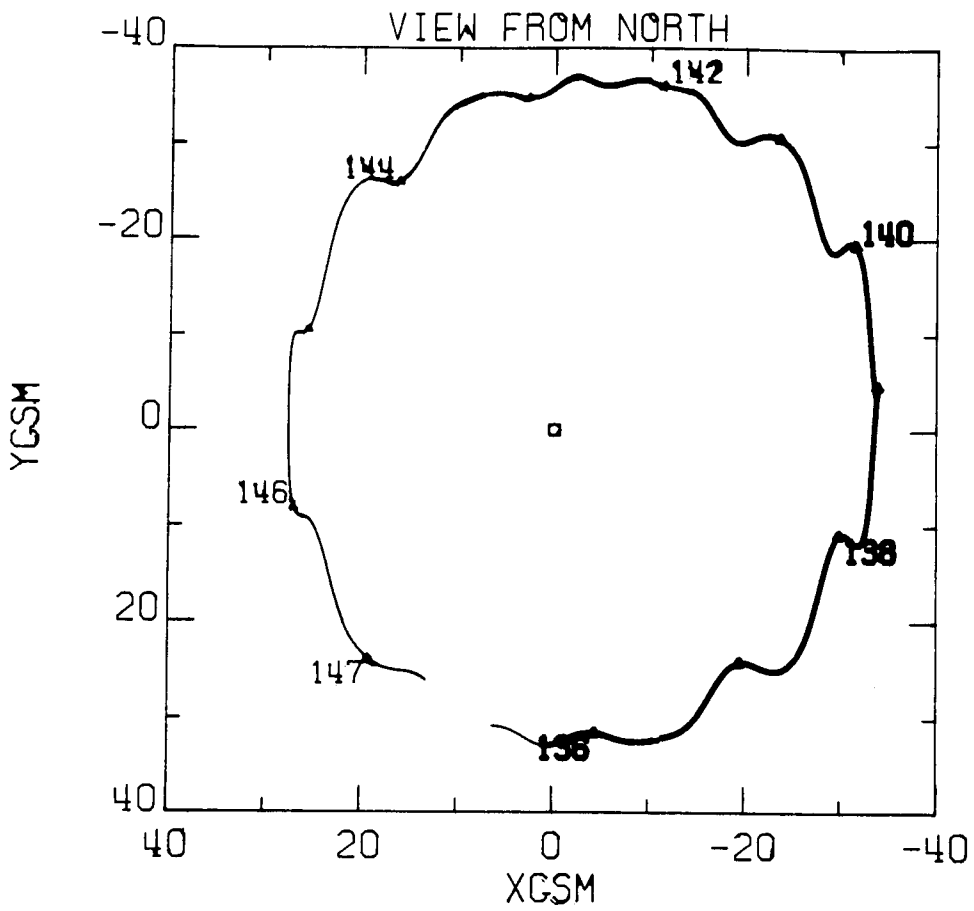
IMP 7 TRAJECTORY. ASCENDING NODE 49

FROM MAY 3 TO MAY 15 1974

DAYS 123 THRU 135



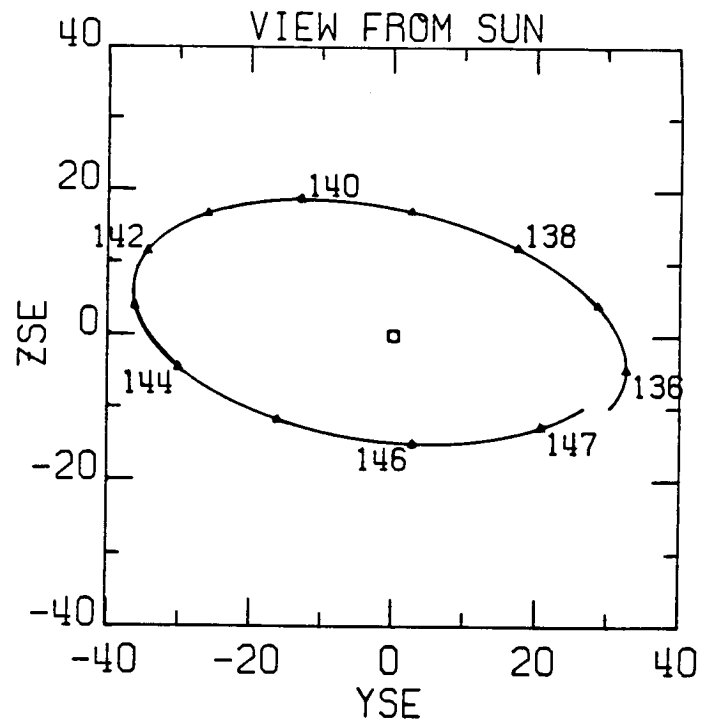
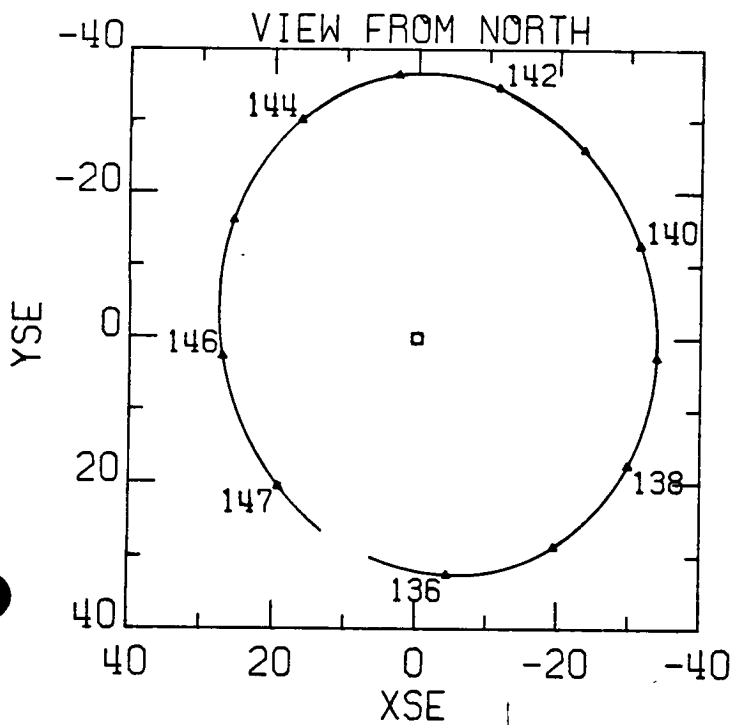
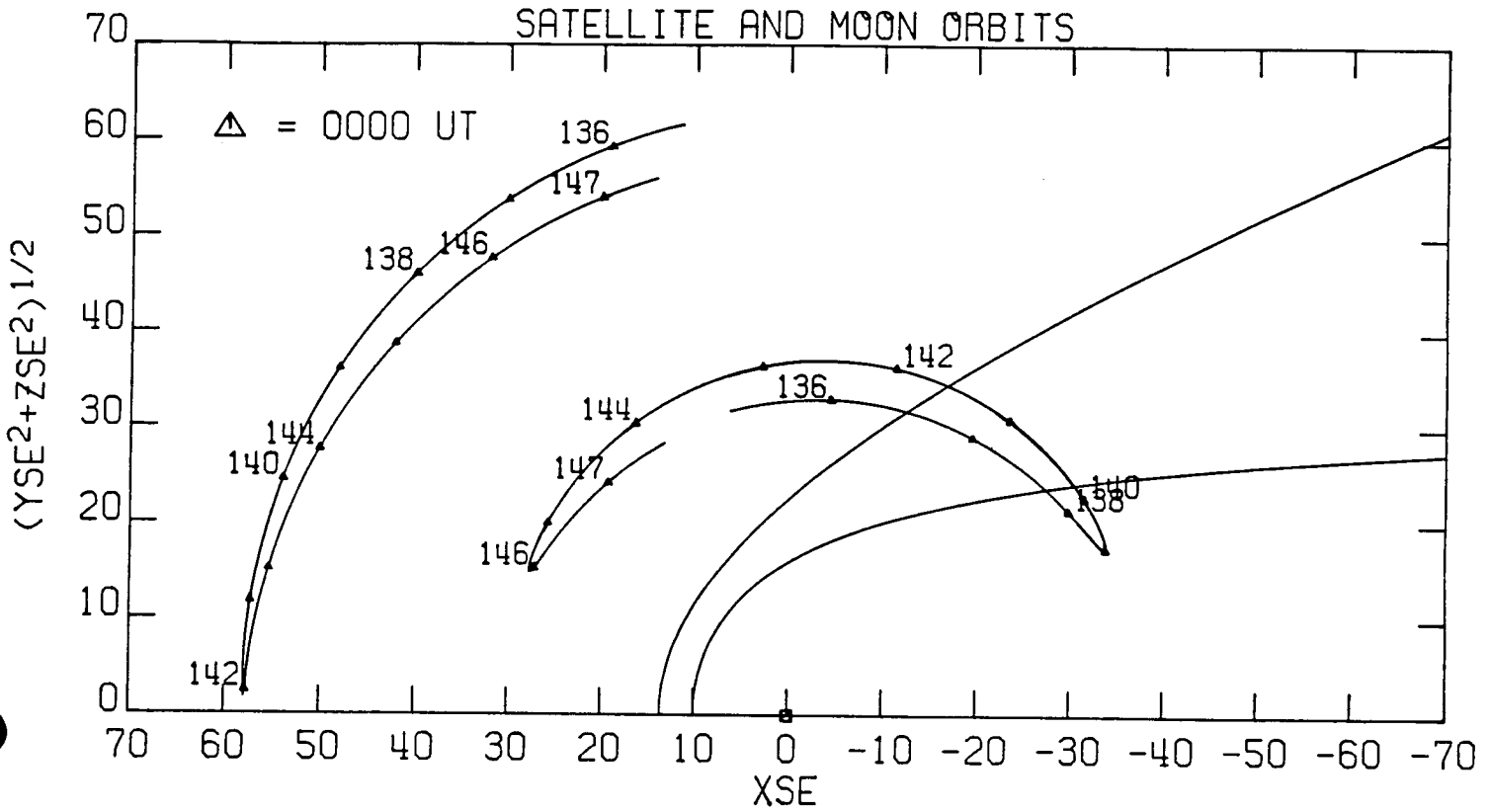
IMP 7 FROM MAY 15 TO MAY 27 1974



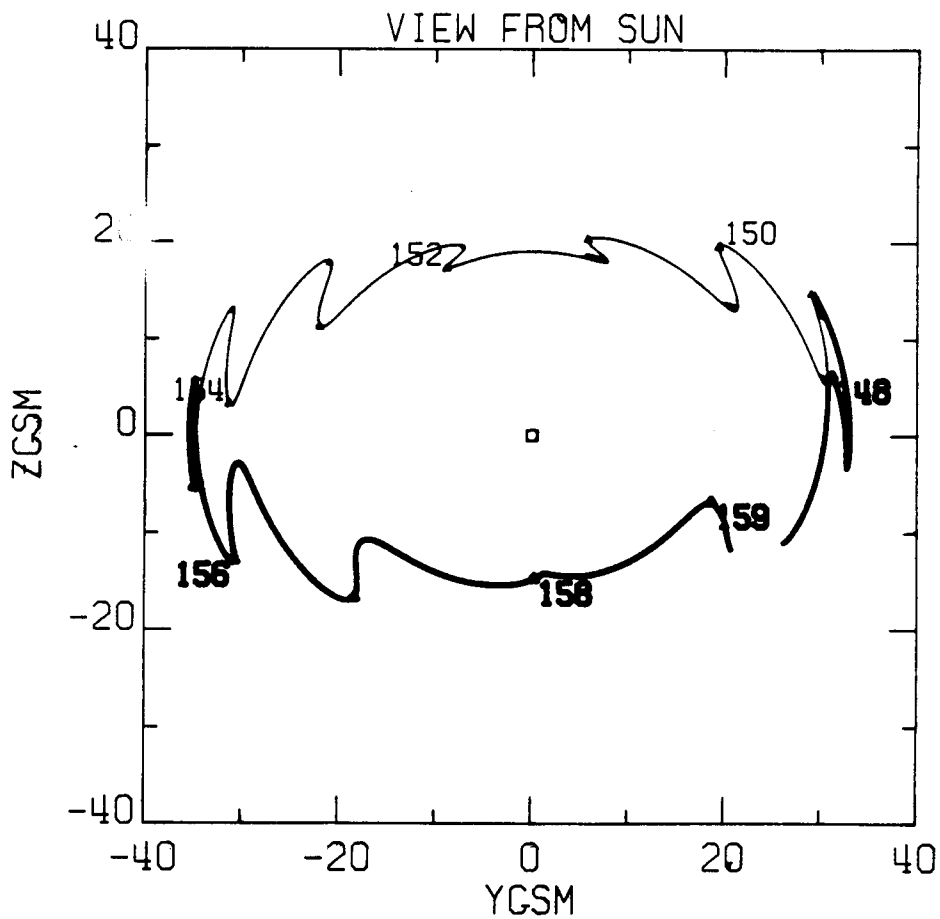
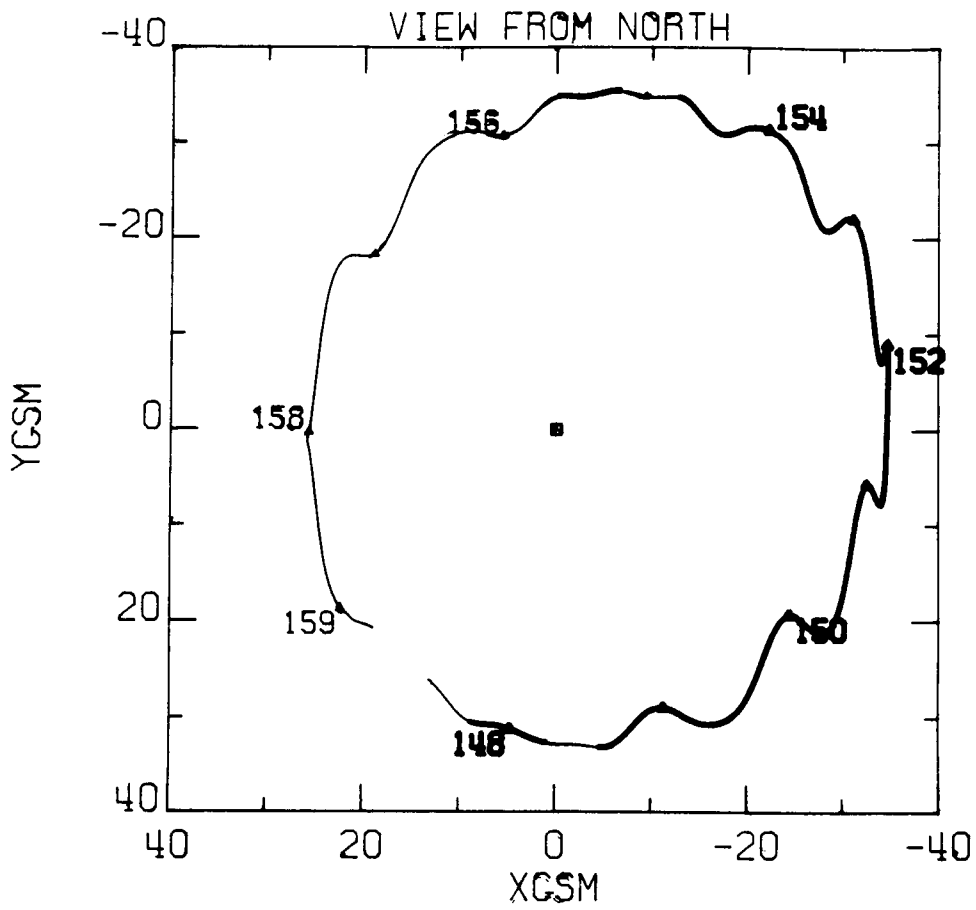
IMP 7 TRAJECTORY. ASCENDING NODE 50

FROM MAY 15 TO MAY 27 1974

DAYS 135 THRU 147



IMP 7 FROM MAY 27 TO JUN 8 1974

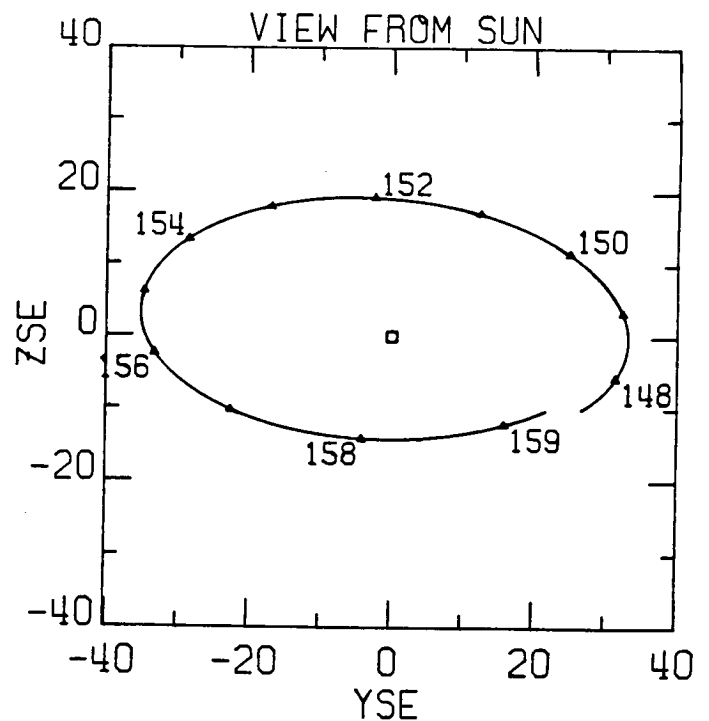
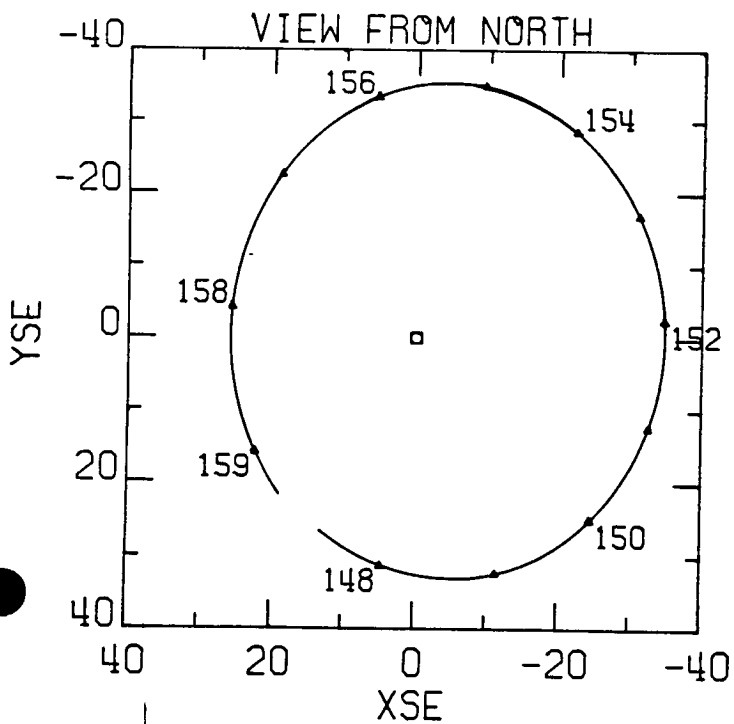
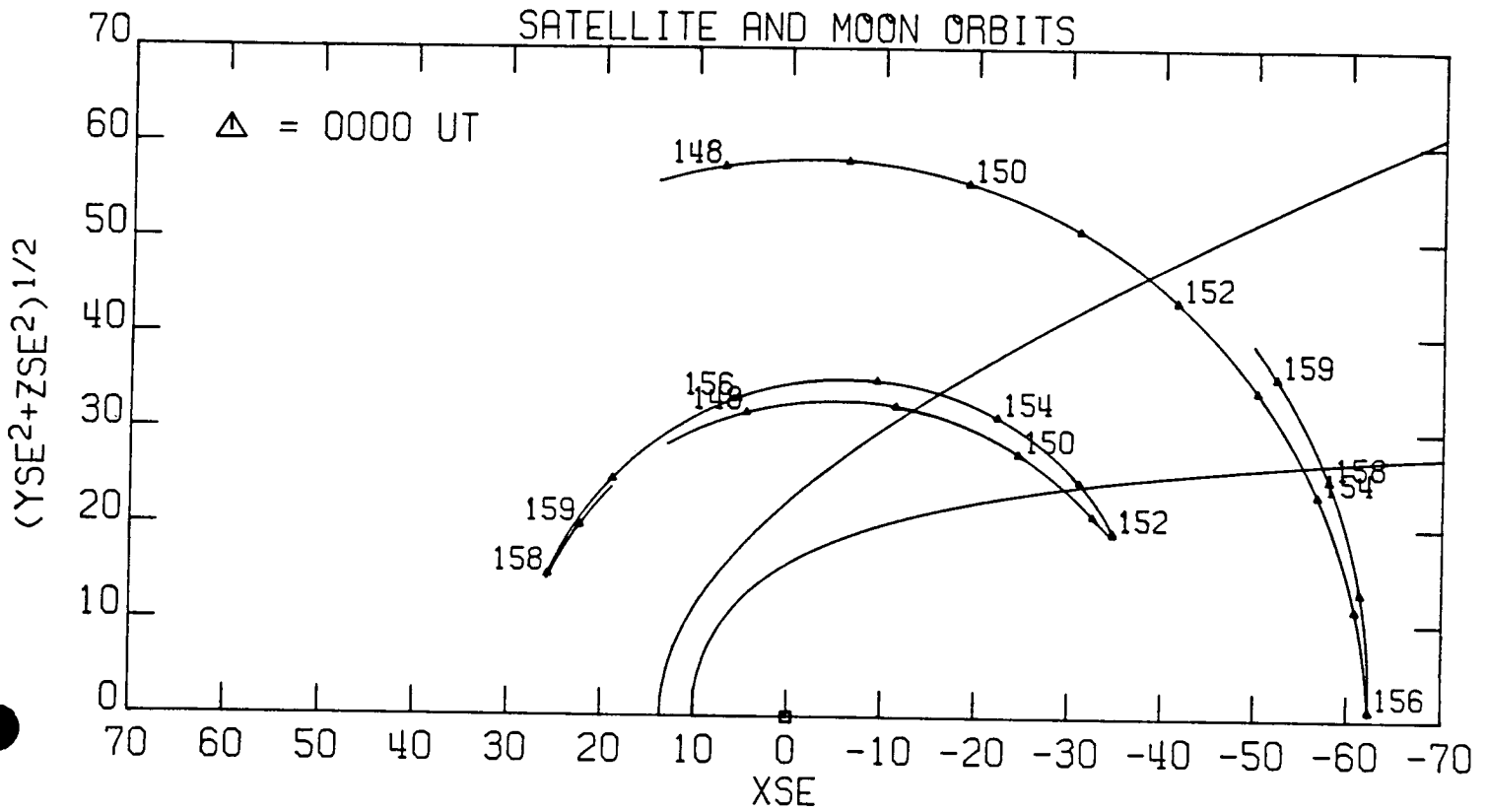


IMP 7 TRAJECTORY.

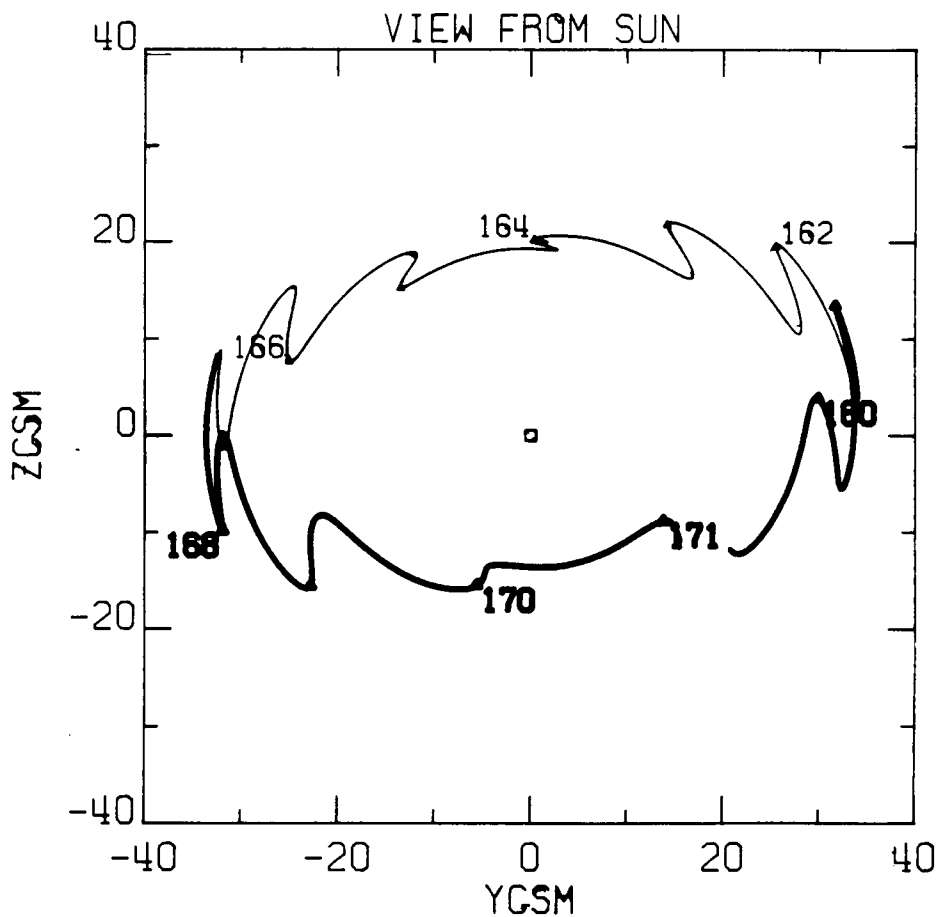
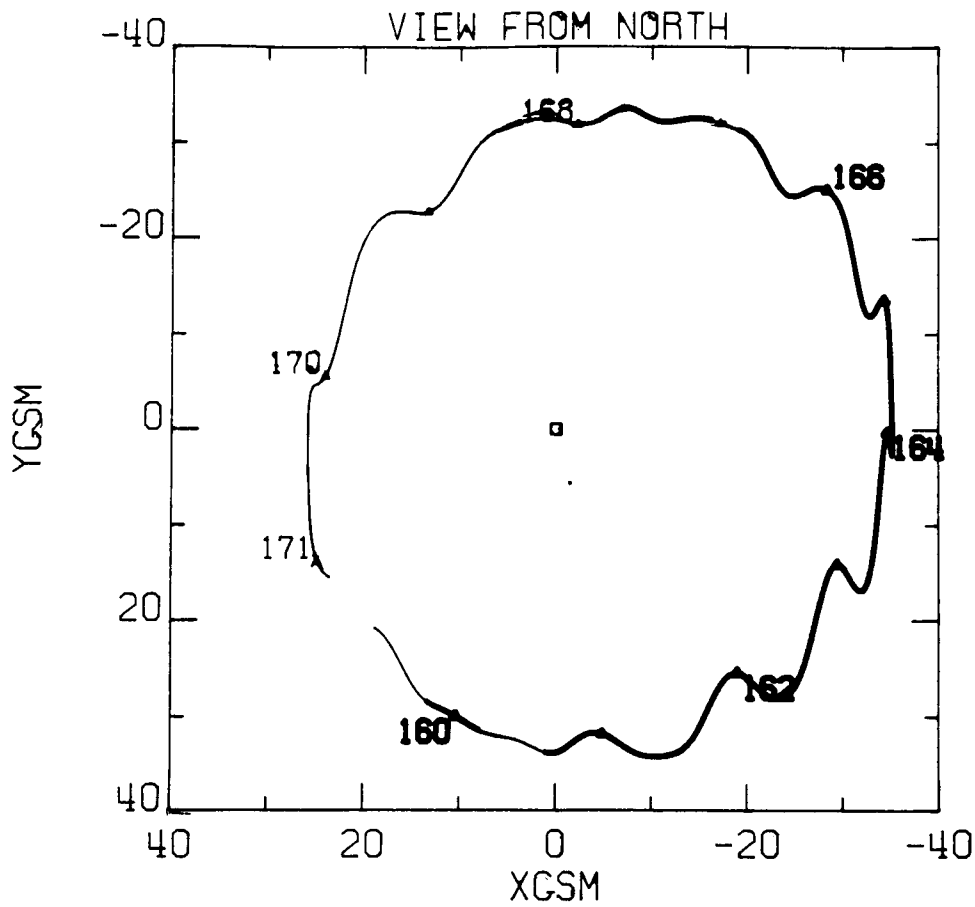
ASCENDING NODE 51

FROM MAY 27 TO JUN 8 1974

DAYS 147 THRU 159



IMP 7 FROM JUN 8 TO JUN 20 1974

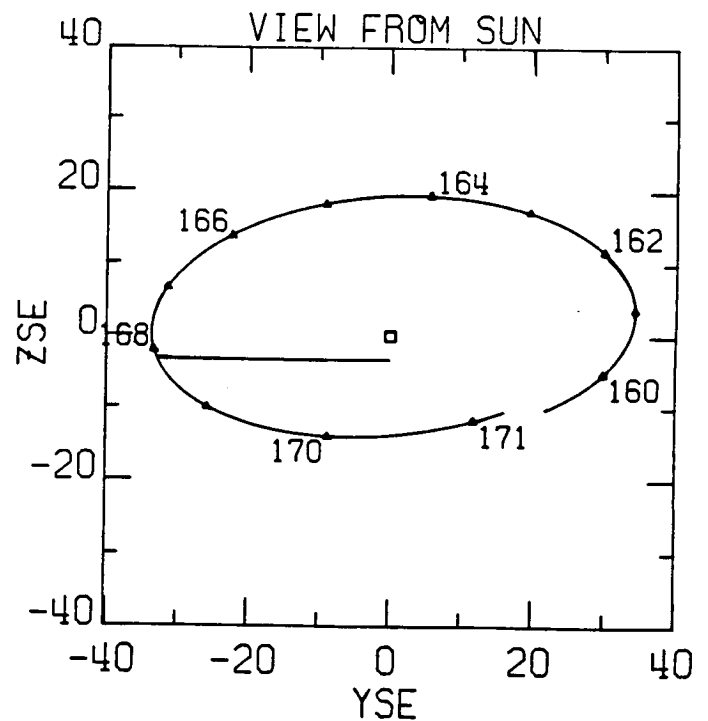
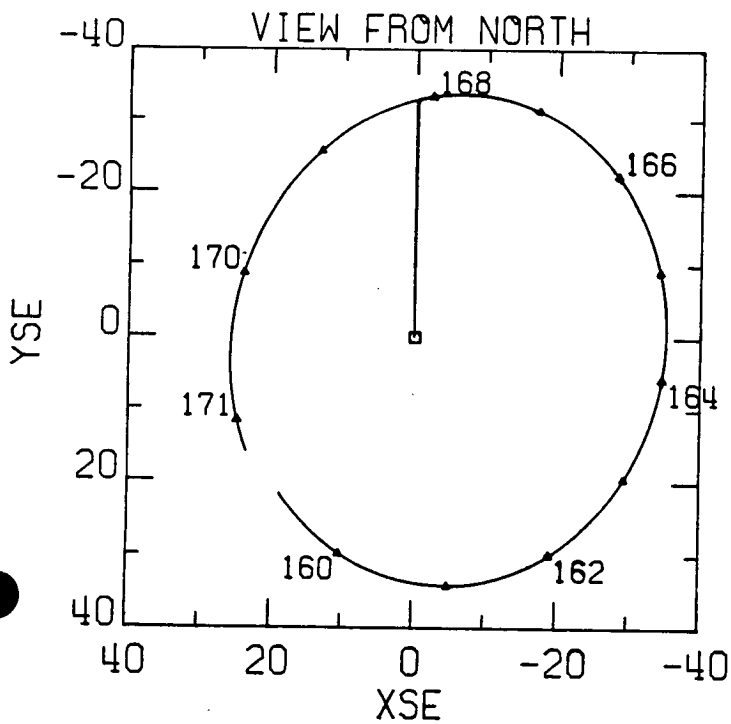
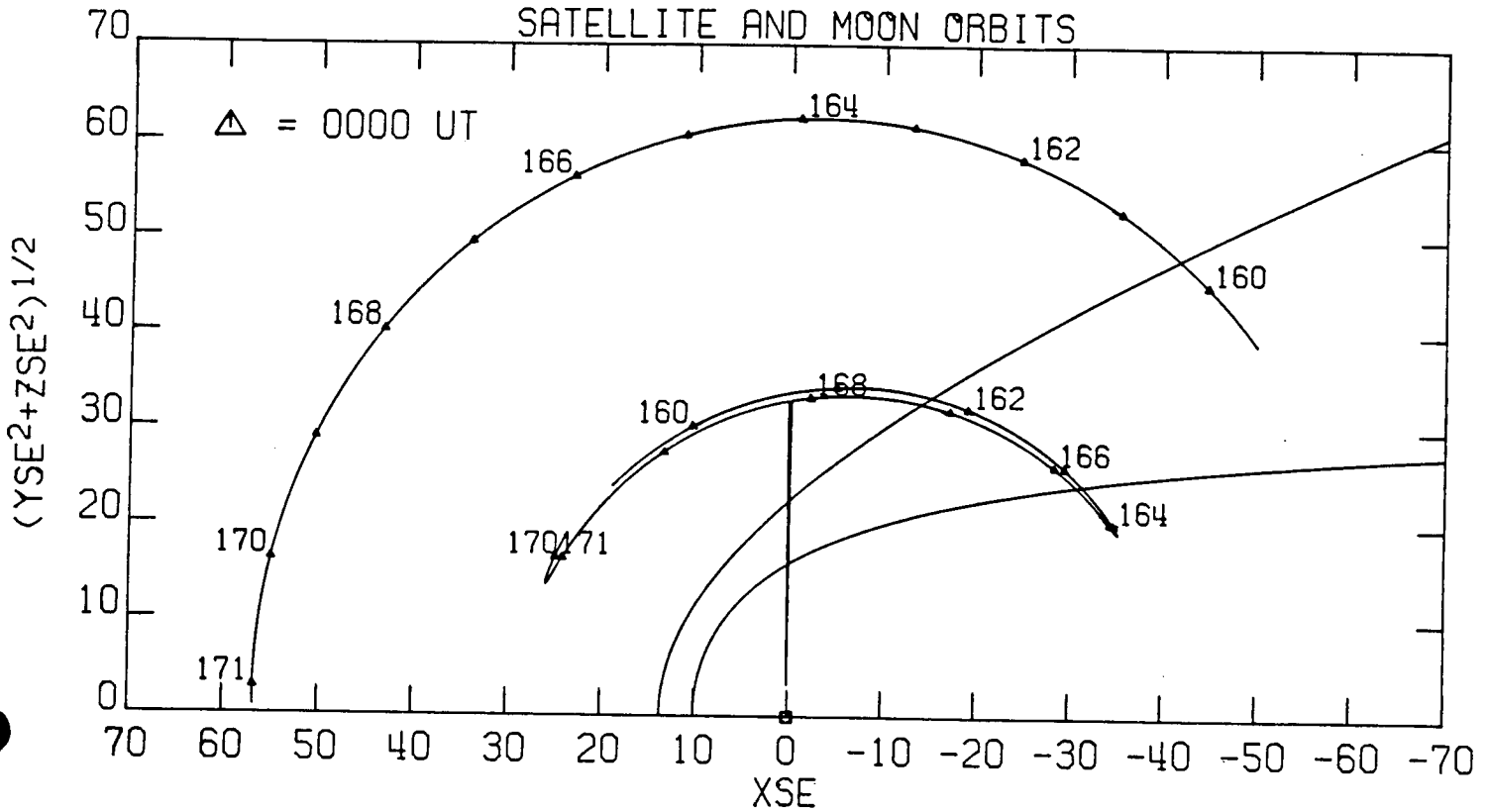


IMP 7 TRAJECTORY. ASCENDING NODE 52

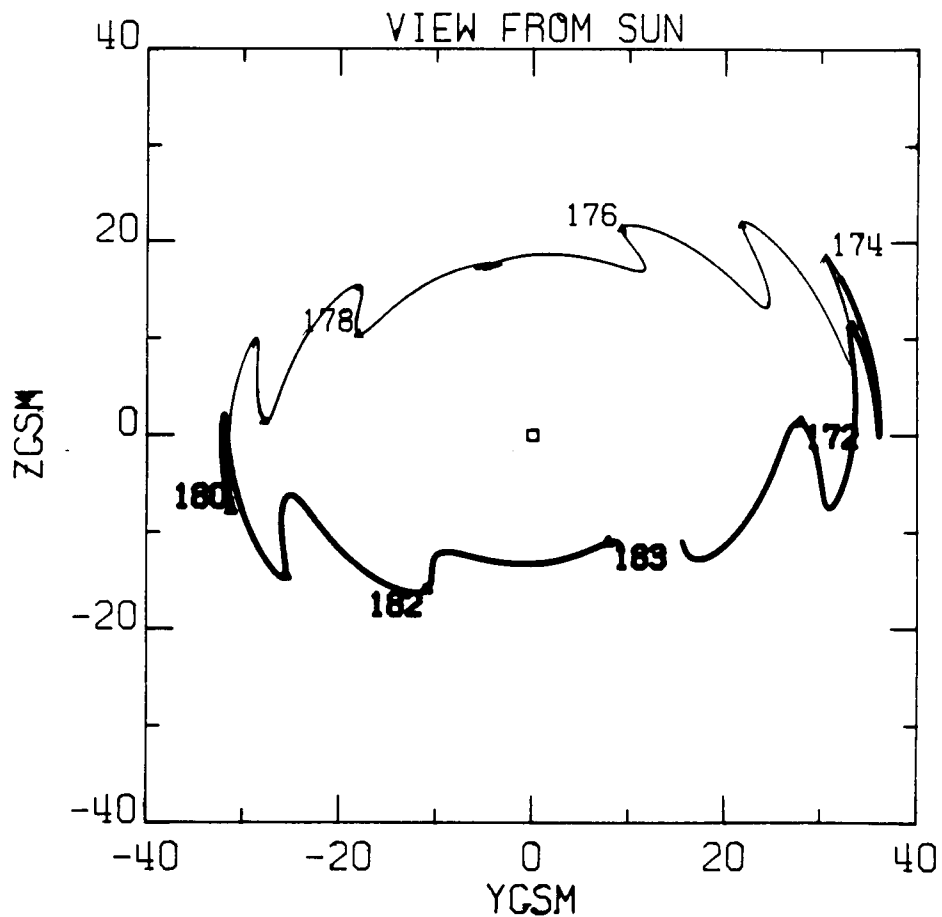
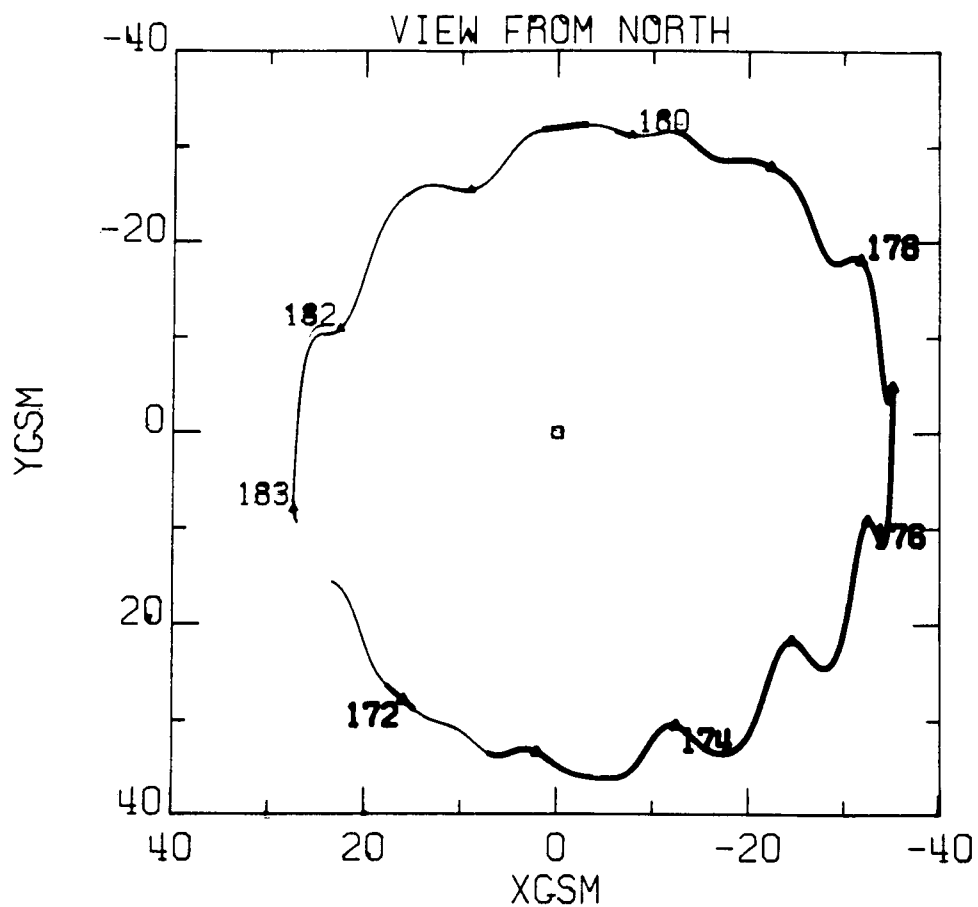
FROM JUN 8 TO JUN 20 1974

DAYS 159 THRU 171

SATELLITE AND MOON ORBITS



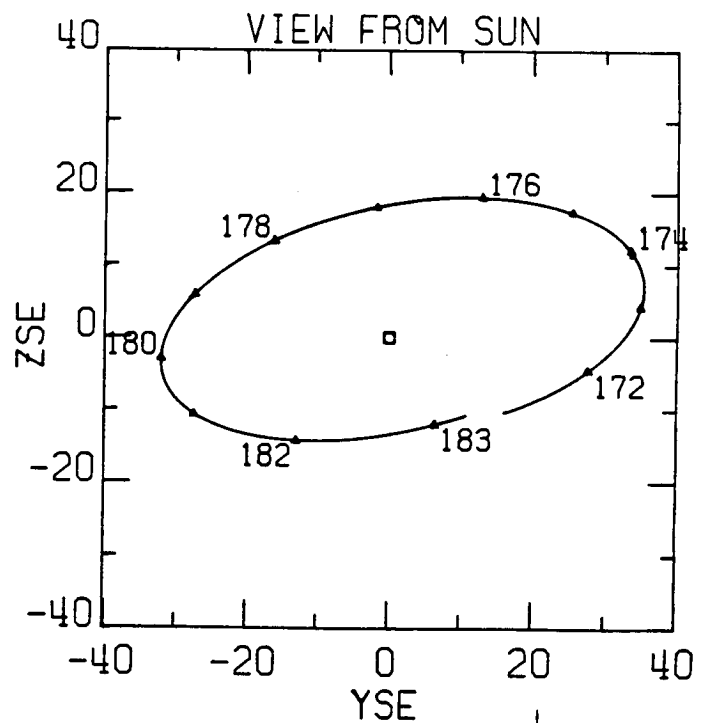
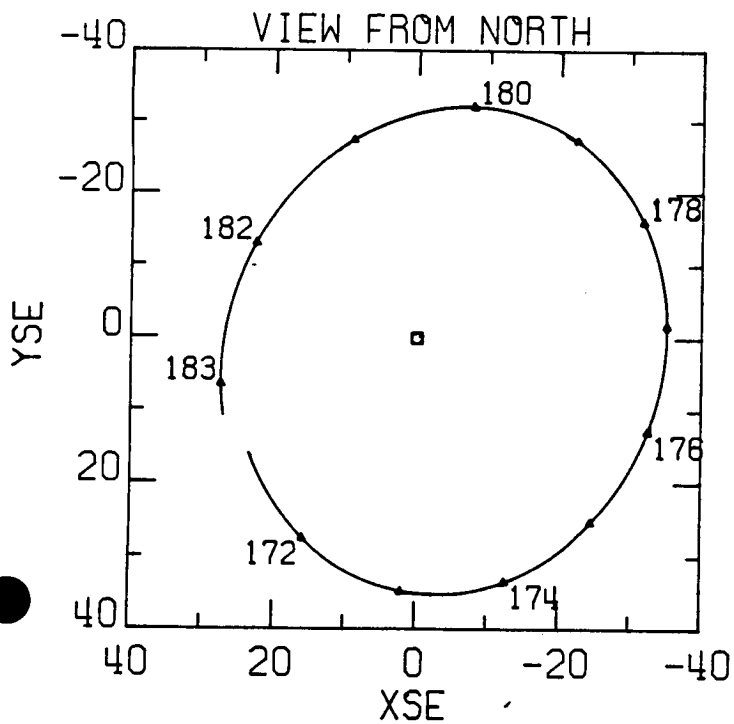
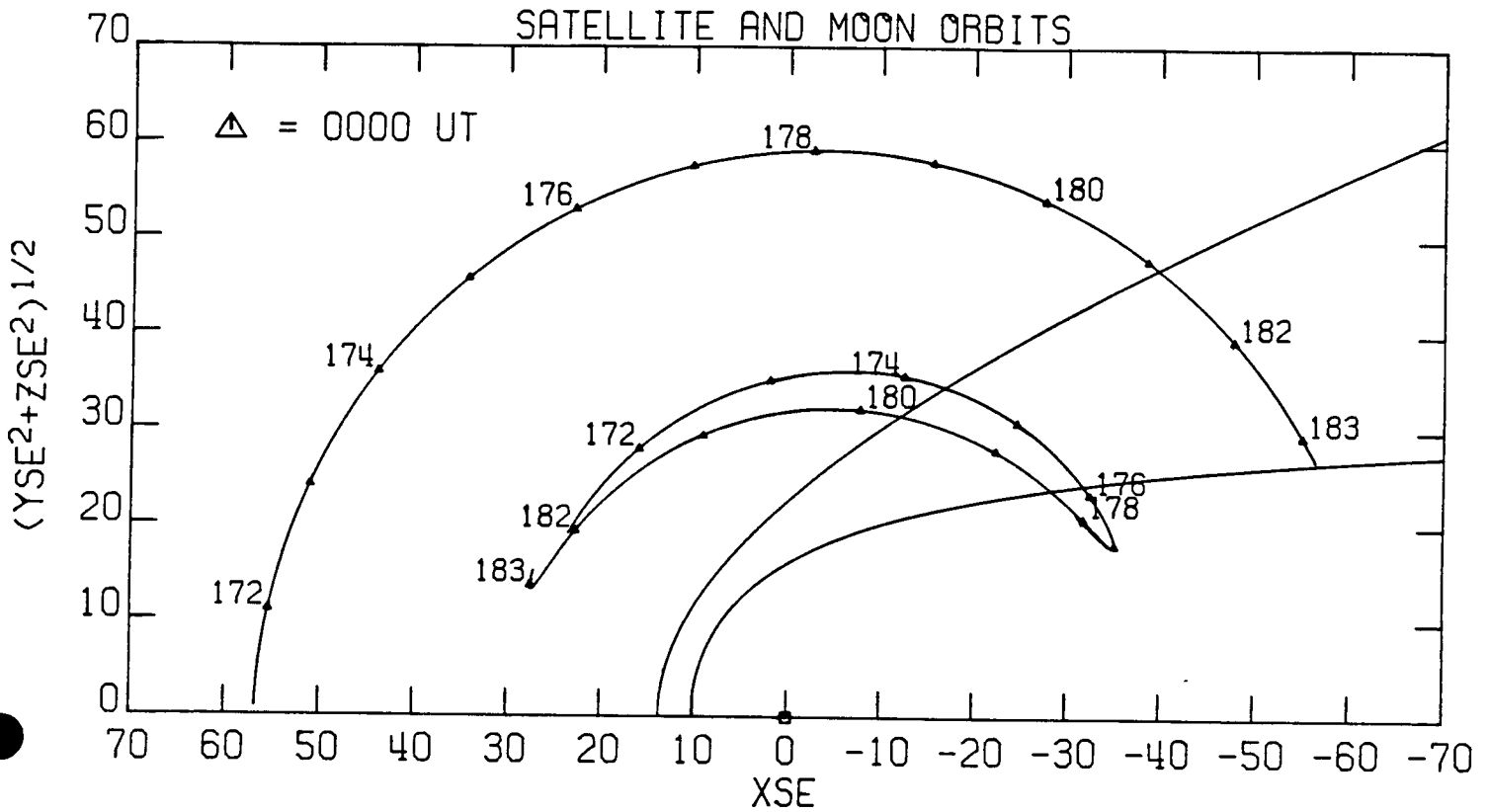
IMP 7 FROM JUN 20 TO JUL 2 1974



IMP 7 TRAJECTORY. ASCENDING NODE 53

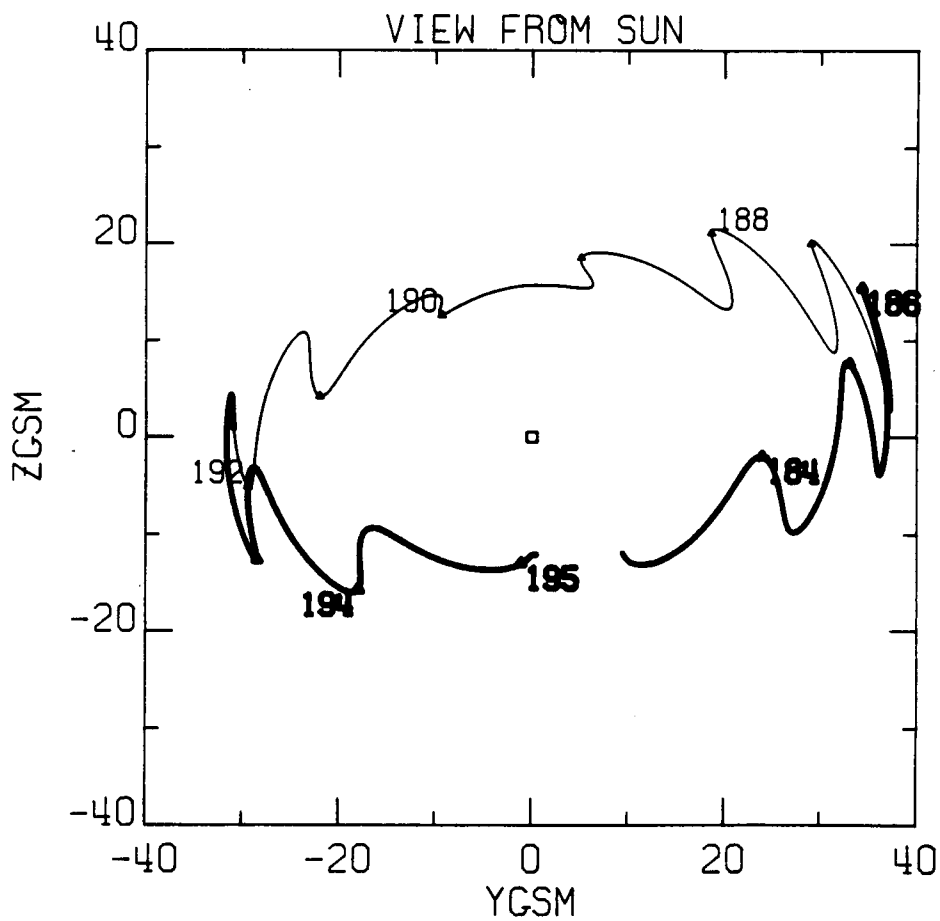
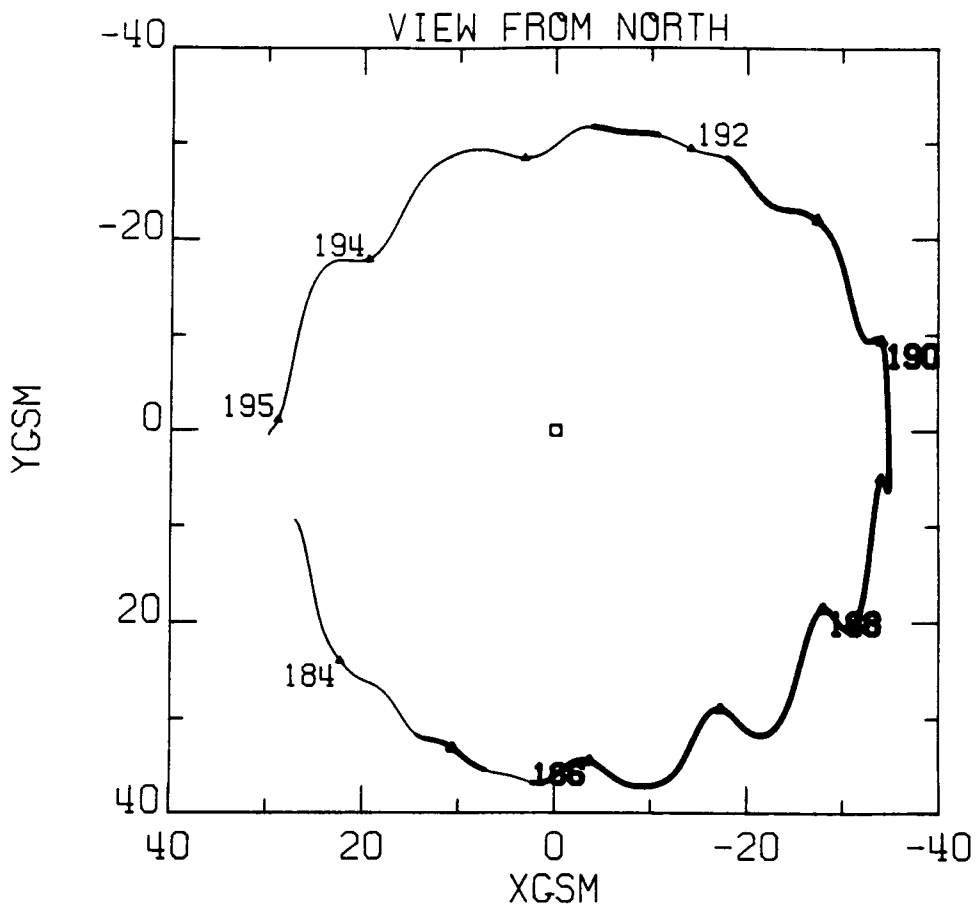
FROM JUN 20 TO JUL 2 1974

DAYS 171 THRU 183



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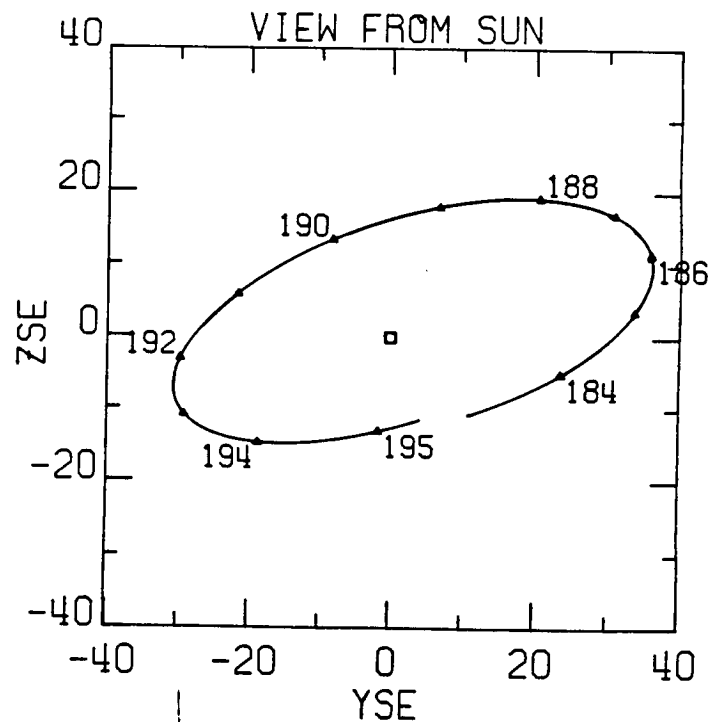
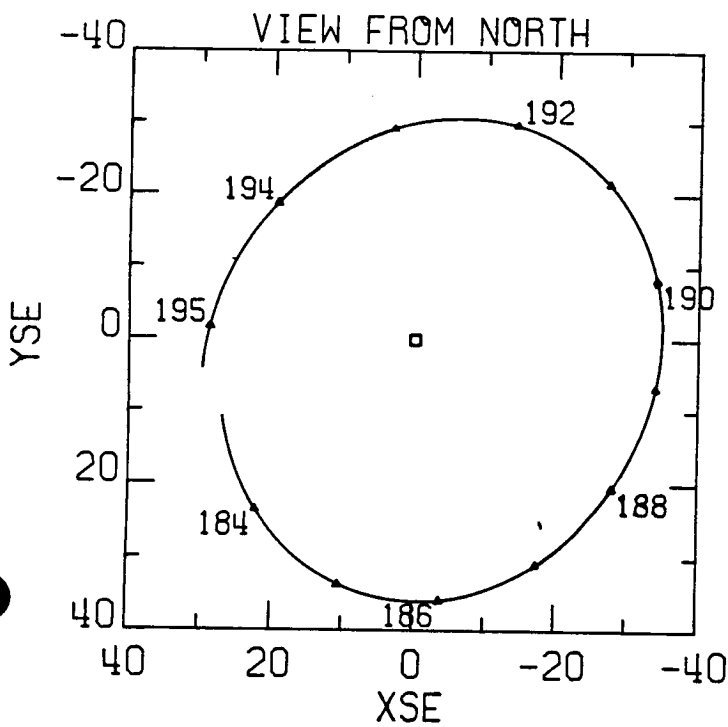
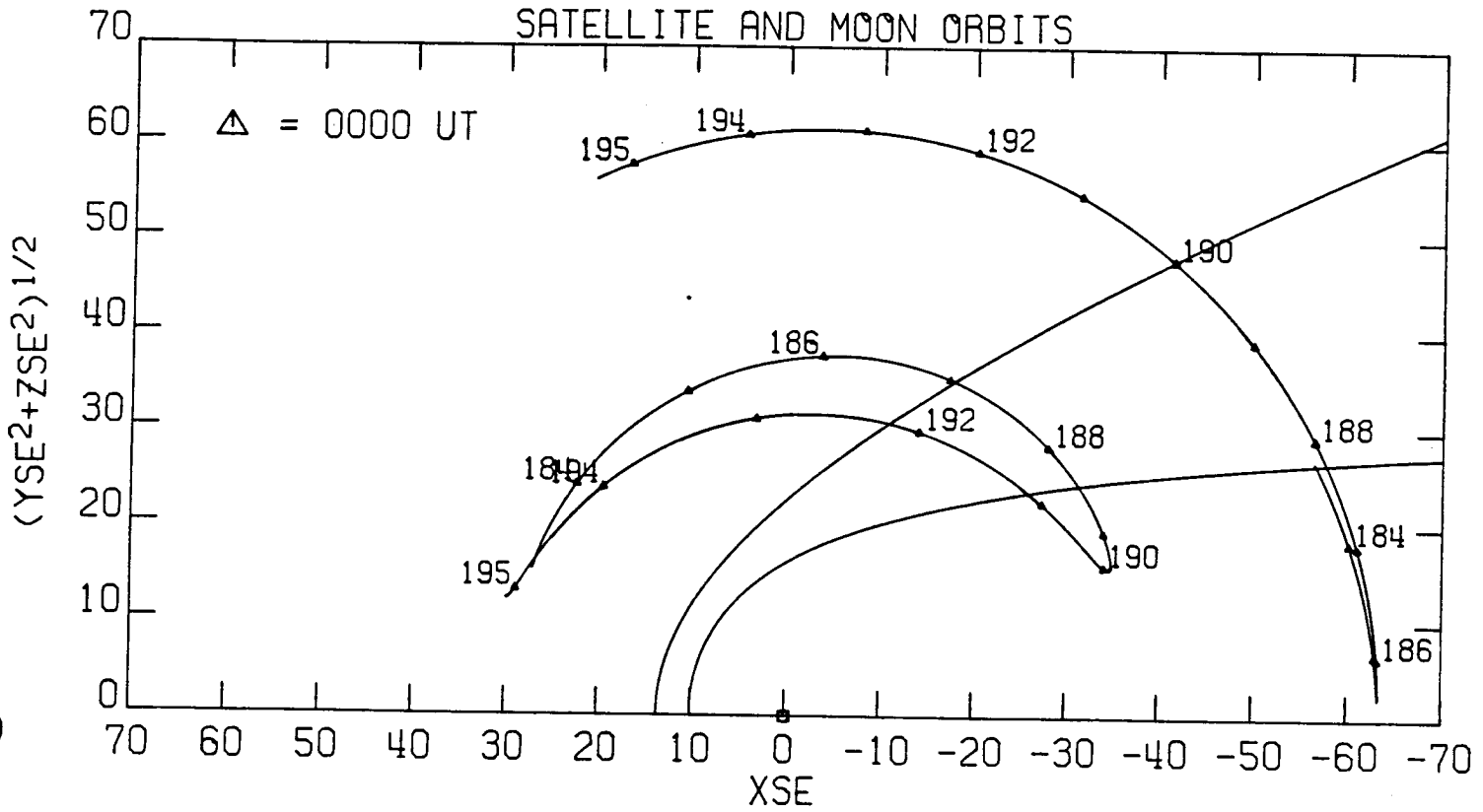
IMP 7 FROM JUL 2 TO JUL 14 1974



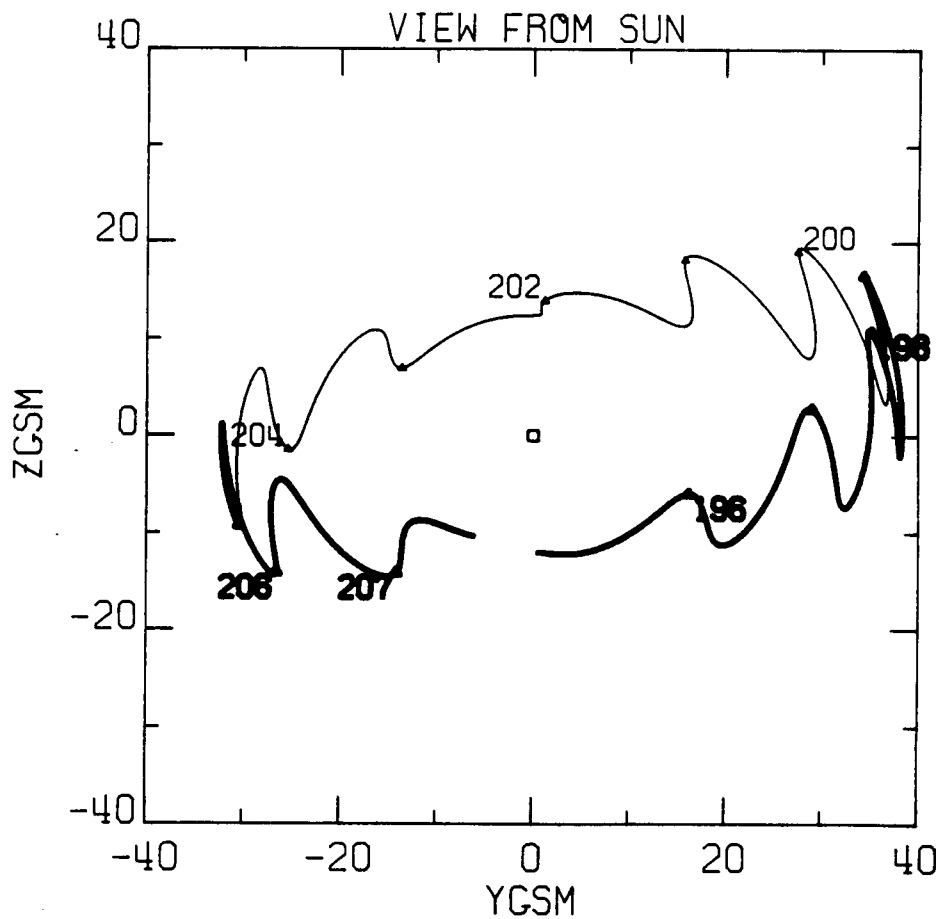
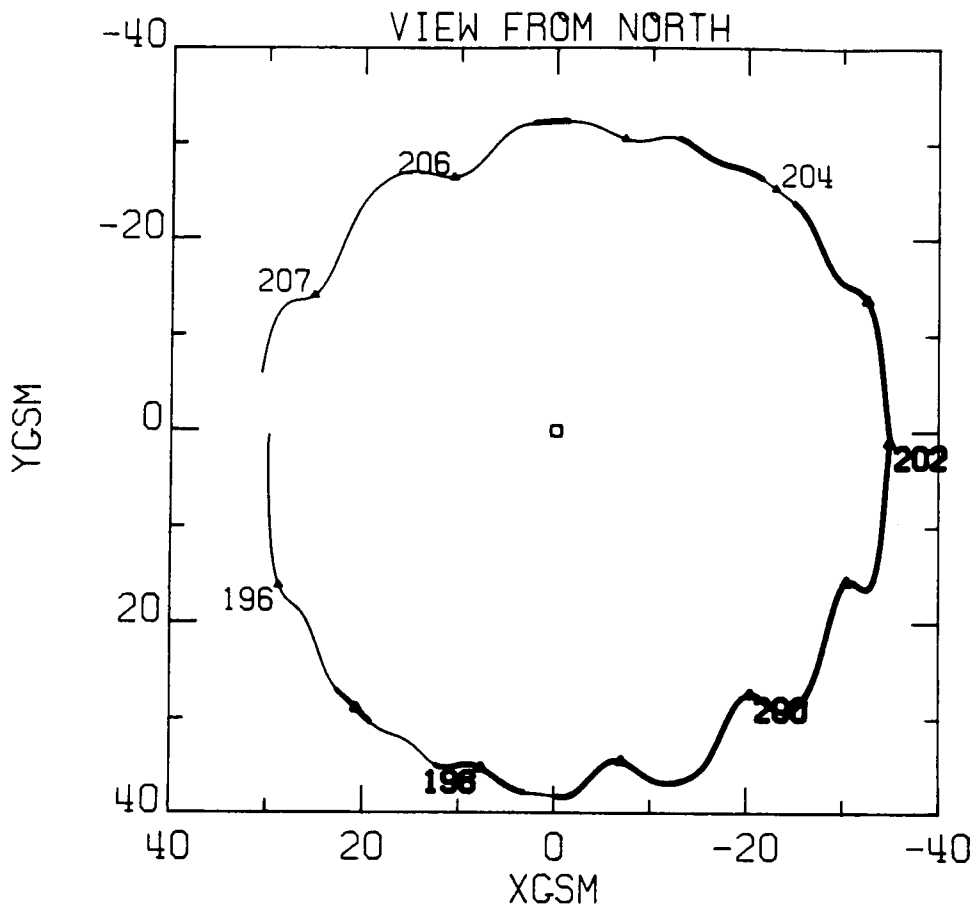
IMP 7 TRAJECTORY. ASCENDING NODE 54

FROM JUL 2 TO JUL 14 1974

DAYS 183 THRU 195



IMP 7 FROM JUL 14 TO JUL 26 1974

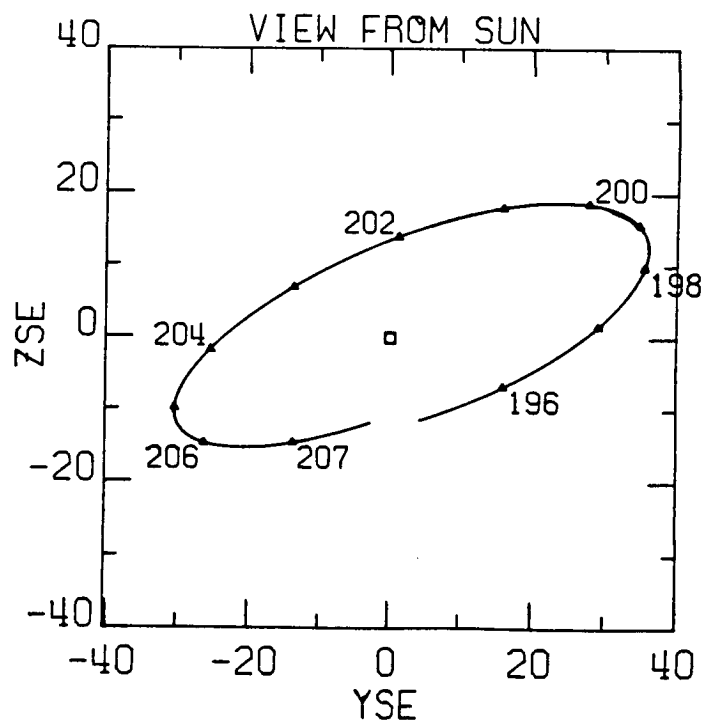
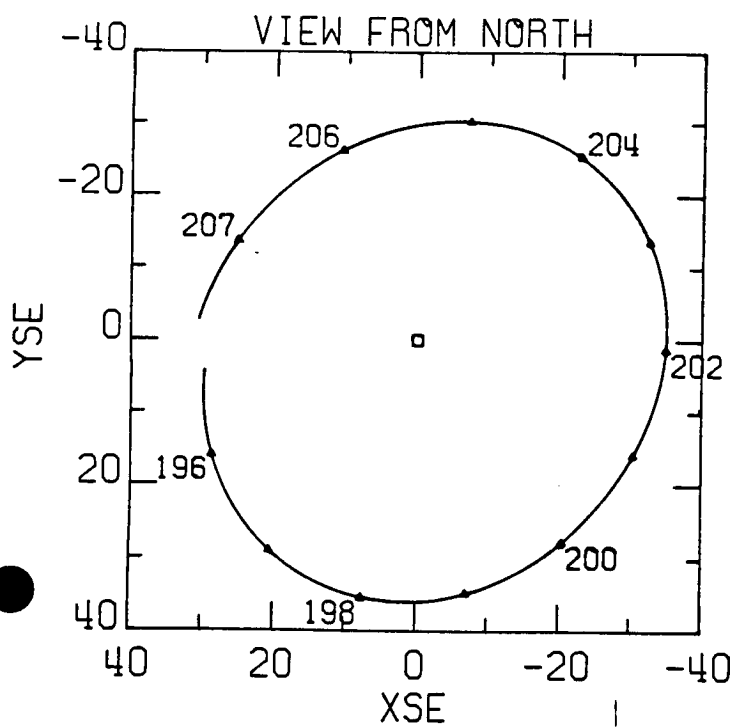
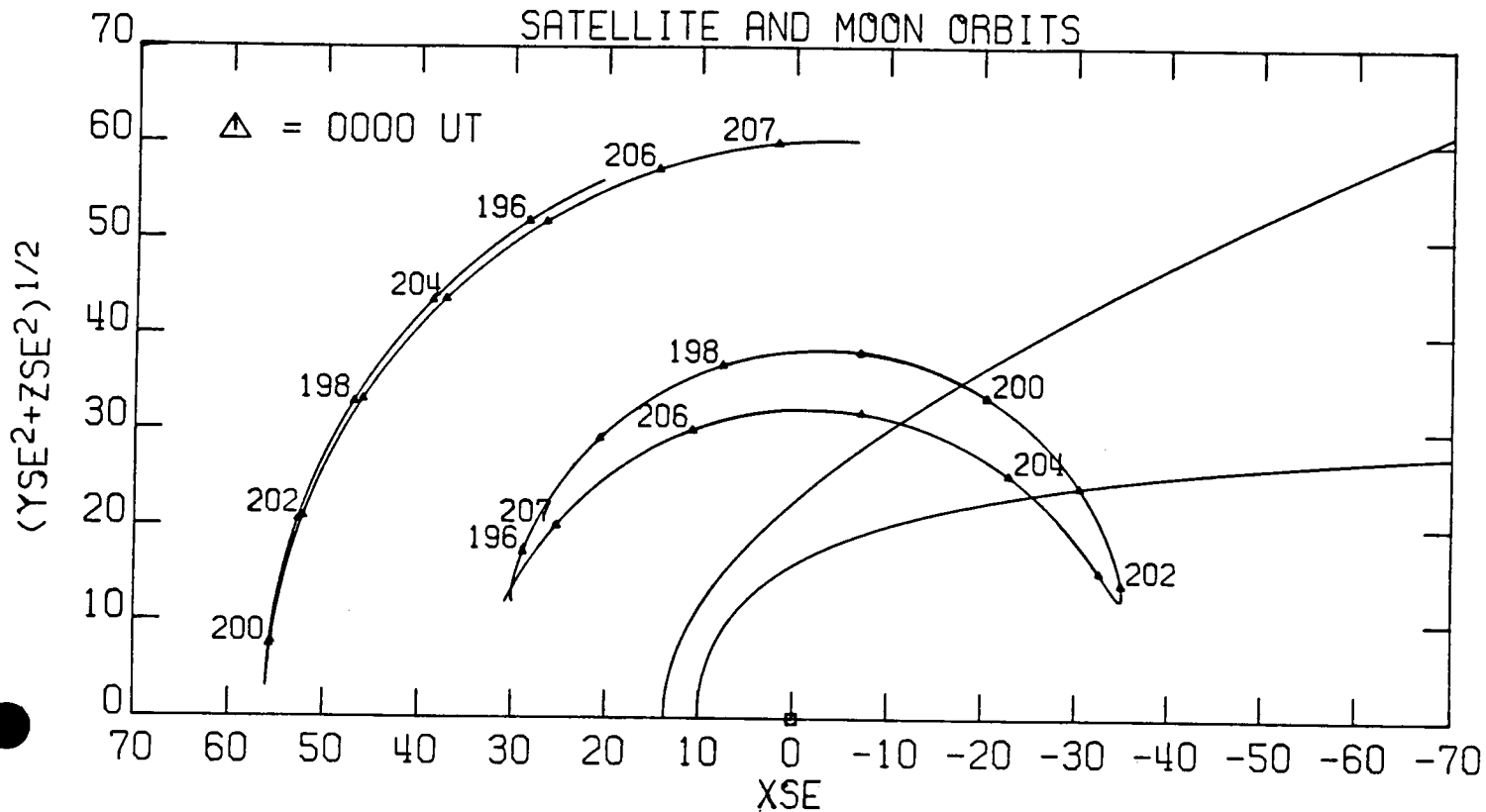


IMP 7 TRAJECTORY. ASCENDING NODE 55

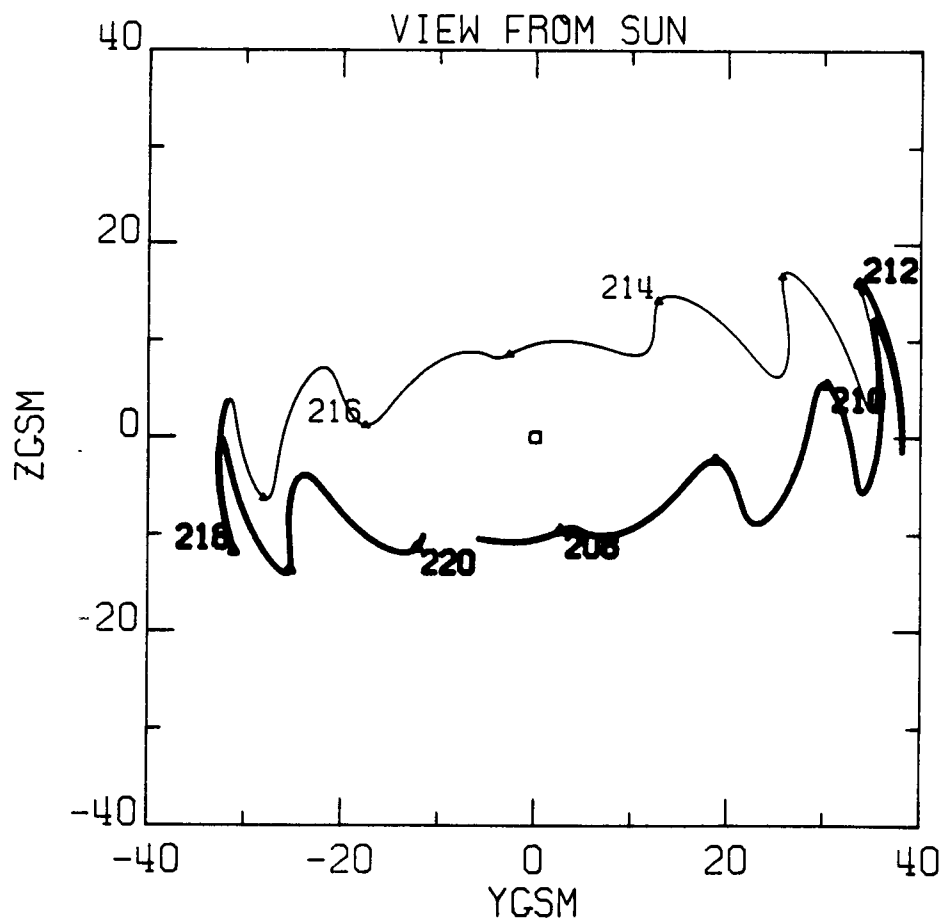
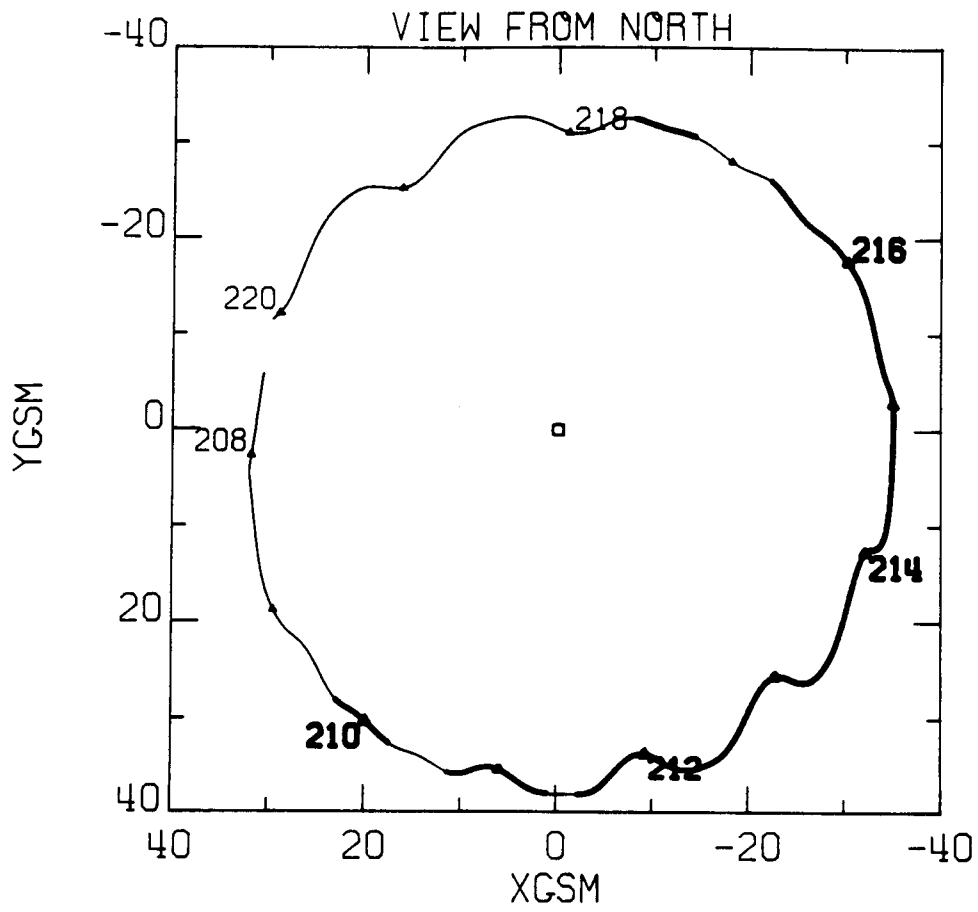
FROM JUL 14 TO JUL 26 1974

DAYS 195 THRU 207

SATELLITE AND MOON ORBITS



IMP 7 FROM JUL 26 TO AUG 8 1974

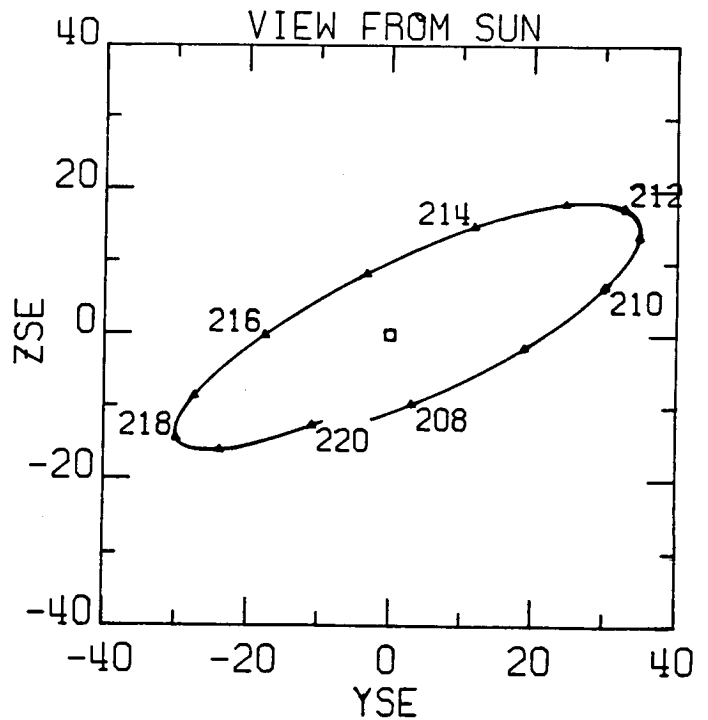
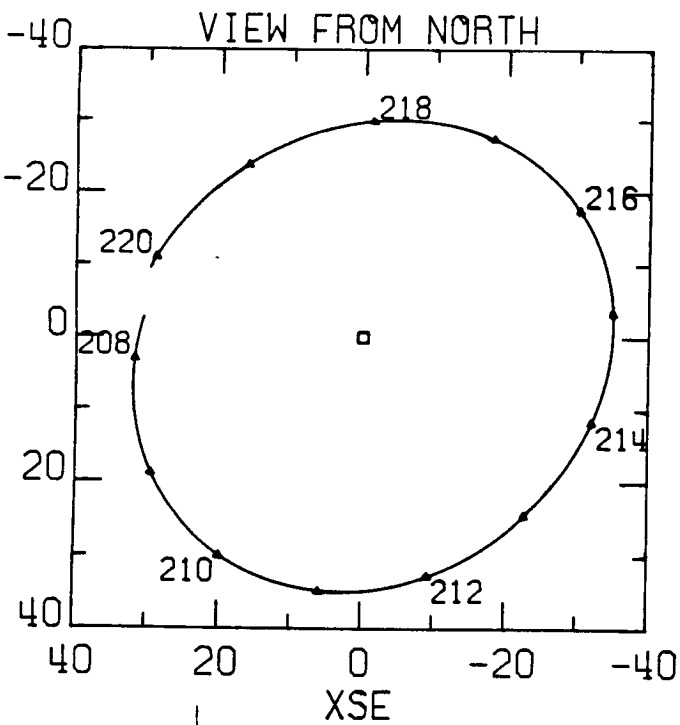
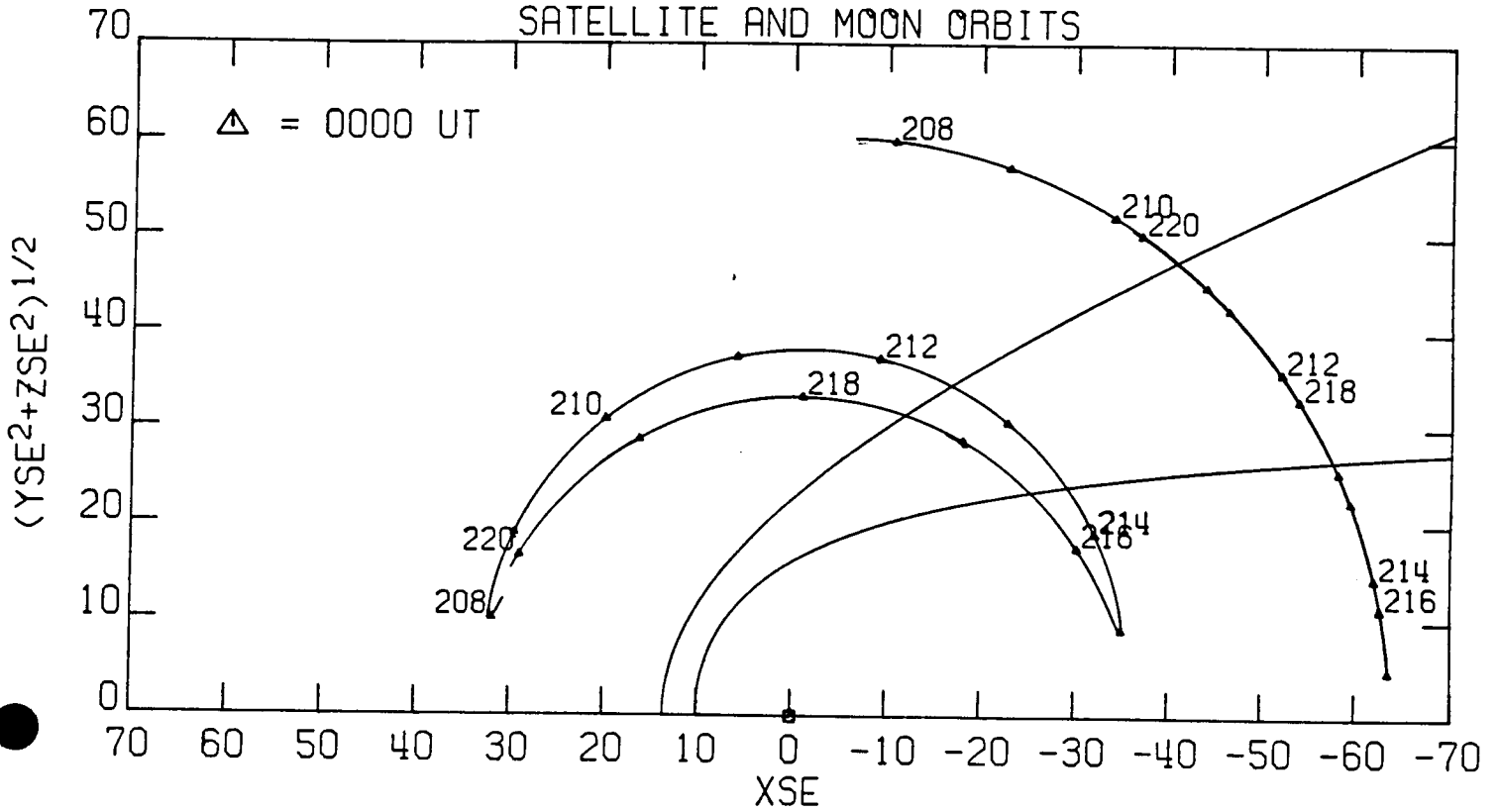


IMP 7 TRAJECTORY. ASCENDING NODE 56

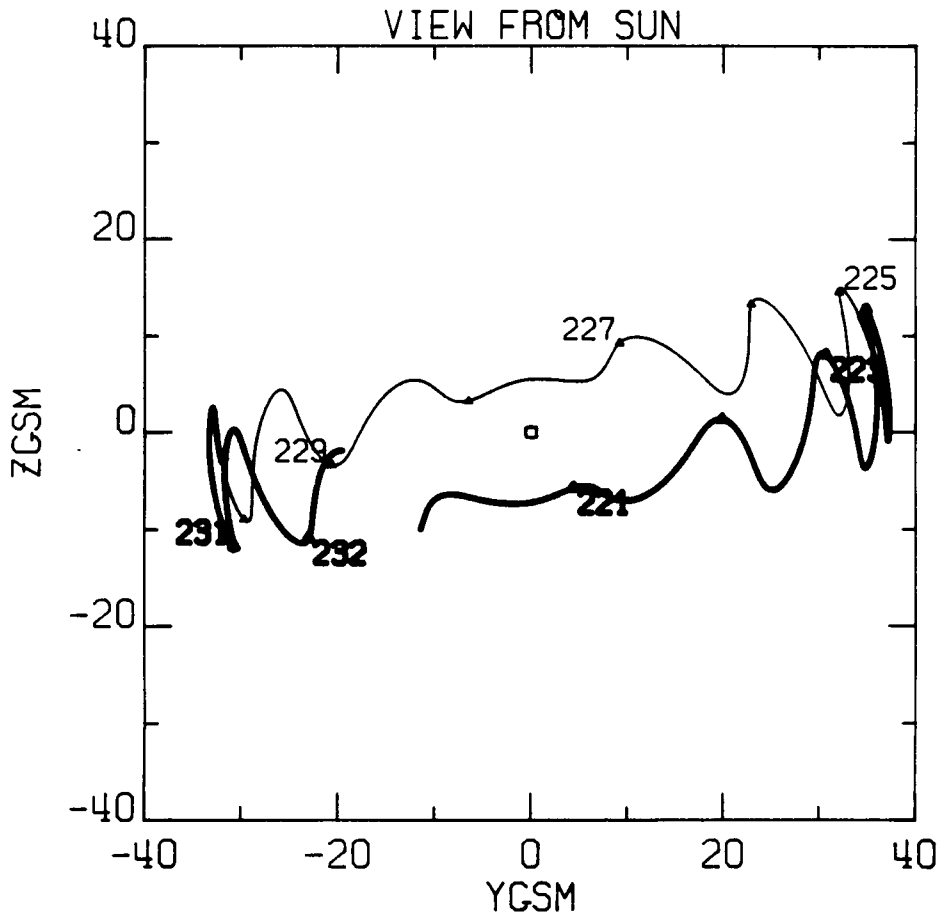
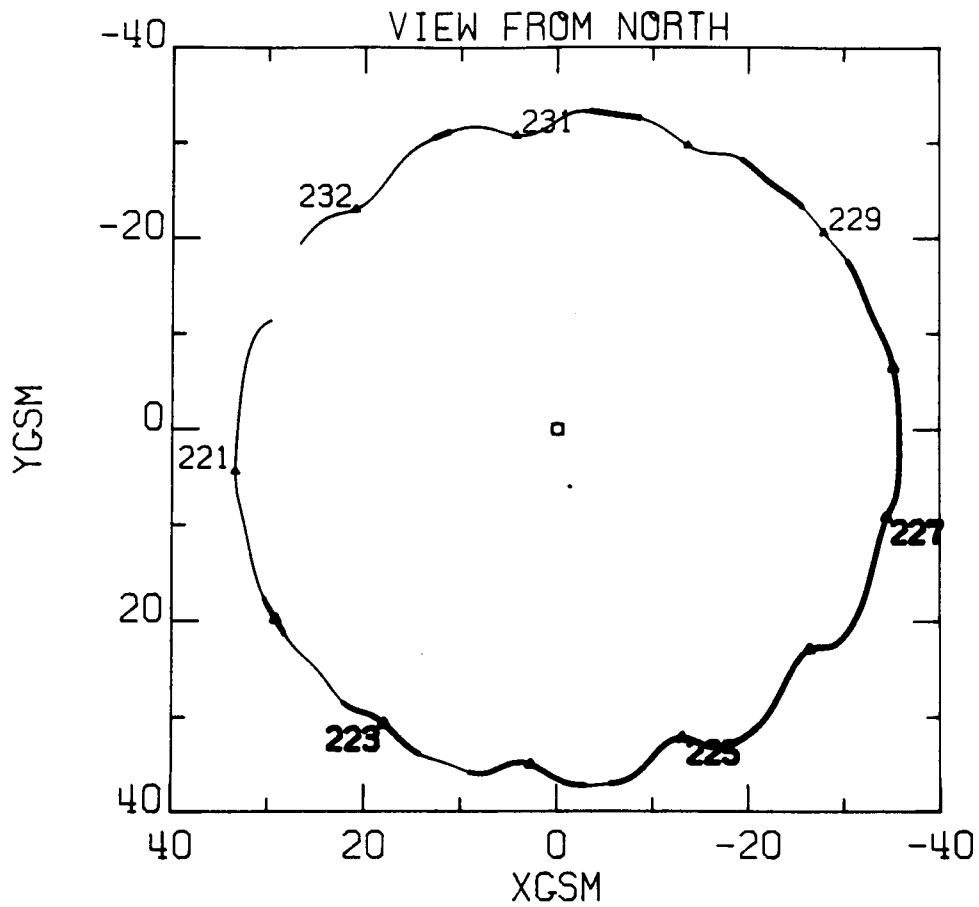
FROM JUL 26 TO AUG 8 1974

DAYS 207 THRU 220

SATELLITE AND MOON ORBITS



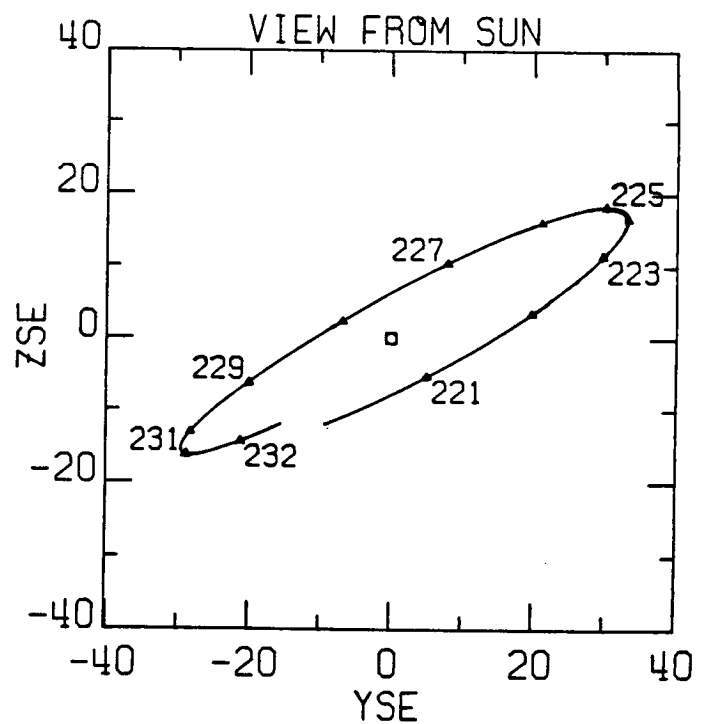
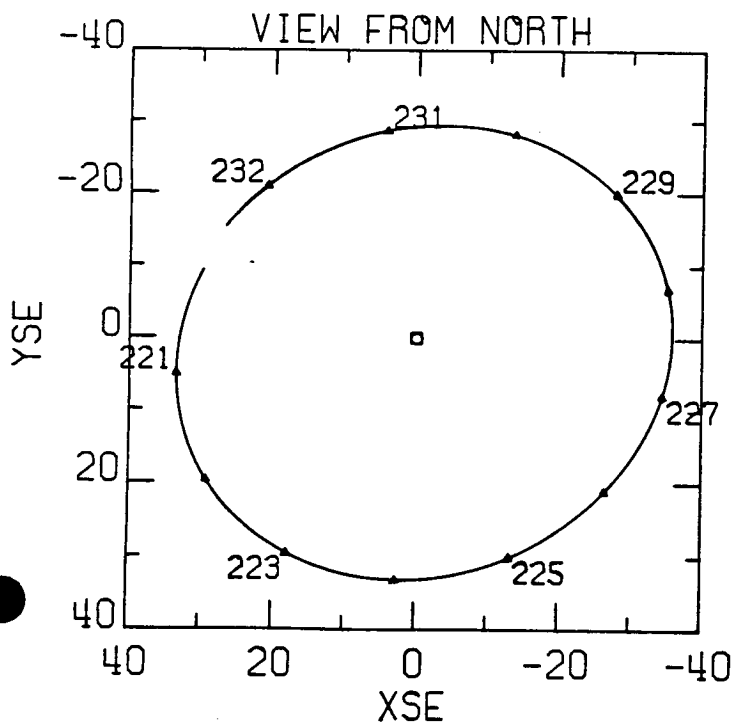
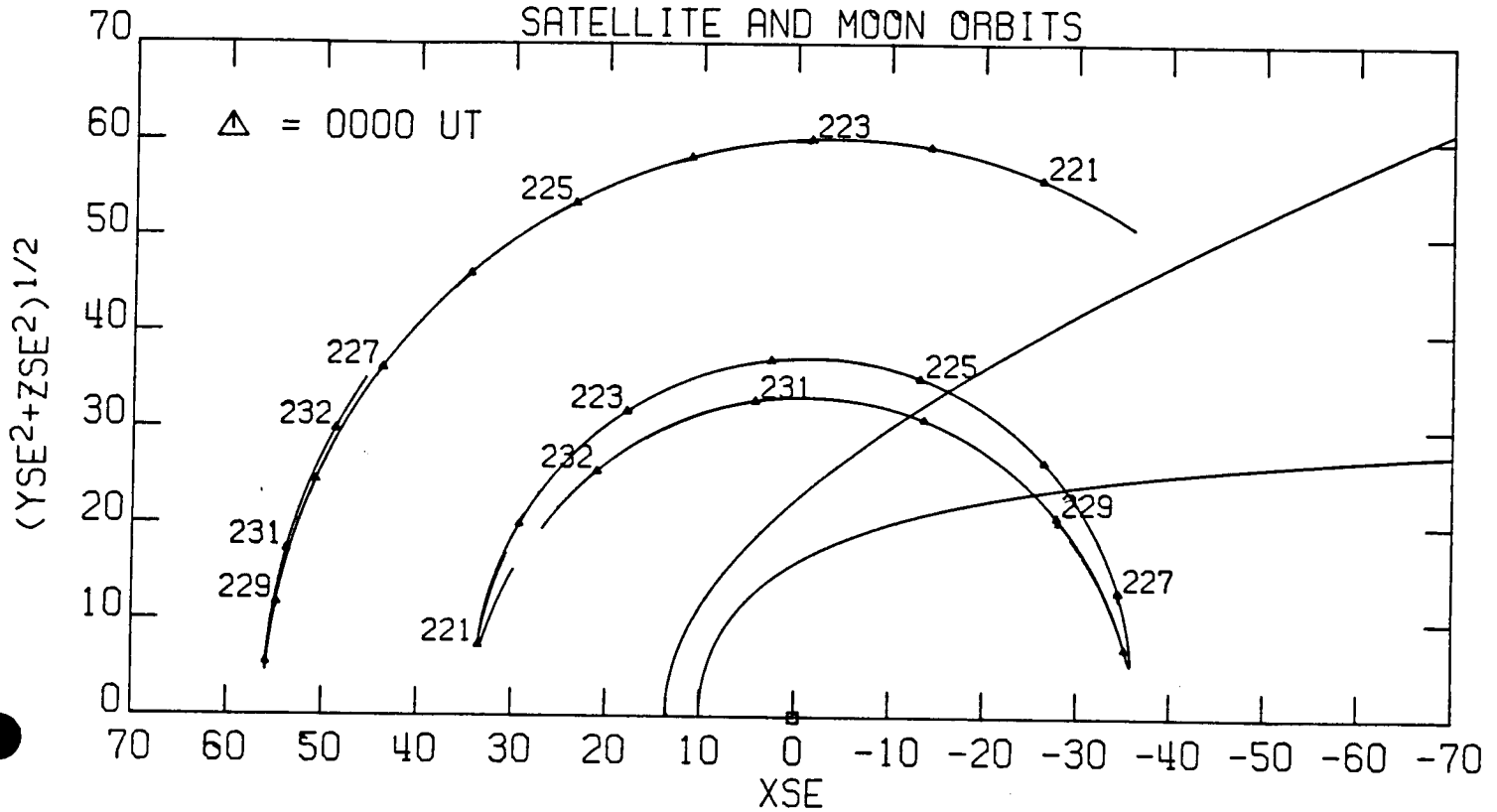
IMP 7 FROM AUG 8 TO AUG 20 1974



FROM AUG 8 TO AUG 20 1974

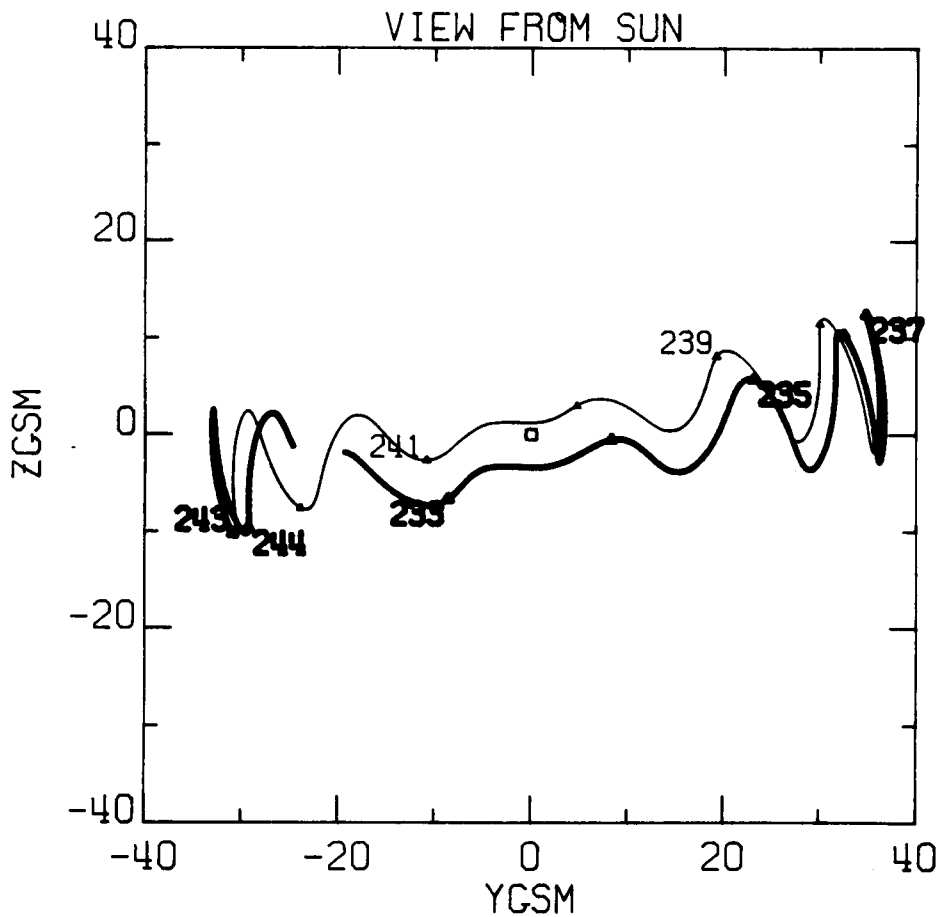
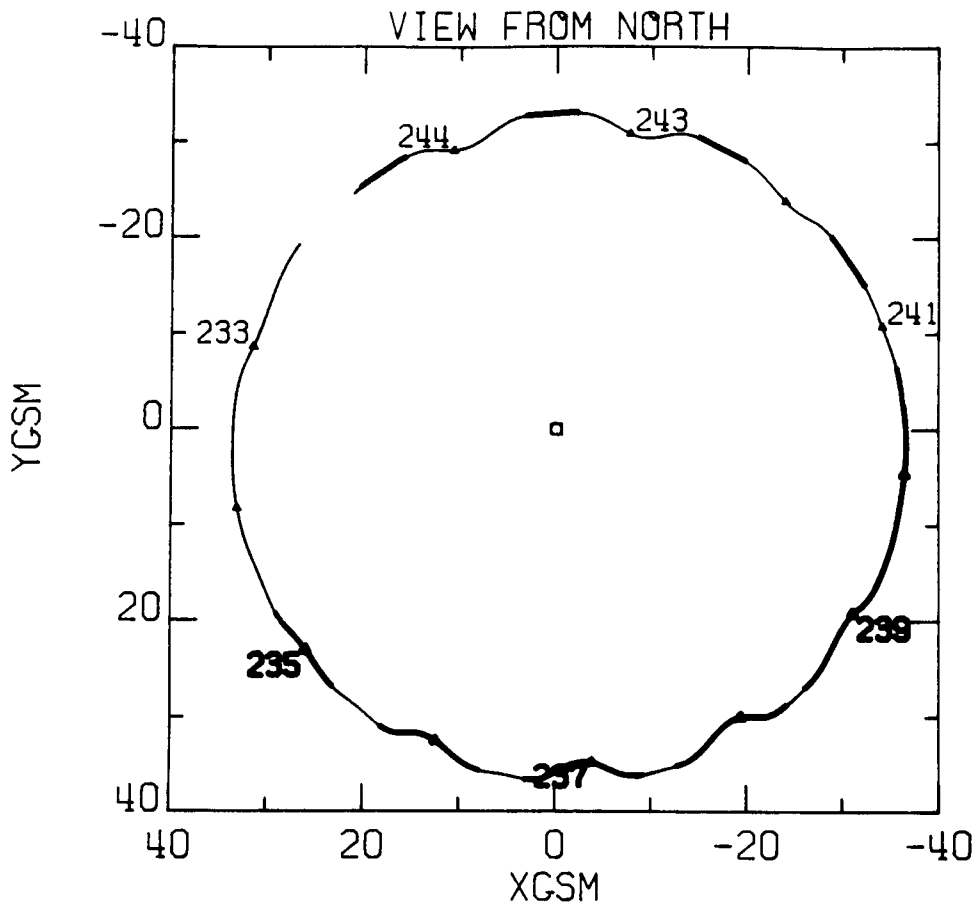
DAYS 220 THRU 232

SATELLITE AND MOON ORBITS



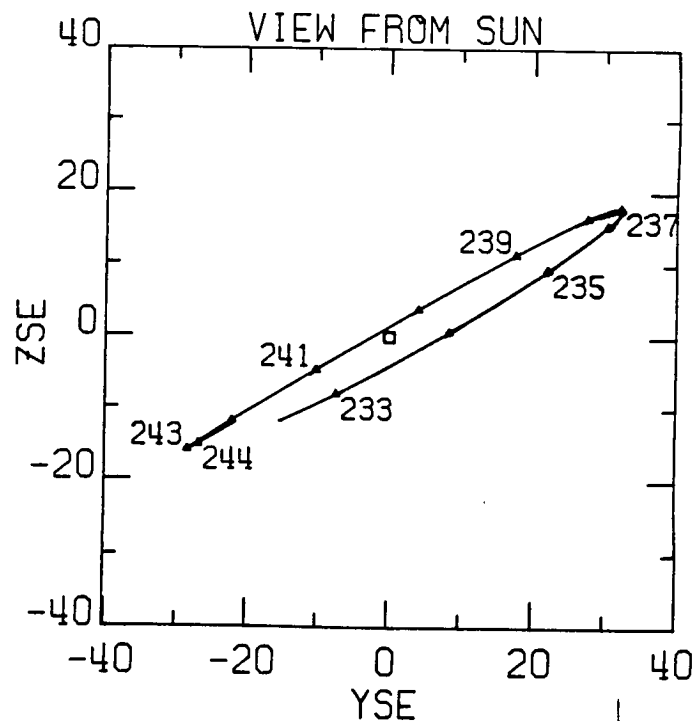
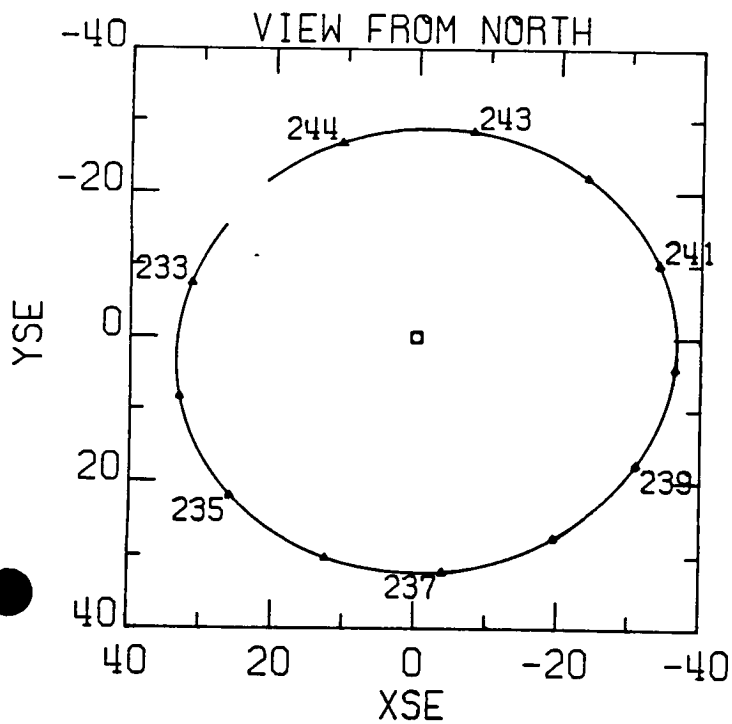
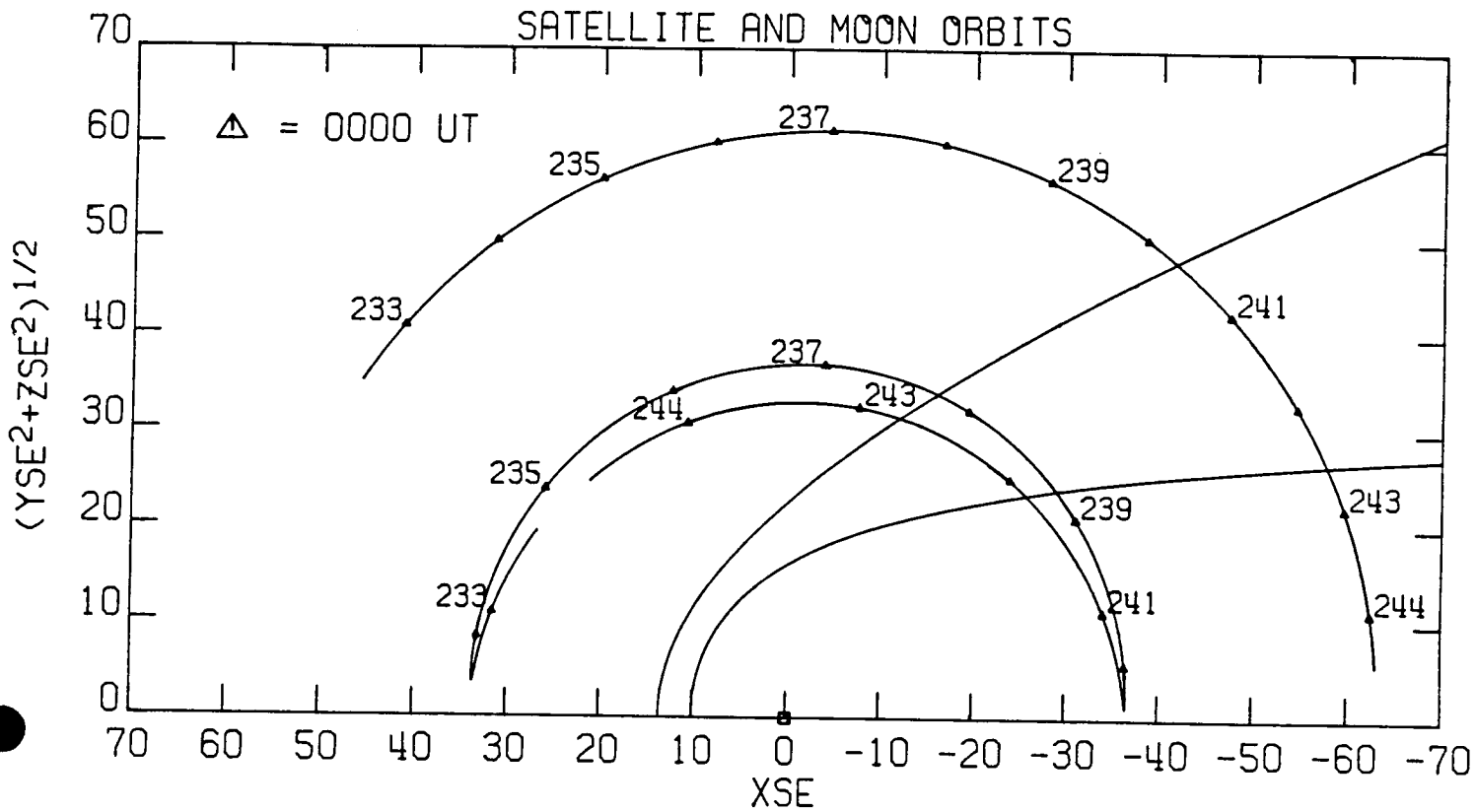
CCSDTMOON 03/11/88

IMP 7 FROM AUG 20 TO SEP 1 1974



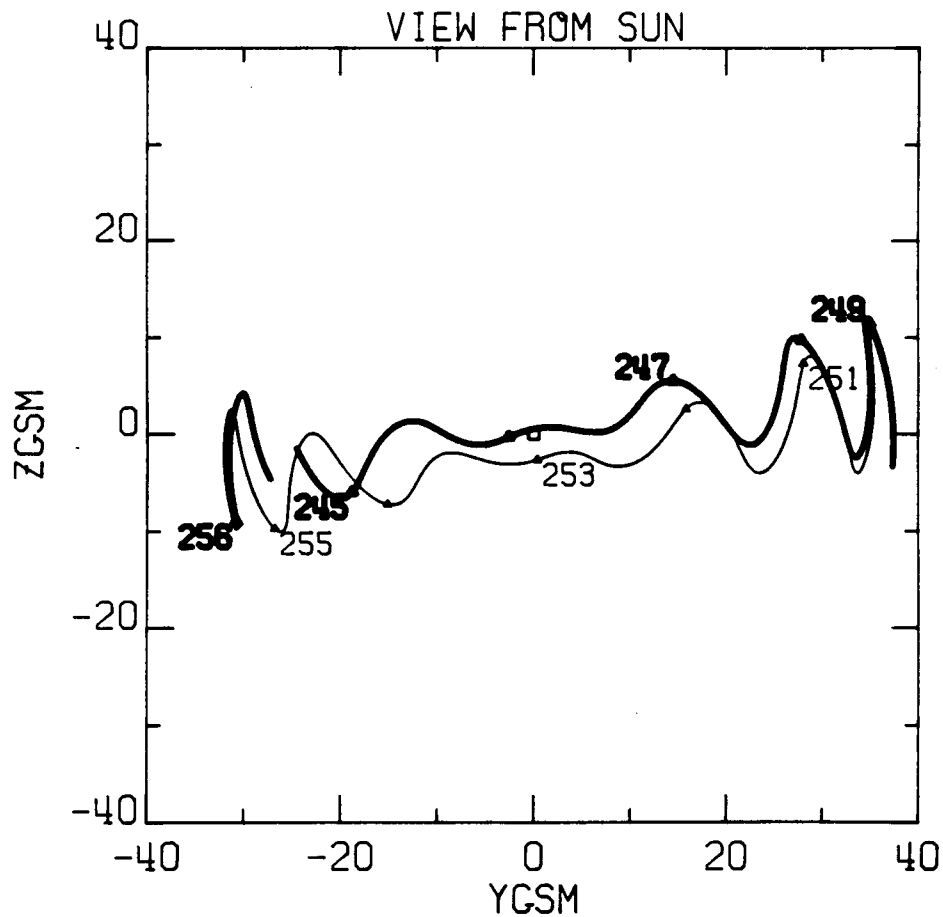
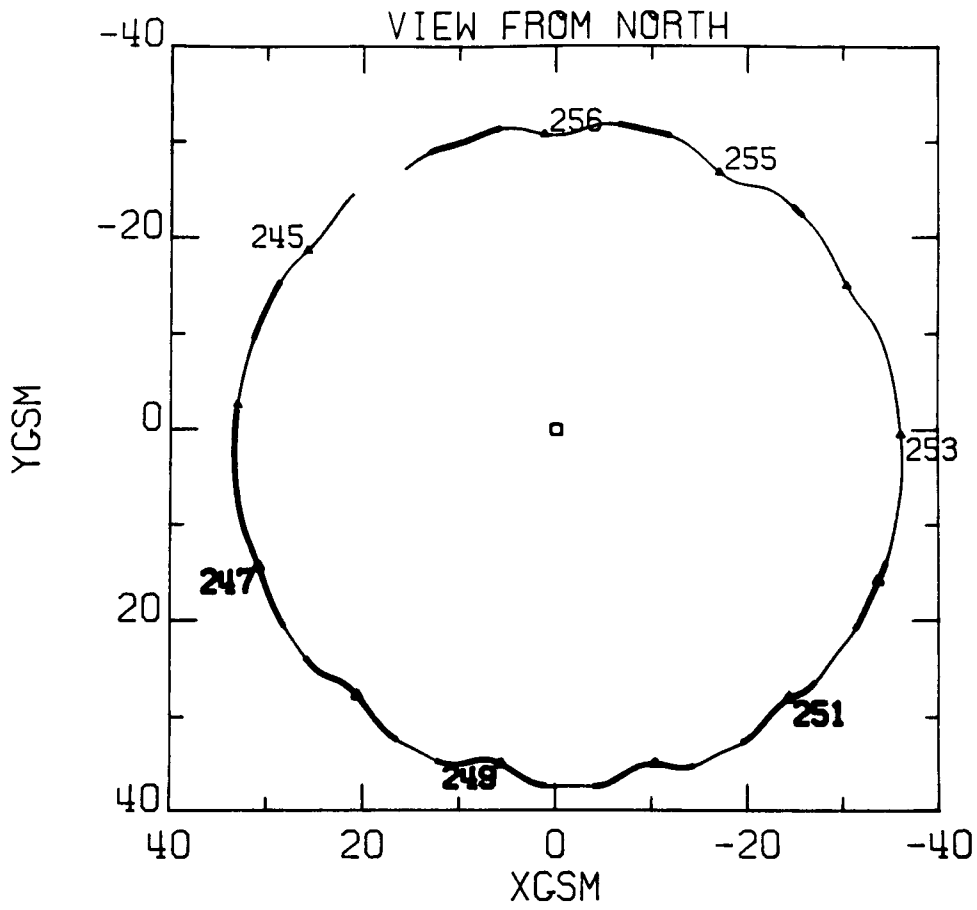
FROM AUG 20 TO SEP 1 1974

DAYS 232 THRU 244



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 M.I.T. Center for

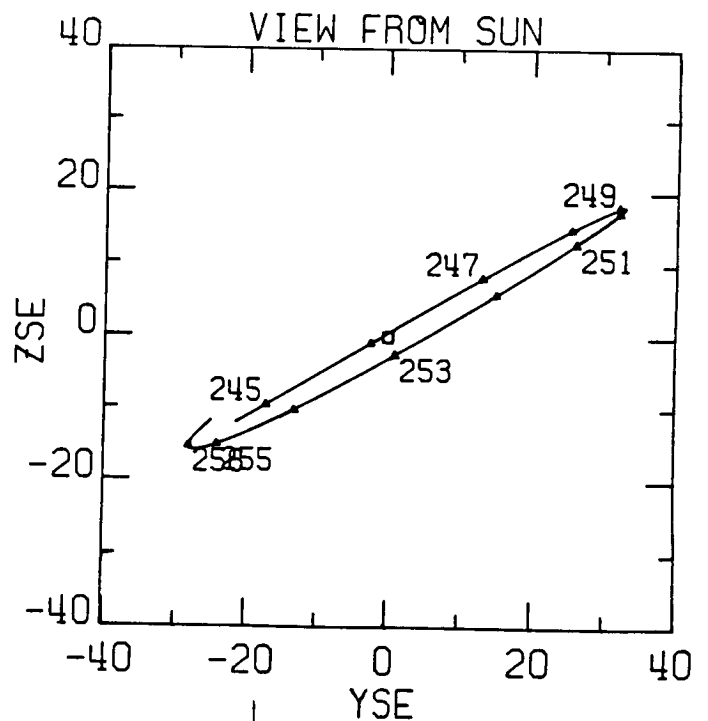
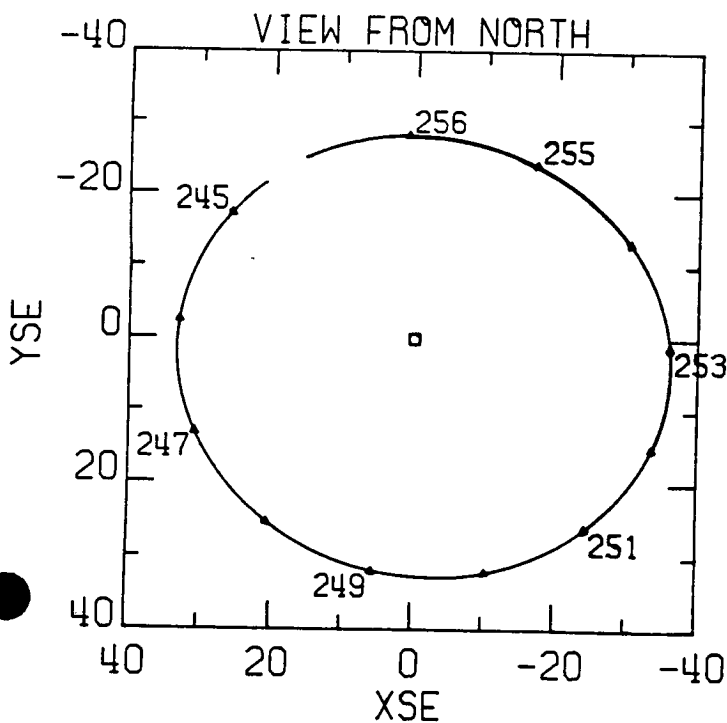
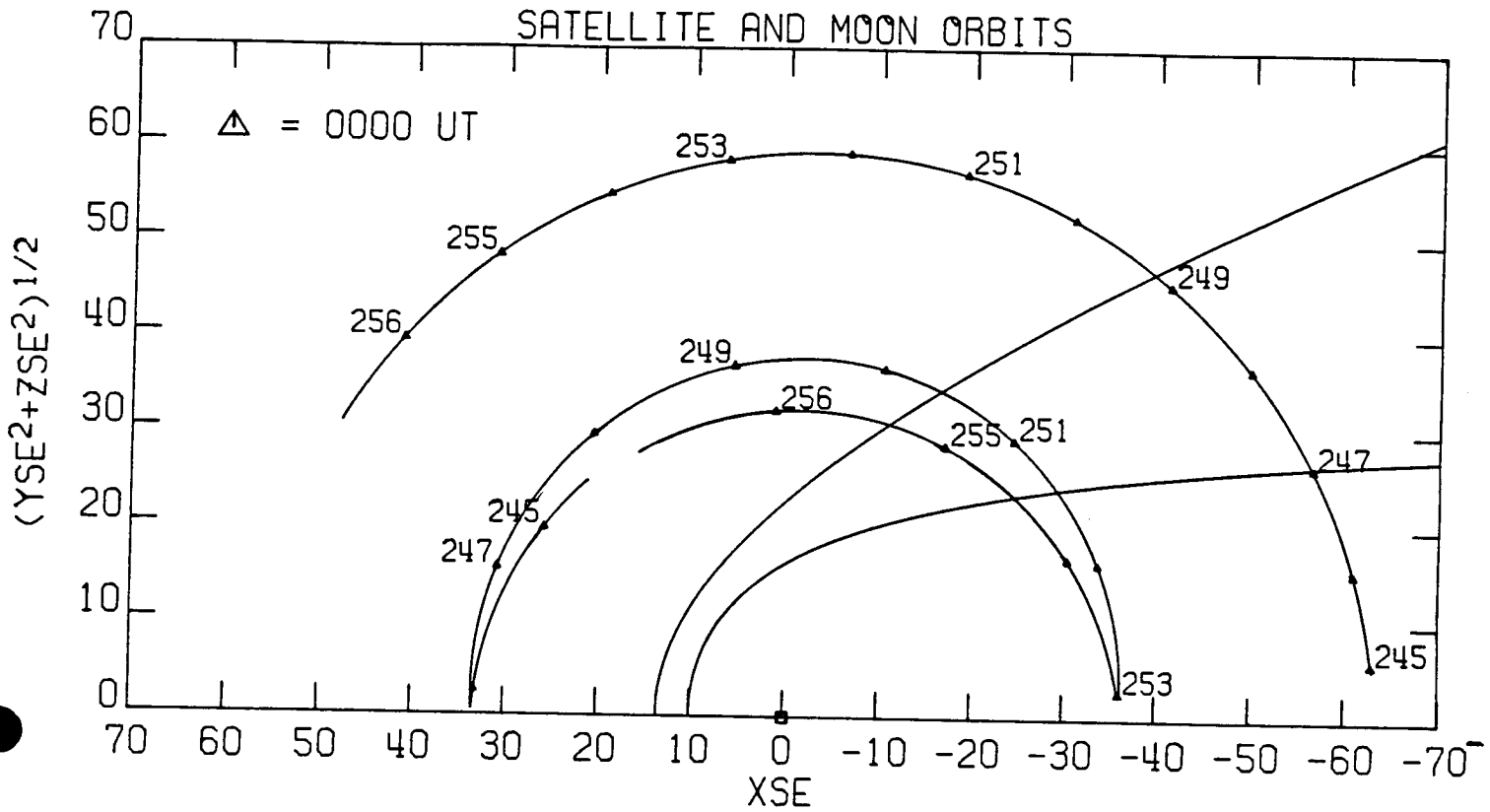
IMP 7 FROM SEP 1 TO SEP 13 1974



IMP 7 TRAJECTORY. ASCENDING NODE 59

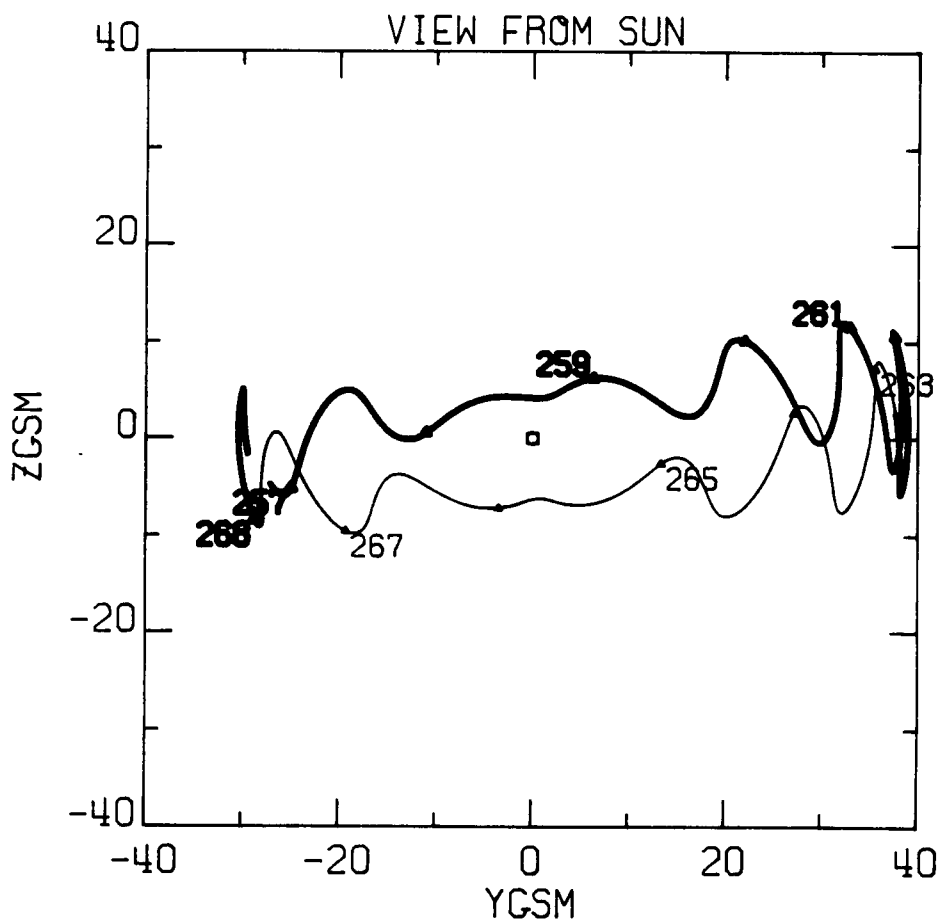
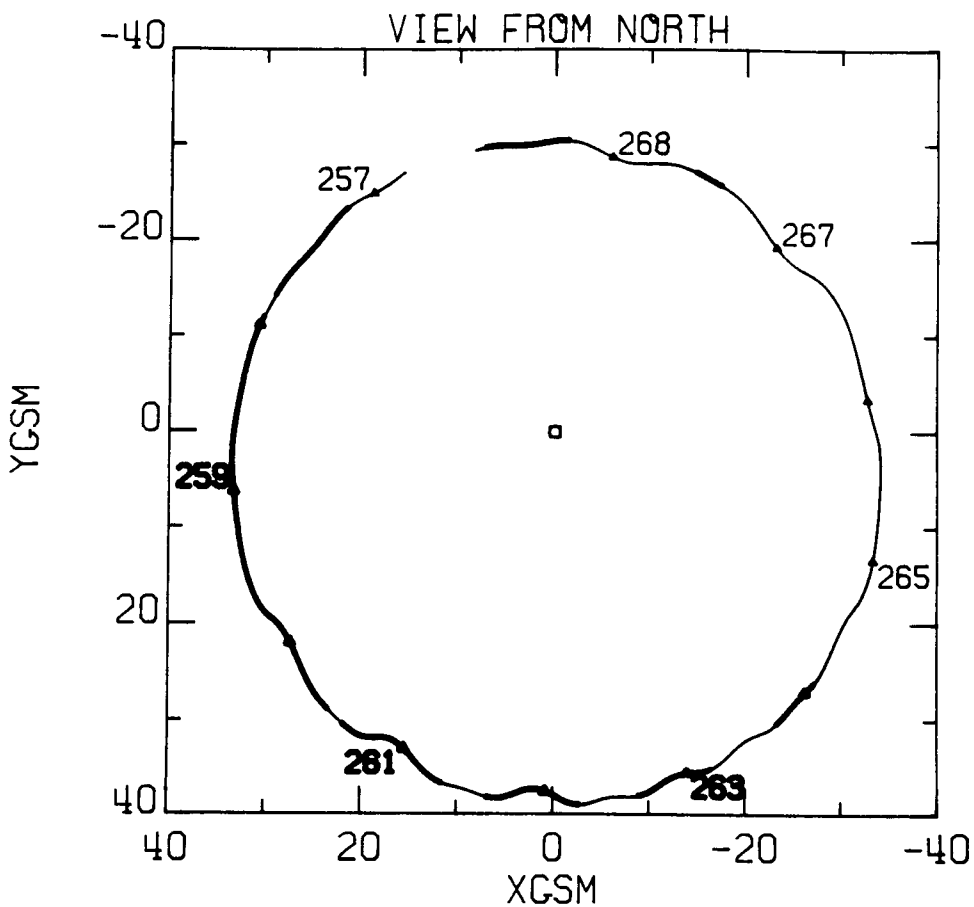
FROM SEP 1 TO SEP 13 1974

DAYS 244 THRU 256



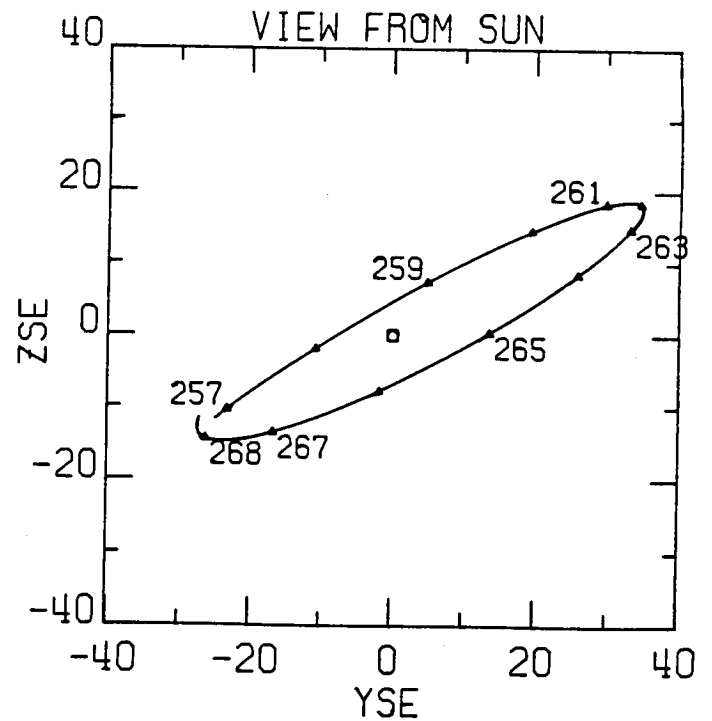
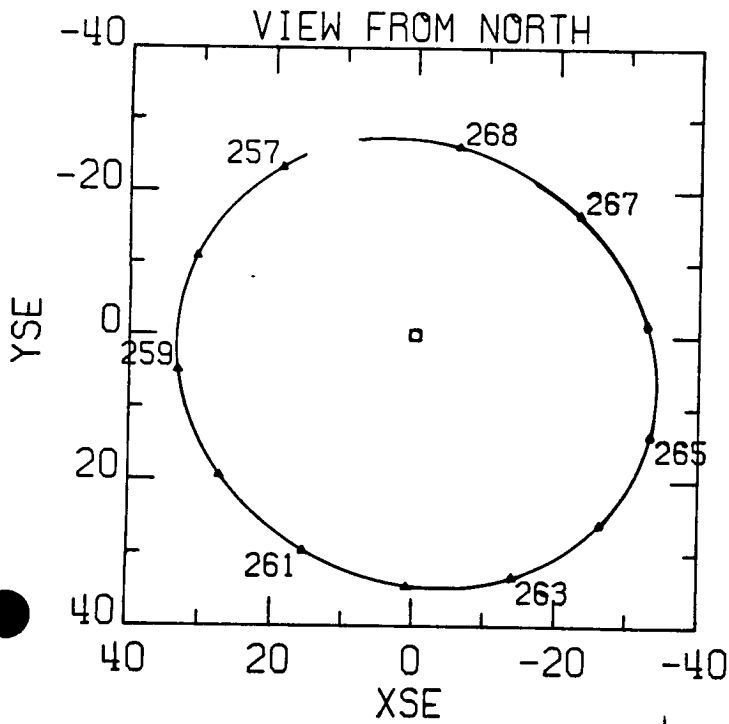
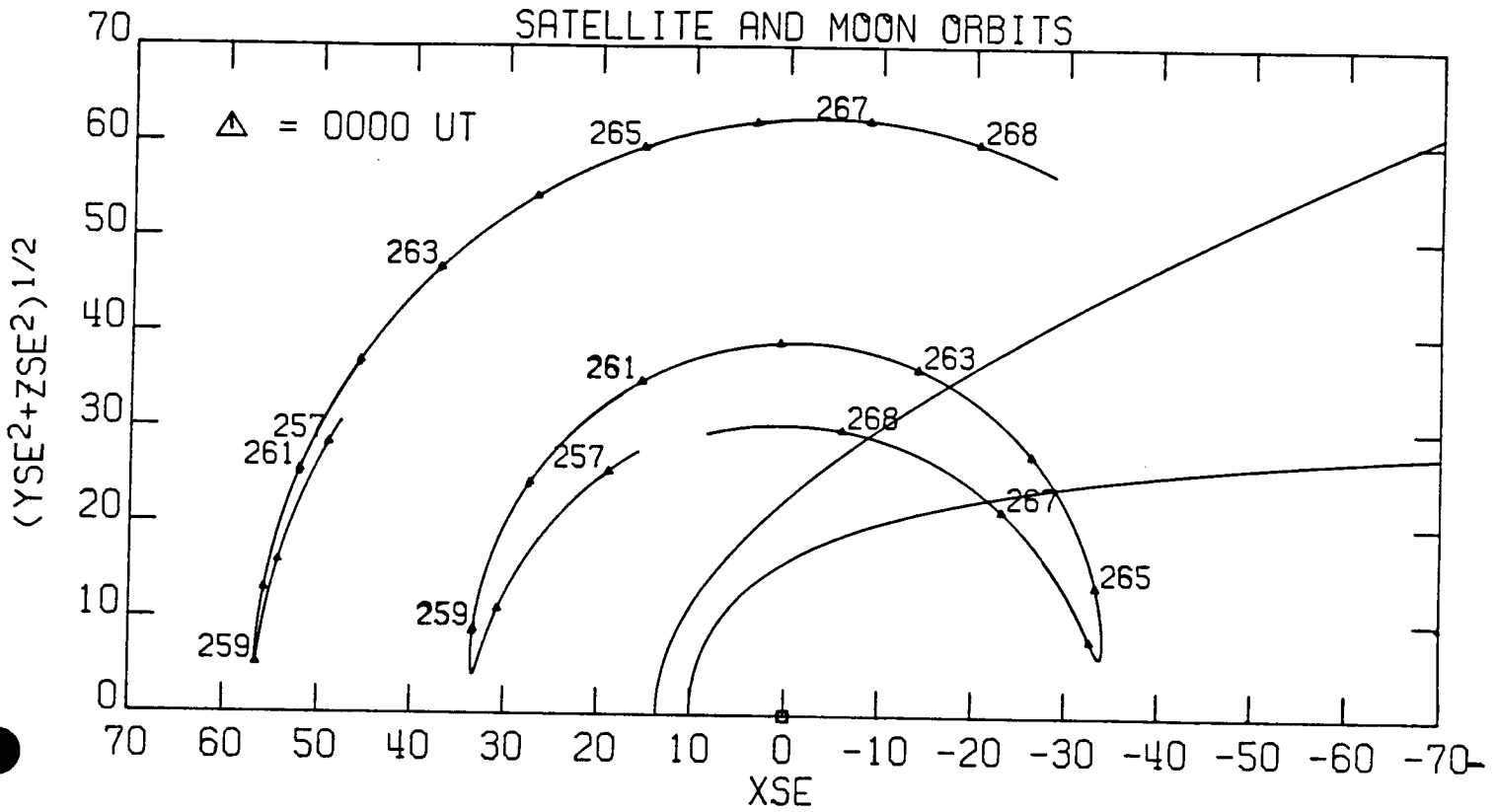
M T T Control for Space Research
 03/11/88
 CC-TMPOB

IMP 7 FROM SEP 13 TO SEP 25 1974

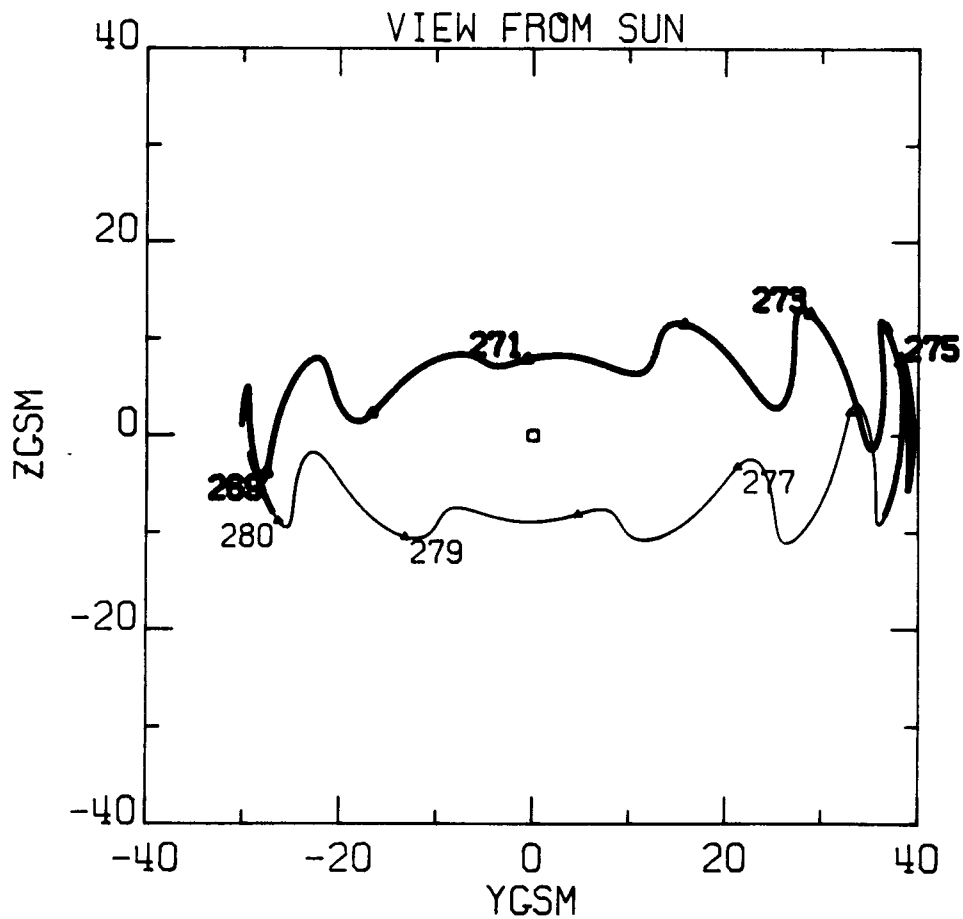
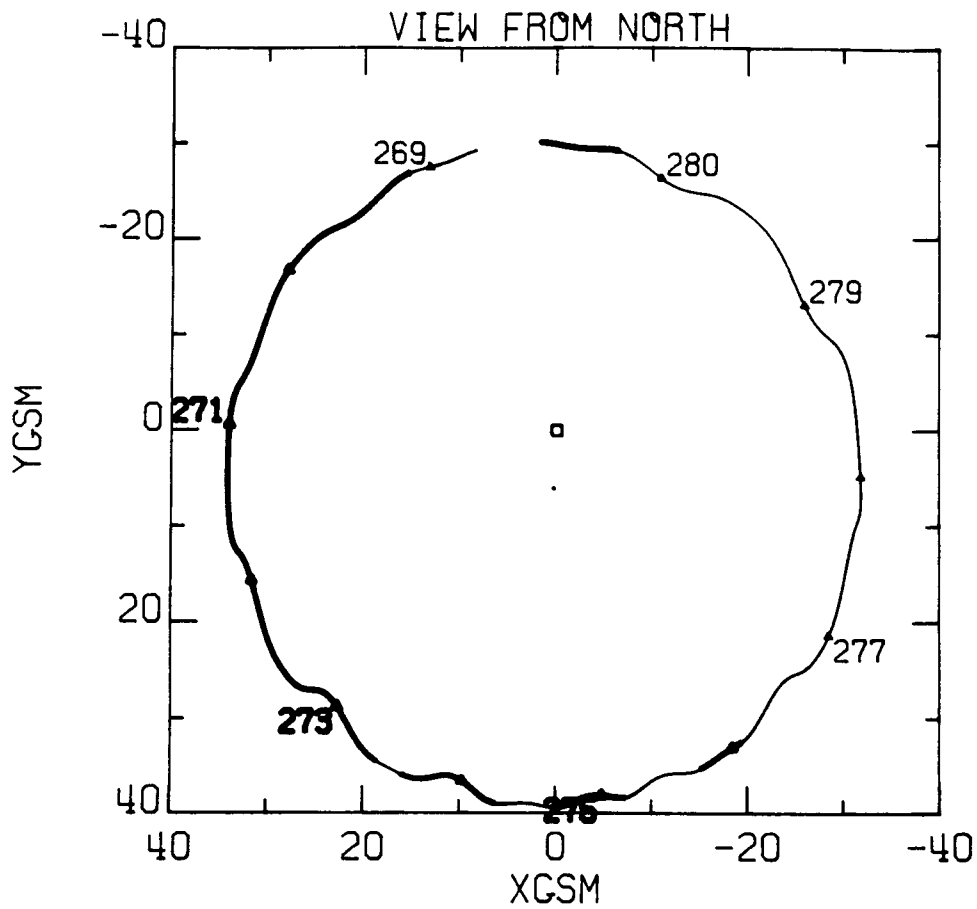


FROM SEP 13 TO SEP 25 1974

DAYS 256 THRU 268



IMP 7 FROM SEP 25 TO OCT 7 1974

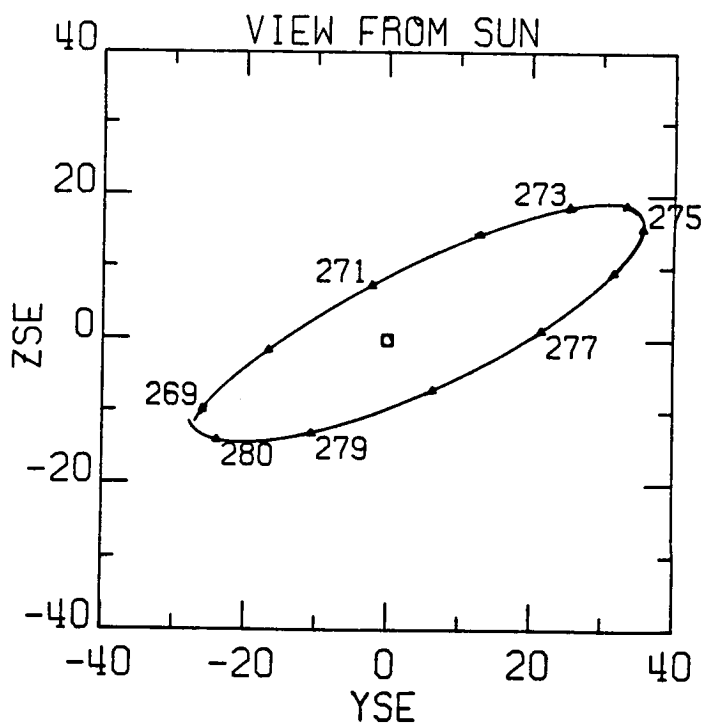
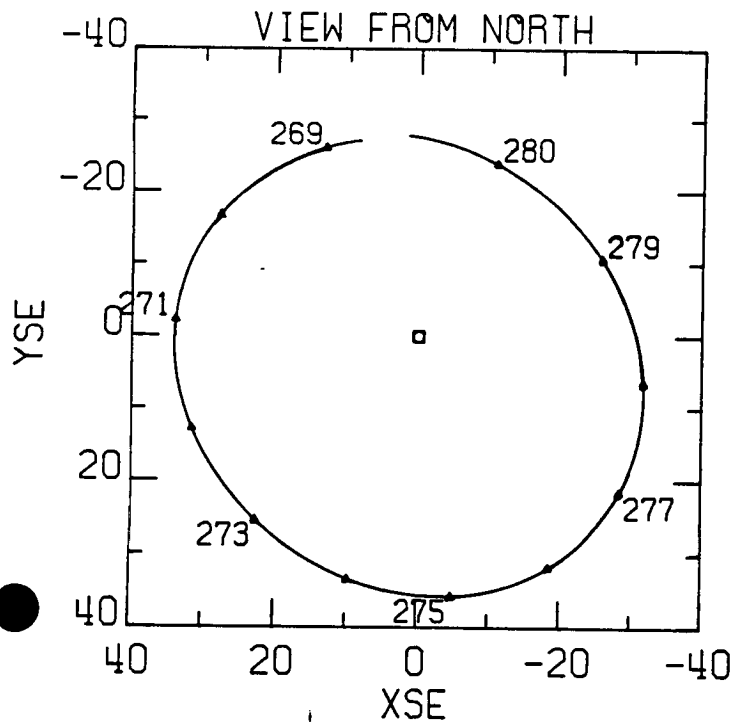
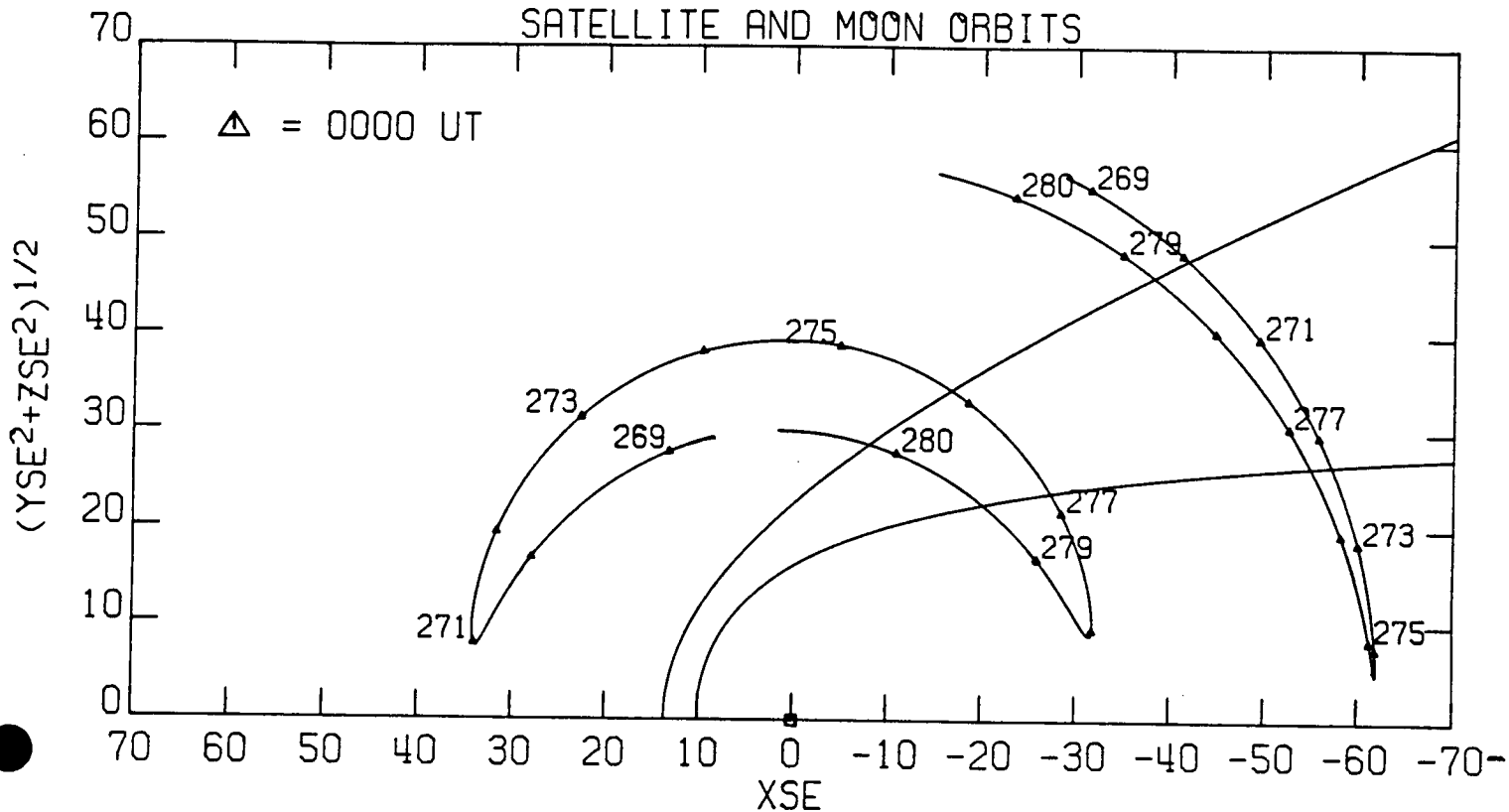


IMP 7 TRAJECTORY. ASCENDING NODE 61

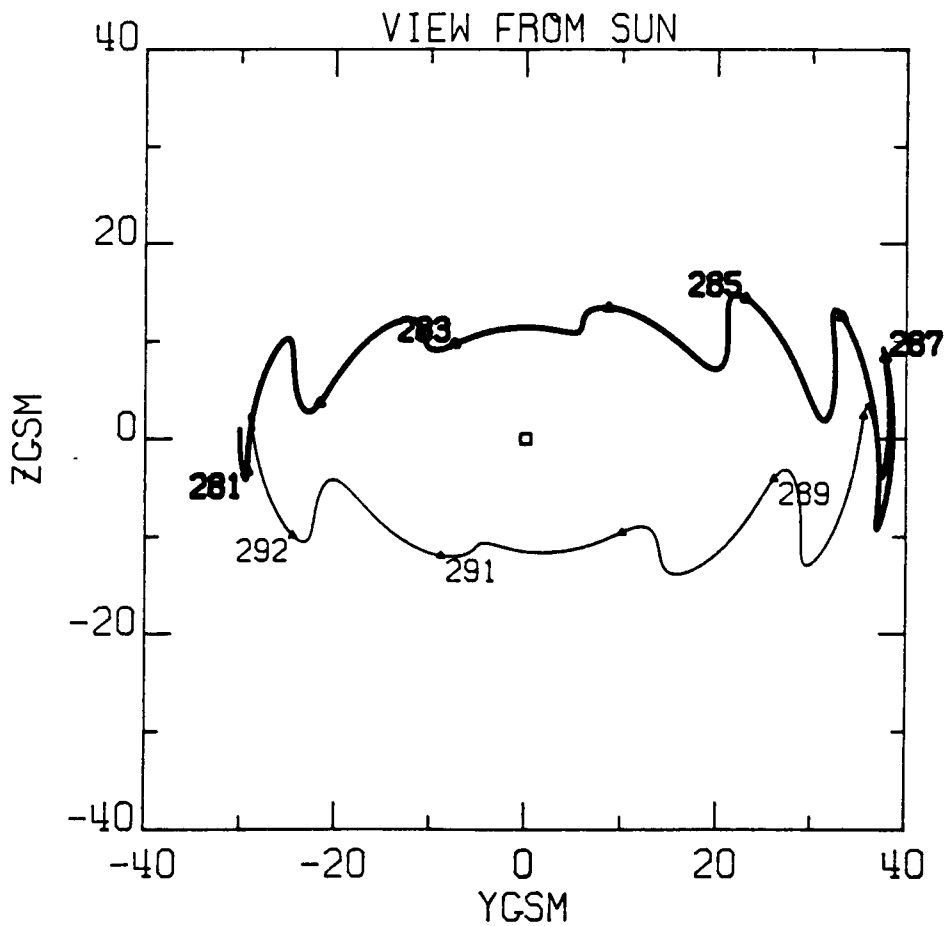
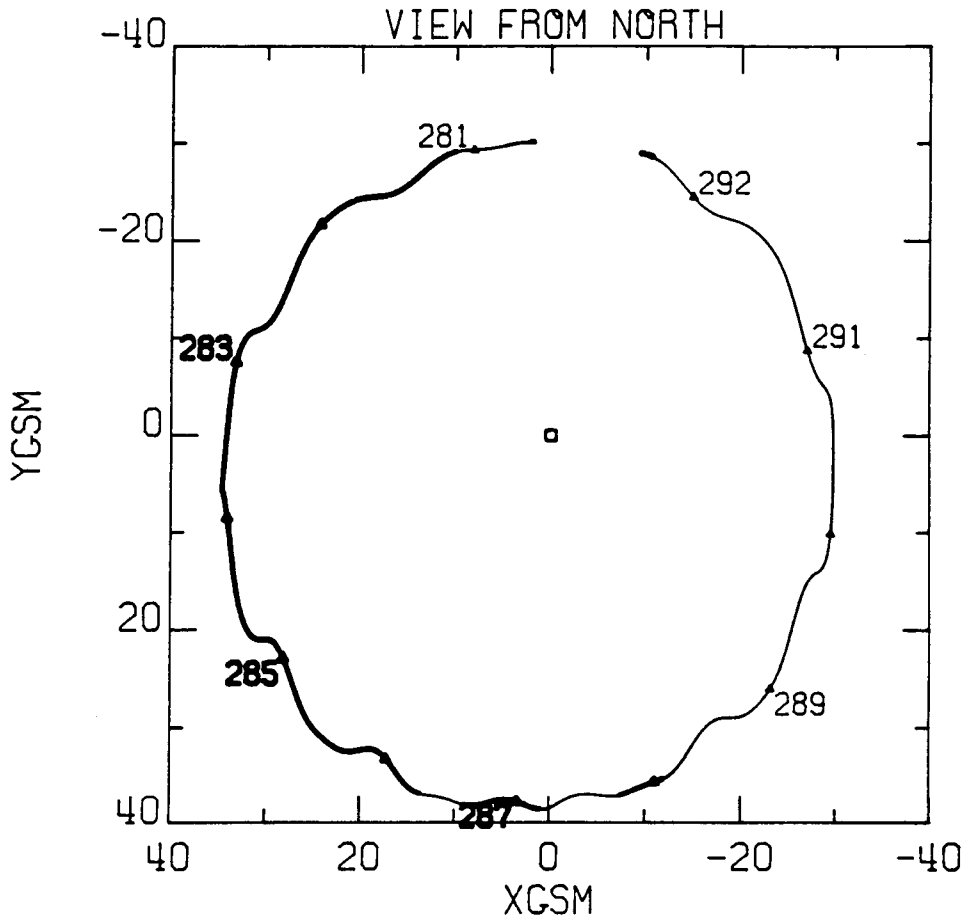
FROM SEP 25 TO OCT 7 1974

DAYS 268 THRU 280

SATELLITE AND MOON ORBITS



IMP 7 FROM OCT 7 TO OCT 19 1974

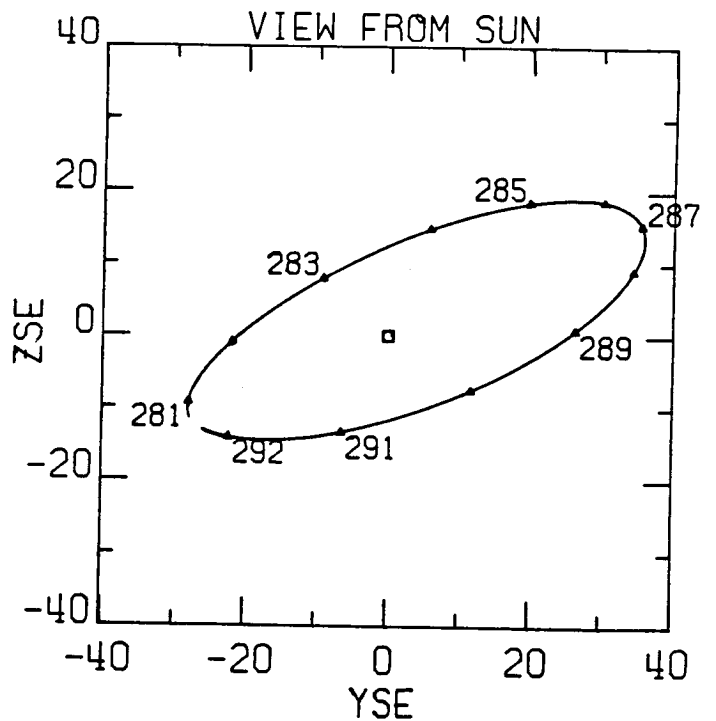
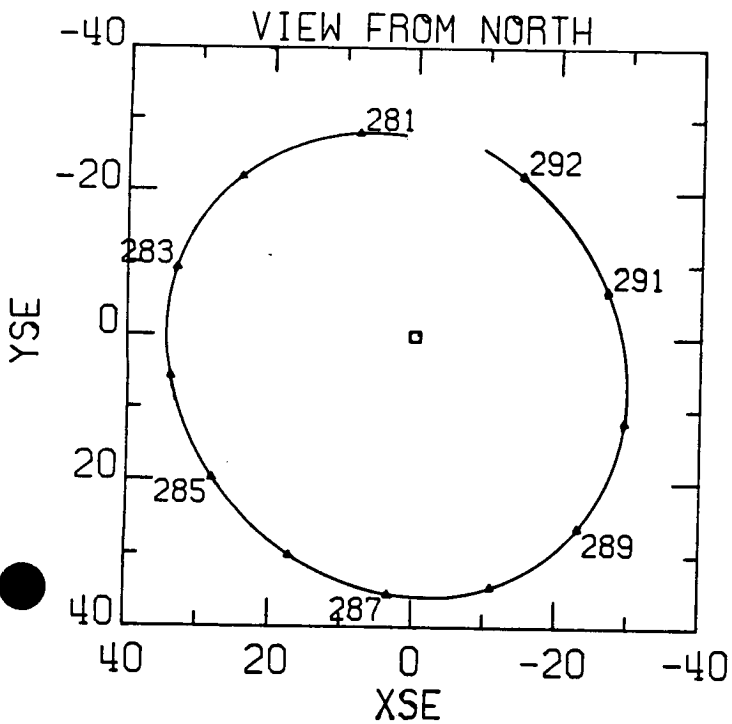
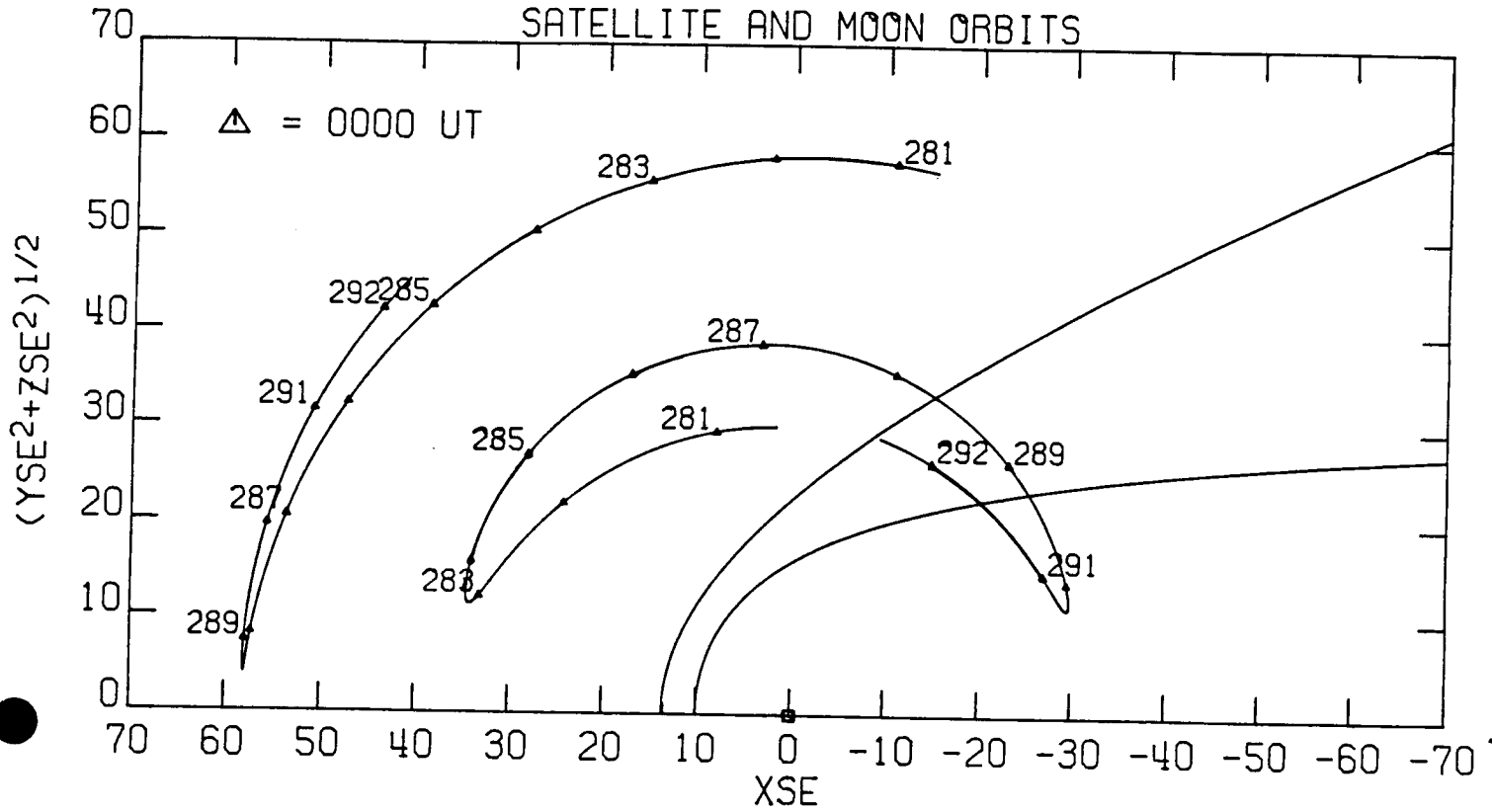


IMP 7 TRAJECTORY.

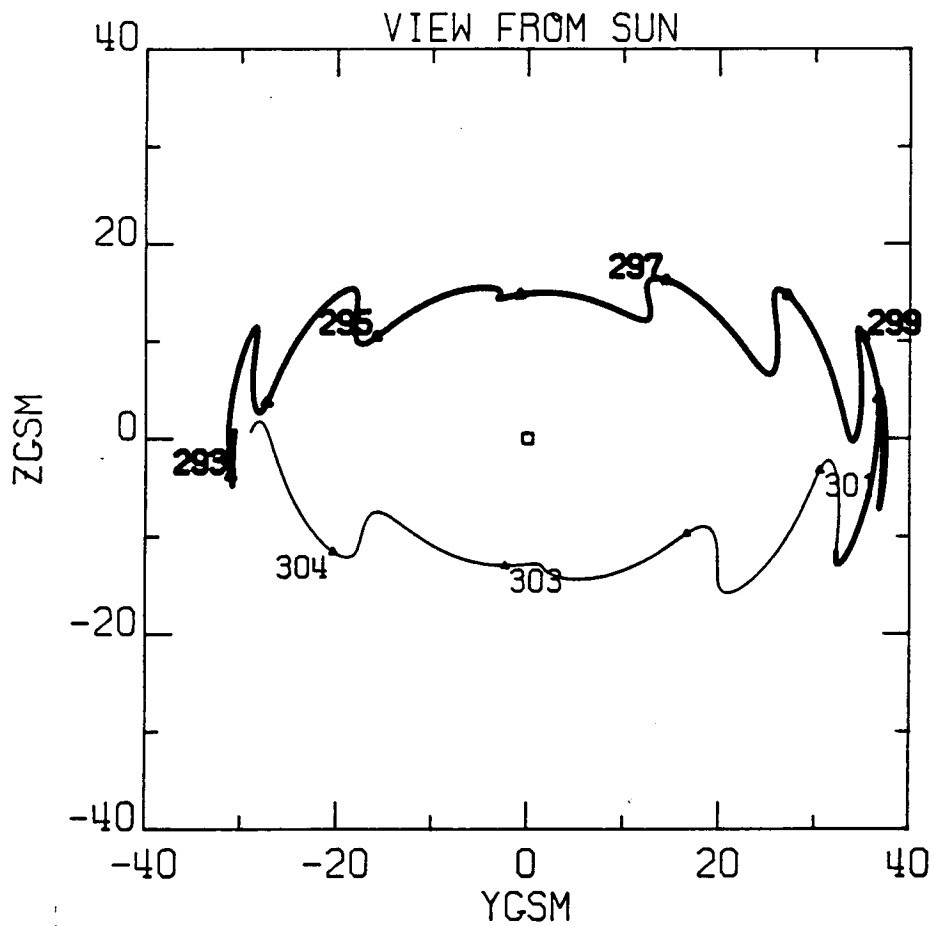
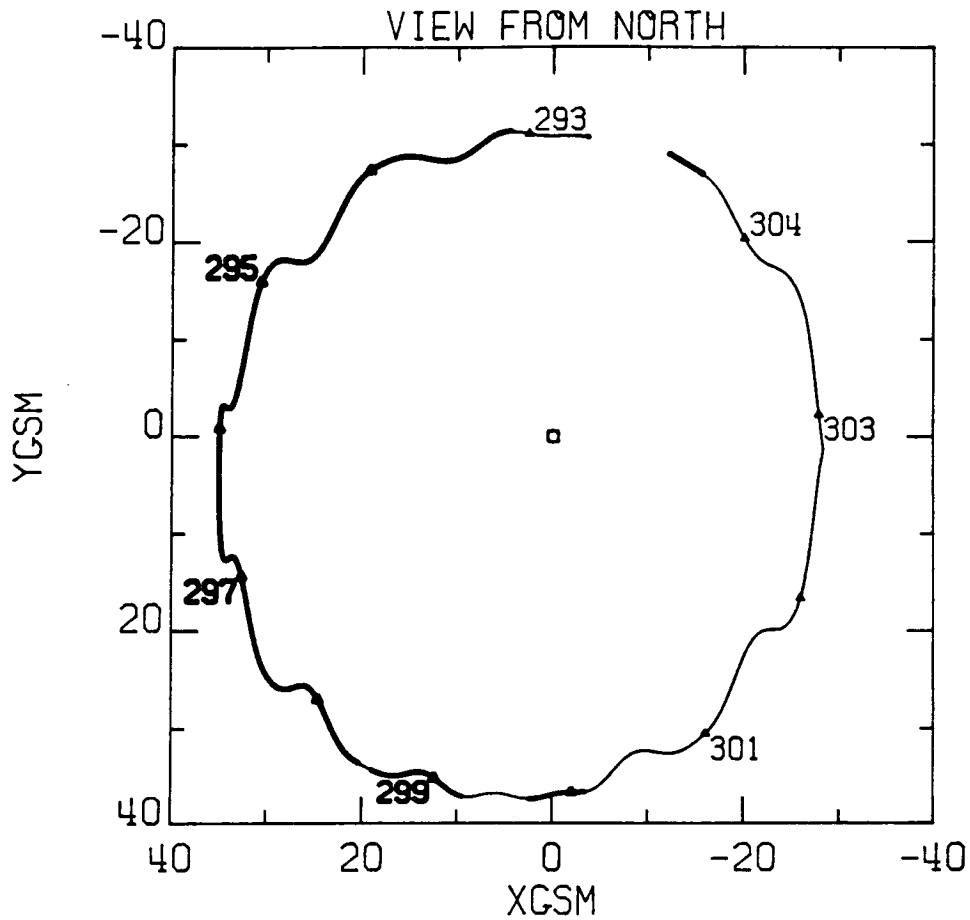
ASCENDING NODE 62

FROM OCT 7 TO OCT 19 1974

DAYS 280 THRU 292

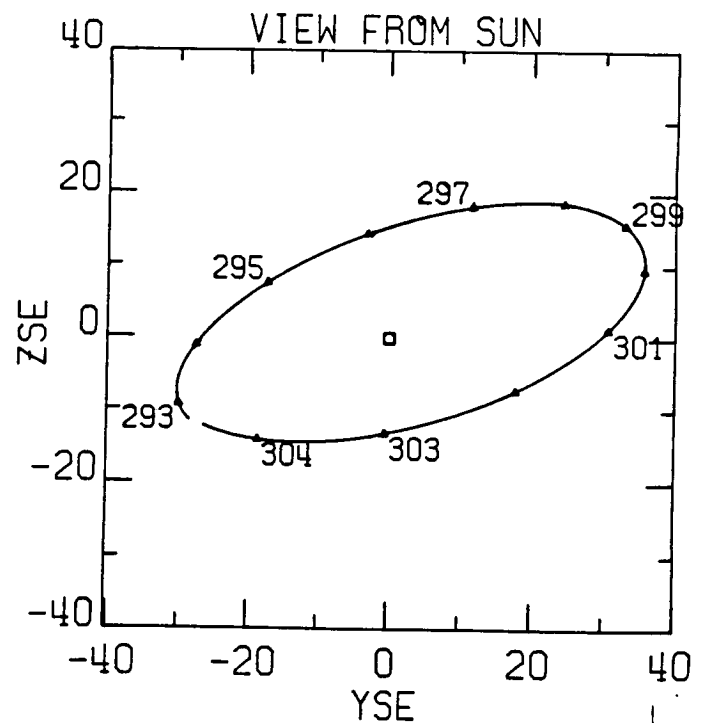
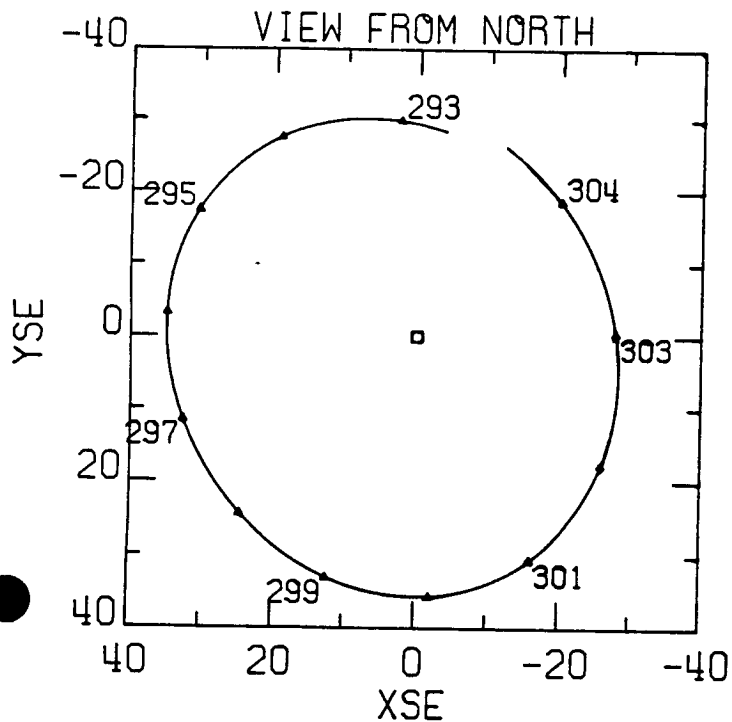
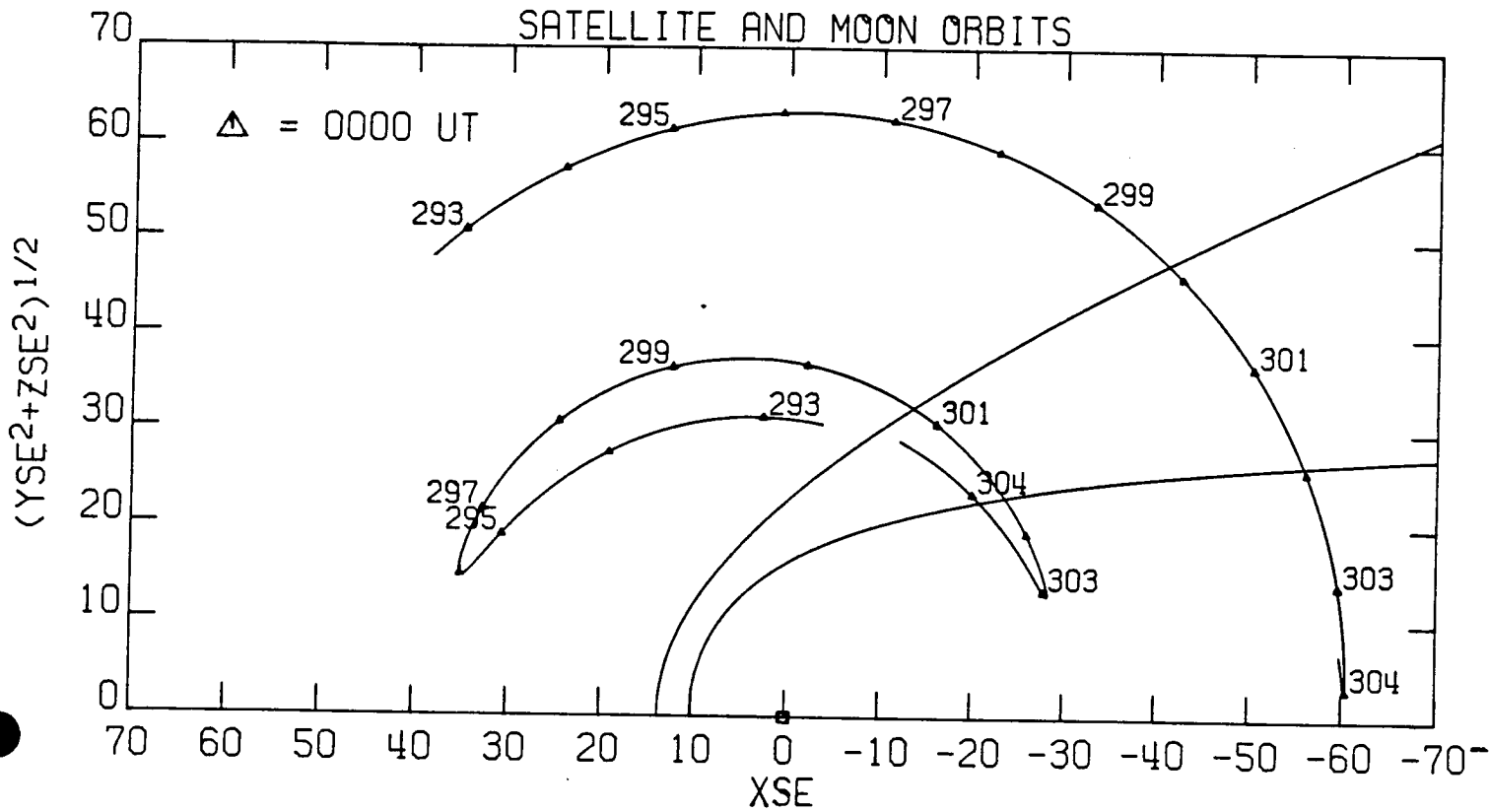


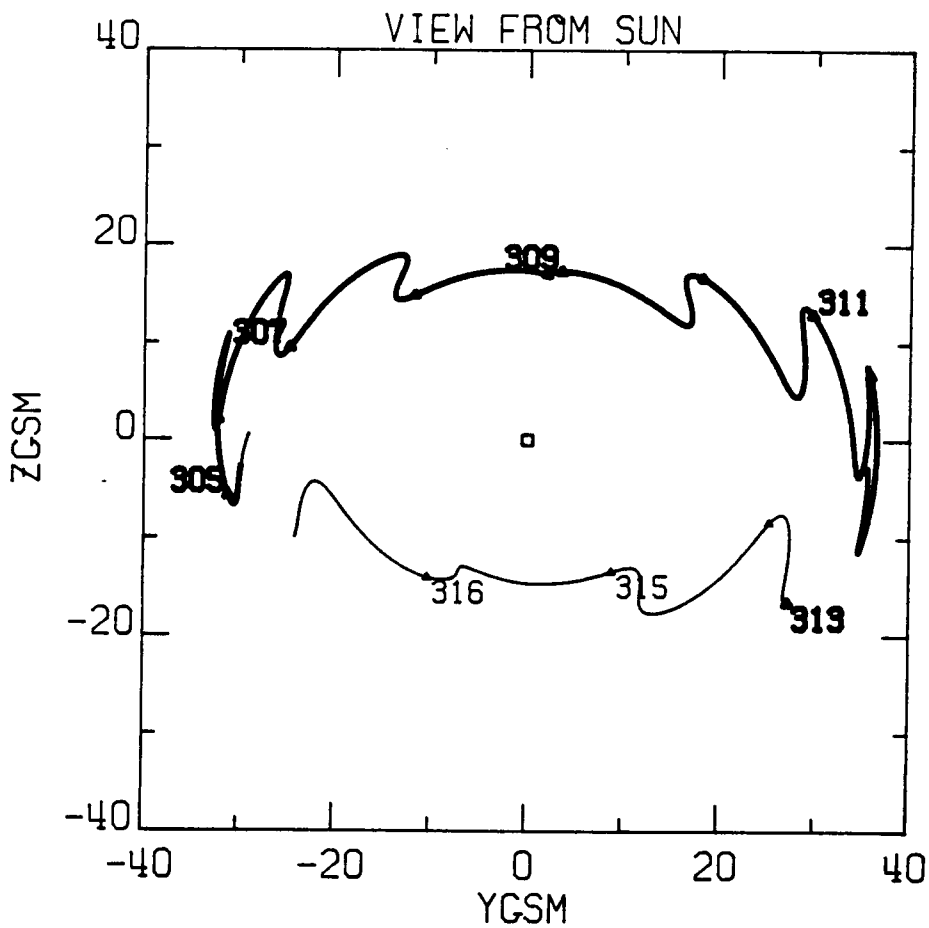
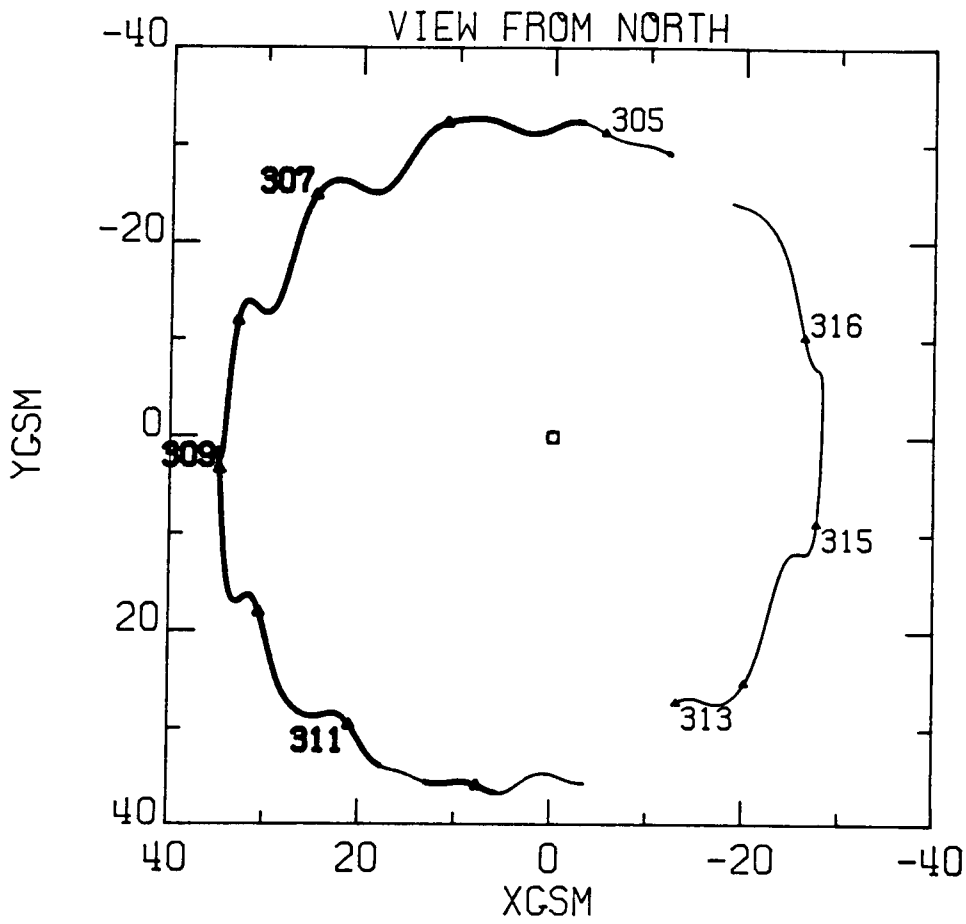
IMP 7 FROM OCT 19 TO OCT 31 1974



FROM OCT 19 TO OCT 31 1974

DAYS 292 THRU 304

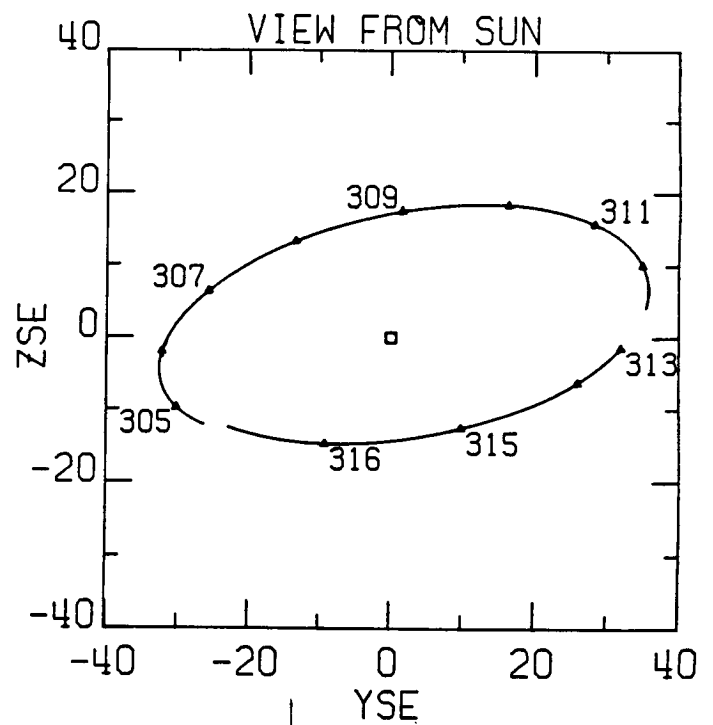
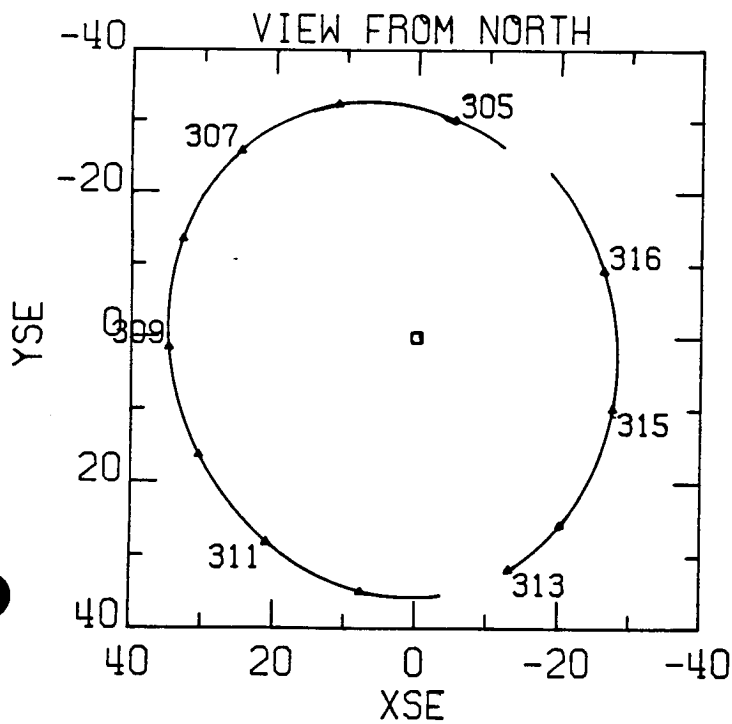
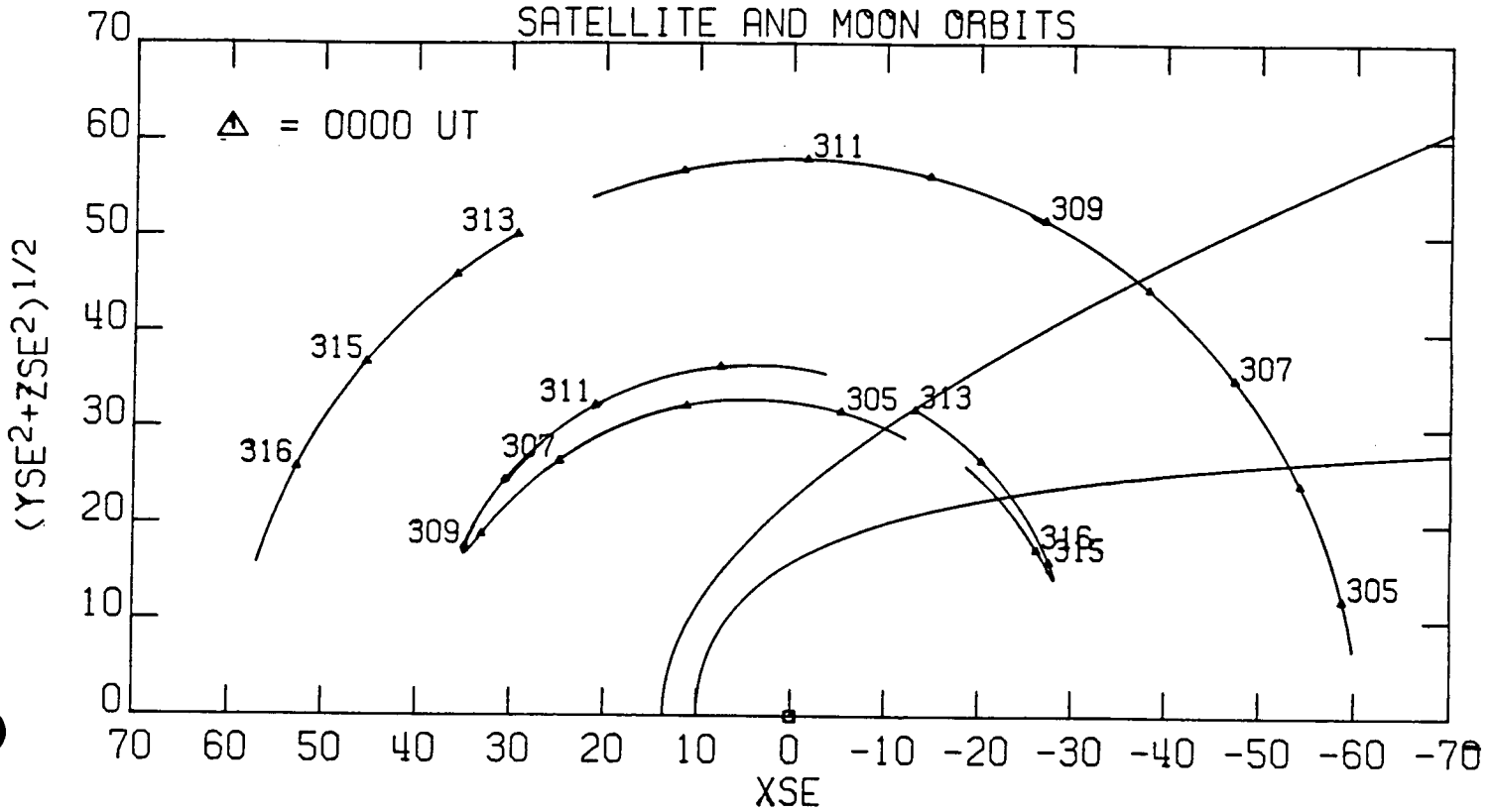




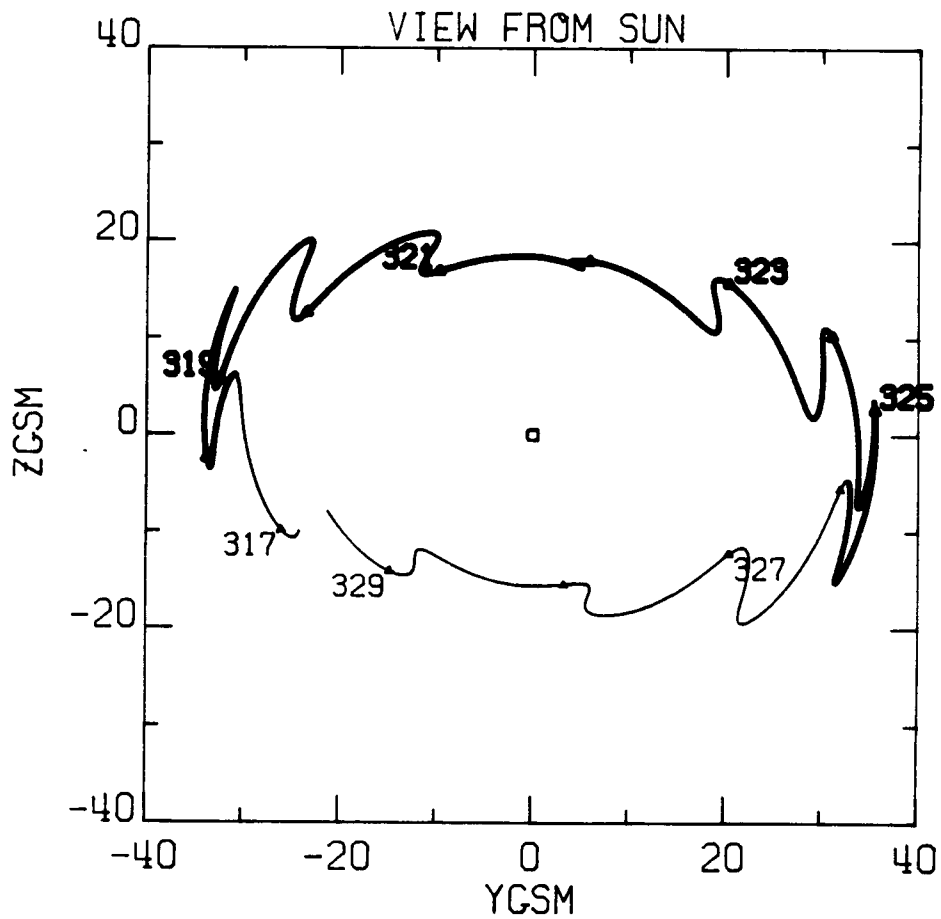
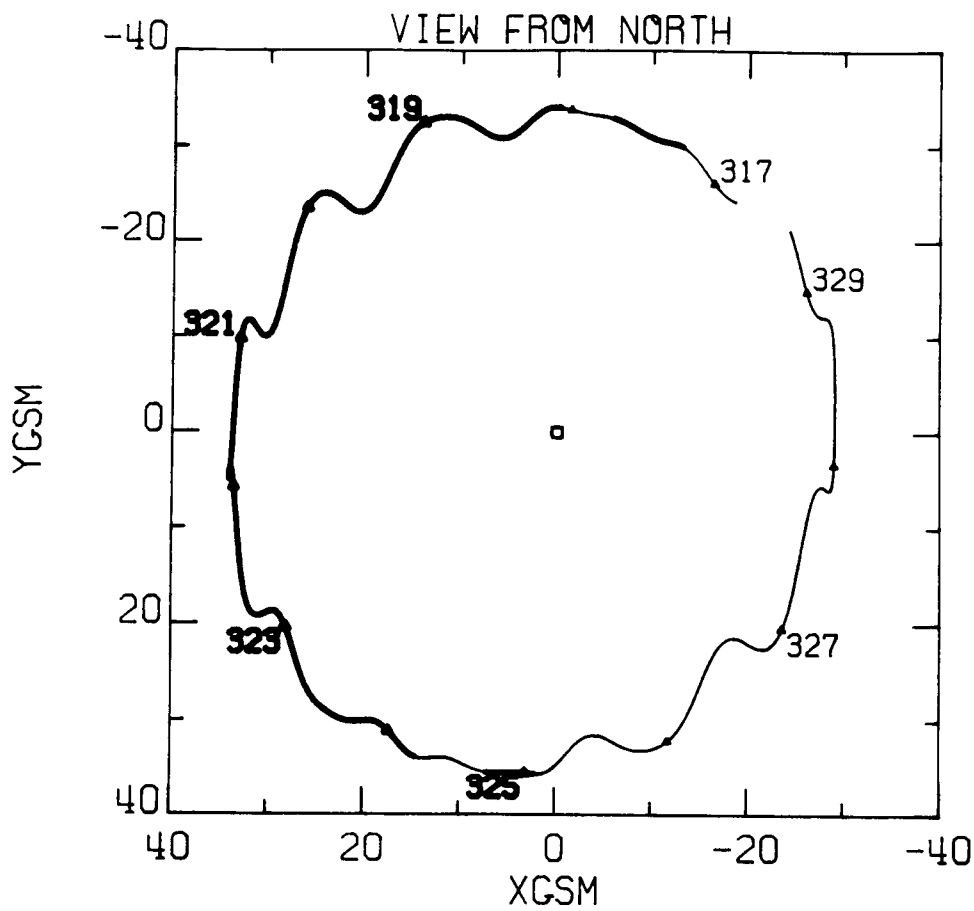
FROM OCT 31 TO NOV 12 1974

DAYS 304 THRU 316

SATELLITE AND MOON ORBITS



IMP 7 FROM NOV 12 TO NOV 25 1974

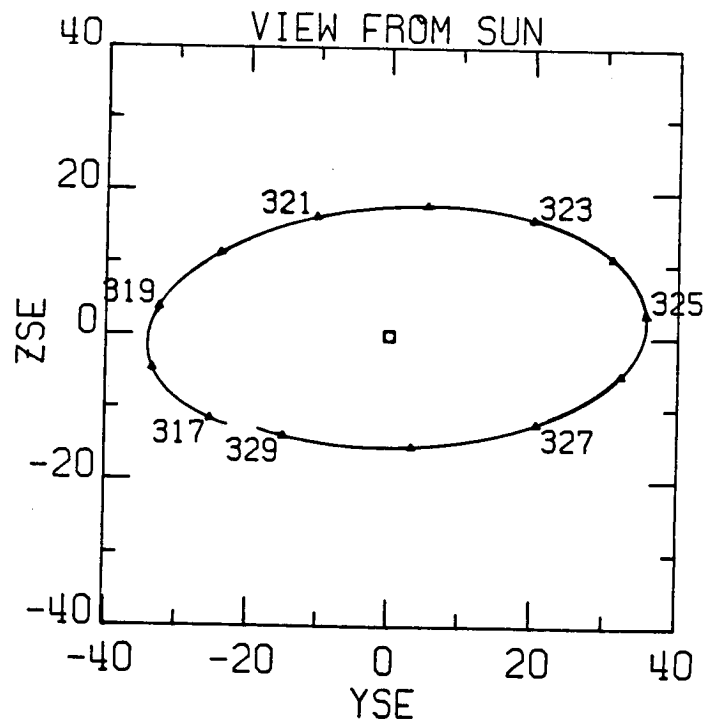
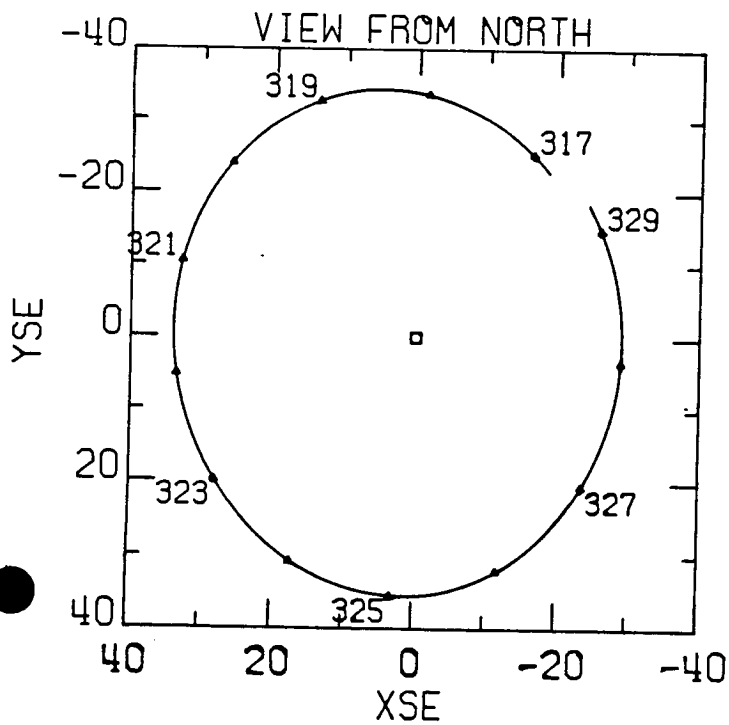
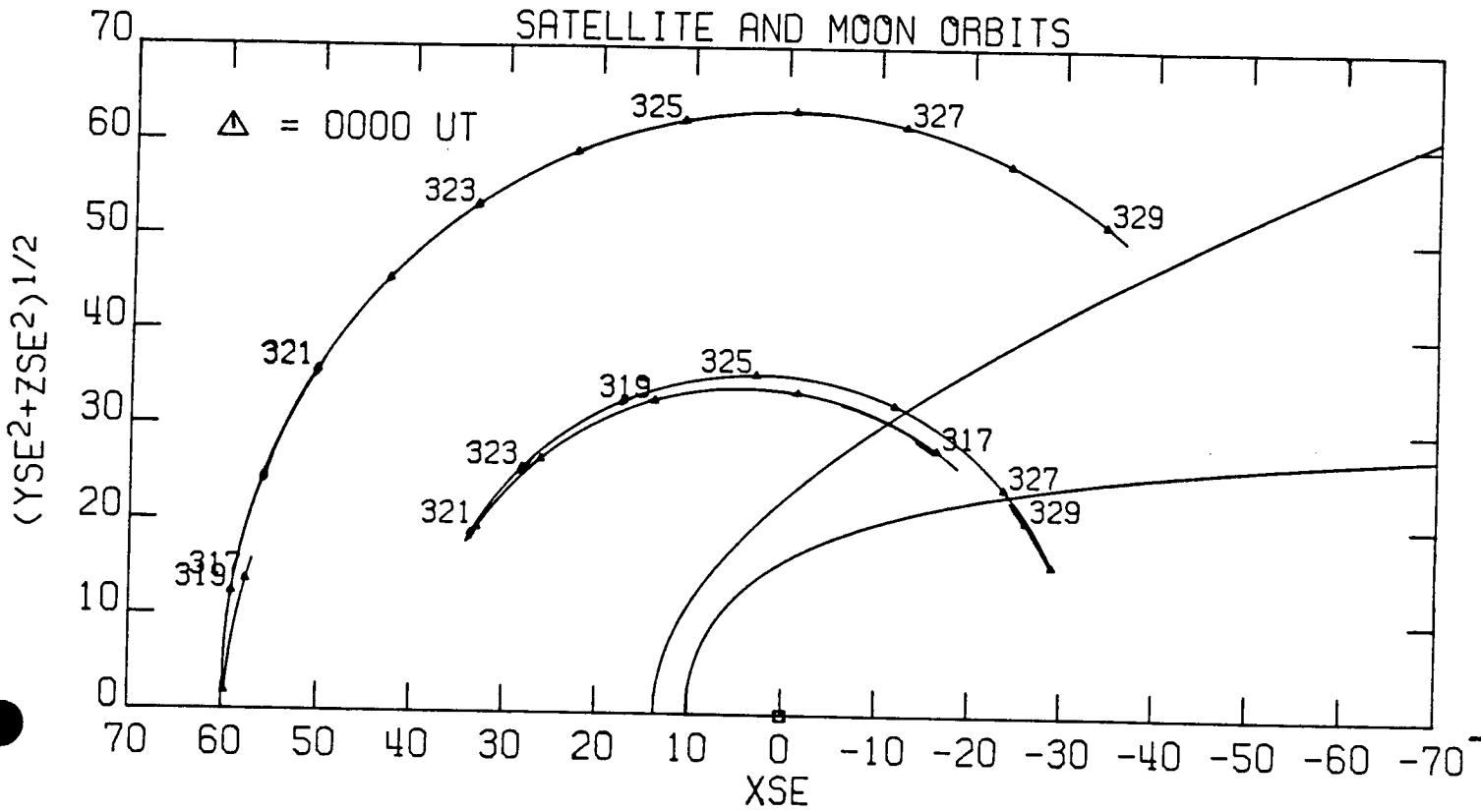


IMP 7 TRAJECTORY.

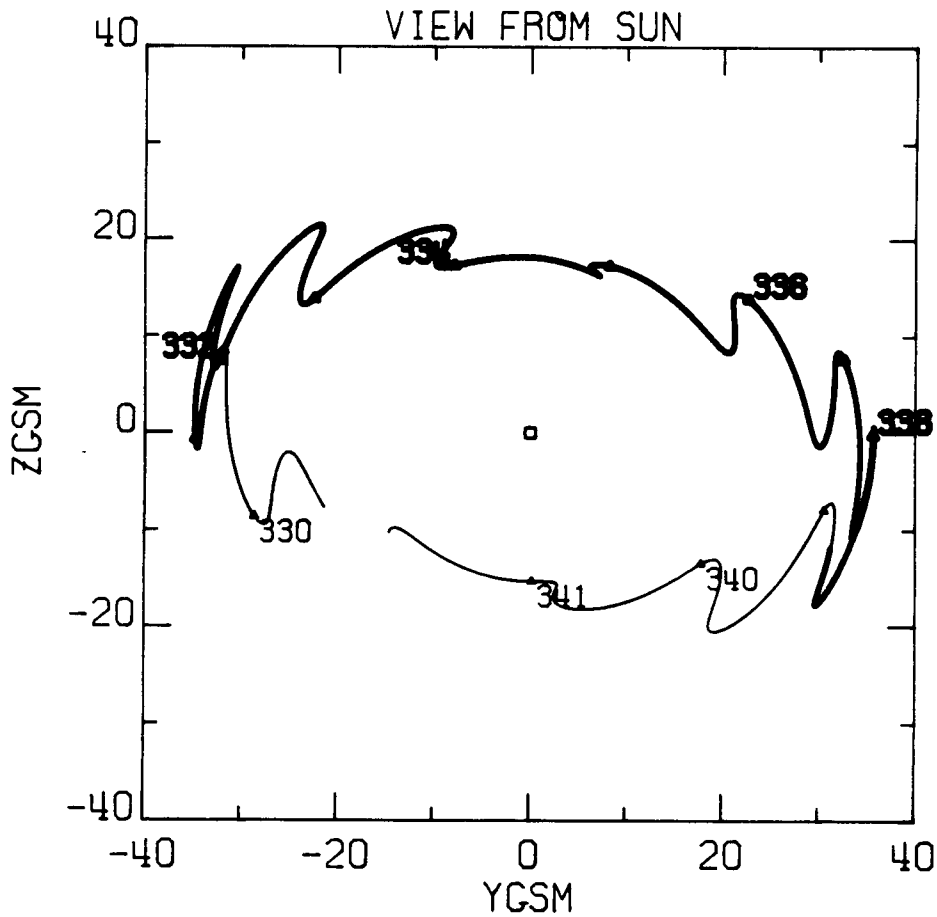
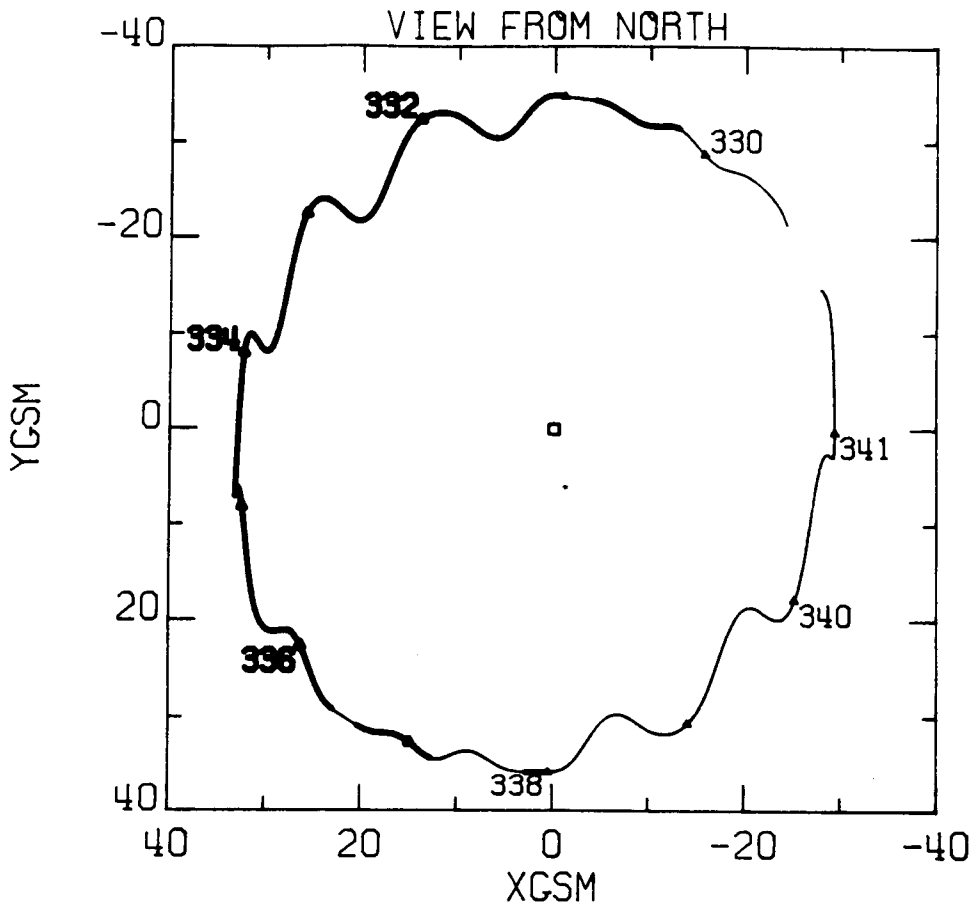
ASCENDING NODE 65

FROM NOV 12 TO NOV 25 1974

DAYS 316 THRU 329



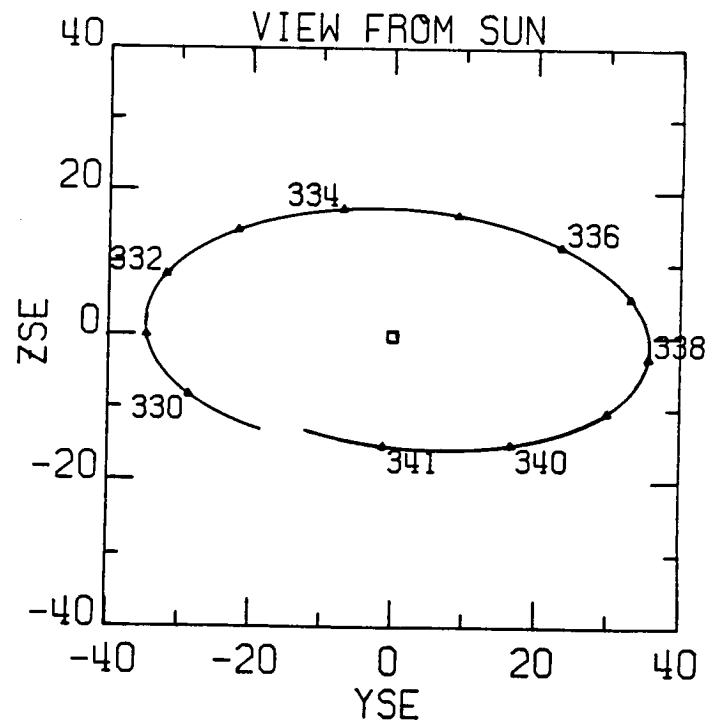
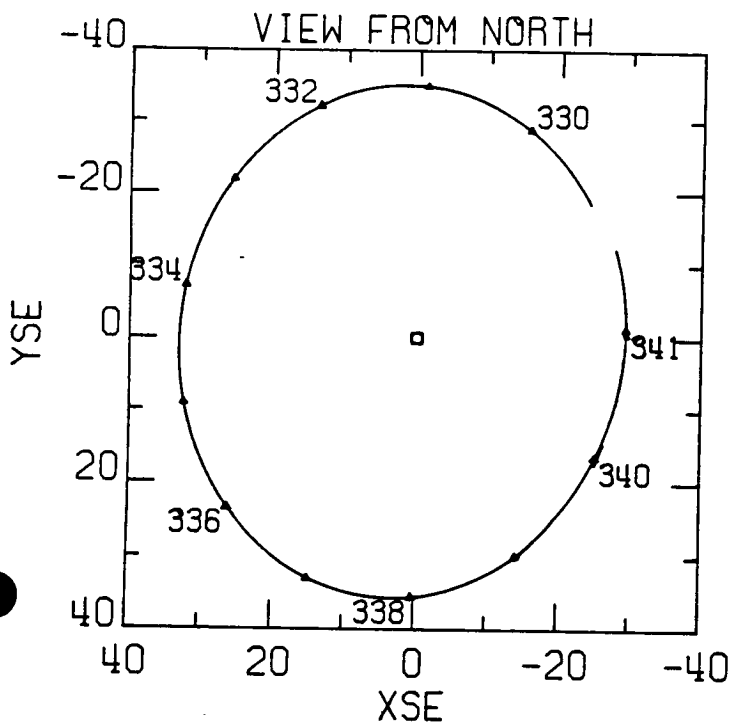
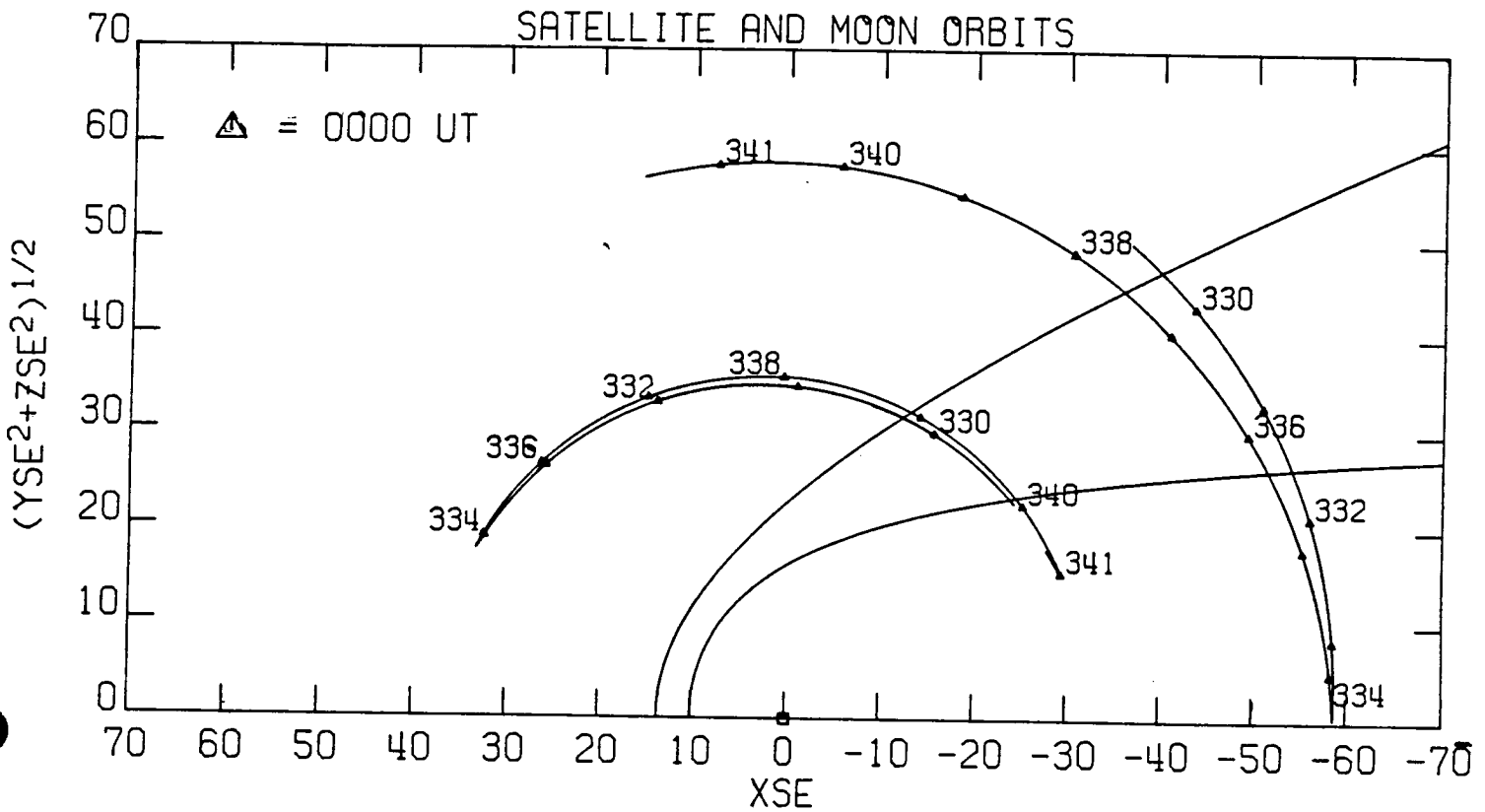
IMP 7 FROM NOV 25 TO DEC 7 1974



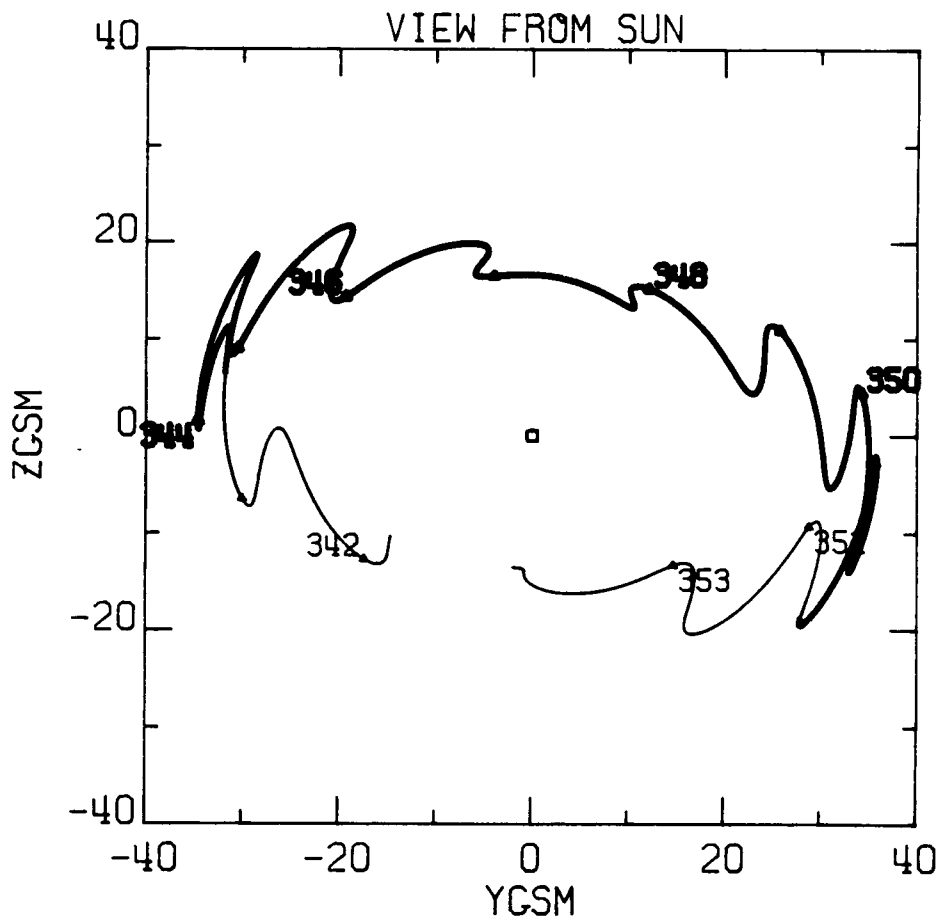
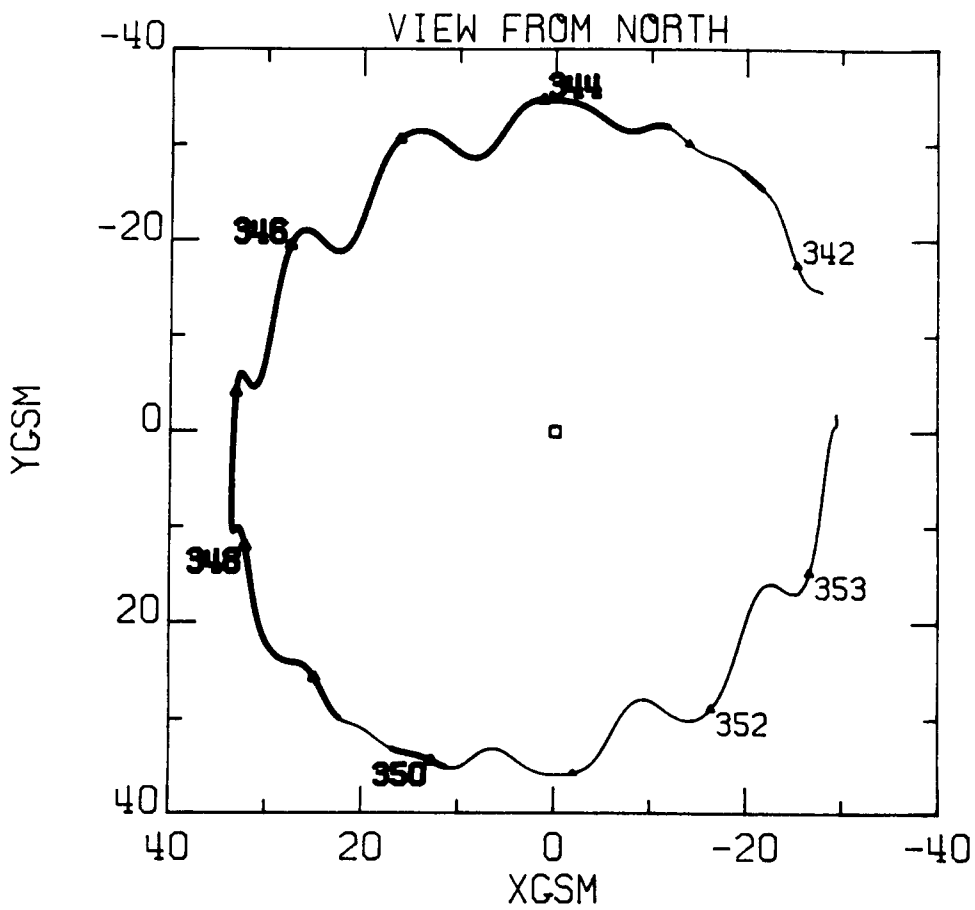
IMP 7 TRAJECTORY. ASCENDING NODE 66

FROM NOV 25 TO DEC 7 1974

DAYS 329 THRU 341



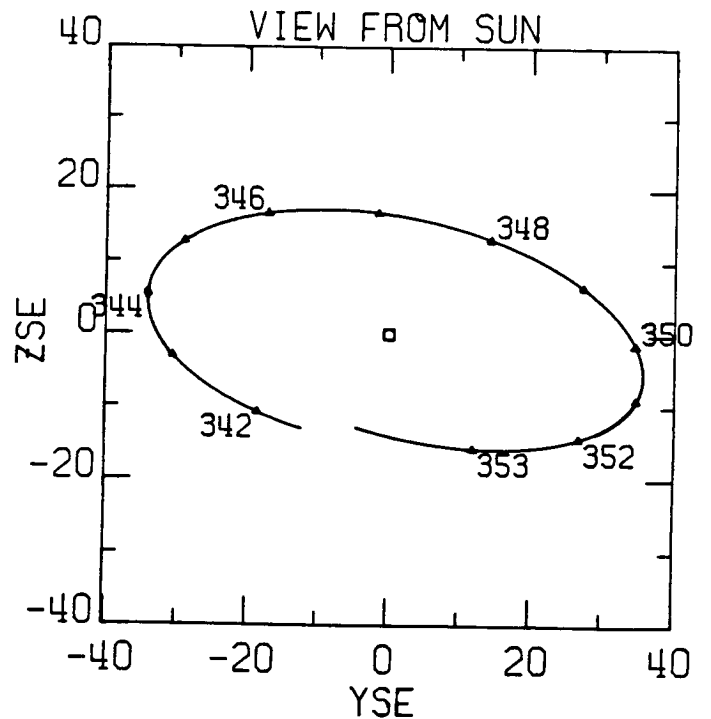
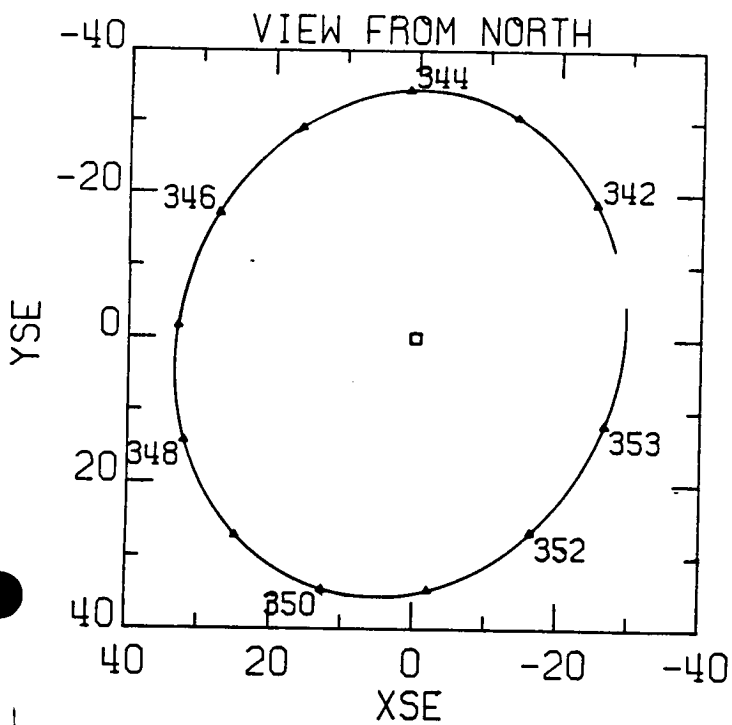
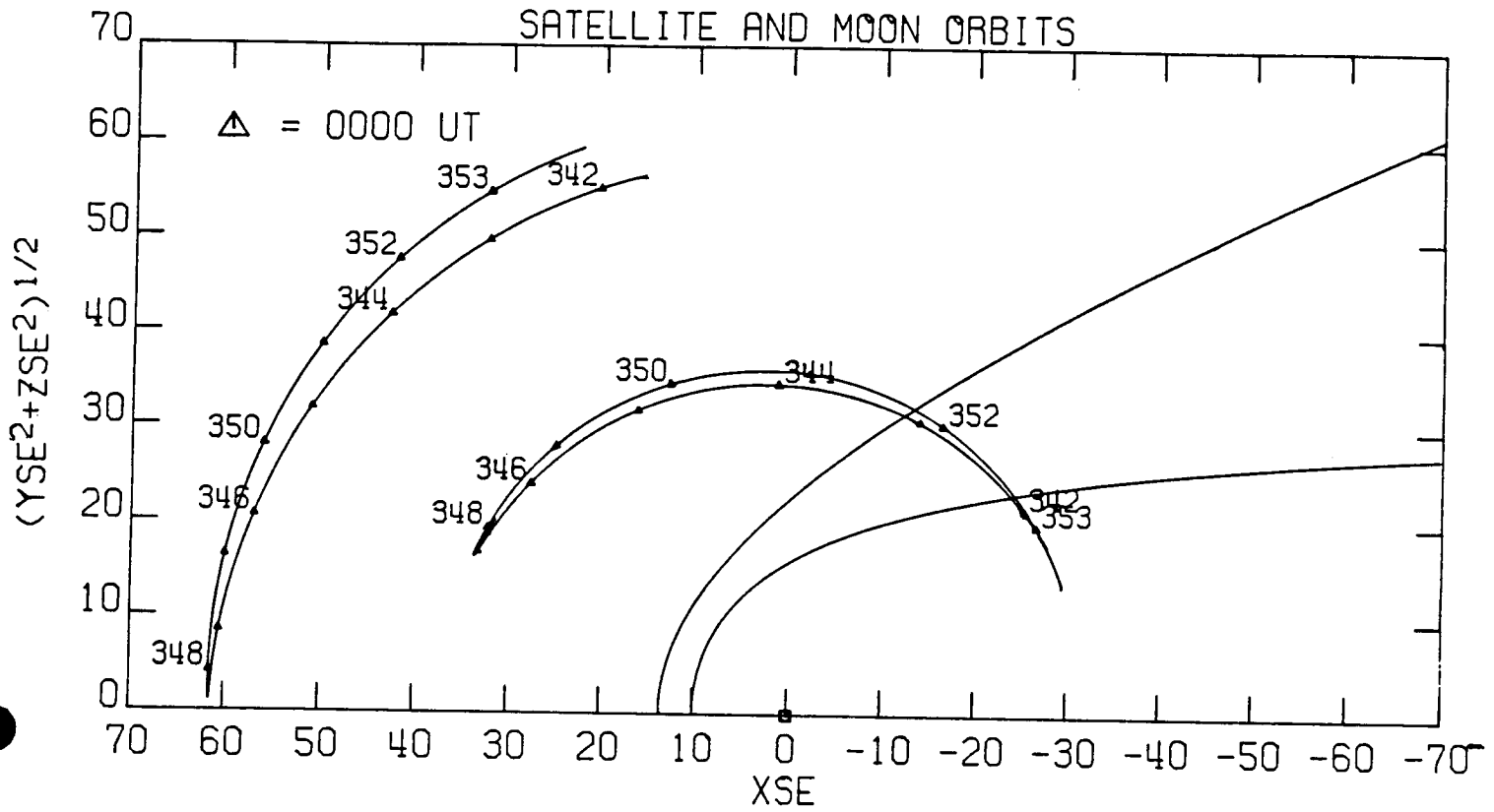
IMP 7 FROM DEC 7 TO DEC 19 1974



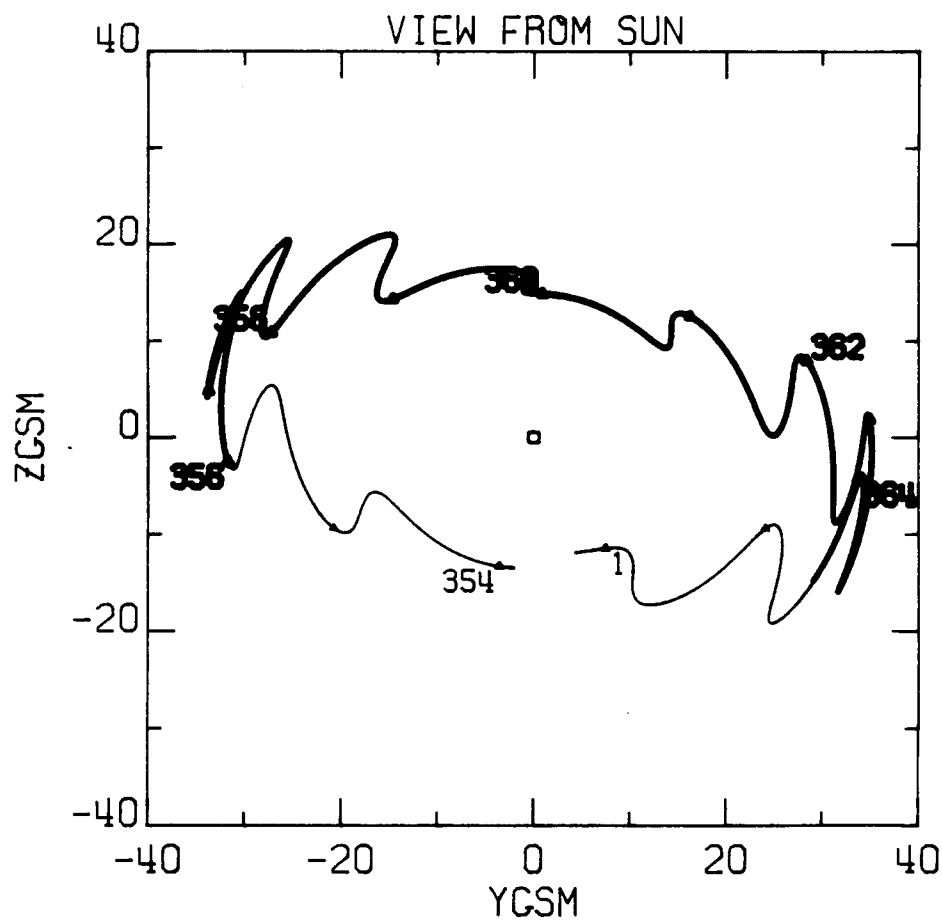
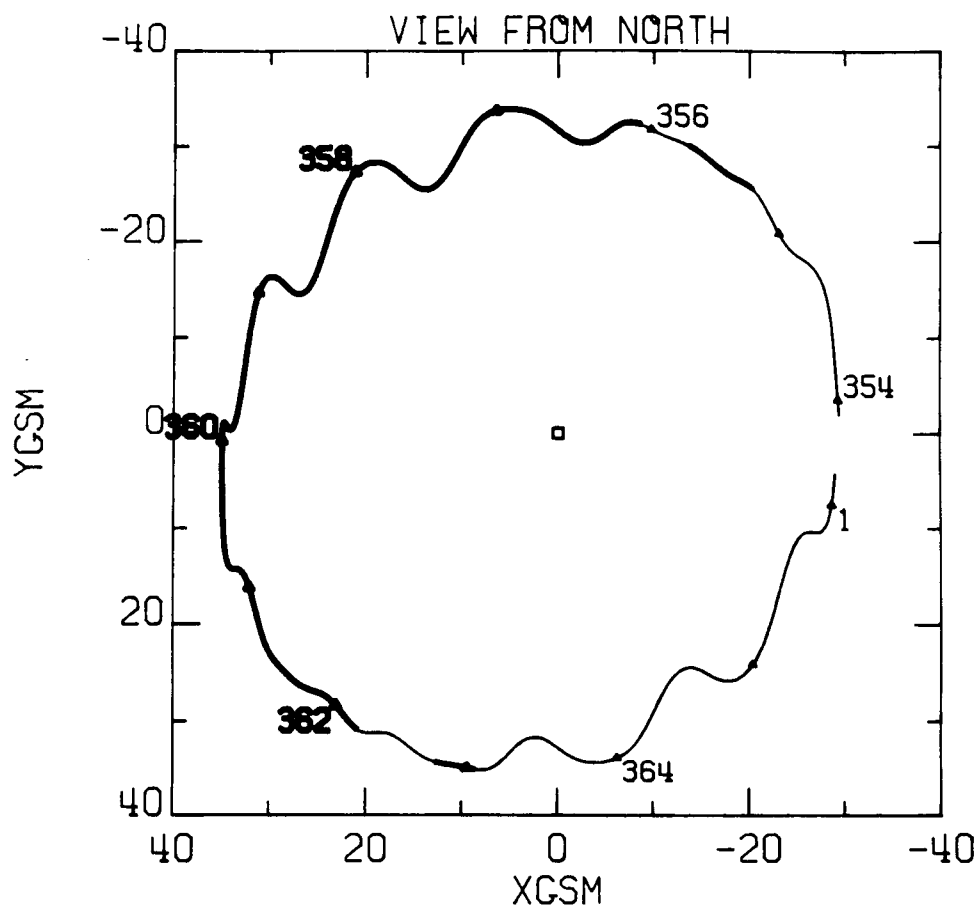
IMP 7 TRAJECTORY. ASCENDING NODE 67

FROM DEC 7 TO DEC 19 1974

DAYS 341 THRU 353



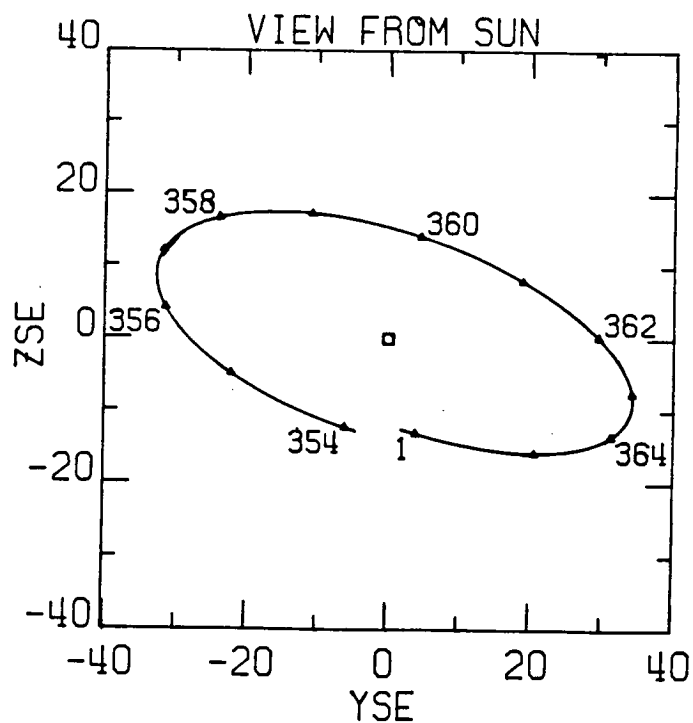
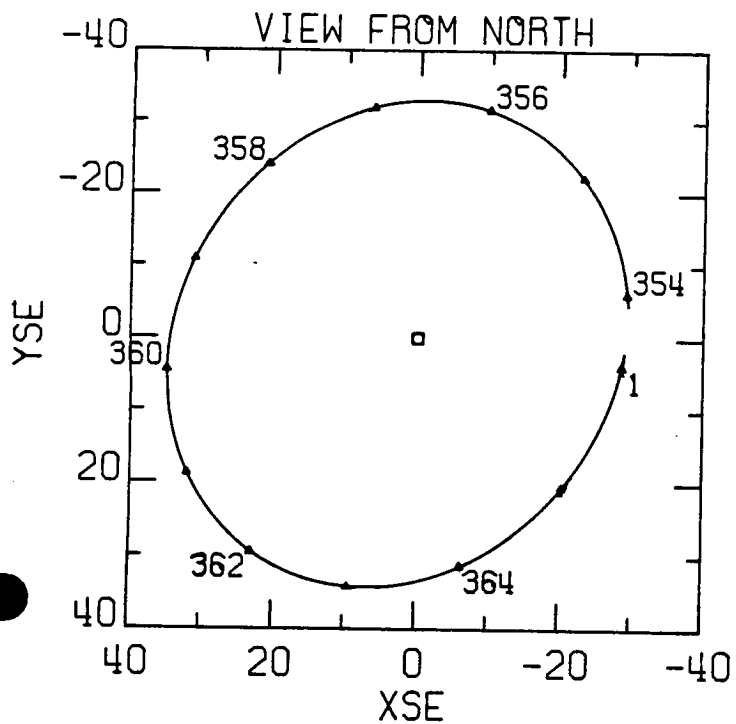
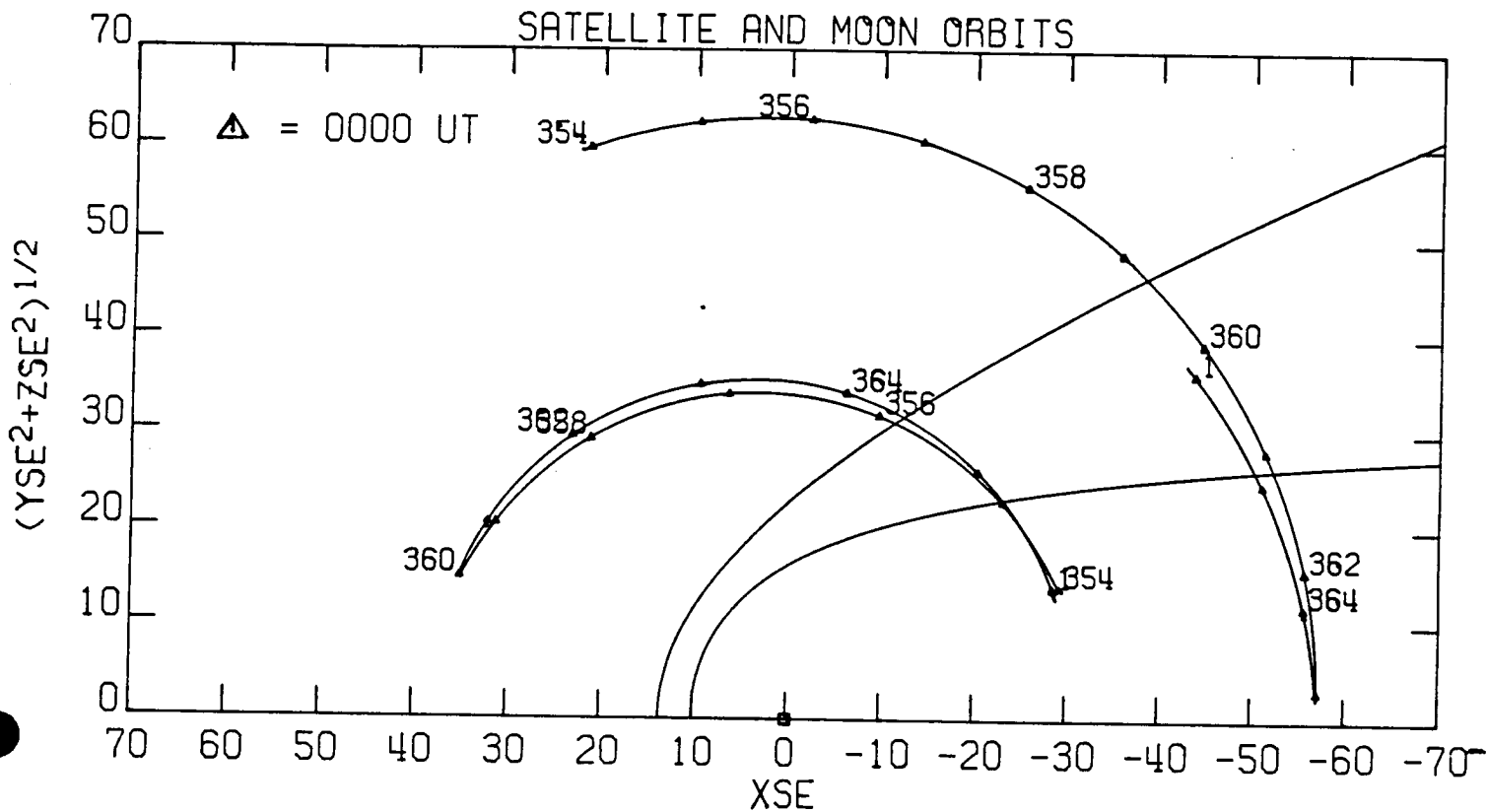
IMP 7 FROM DEC 19 TO JAN 1 1975



FROM DEC 19 TO JAN 1 1975

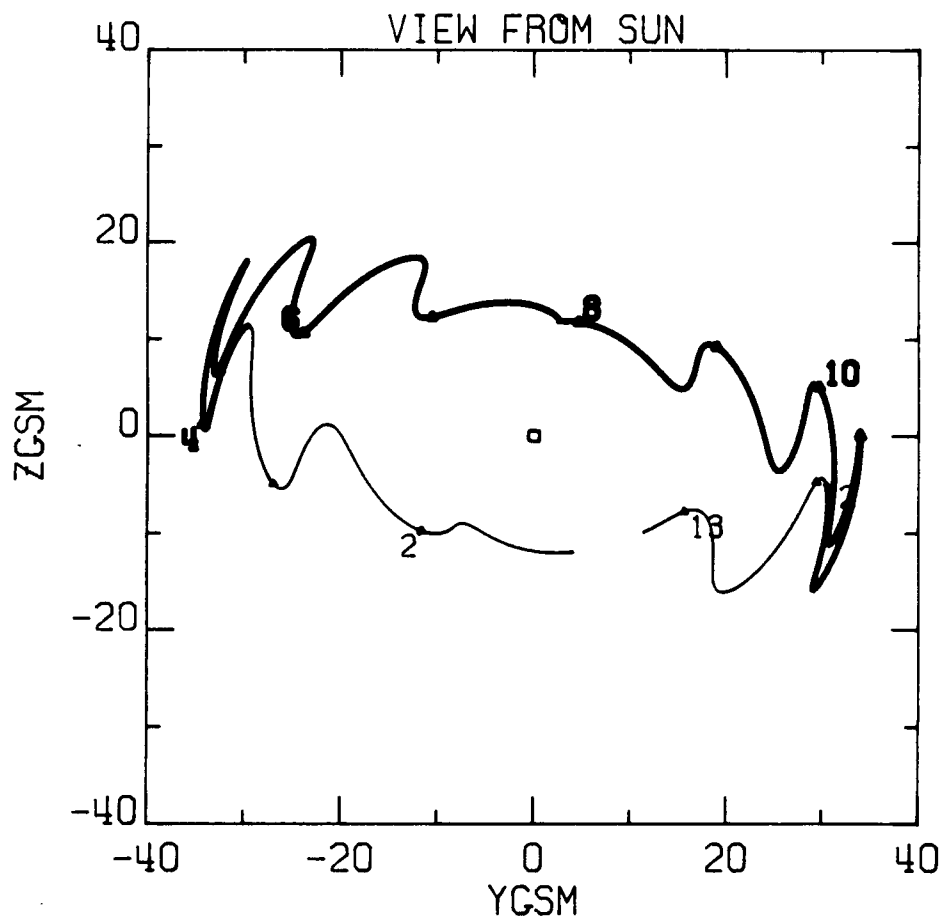
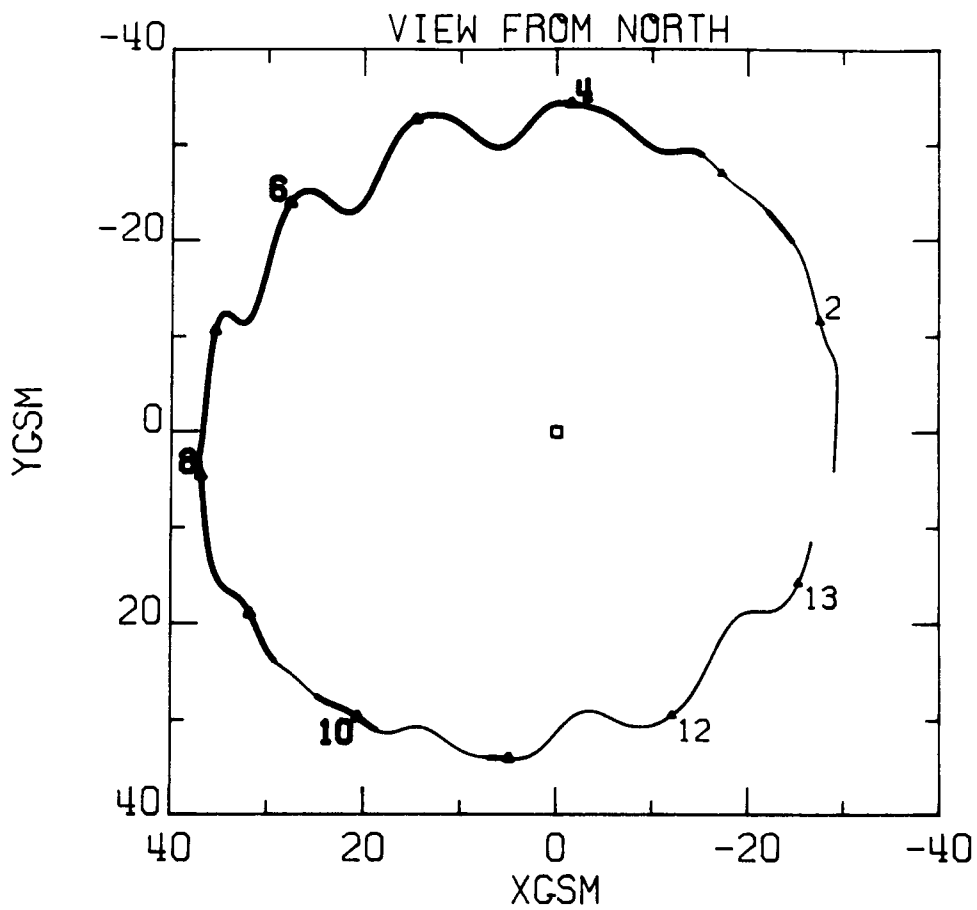
DAYS 353 THRU 1

SATELLITE AND MOON ORBITS



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09/11/88
M T T

IMP 7 FROM JAN 1 TO JAN 13 1975

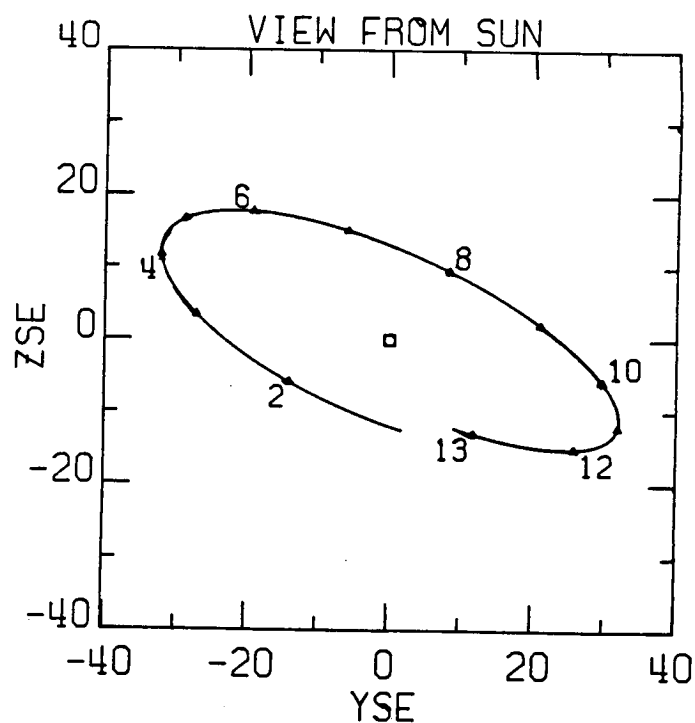
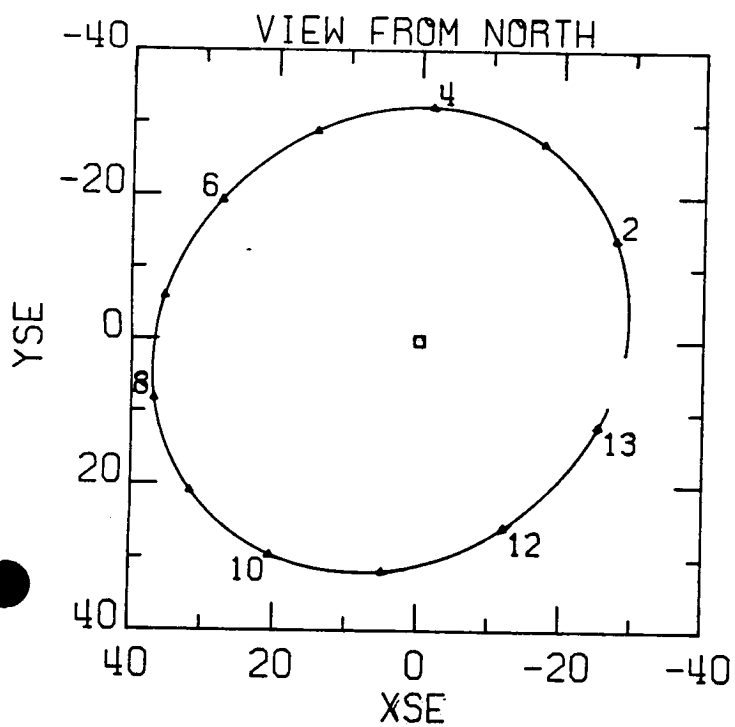
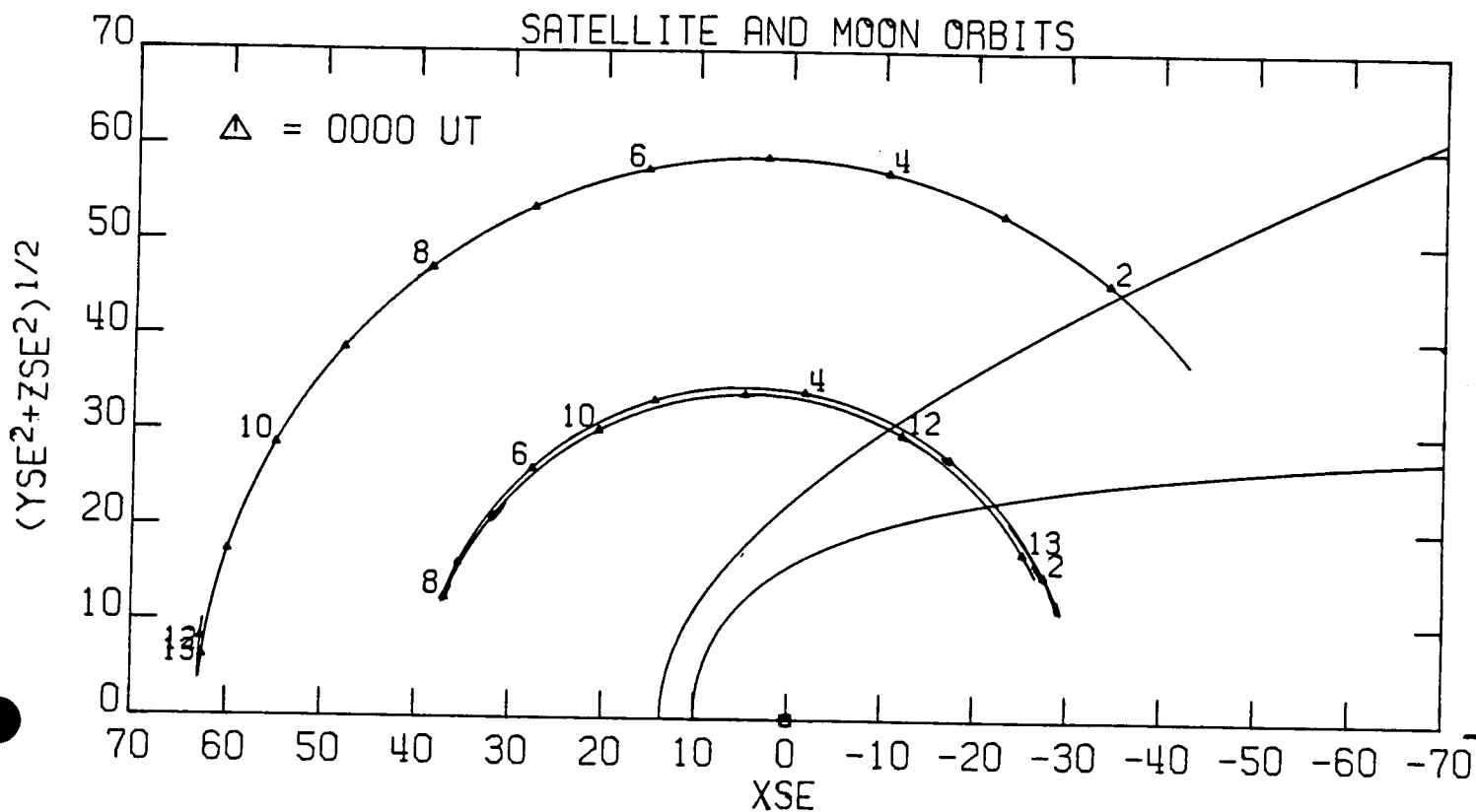


IMP 7 TRAJECTORY.

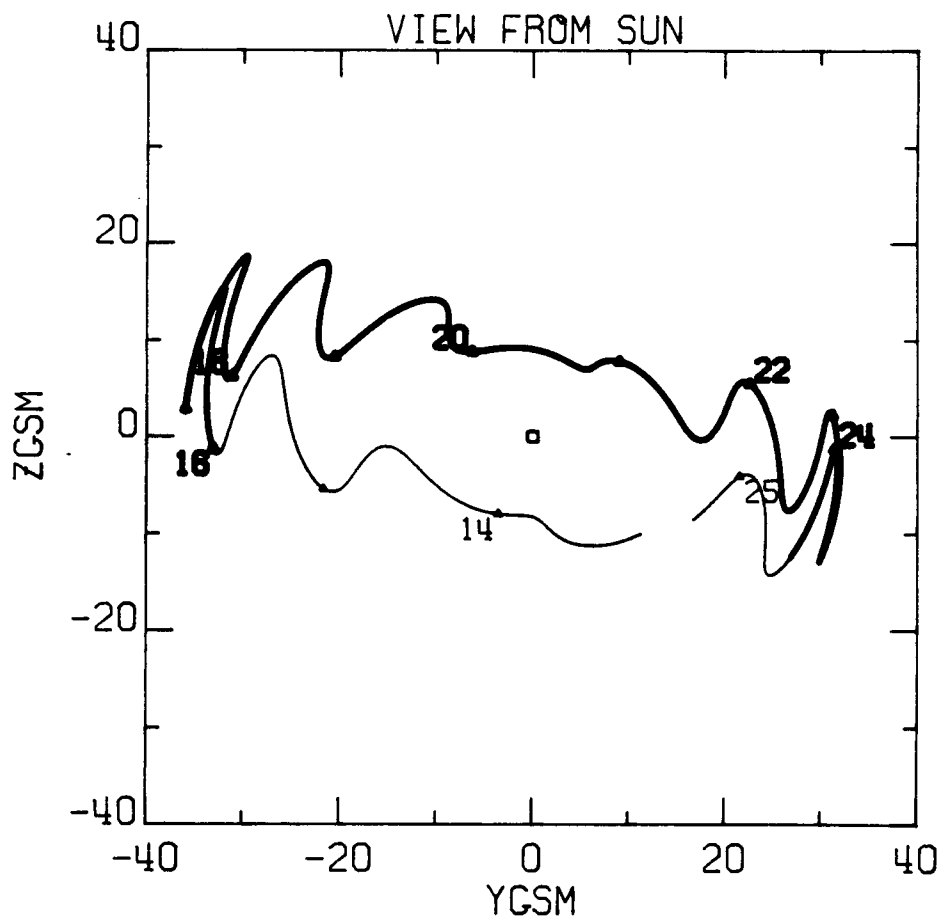
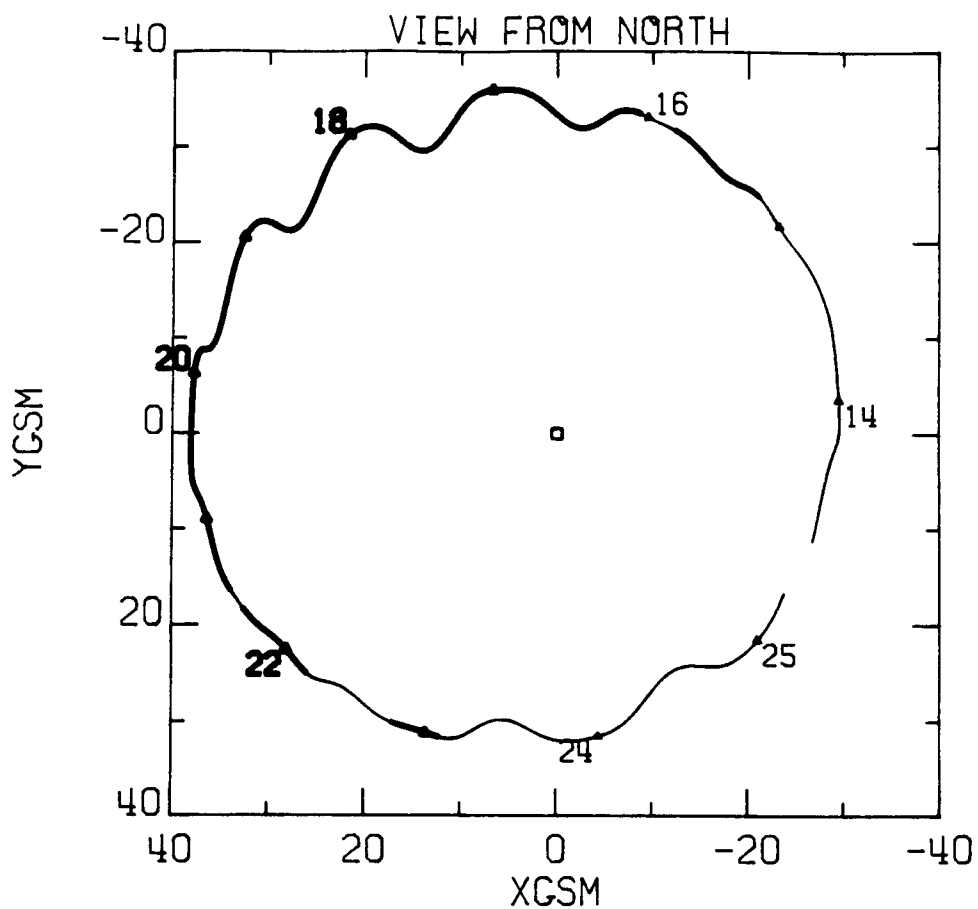
ASCENDING NODE 69

FROM JAN 1 TO JAN 13 1975

DAYS 1 THRU 13



IMP 7 FROM JAN 13 TO JAN 25 1975

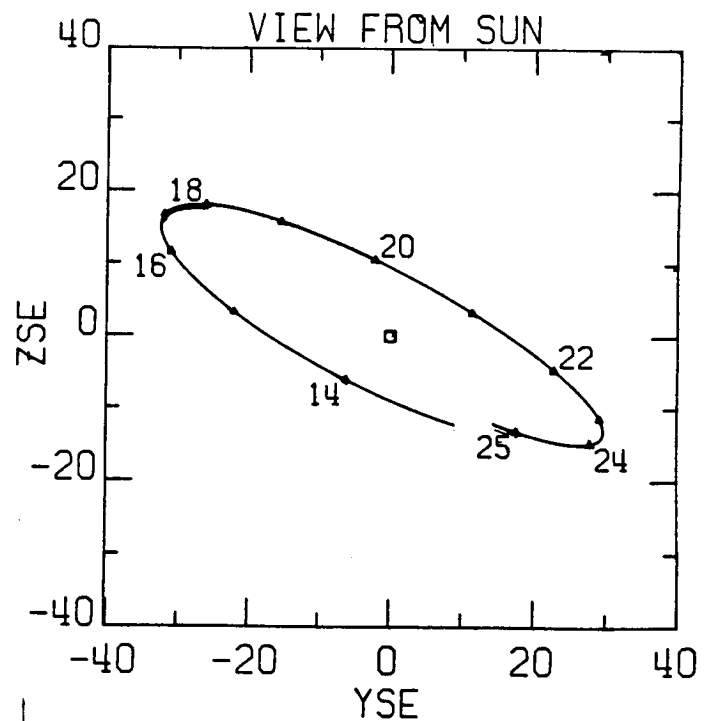
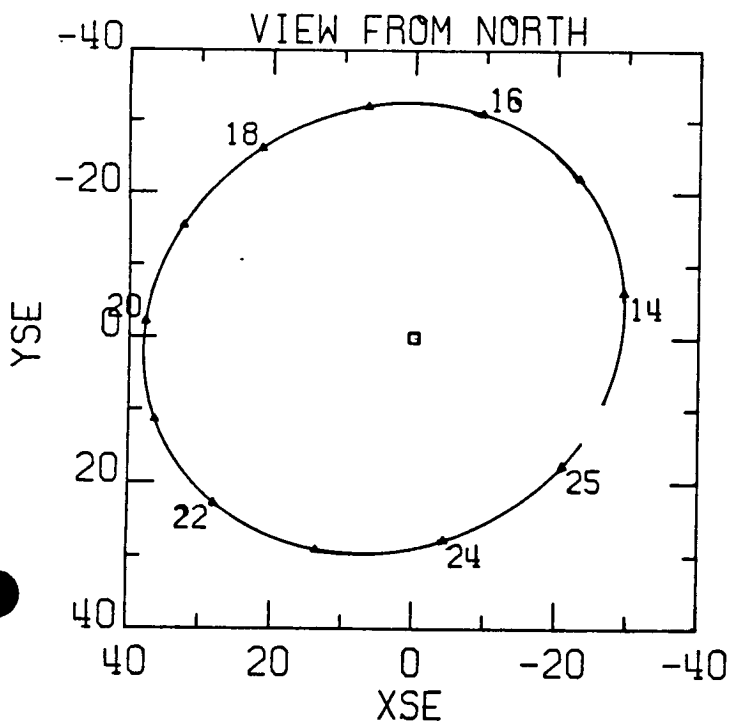
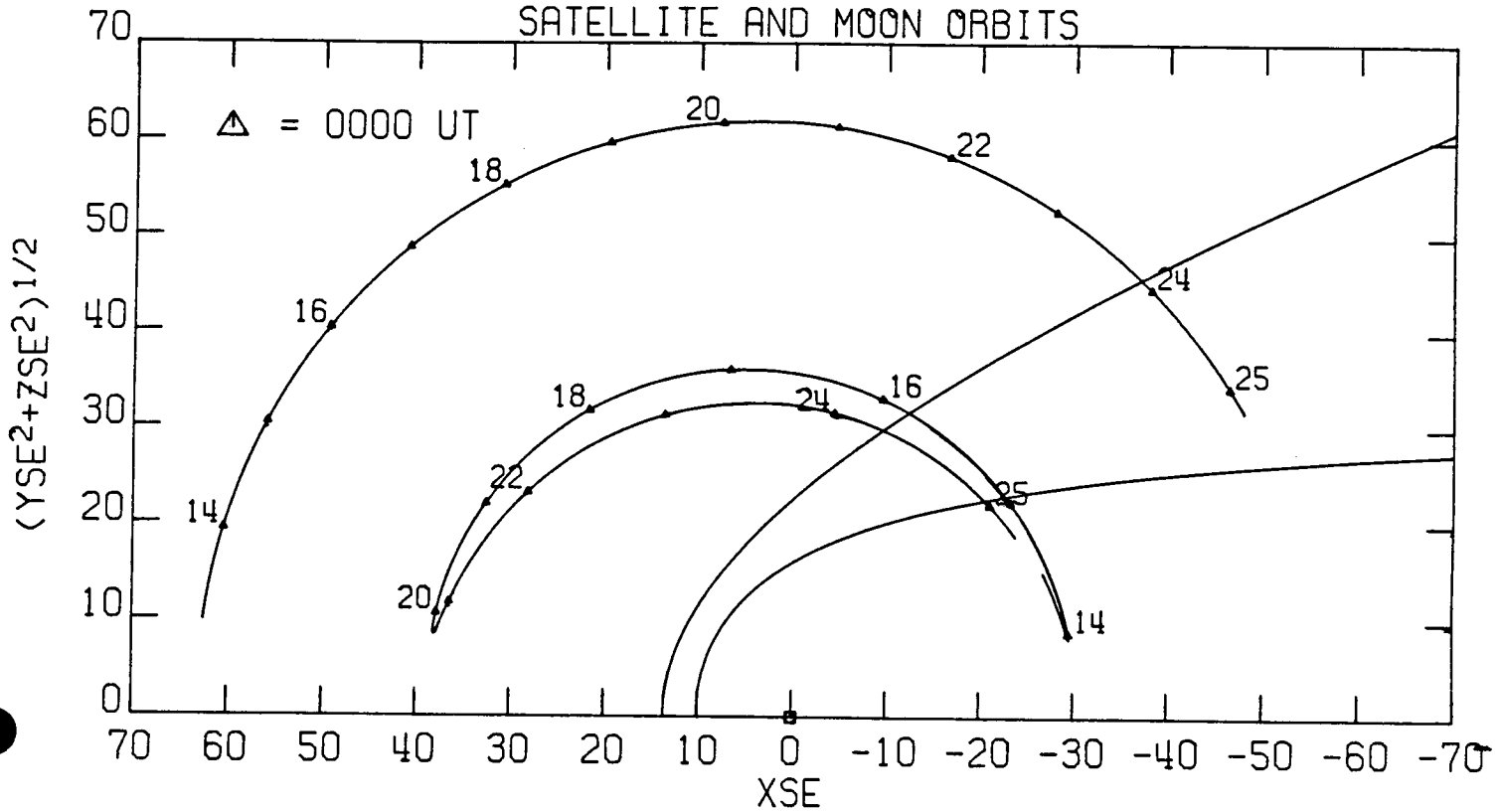


IMP 7 TRAJECTORY. ASCENDING NODE 70

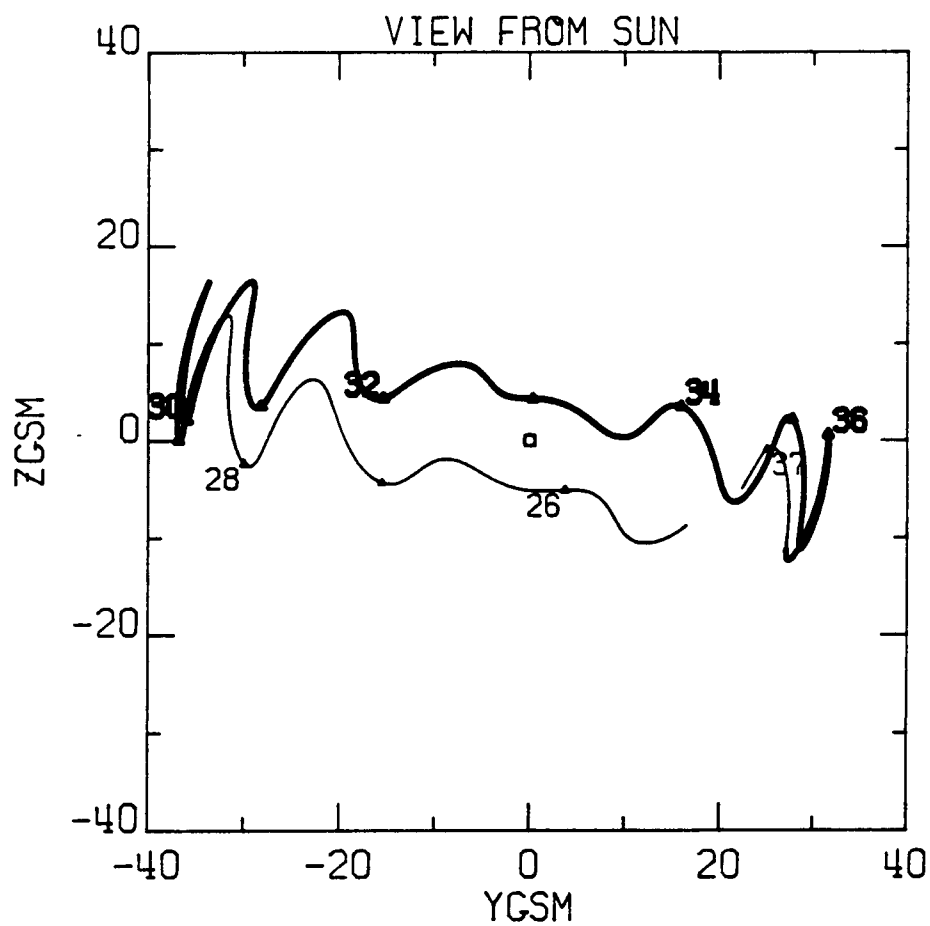
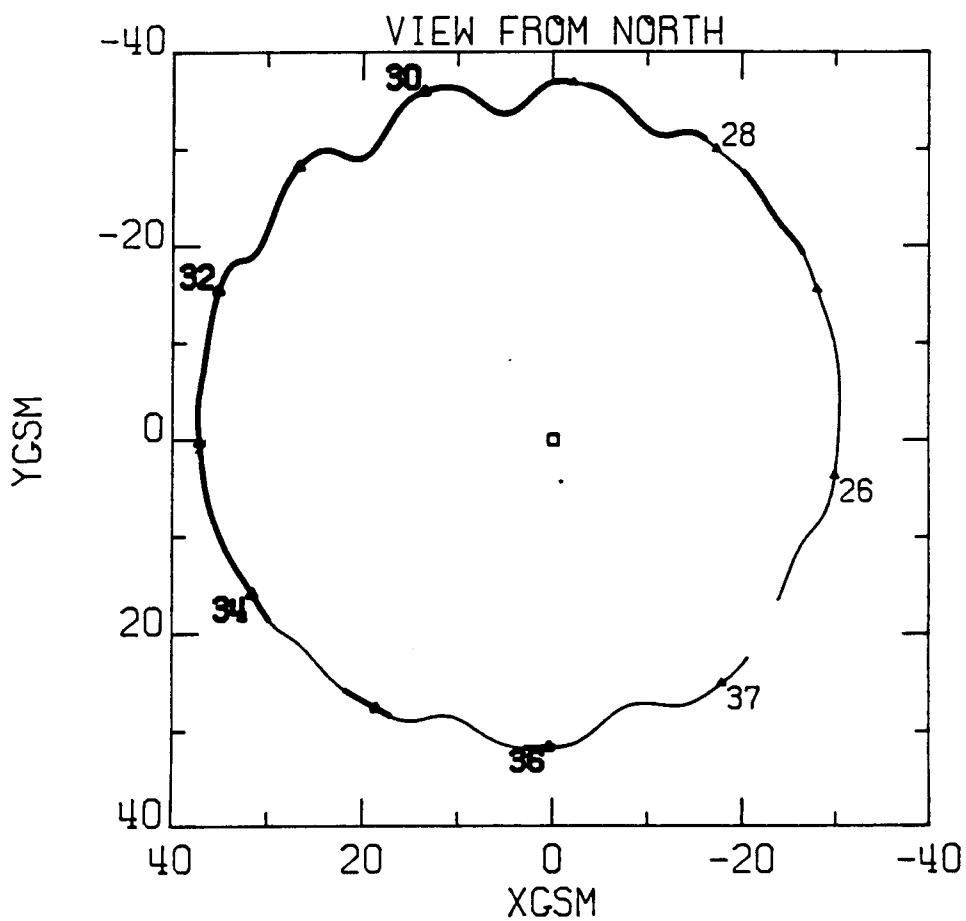
FROM JAN 13 TO JAN 25 1975

DAYS 13 THRU 25

SATELLITE AND MOON ORBITS

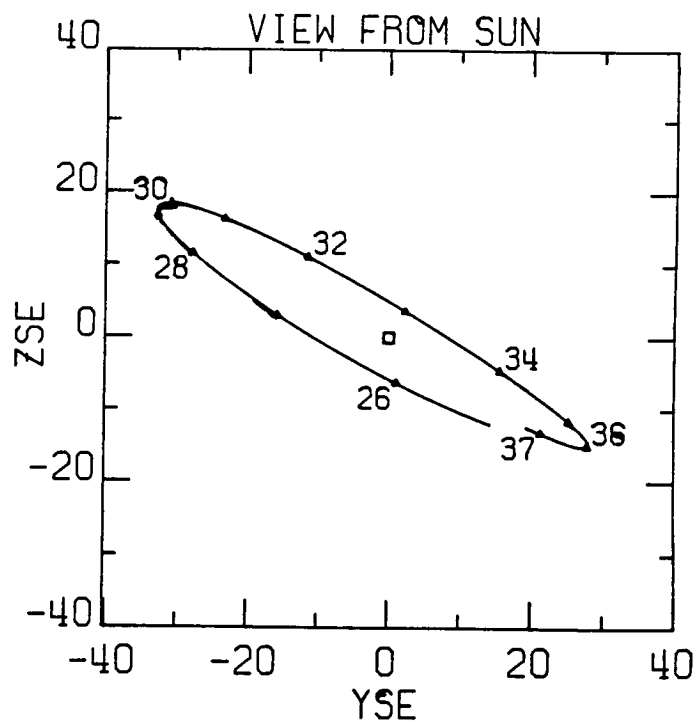
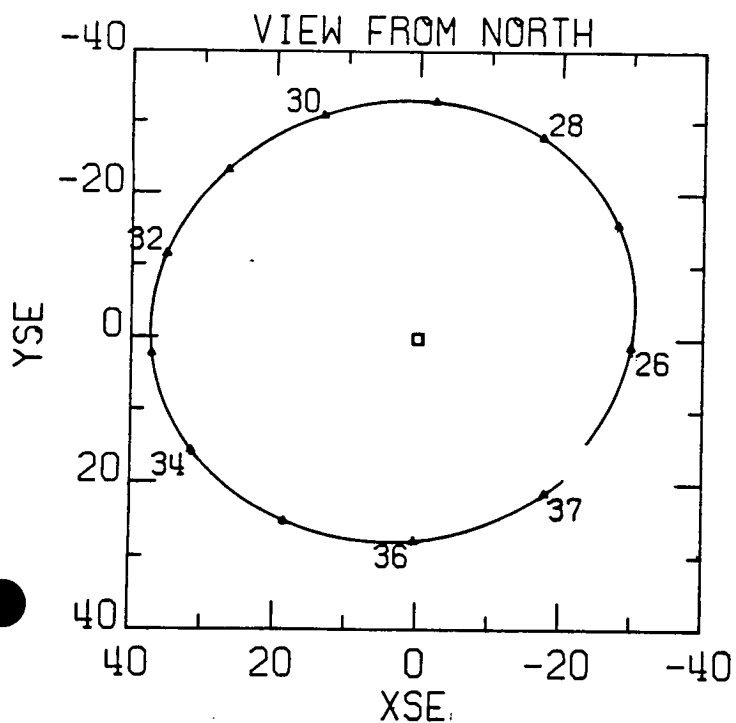
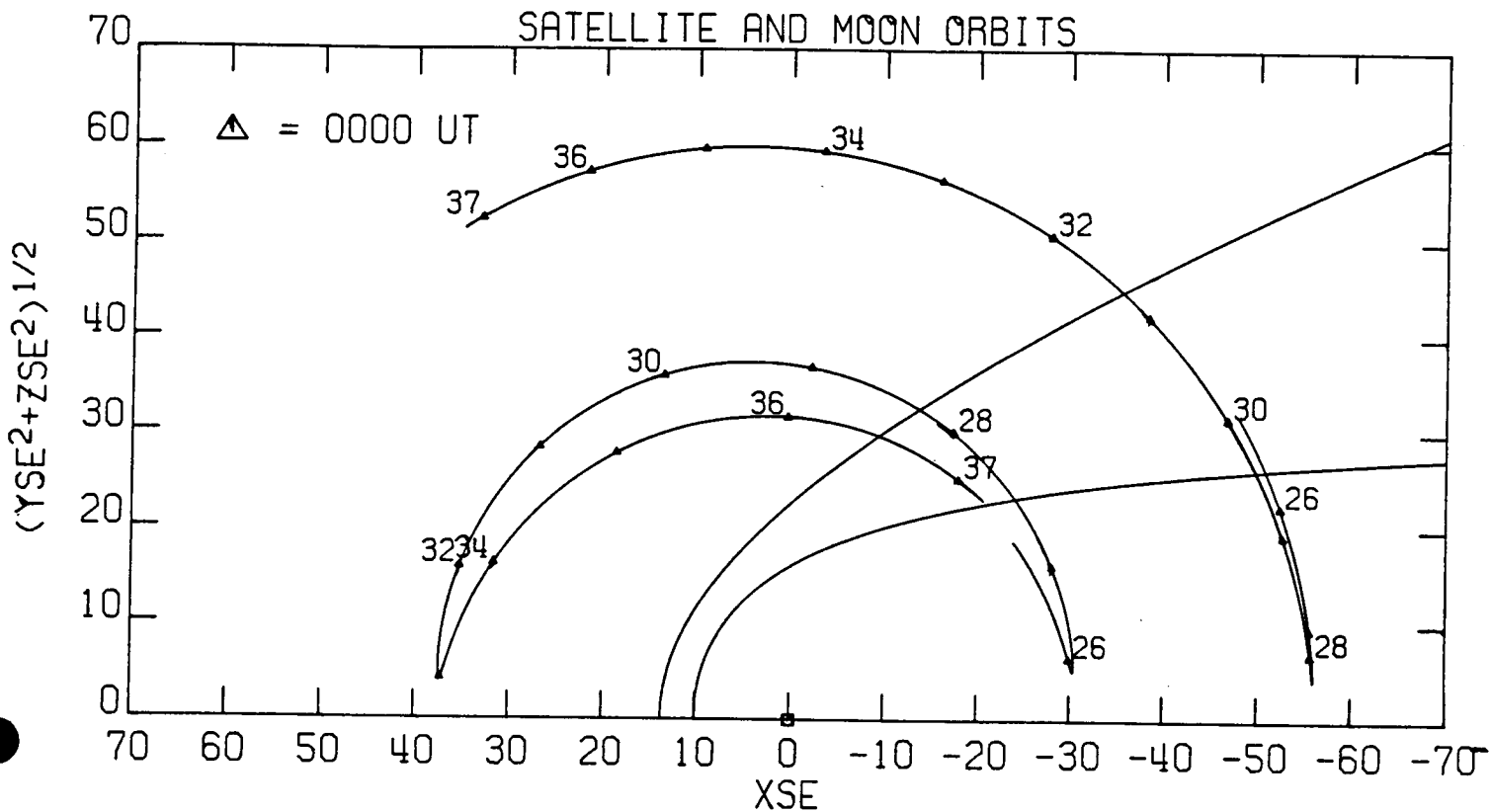


IMP 7 FROM JAN 25 TO FEB 6 1975

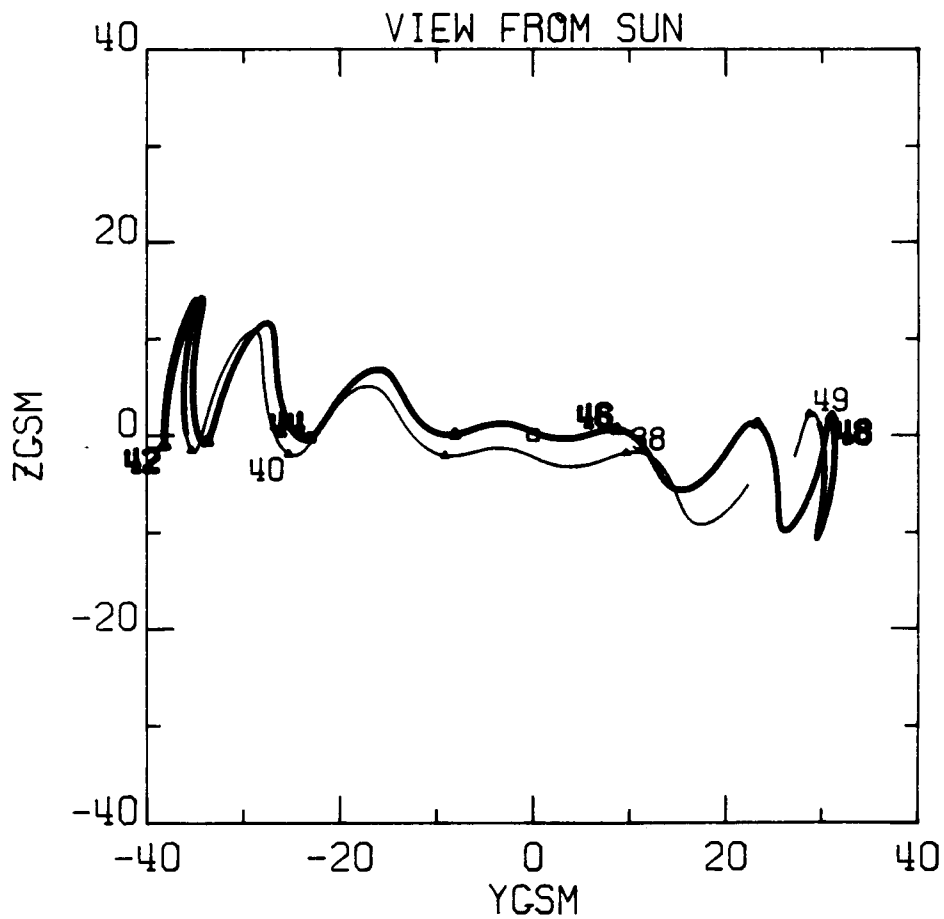
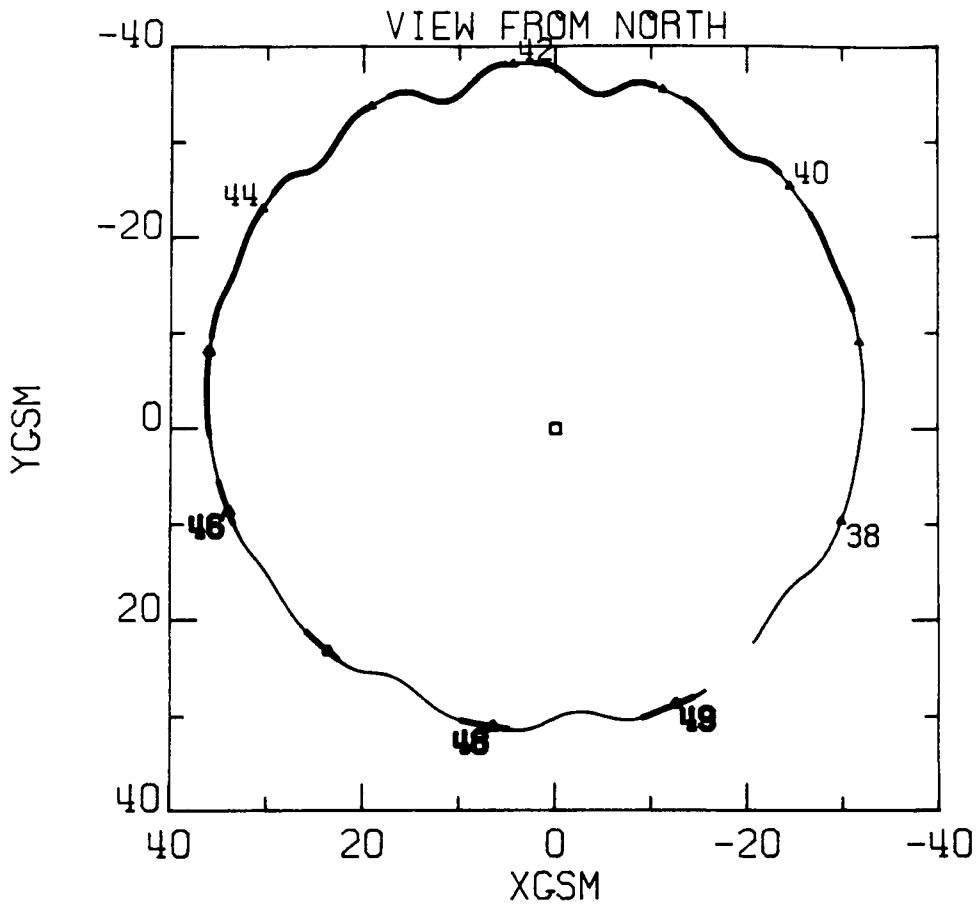


FROM JAN 25 TO FEB 6 1975

DAYS 25 THRU 37



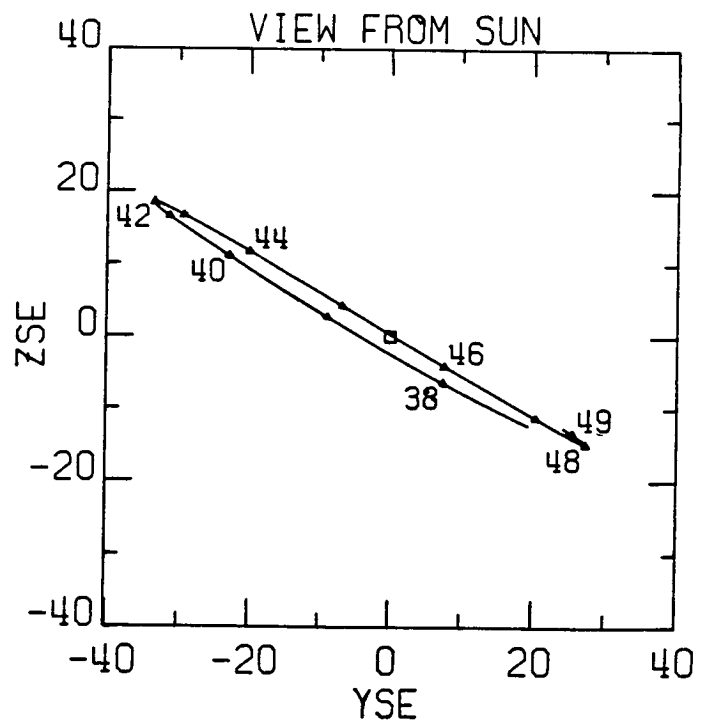
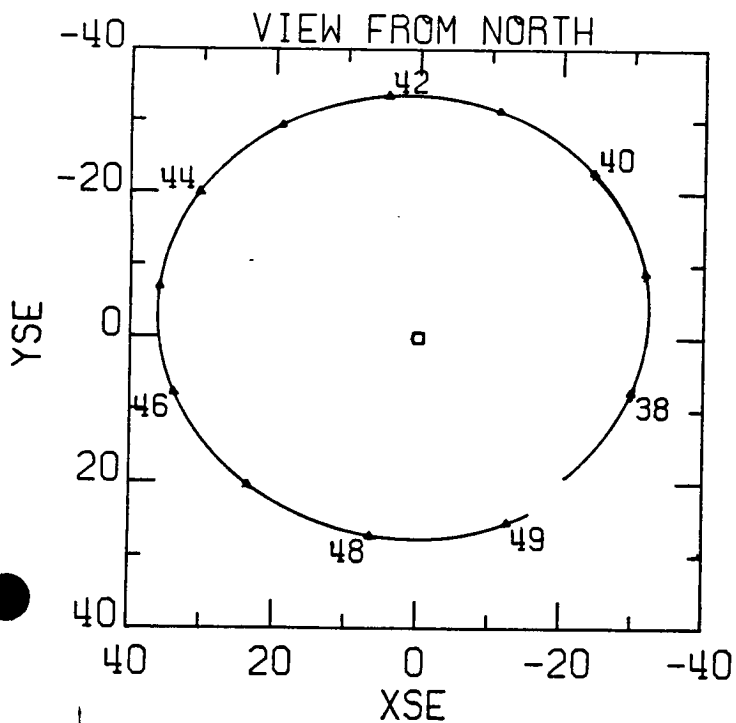
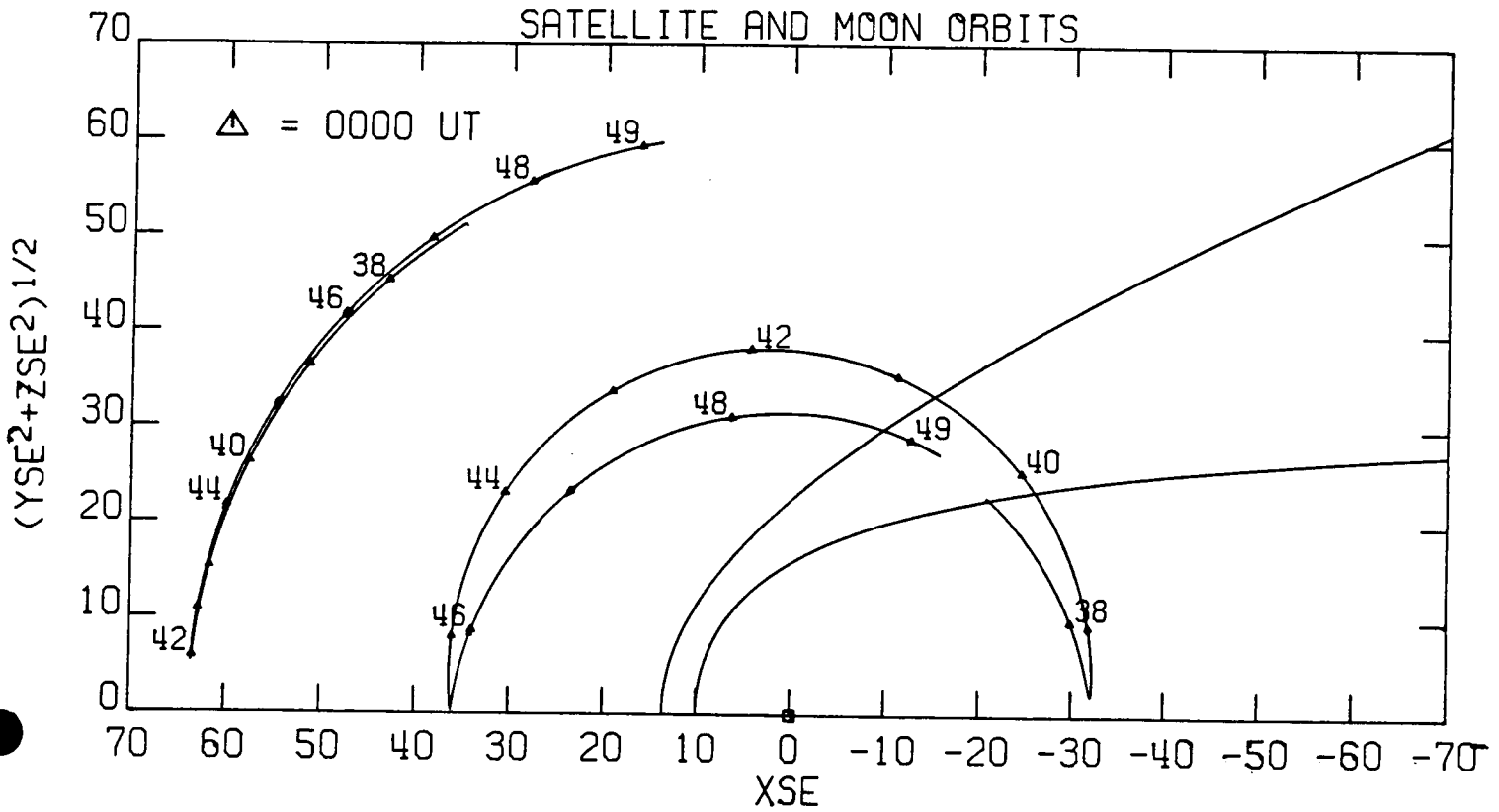
IMP 7 FROM FEB 6 TO FEB 18 1975



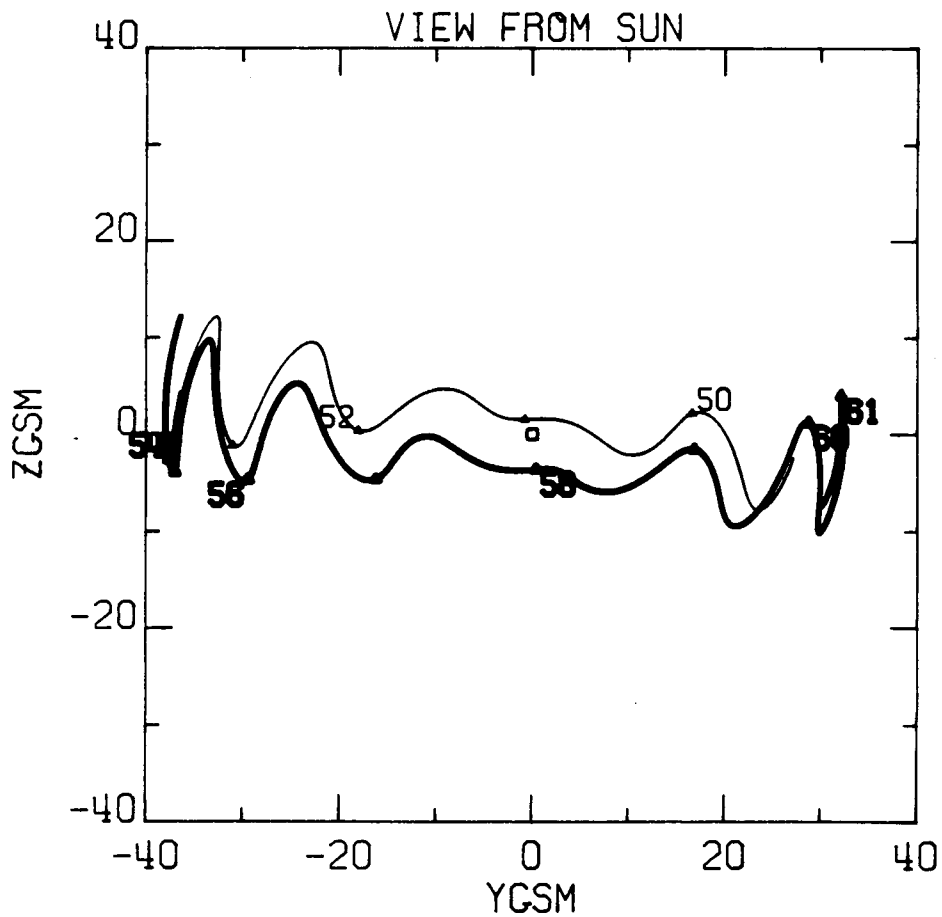
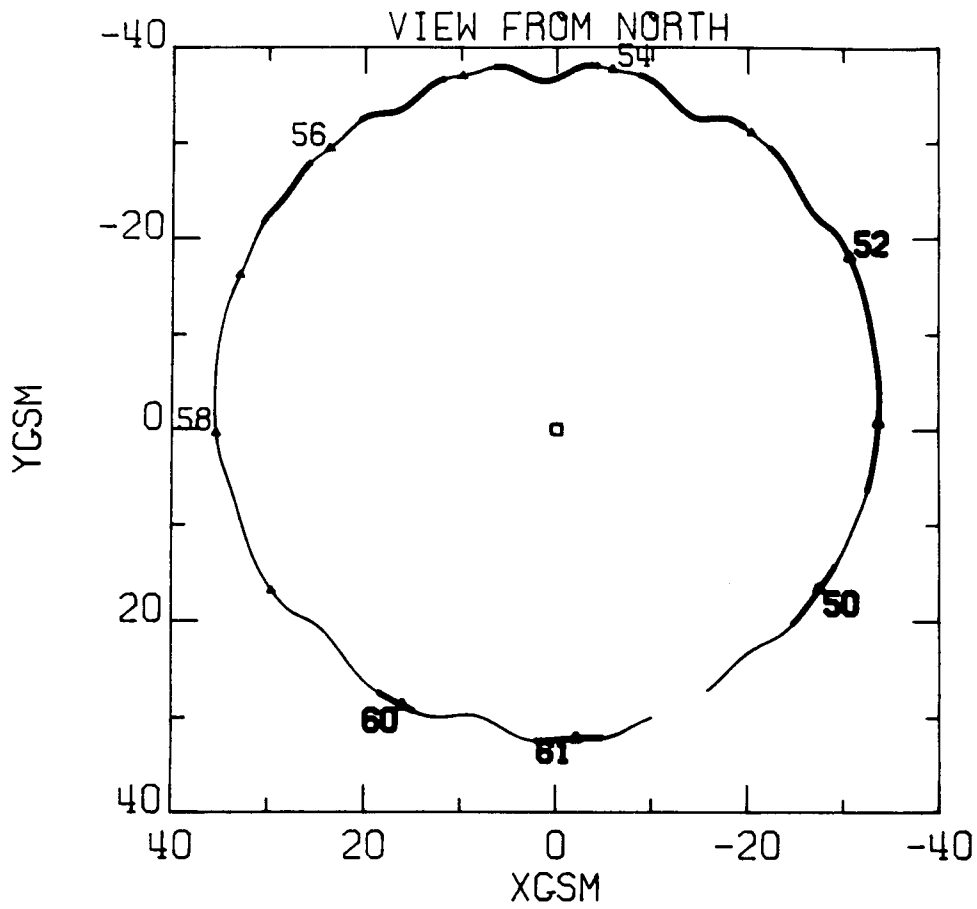
IMP 7 TRAJECTORY. ASCENDING NODE 72

FROM FEB 6 TO FEB 18 1975

DAYS 37 THRU 49



IMP 7 FROM FEB 18 TO MAR 2 1975

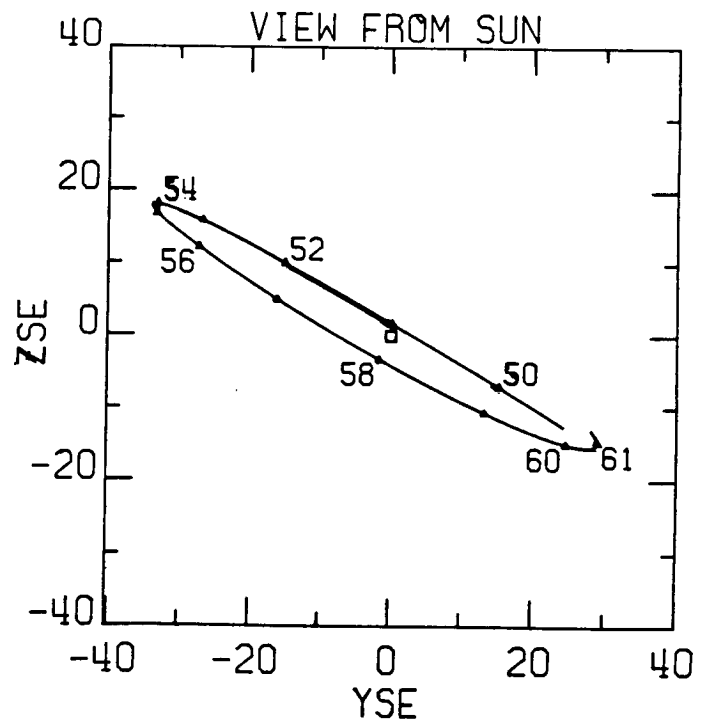
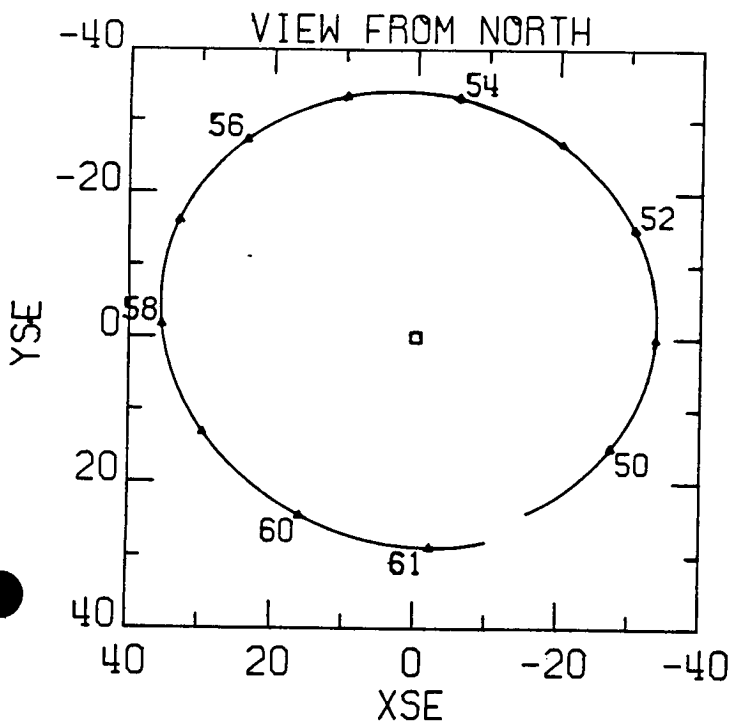
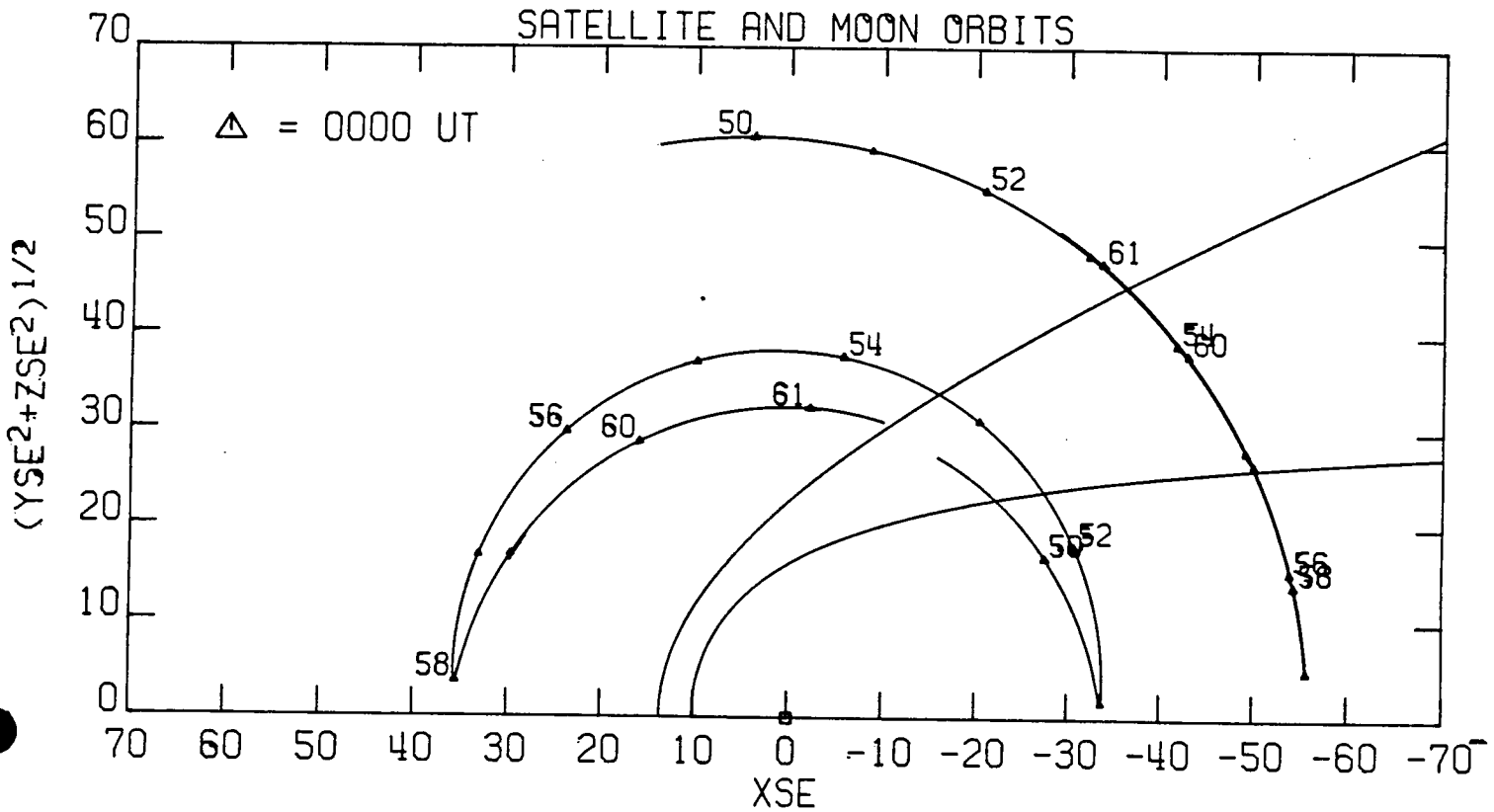


IMP 7 TRAJECTORY.

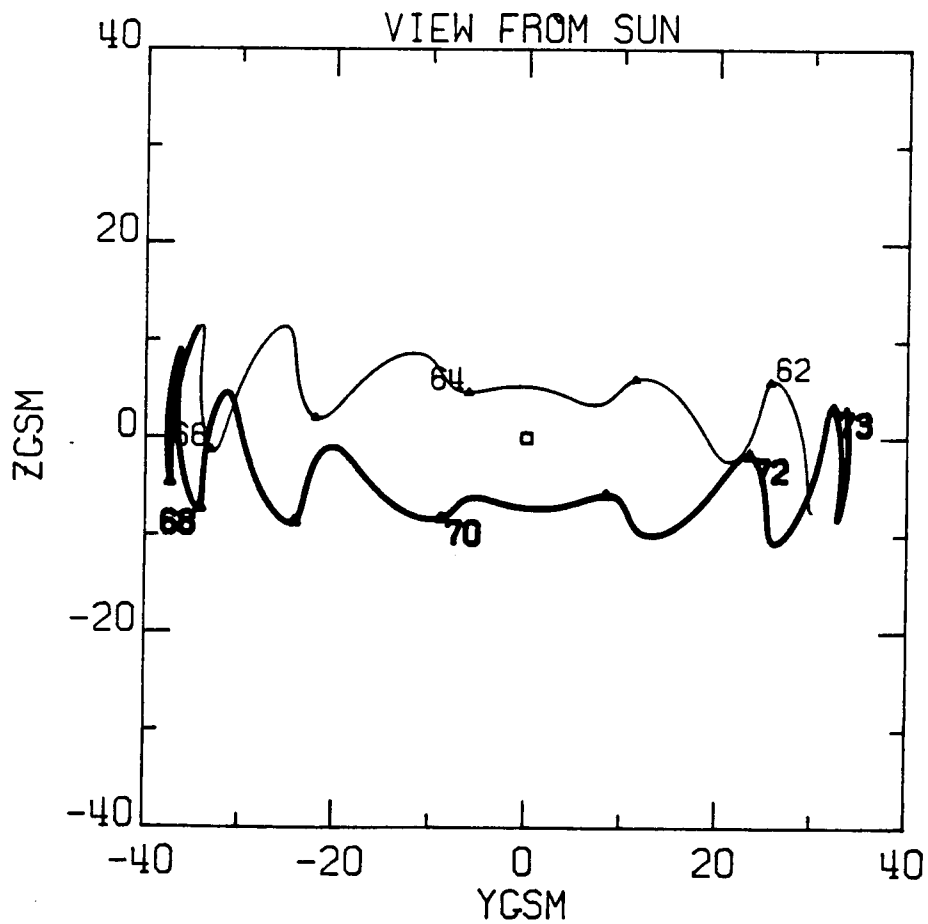
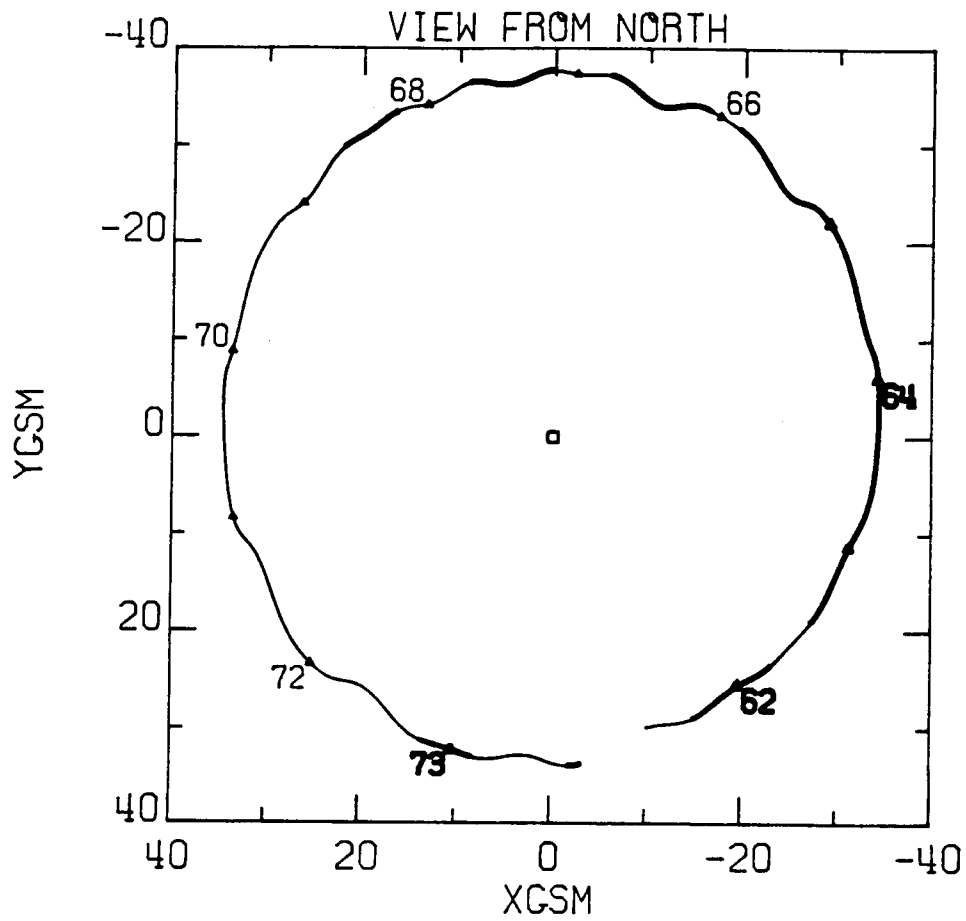
ASCENDING NODE 73

FROM FEB 18 TO MAR 2 1975

DAYS 49 THRU 61



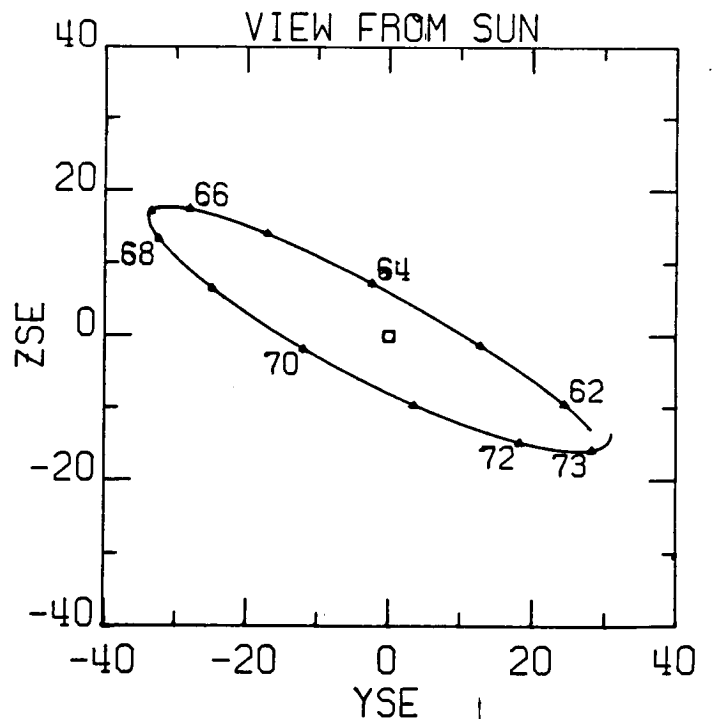
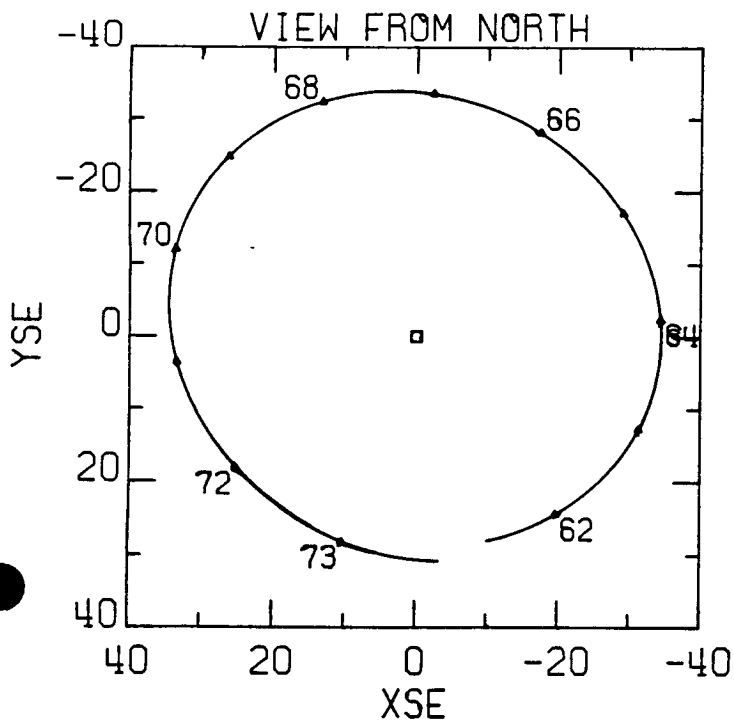
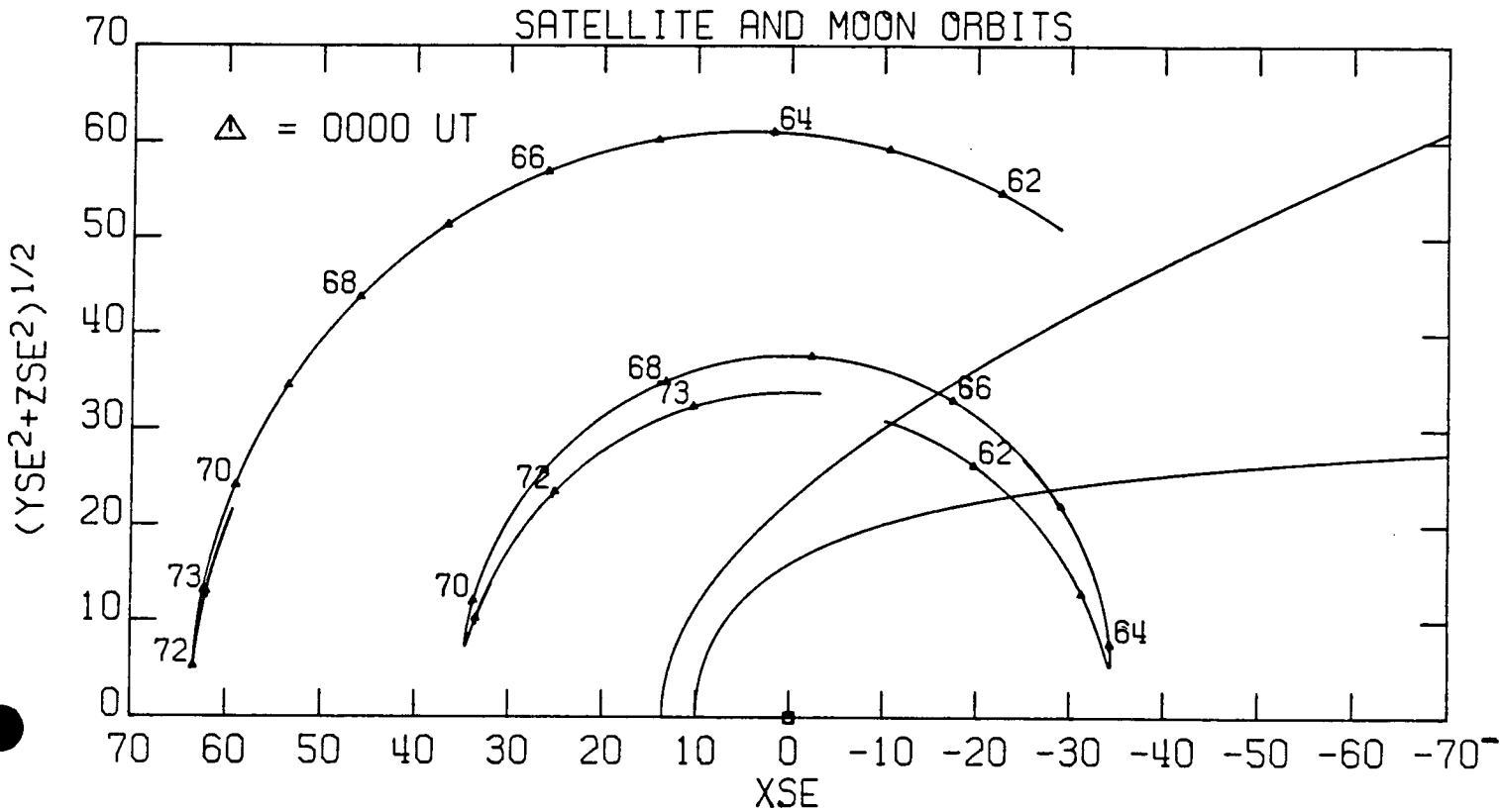
IMP 7 FROM MAR 2 TO MAR 14 1975



IMP 7 TRAJECTORY. ASCENDING NODE 74

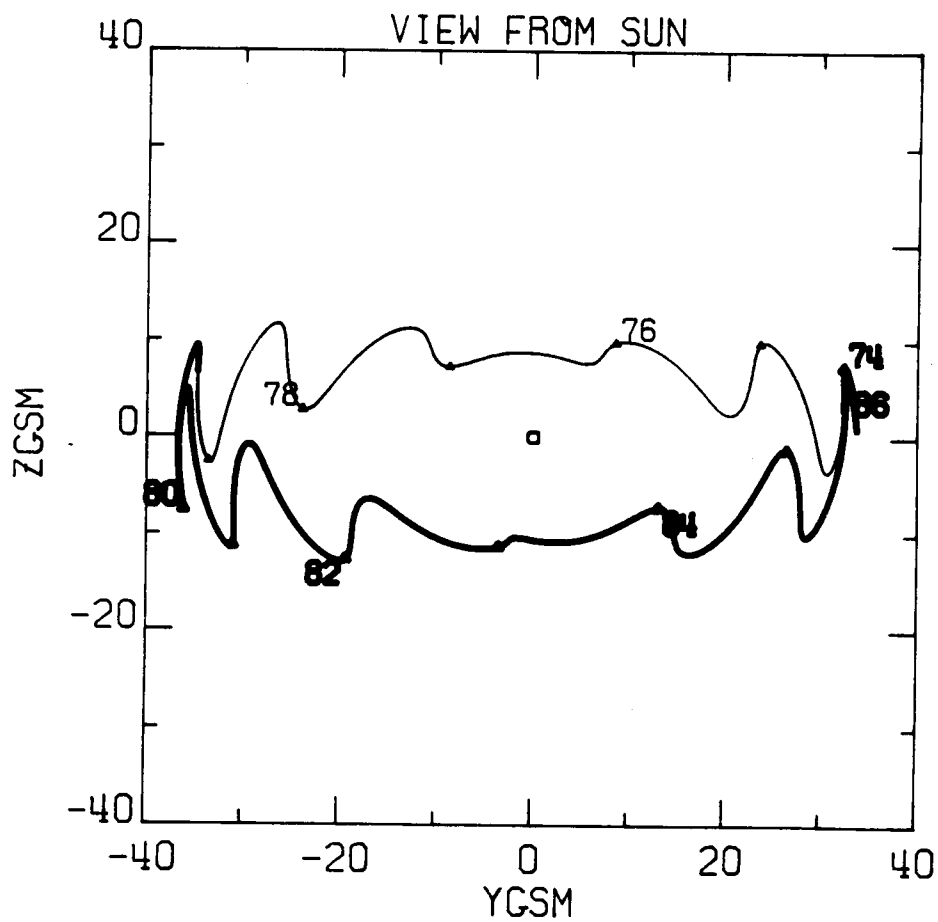
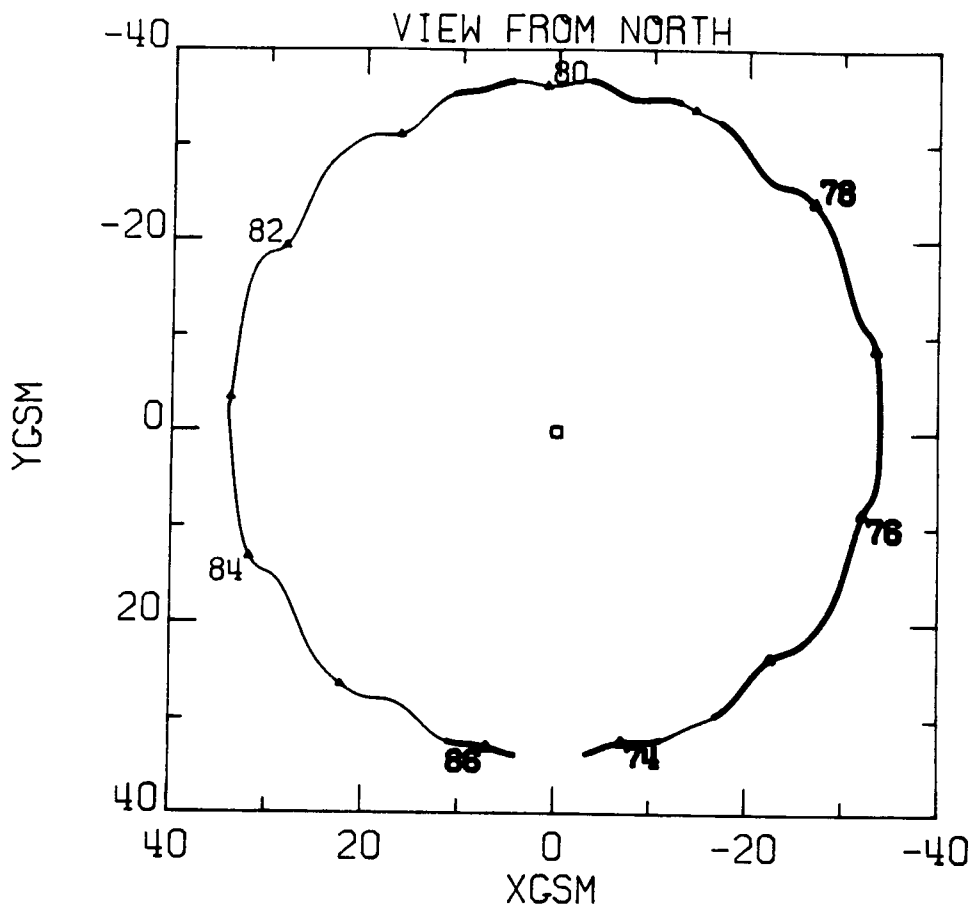
FROM MAR 2 TO MAR 14 1975

DAYS 61 THRU 73



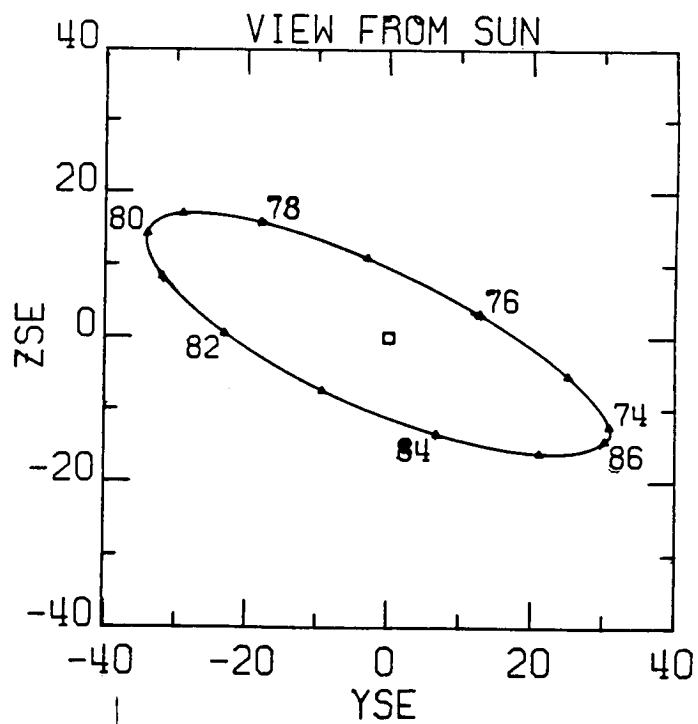
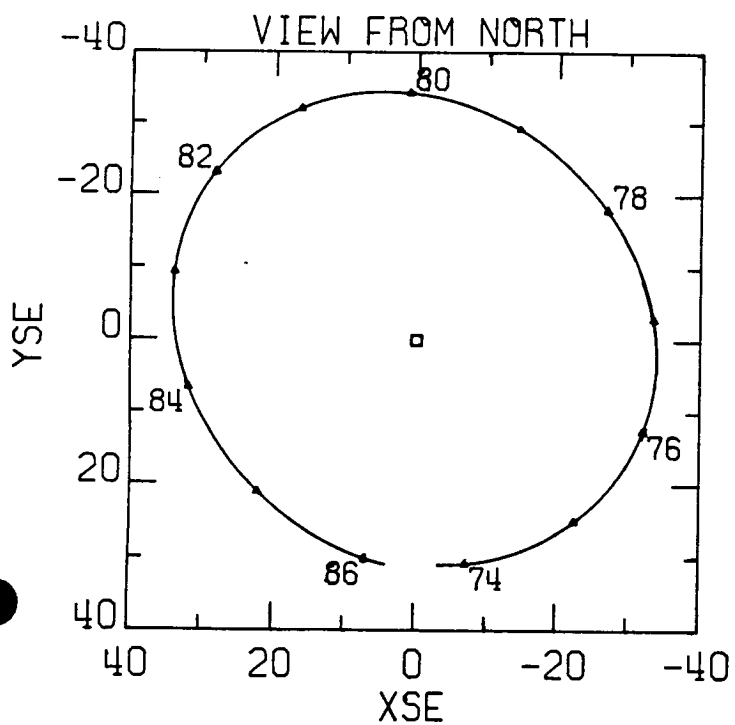
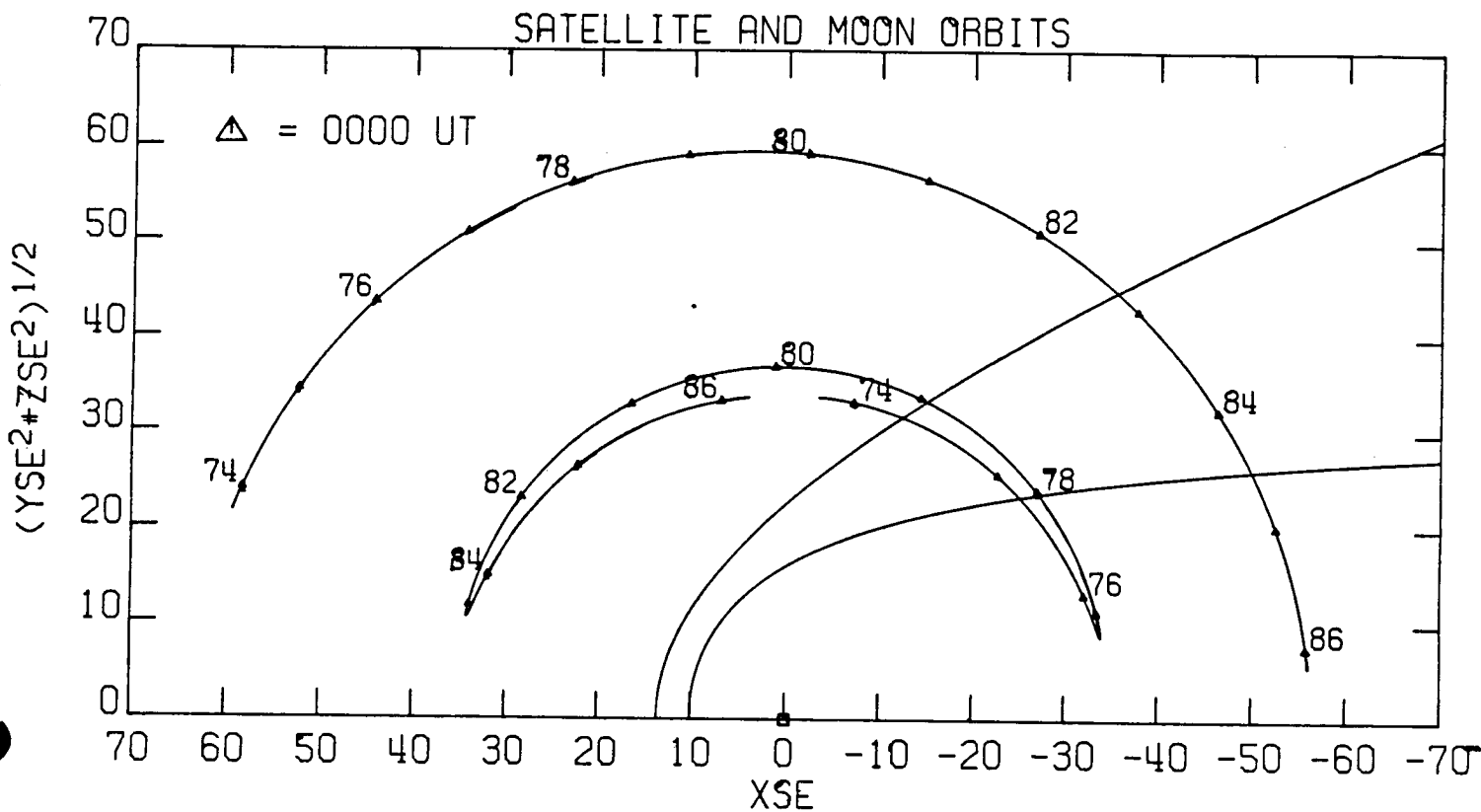
CSRTIMP9H
 MR/14/88
 Space Research
 M I T Center for

IMP 7 FROM MAR 14 TO MAR 27 1975

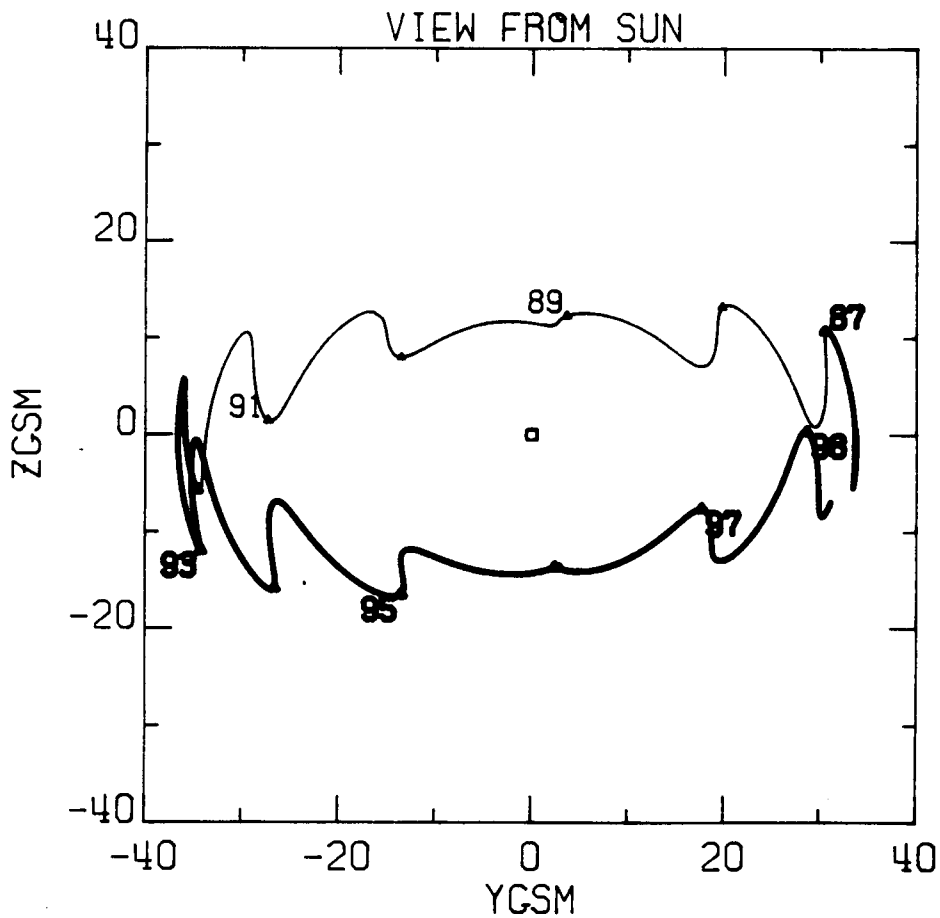
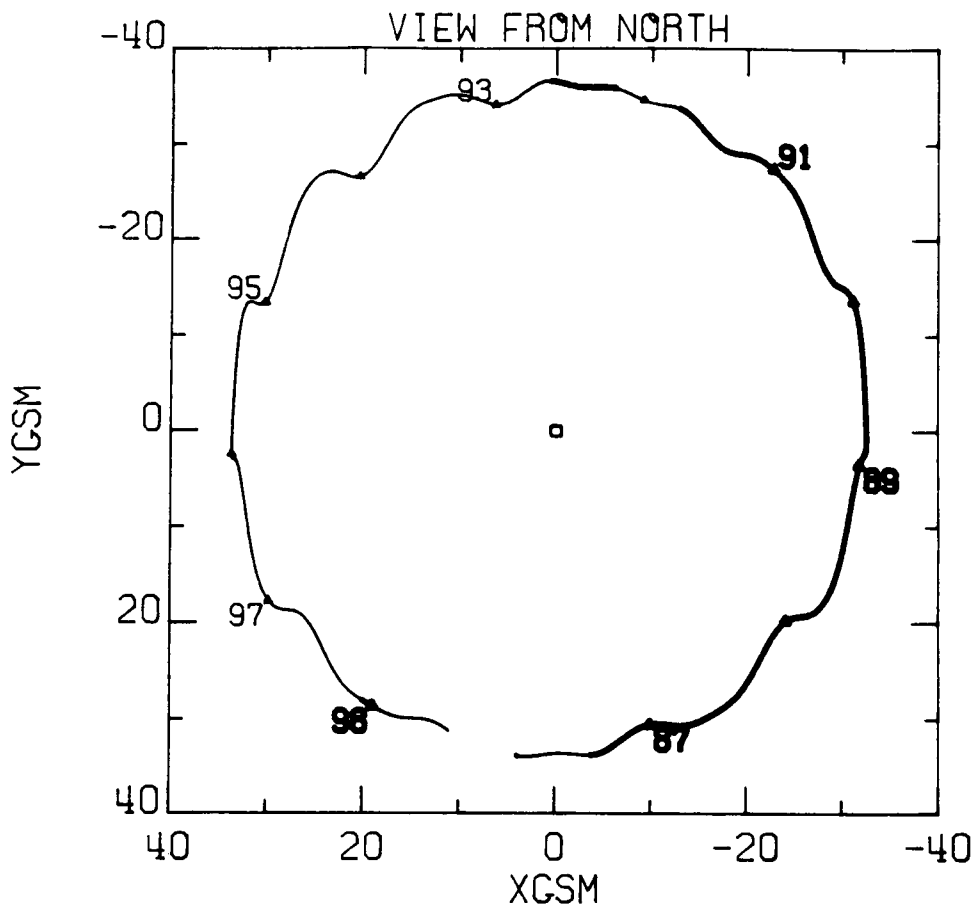


FROM MAR 14 TO MAR 27 1975

DAYS 73 THRU 86

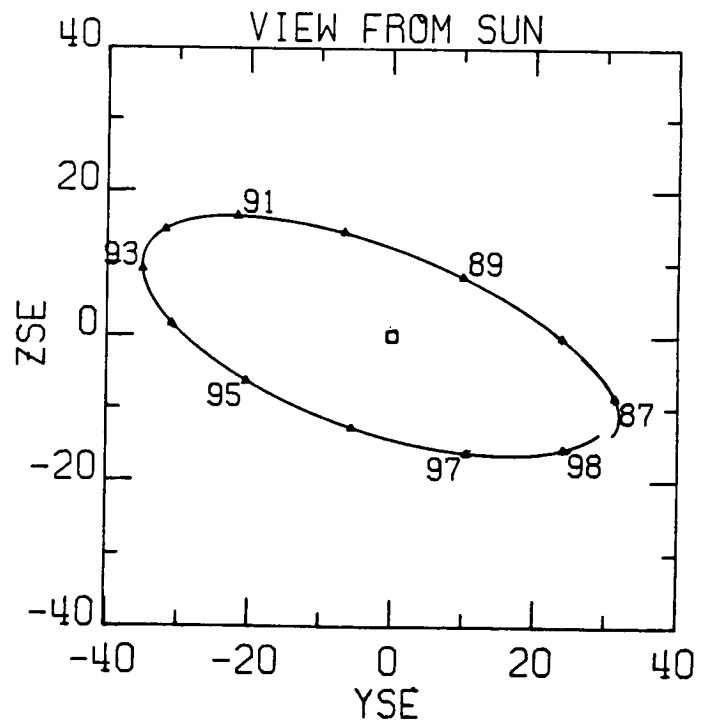
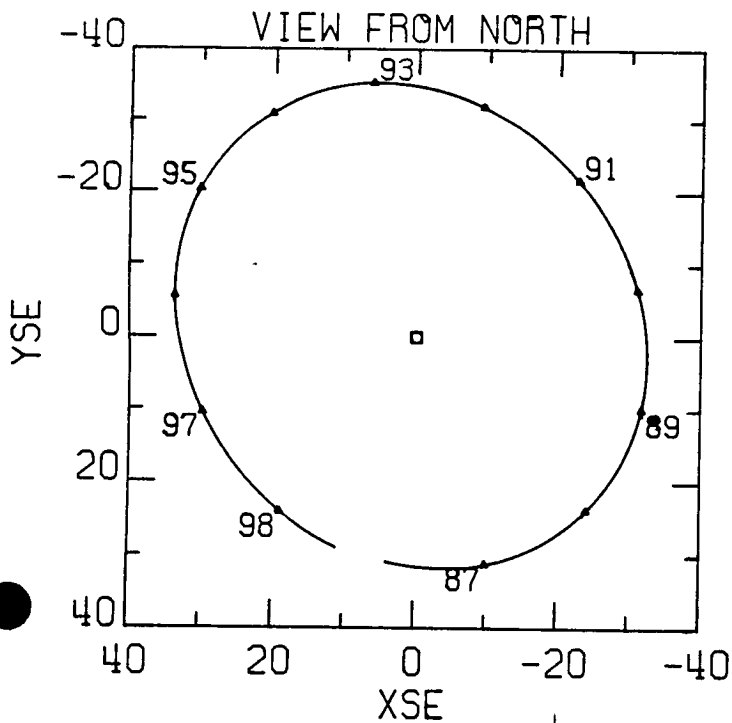
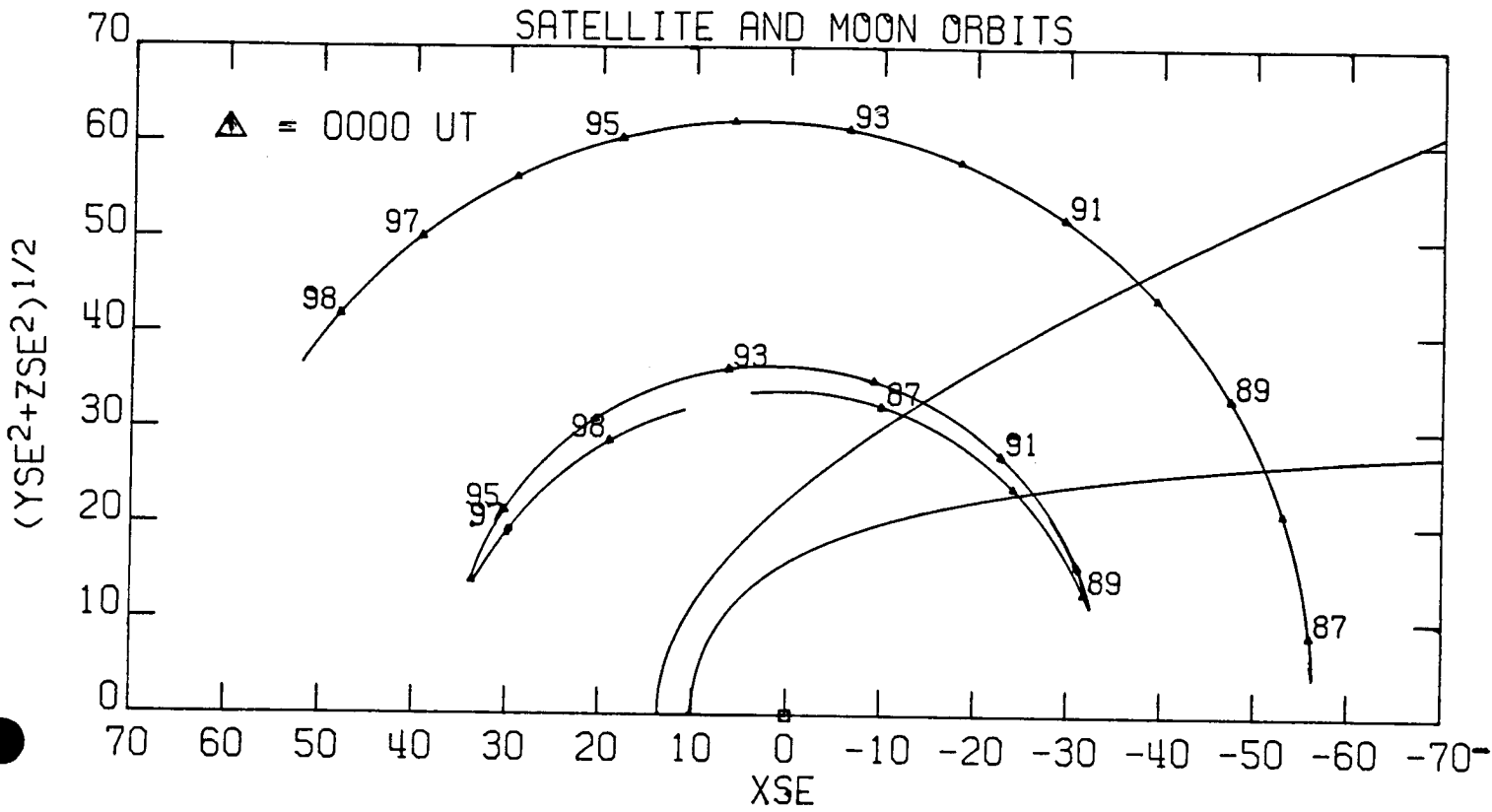


IMP 7 FROM MAR 27 TO APR 8 1975



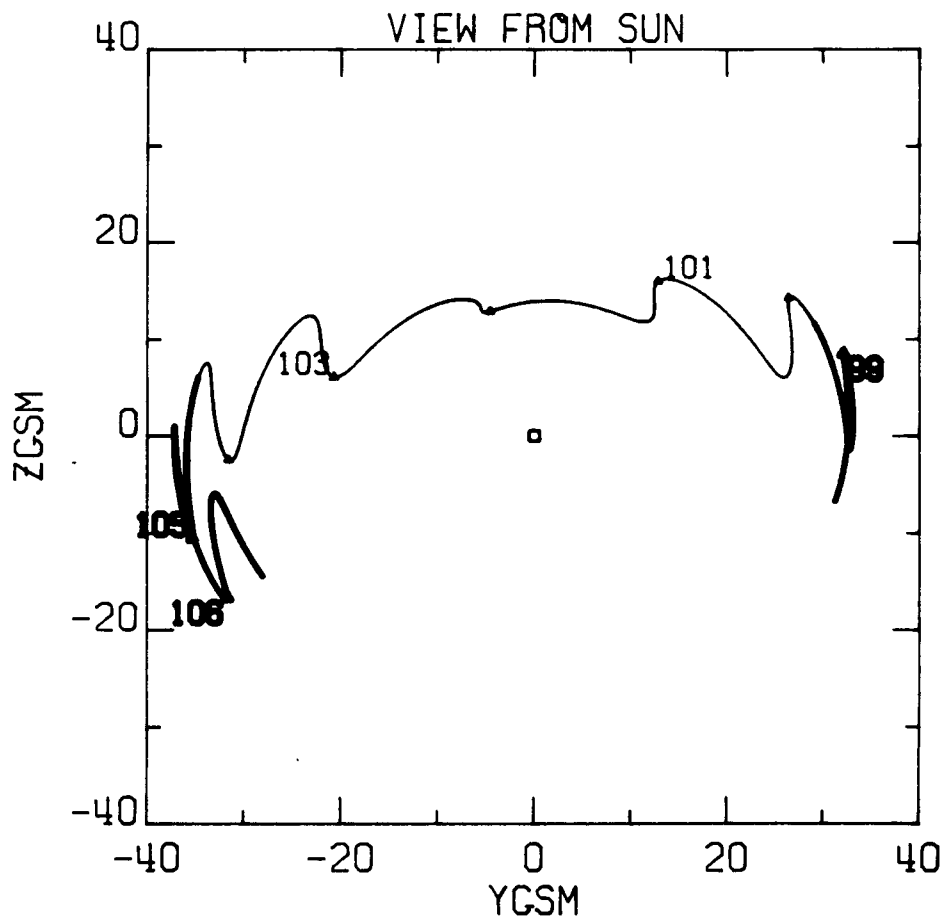
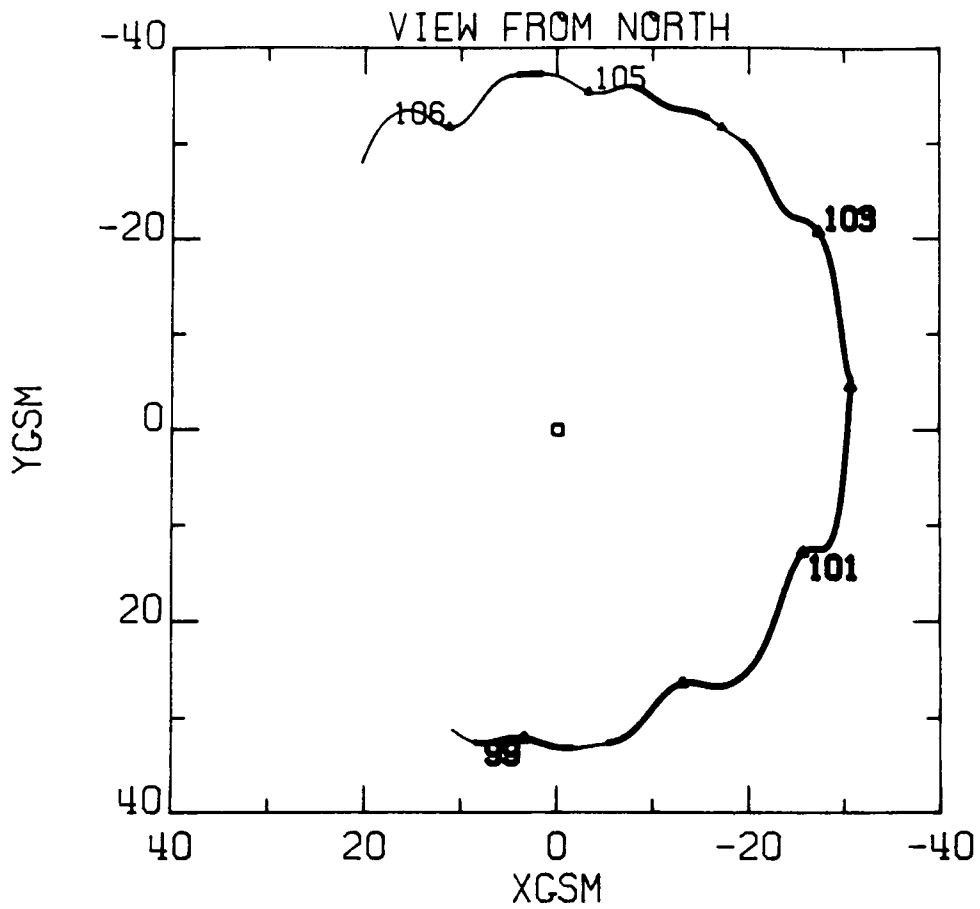
FROM MAR 27 TO APR 8 1975

DAYS 86 THRU 98



CSRTMPCN
MR / 111 / 88
Science Research
M T T Center for

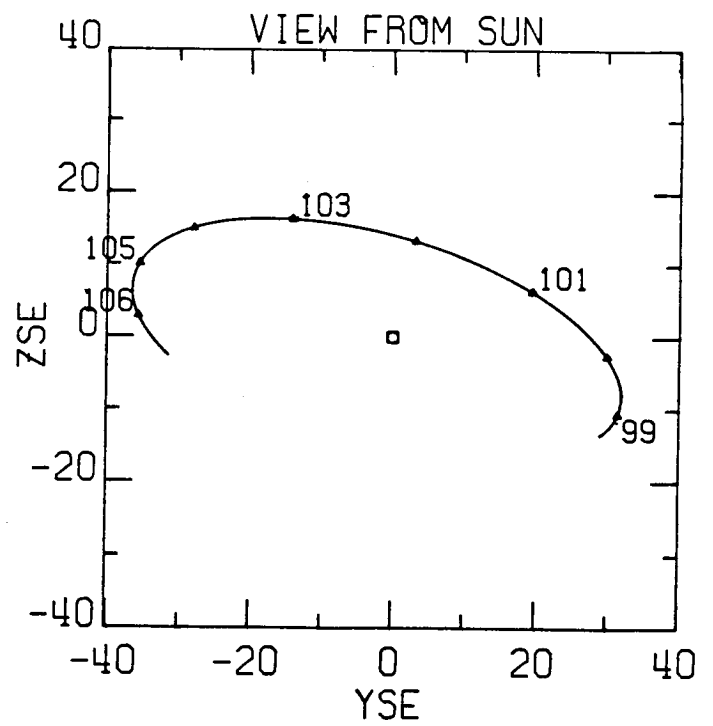
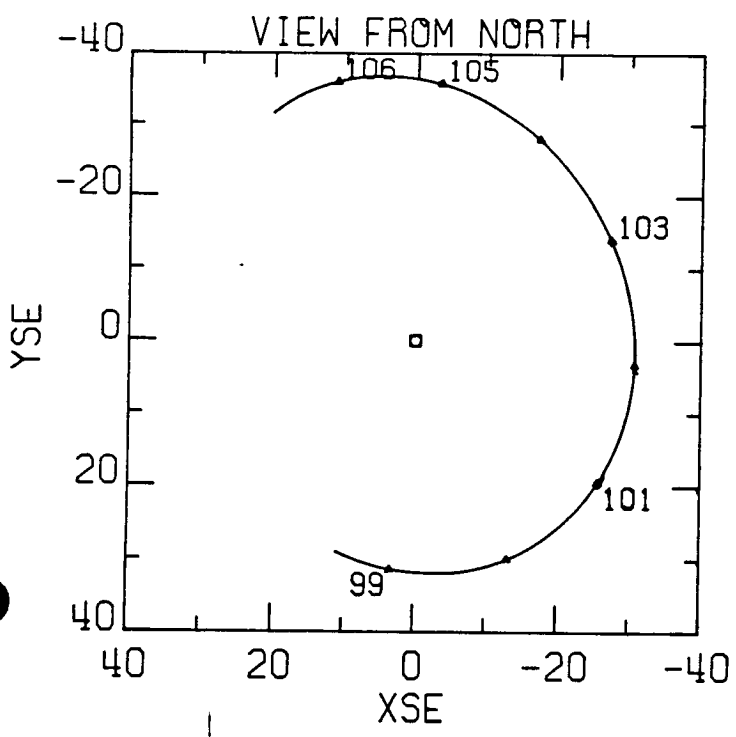
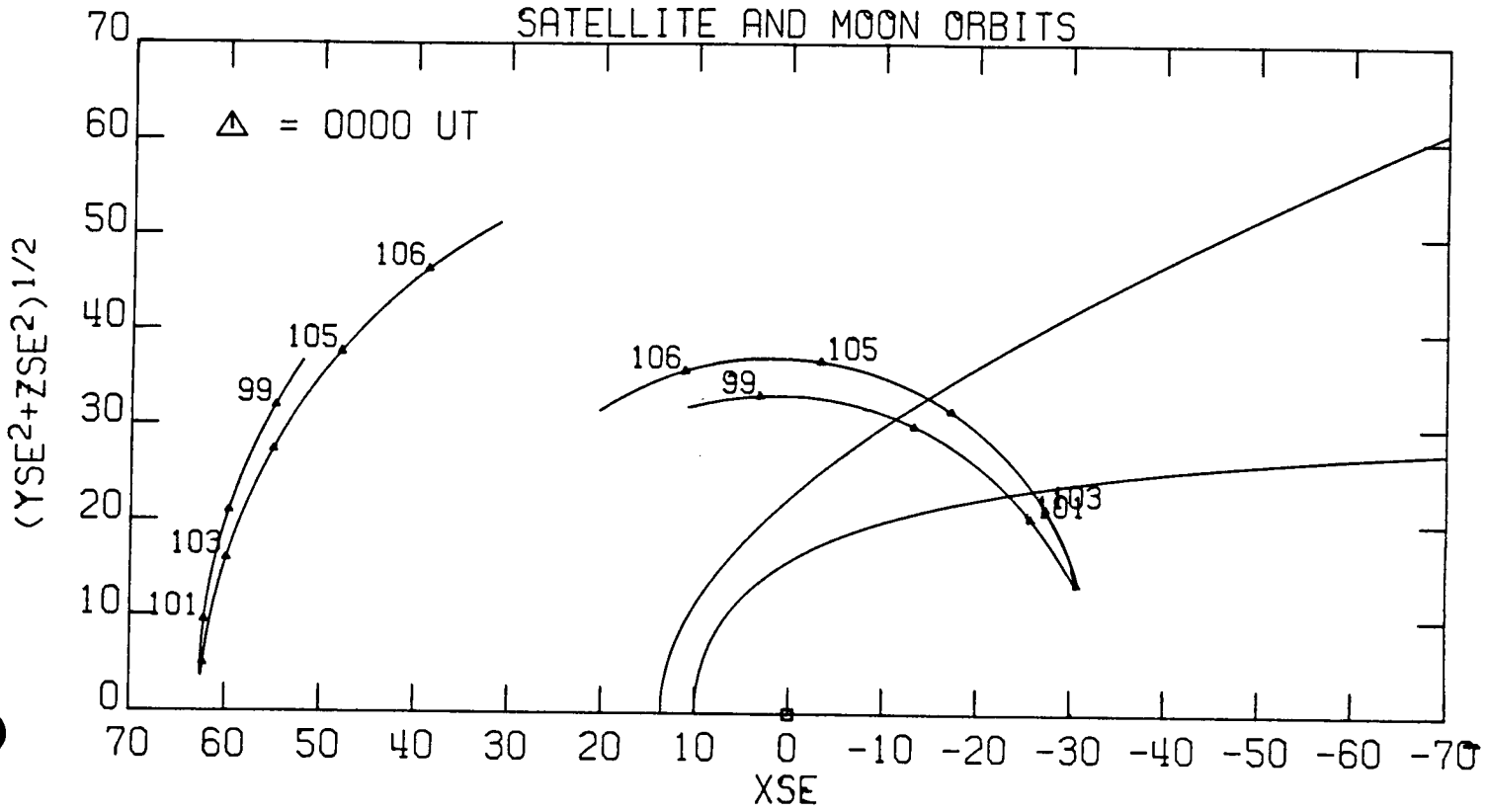
IMP 7 FROM APR 8 TO APR 20 1975



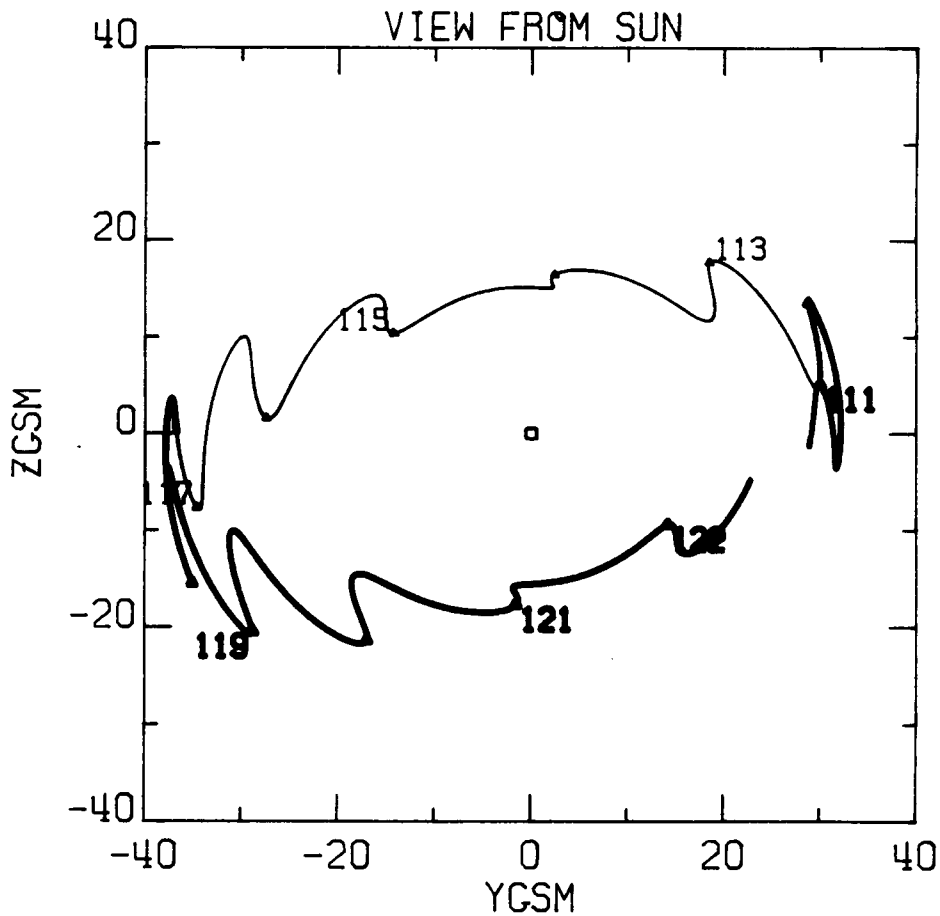
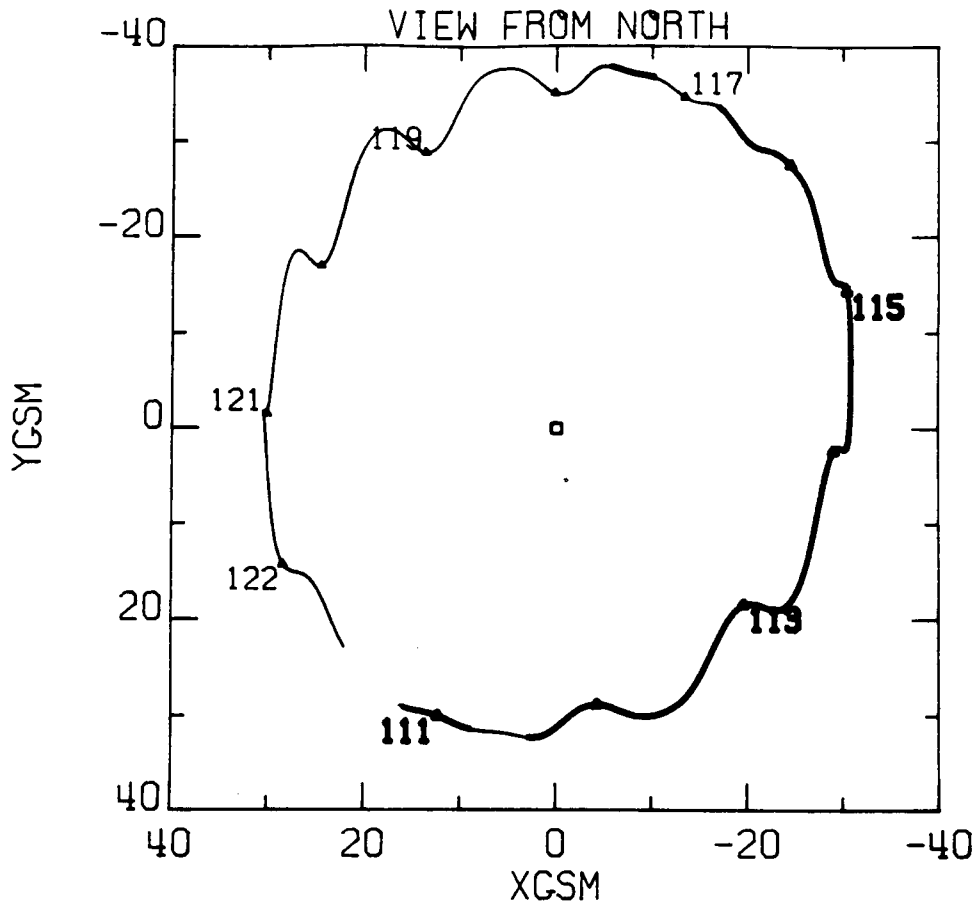
IMP 7 TRAJECTORY. ASCENDING NODE 77

FROM APR 8 TO APR 20 1975

DAYS 98 THRU 106

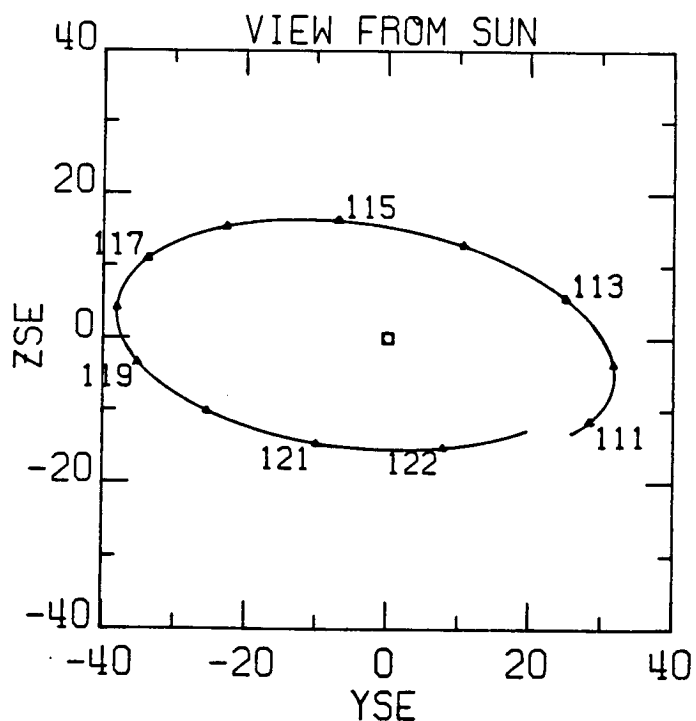
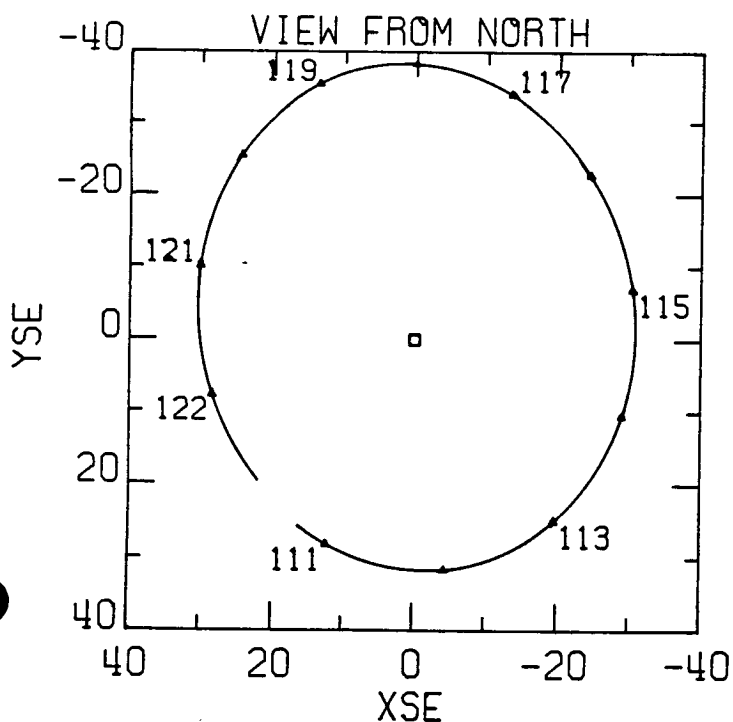
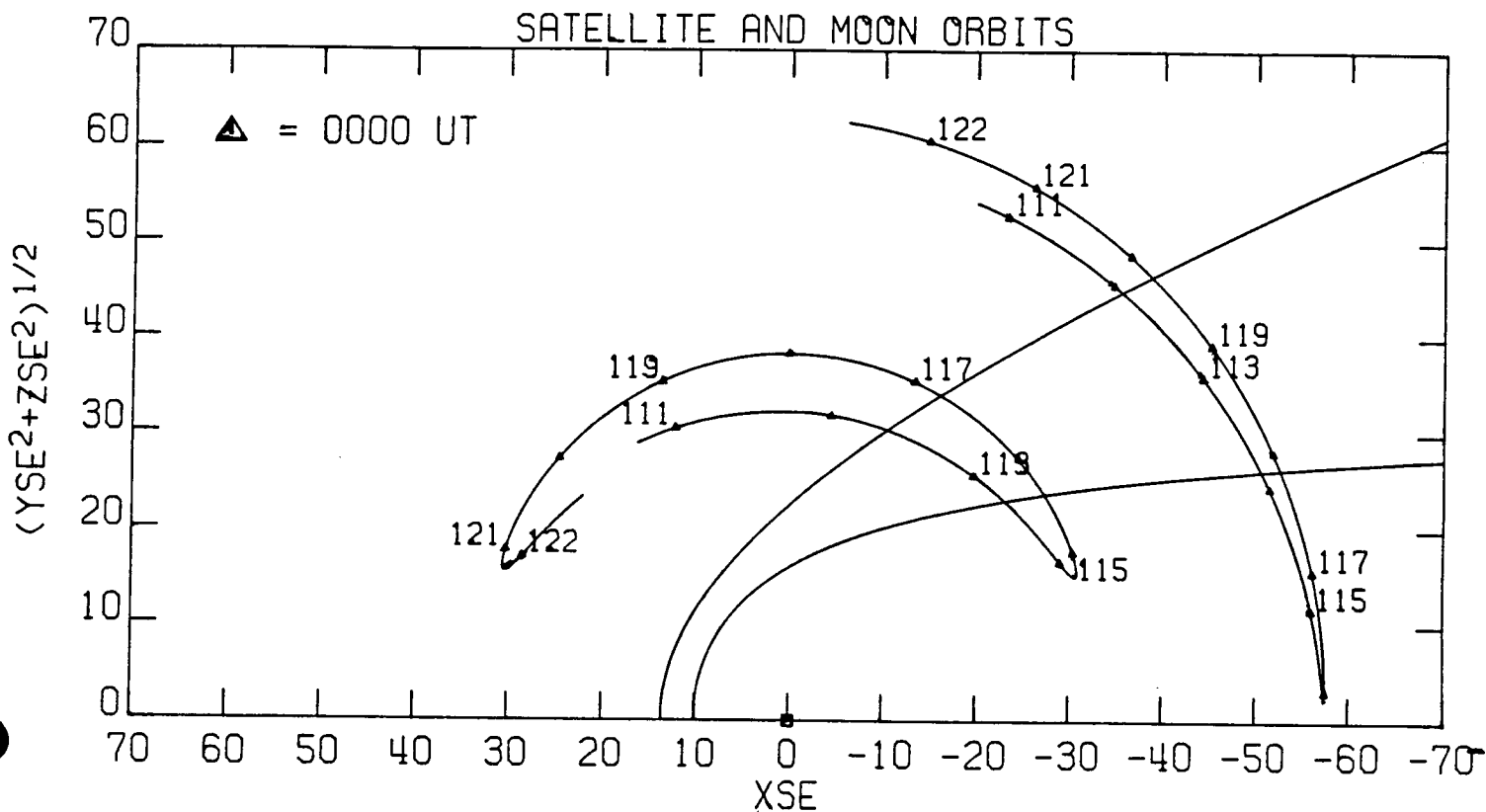


IMP 7 FROM APR 20 TO MAY 2 1975

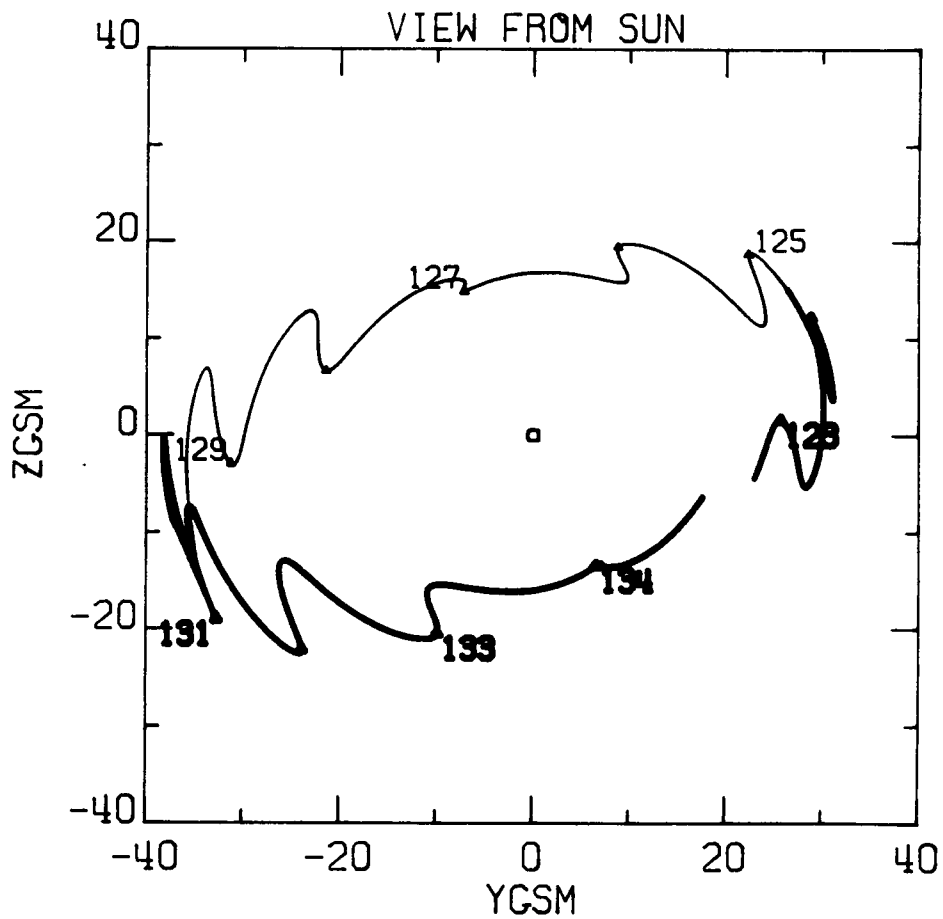
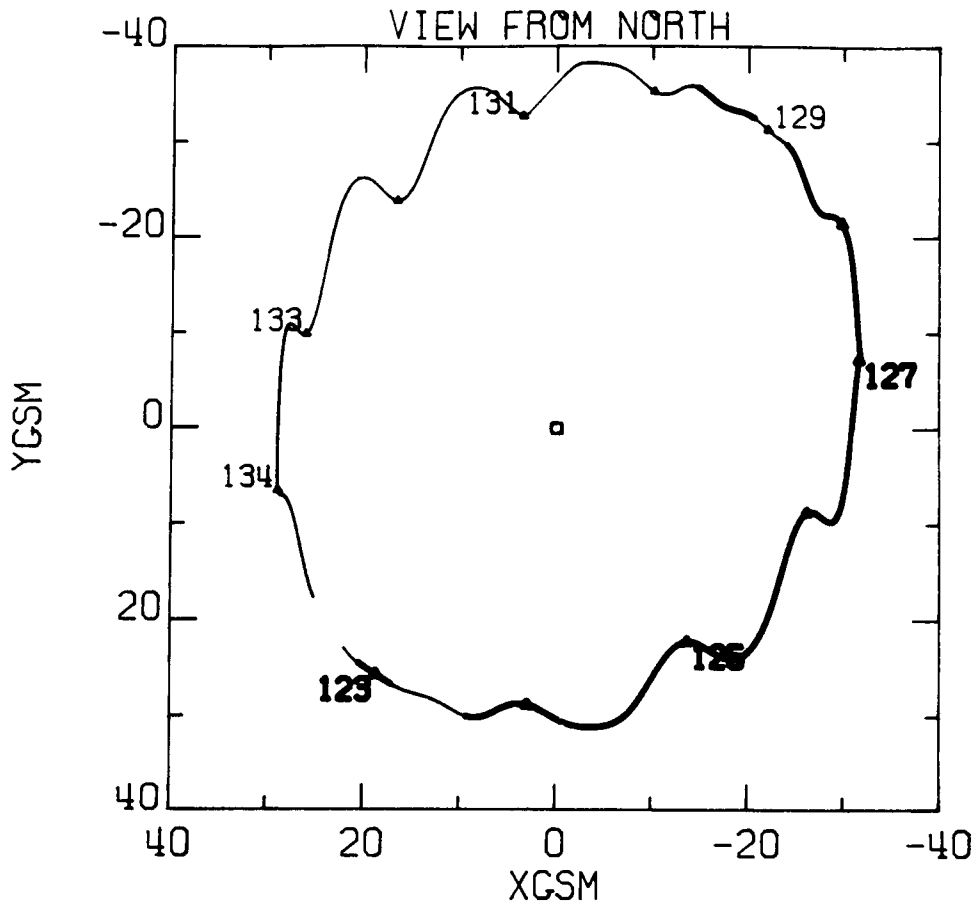


FROM APR 20 TO MAY 2 1975

DAYS 110 THRU 122



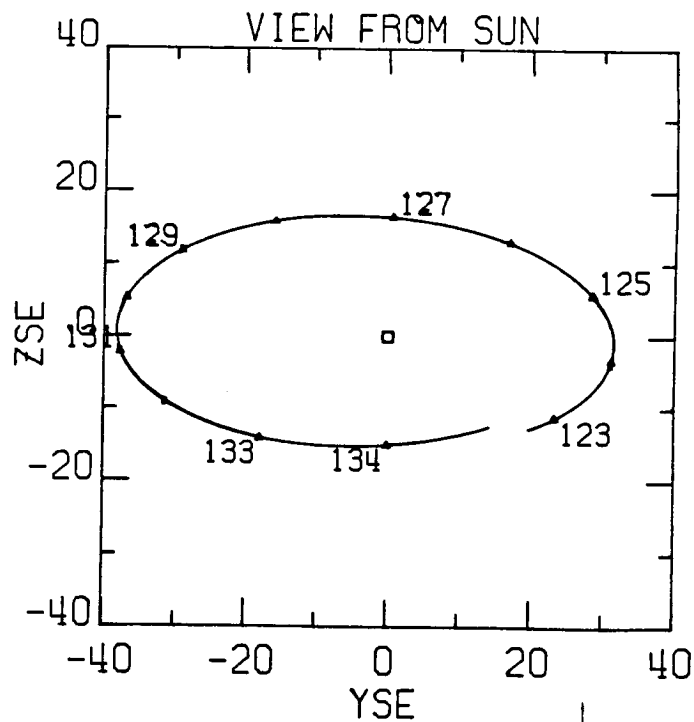
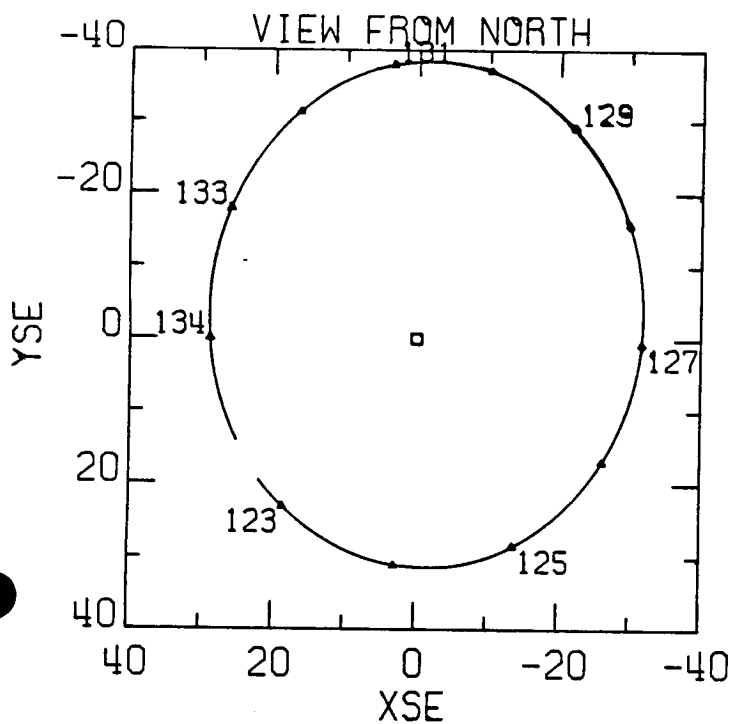
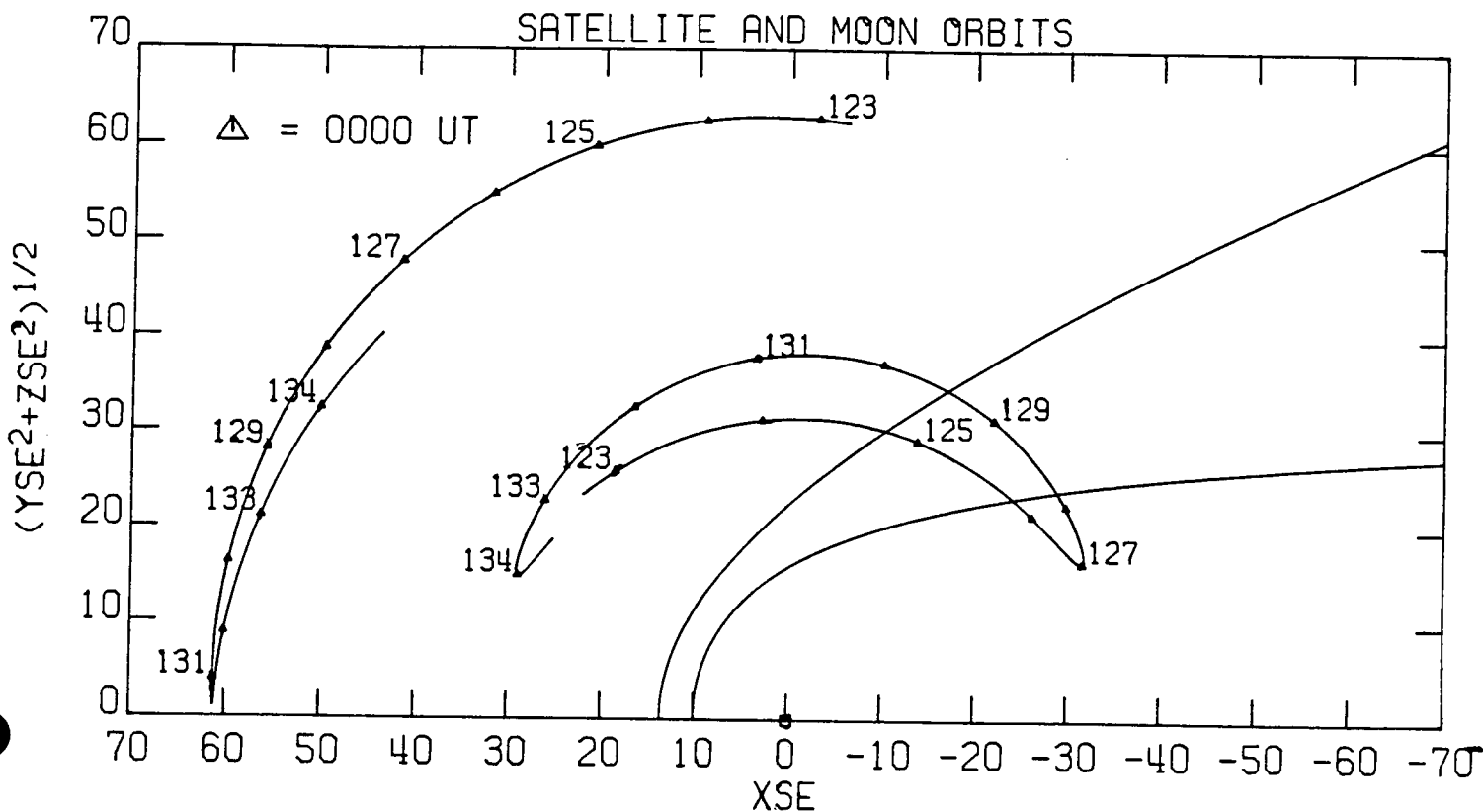
IMP 7 FROM MAY 2 TO MAY 14 1975



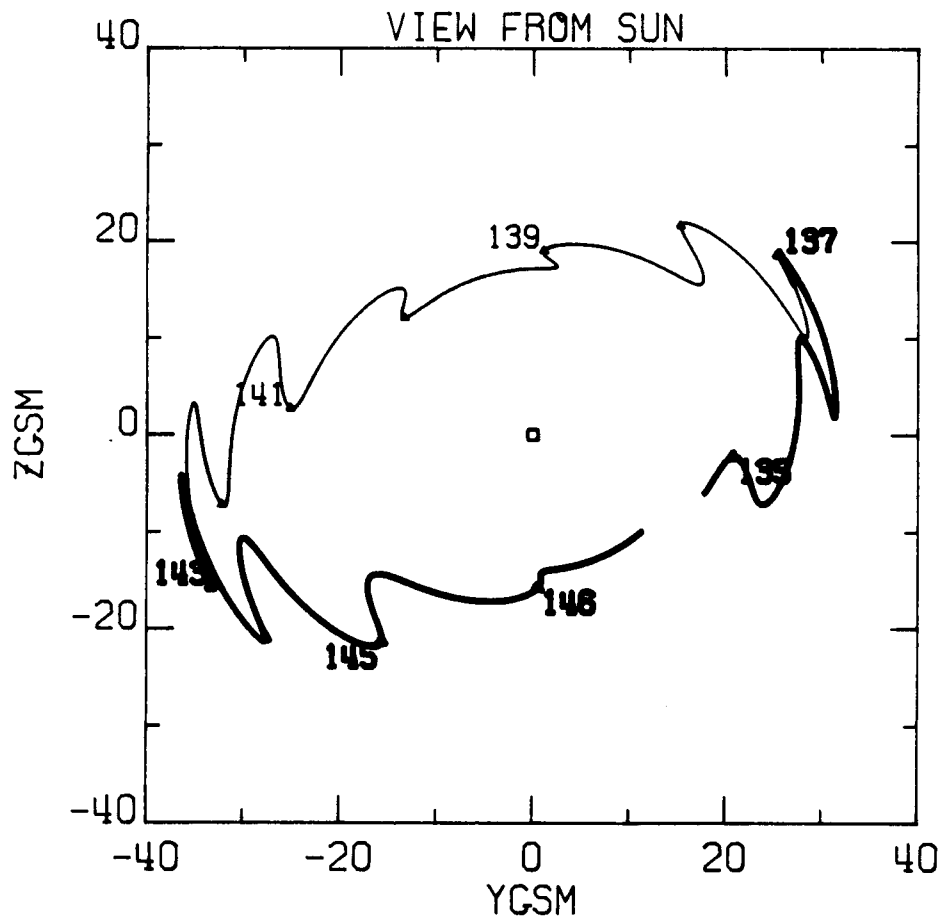
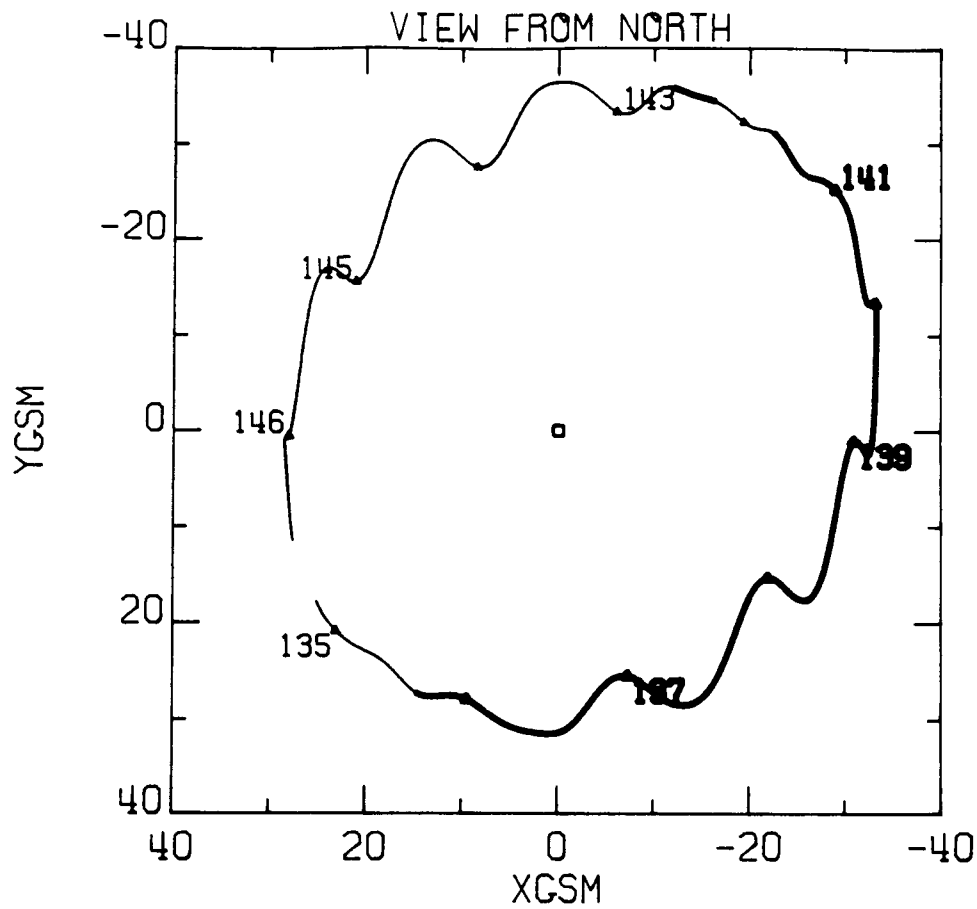
IMP 7 TRAJECTORY. ASCENDING NODE 79

FROM MAY 2 TO MAY 14 1975

DAYS 122 THRU 134

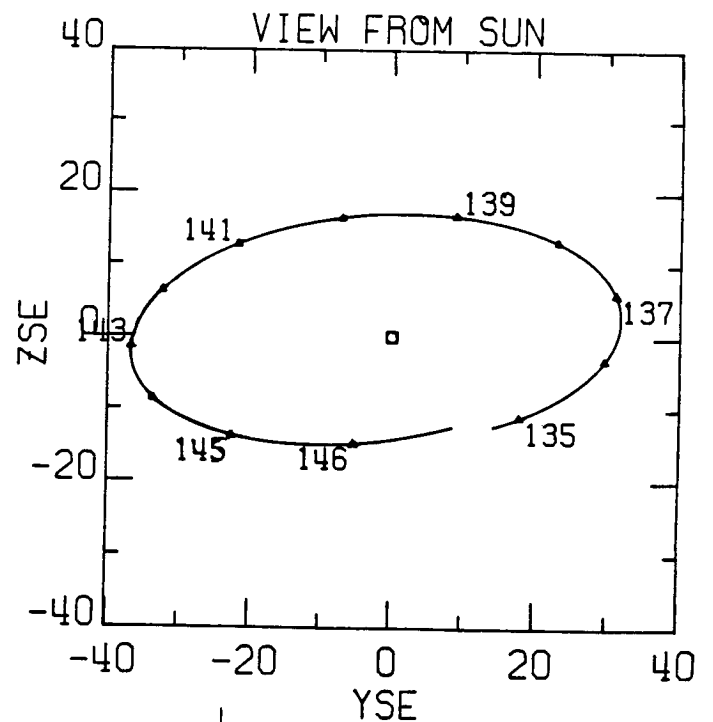
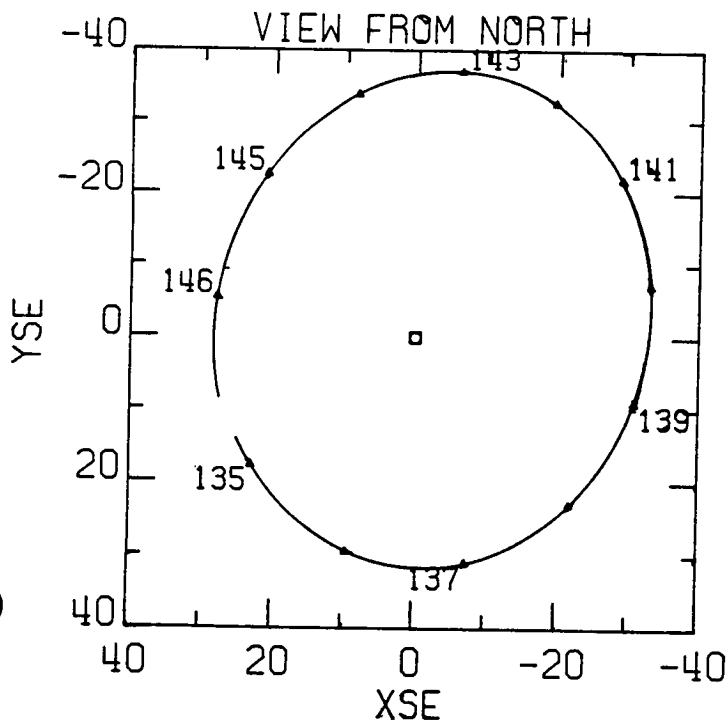
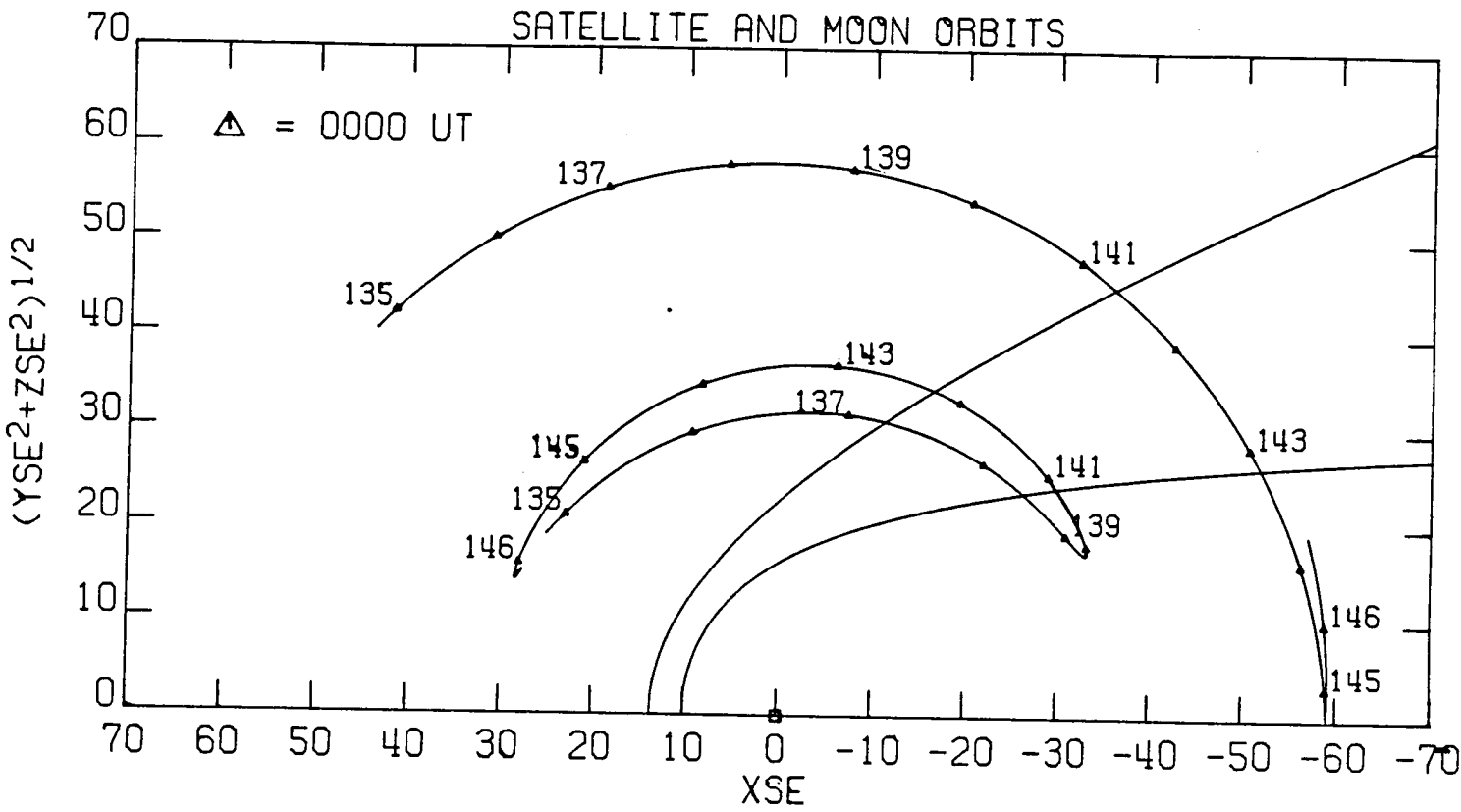


IMP 7 FROM MAY 14 TO MAY 26 1975

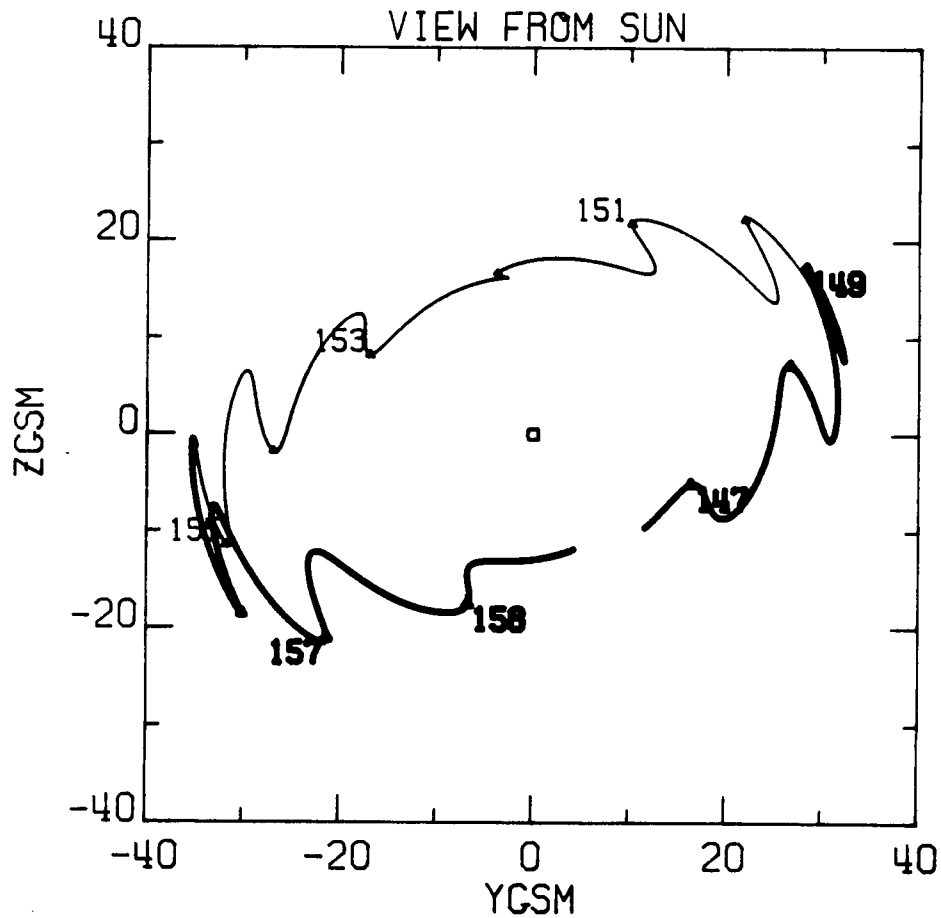
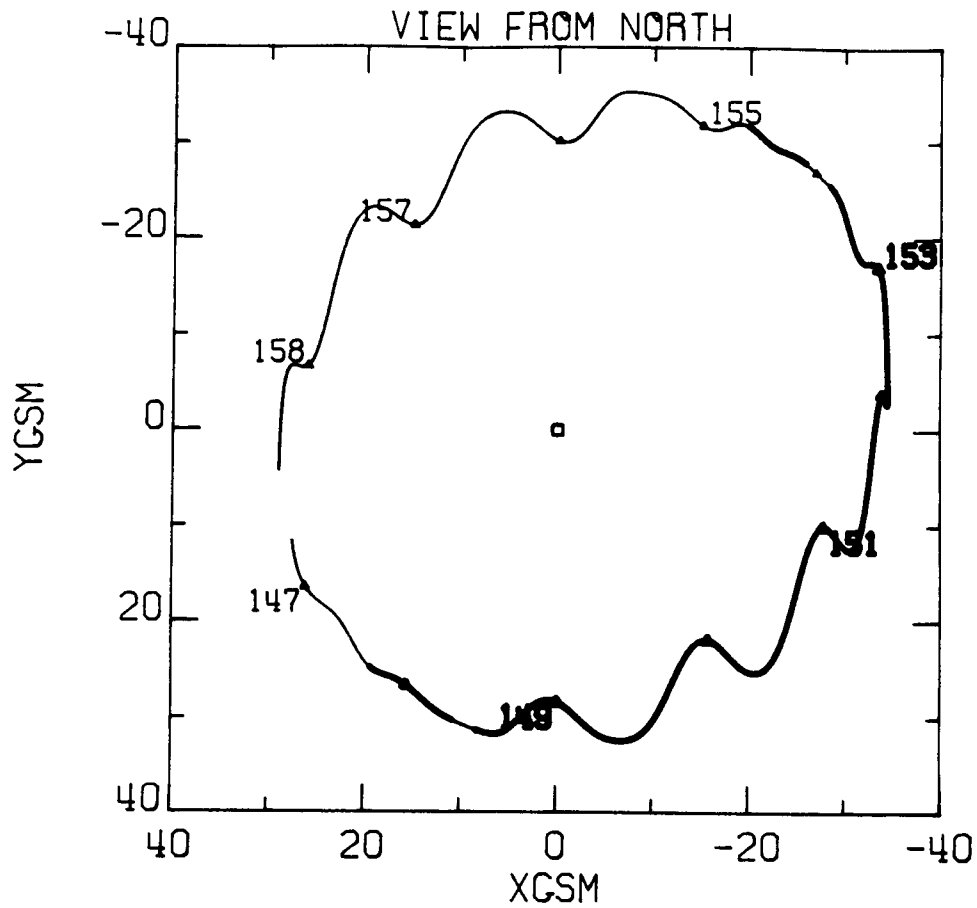


FROM MAY 14 TO MAY 26 1975

DAYS 134 THRU 146



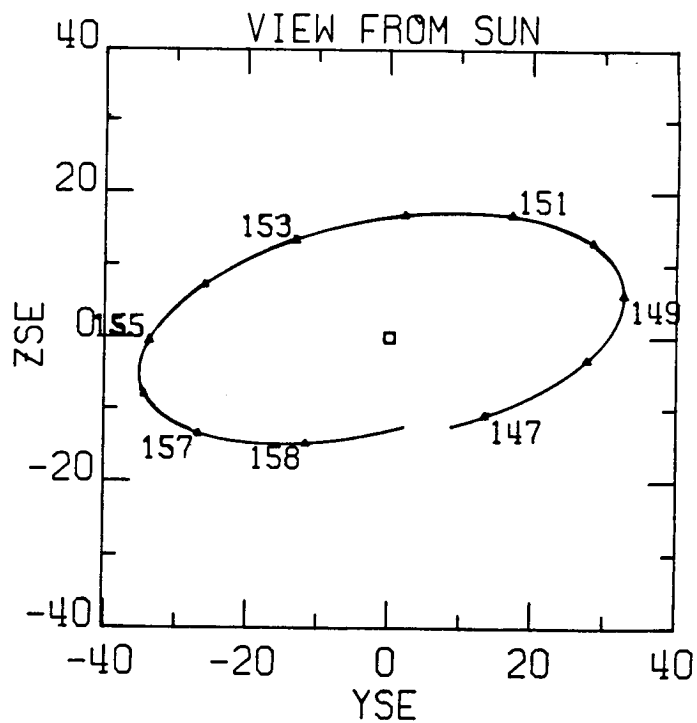
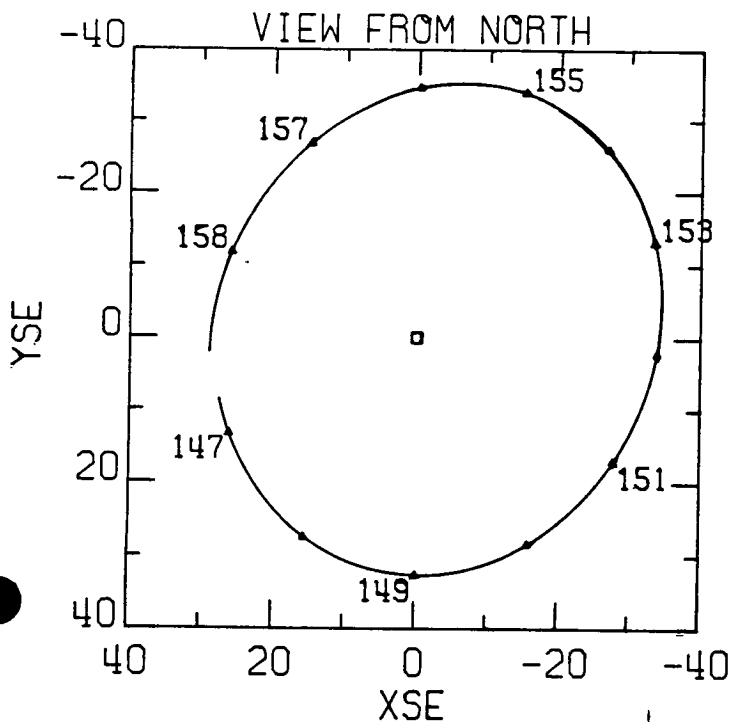
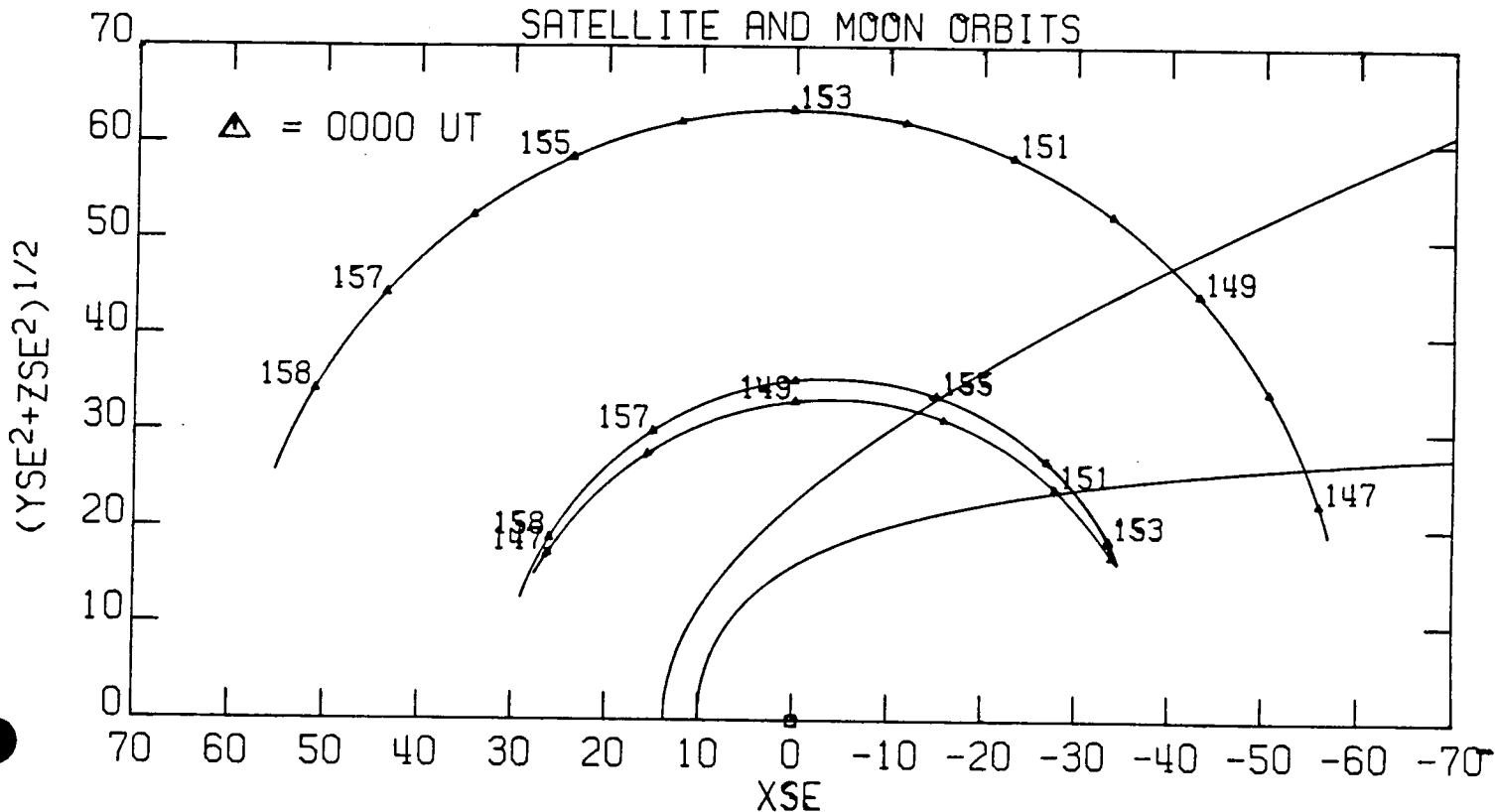
IMP 7 FROM MAY 26 TO JUN 7 1975



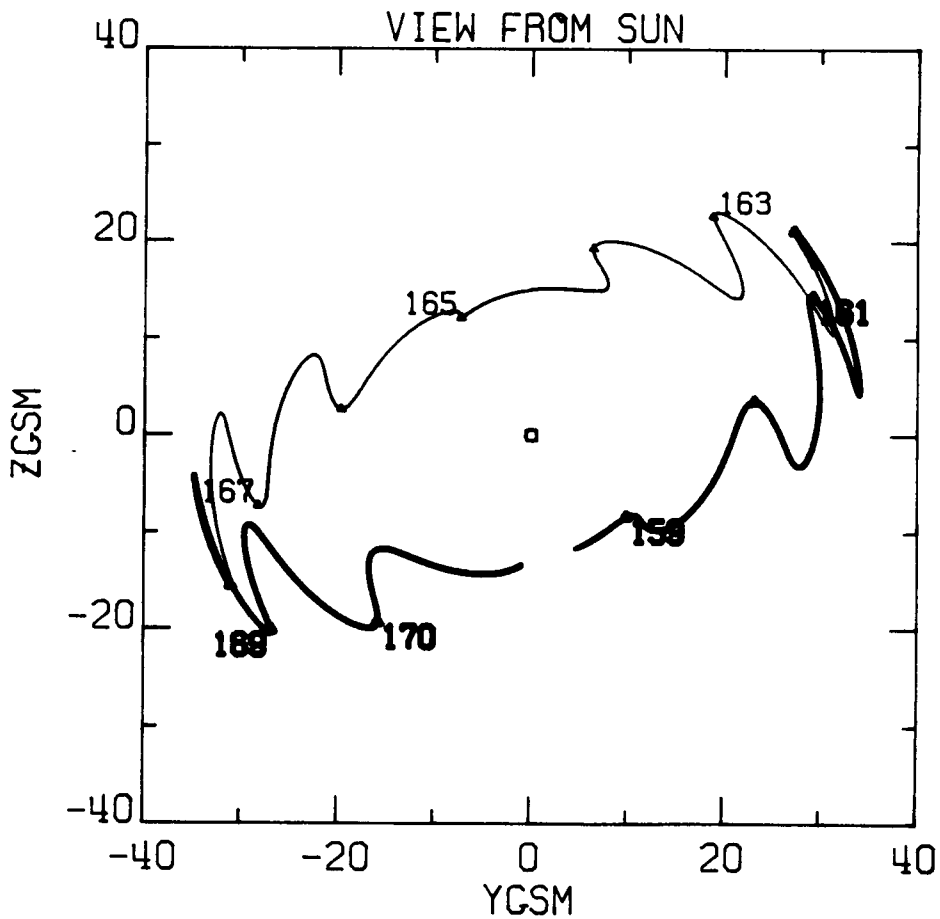
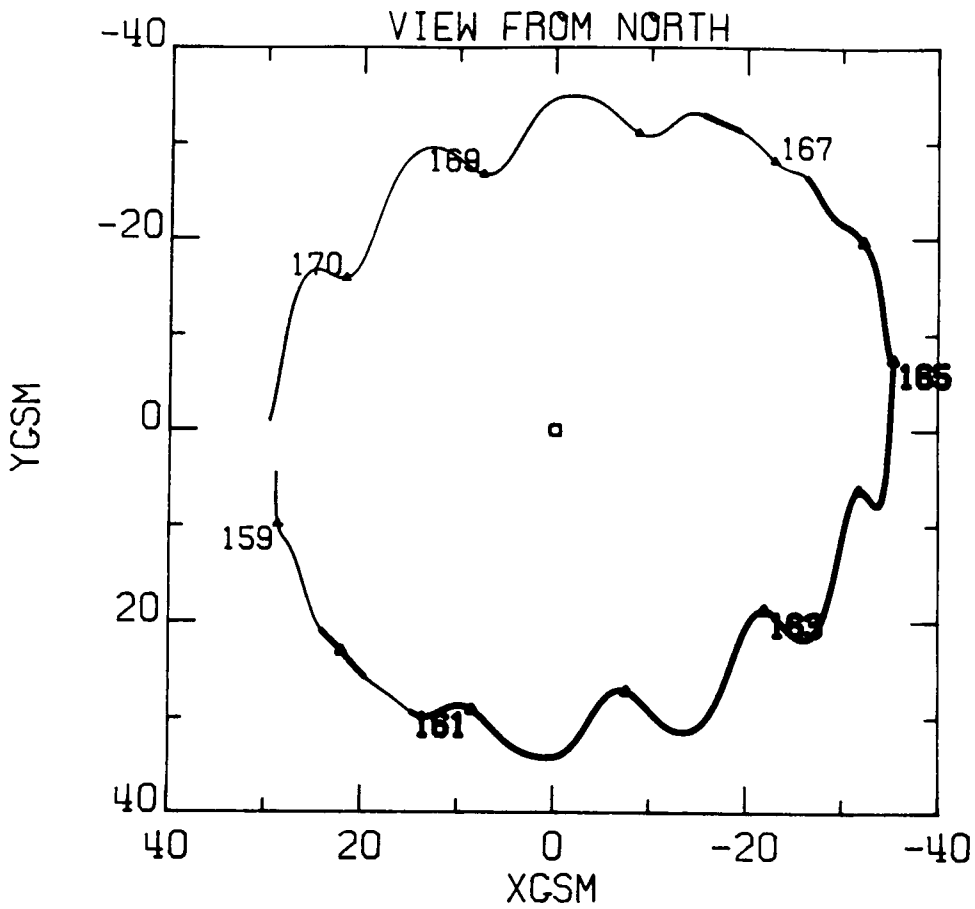
FROM MAY 26 TO JUN 7 1975

DAYS 146 THRU 158

SATELLITE AND MOON ORBITS



IMP 7 FROM JUN 7 TO JUN 19 1975

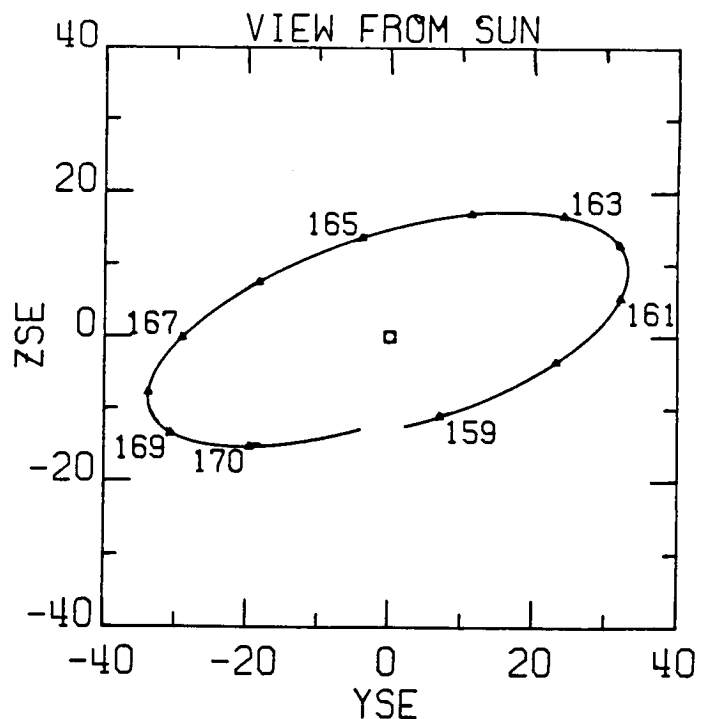
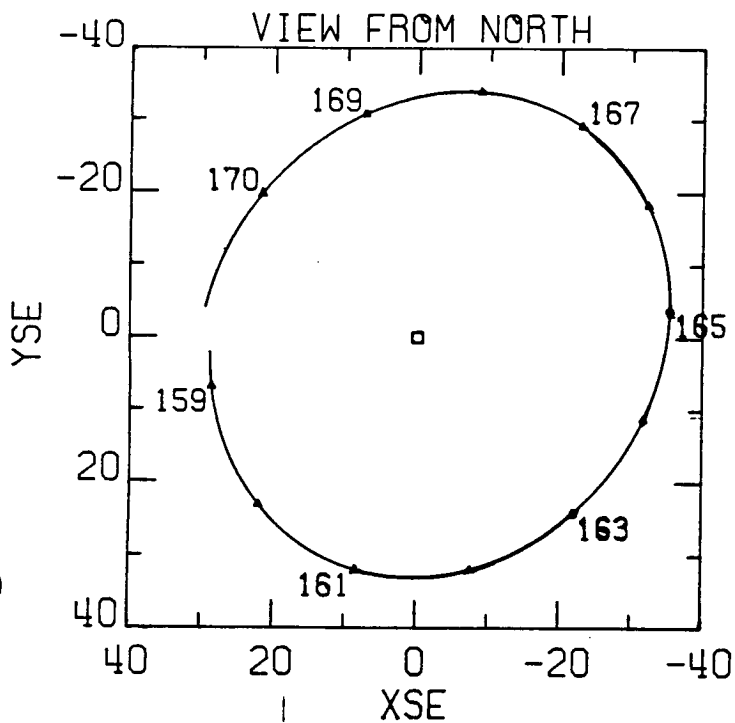
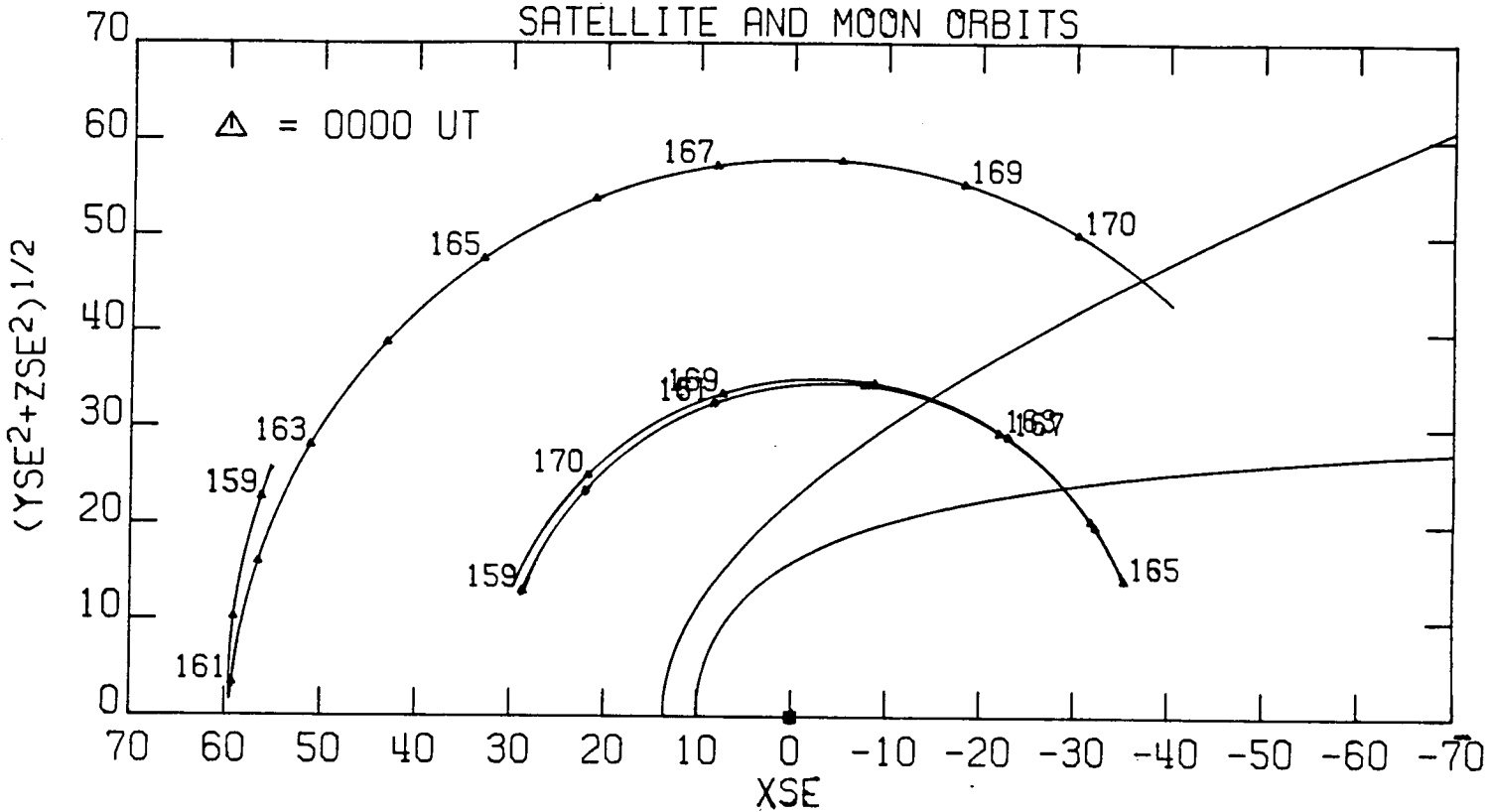


IMP 7 TRAJECTORY. ASCENDING NODE 82

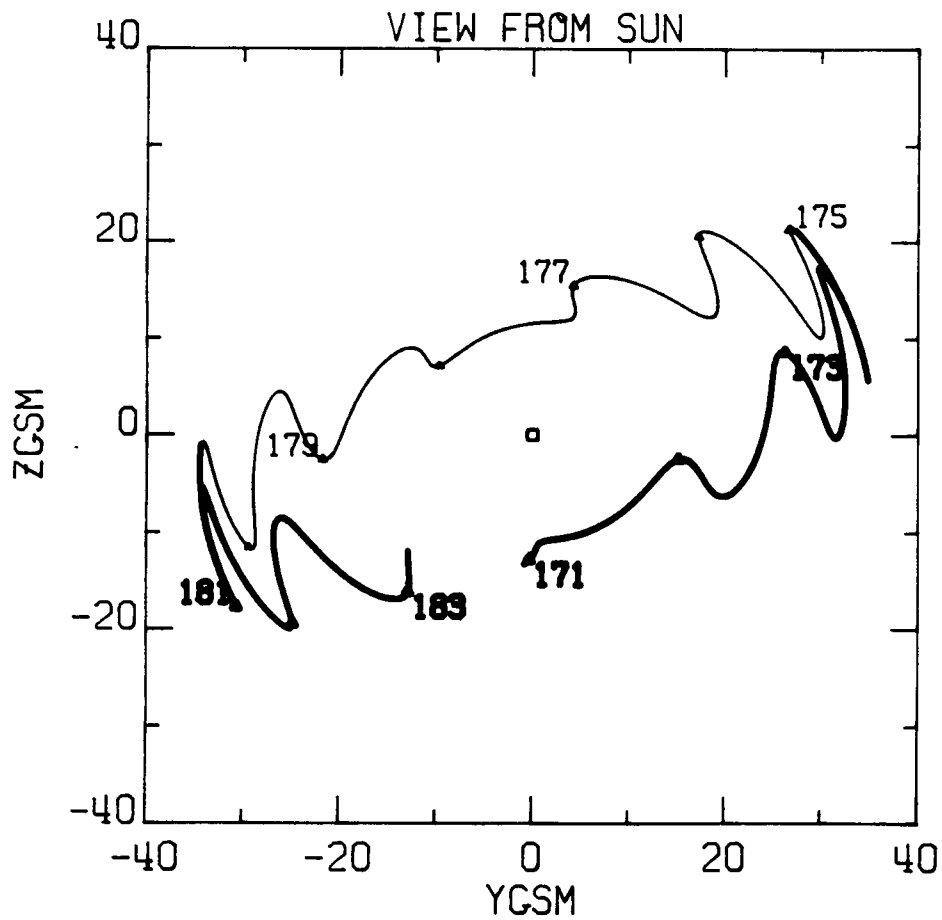
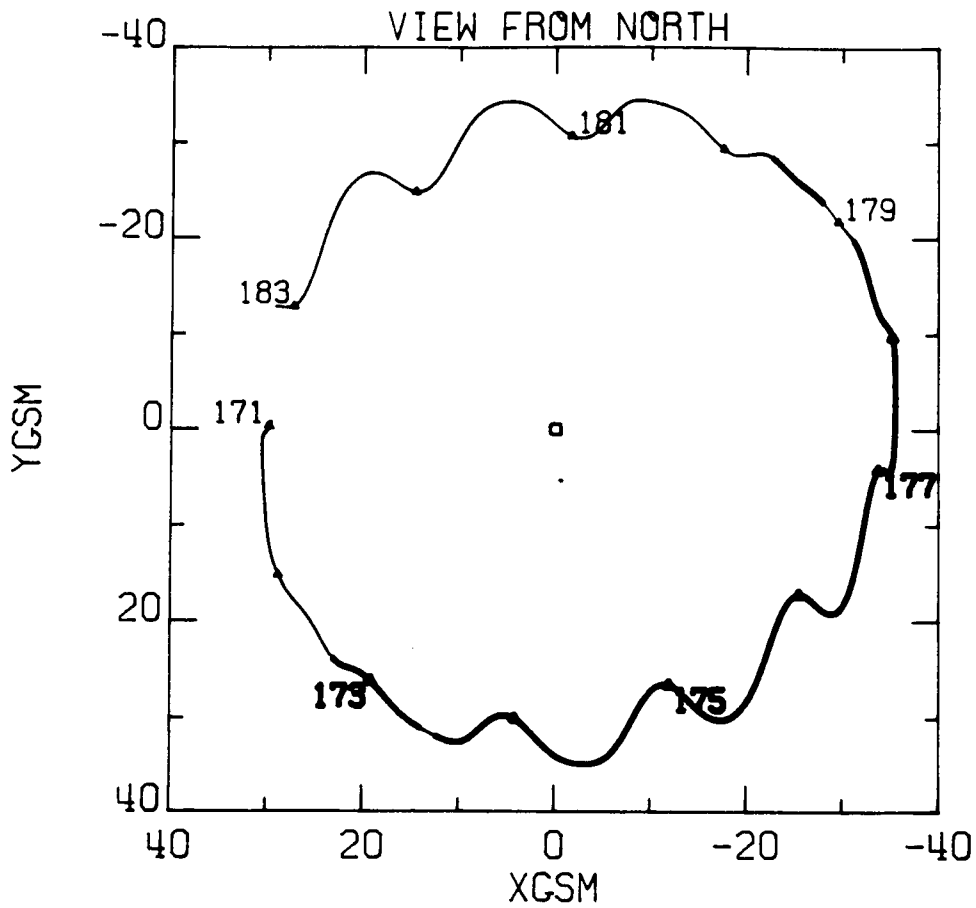
FROM JUN 7 TO JUN 19 1975

DAYS 158 THRU 170

SATELLITE AND MOON ORBITS



IMP 7 FROM JUN 19 TO JUL 2 1975

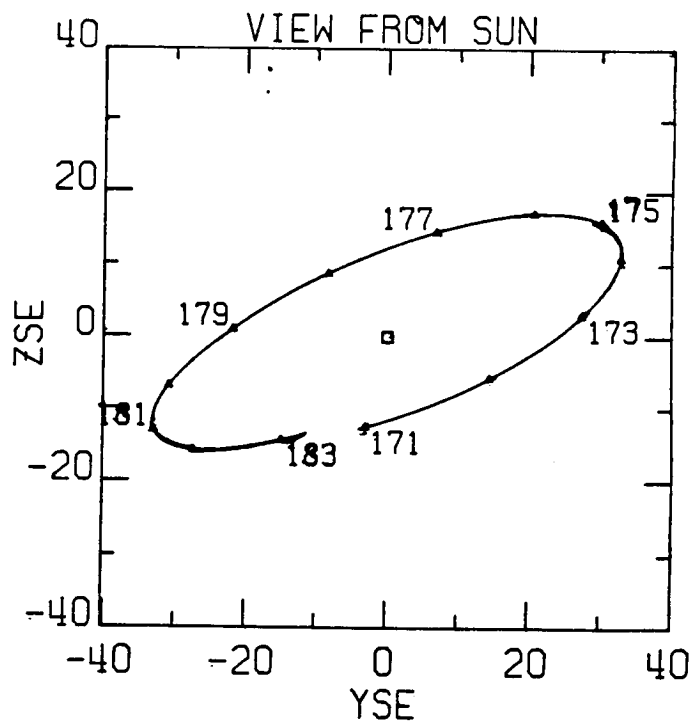
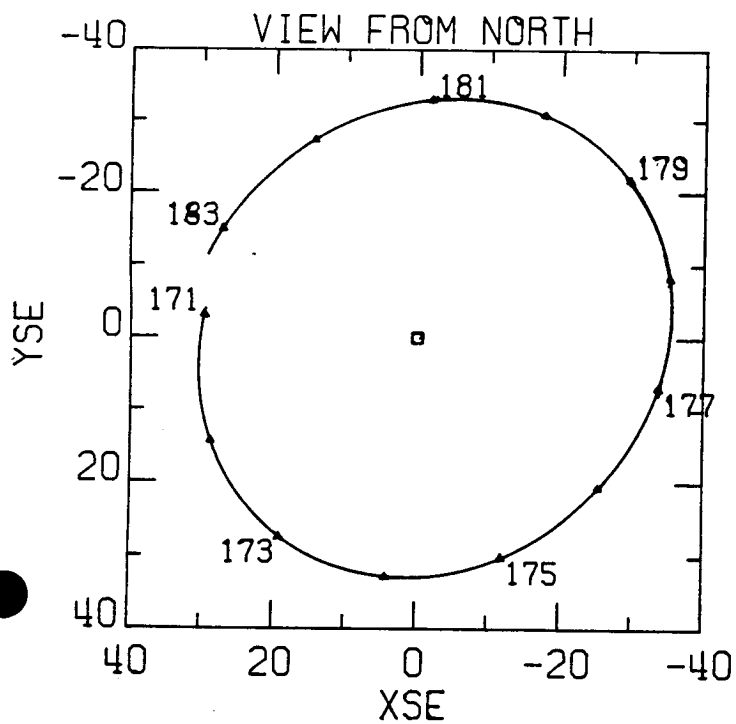
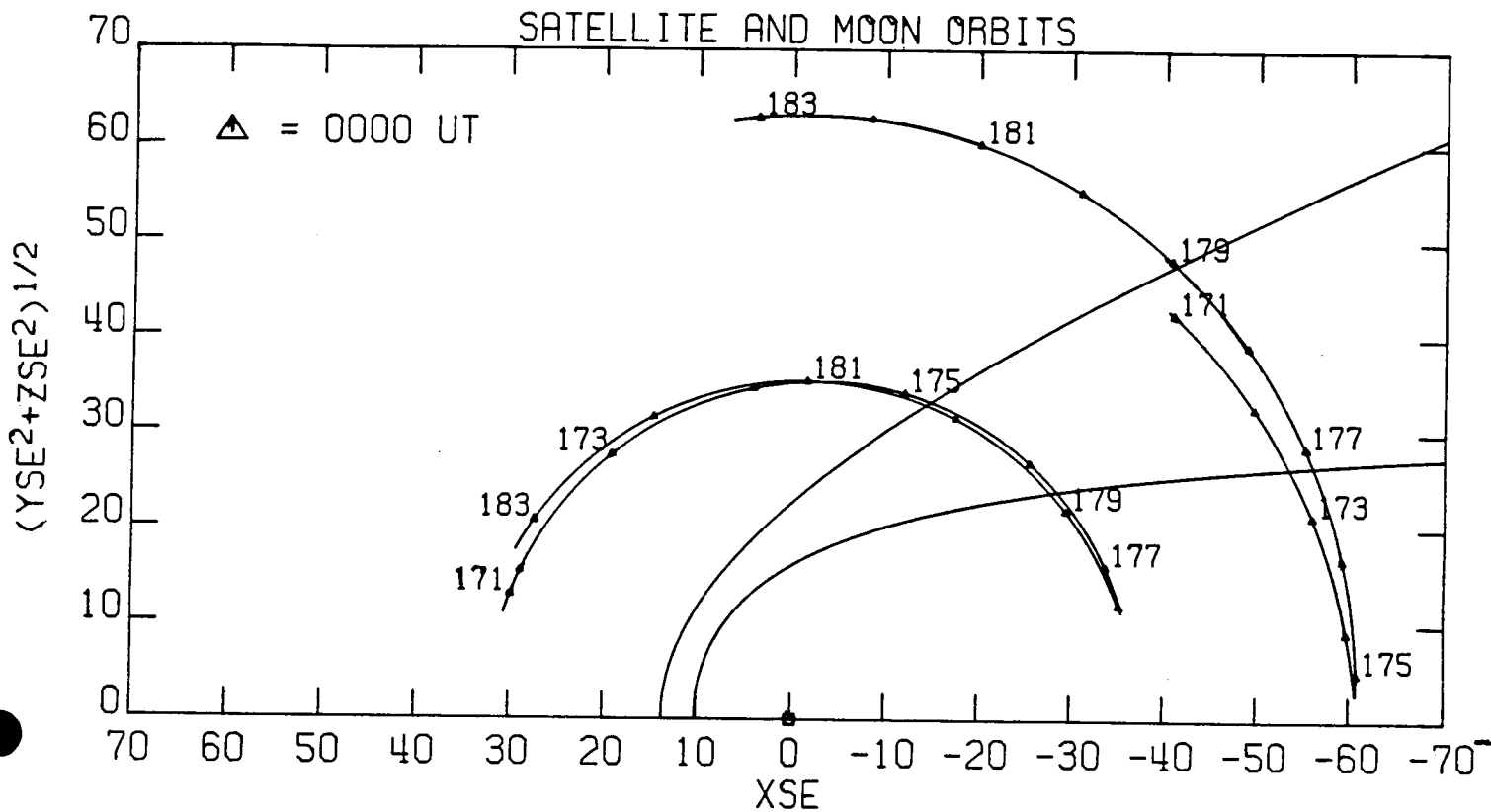


IMP 7 TRAJECTORY.

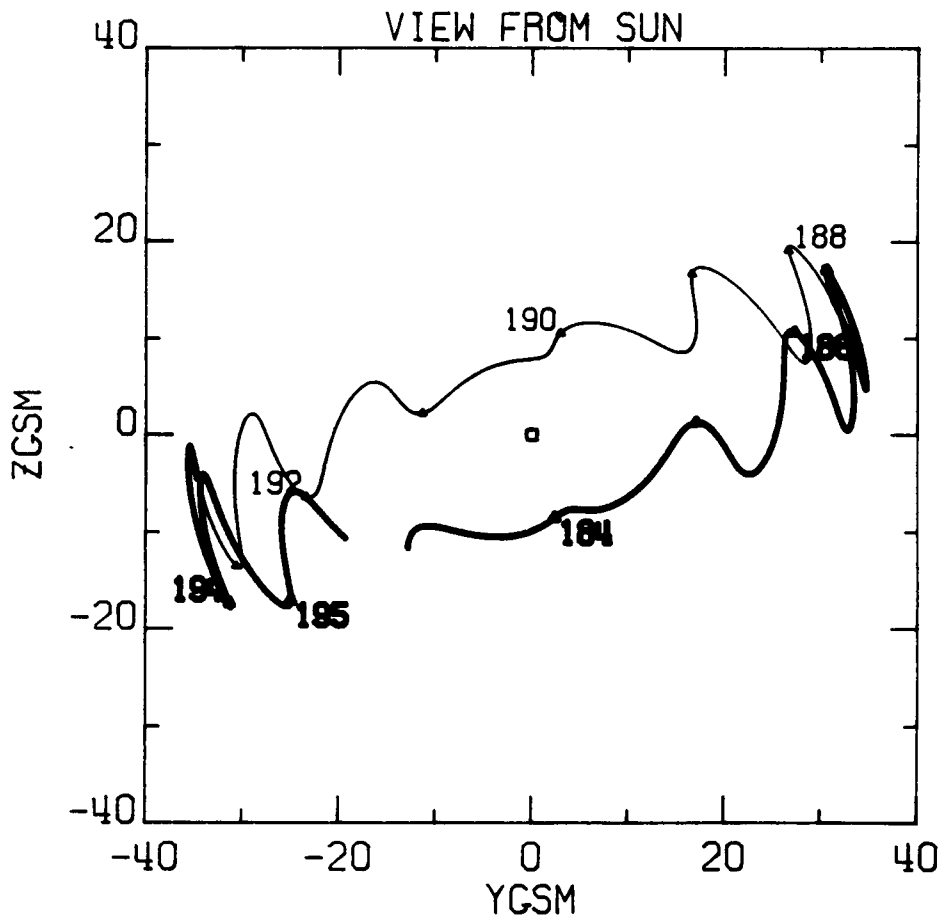
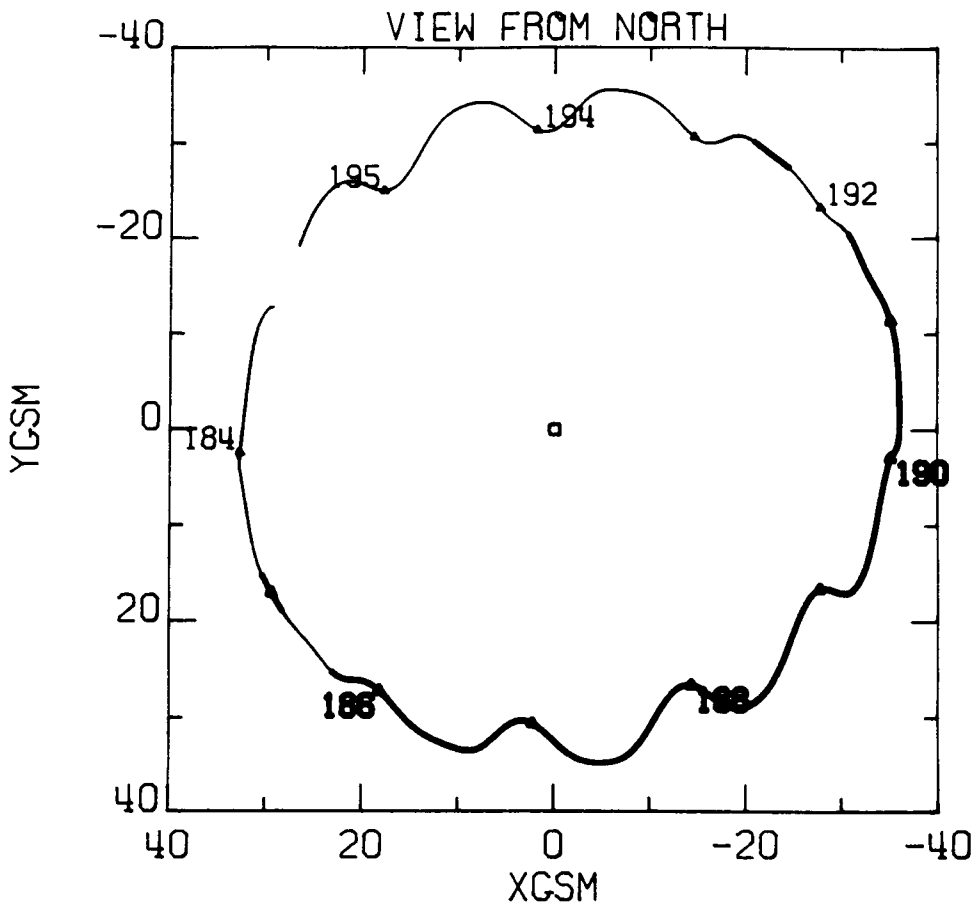
ASCENDING NODE. 83

FROM JUN 19 TO JUL 2 1975

DAYS 170 THRU 183



IMP 7 FROM JUL 2 TO JUL 14 1975



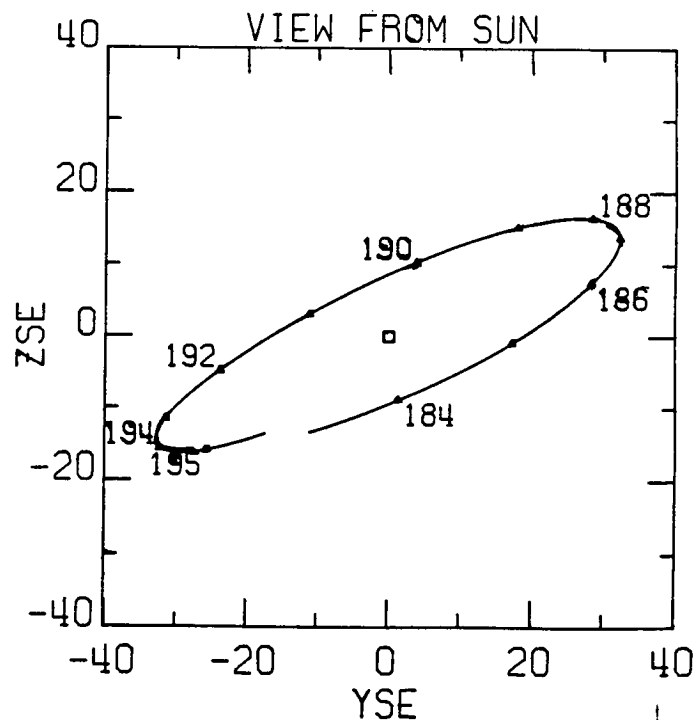
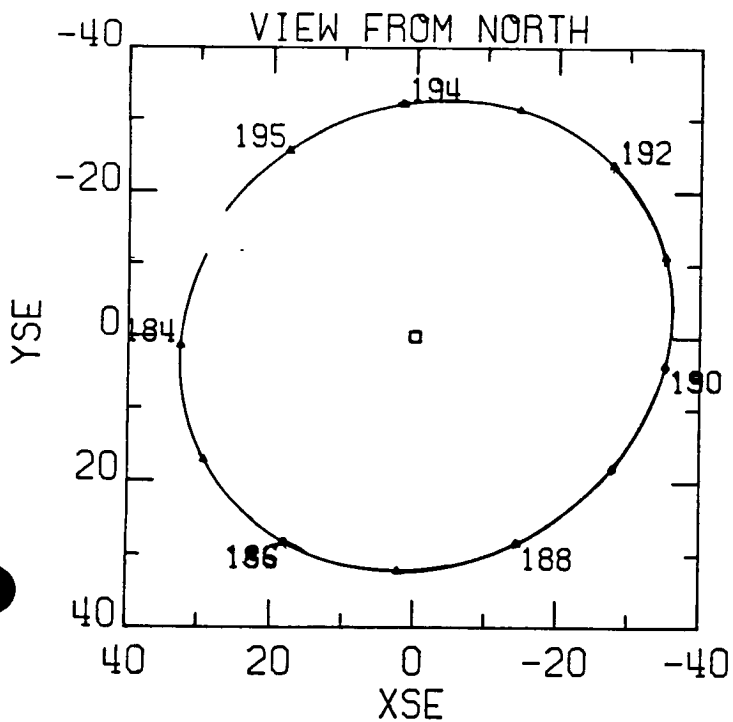
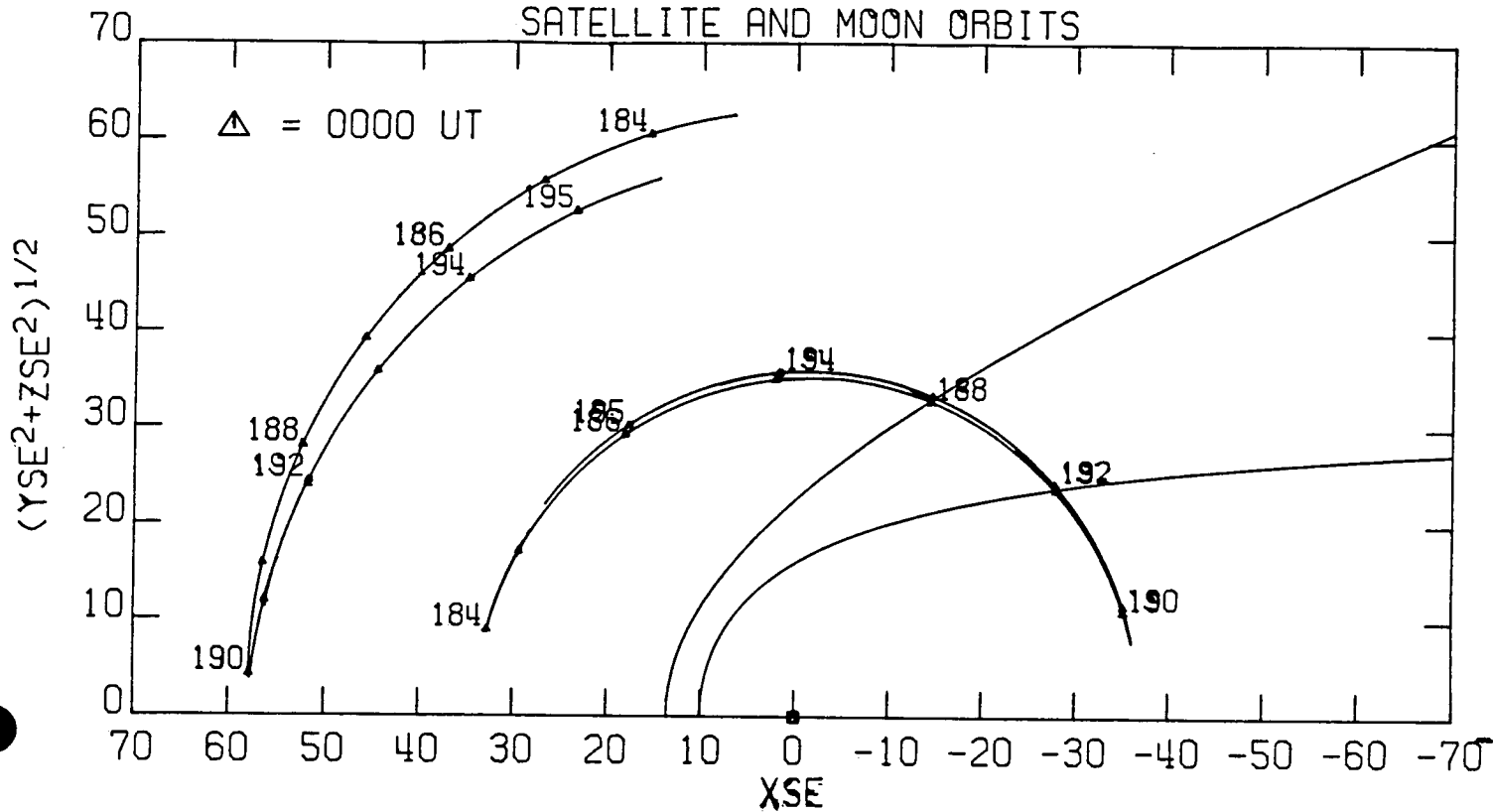
IMP 7 TRAJECTORY.

ASCENDING NODE 84

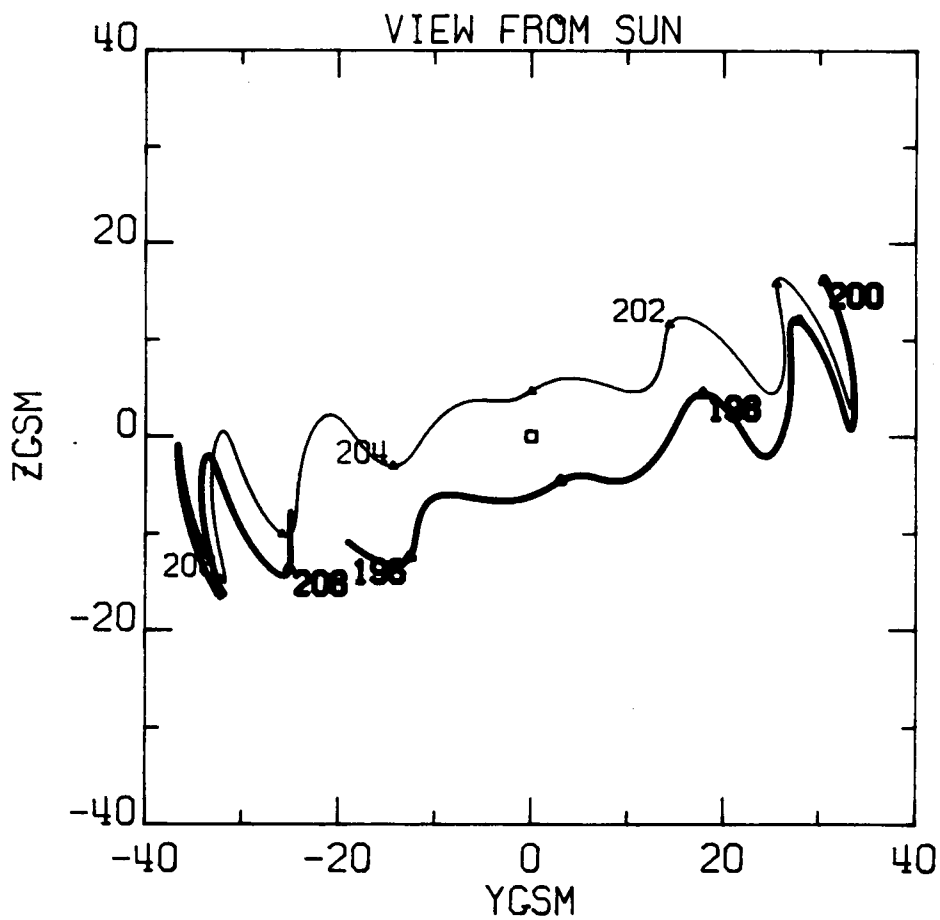
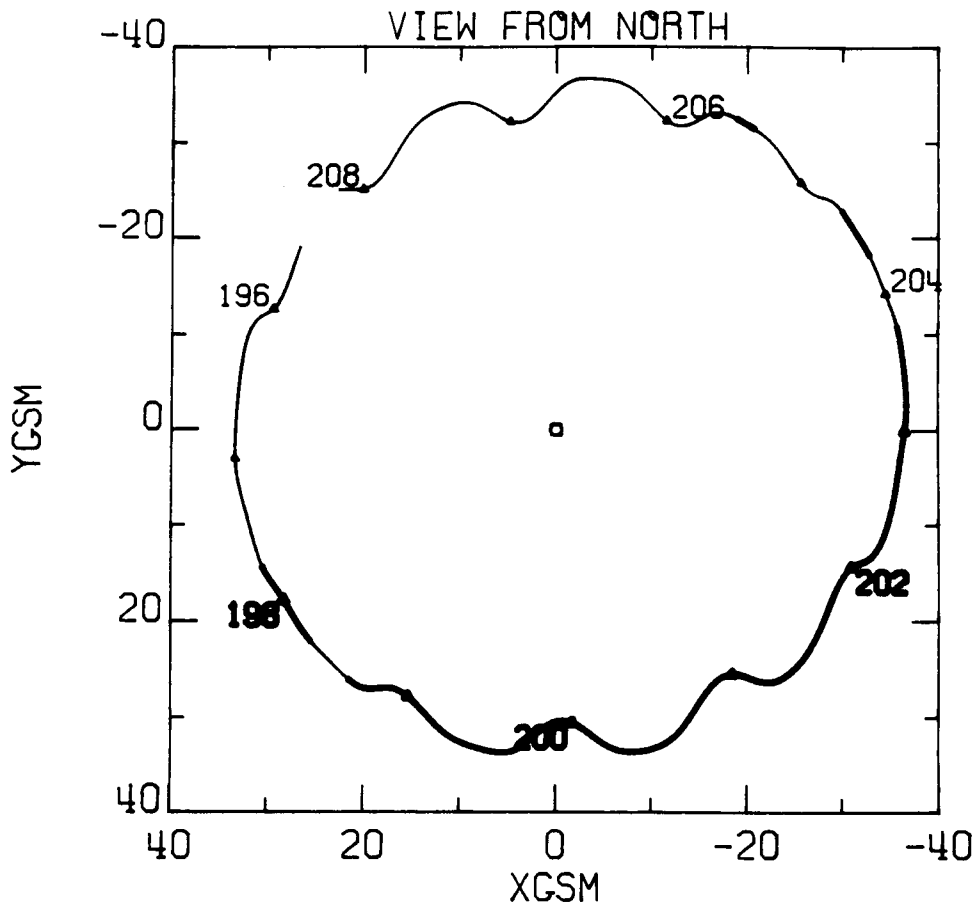
FROM JUL 2 TO JUL 14 1975

DAYS 183 THRU 195

SATELLITE AND MOON ORBITS



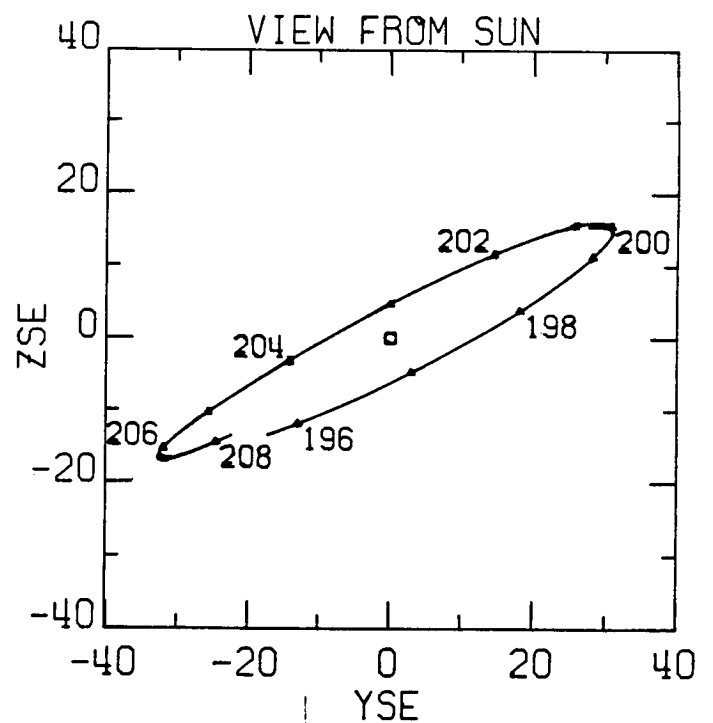
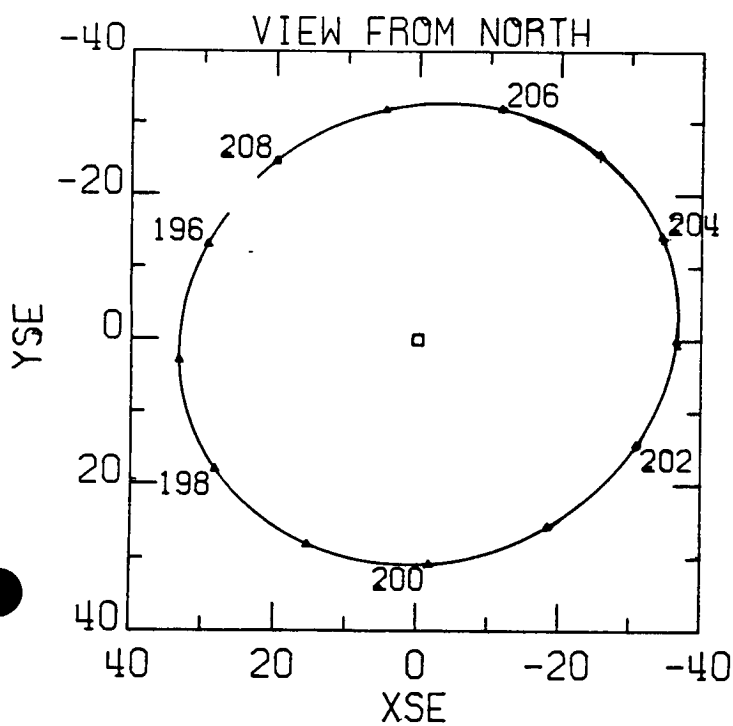
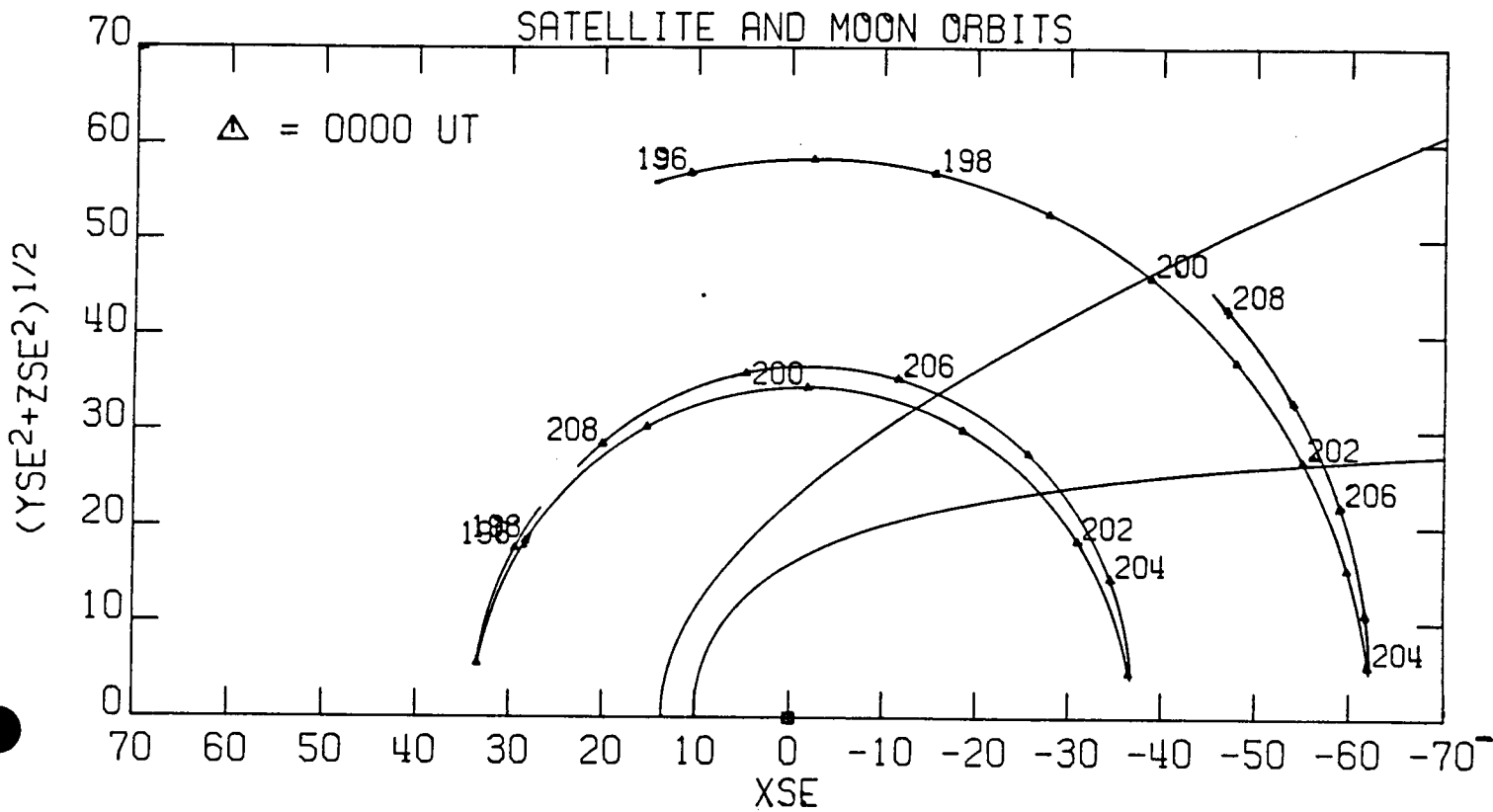
IMP 7 FROM JUL 14 TO JUL 27 1975



IMP 7 TRAJECTORY. ASCENDING NODE 85

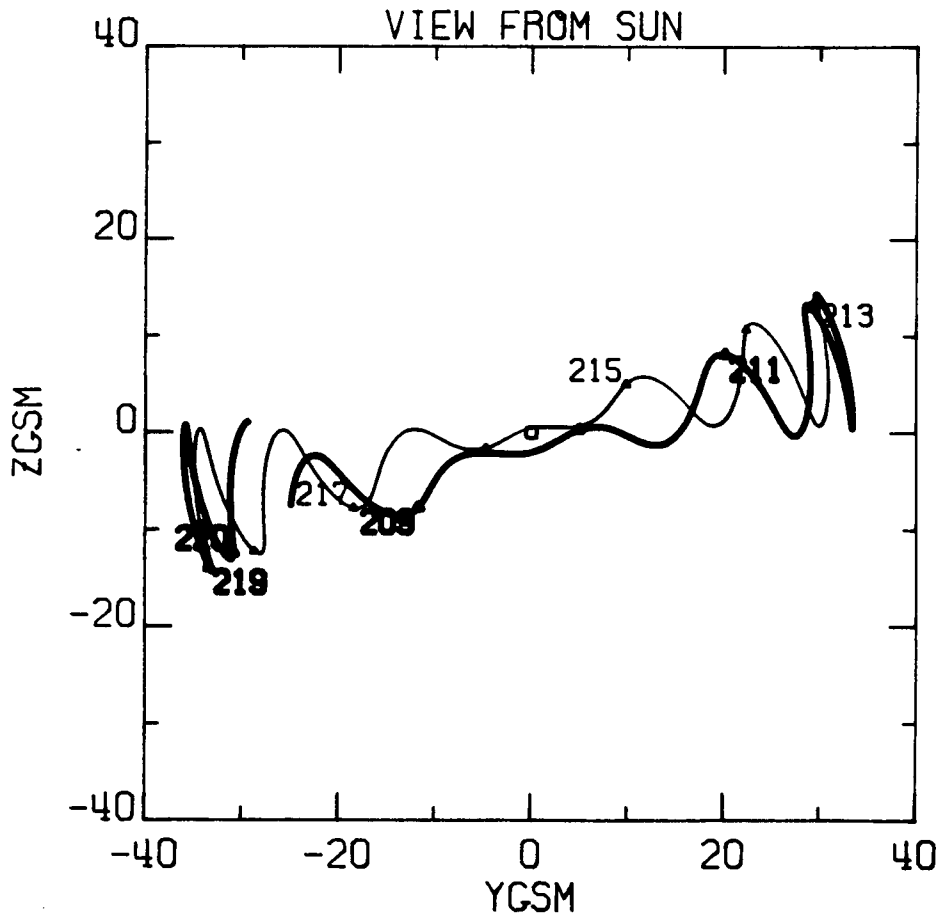
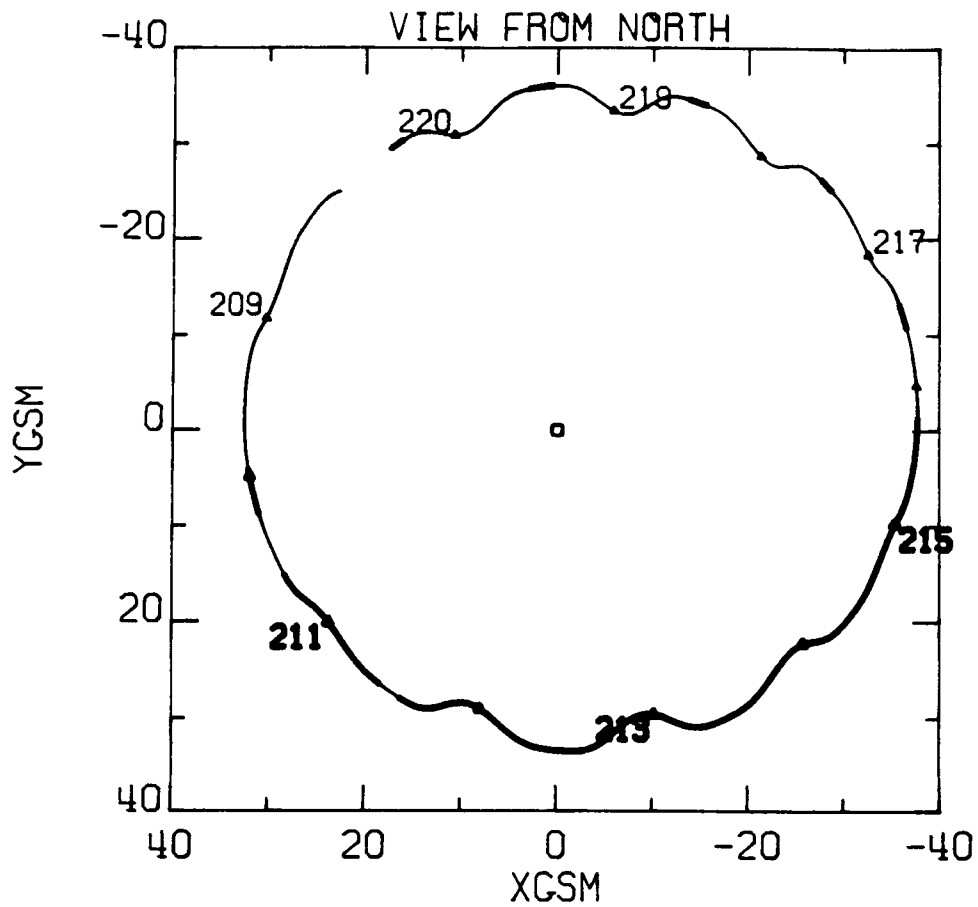
FROM JUL 14 TO JUL 27 1975

DAYS 195 THRU 208



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IMP 7 FROM JUL 27 TO AUG 8 1975

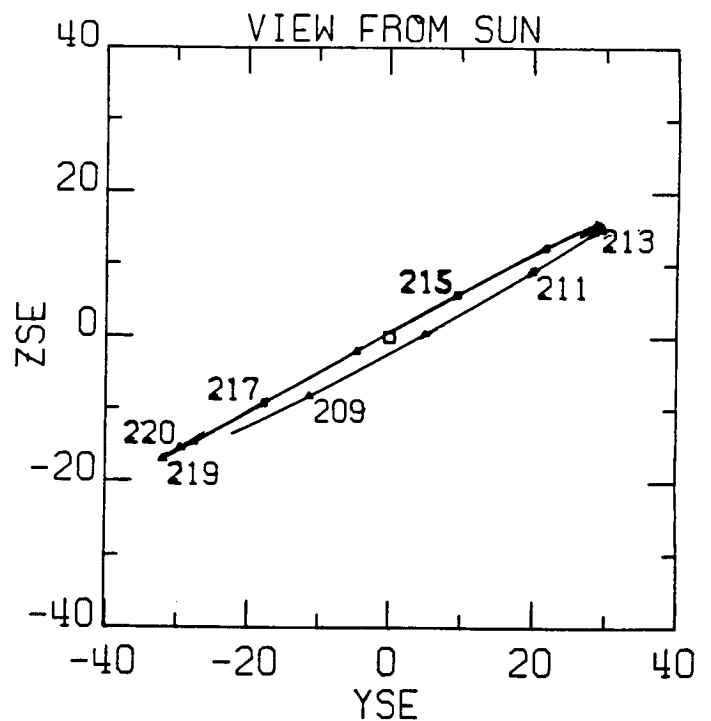
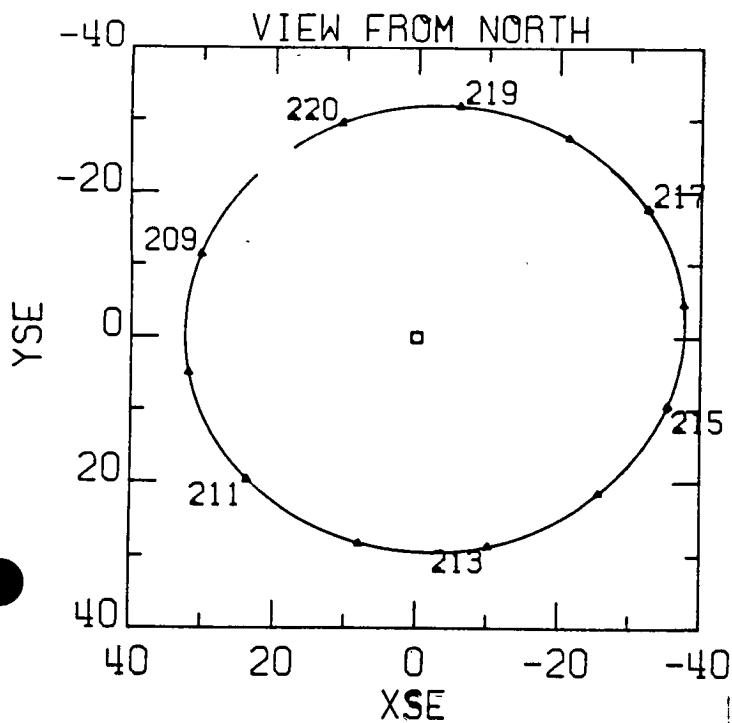
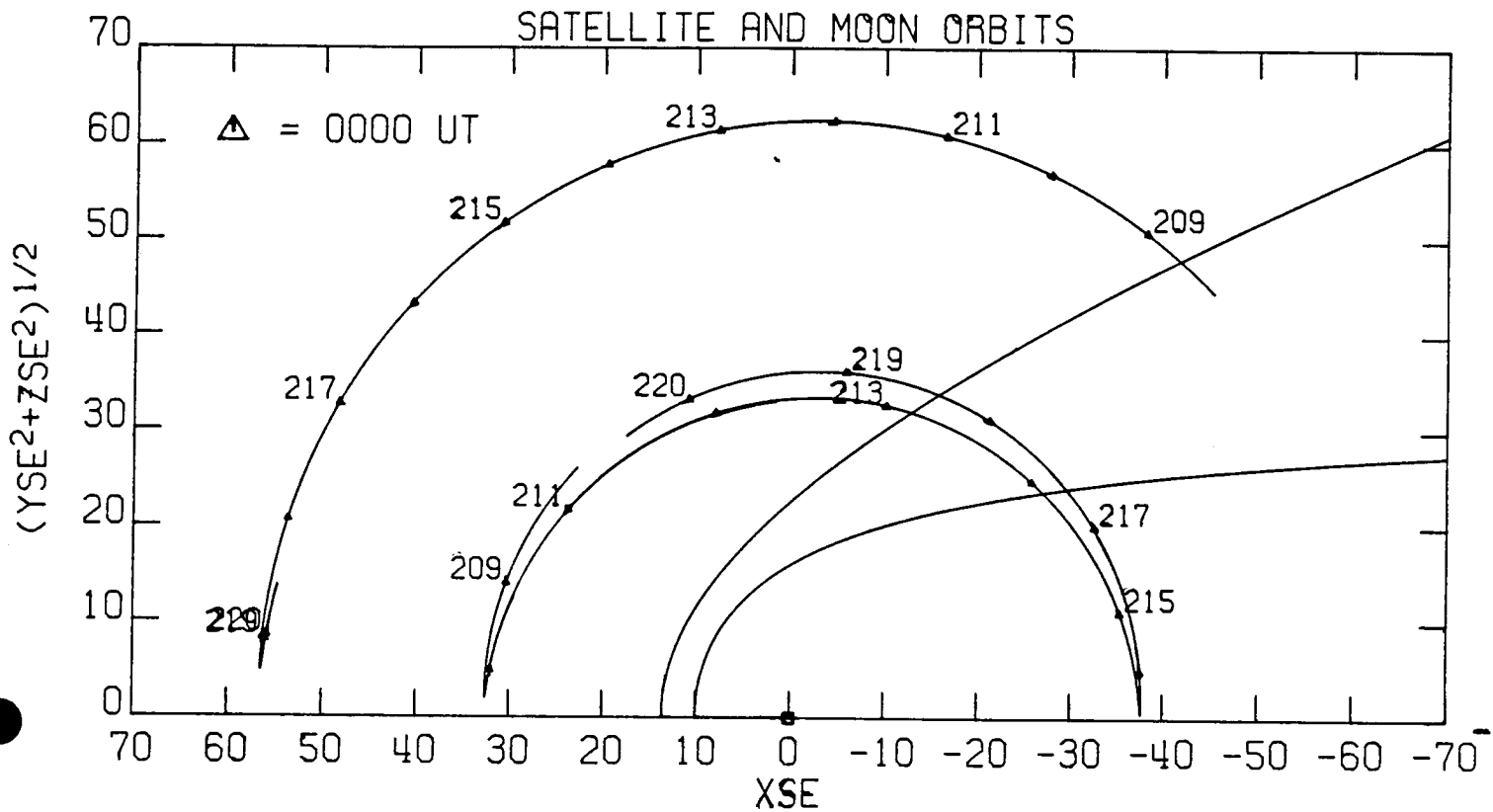


IMP 7 TRAJECTORY.

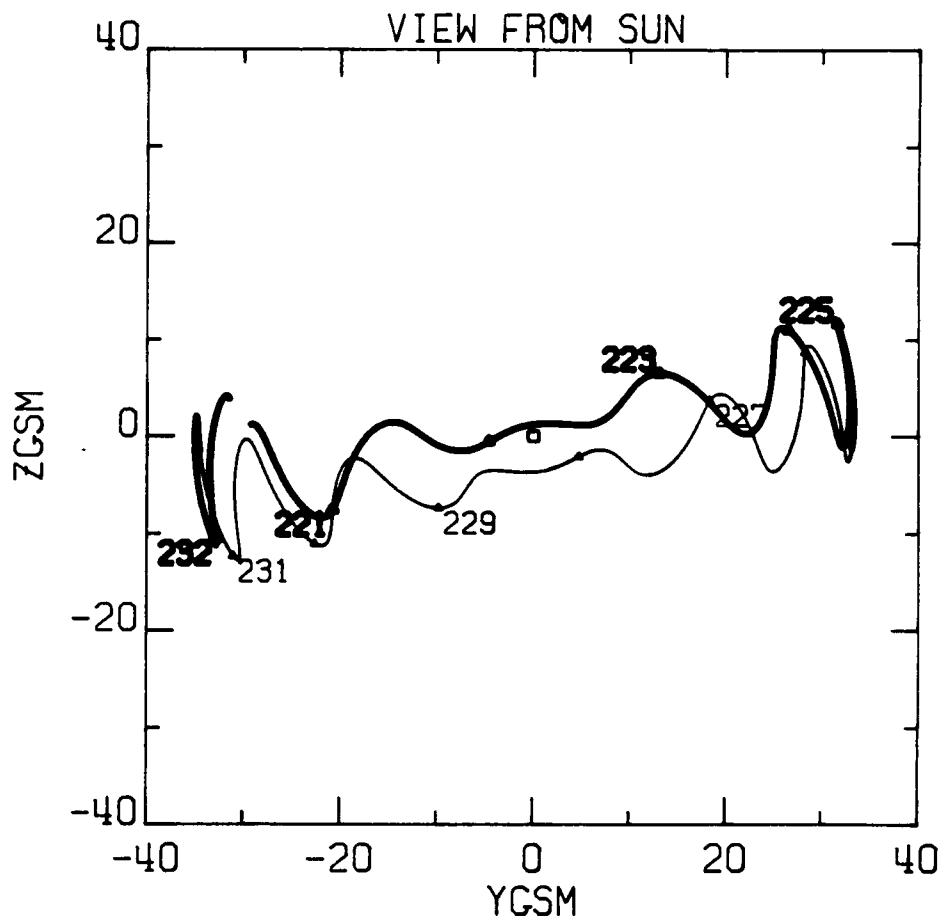
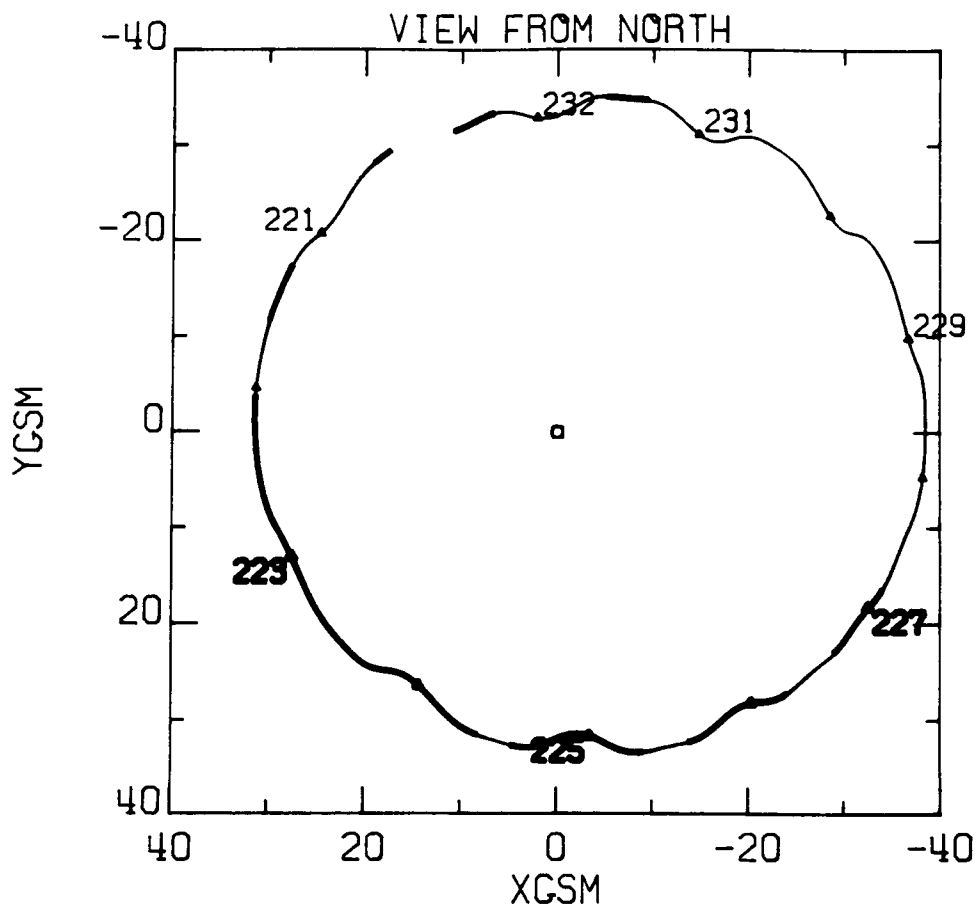
ASCENDING NODE 86

FROM JUL 27 TO AUG 8 1975

DAYS 208 THRU 220



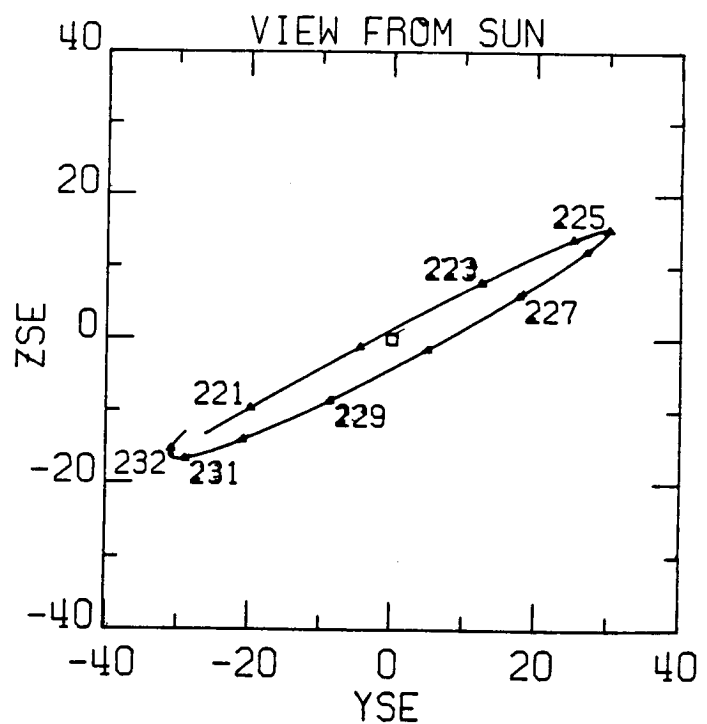
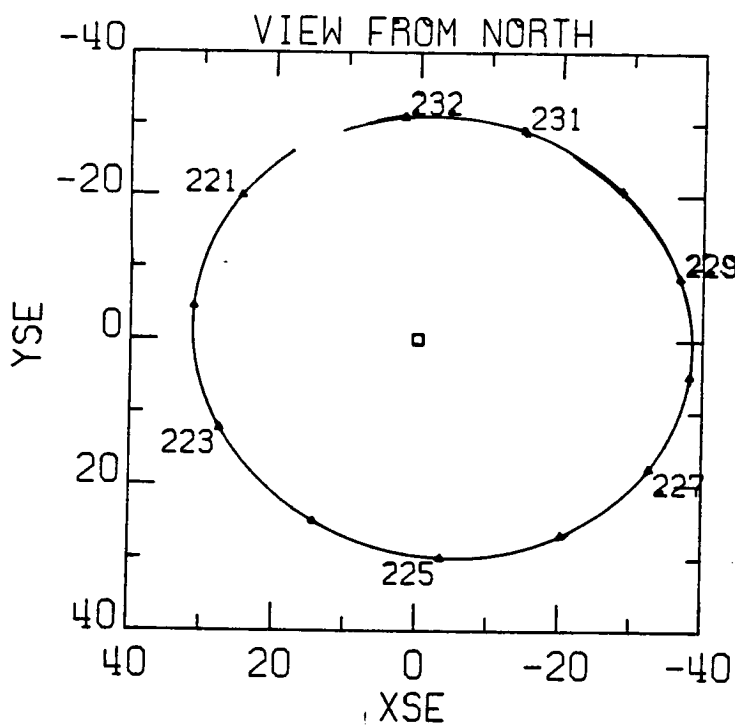
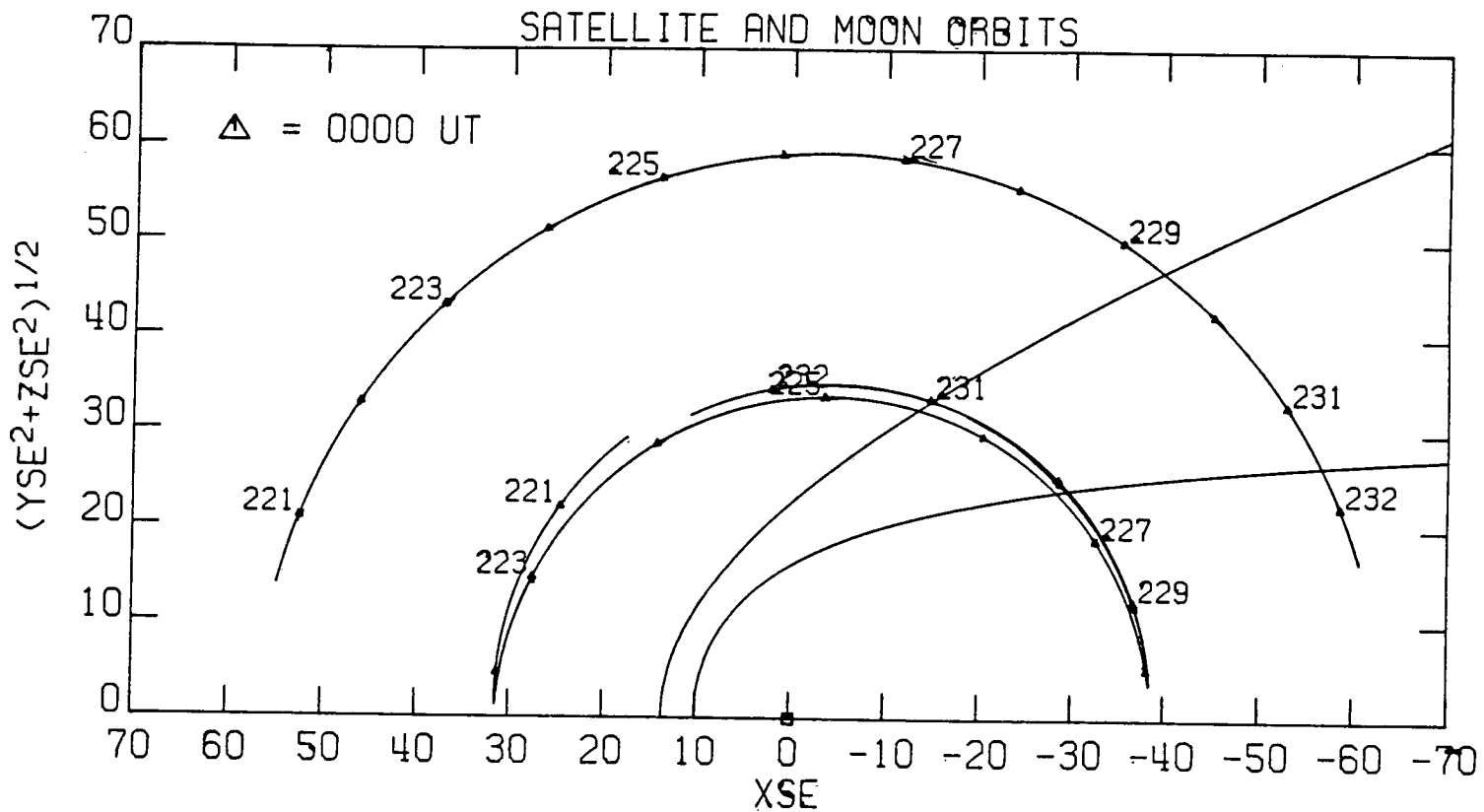
IMP 7 FROM AUG 8 TO AUG 20 1975



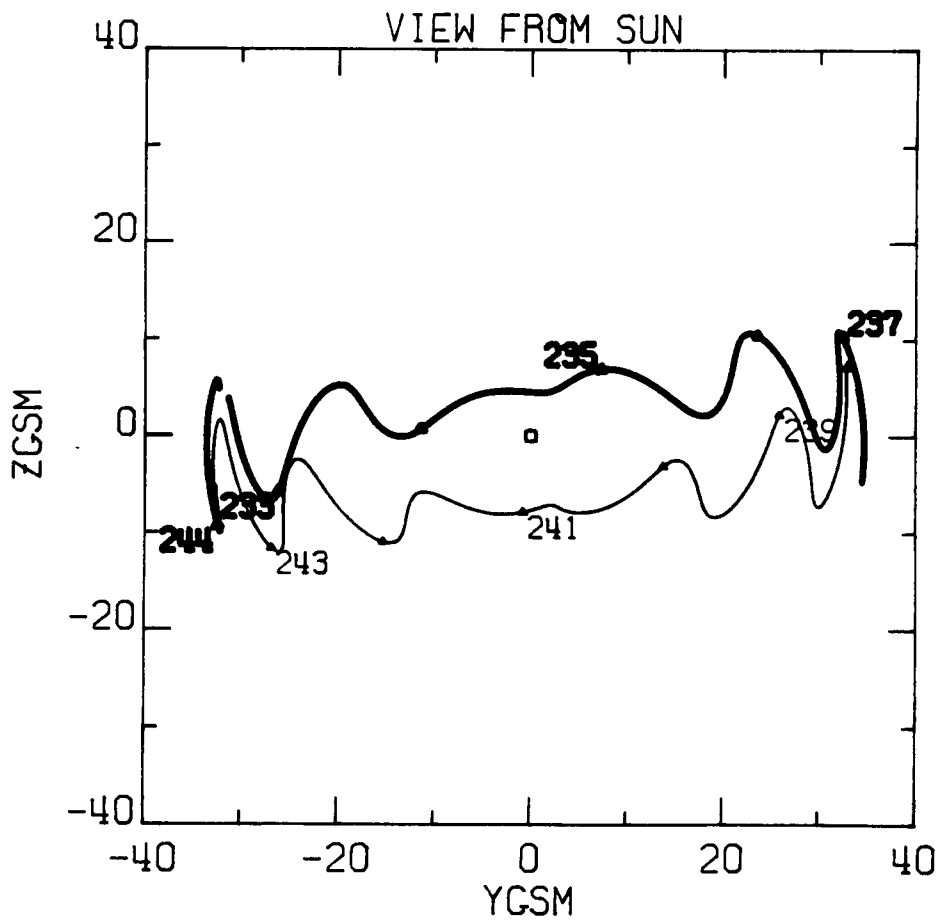
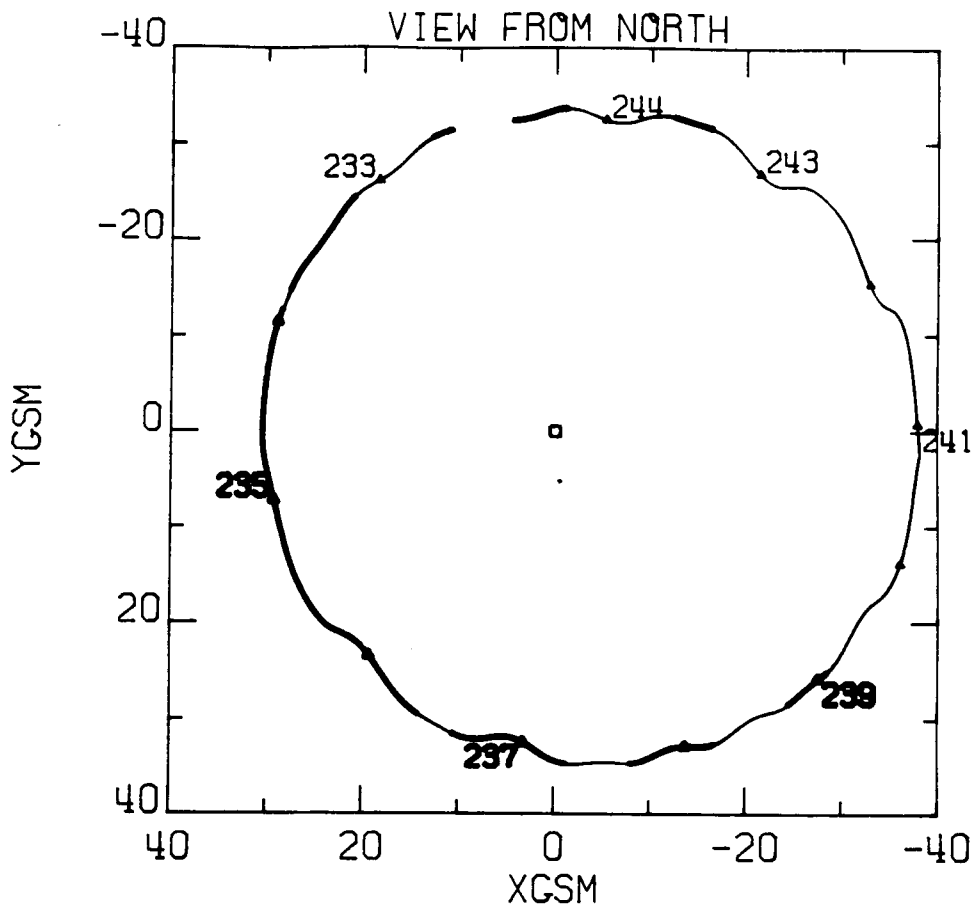
IMP 7 TRAJECTORY. ASCENDING NODE 87

FROM AUG 8 TO AUG 20 1975

DAYS 220 THRU 232



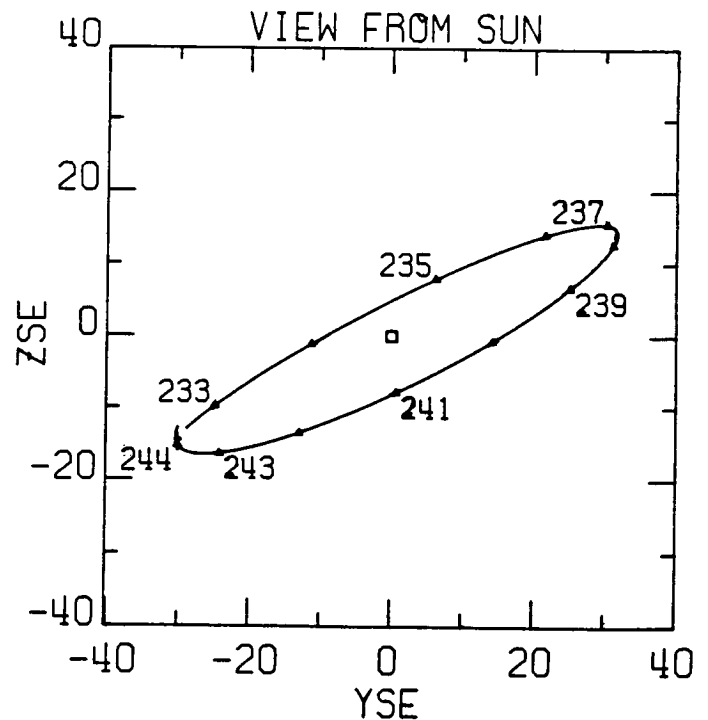
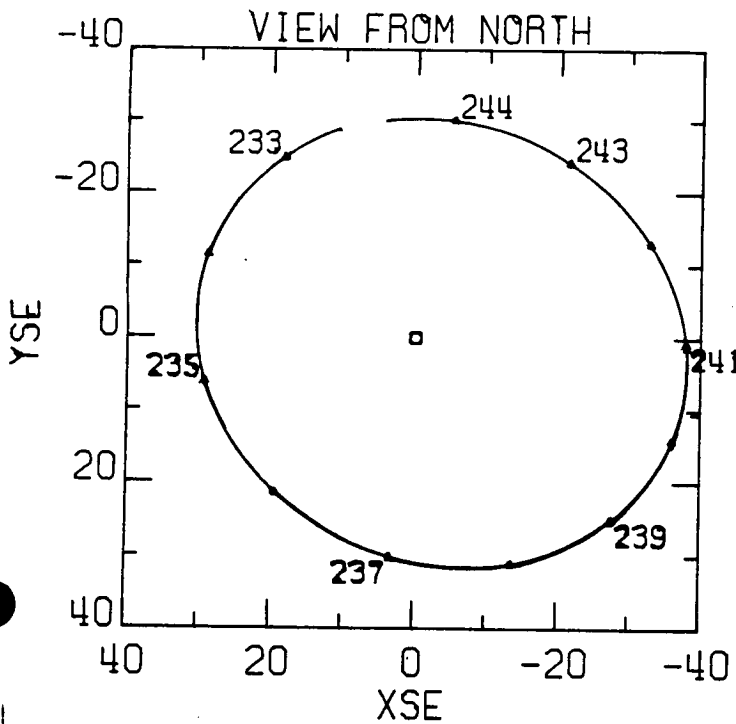
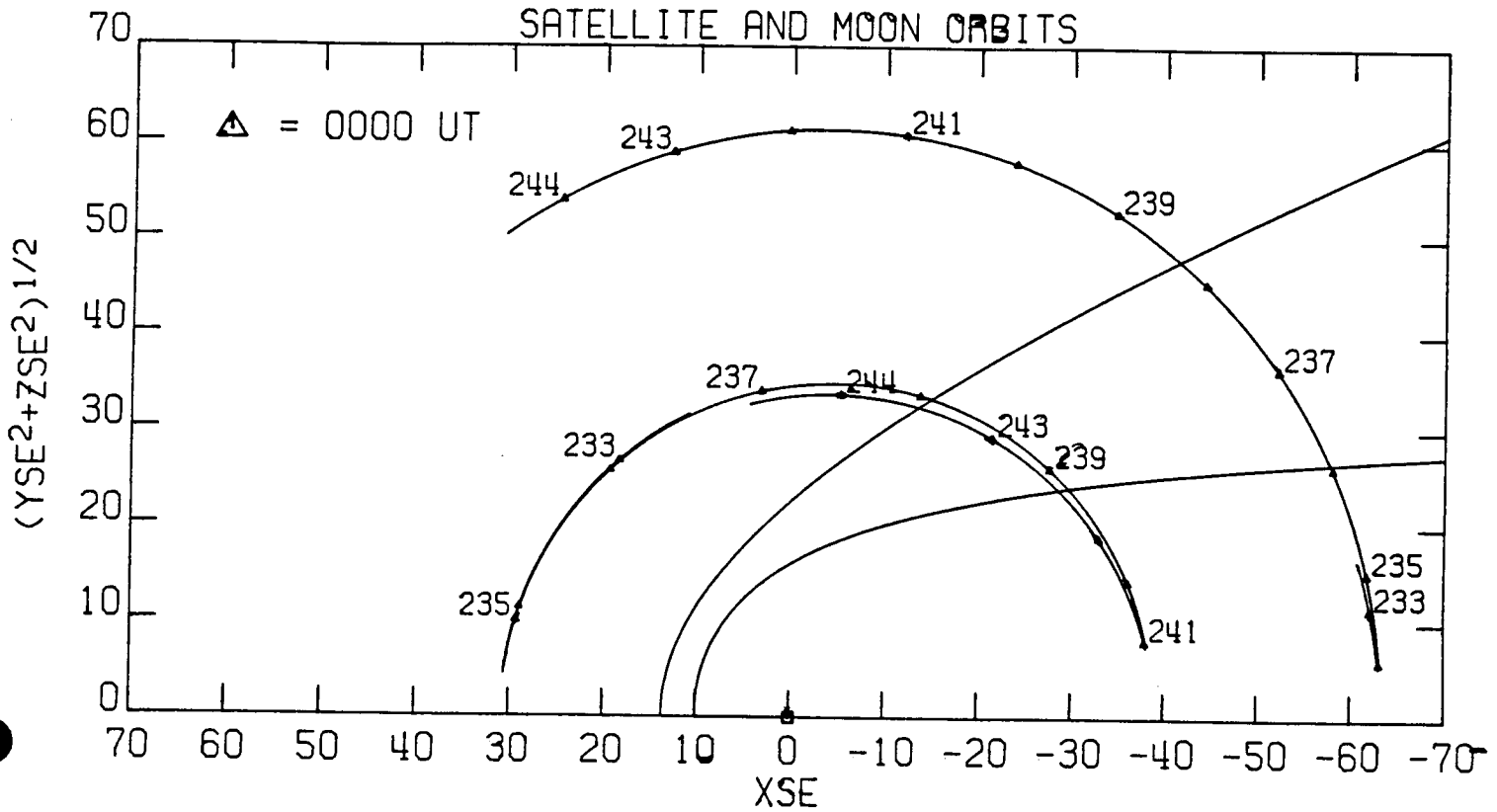
IMP 7 FROM AUG 20 TO SEP 1 1975



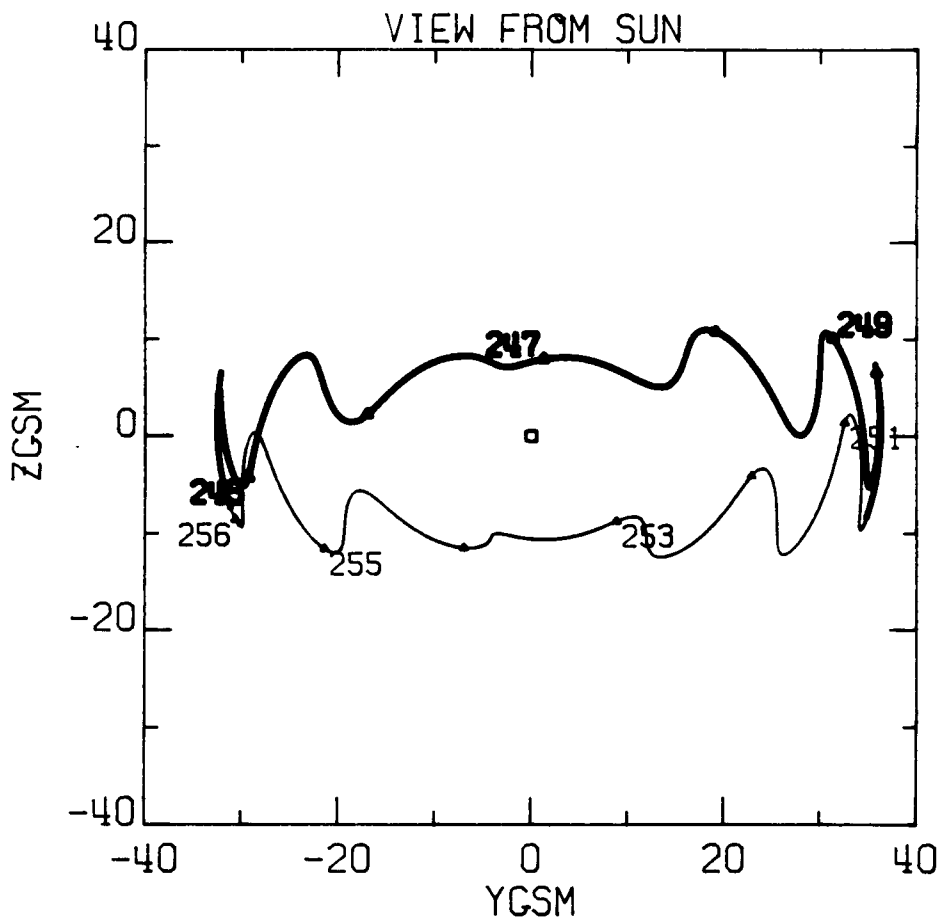
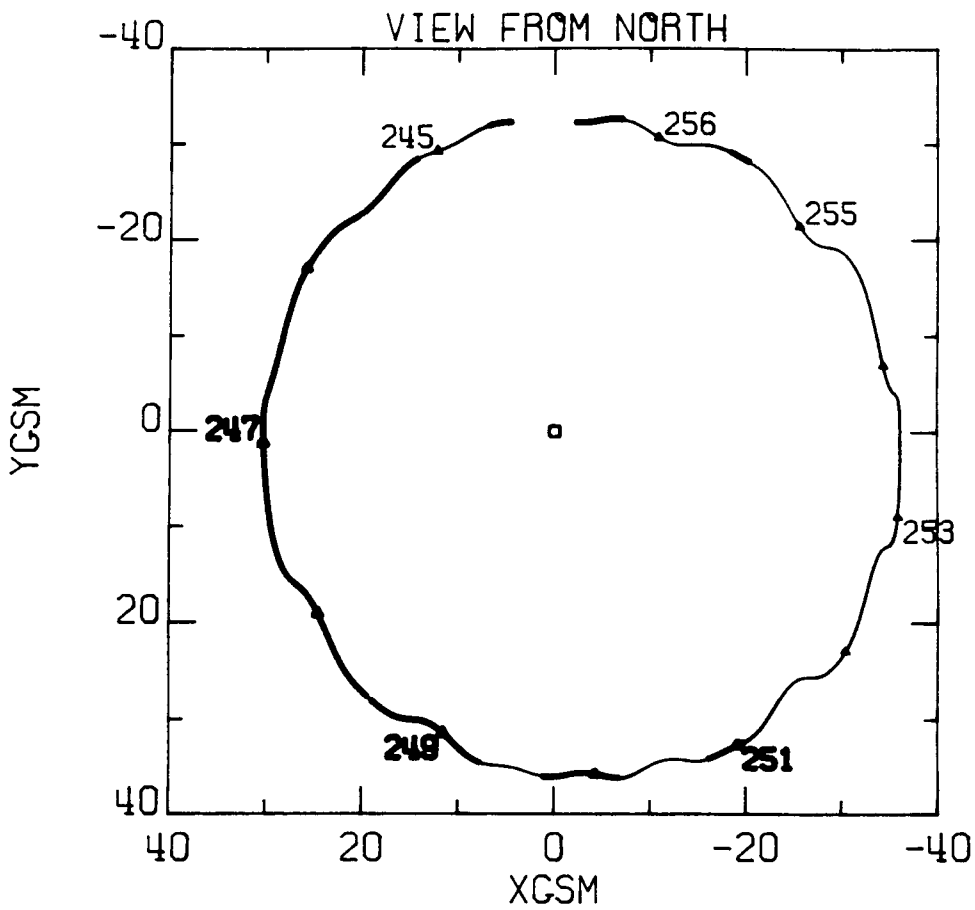
FROM AUG 20 TO SEP 1 1975

DAYS 232 THRU 244

SATELLITE AND MOON ORBITS



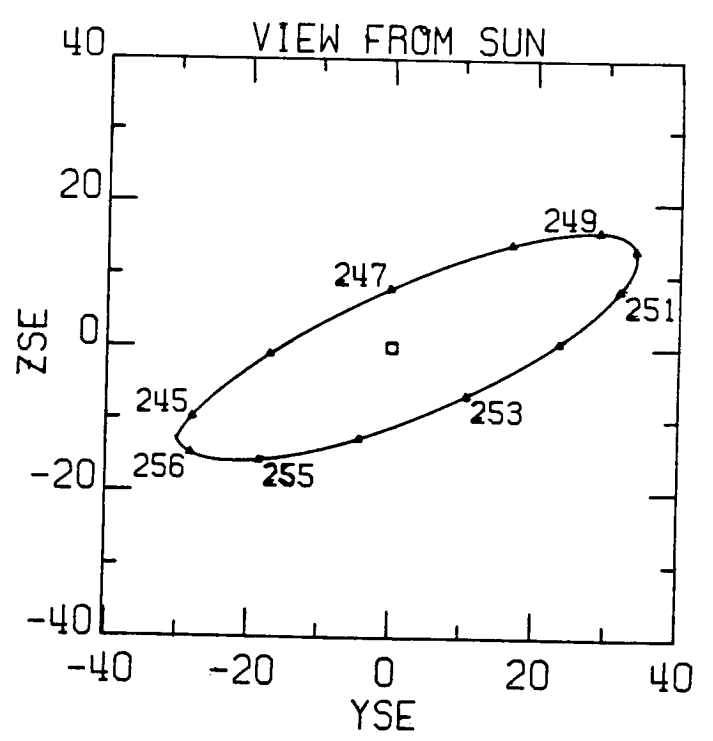
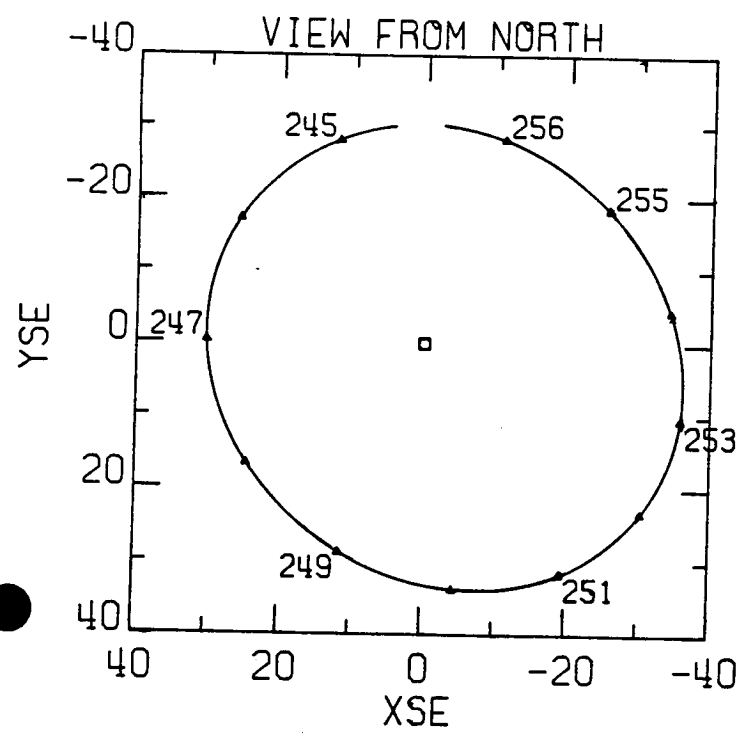
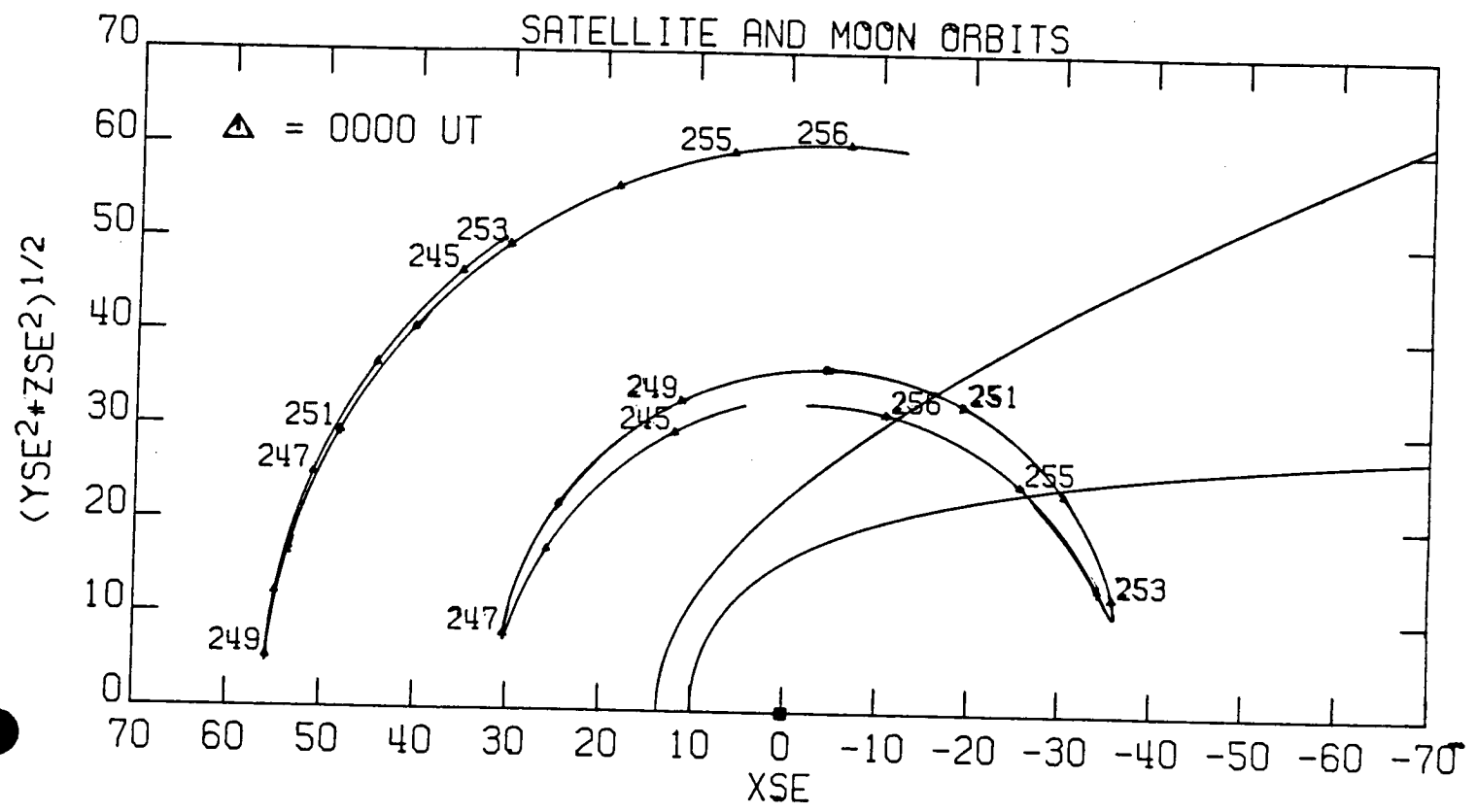
IMP 7 FROM SEP 1 TO SEP 13 1975



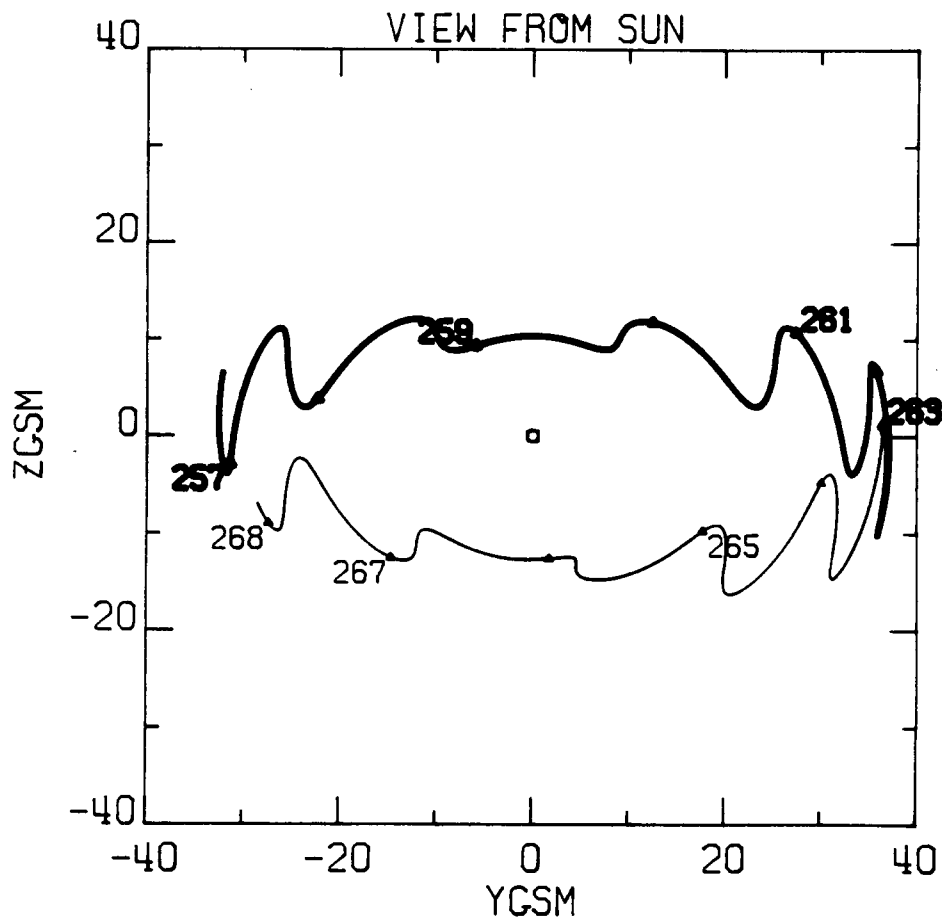
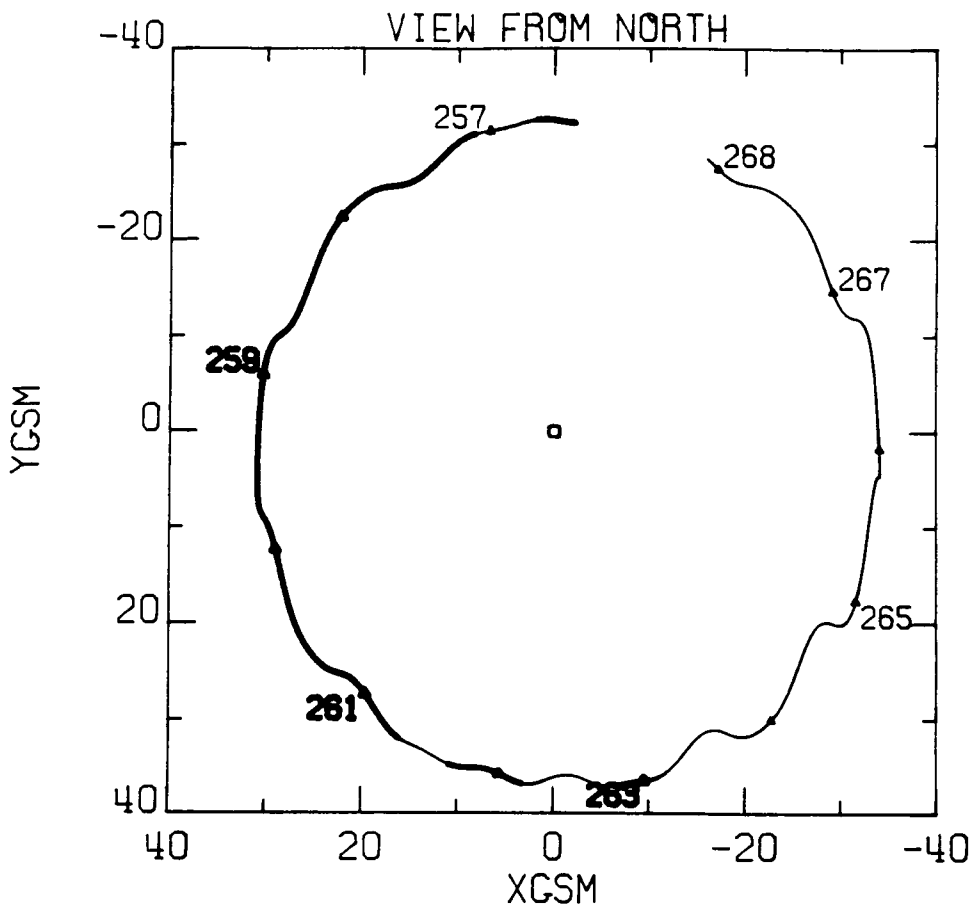
IMP 7 TRAJECTORY. ASCENDING NODE 89

FROM SEP 1 TO SEP 13 1975

DAYS 244 THRU 256



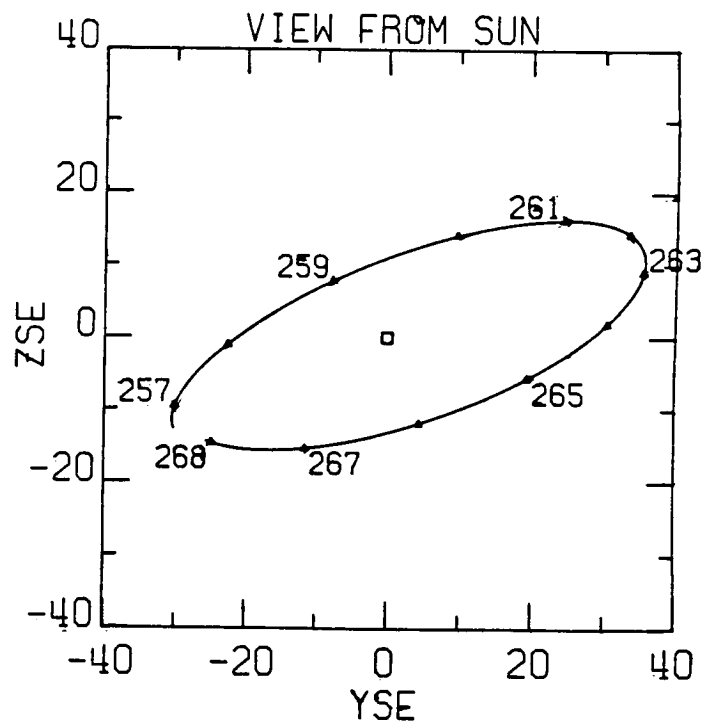
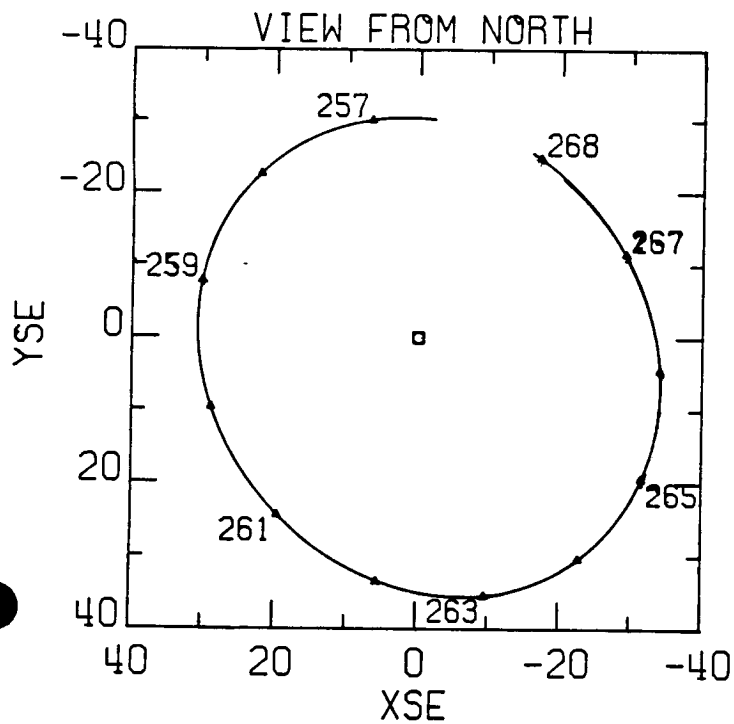
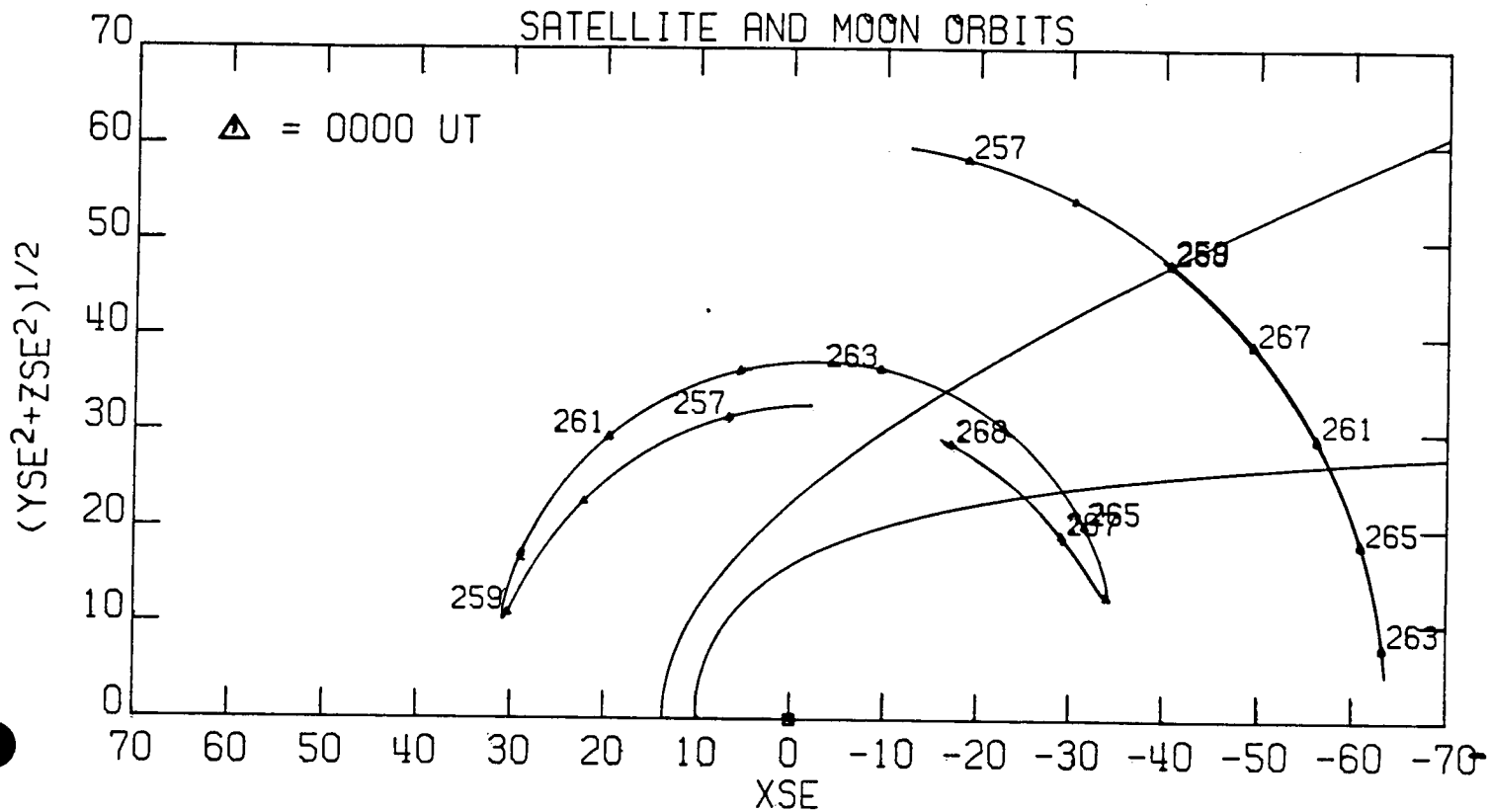
IMP 7 FROM SEP 13 TO SEP 25 1975



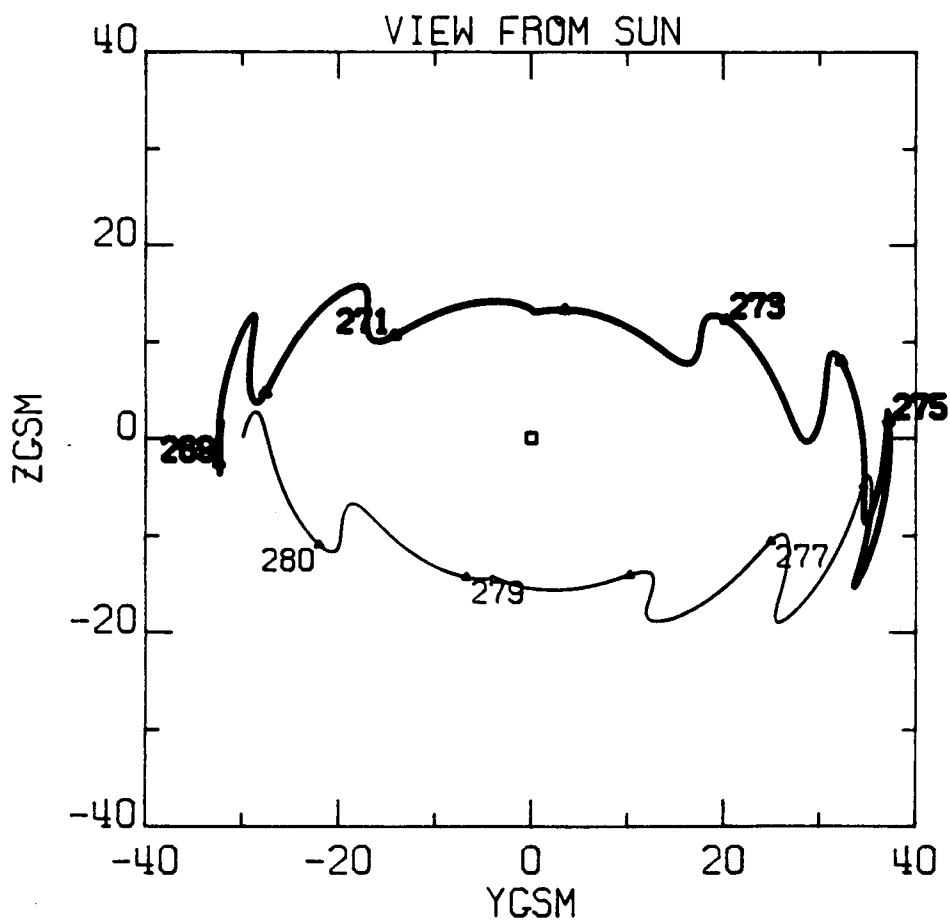
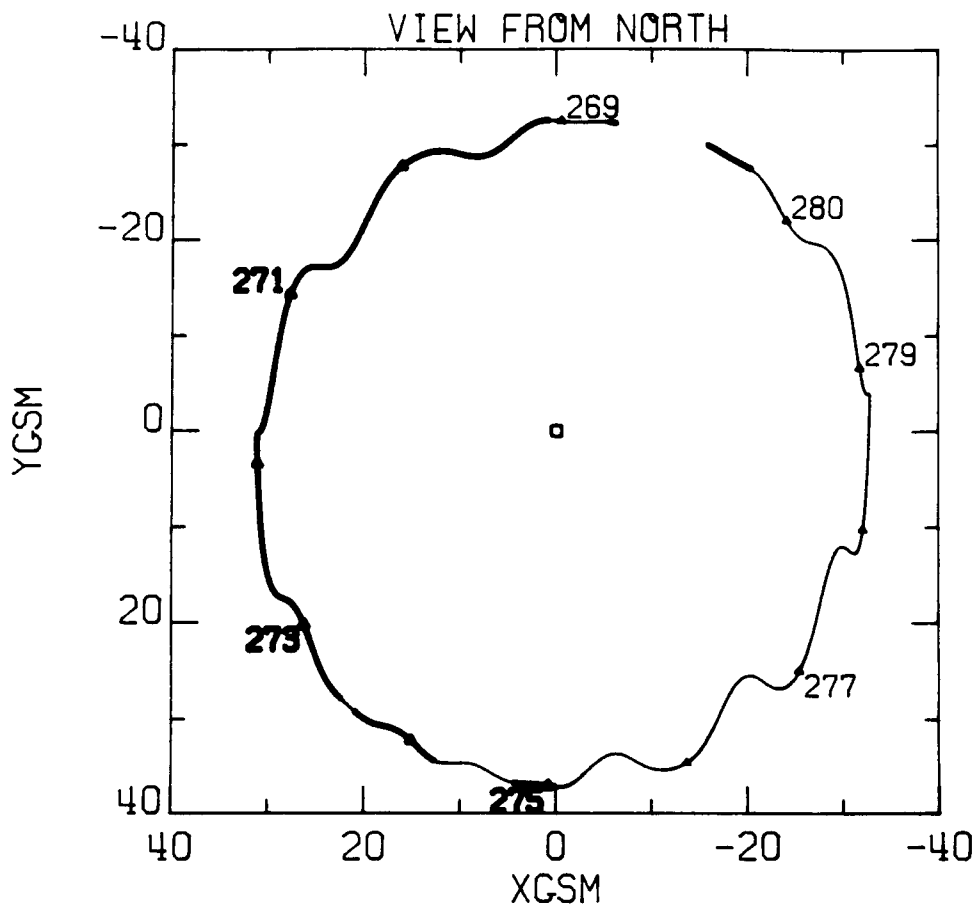
FROM SEP 13 TO SEP 25 1975

DAYS 256 THRU 268

SATELLITE AND MOON ORBITS



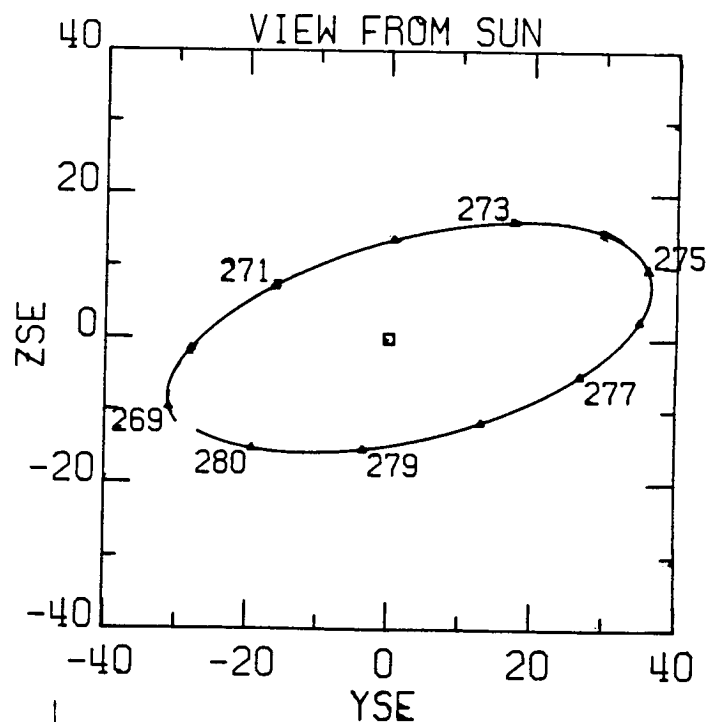
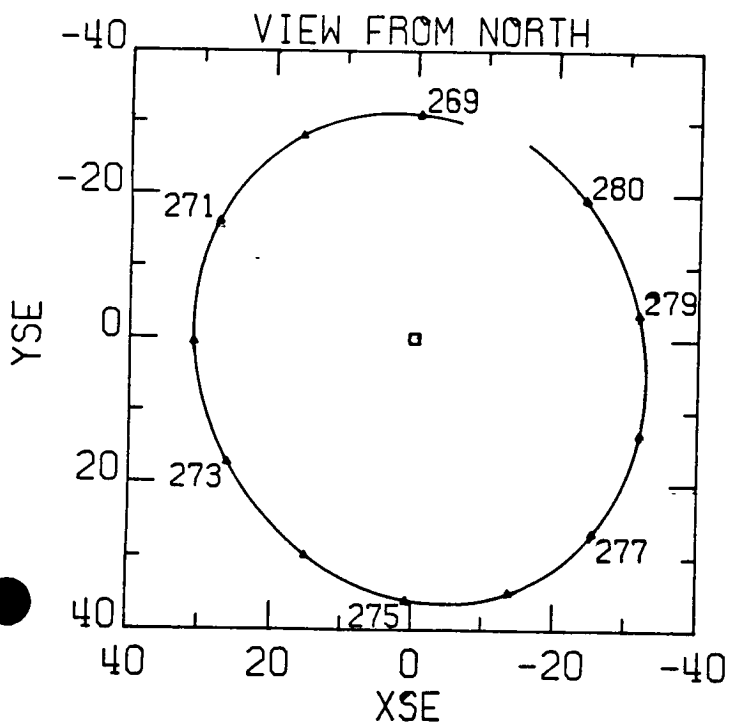
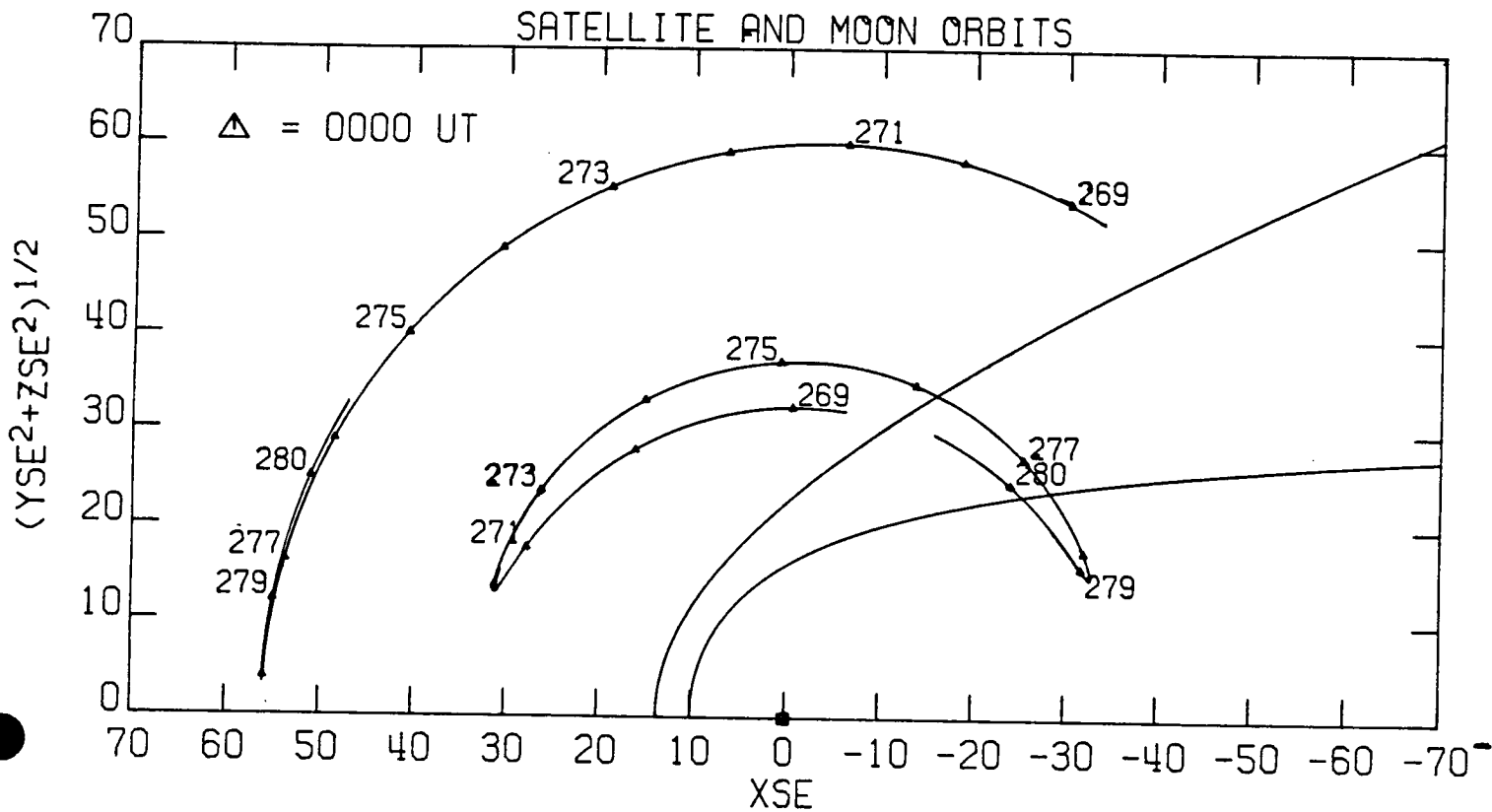
IMP 7 FROM SEP 25 TO OCT 7 1975



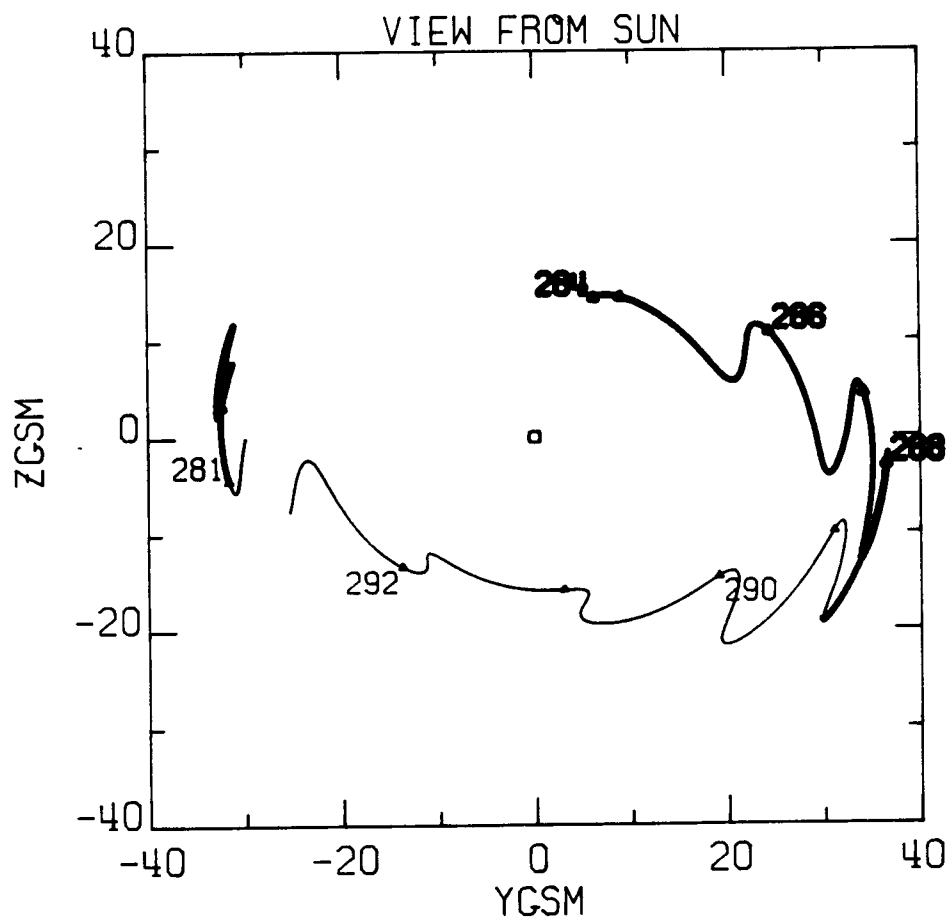
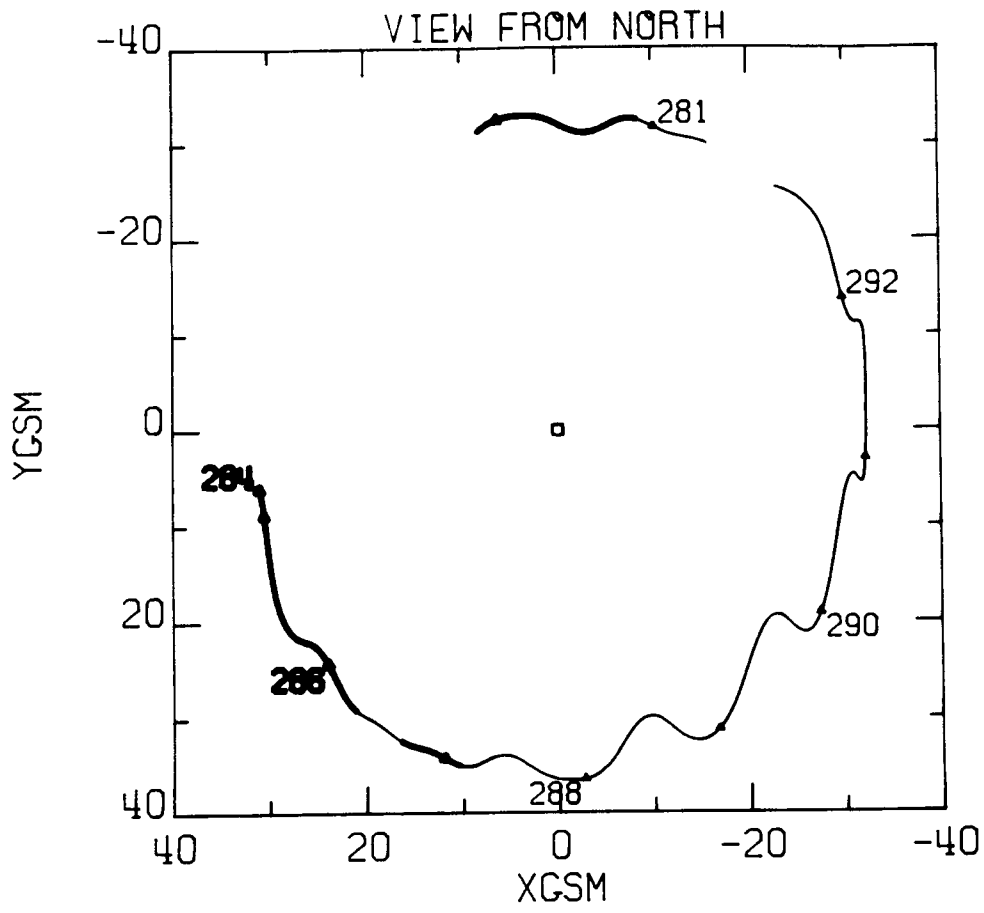
IMP 7 TRAJECTORY. ASCENDING NODE 91

FROM SEP 25 TO OCT 7 1975

DAYS 268 THRU 280



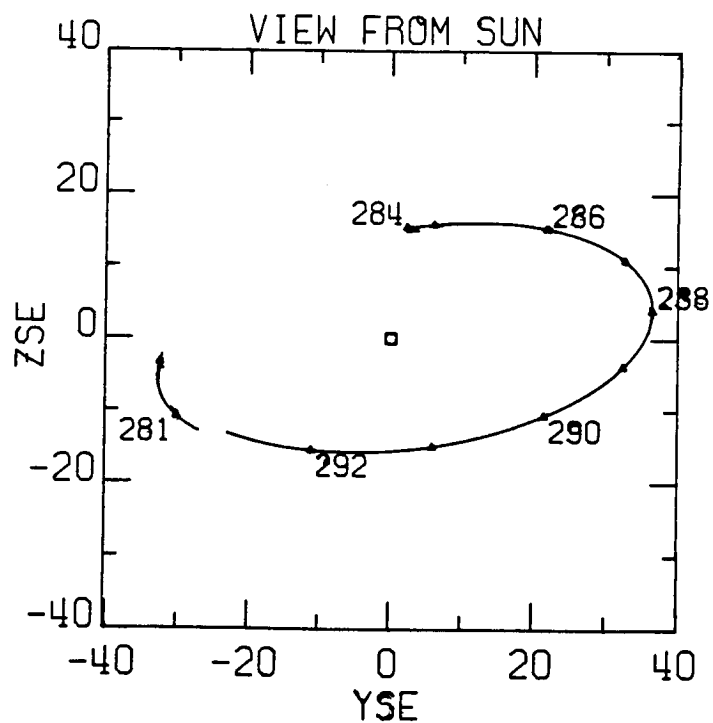
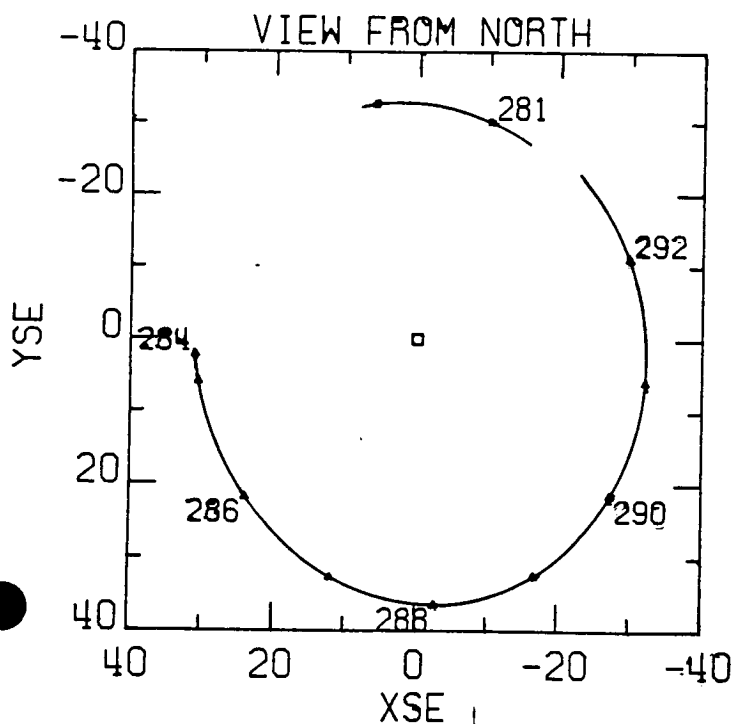
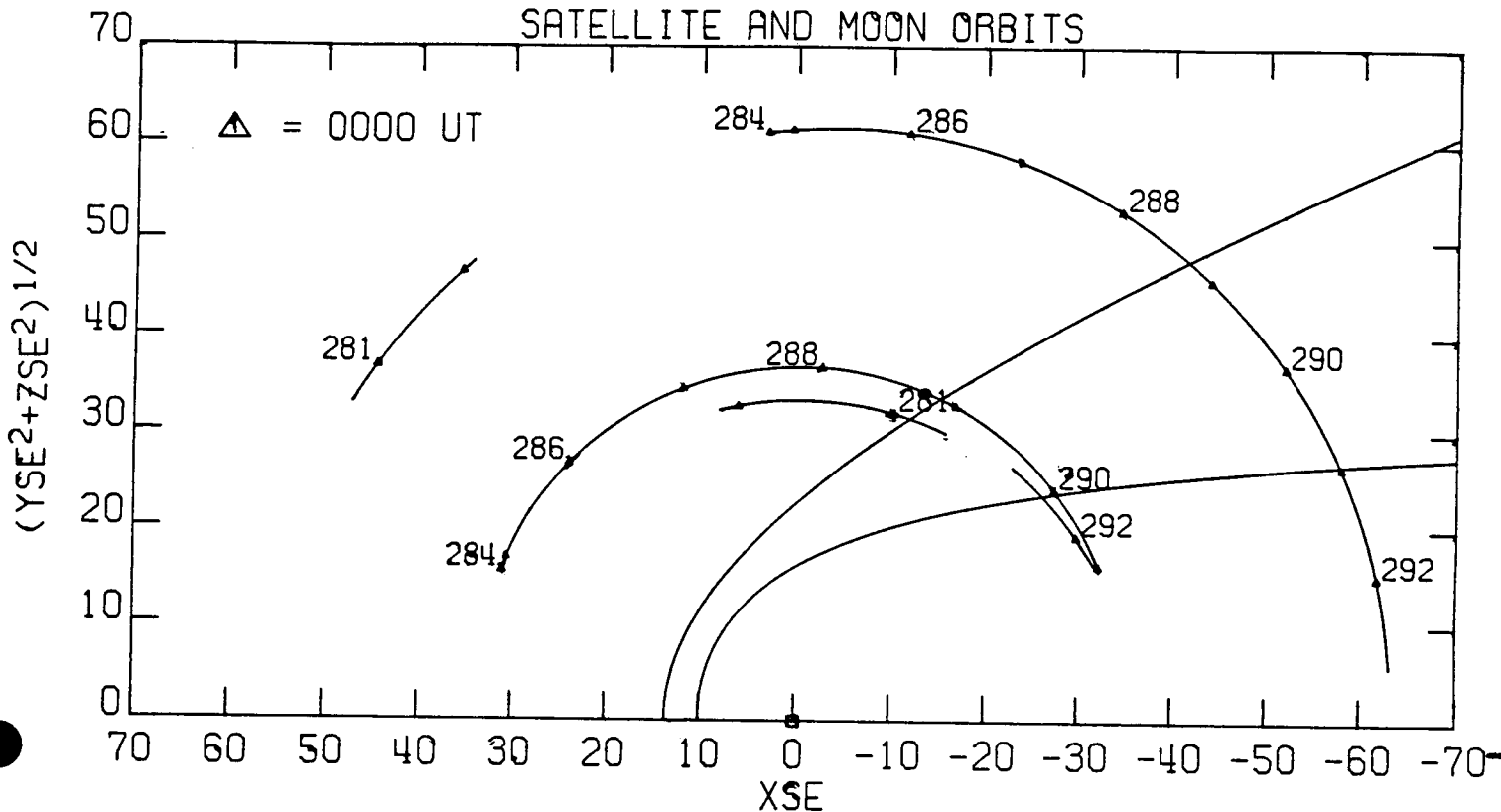
IMP 7 FROM OCT 7 TO OCT 19 1975



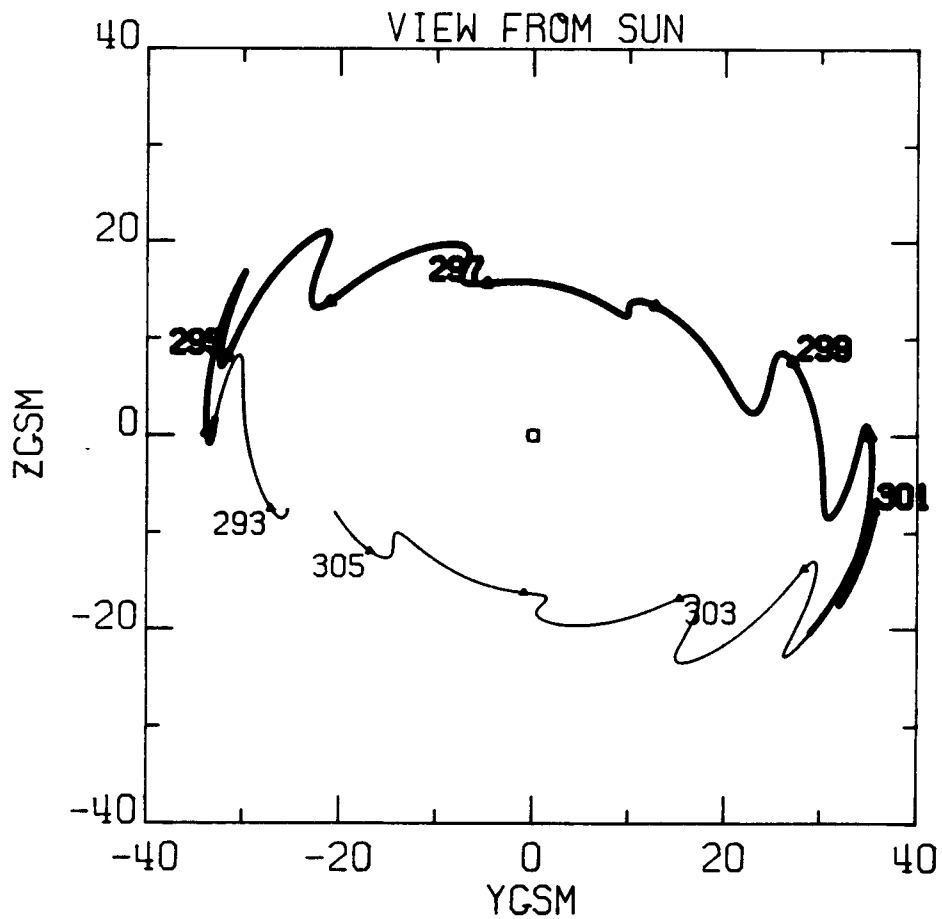
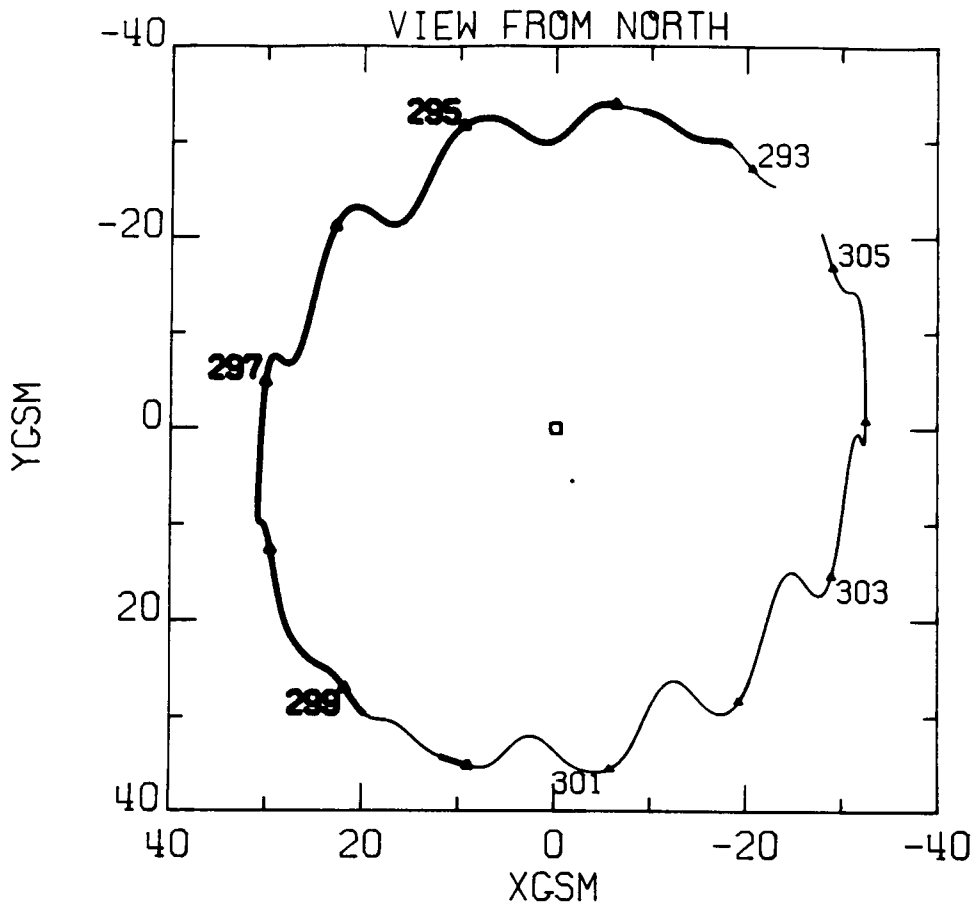
FROM OCT 7 TO OCT 19 1975

DAYS 280 THRU 292

SATELLITE AND MOON ORBITS



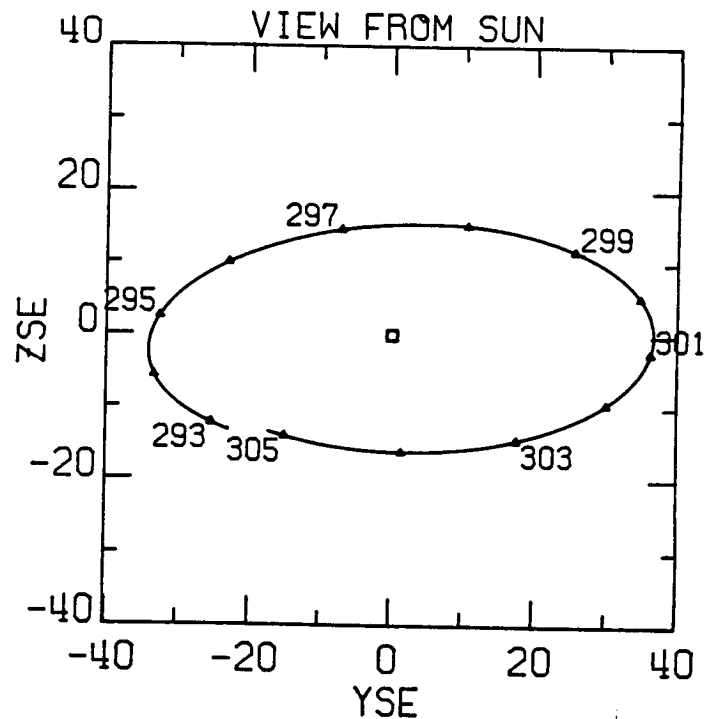
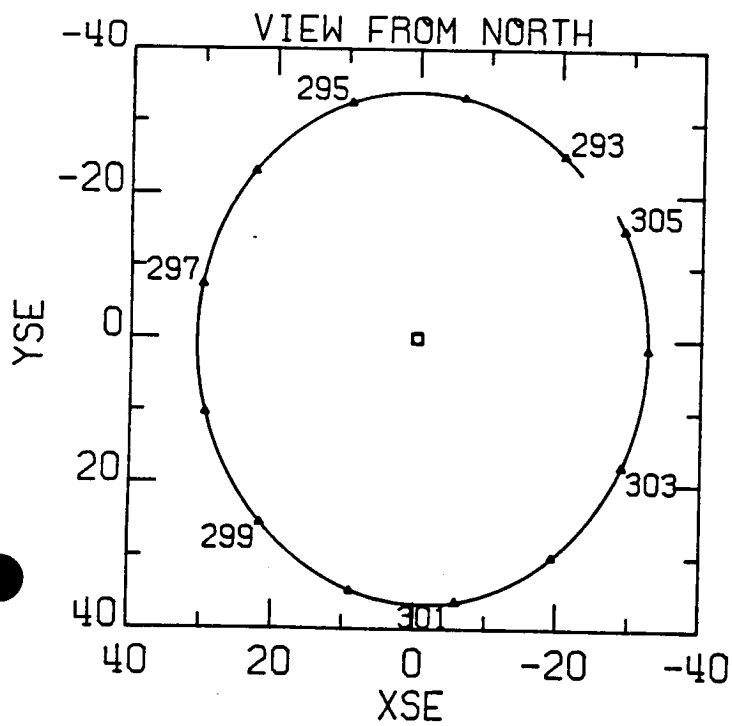
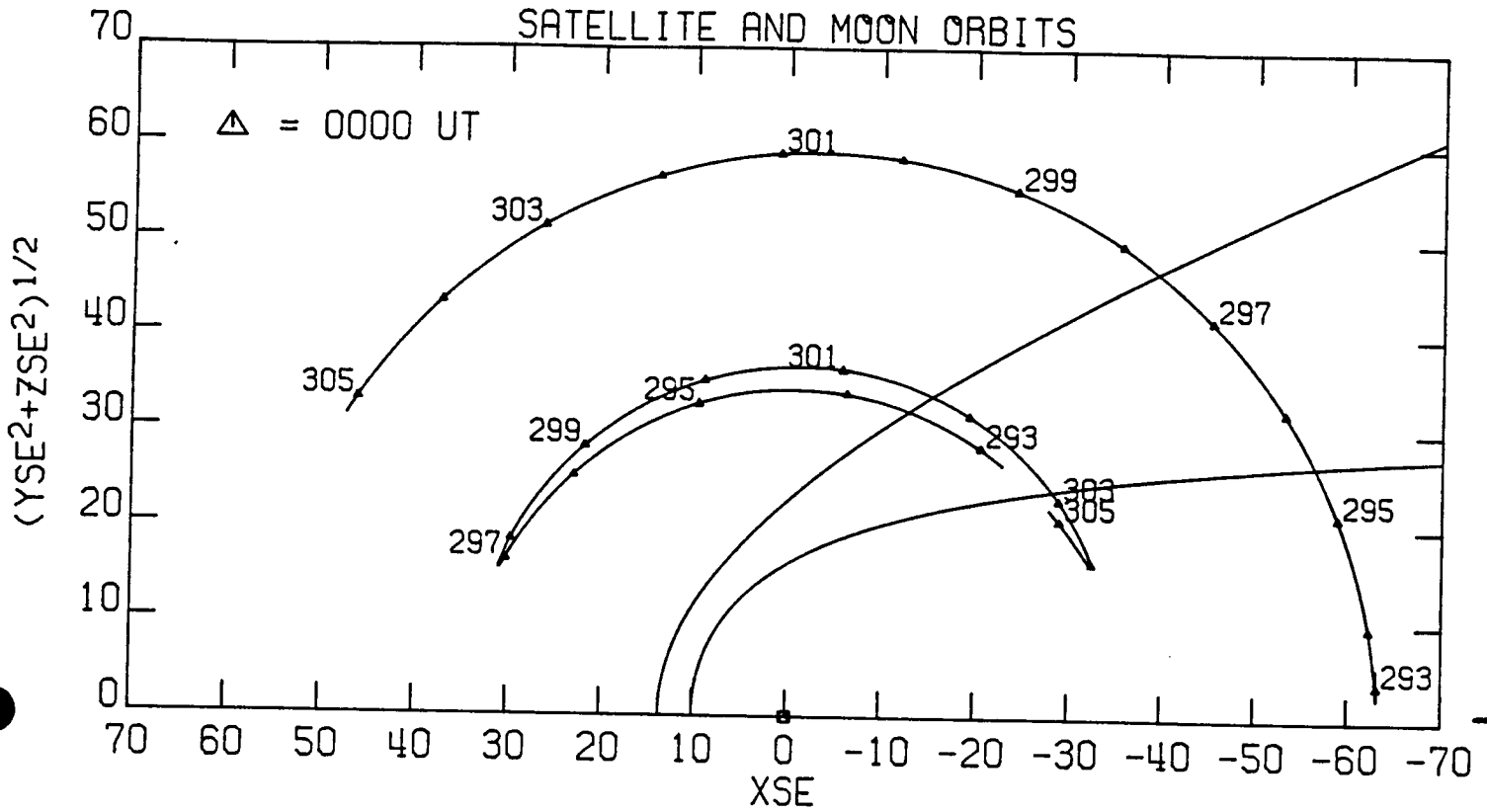
IMP 7 FROM OCT 19 TO NOV 1 1975



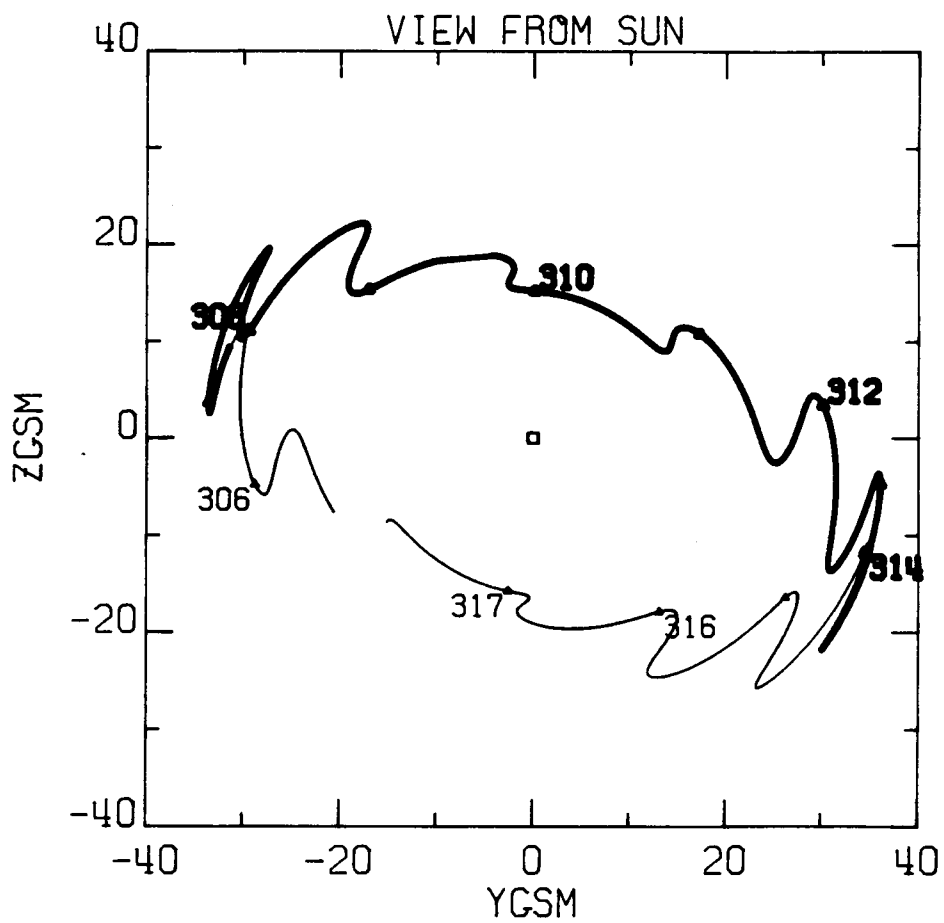
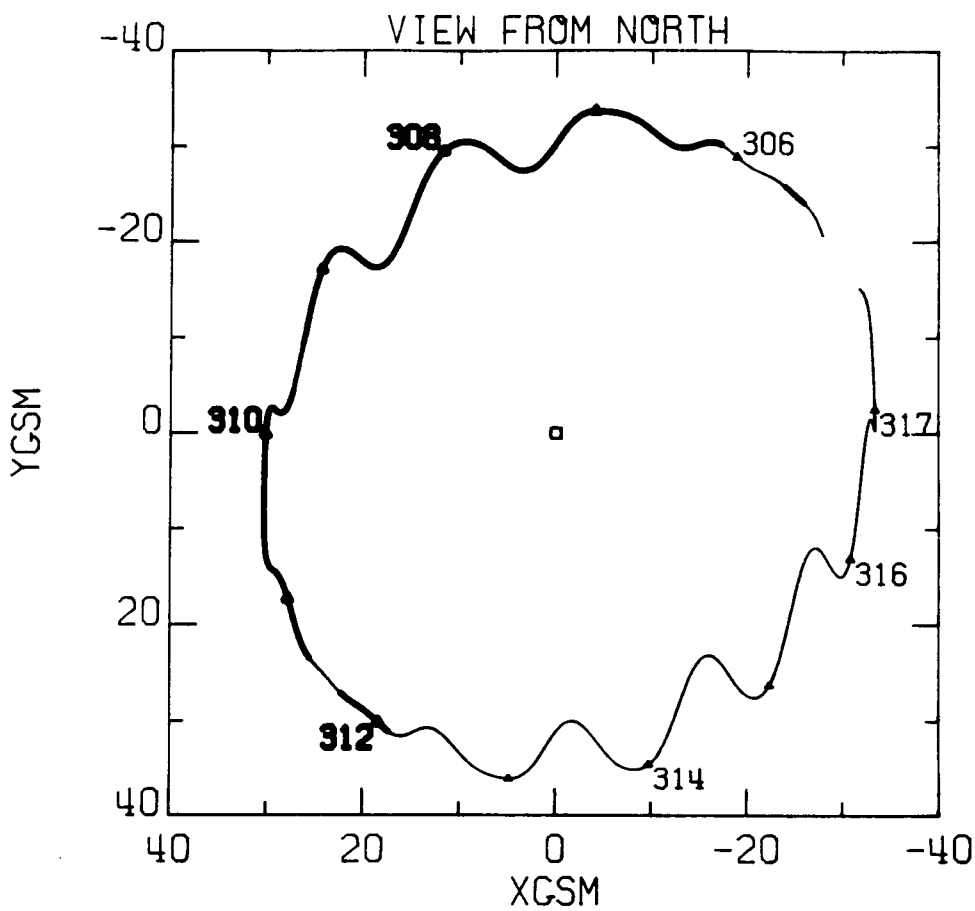
IMP 7 TRAJECTORY. ASCENDING NODE 93

FROM OCT 19 TO NOV 1 1975

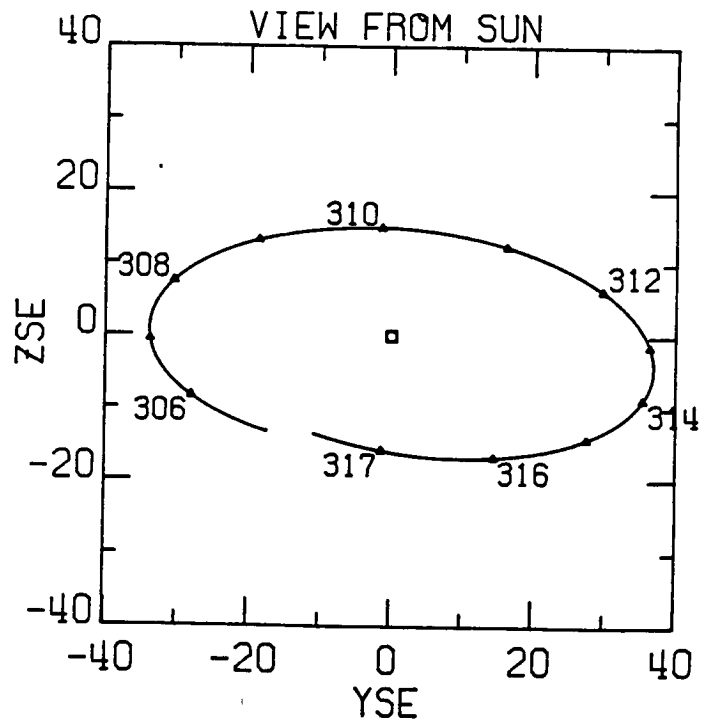
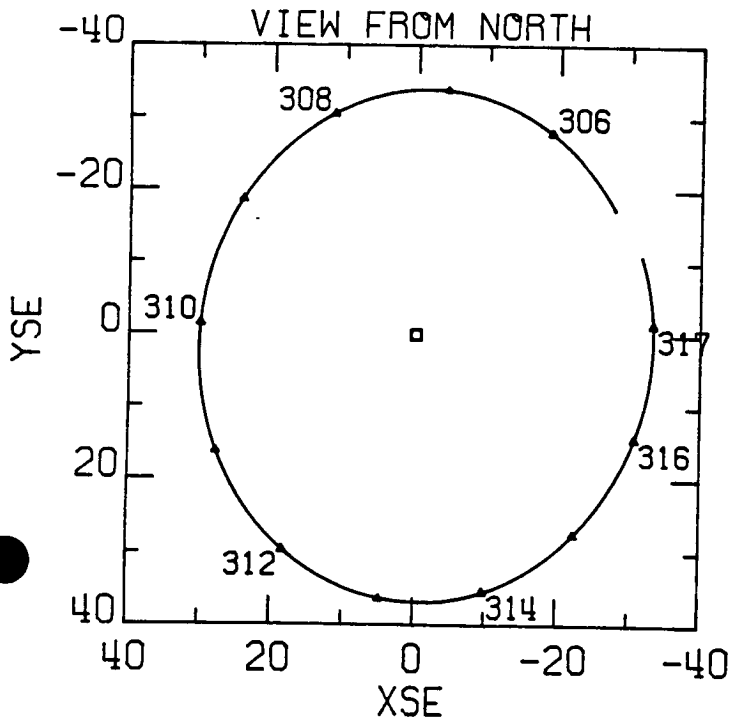
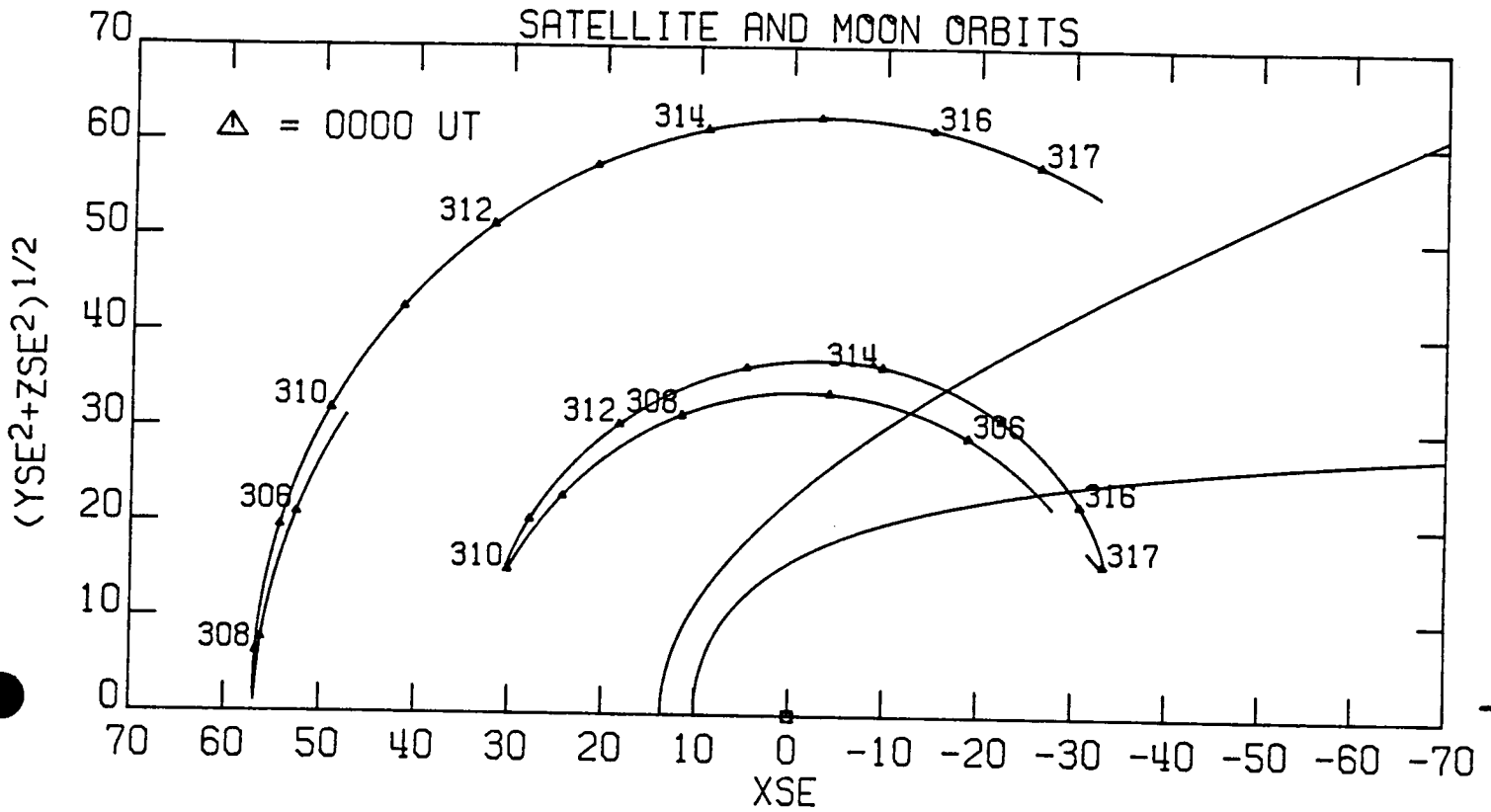
DAYS 292 THRU 305



IMP 7 FROM NOV 1 TO NOV 13 1975

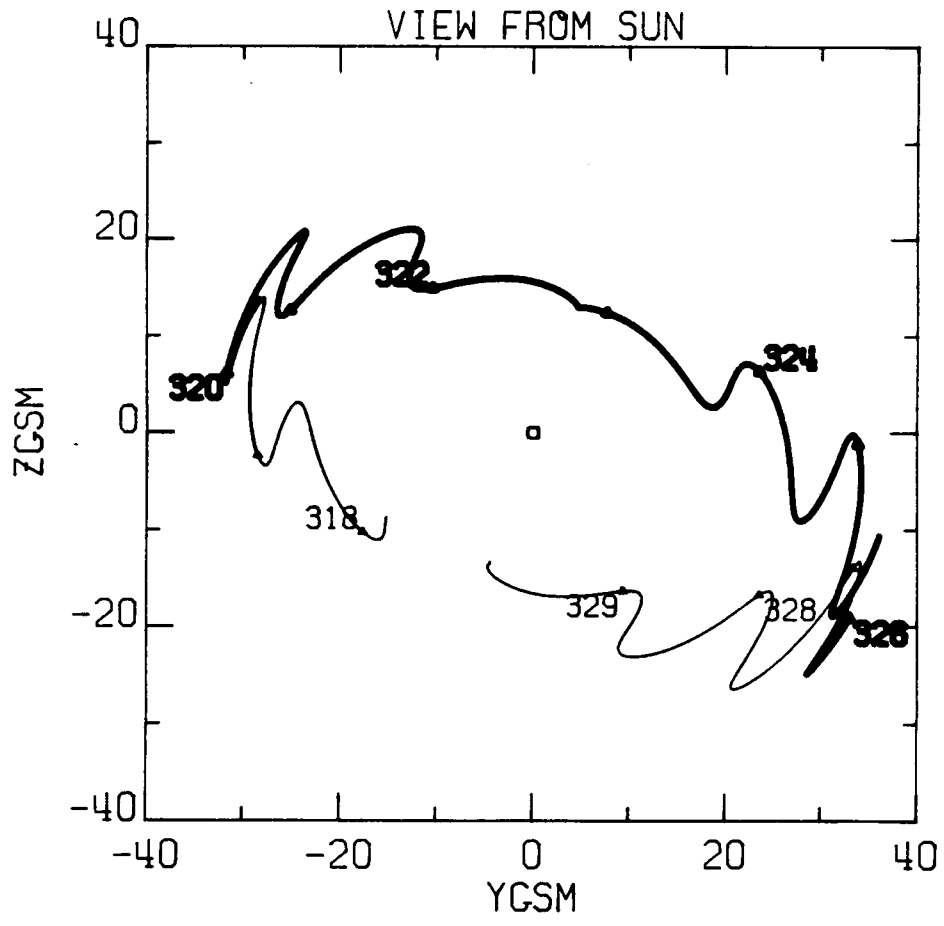
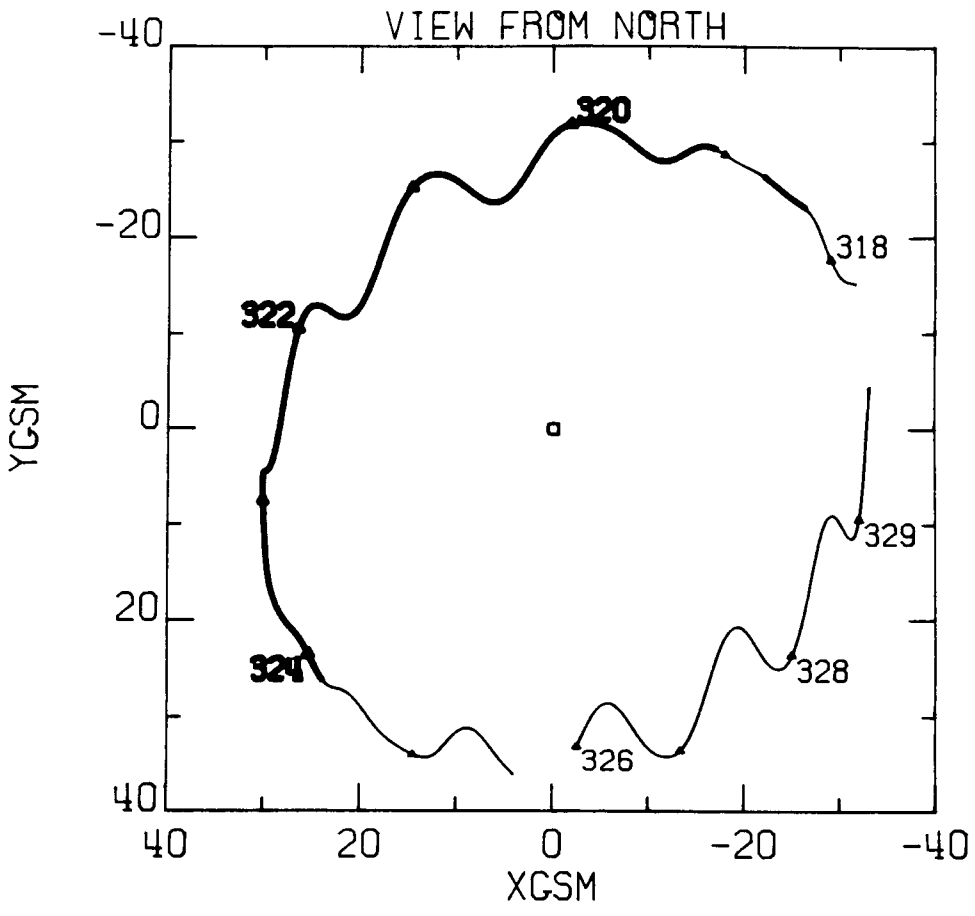


IMP 7 TRAJECTORY. ASCENDING NODE 94
 FROM NOV 1 TO NOV 13 1975
 DAYS 305 THRU 317



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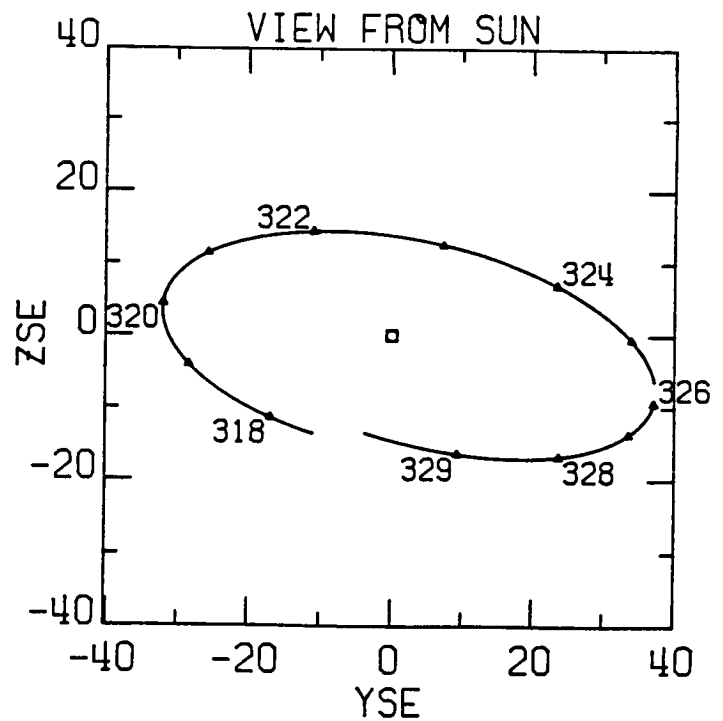
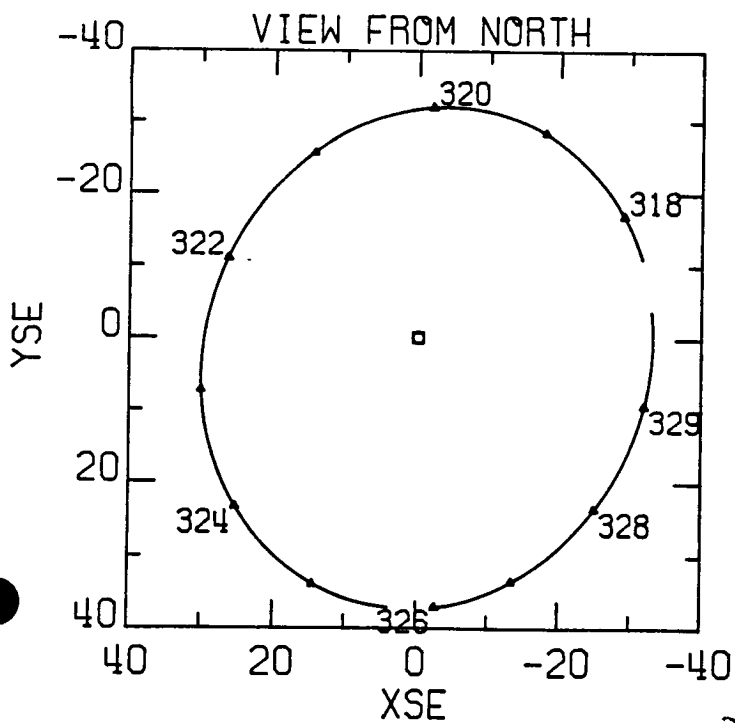
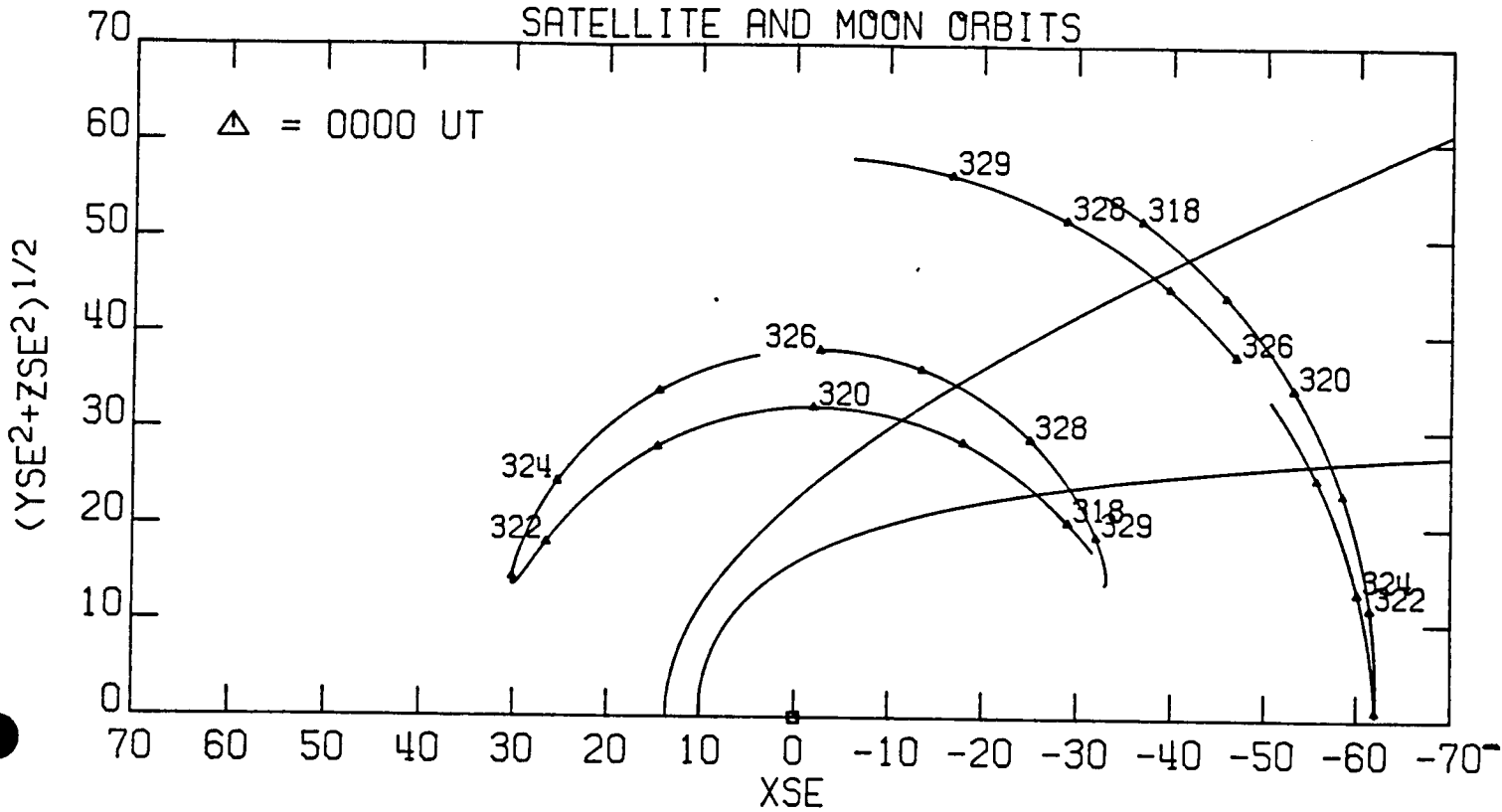
IMP 7 FROM NOV 13 TO NOV 25 1975



IMP 7 TRAJECTORY. ASCENDING NODE 95

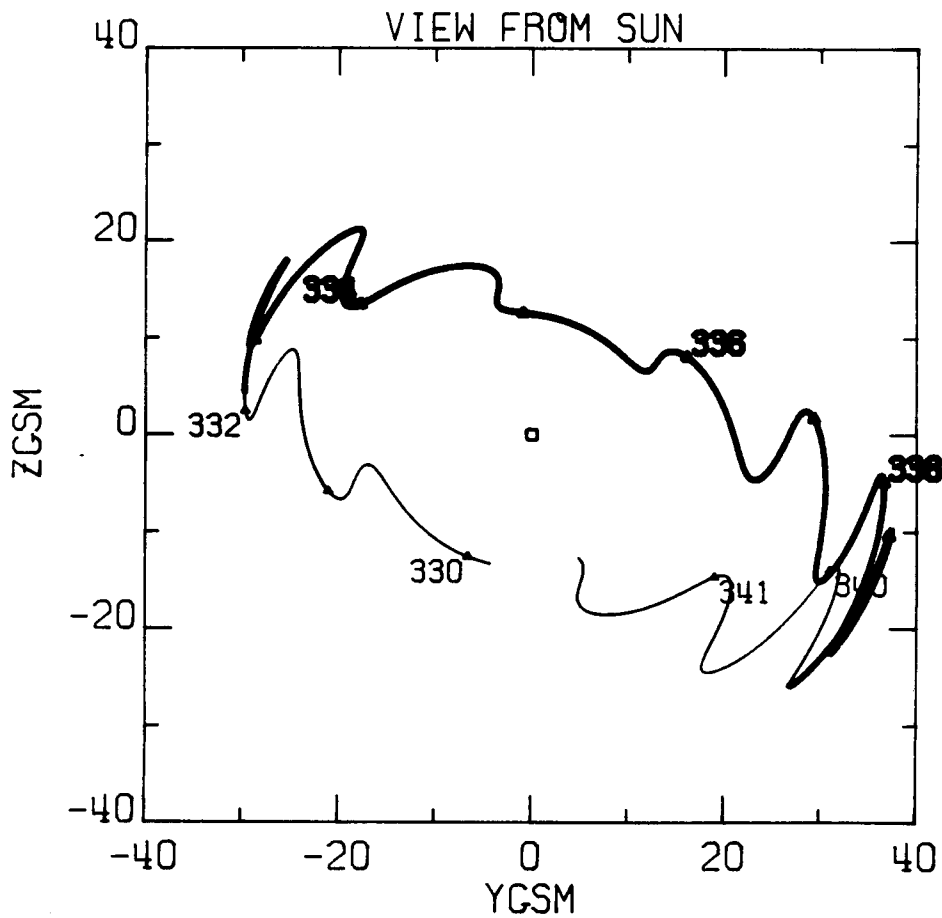
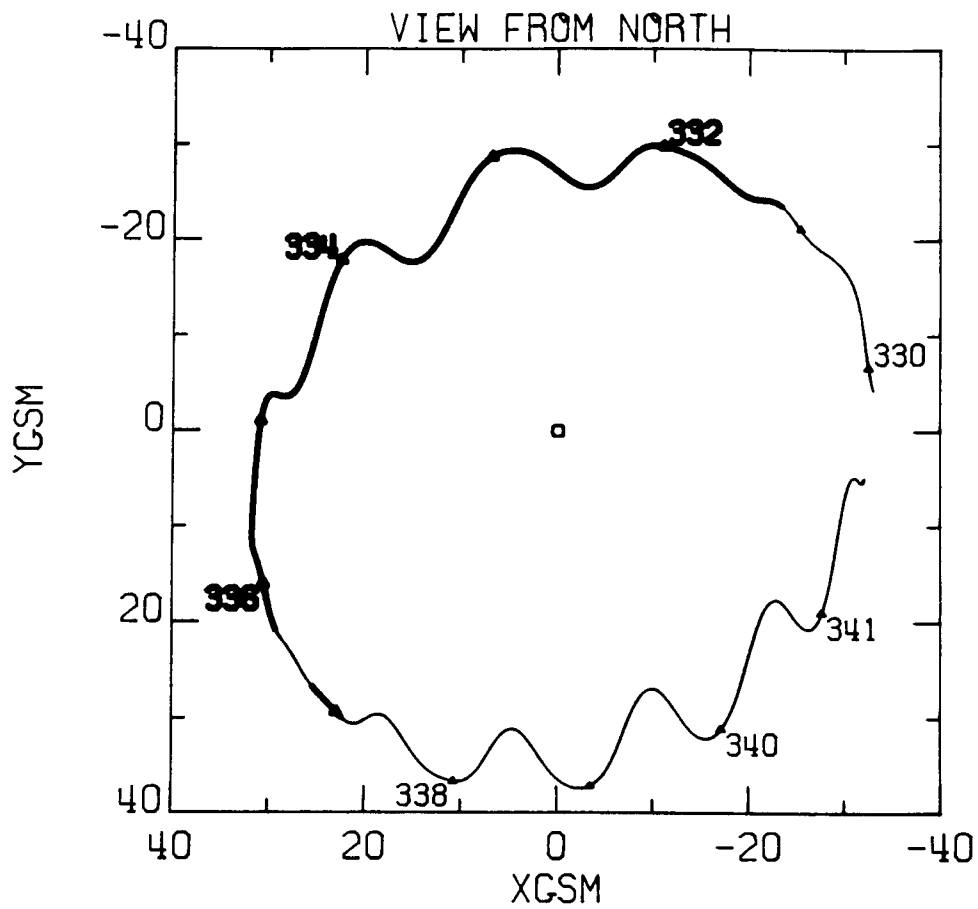
FROM NOV 13 TO NOV 25 1975

DAYS 317 THRU 329

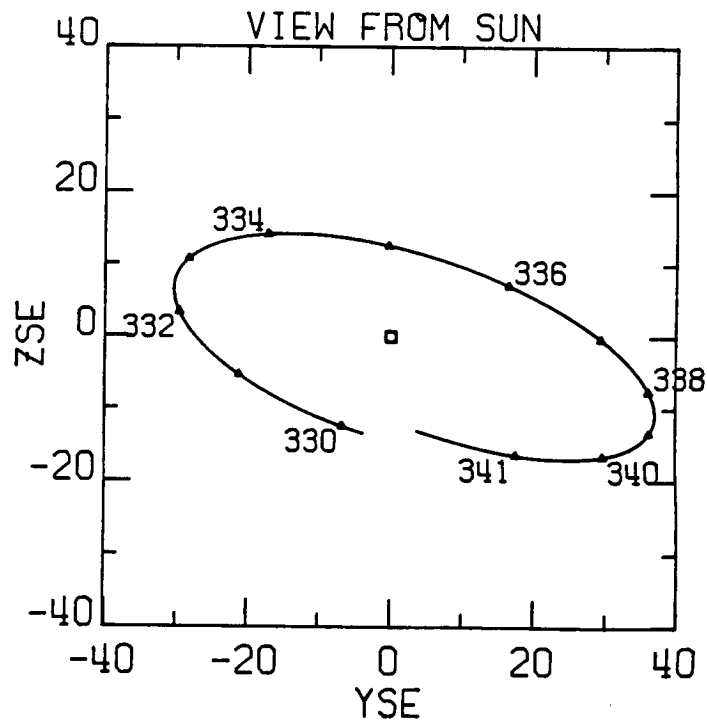
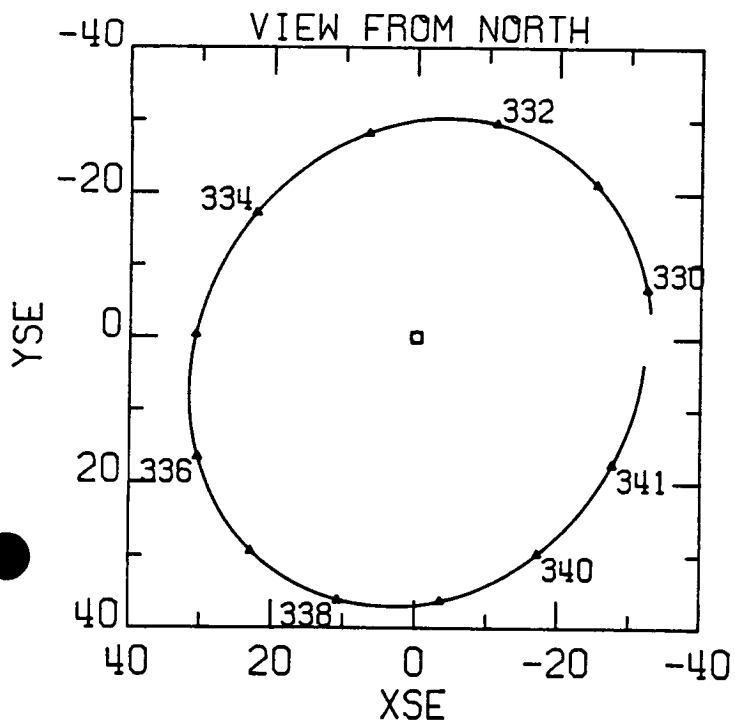
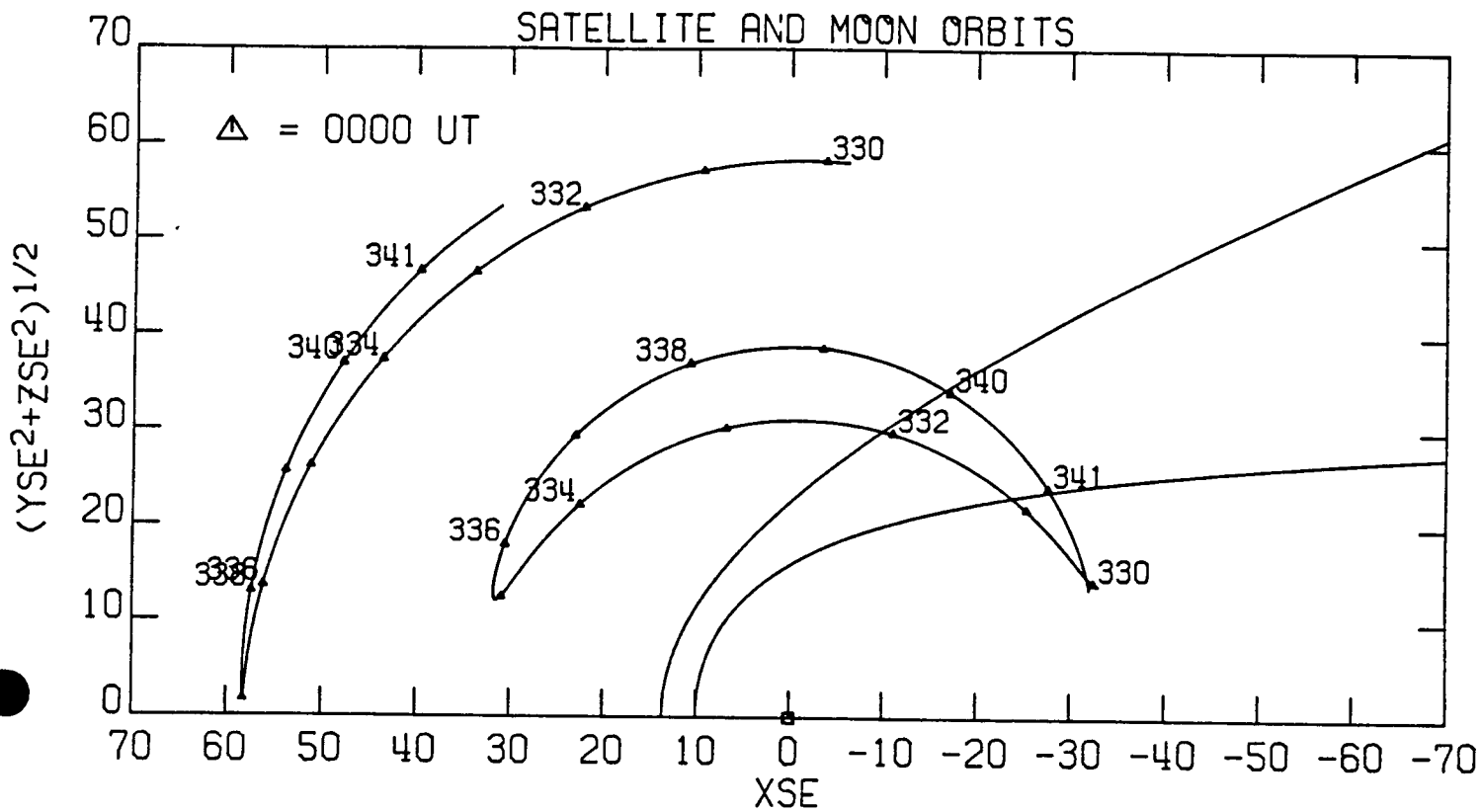


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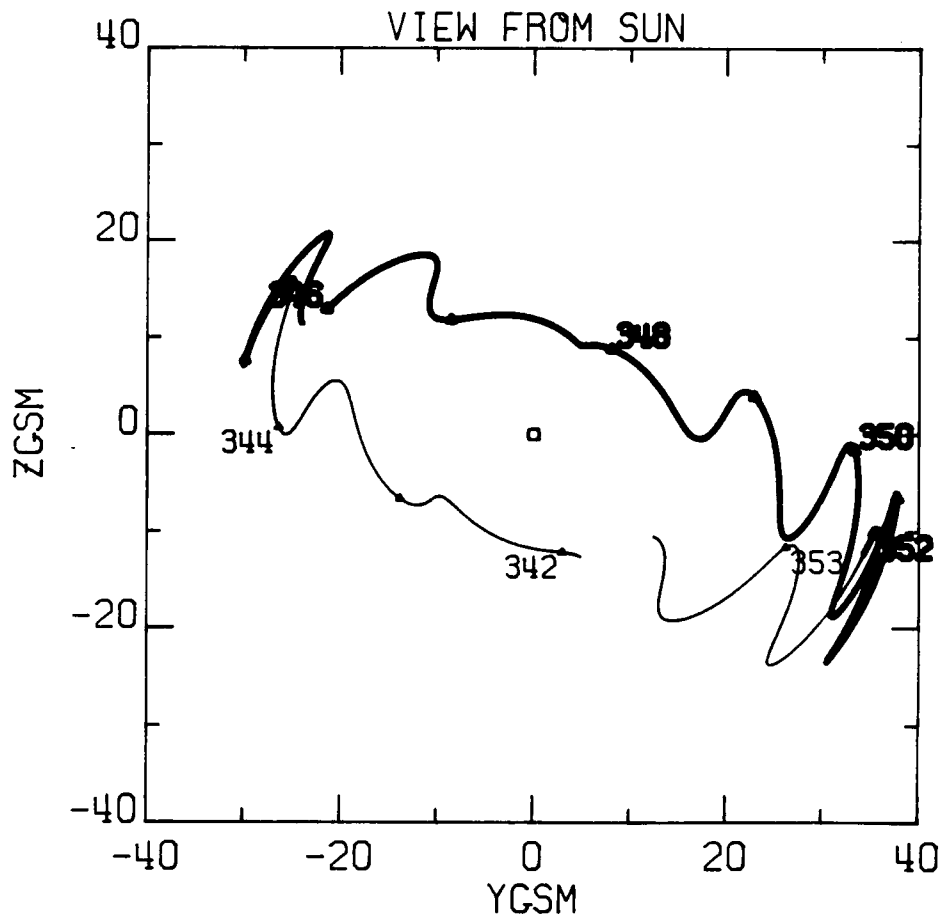
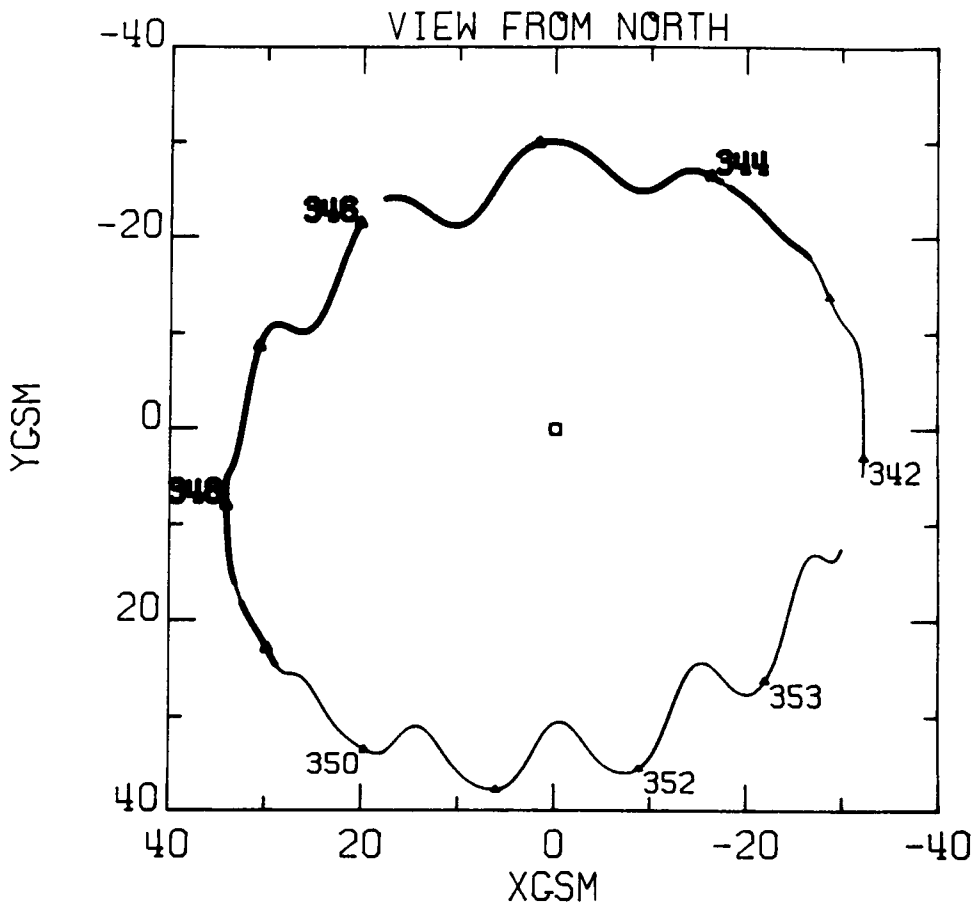
IMP 7 FROM NOV 25 TO DEC 7 1975



IMP 7 TRAJECTORY. ASCENDING NODE 96
 FROM NOV 25 TO DEC 7 1975
 DAYS 329 THRU 341



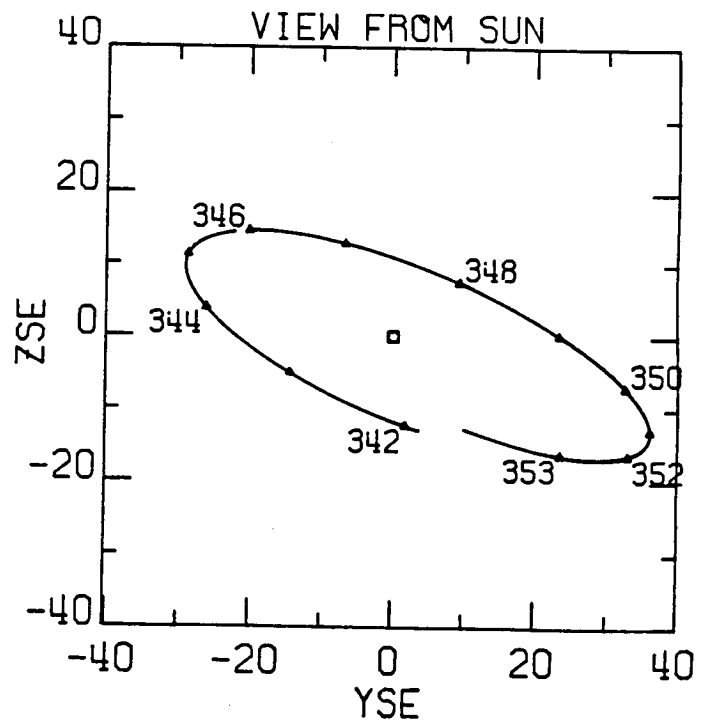
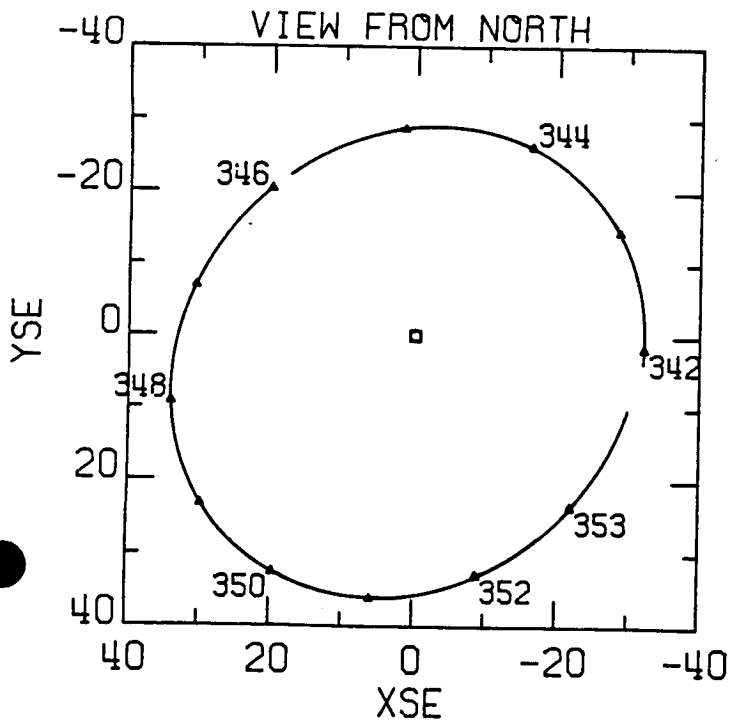
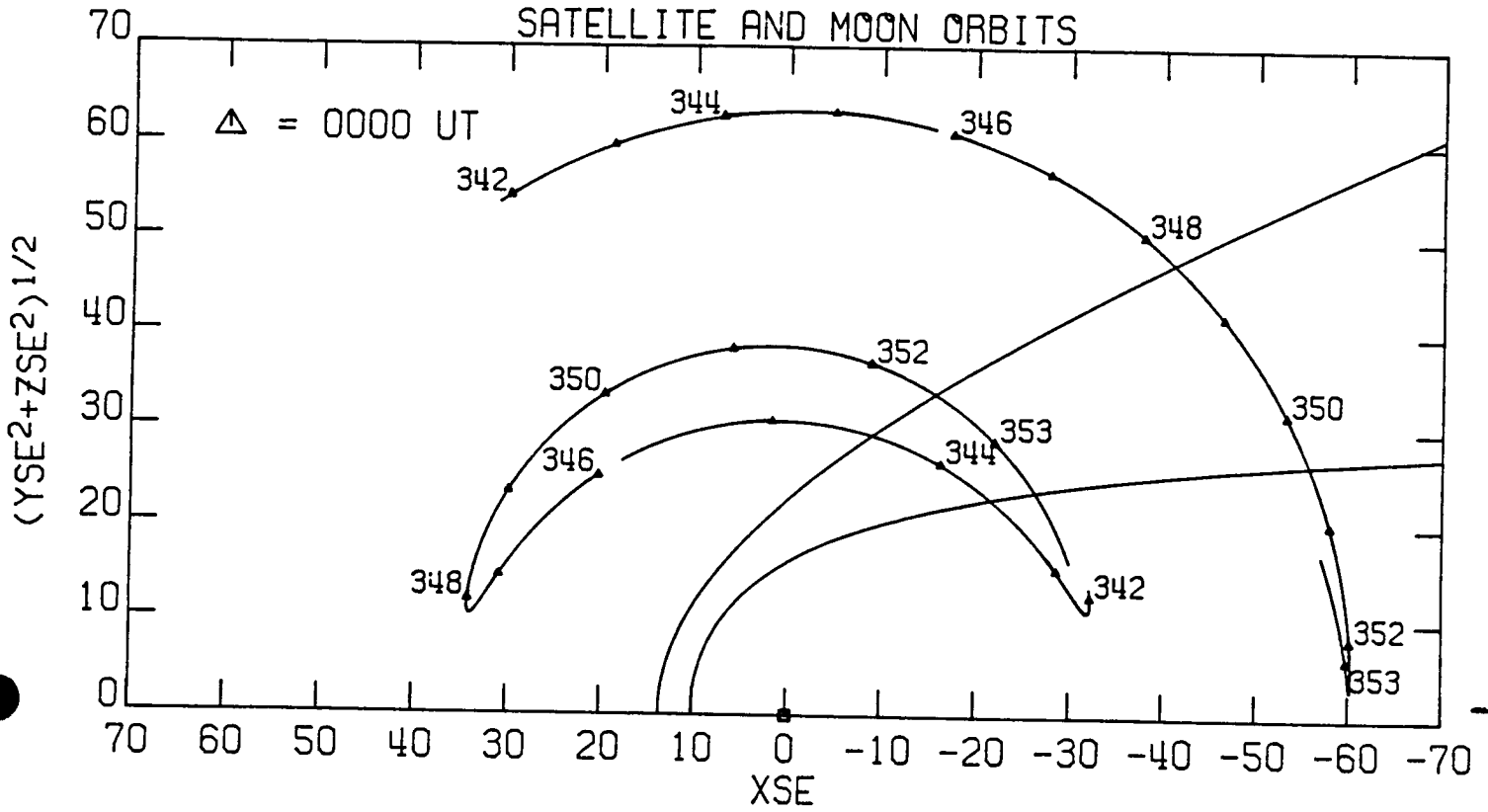
IMP 7 FROM DEC 7 TO DEC 19 1975



IMP 7 TRAJECTORY... ASCENDING NODE 97

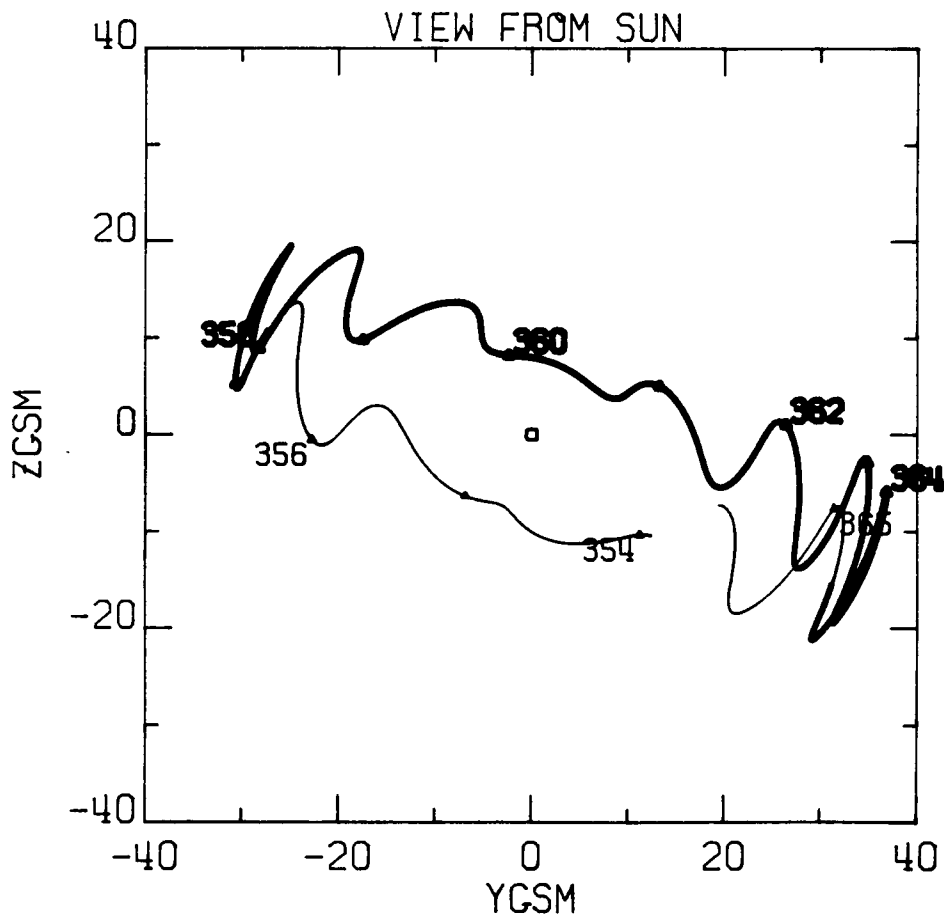
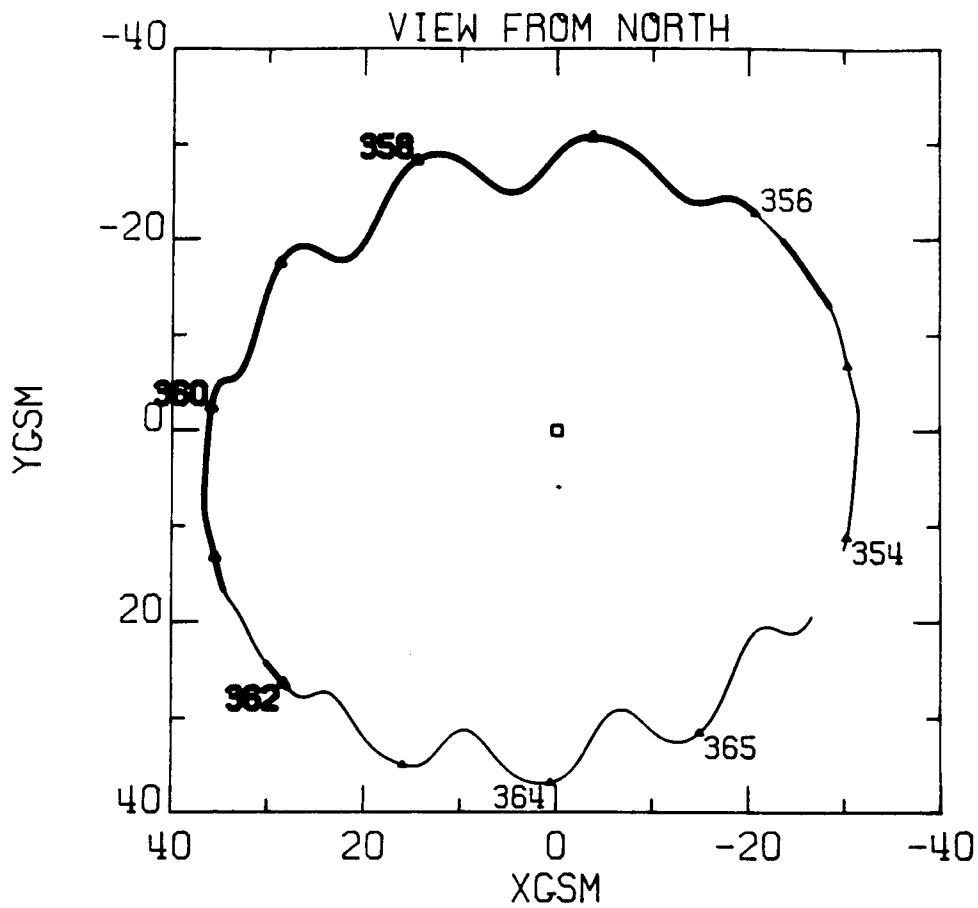
FROM DEC 7 TO DEC 19 1975

DAYS 341 THRU 353



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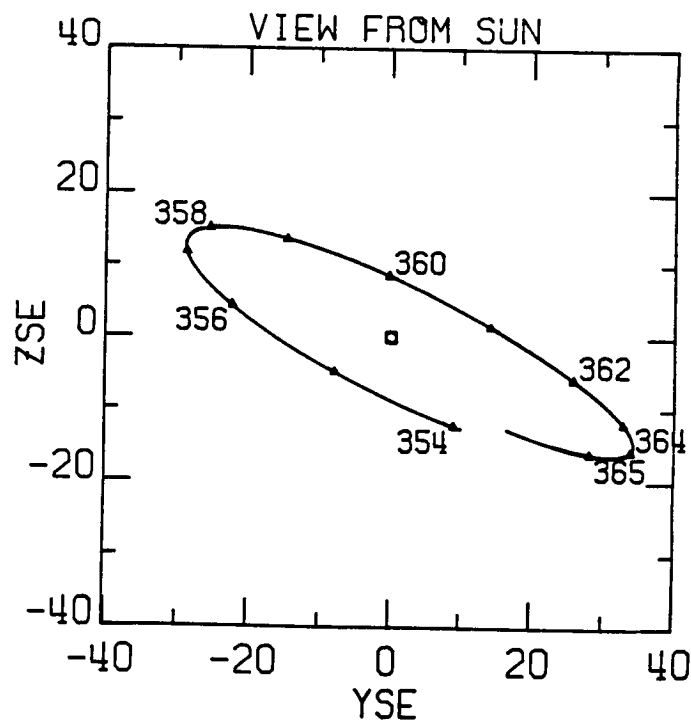
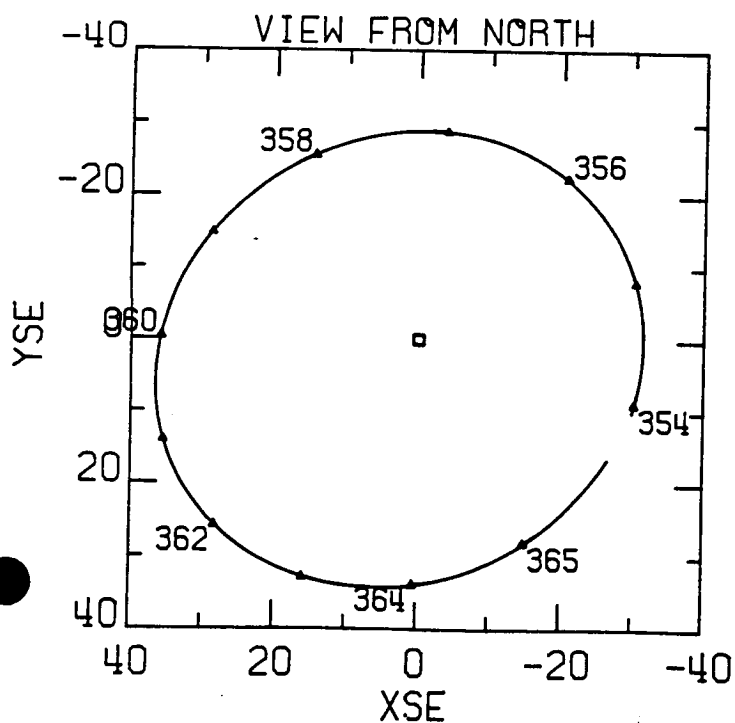
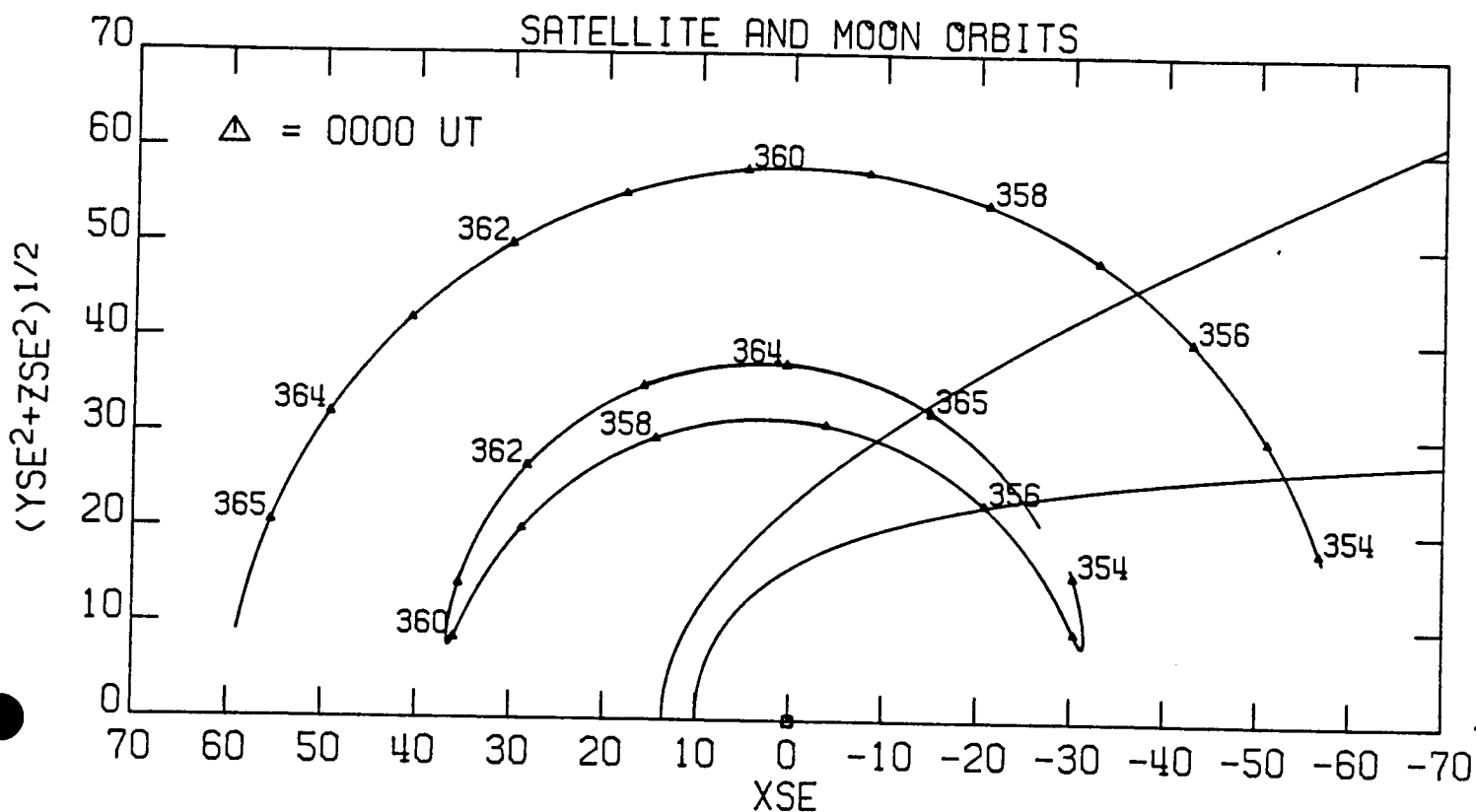
IMP 7 FROM DEC 19 TO DEC 31 1975



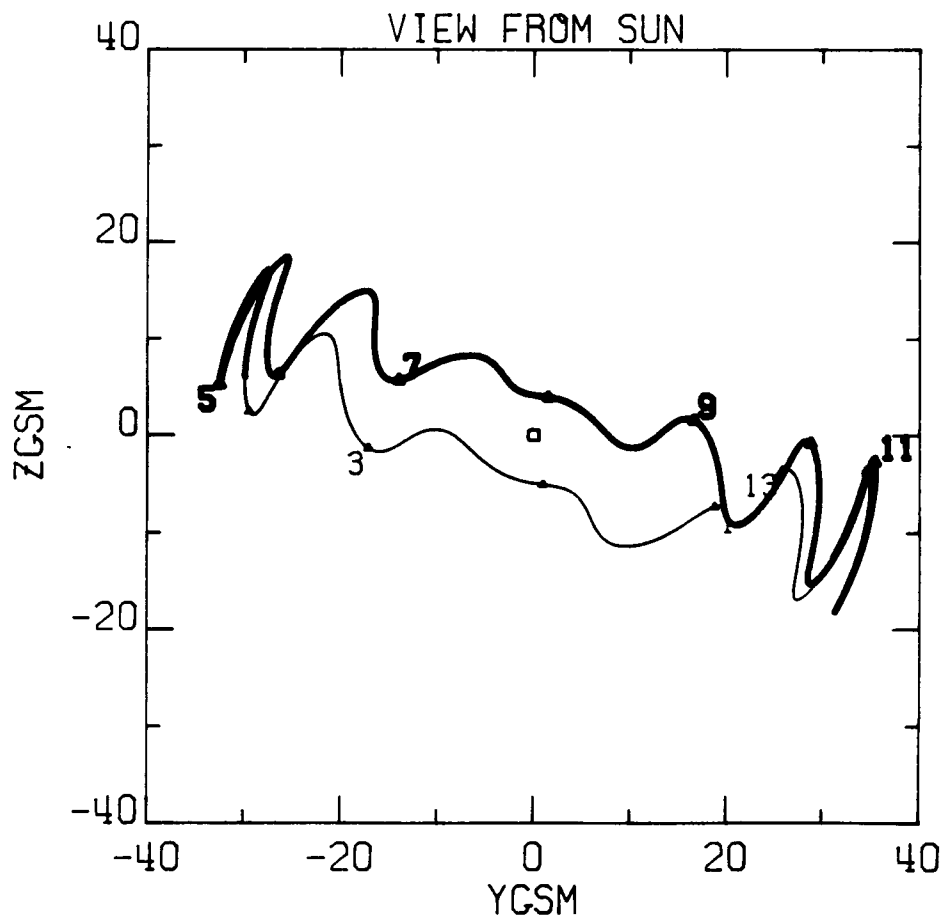
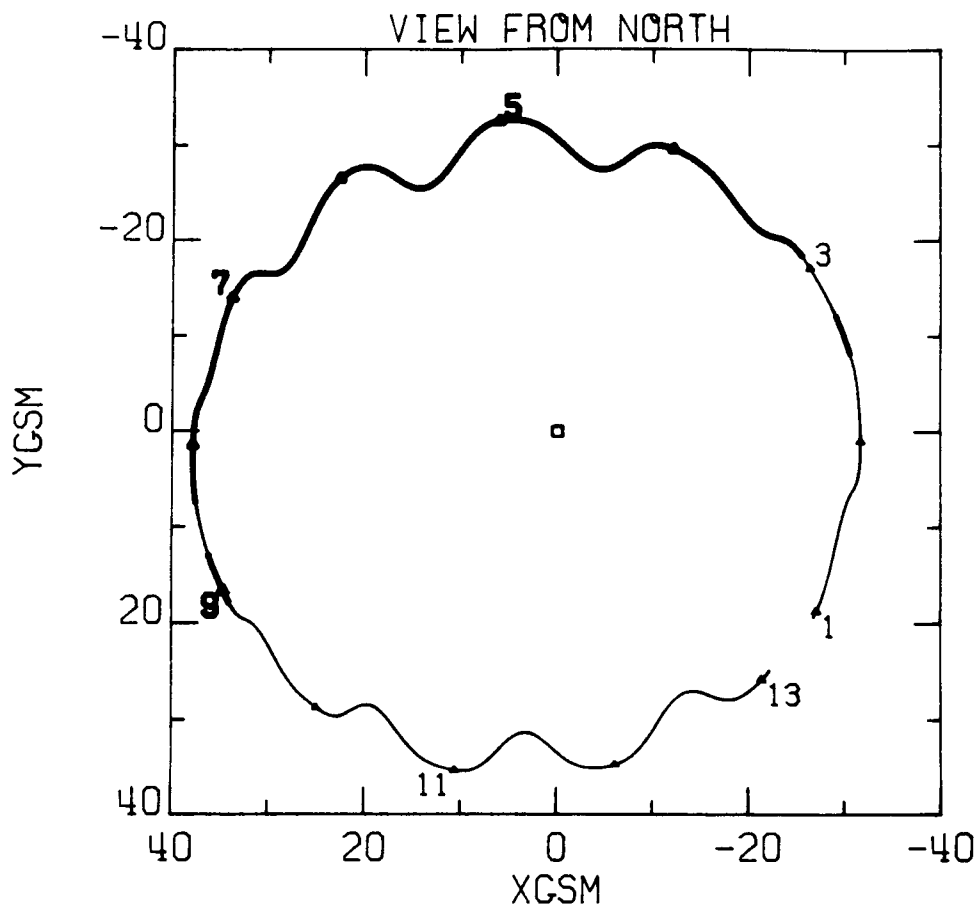
IMP 7 TRAJECTORY. ASCENDING NODE 98

FROM DEC 19 TO DEC 31 1975

DAYS 353 THRU 365

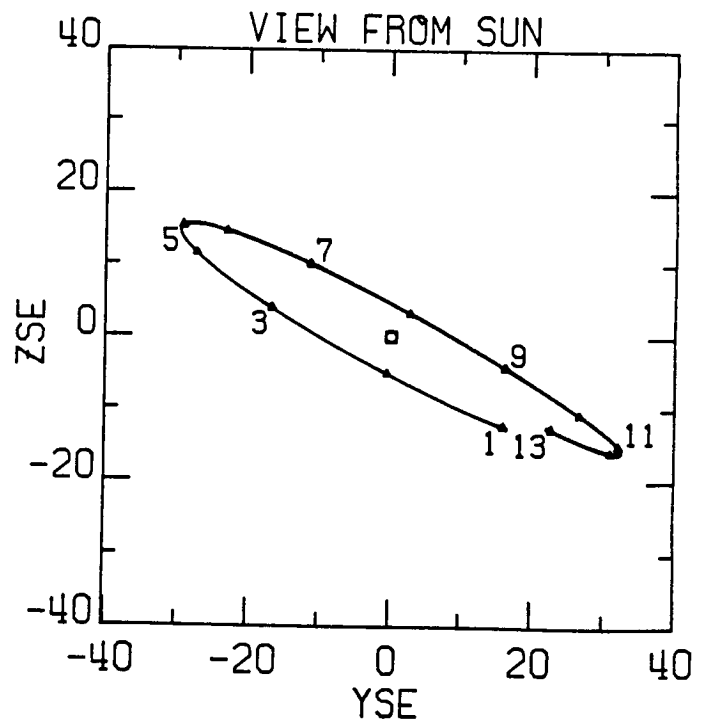
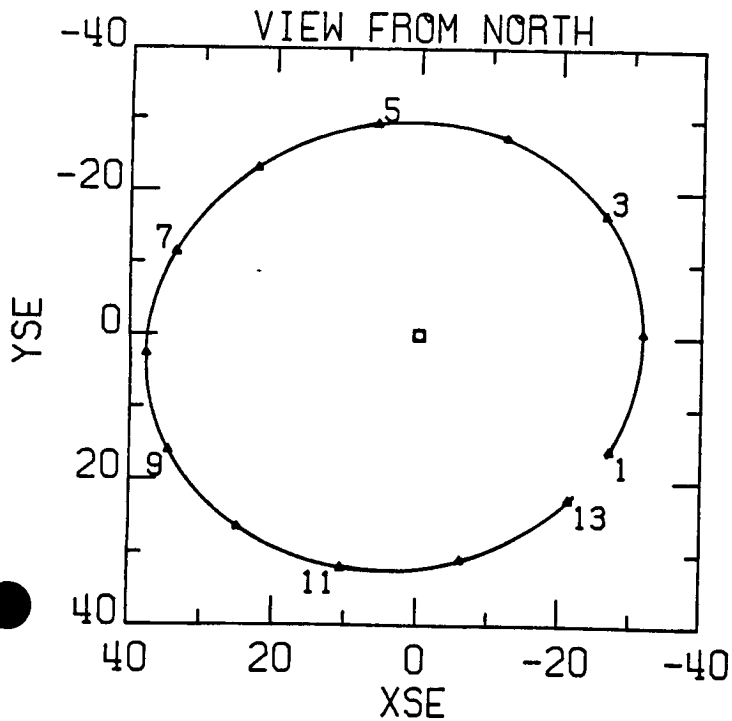
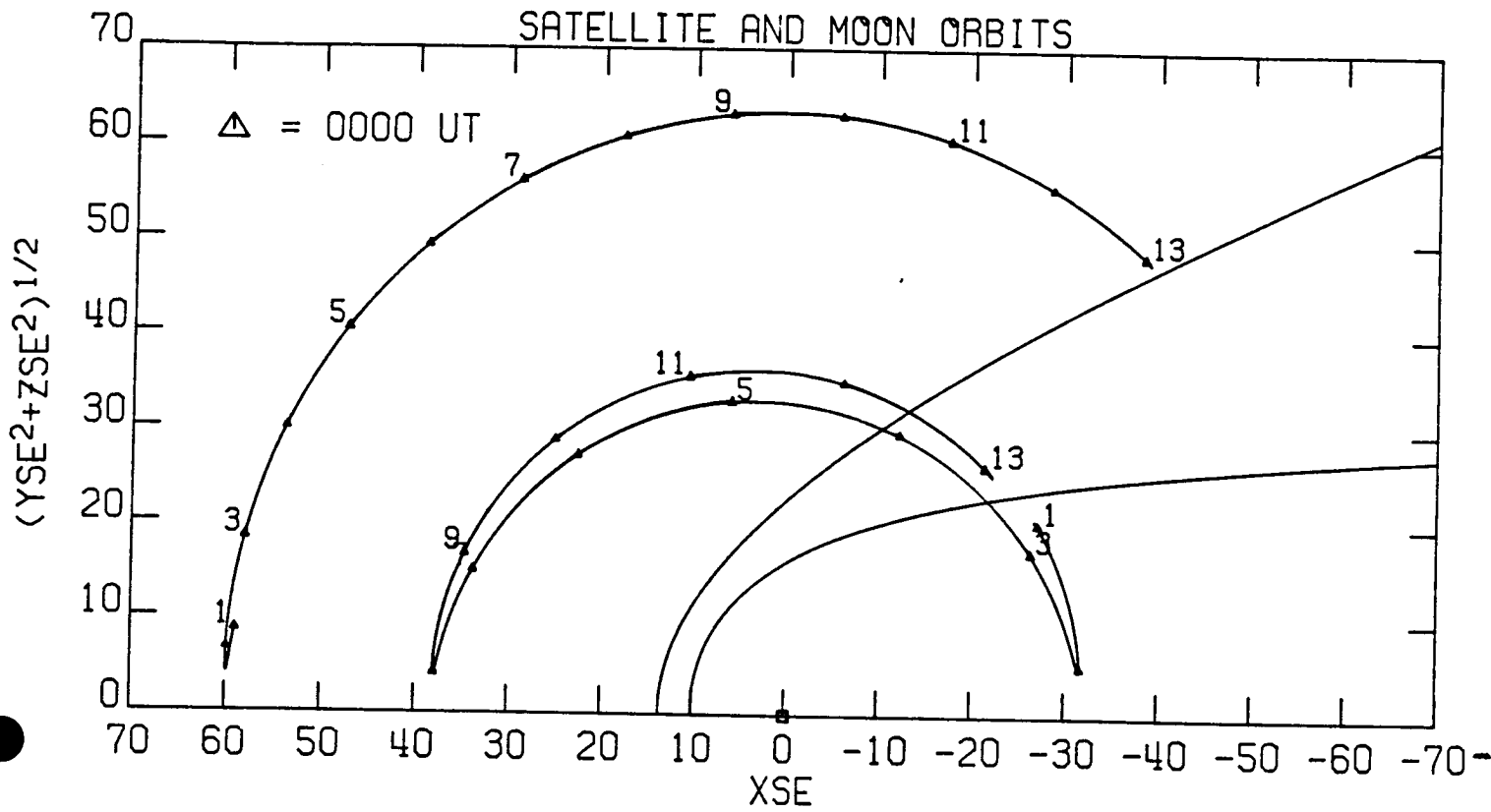


IMP 7 FROM DEC 31 TO JAN 13 1976

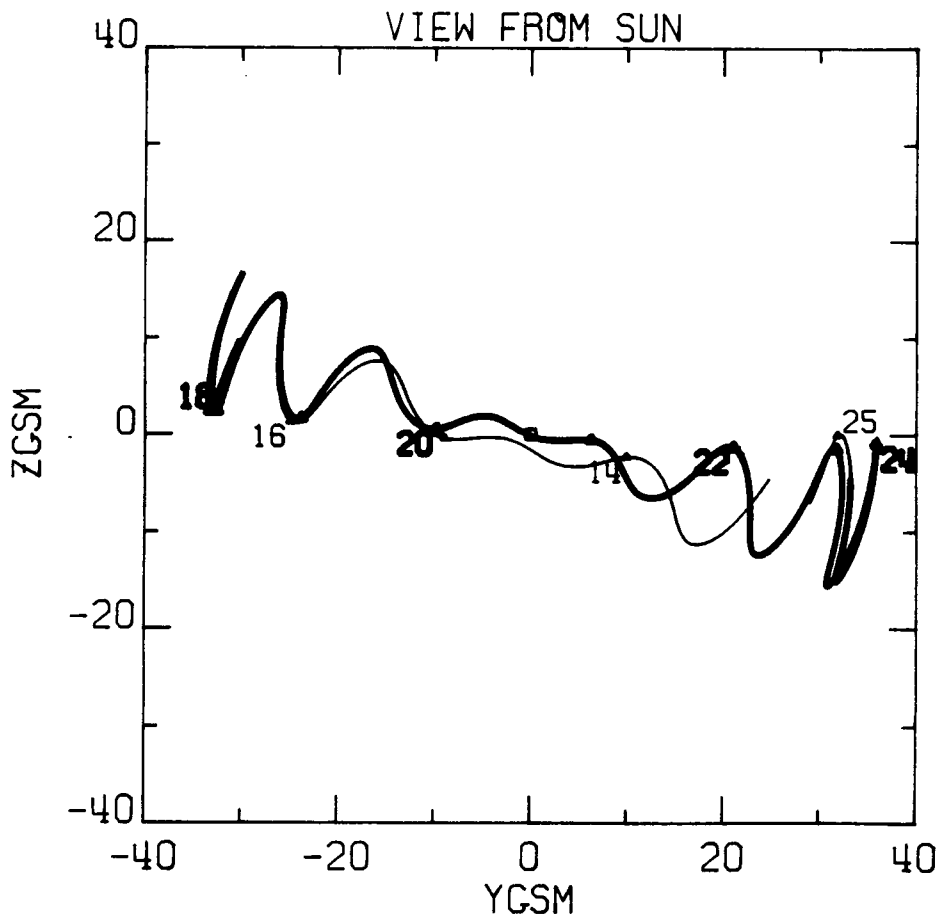
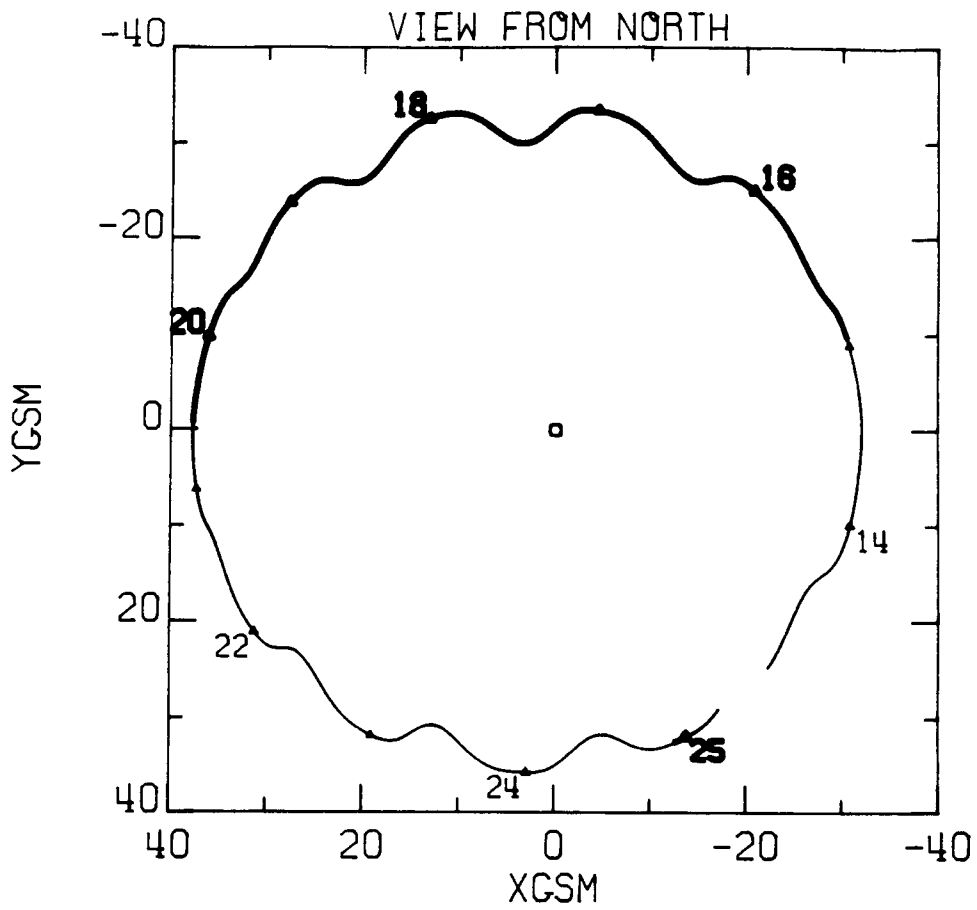


FROM DEC 31 TO JAN 13 1976

DAYS 365 THRU 13



IMP 7 FROM JAN 13 TO JAN 25 1976

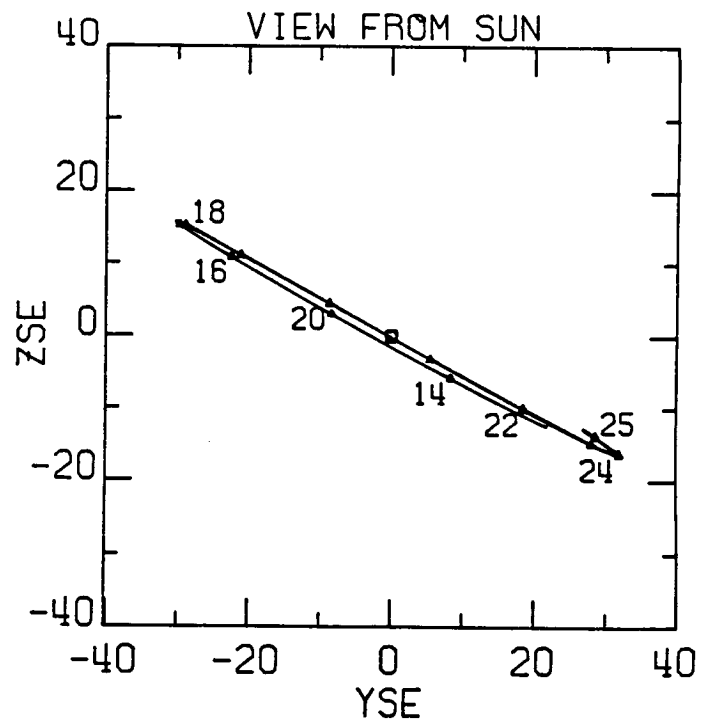
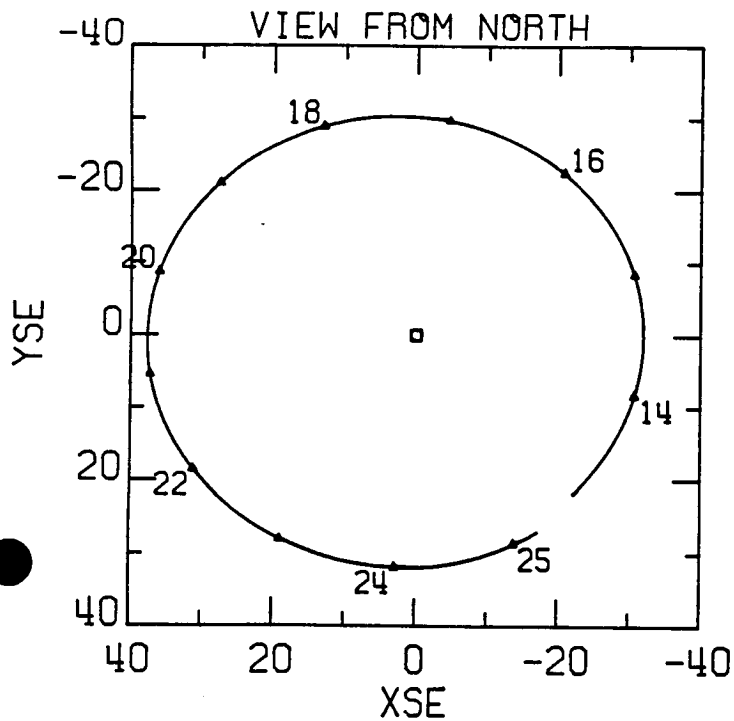
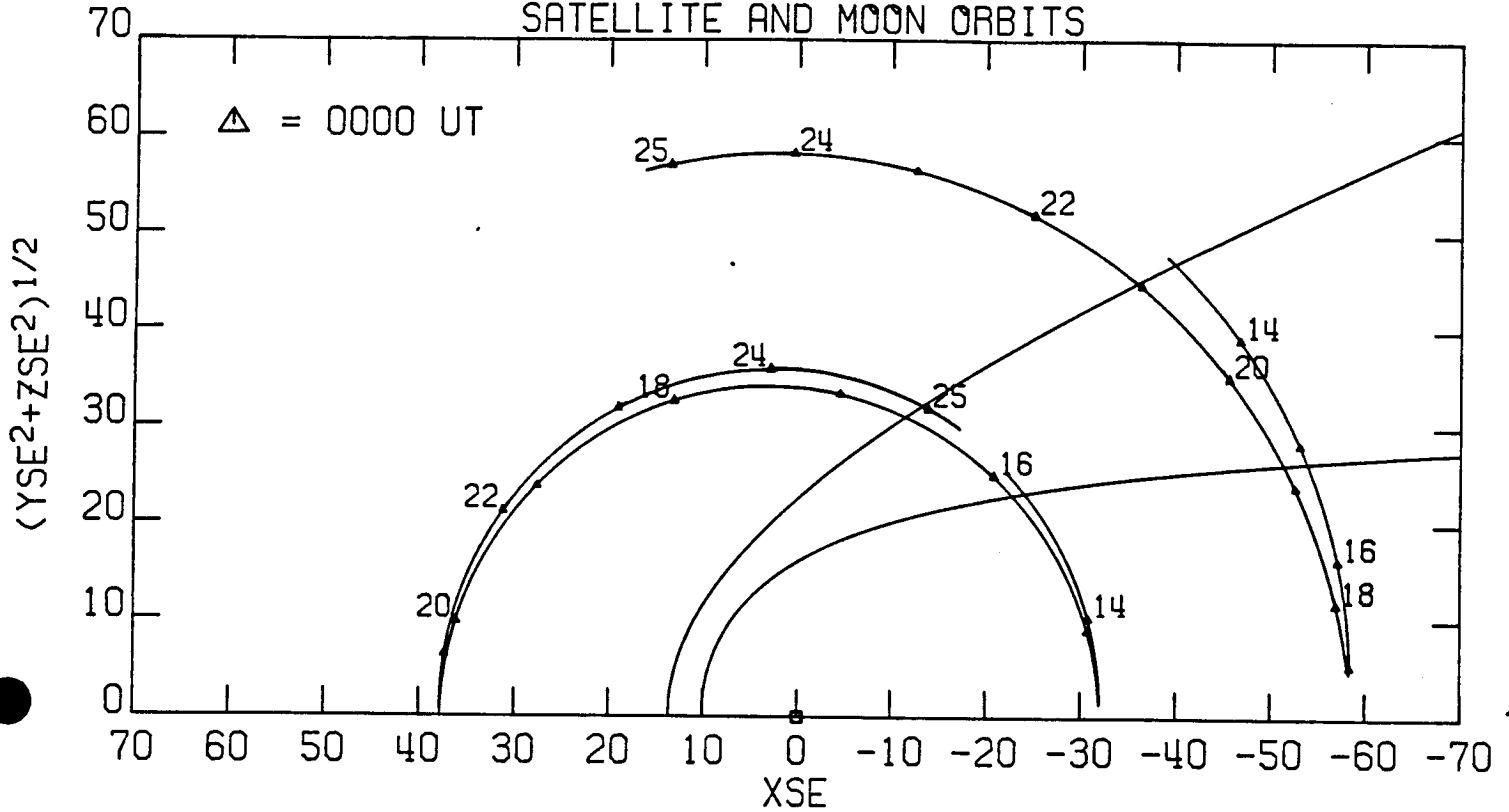


IMP 7 TRAJECTORY. ASCENDING NODE 100

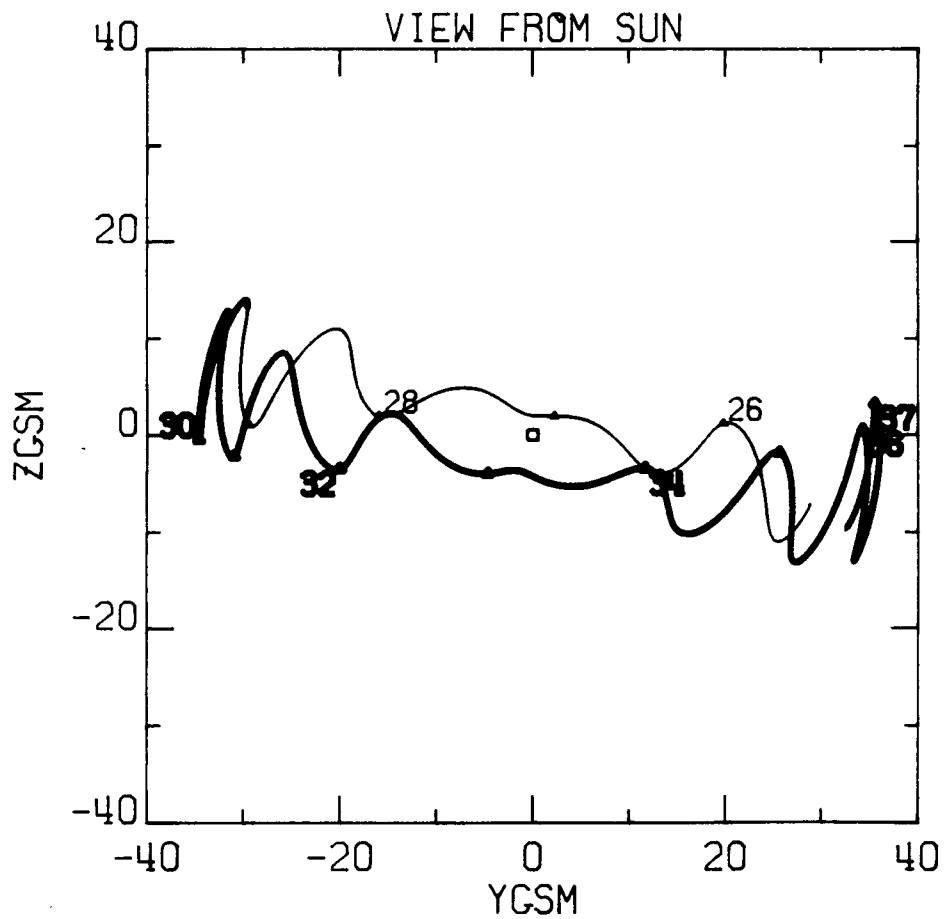
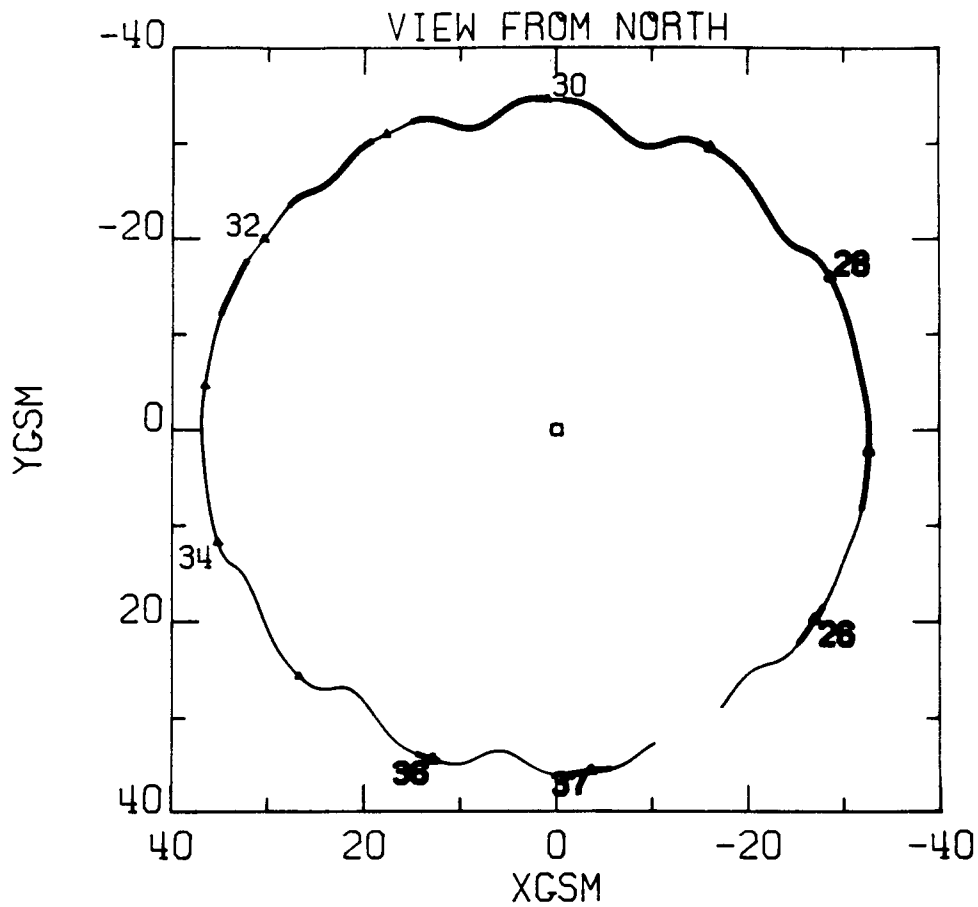
FROM JAN 13 TO JAN 25 1976

DAYS 13 THRU 25

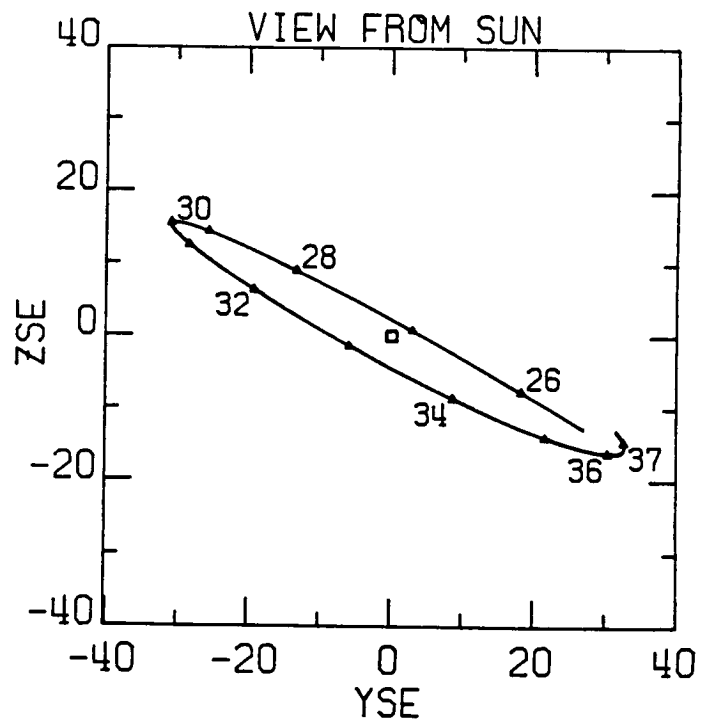
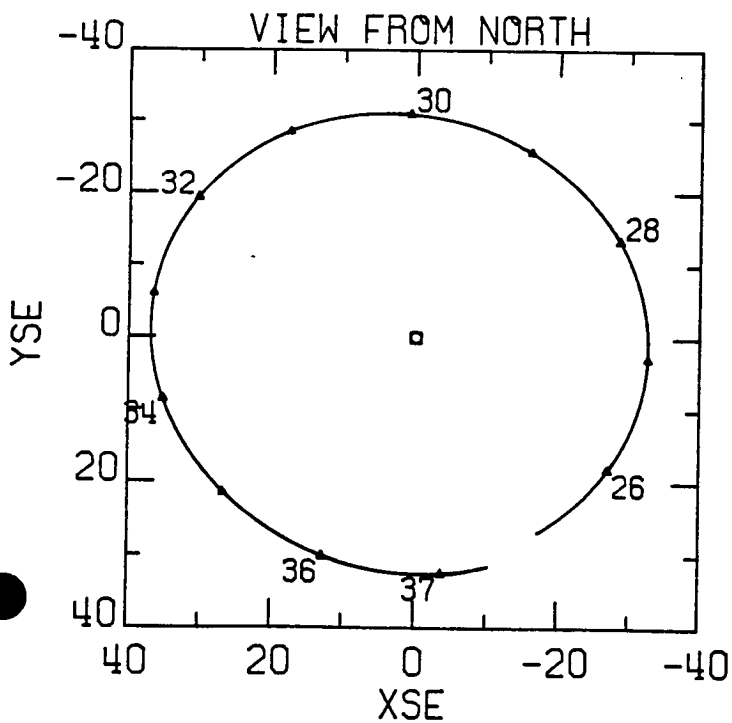
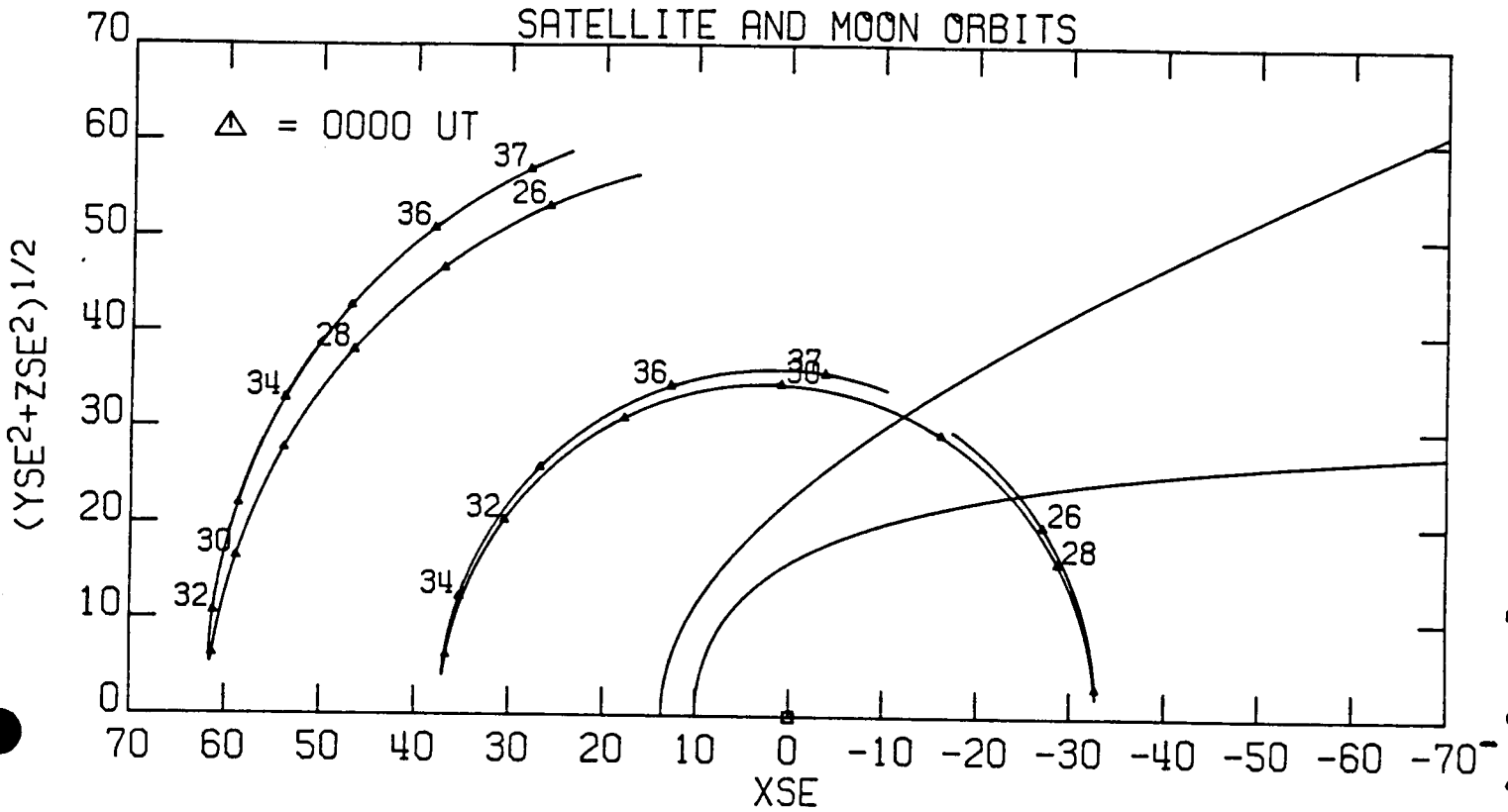
SATELLITE AND MOON ORBITS



IMP 7 FROM JAN 25 TO FEB 6 1976

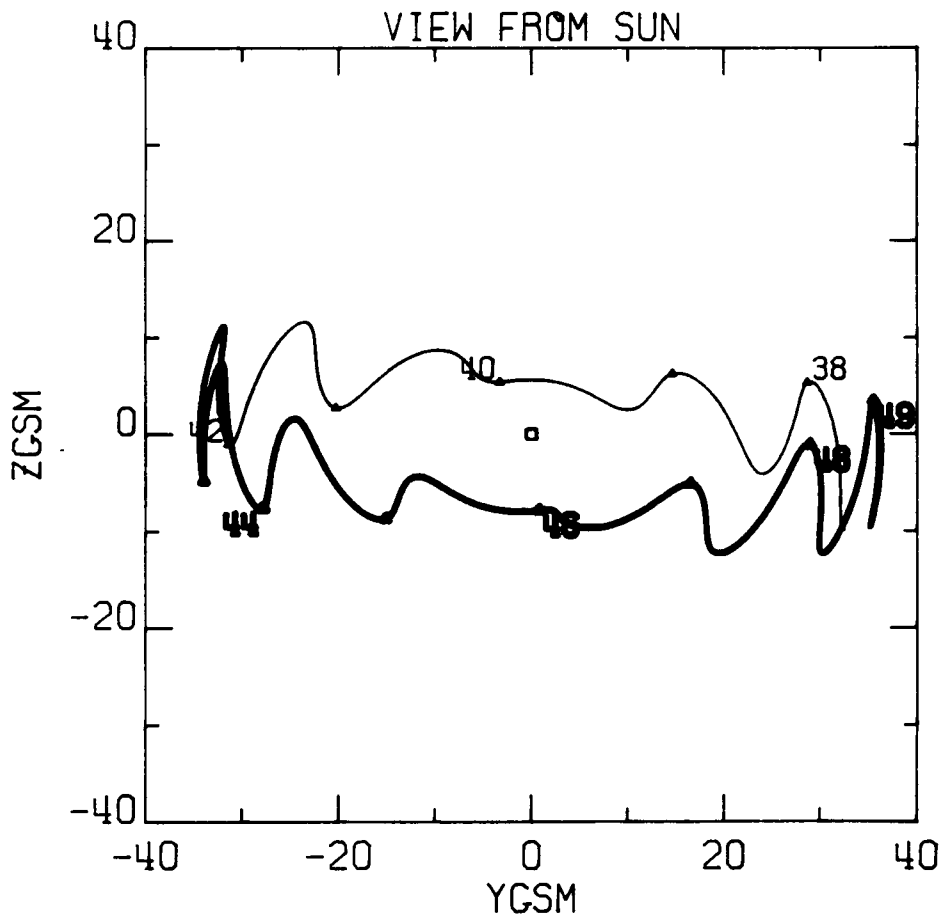
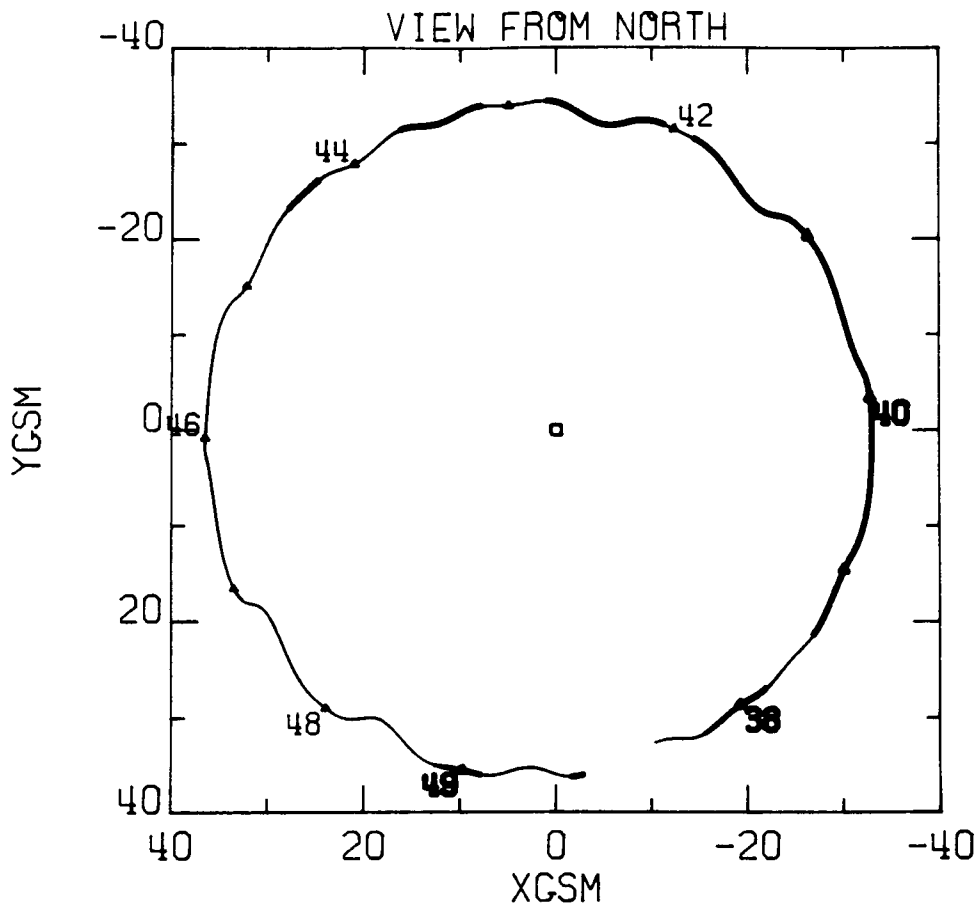


IMP 7 TRAJECTORY. ASCENDING NODE 101
 FROM JAN 25 TO FEB 6 1976
 DAYS 25 THRU 37

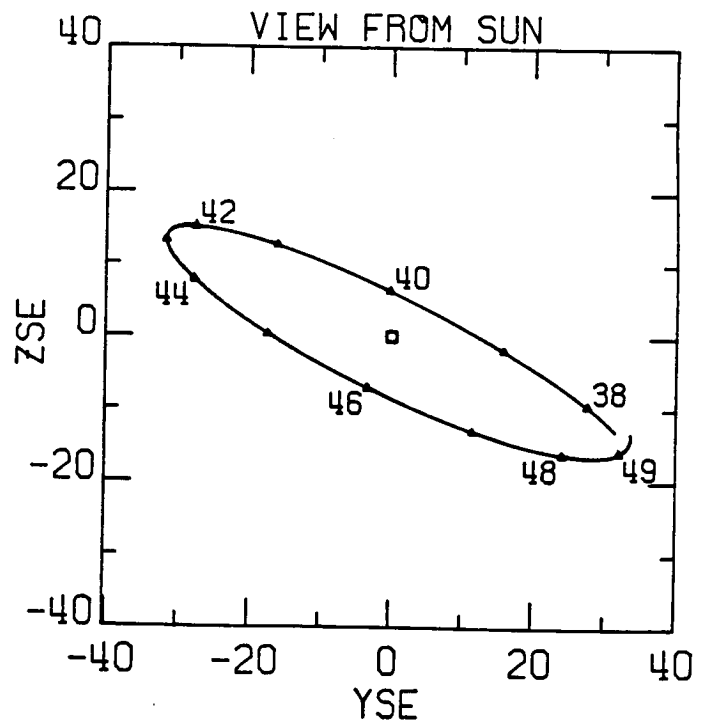
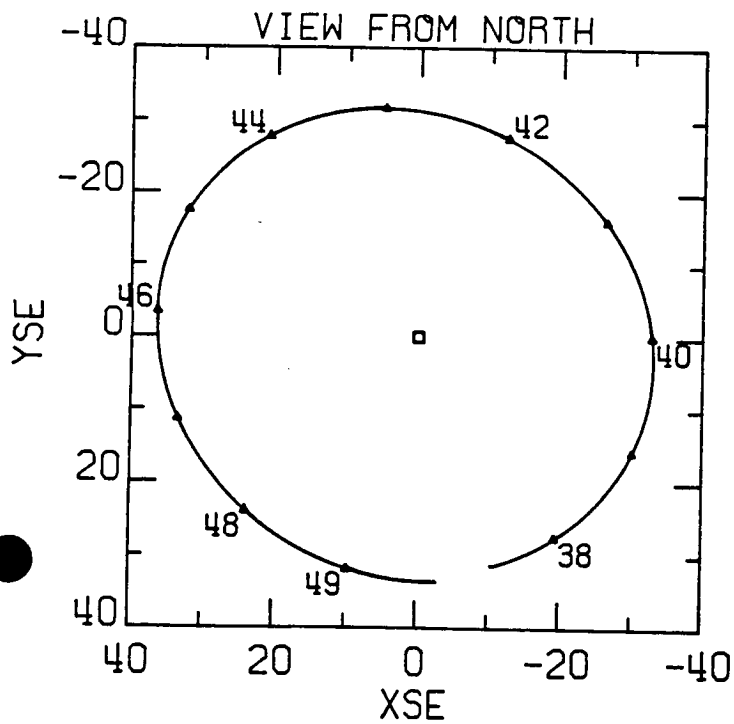
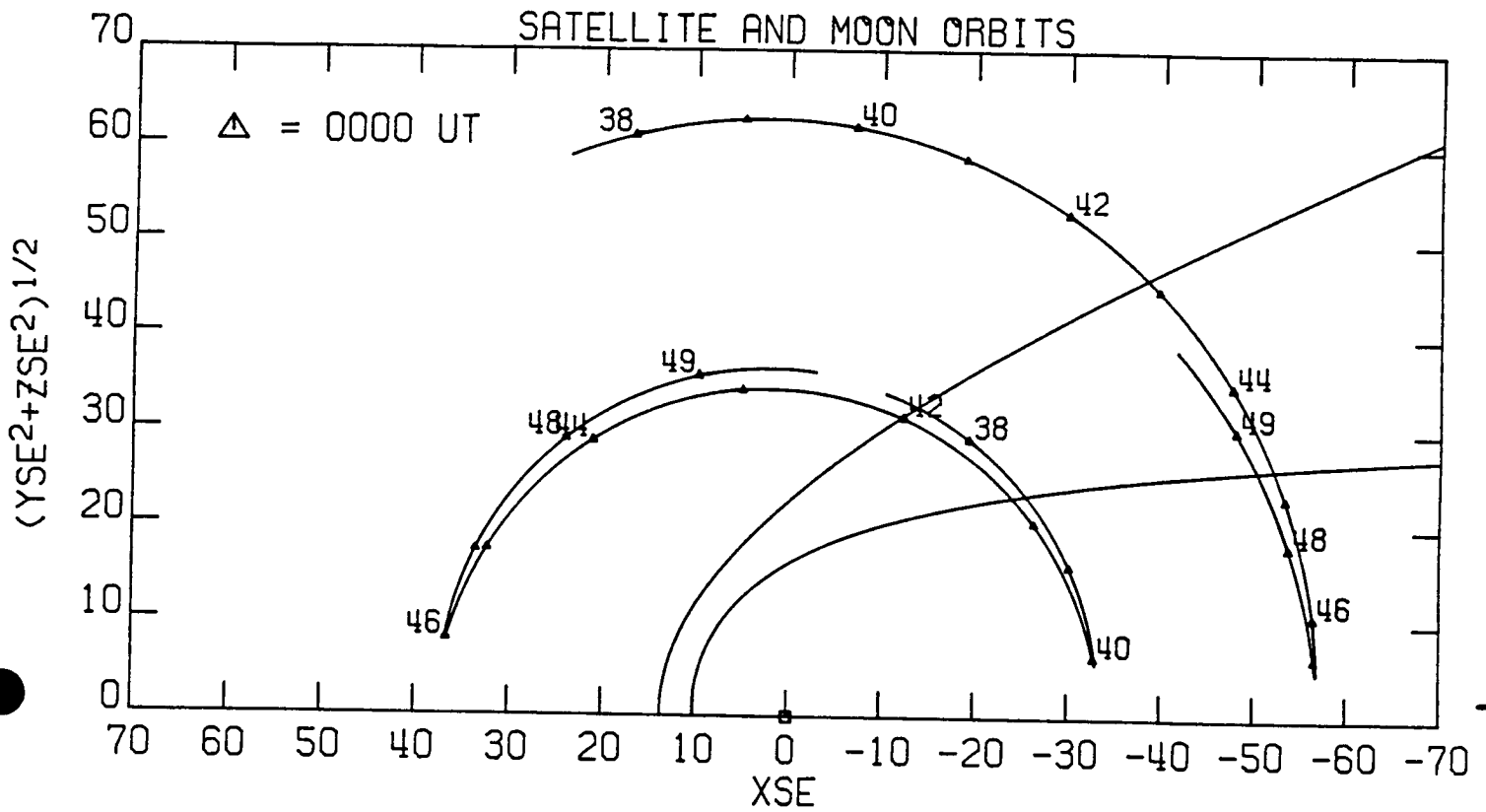


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IMP 7 FROM FEB 6 TO FEB 18 1976

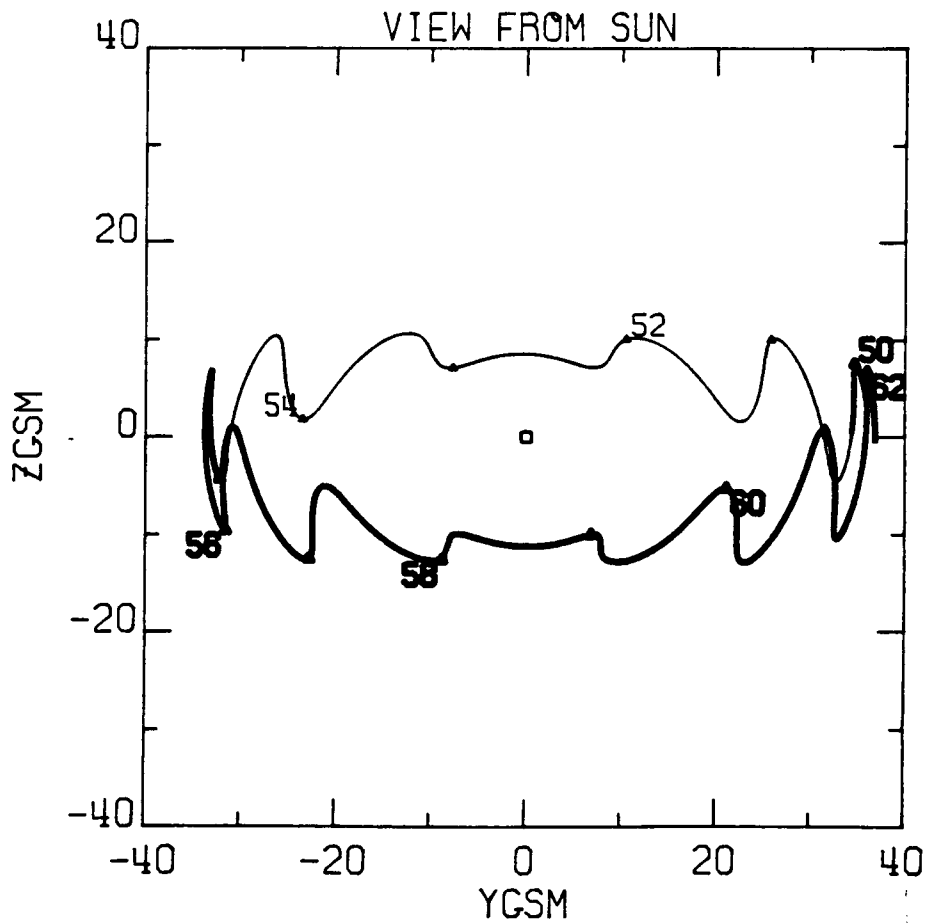
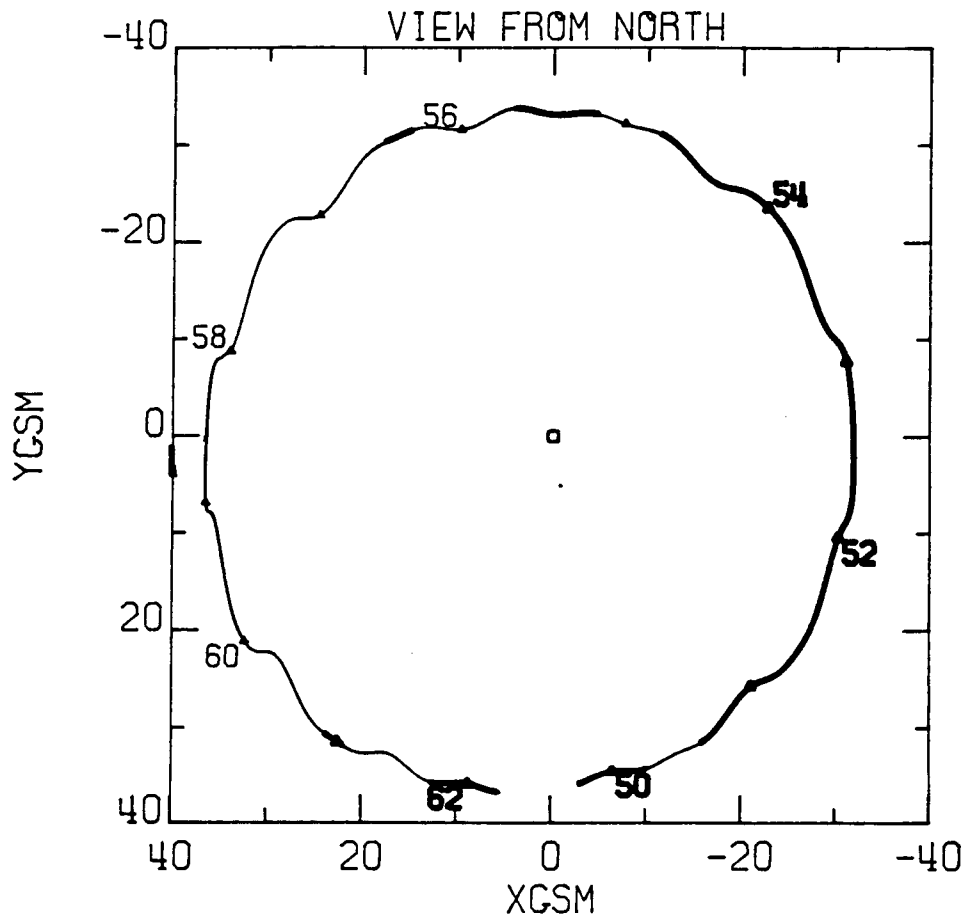


IMP 7 TRAJECTORY. ASCENDING NODE 102
 FROM FEB 6 TO FEB 18 1976
 DAYS 37 THRU 49

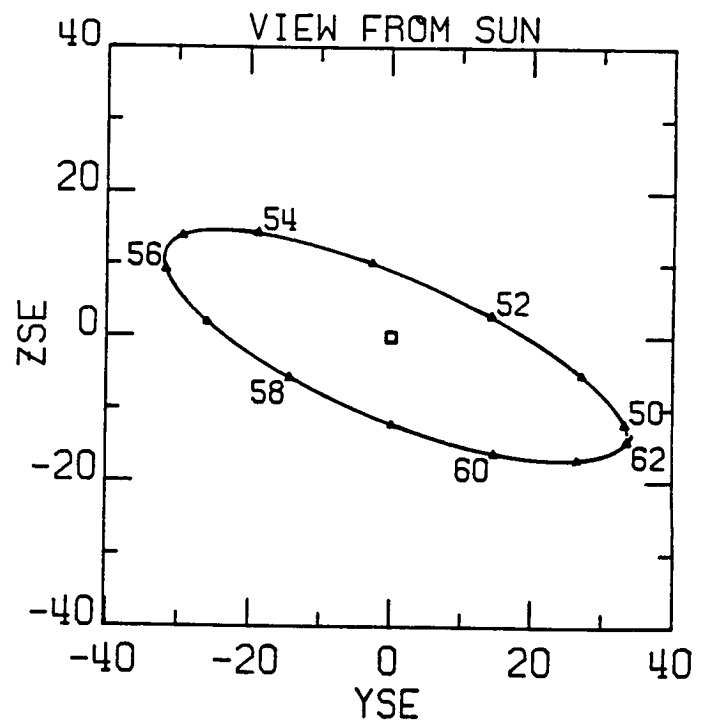
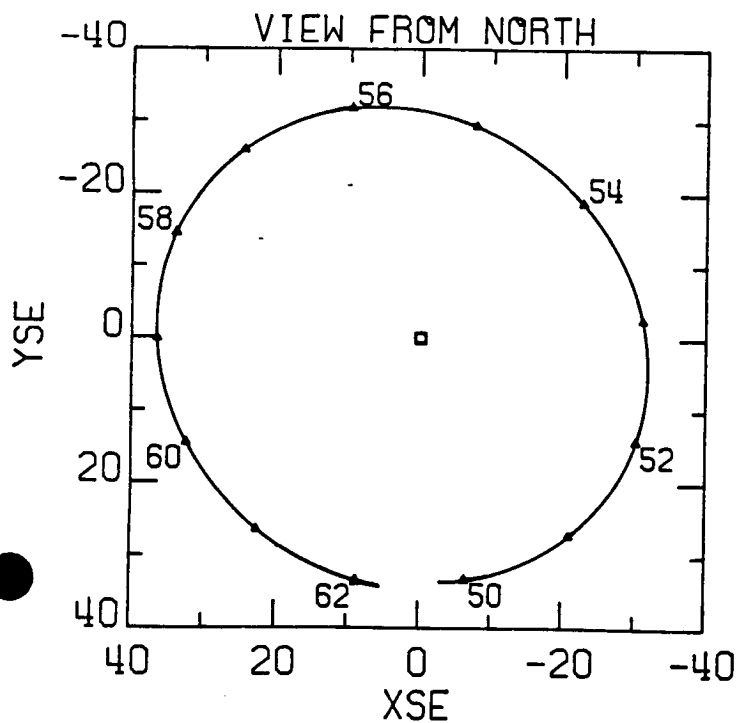
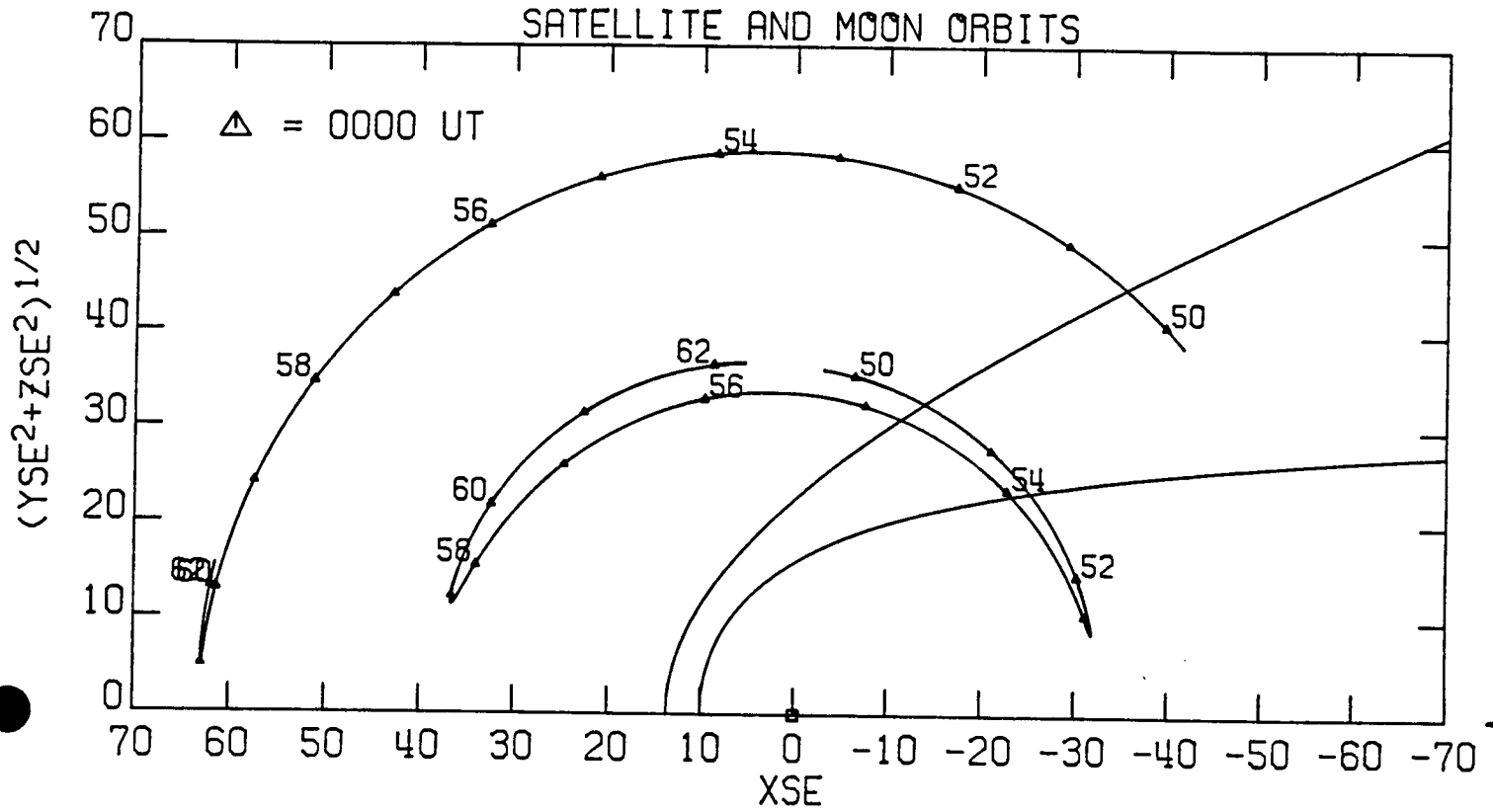


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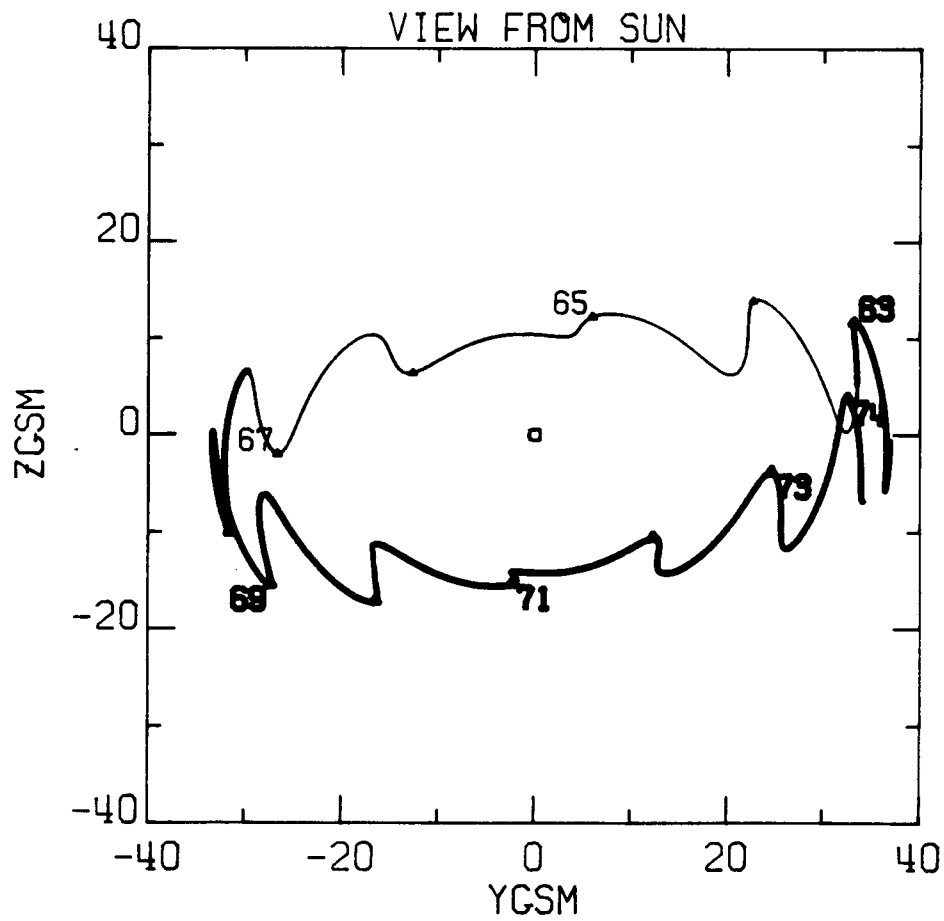
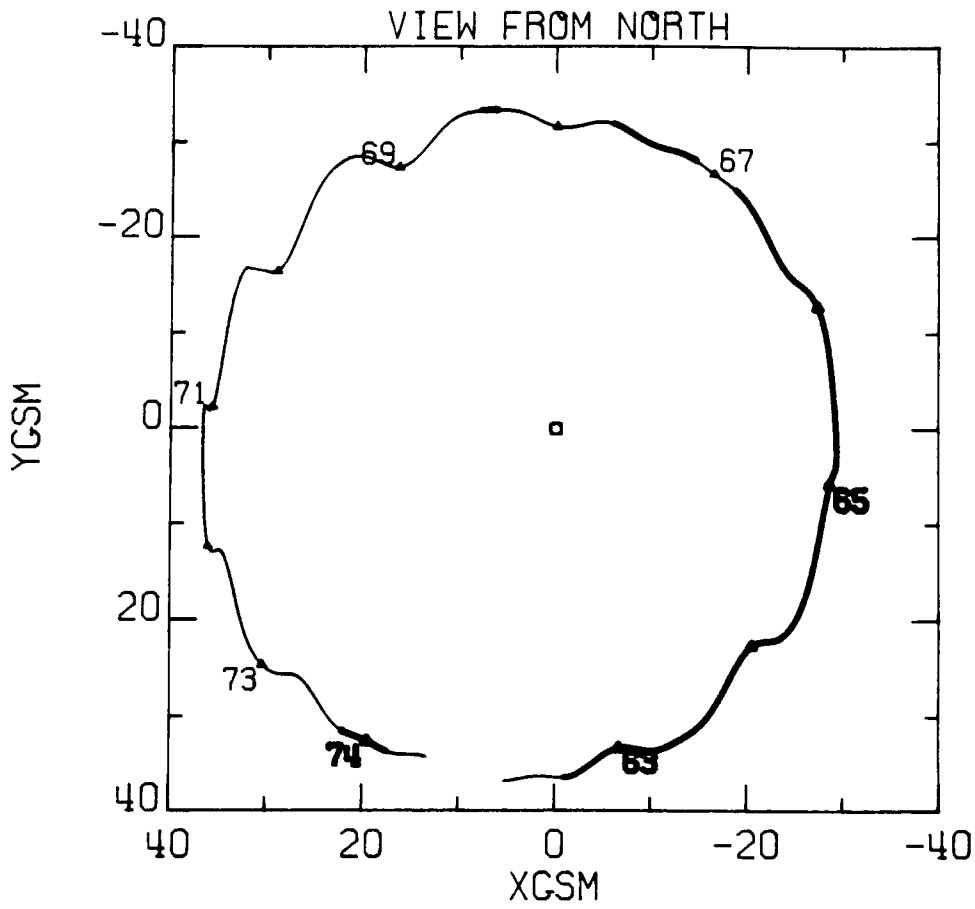
IMP 7 FROM FEB 18 TO MAR 2 1976



IMP 7 TRAJECTORY. ASCENDING NODE 103
 FROM FEB 18 TO MAR 2 1976
 DAYS 49 THRU 62



IMP 7 FROM MAR 2 TO MAR 14 1976

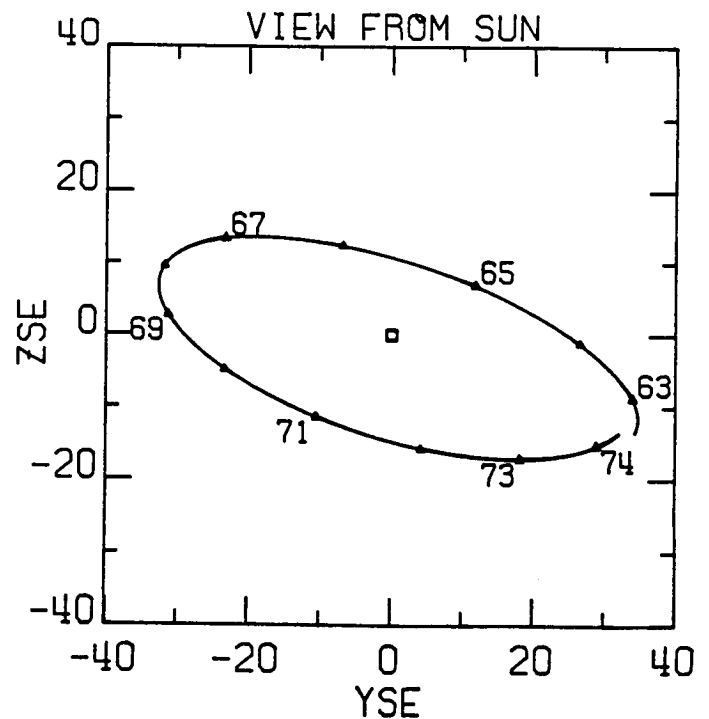
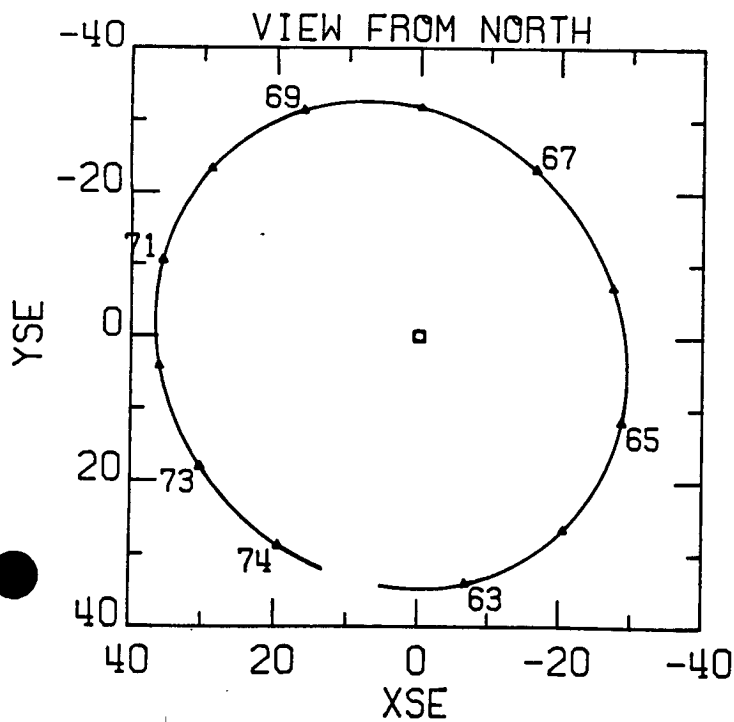
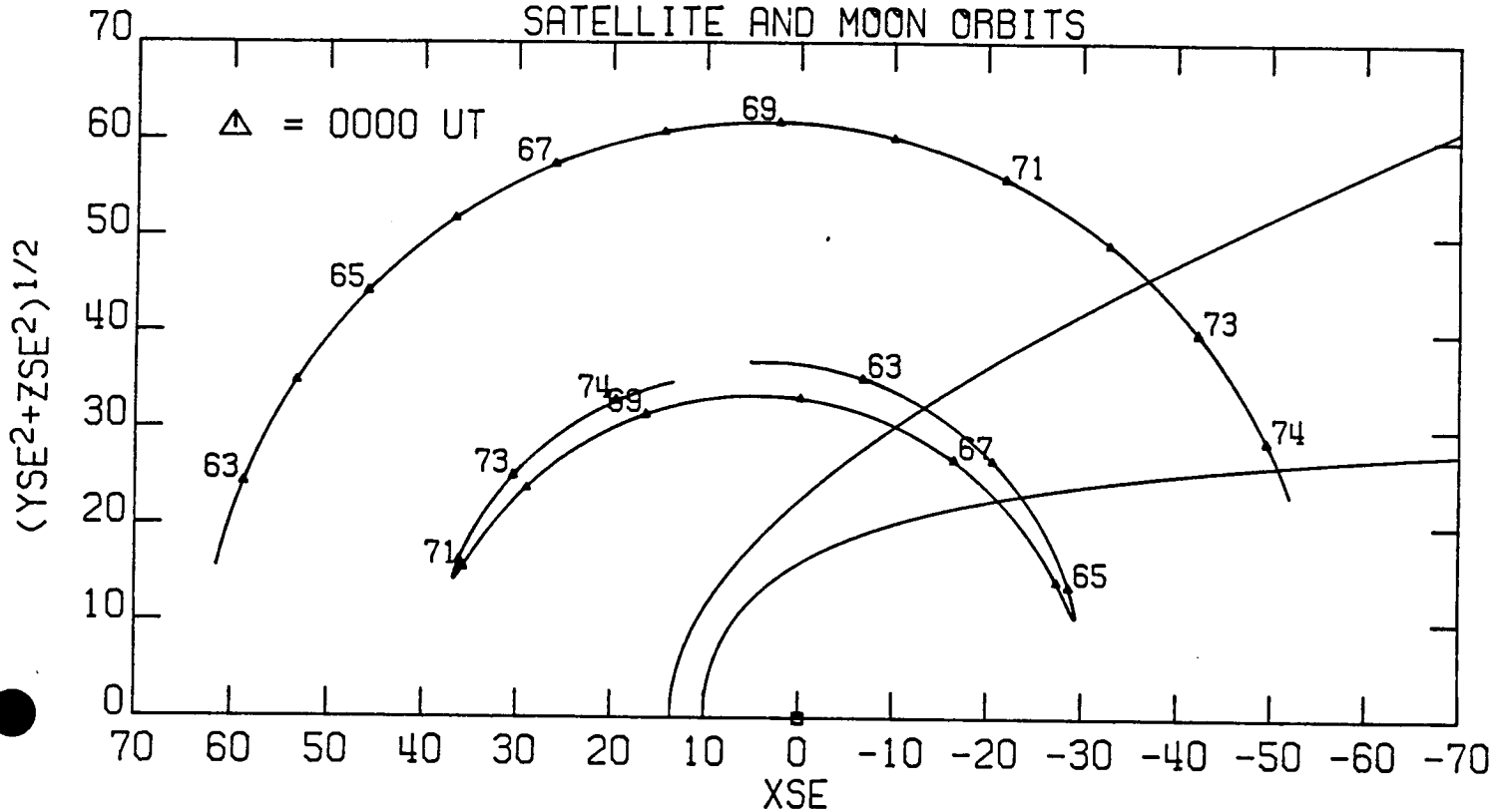


IMP 7 TRAJECTORY. ASCENDING NODE 104

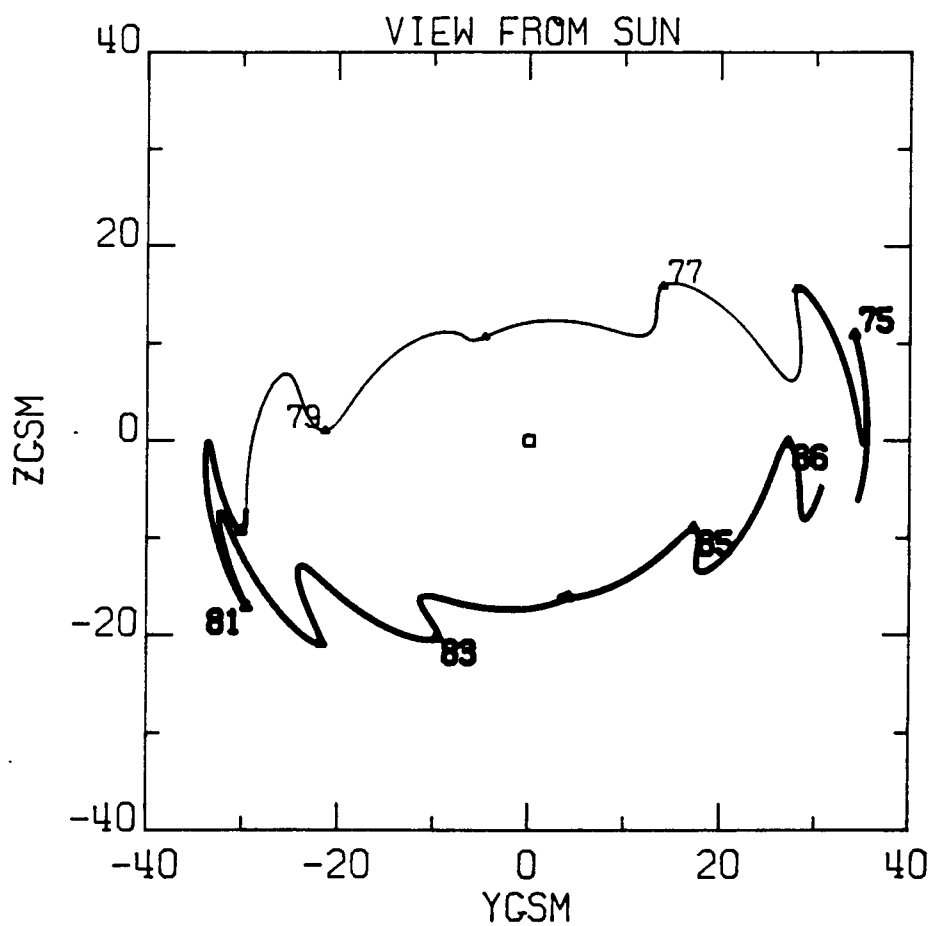
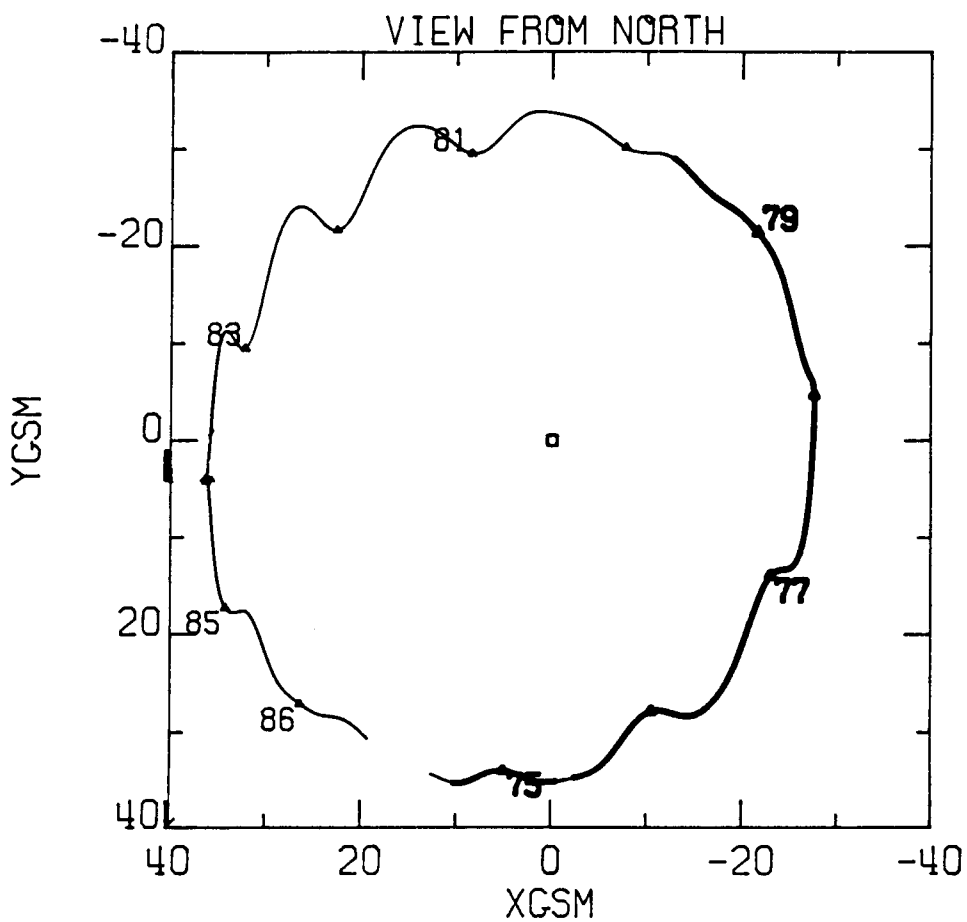
FROM MAR 2 TO MAR 14 1976

DAYS 62 THRU 74

SATELLITE AND MOON ORBITS



IMP 7 FROM MAR 14 TO MAR 26 1976

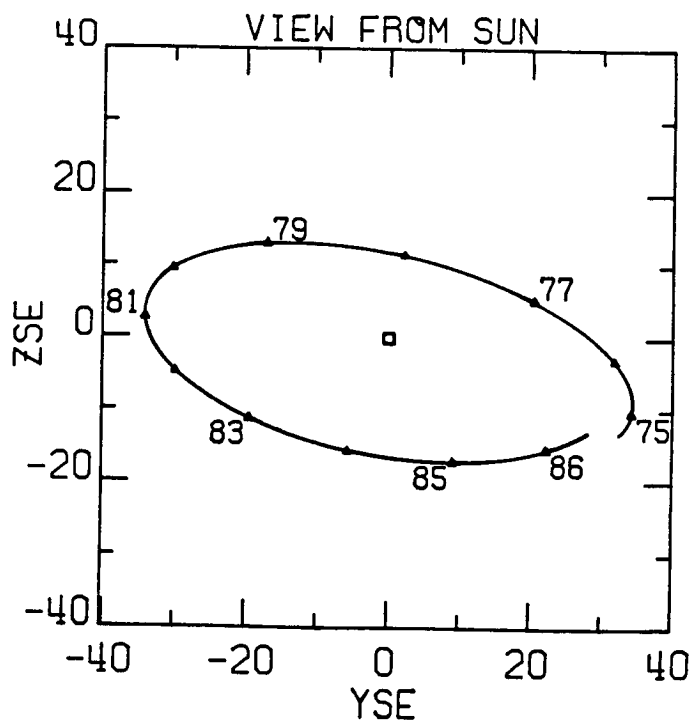
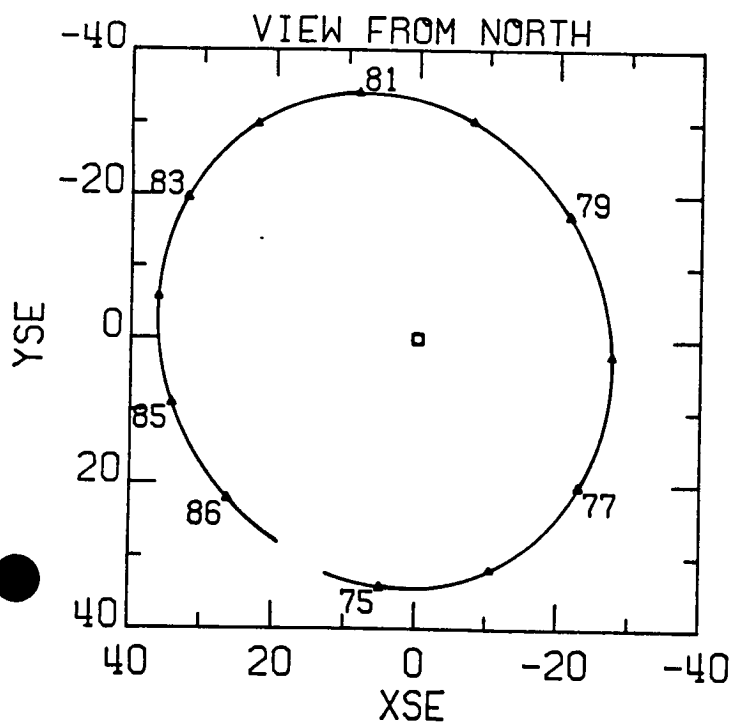
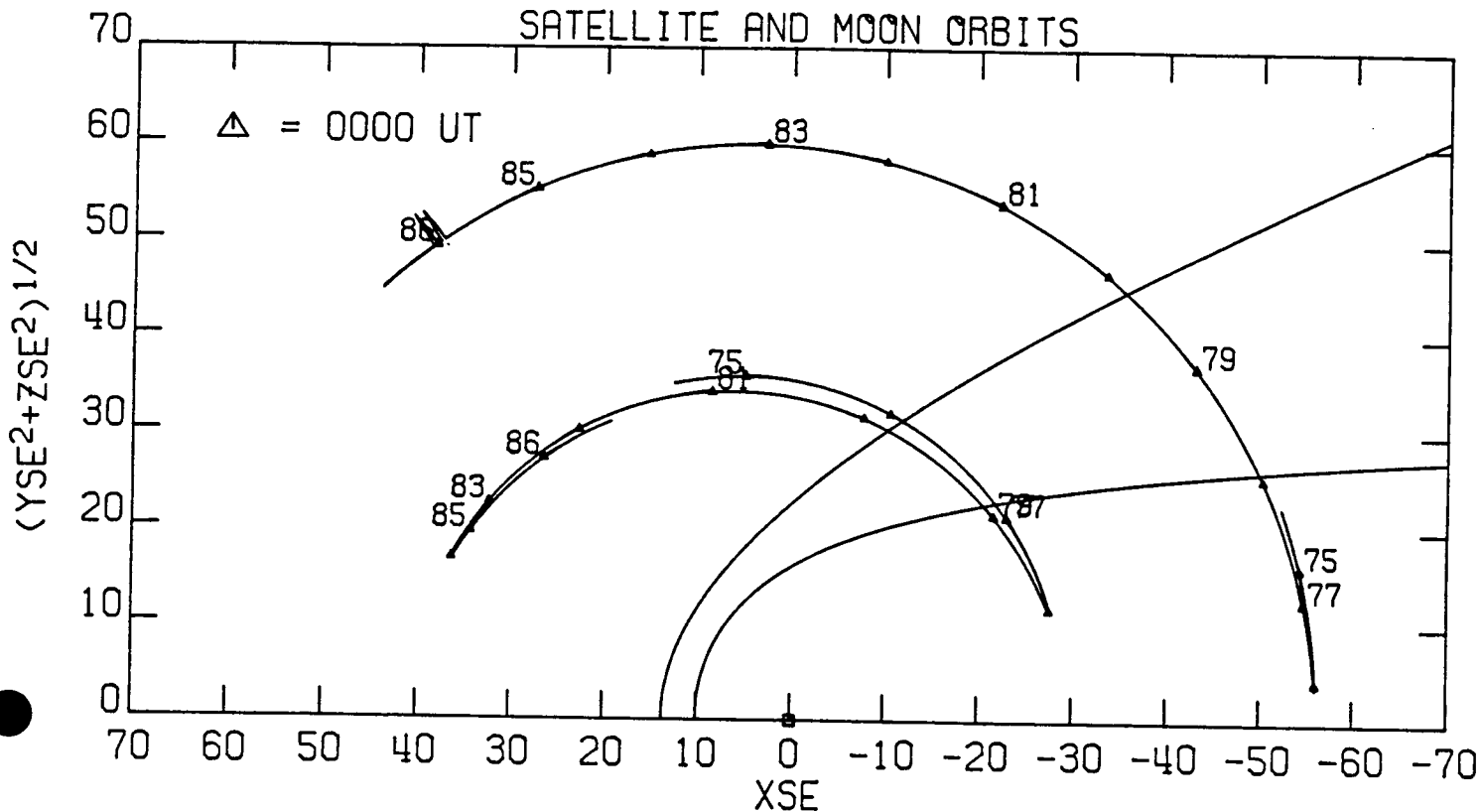


IMP 7 TRAJECTORY. ASCENDING NODE 105

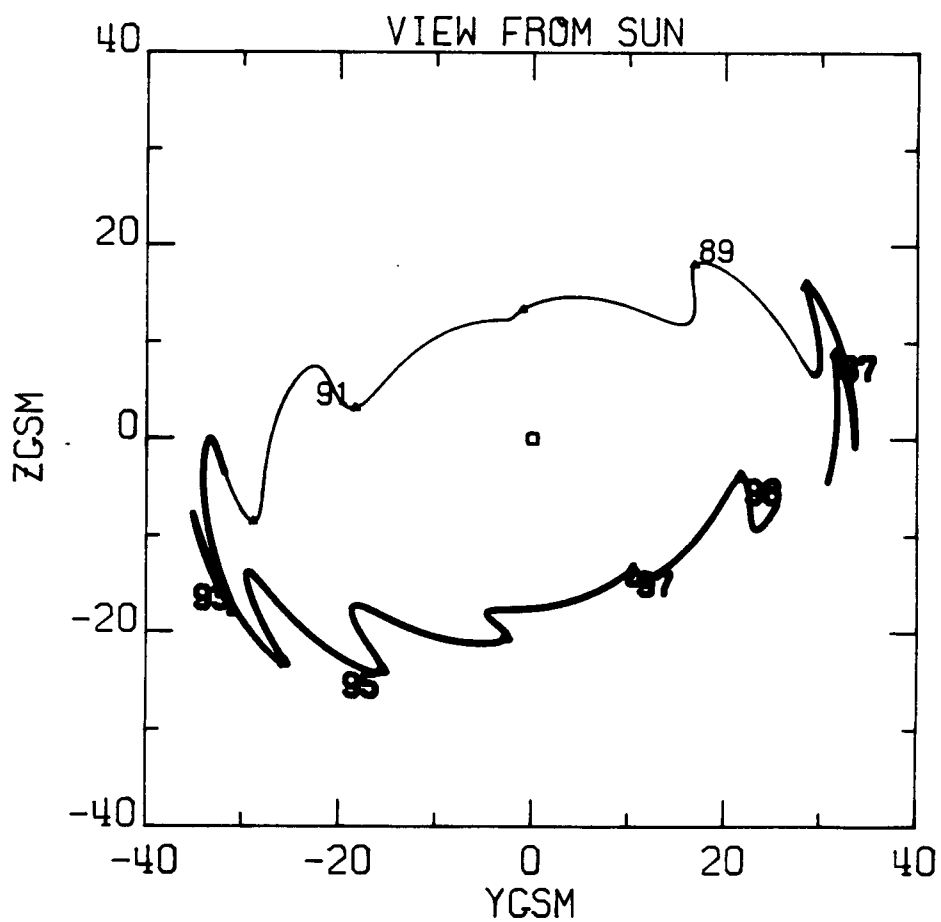
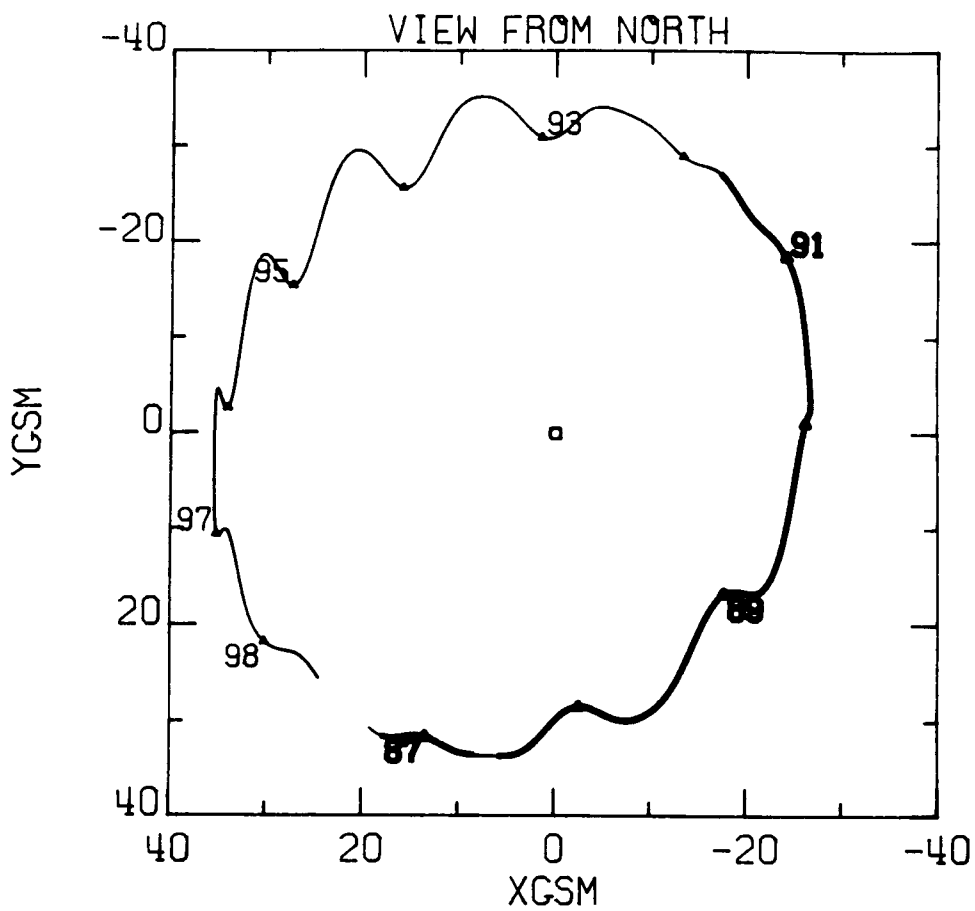
FROM MAR 14 TO MAR 26 1976

DAYS 74 THRU 86

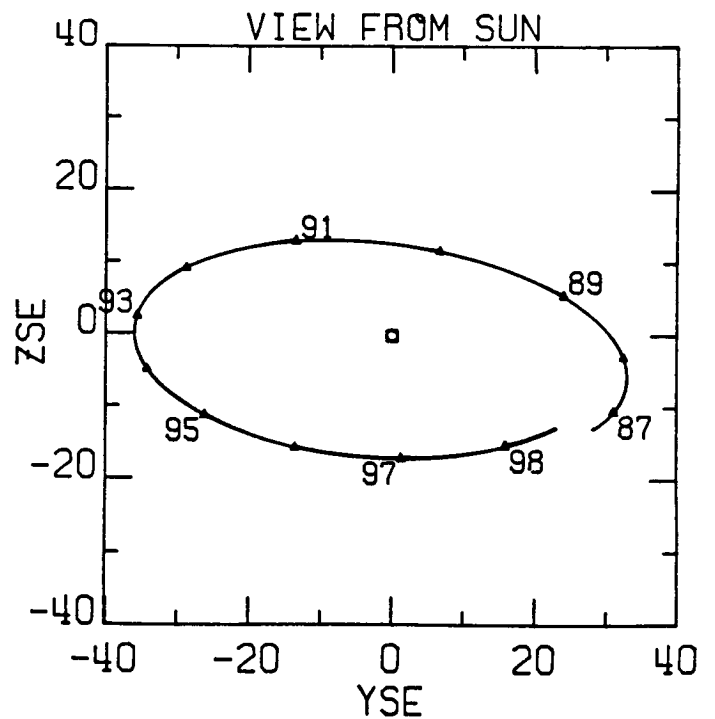
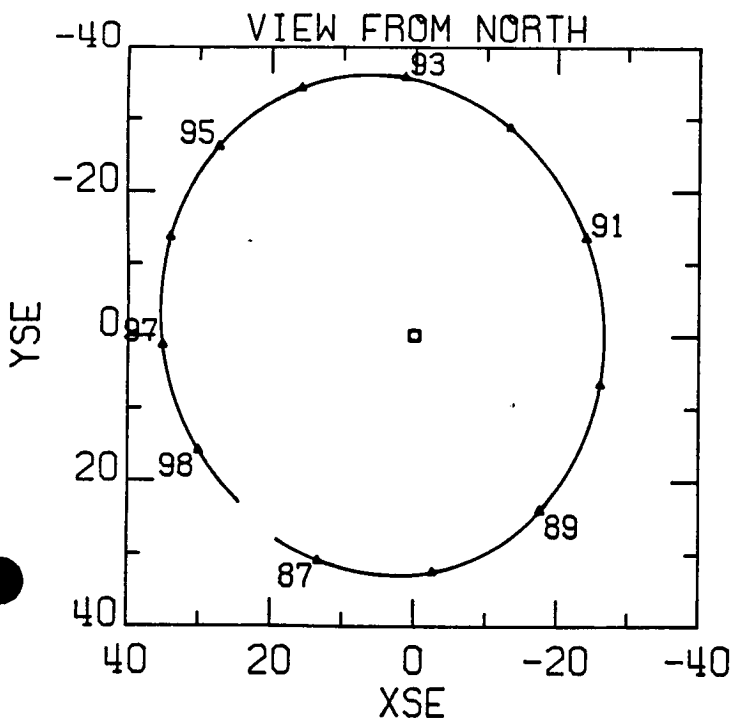
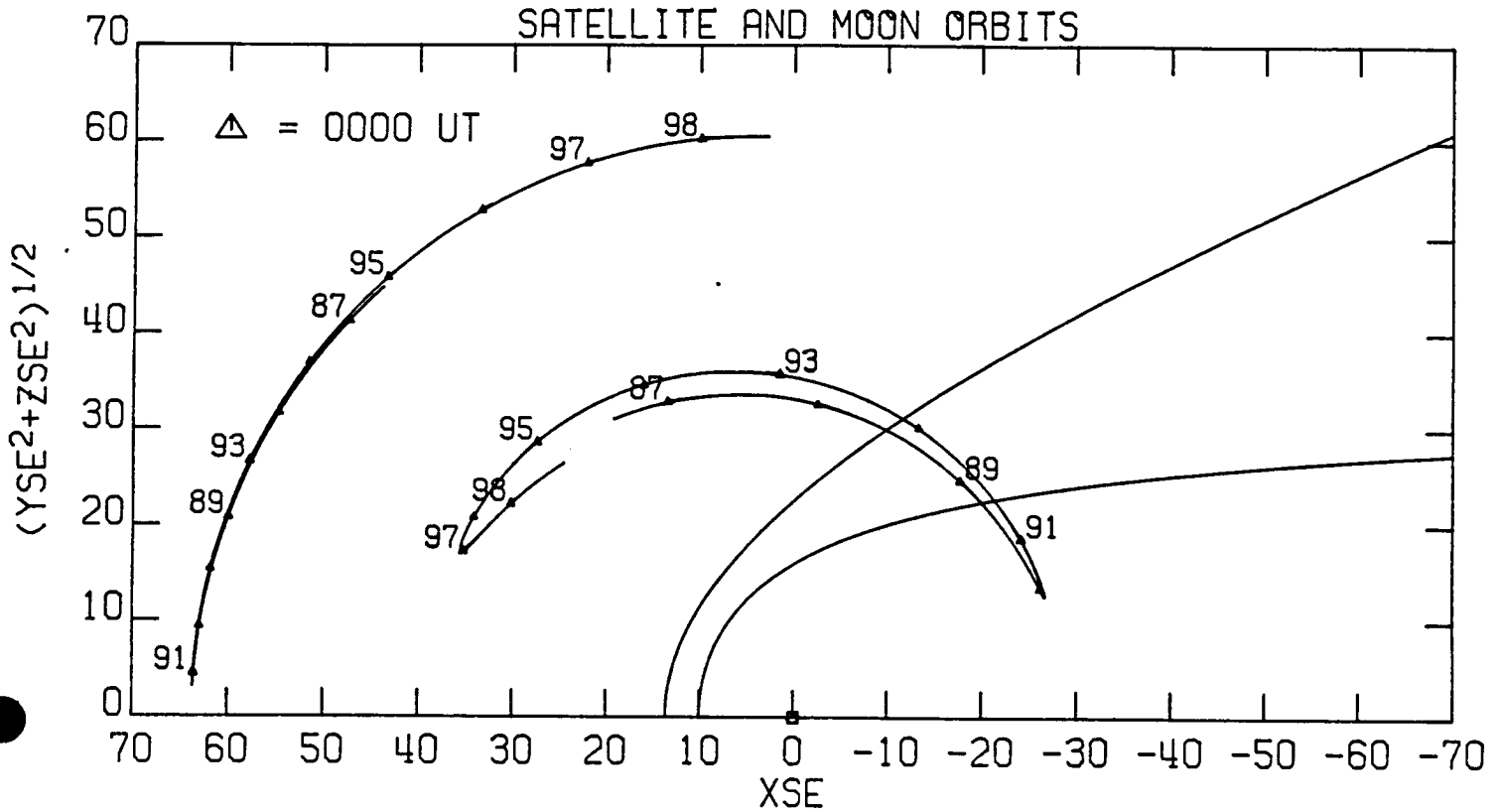
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IMP 7 FROM MAR 26 TO APR 7 1976

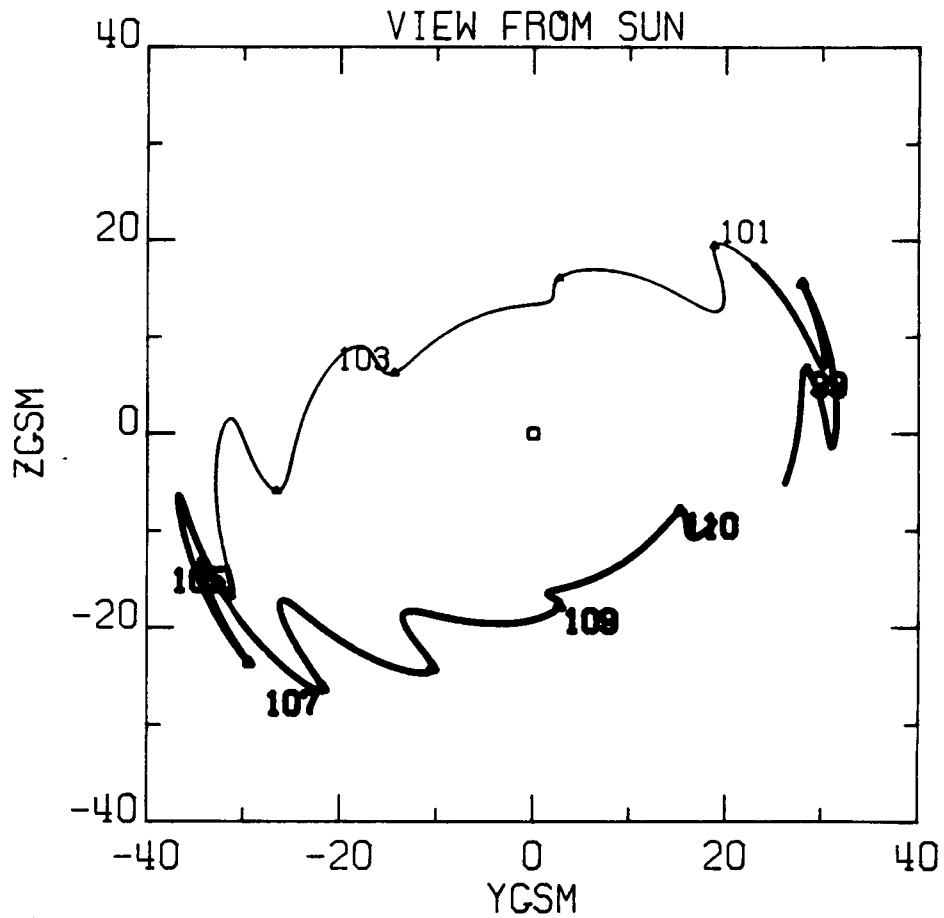
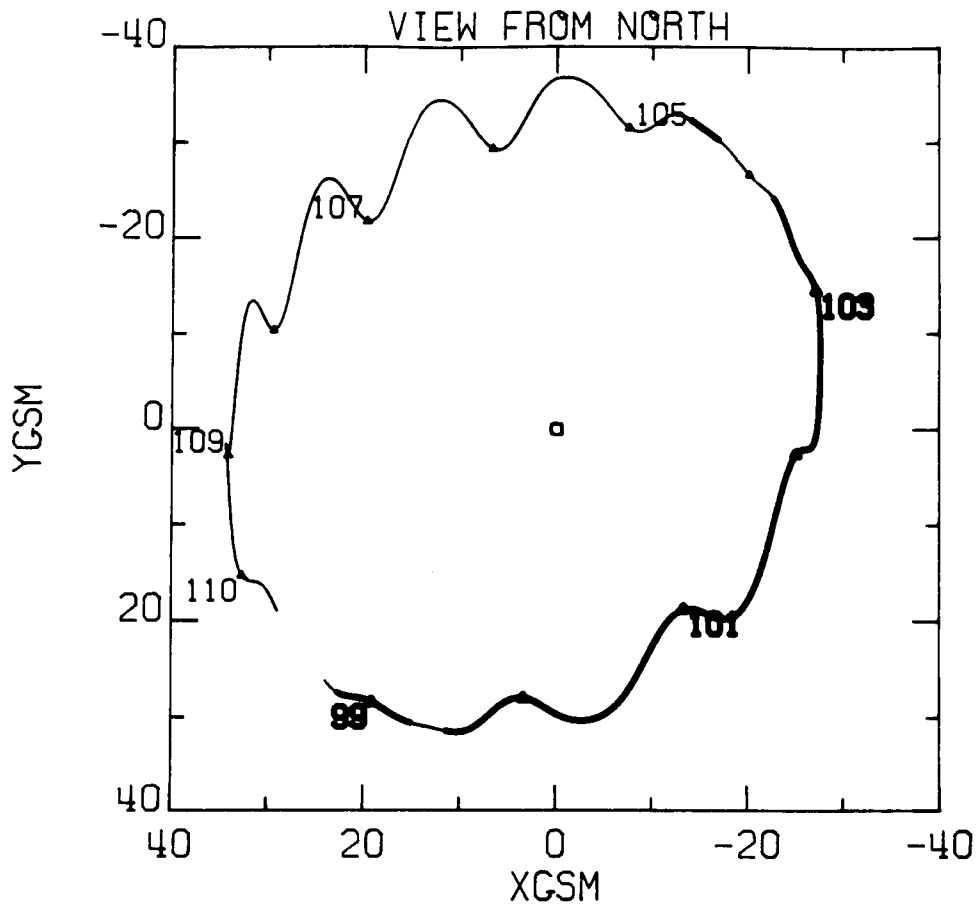


IMP 7 TRAJECTORY. ASCENDING NODE 106
 FROM MAR 26 TO APR 7 1976
 DAYS 86 THRU 98

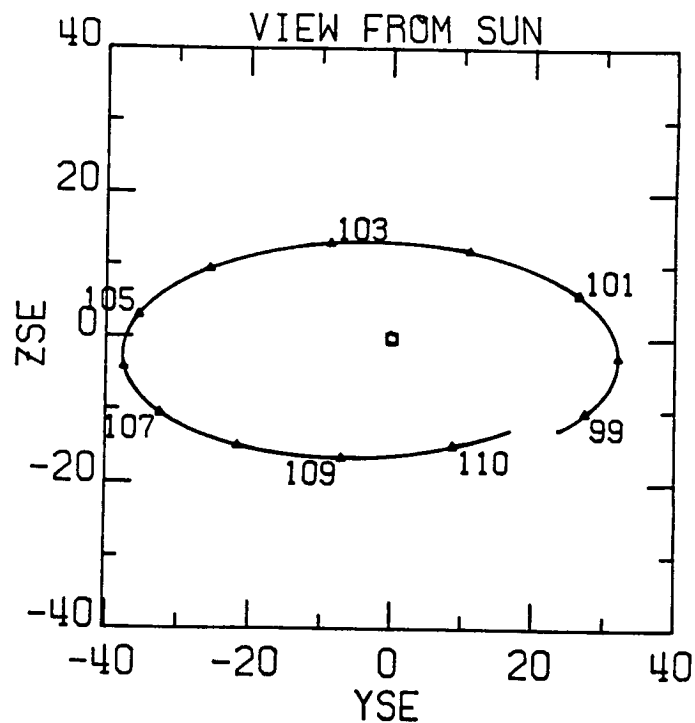
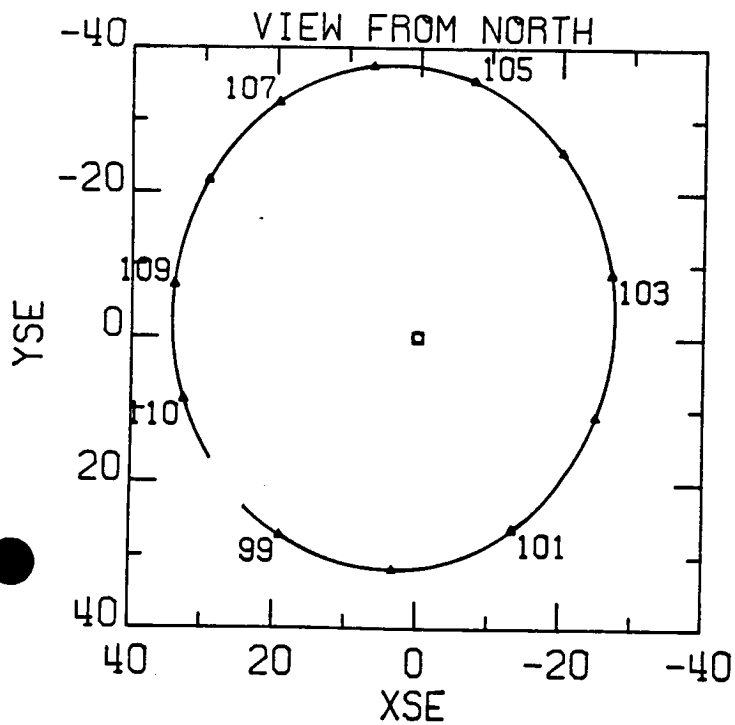
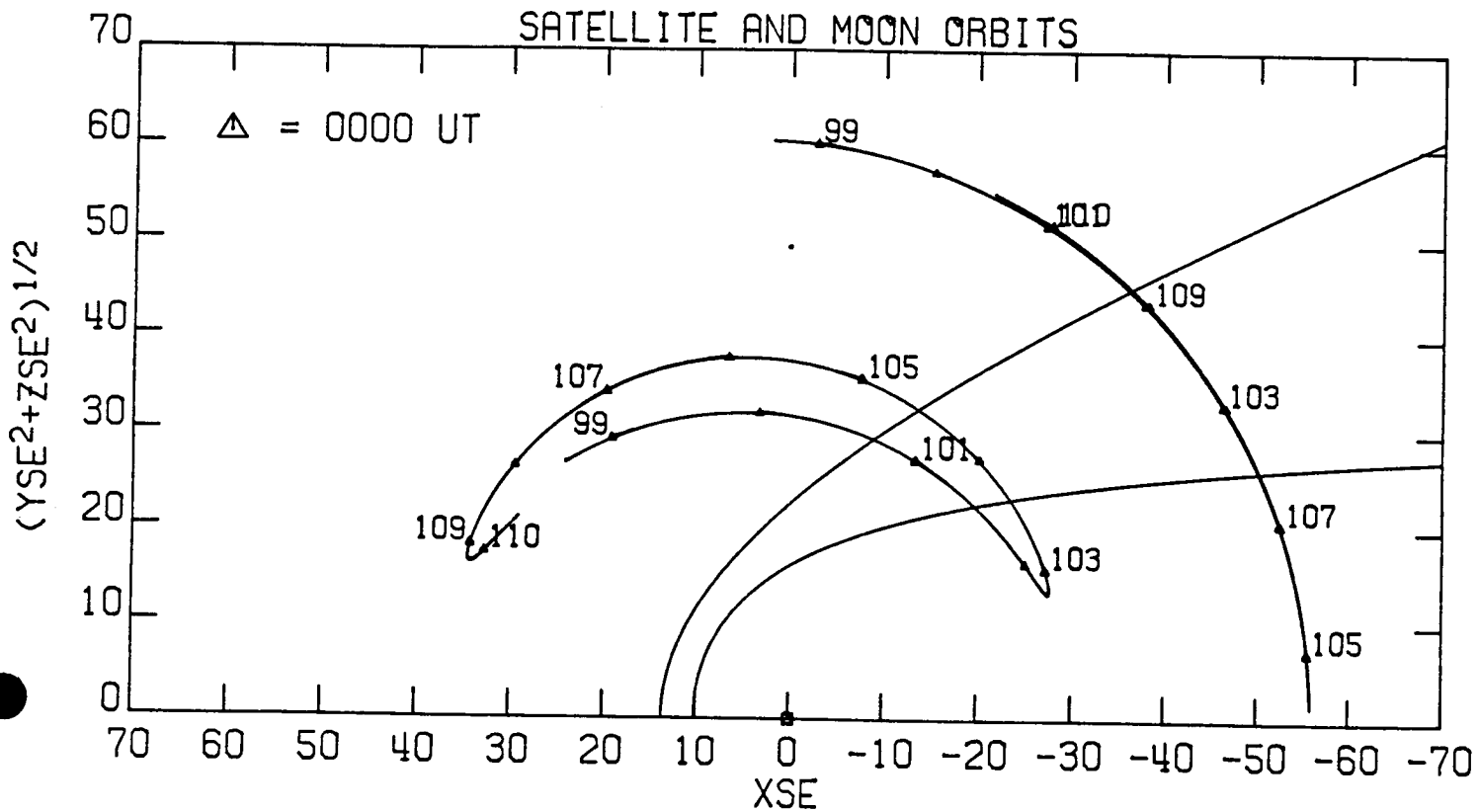


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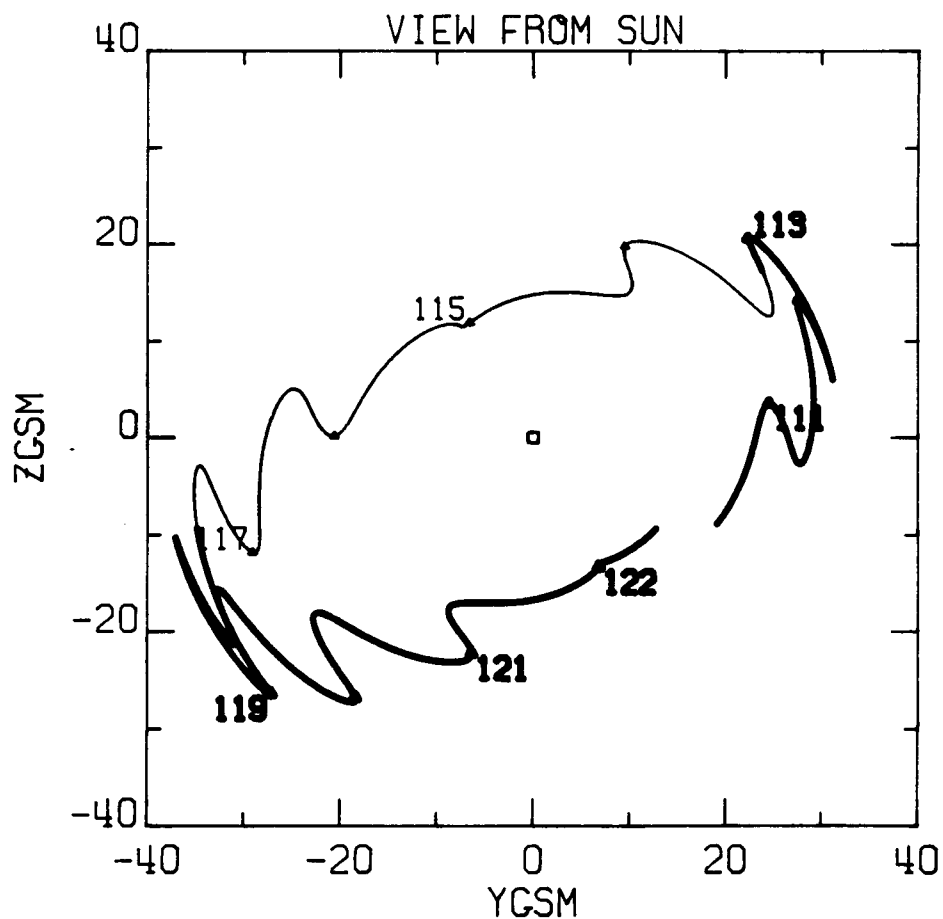
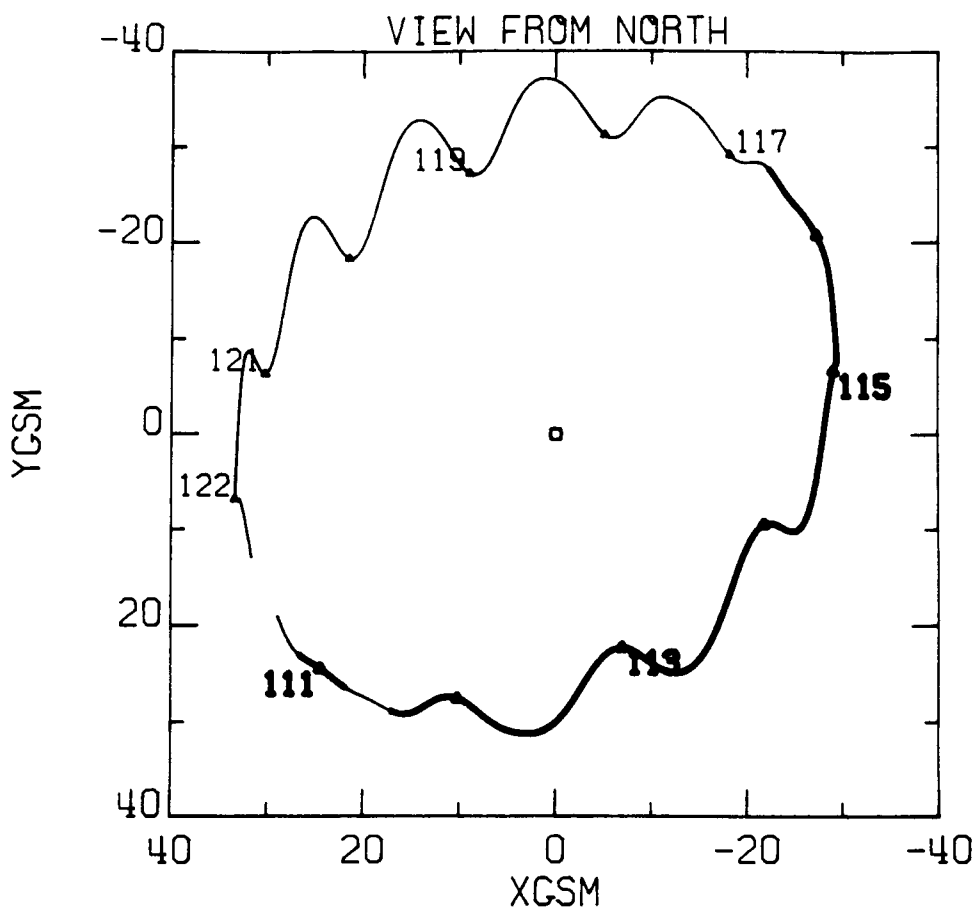
IMP 7 FROM APR 7 TO APR 19 1976



IMP 7 TRAJECTORY. ASCENDING NODE 107
 FROM APR 7 TO APR 19 1976
 DAYS 98 THRU 110

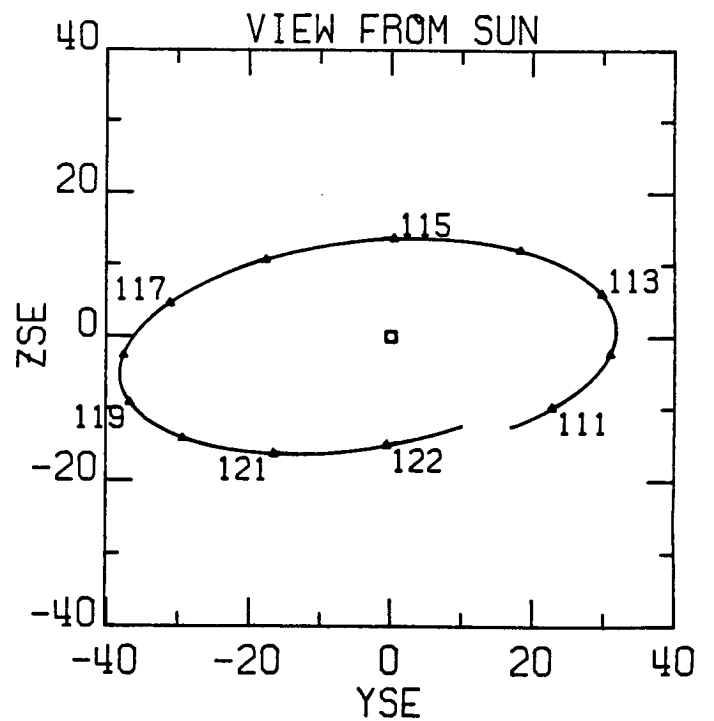
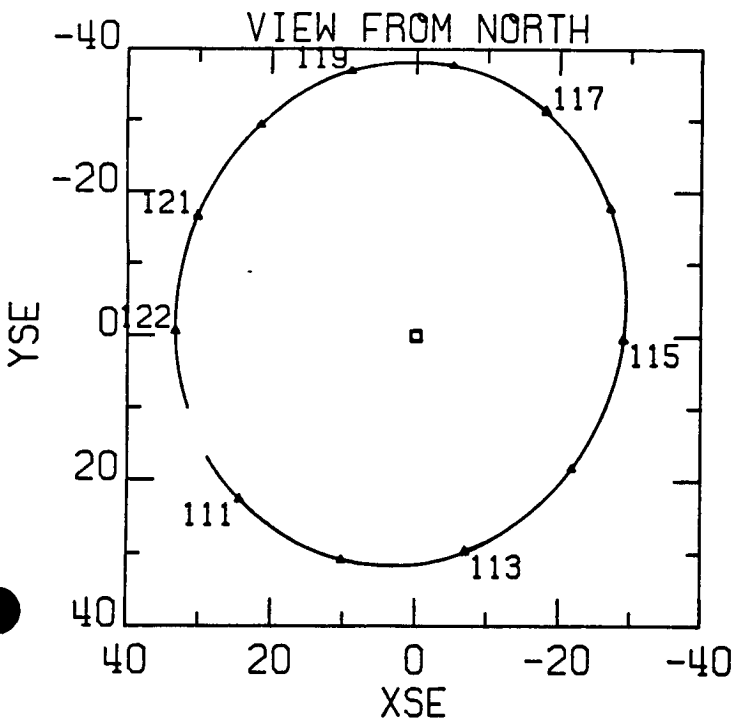
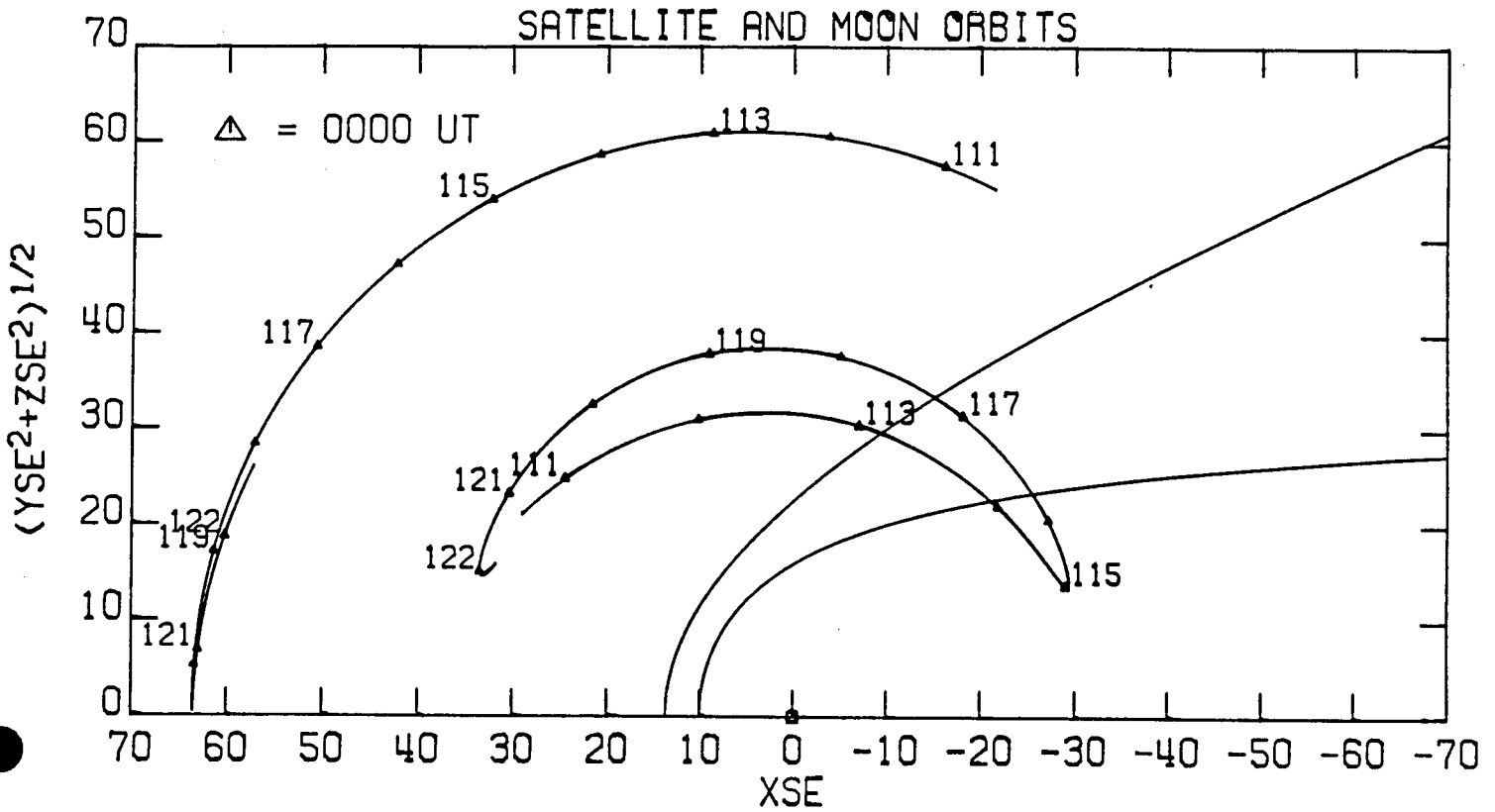


IMP 7 FROM APR 19 TO MAY 1 1976



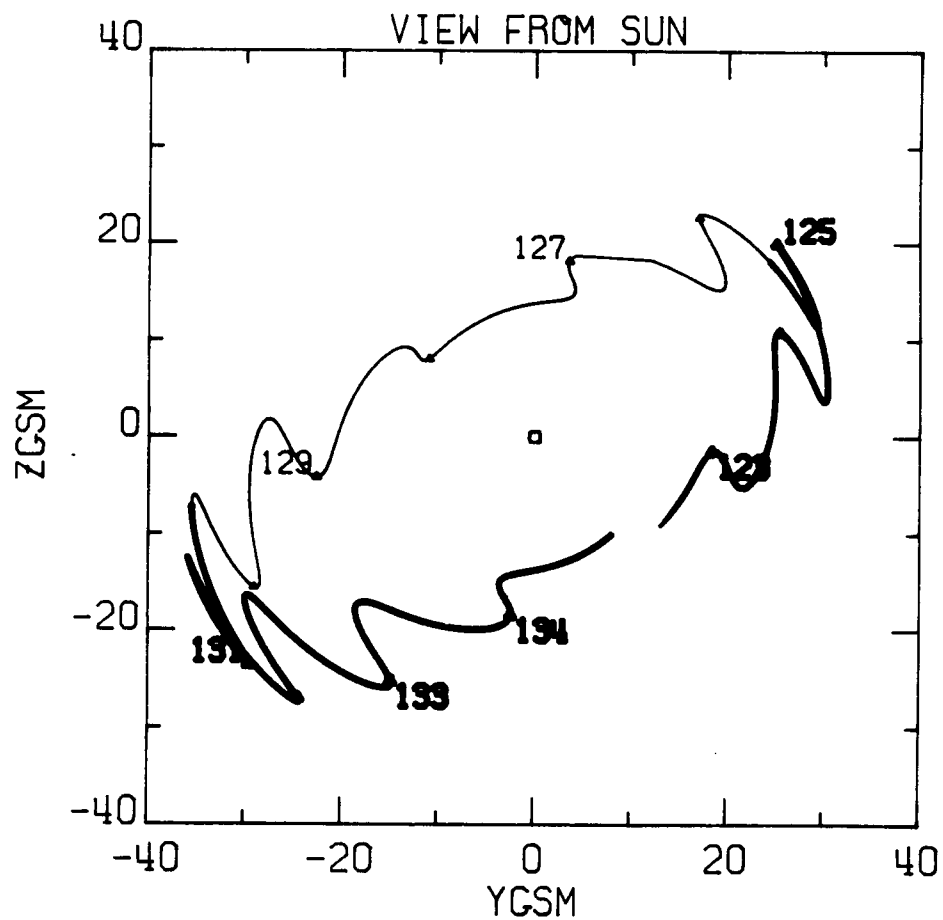
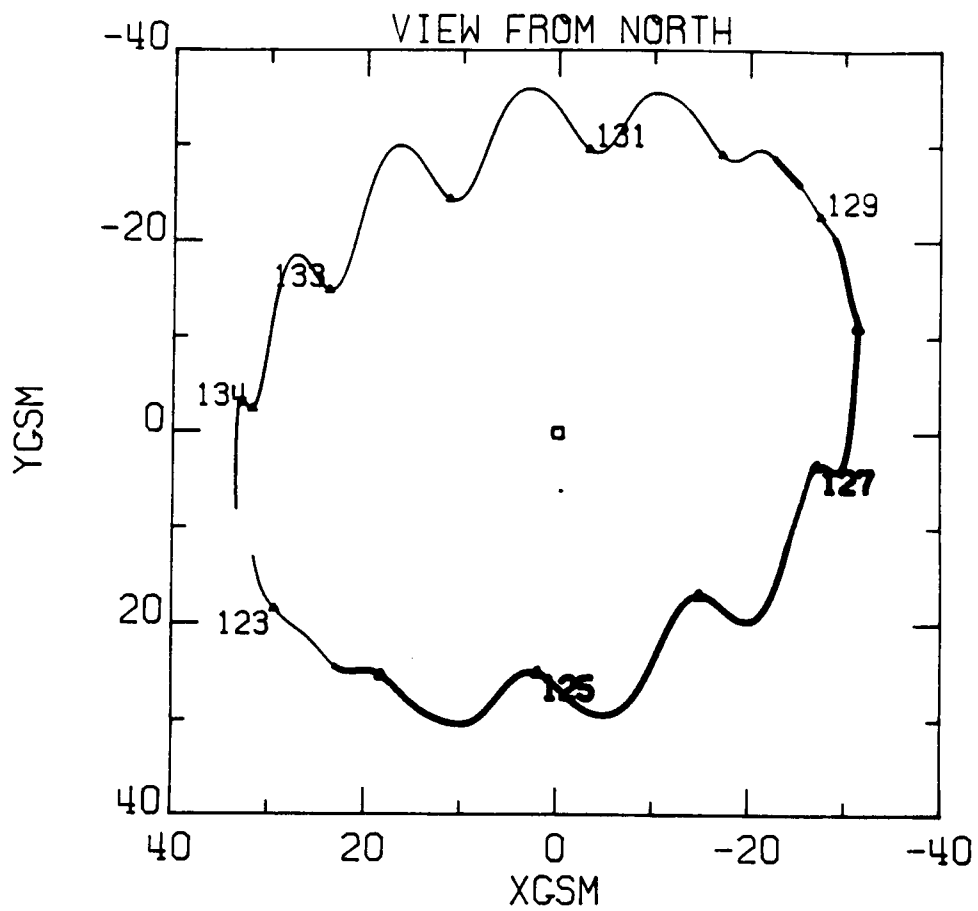
FROM APR 19 TO MAY 1 1976

DAYS 110 THRU 122

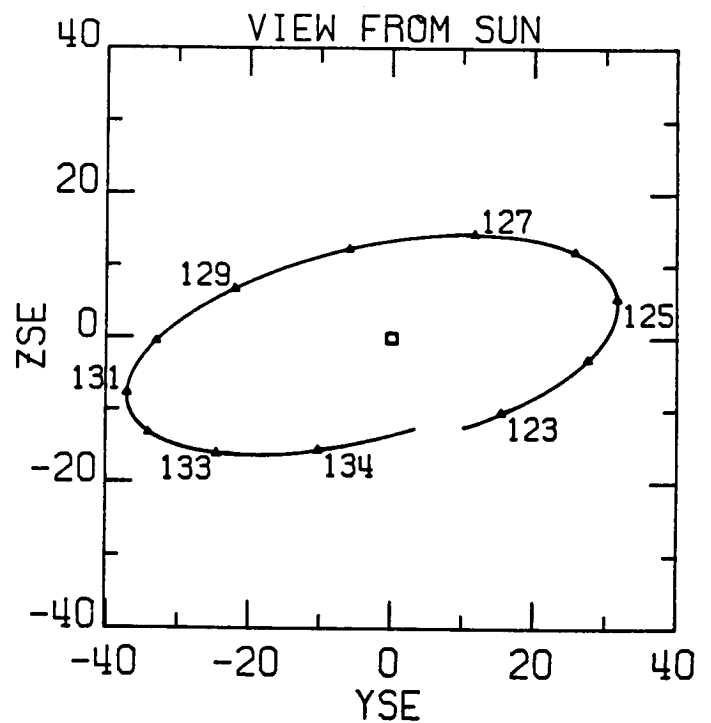
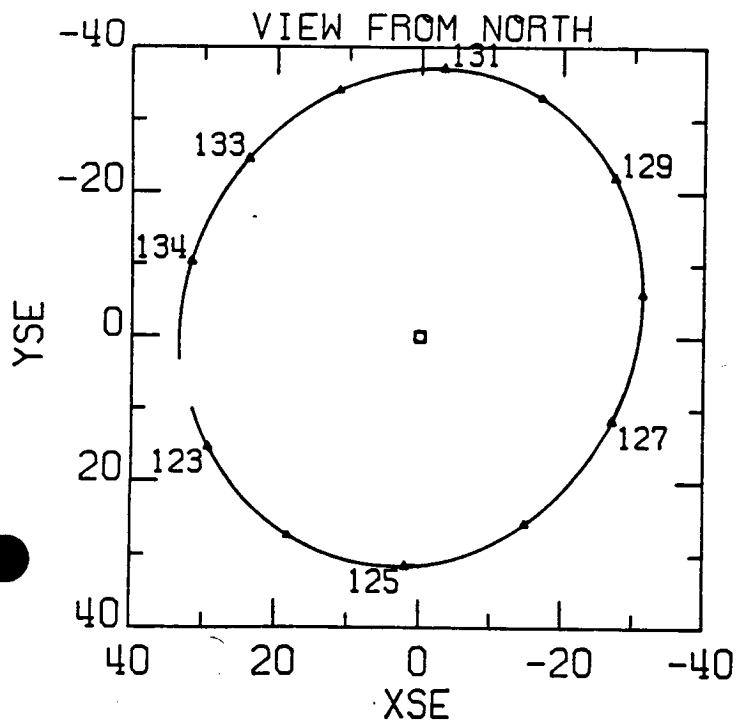
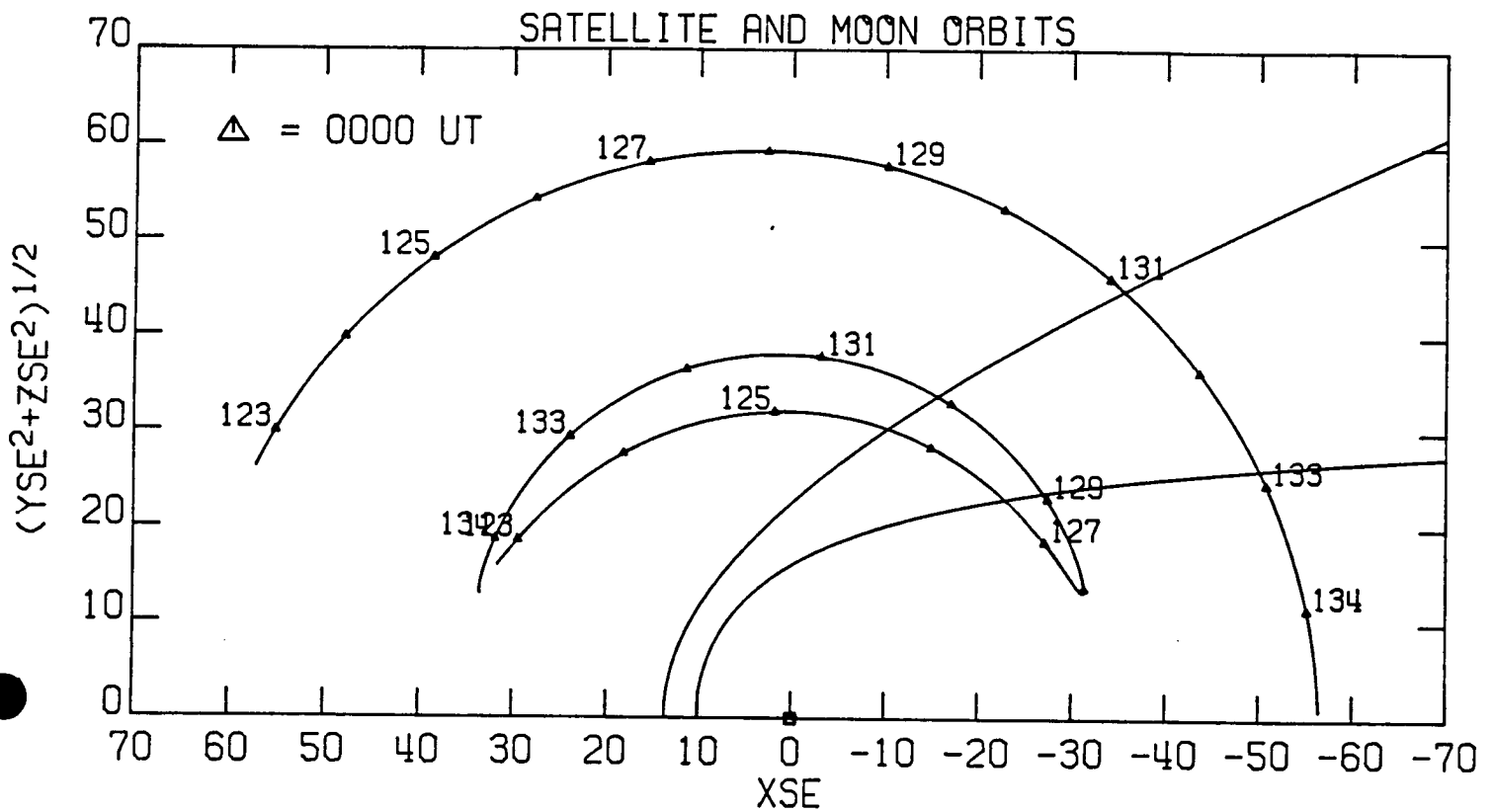


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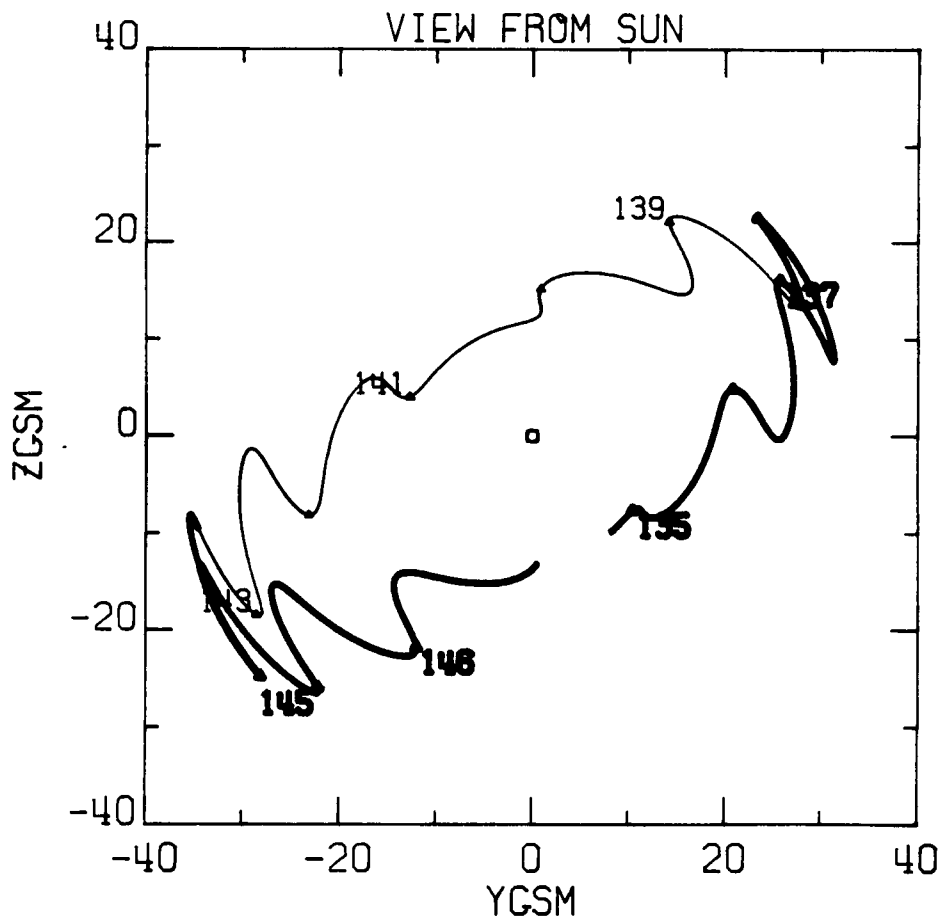
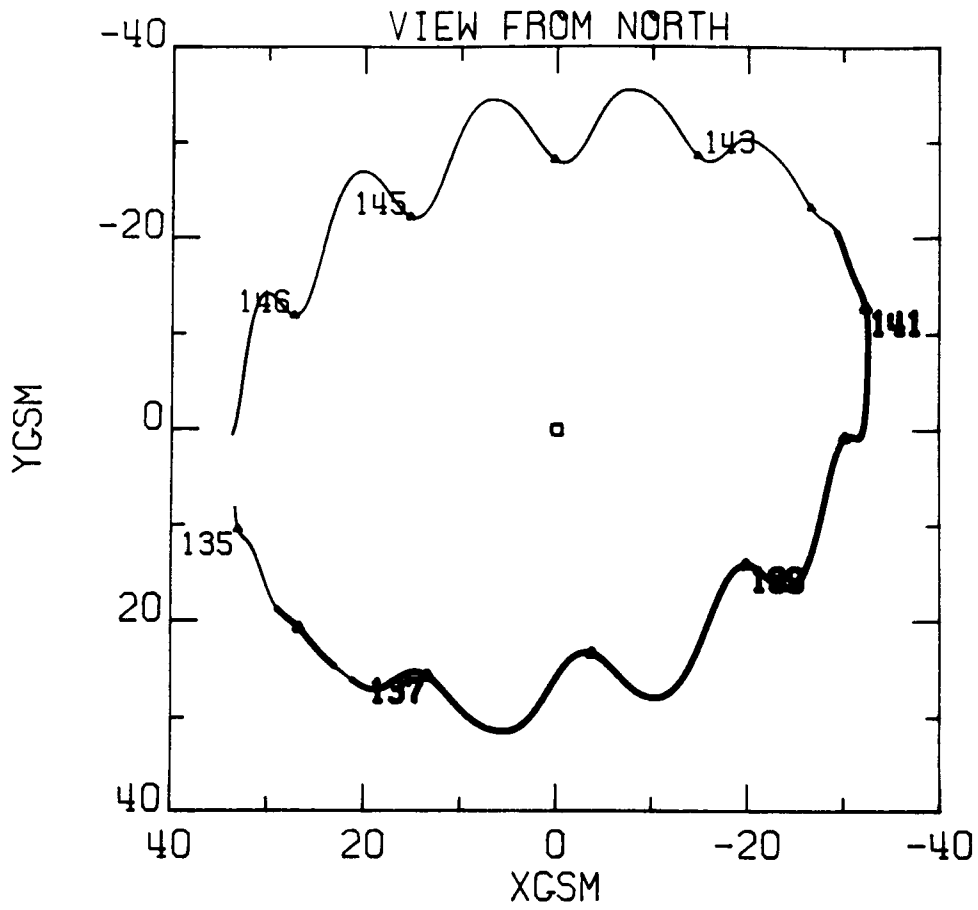
IMP 7 FROM MAY 1 TO MAY 13 1976



IMP 7 TRAJECTORY. ASCENDING NODE 109
 FROM MAY 1 TO MAY 13 1976
 DAYS 122 THRU 134



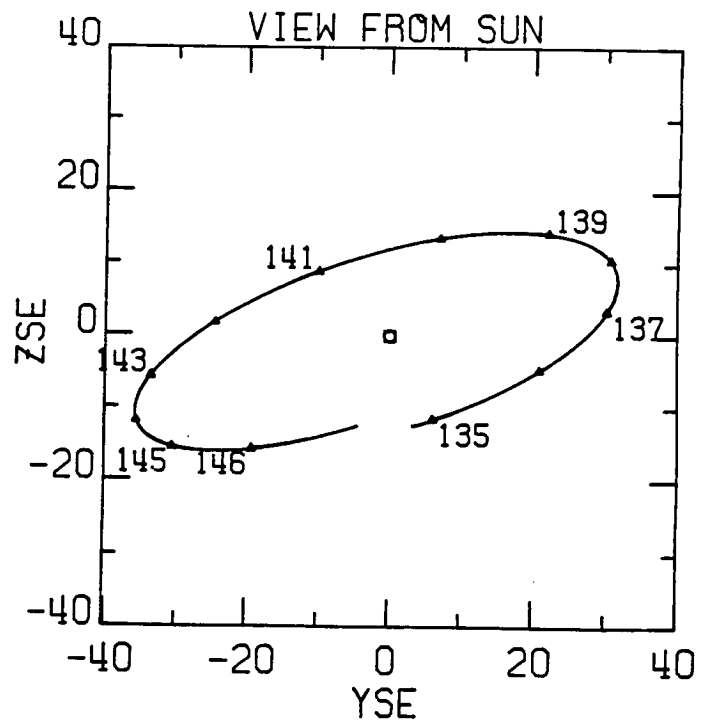
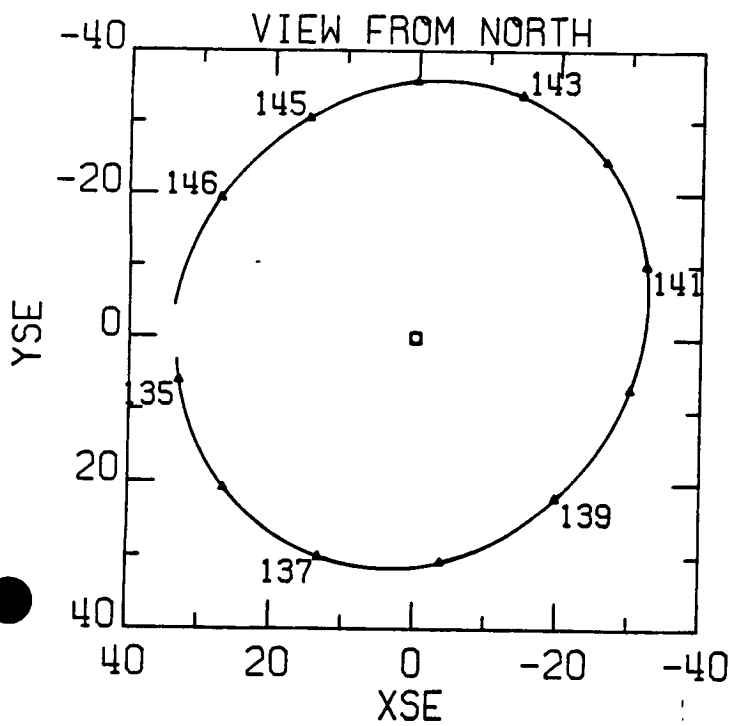
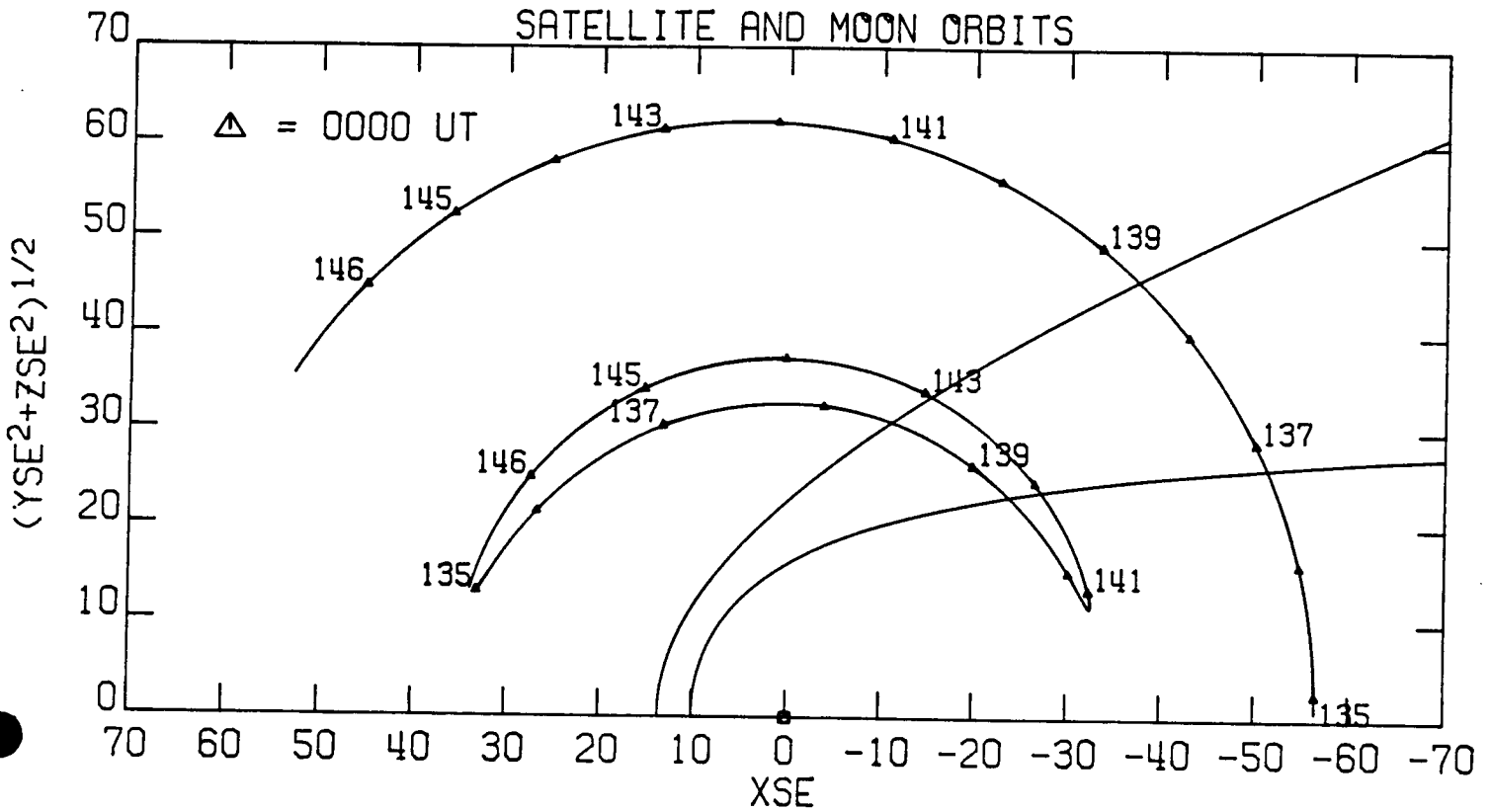
IMP 7 FROM MAY 13 TO MAY 25 1976



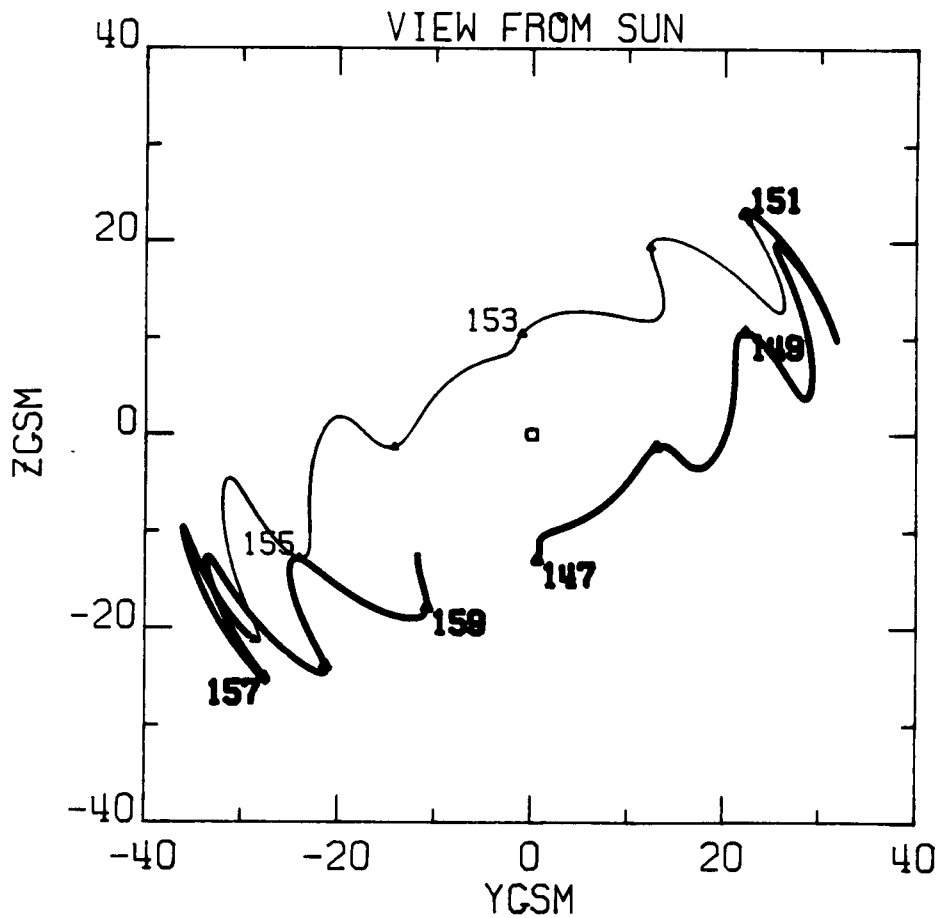
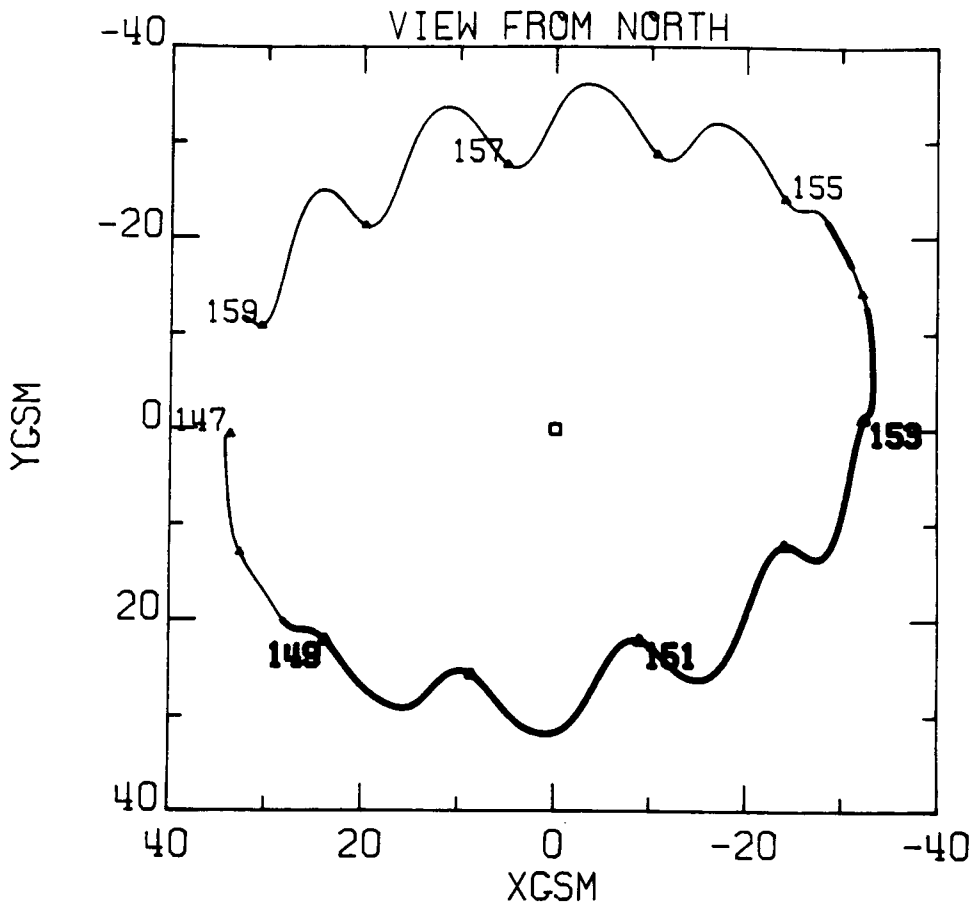
IMP 7 TRAJECTORY. ASCENDING NODE 110

FROM MAY 13 TO MAY 25 1976

DAYS 134 THRU 146



IMP 7 FROM MAY 25 TO JUN 7 1976



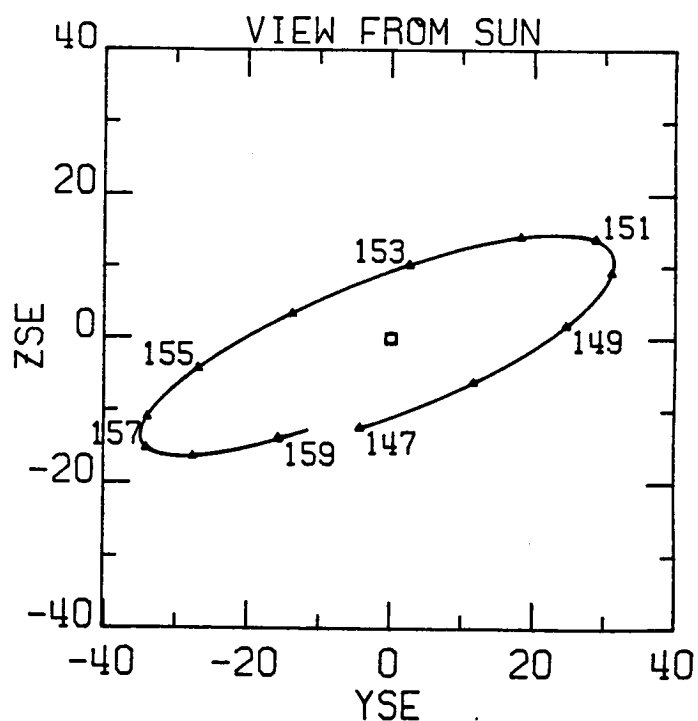
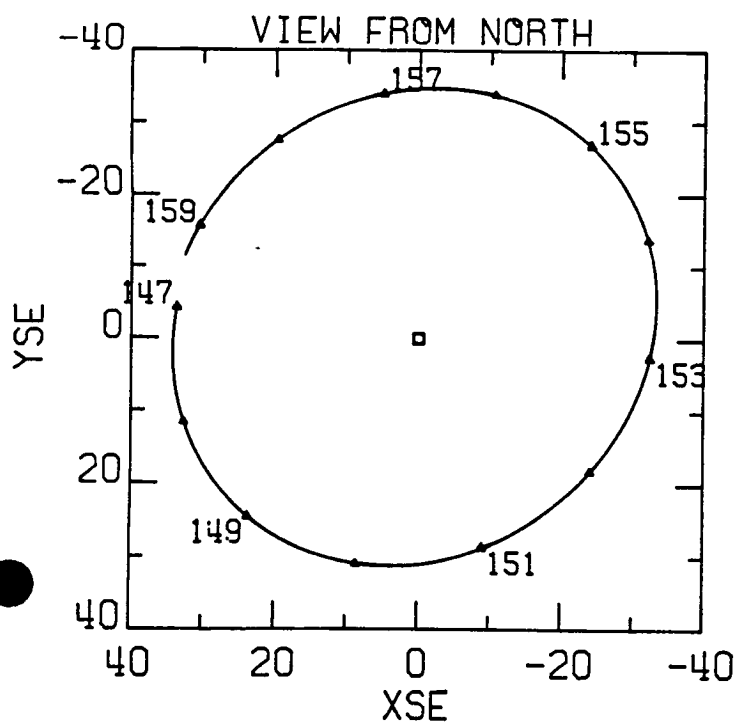
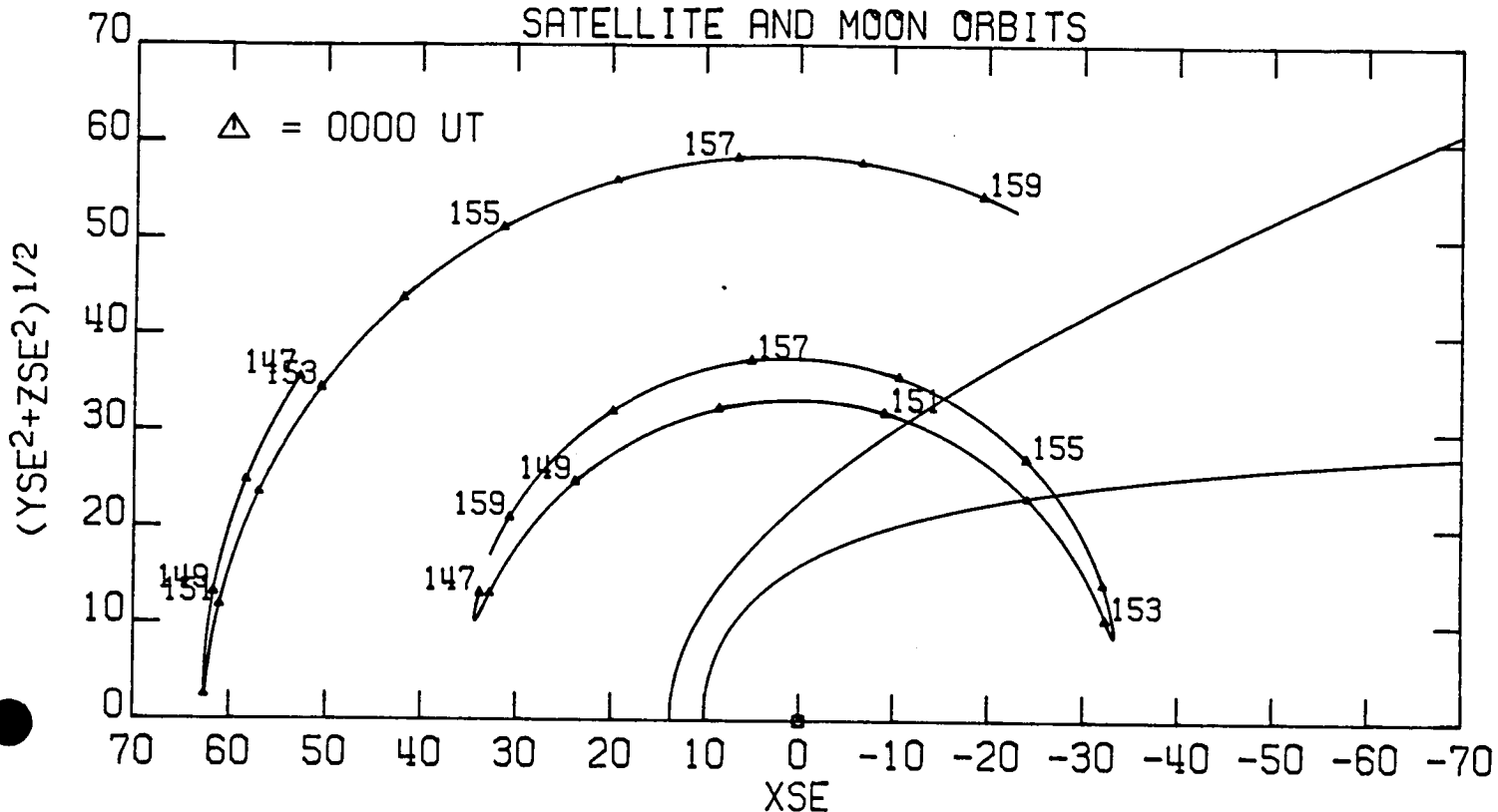
IMP 7 TRAJECTORY.

ASCENDING NODE 111

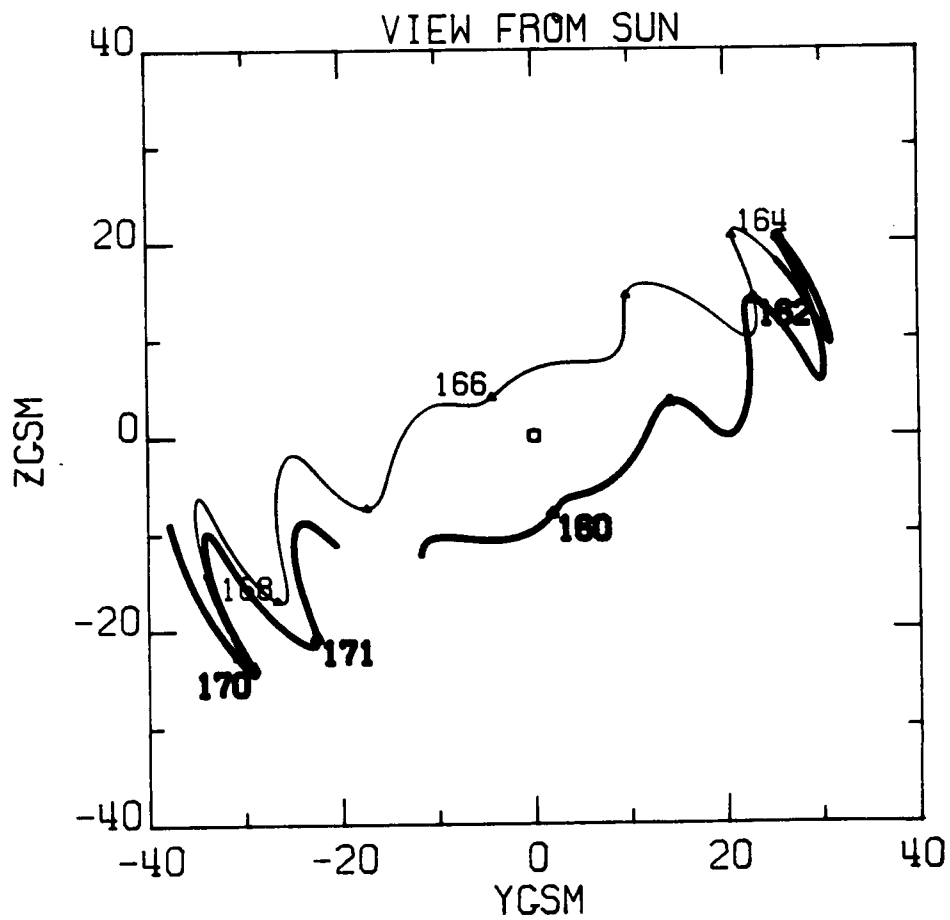
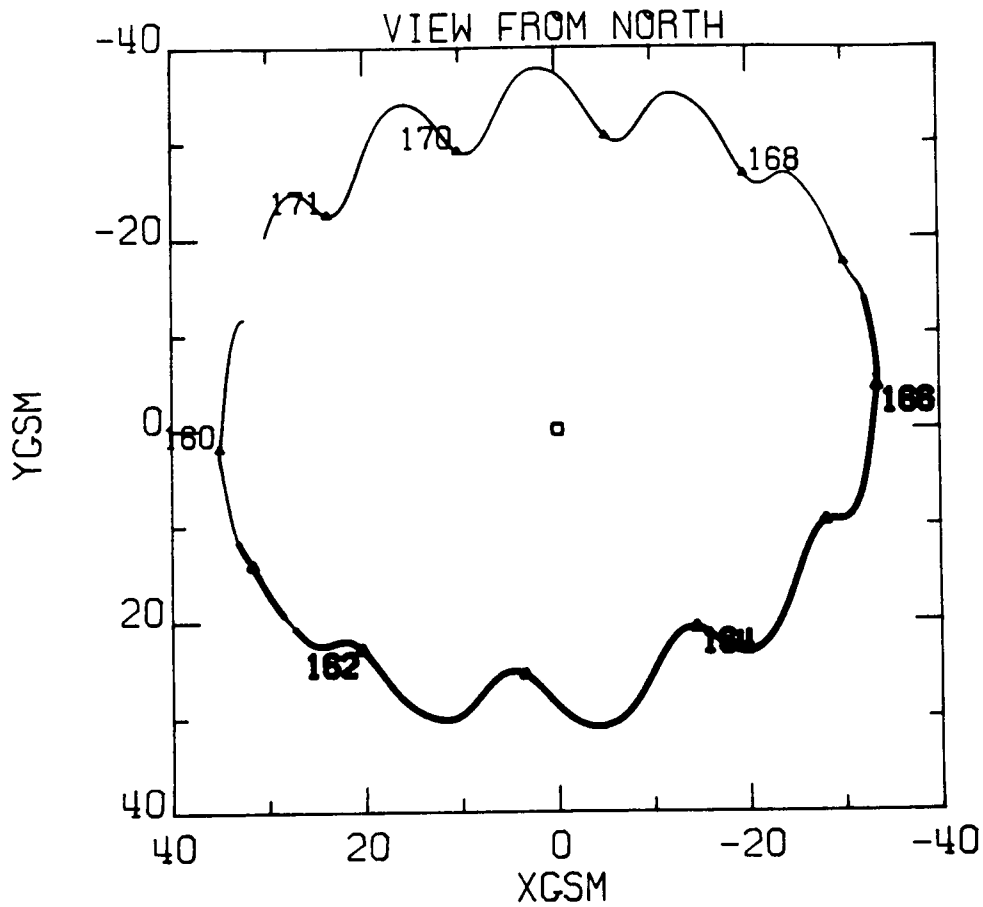
FROM MAY 25 TO JUN 7 1976

DAYS 146 THRU 159

SATELLITE AND MOON ORBITS



IMP 7 FROM JUN 7 TO JUN 19 1976

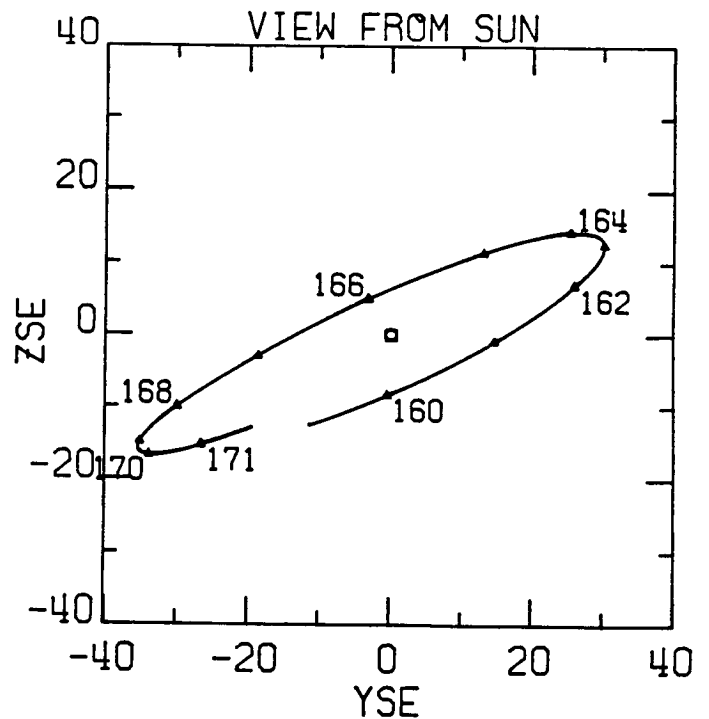
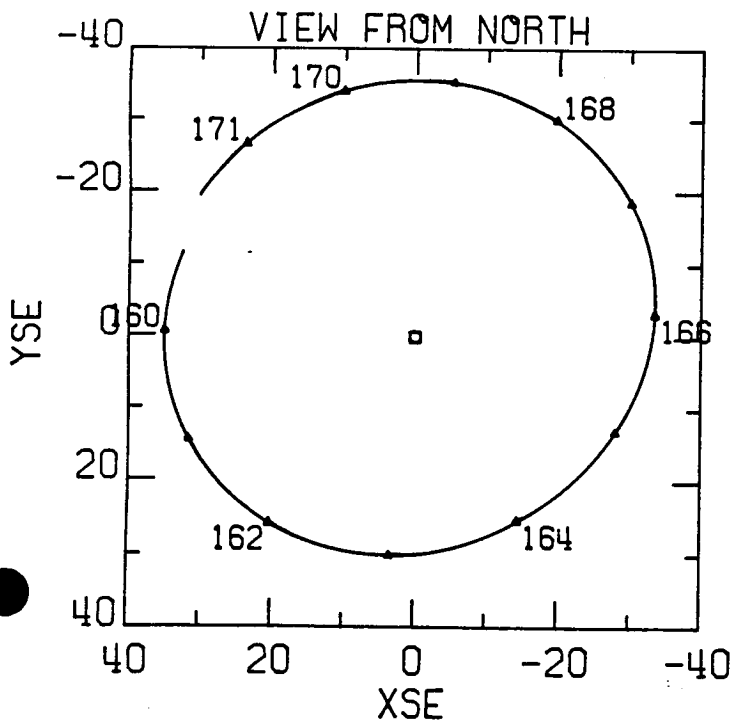
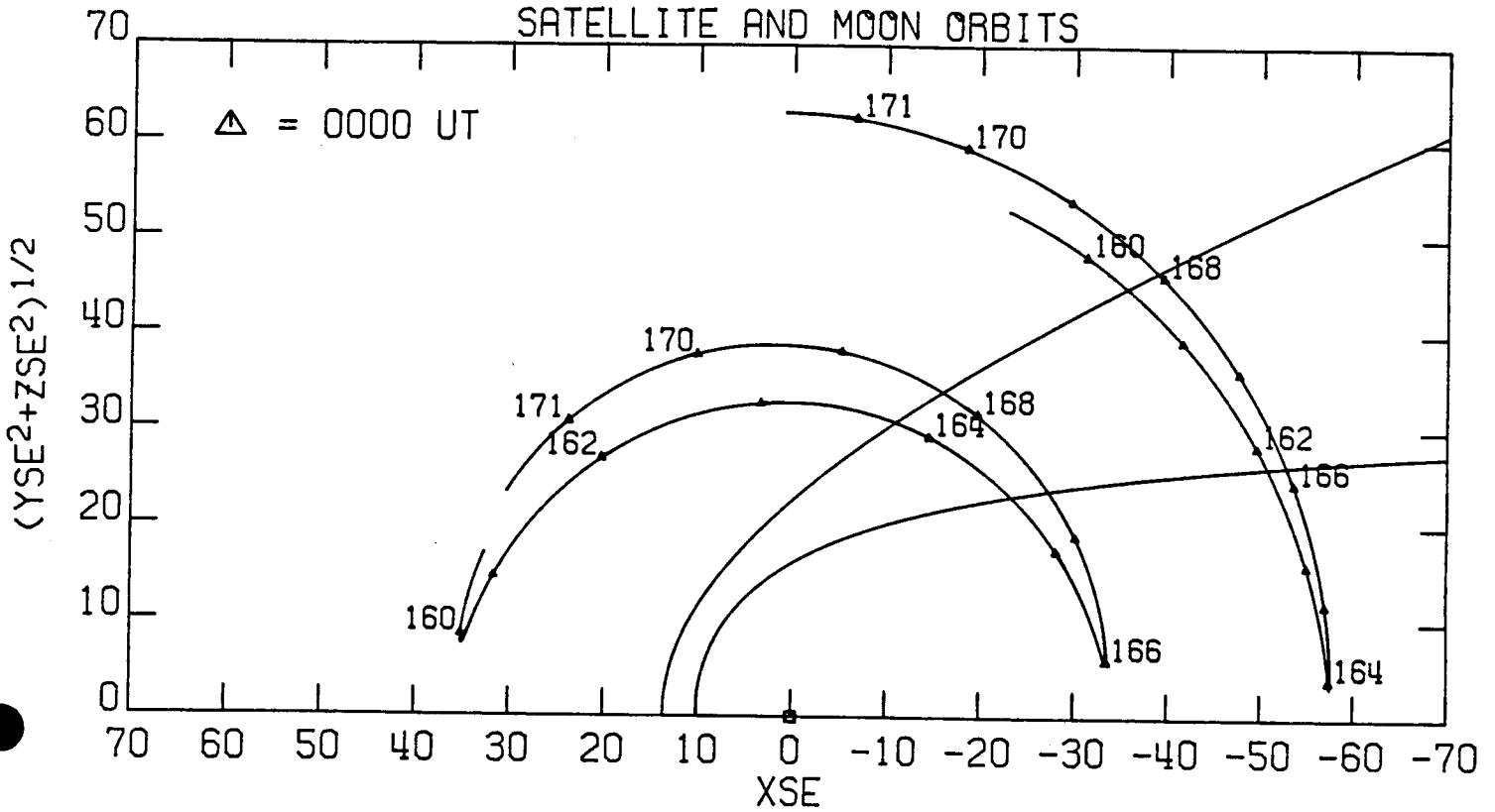


IMP 7 TRAJECTORY. ASCENDING NODE 112

FROM JUN 7 TO JUN 19 1976

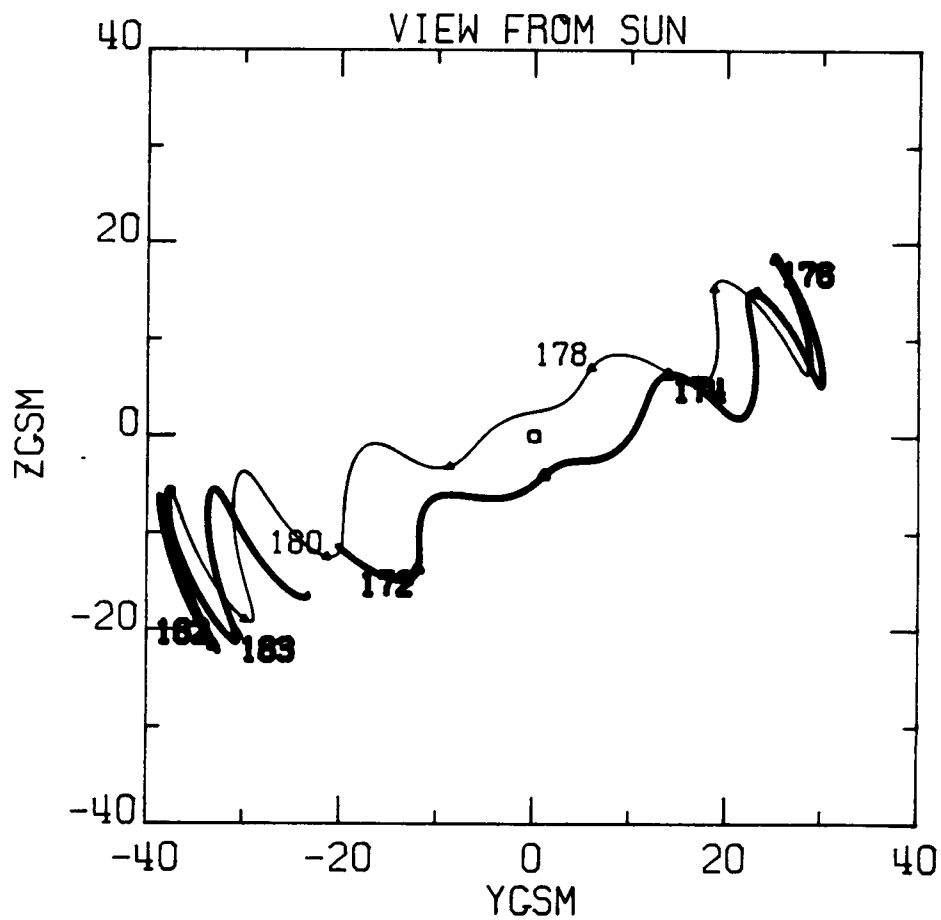
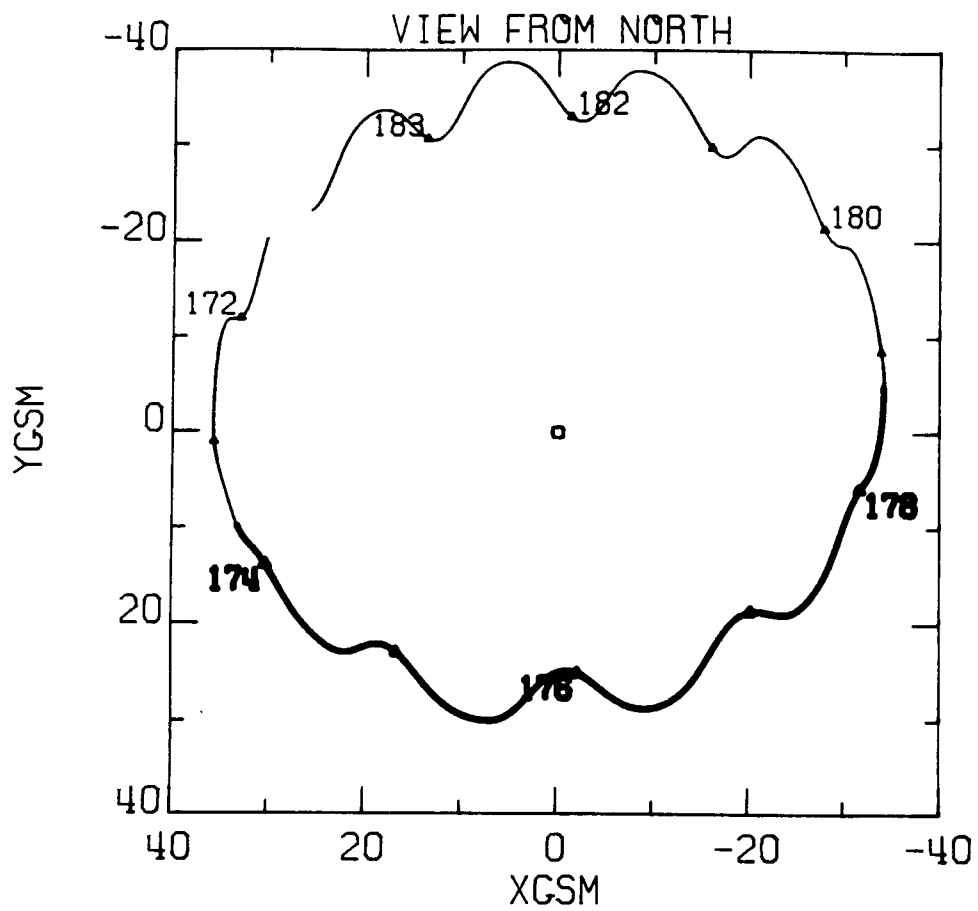
DAYS 159 THRU 171

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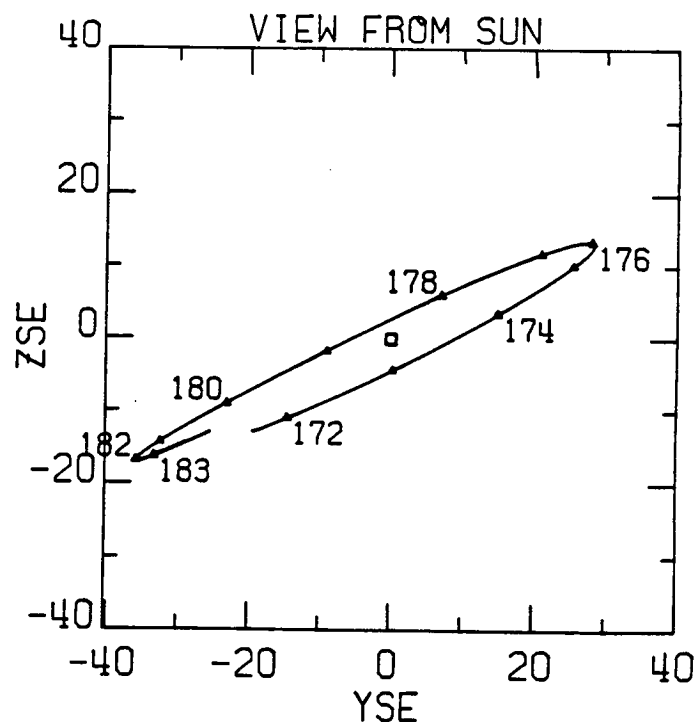
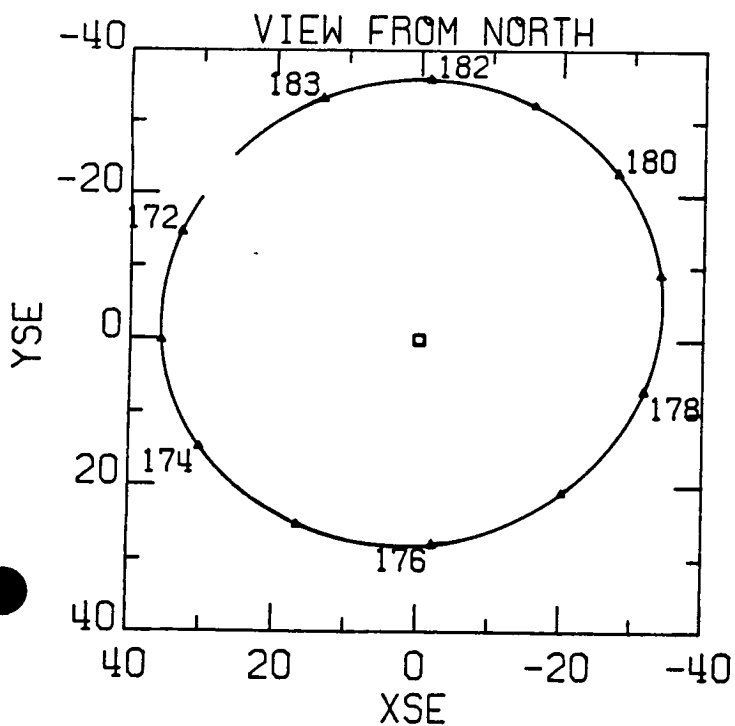
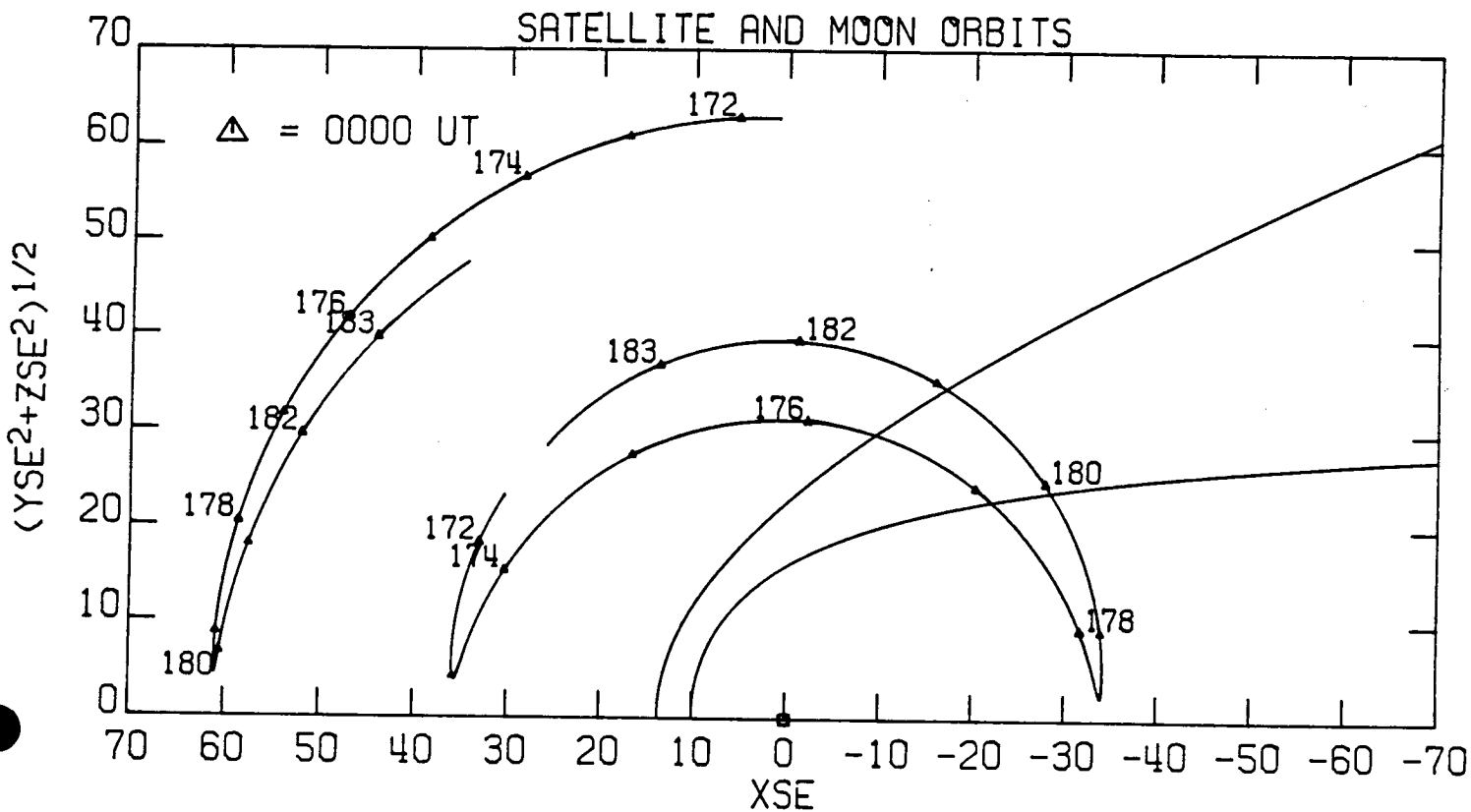
IMP 7 FROM JUN 19 TO JUL 1 1976



IMP 7 TRAJECTORY. ASCENDING NODE 113

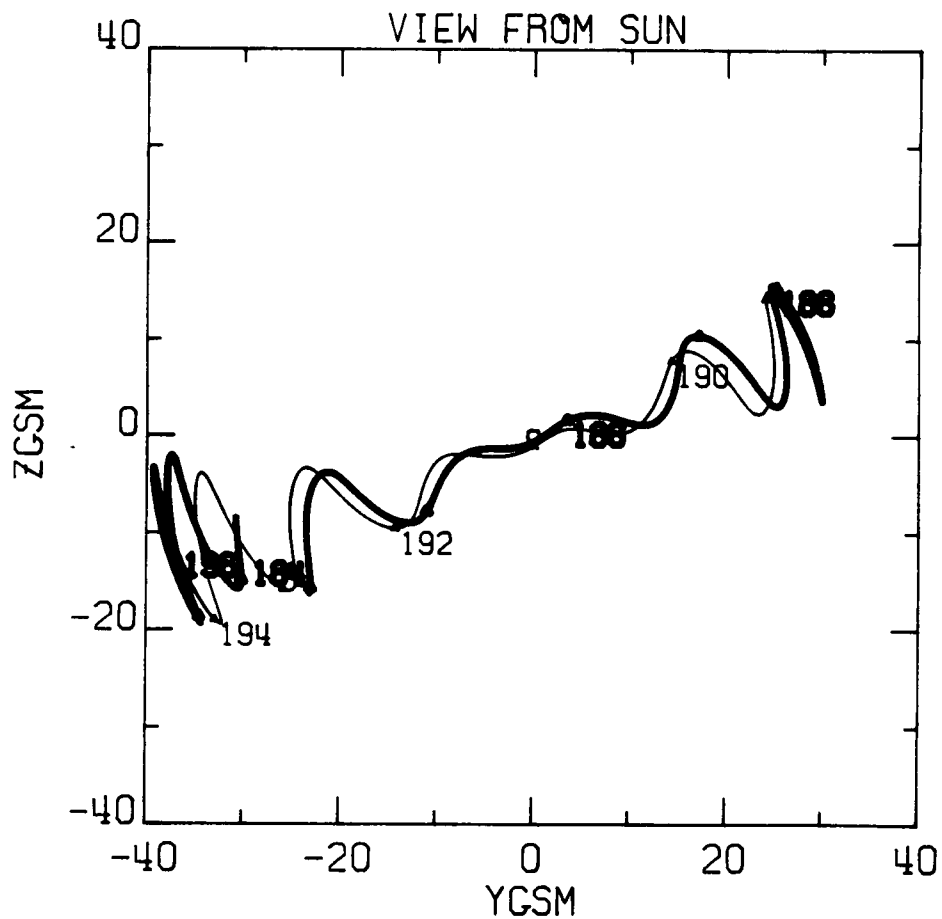
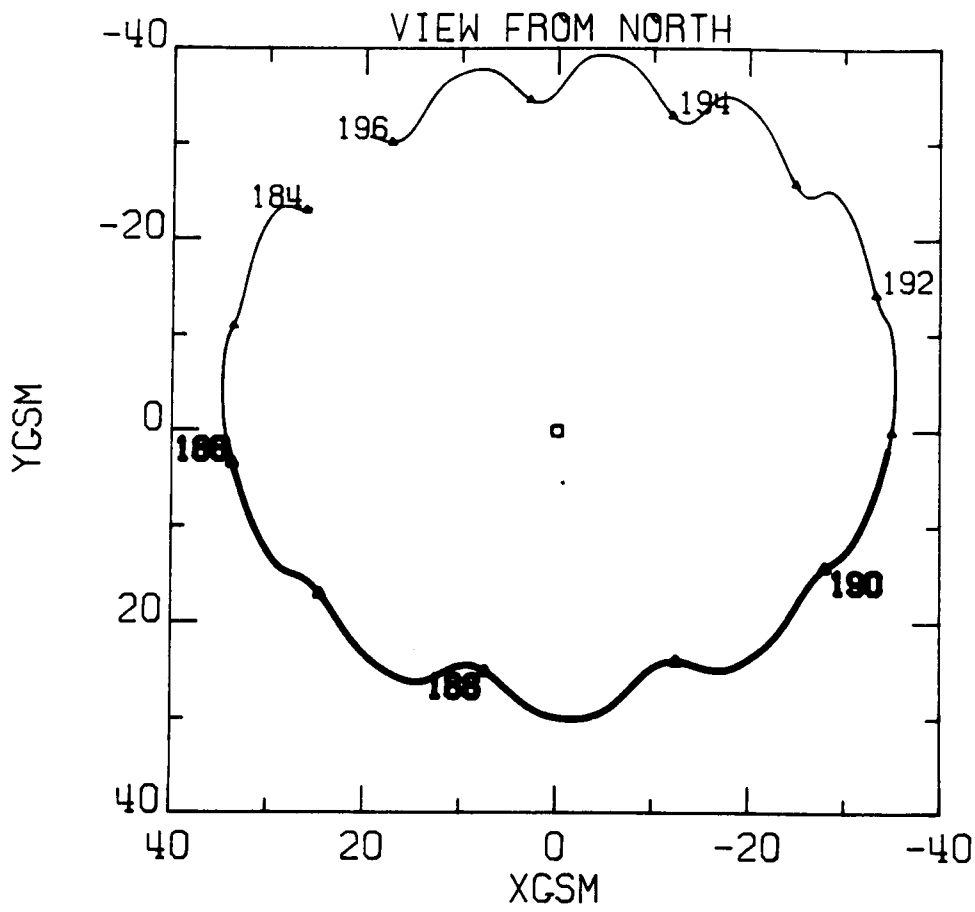
FROM JUN 19 TO JUL 1 1976

DAYS 171 THRU 183

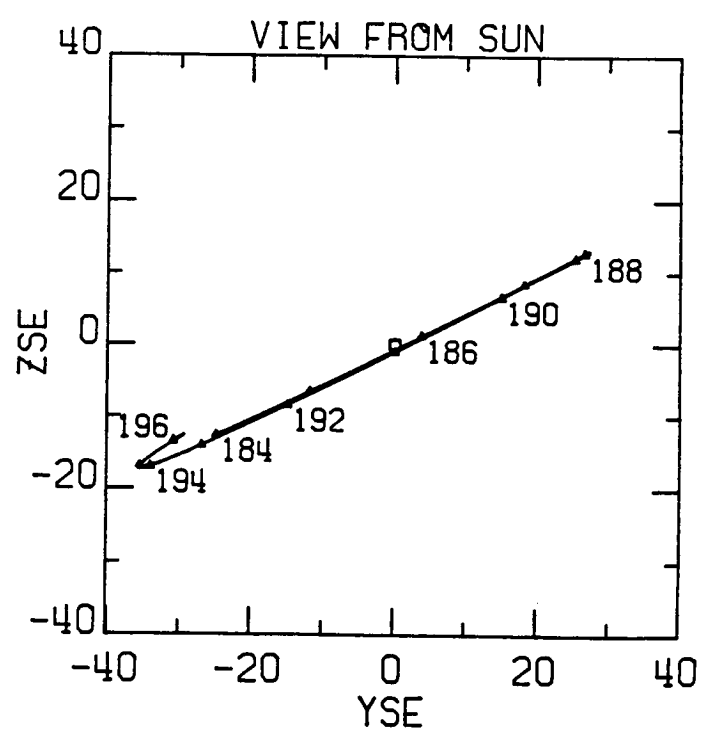
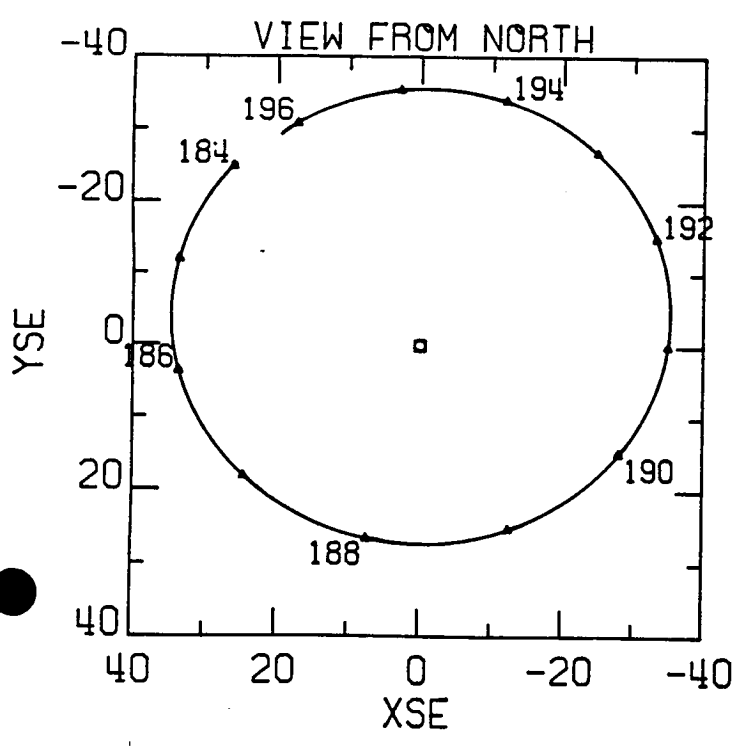
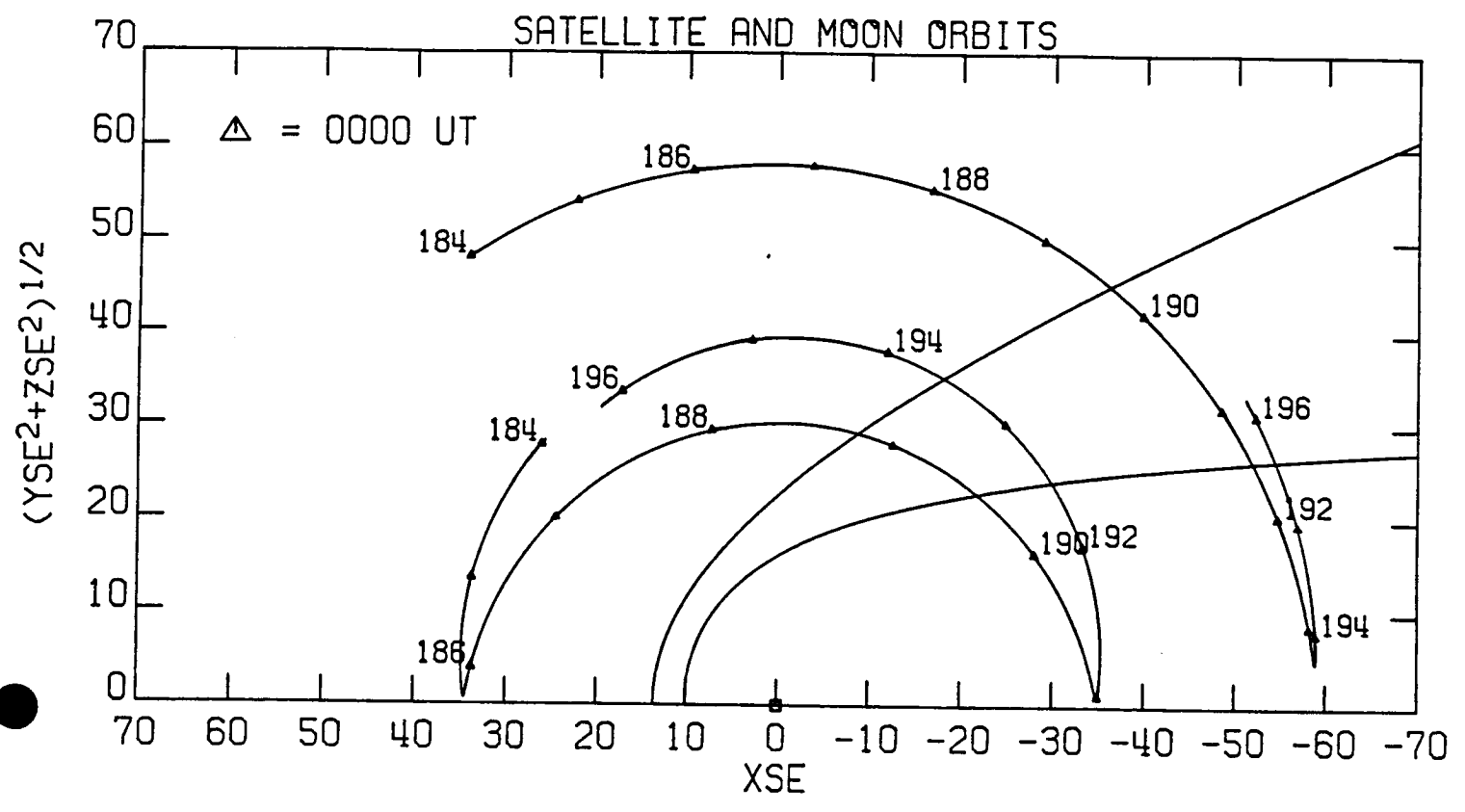


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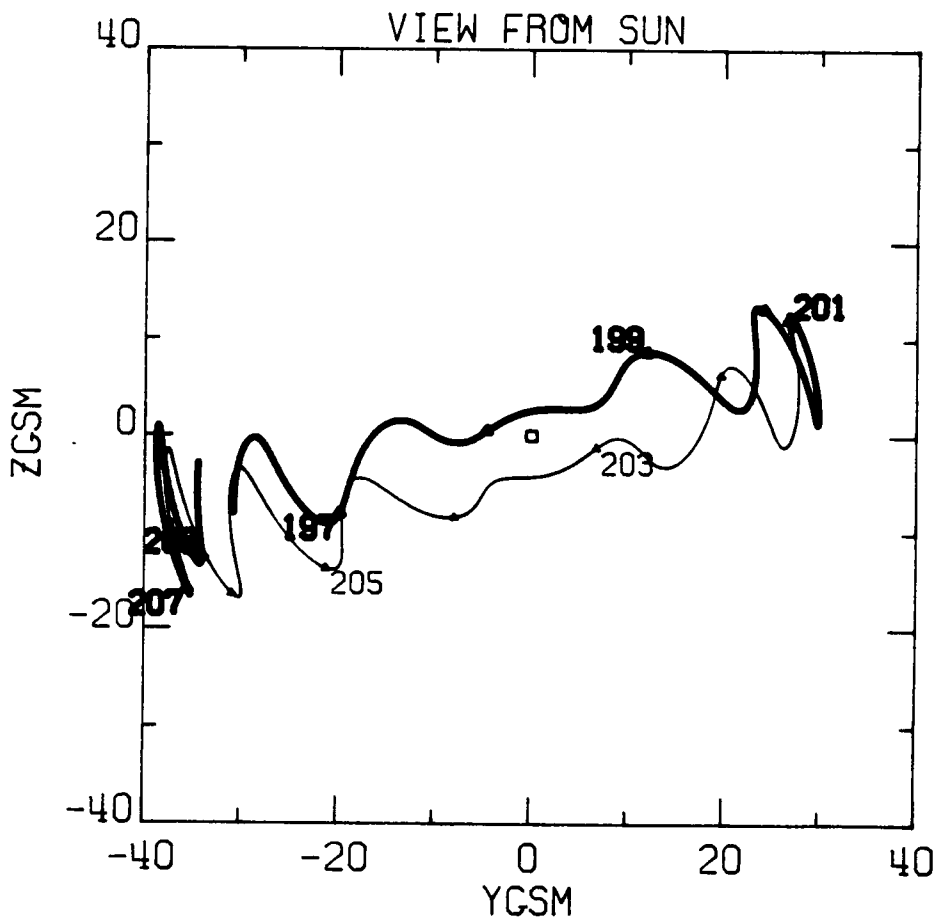
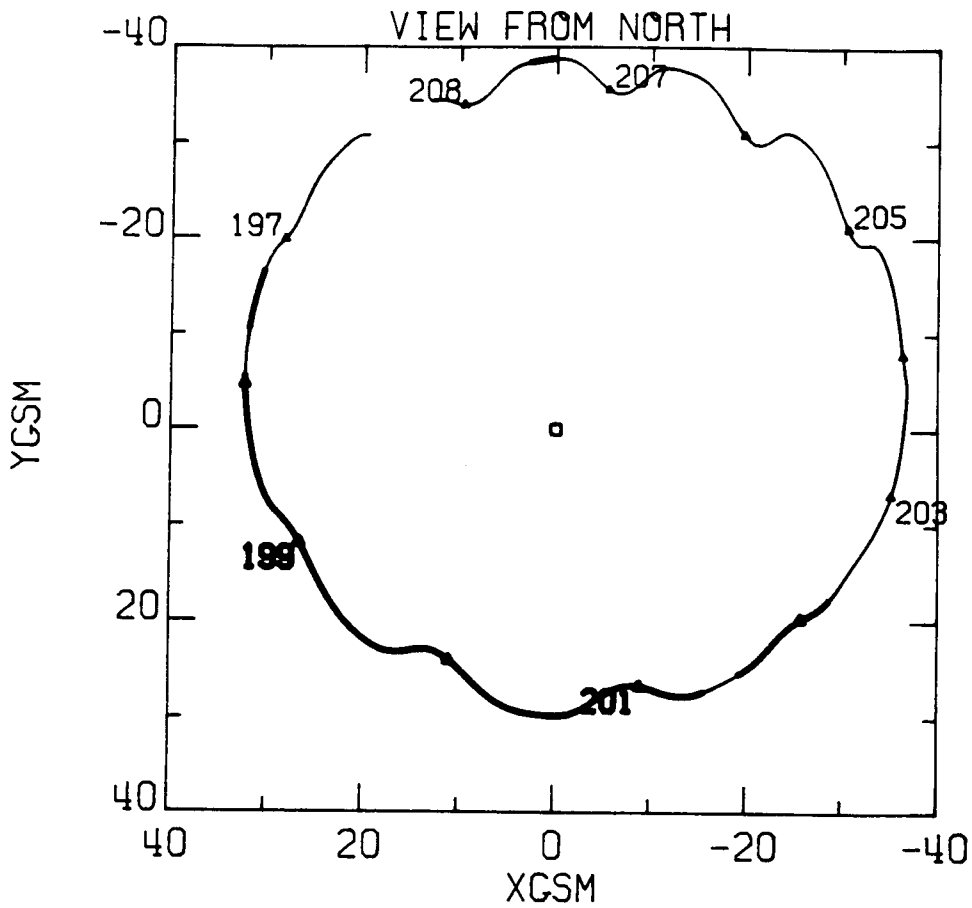
IMP 7 FROM JUL 1 TO JUL 14 1976



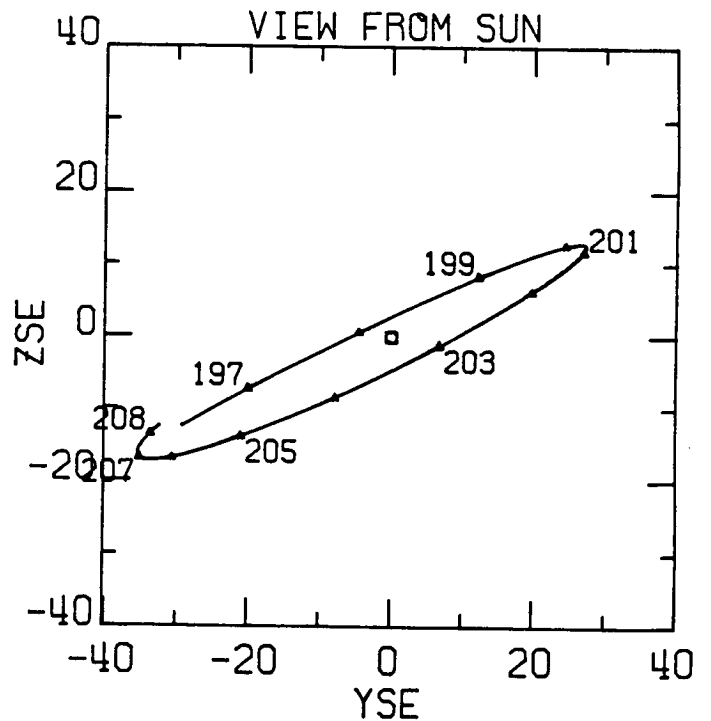
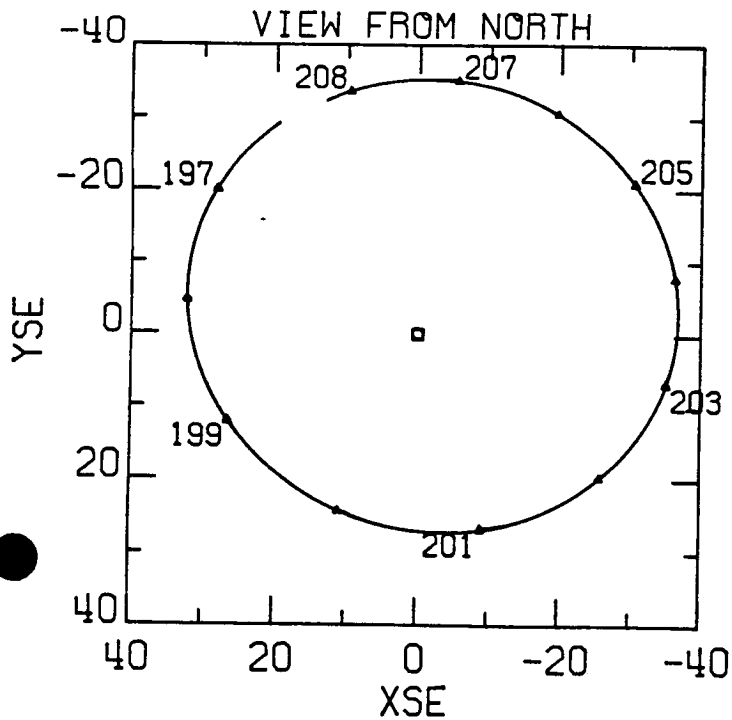
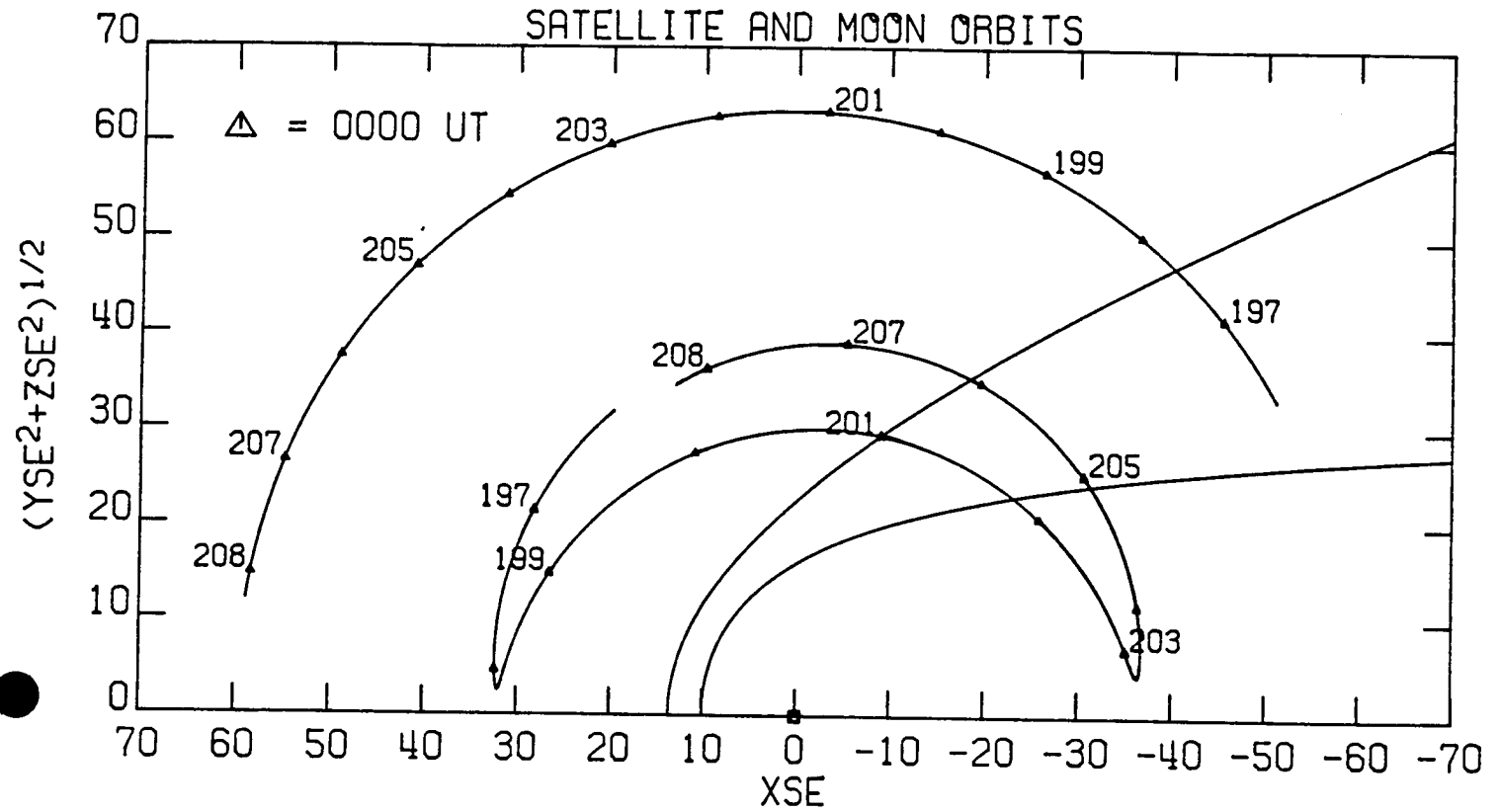
IMP 7 TRAJECTORY. ASCENDING NODE 114
 FROM JUL 1 TO JUL 14 1976
 DAYS 183 THRU 196



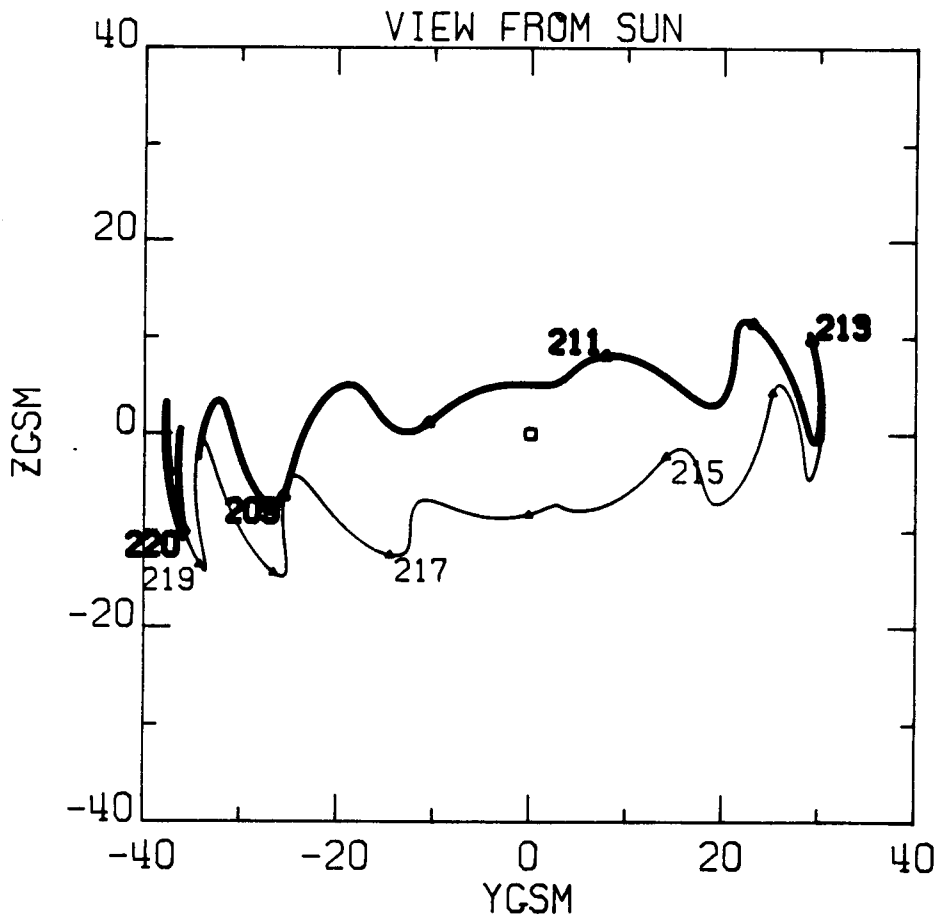
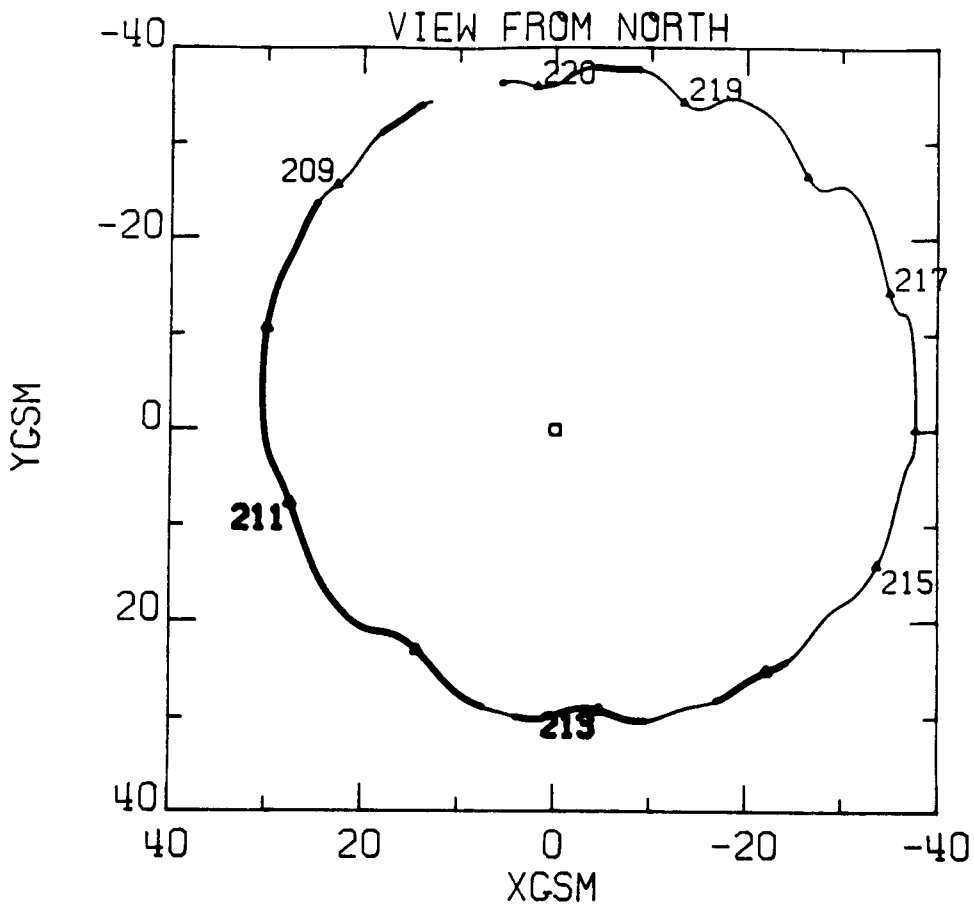
IMP 7 FROM JUL 14 TO JUL 26 1976



IMP 7 TRAJECTORY. ASCENDING NODE 115
 FROM JUL 14 TO JUL 26 1976
 DAYS 196 THRU 208



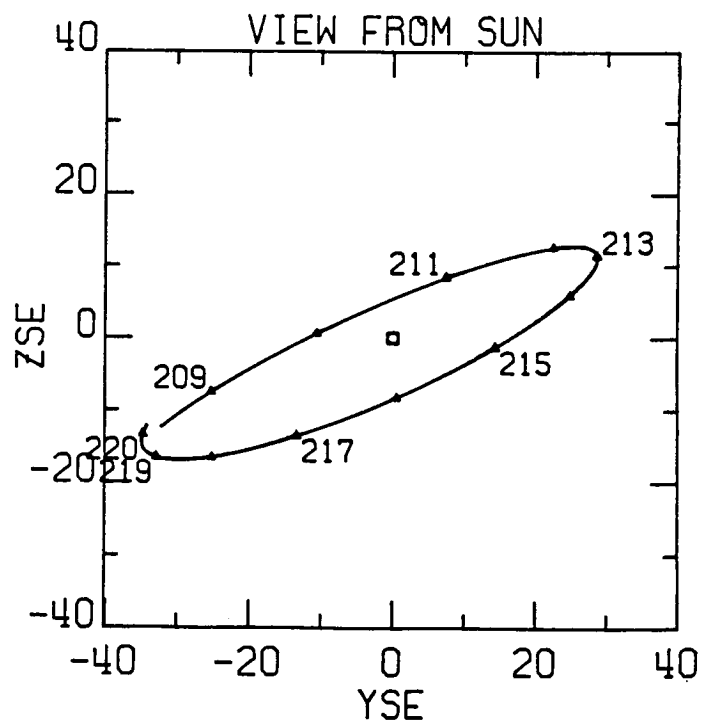
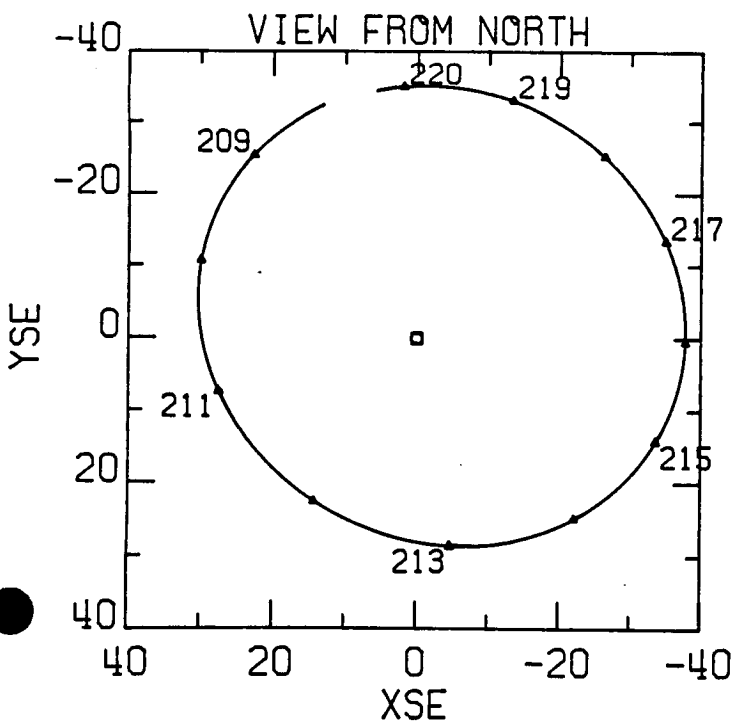
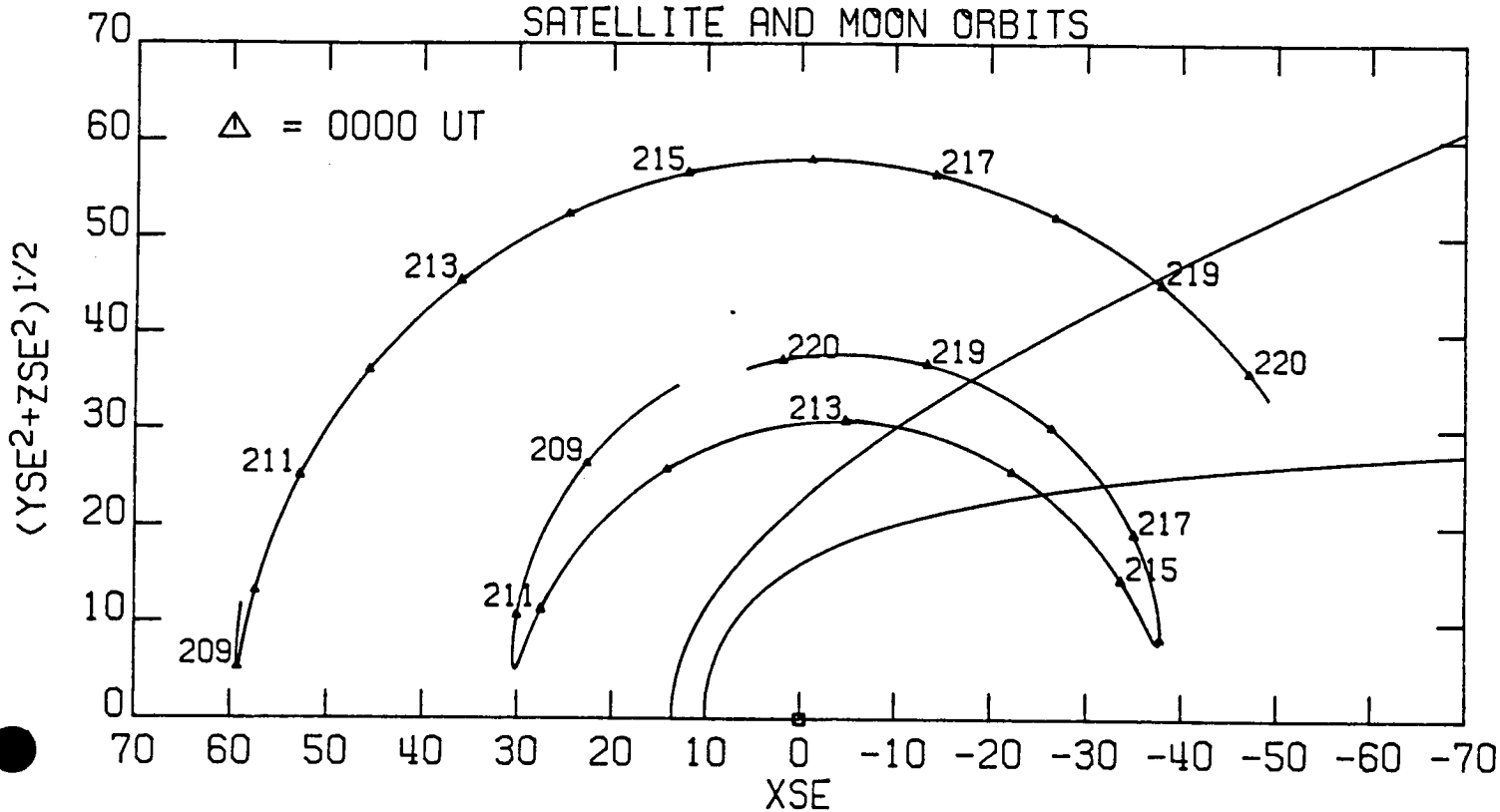
IMP 7 FROM JUL 26 TO AUG 7 1976



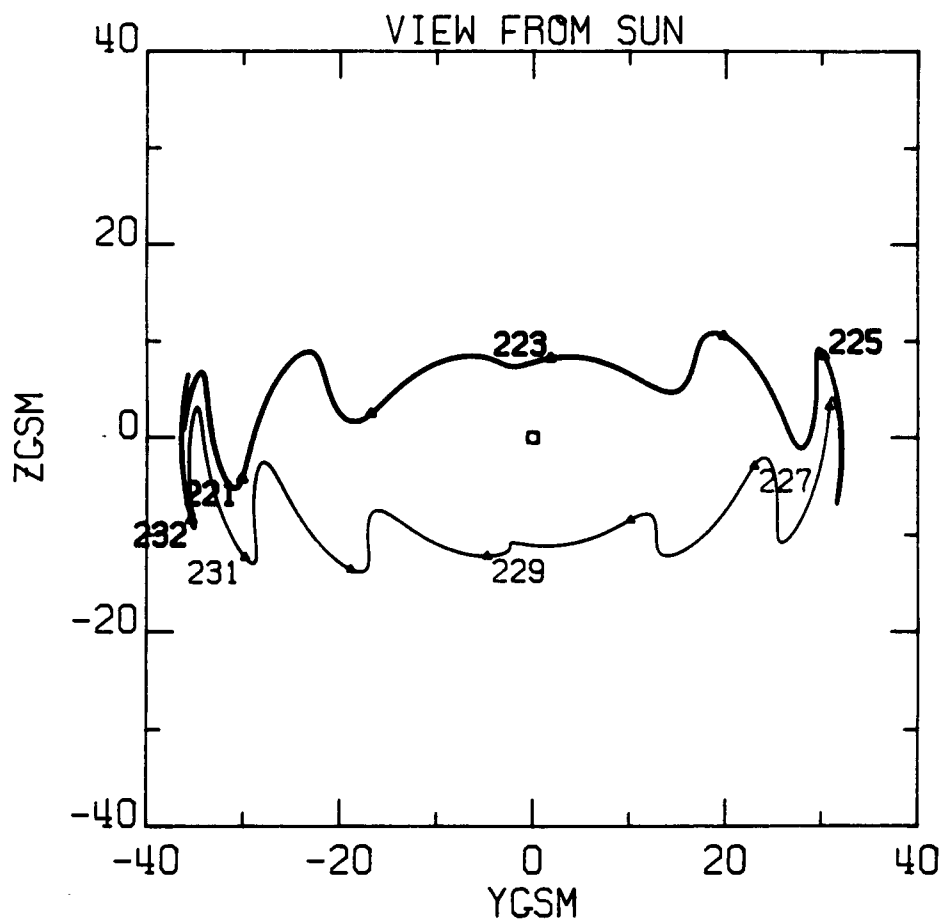
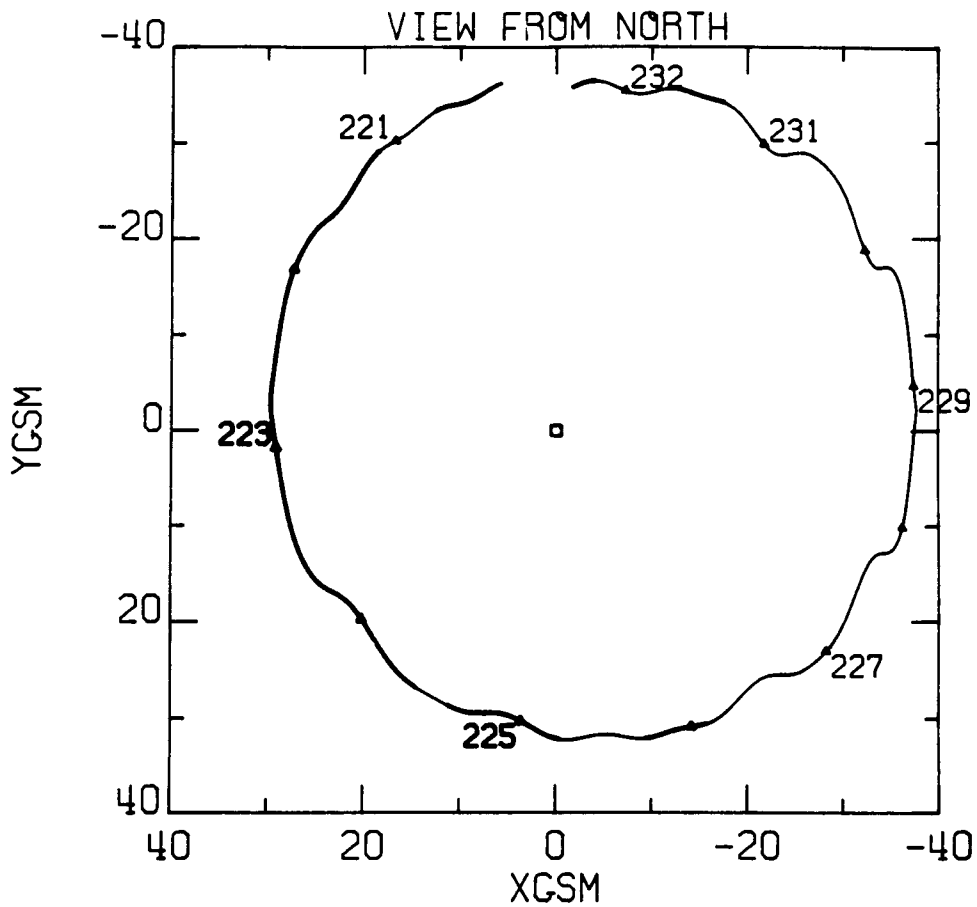
FROM JUL 26 TO AUG 7 1976

DAYS 208 THRU 220

SATELLITE AND MOON ORBITS



IMP 7 FROM AUG 7 TO AUG 19 1976

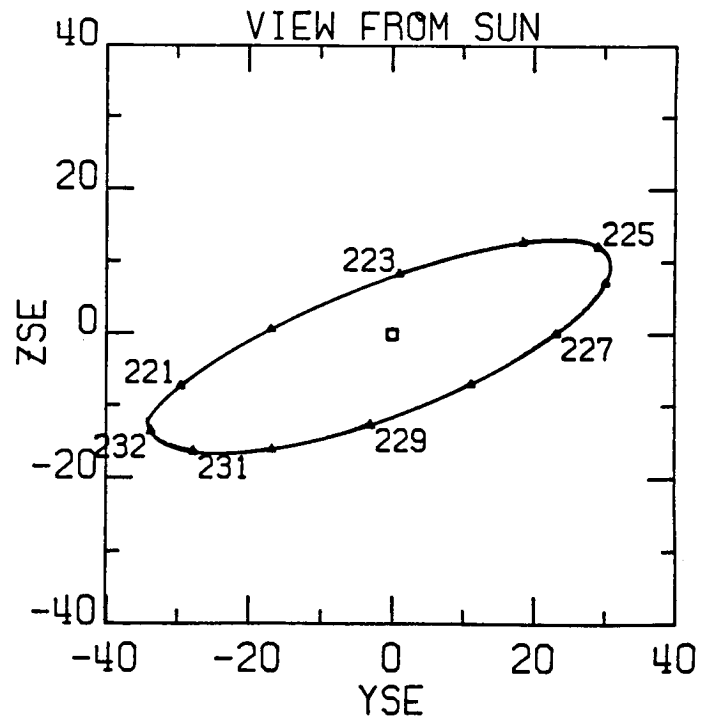
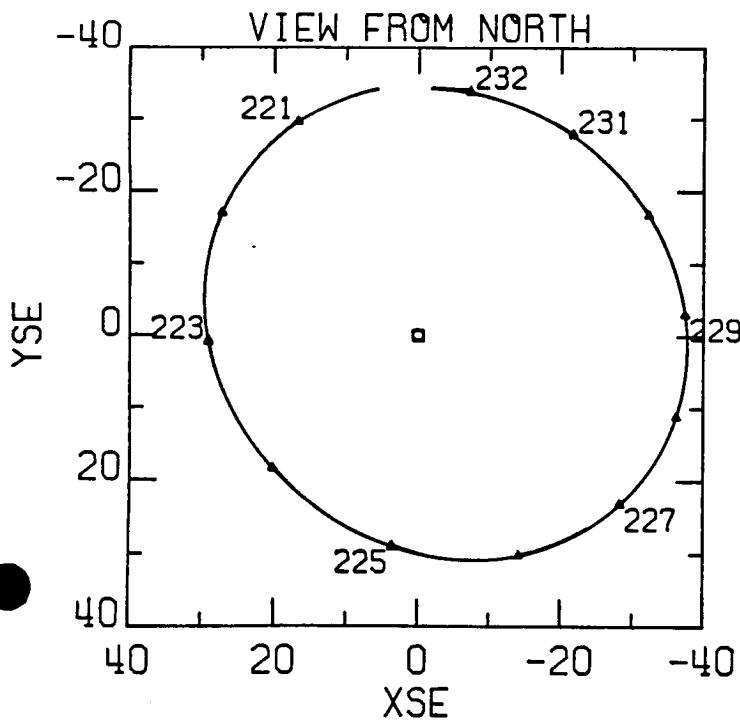
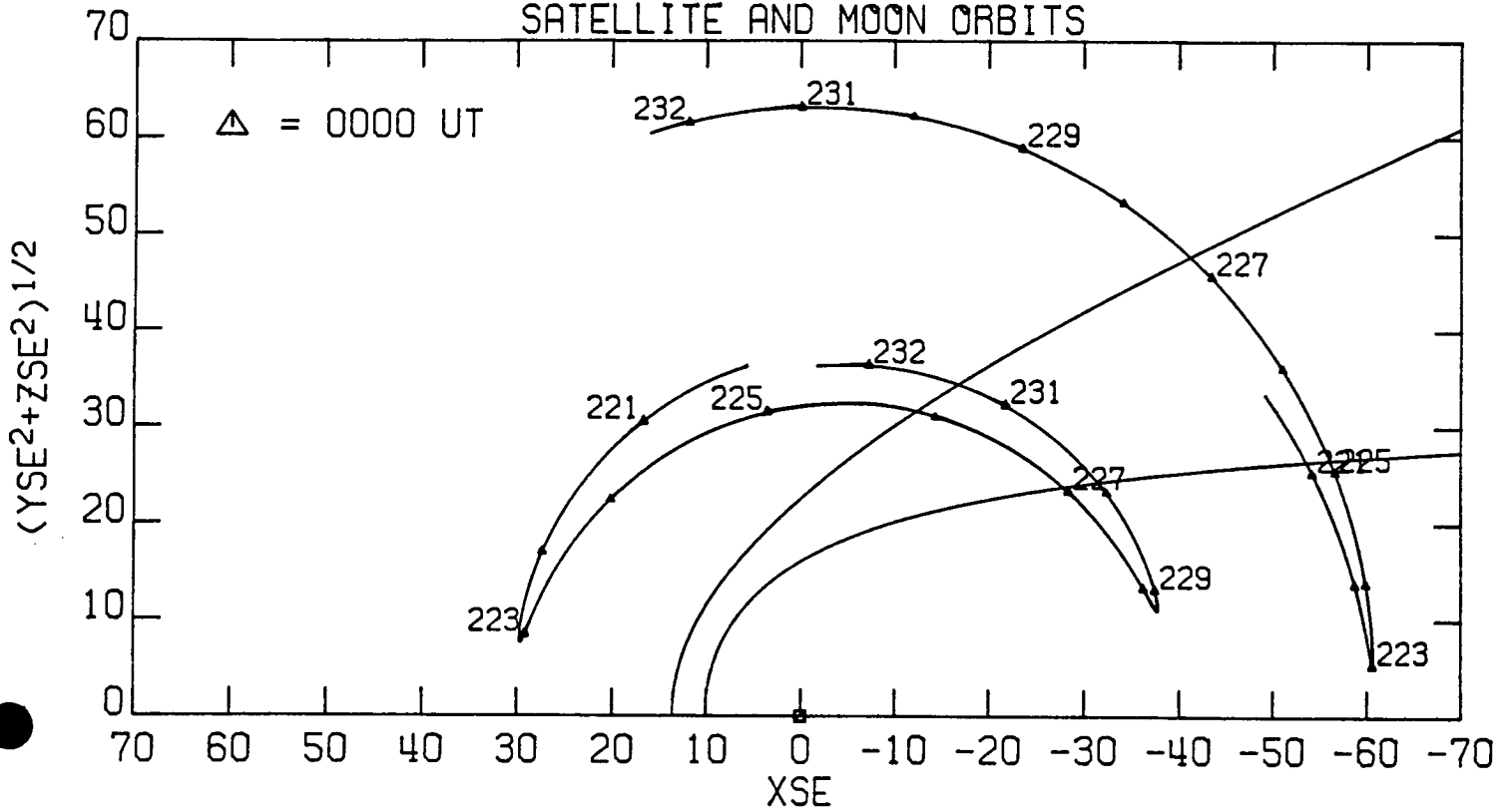


IMP 7 TRAJECTORY. ASCENDING NODE 117

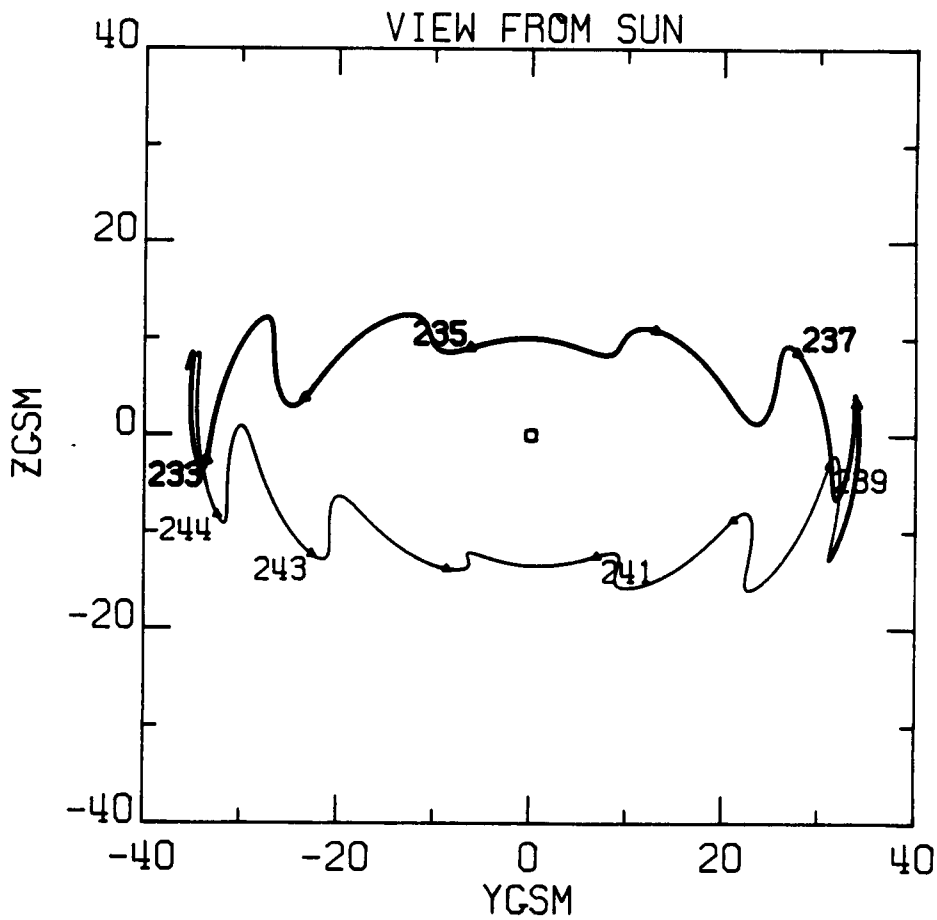
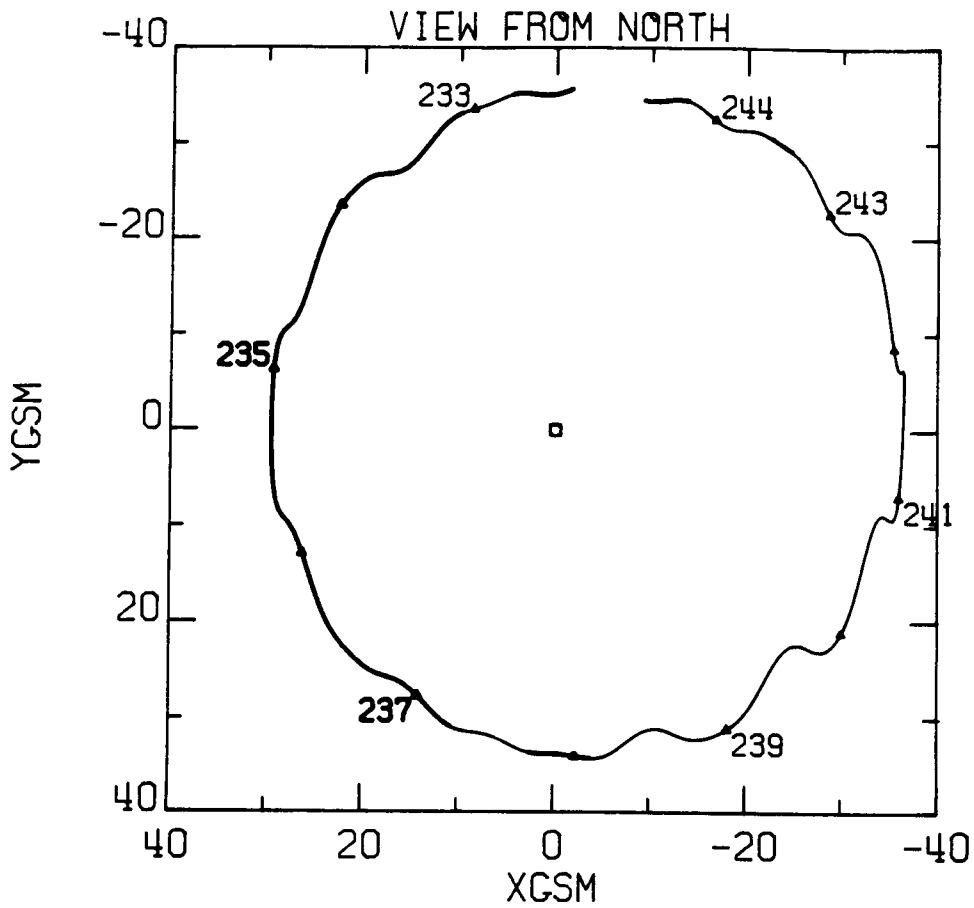
FROM AUG 7 TO AUG 19 1976

DAYS 220 THRU 232

SATELLITE AND MOON ORBITS

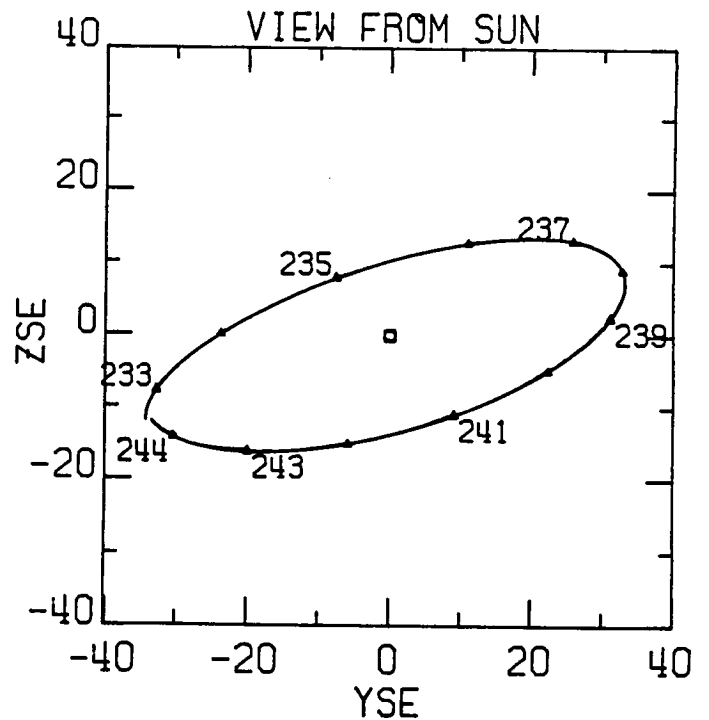
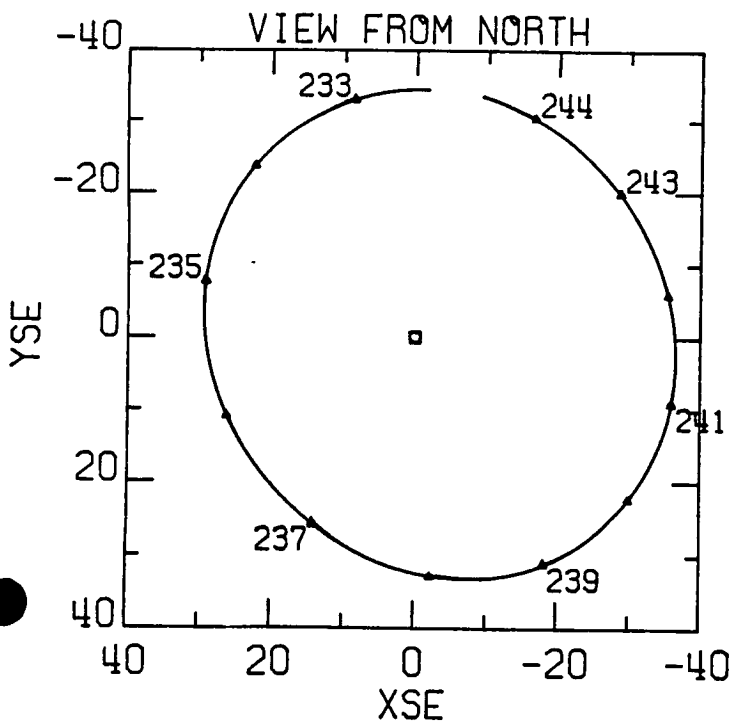
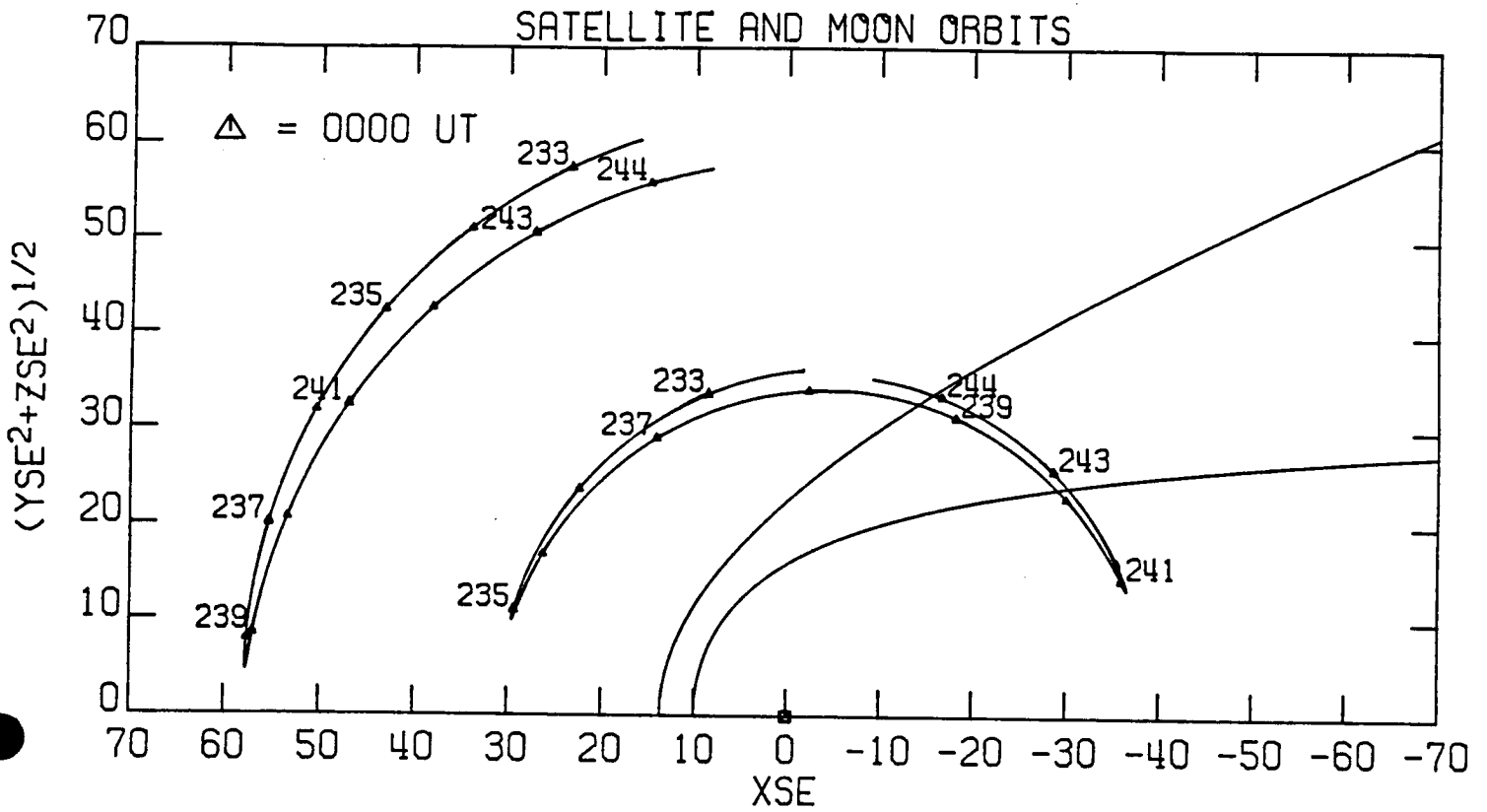


IMP 7 FROM AUG 19 TO AUG 31 1976

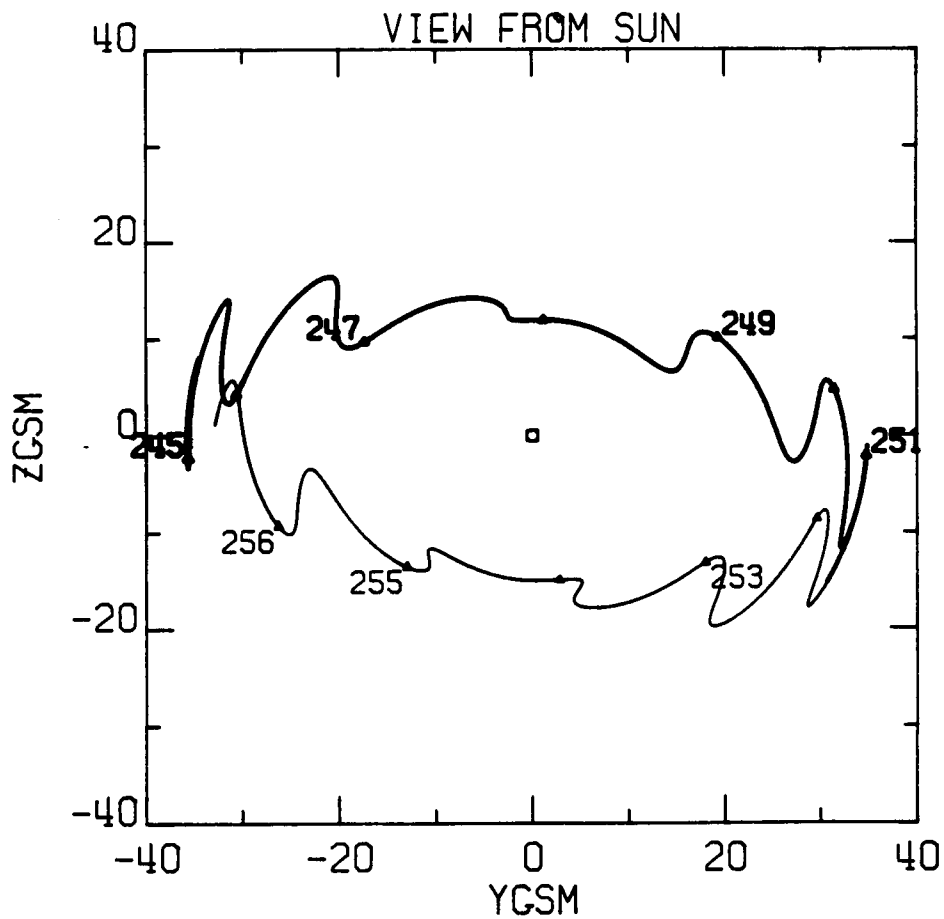
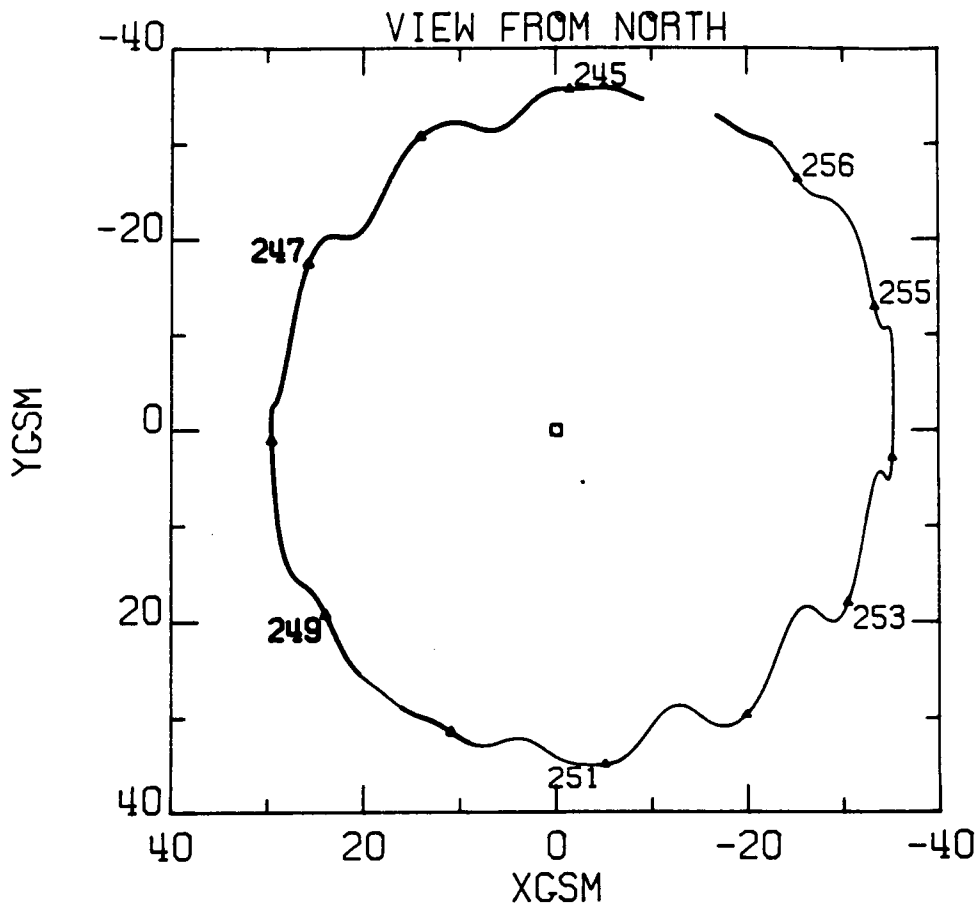


FROM AUG 19 TO AUG 31 1976

DAYS 232 THRU 244



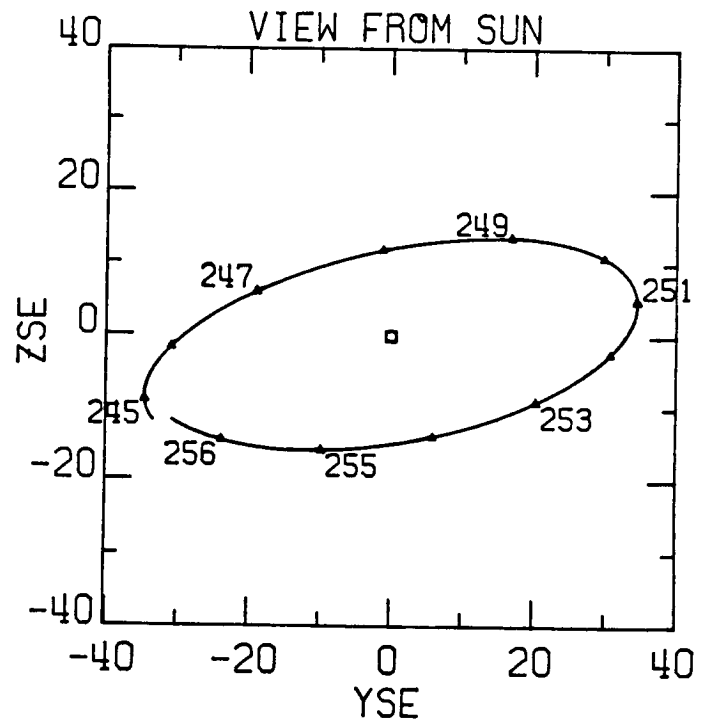
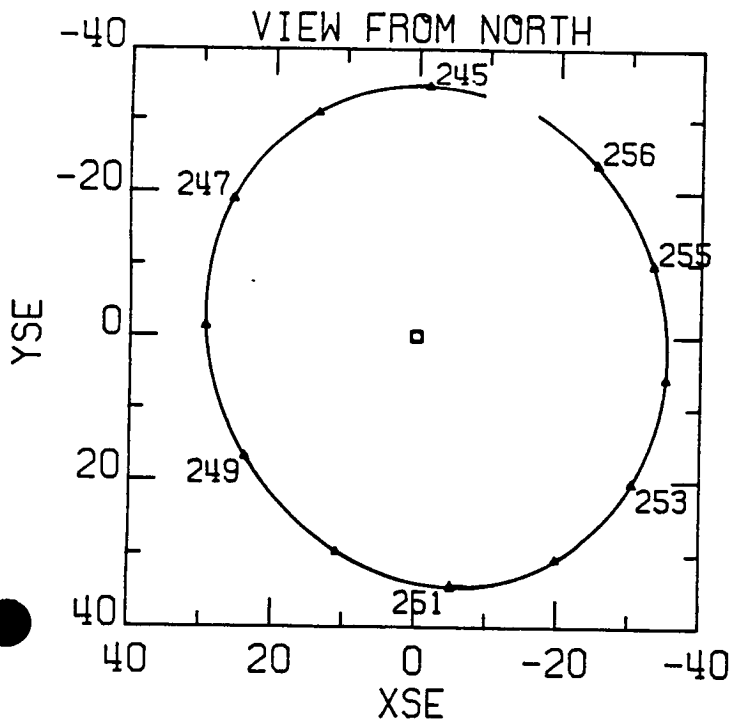
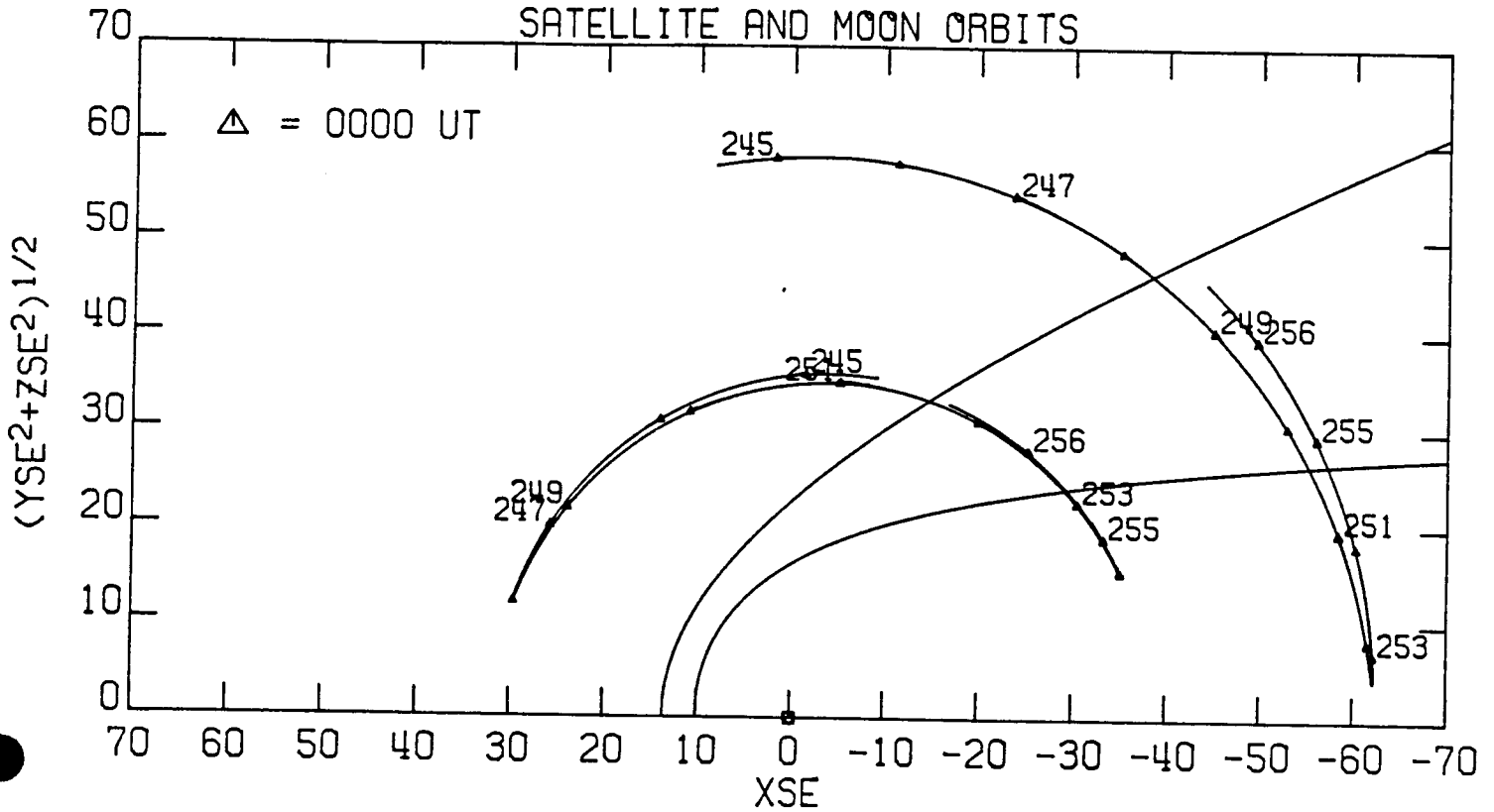
IMP 7 FROM AUG 31 TO SEP 12 1976



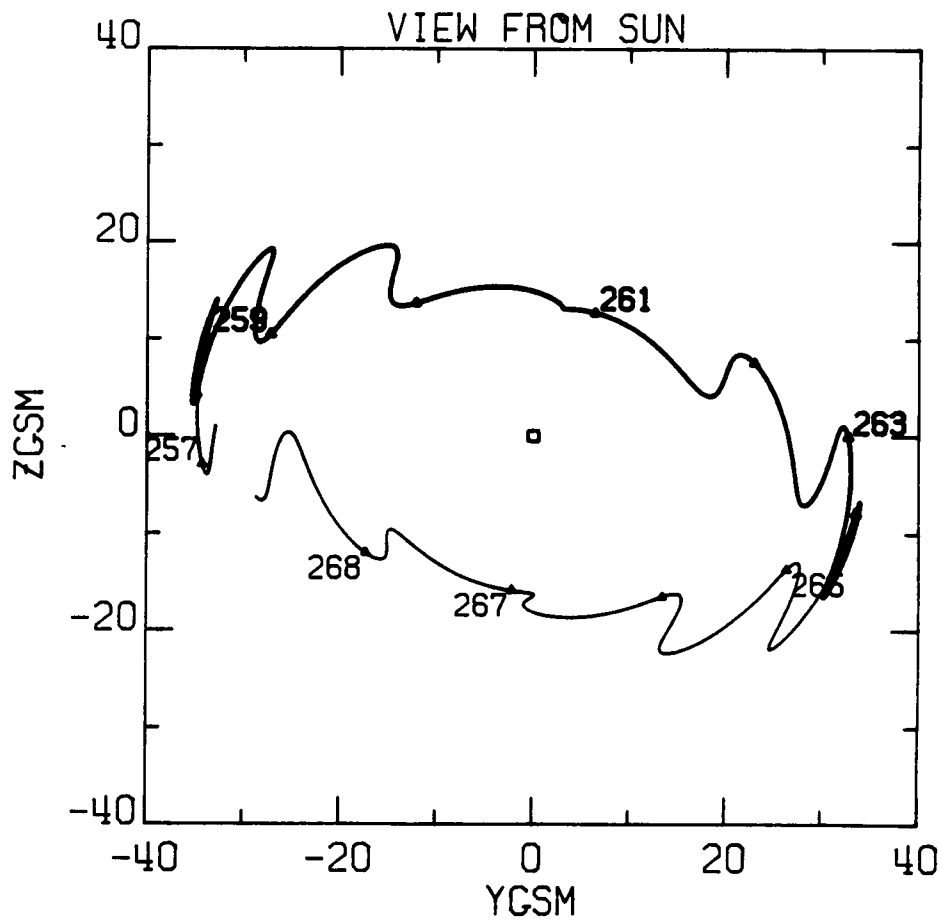
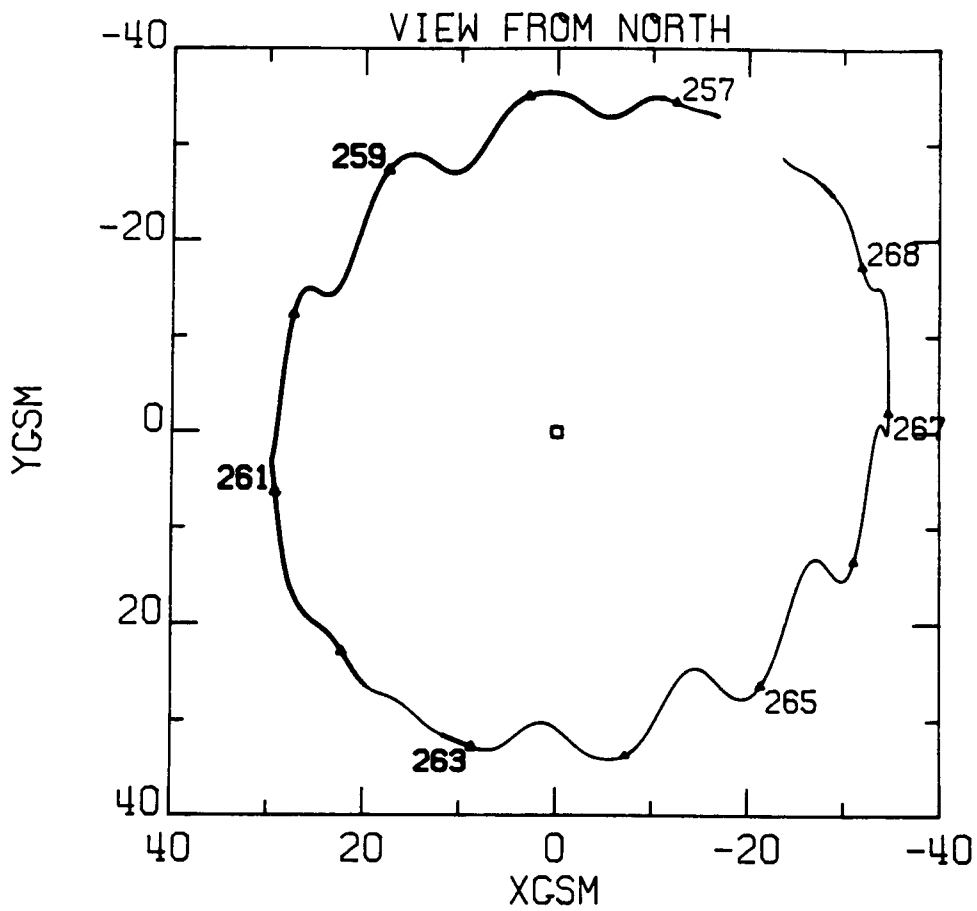
FROM AUG 31 TO SEP 12 1976

DAYS 244 THRU 256

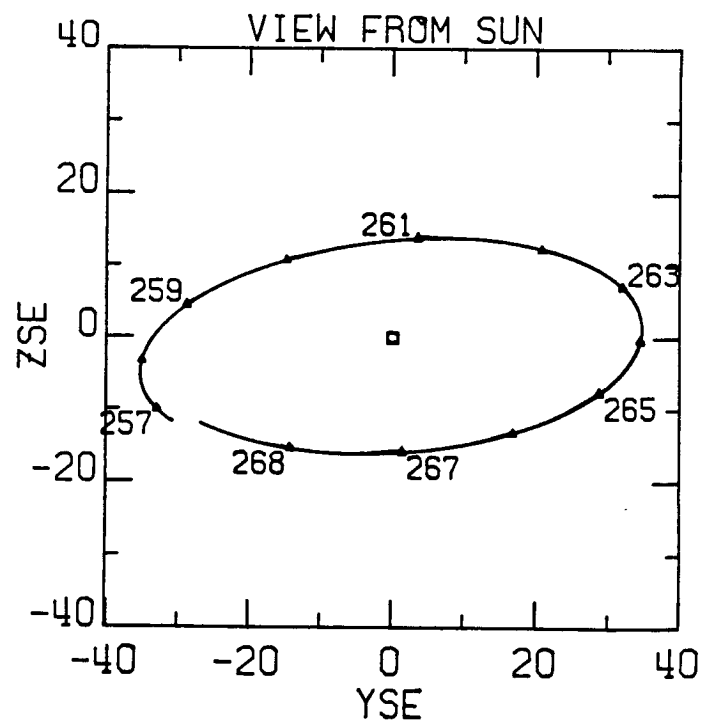
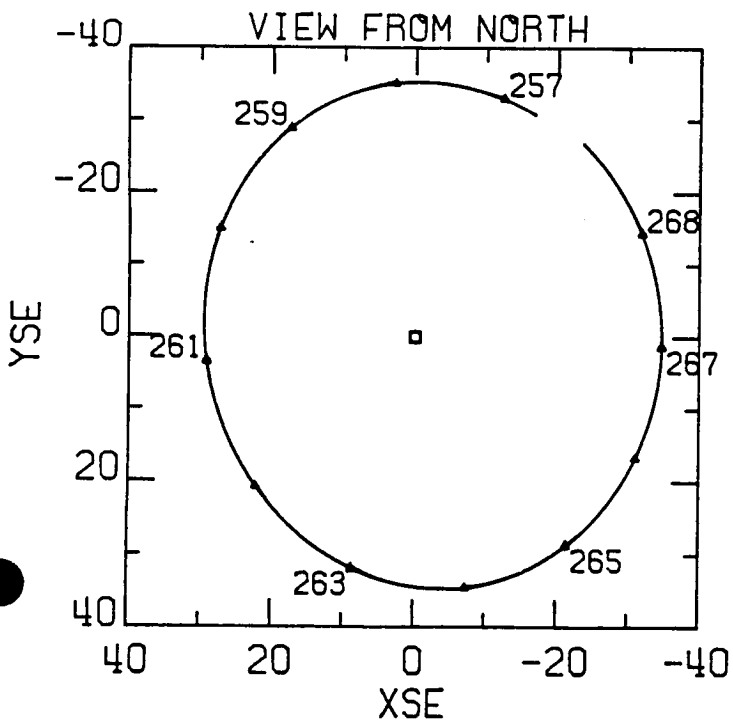
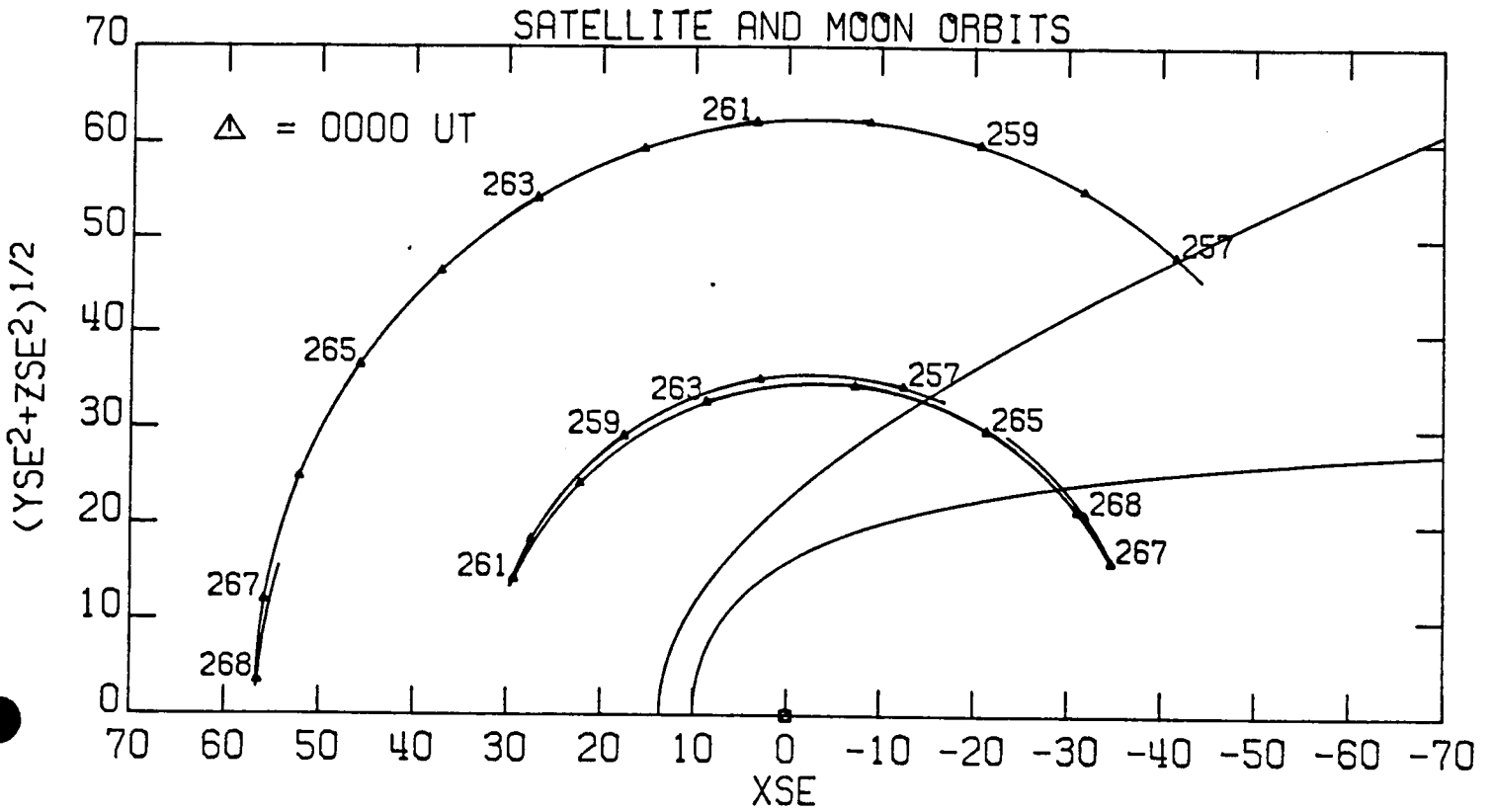
SATELLITE AND MOON ORBITS



IMP 7 FROM SEP 12 TO SEP 24 1976

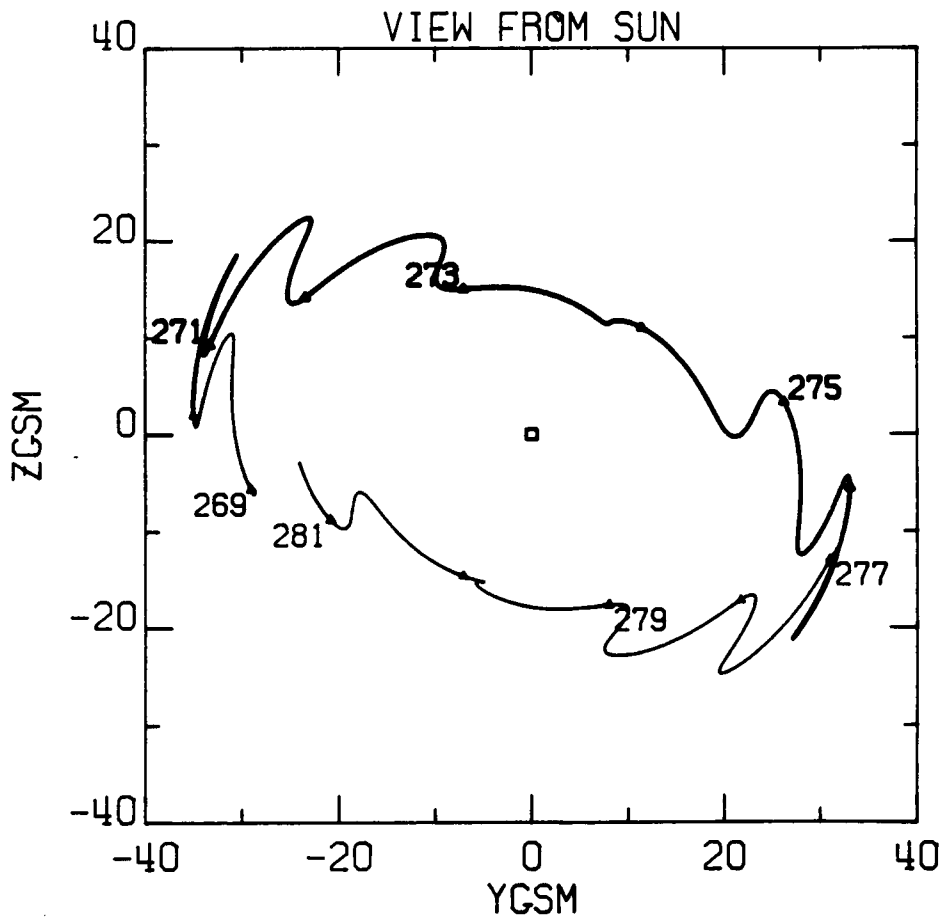
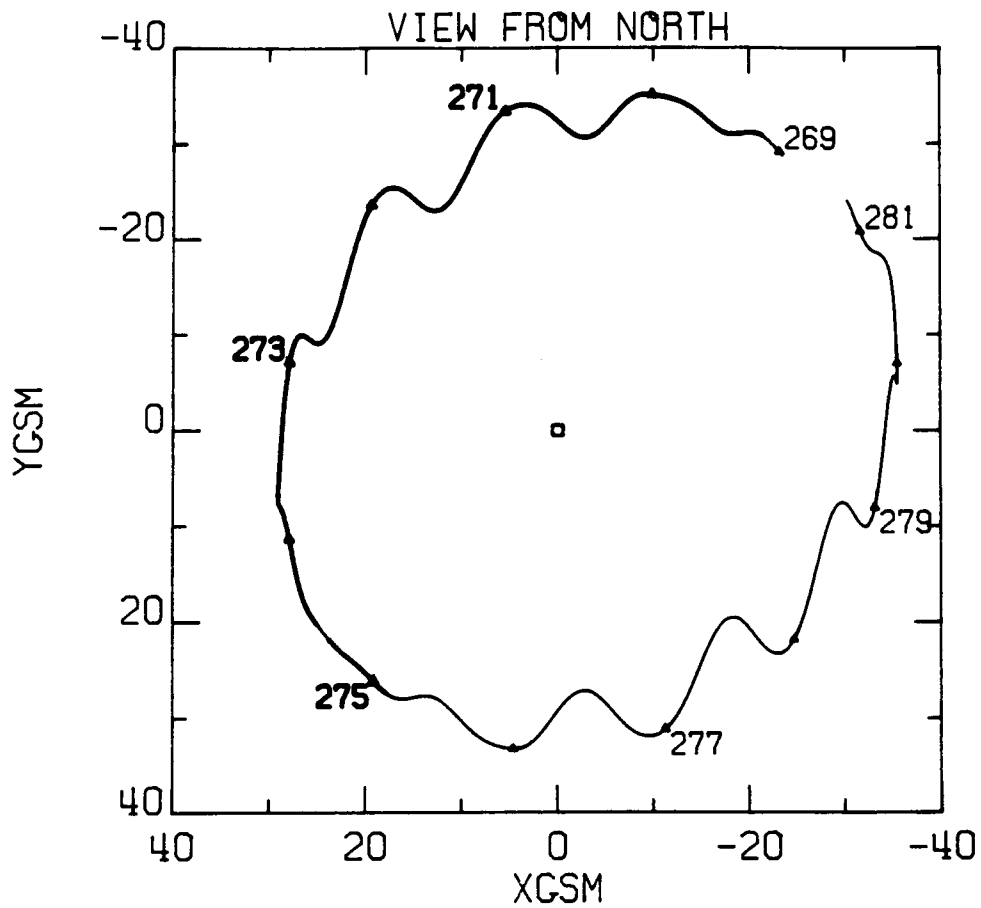


IMP 7 TRAJECTORY. ASCENDING NODE 120
 FROM SEP 12 TO SEP 24 1976
 DAYS 256 THRU 268



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IMP 7 FROM SEP 24 TO OCT 7 1976



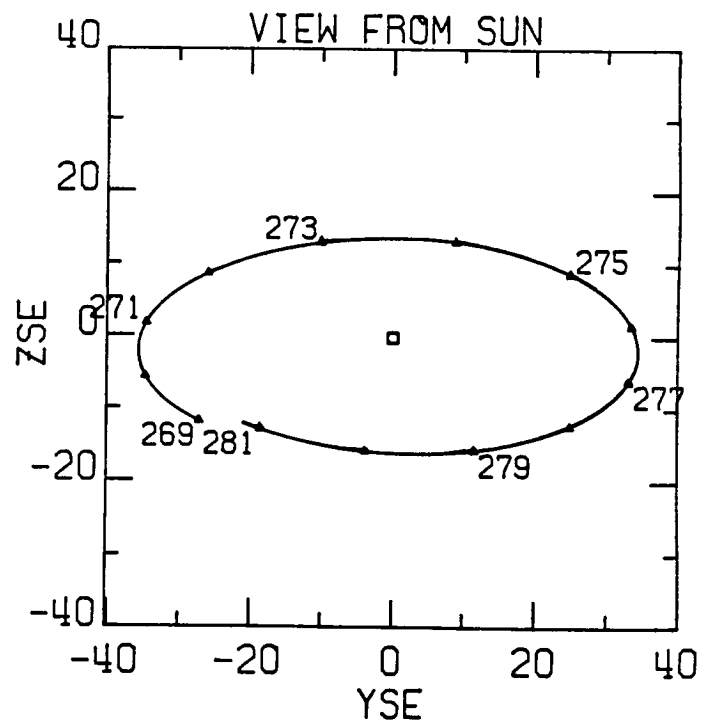
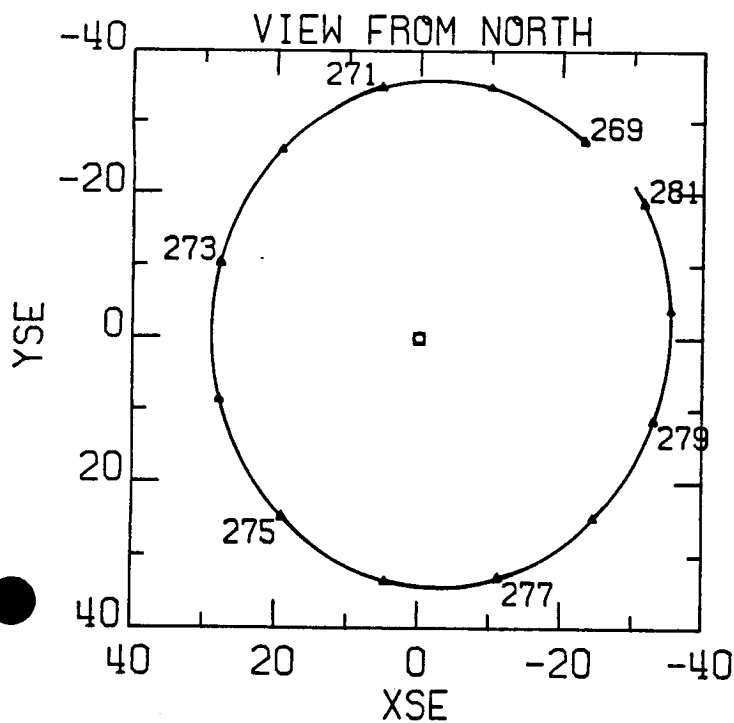
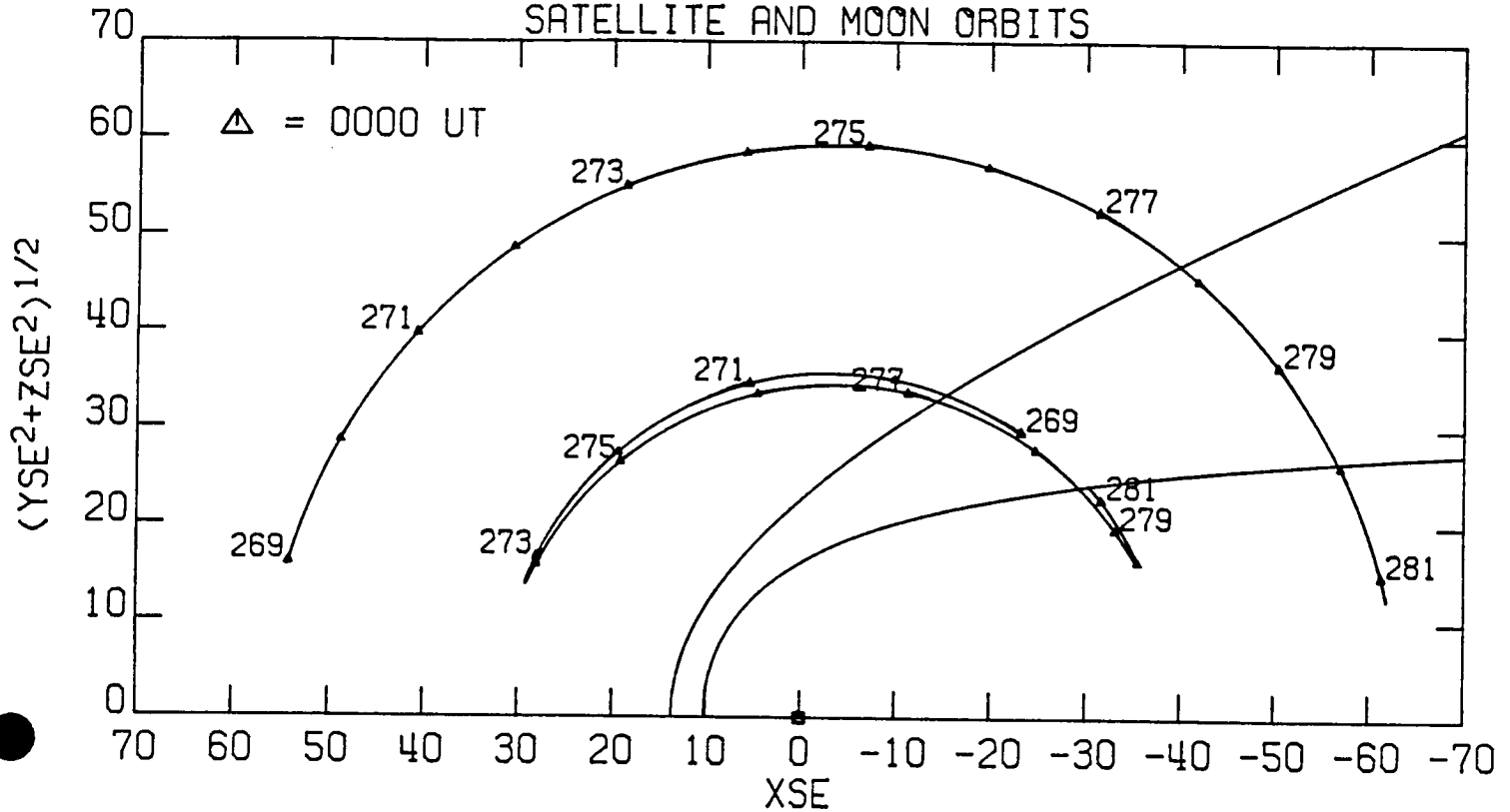
IMP 7 TRAJECTORY.

ASCENDING NODE 121

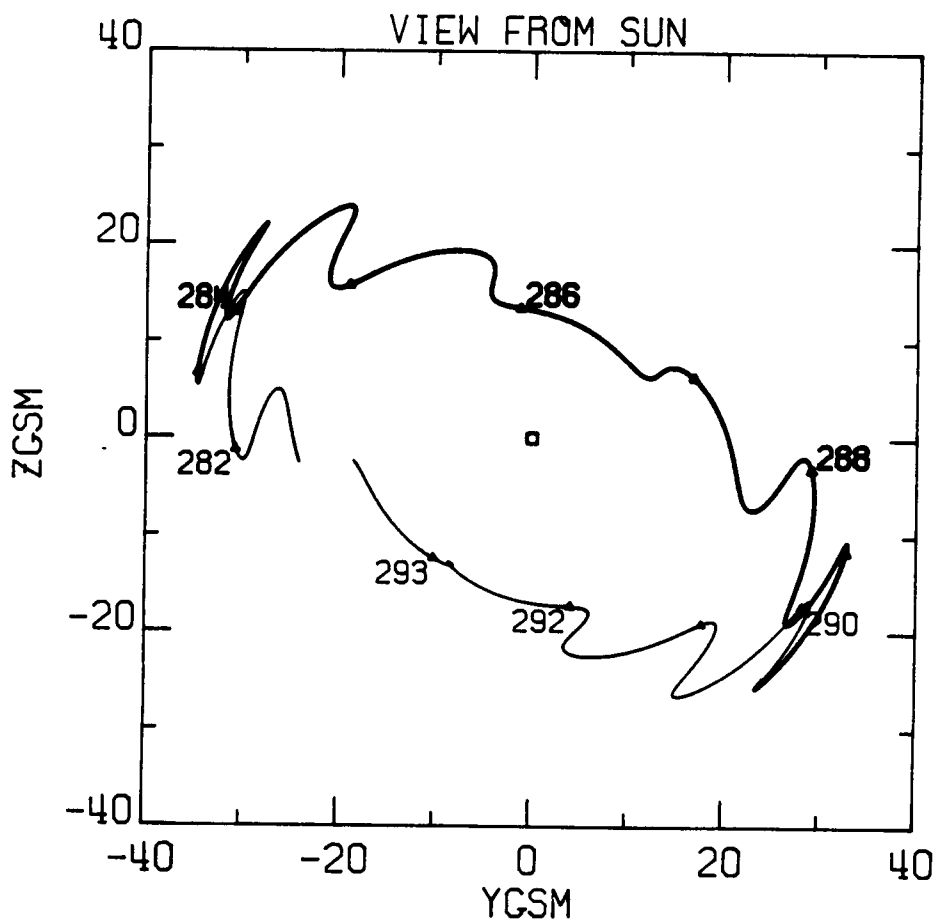
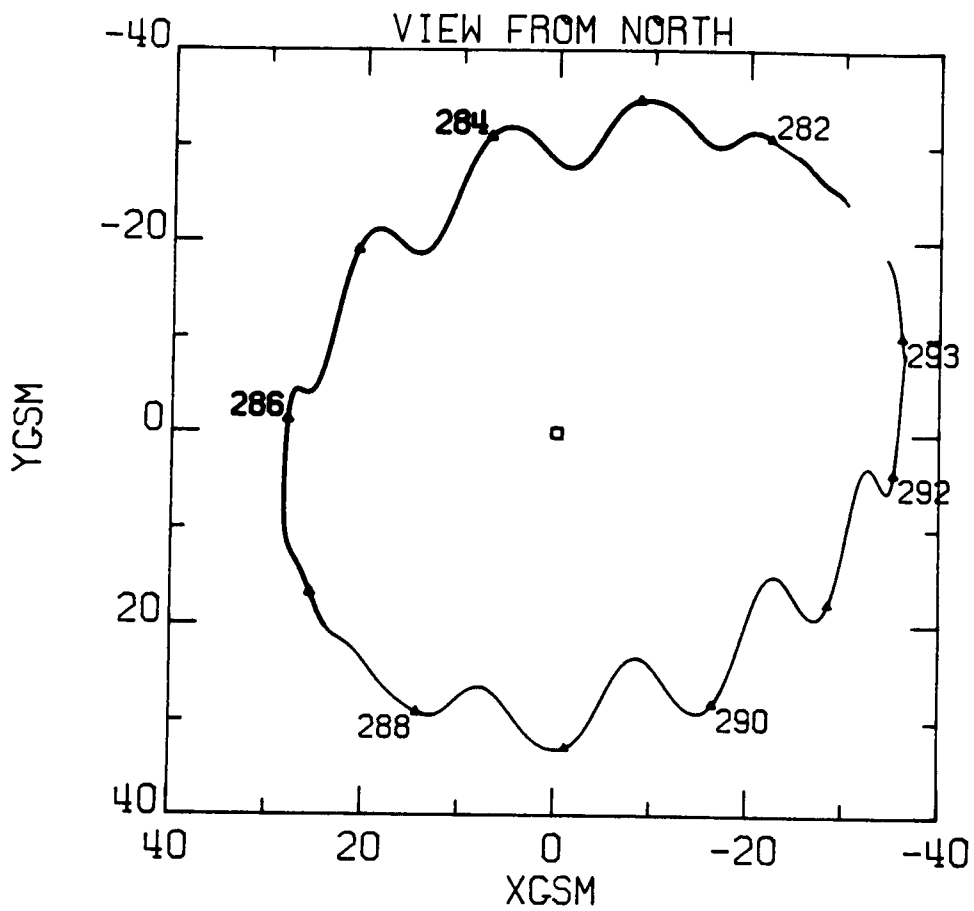
FROM SEP 24 TO OCT 7 1976

DAYS 268 THRU 281

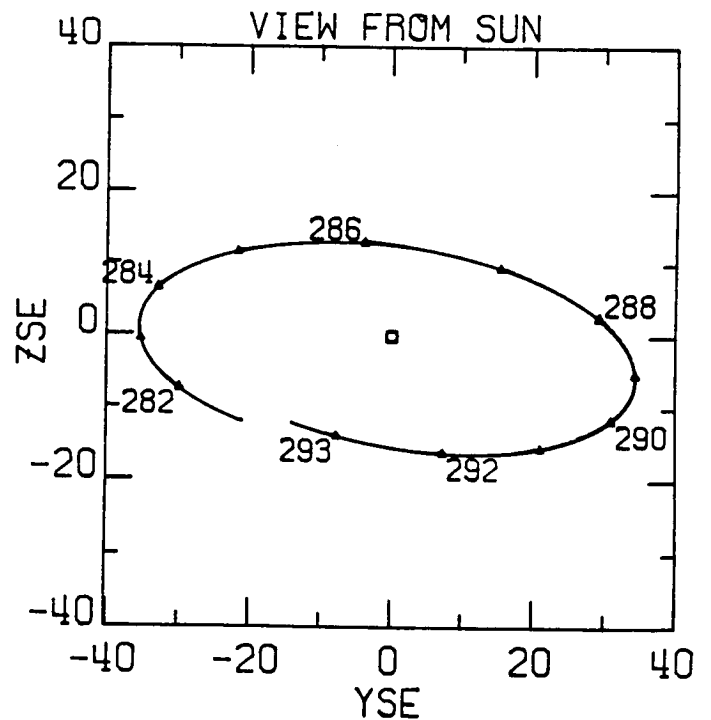
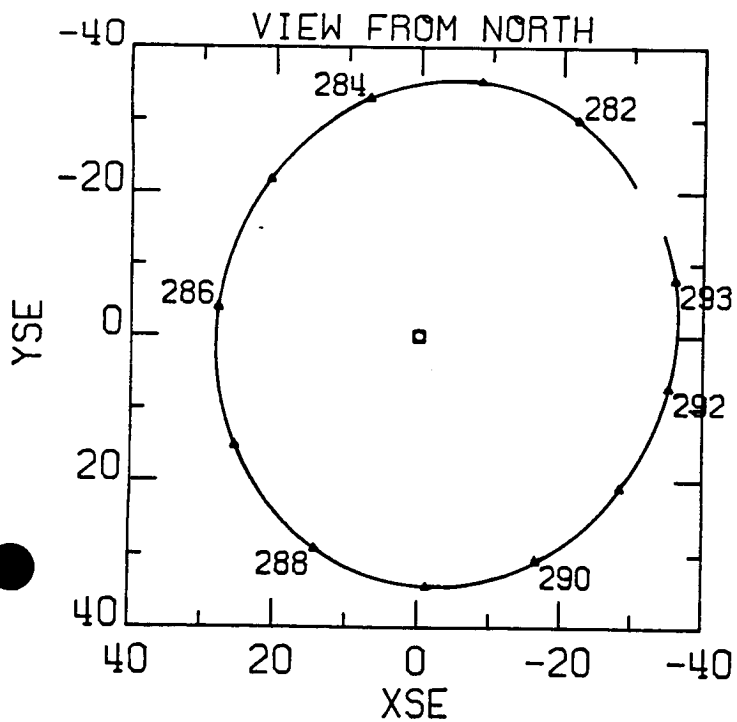
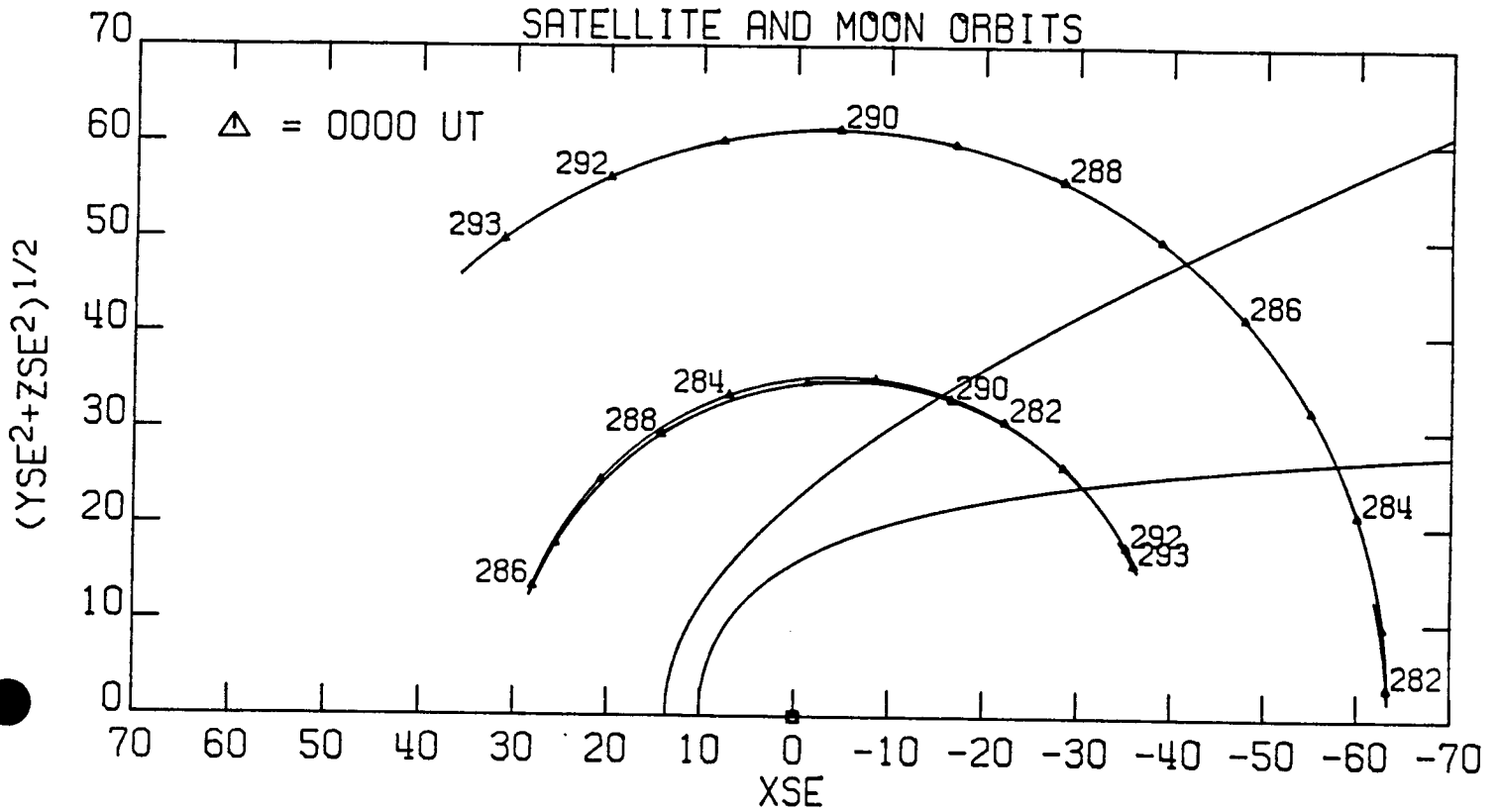
SATELLITE AND MOON ORBITS



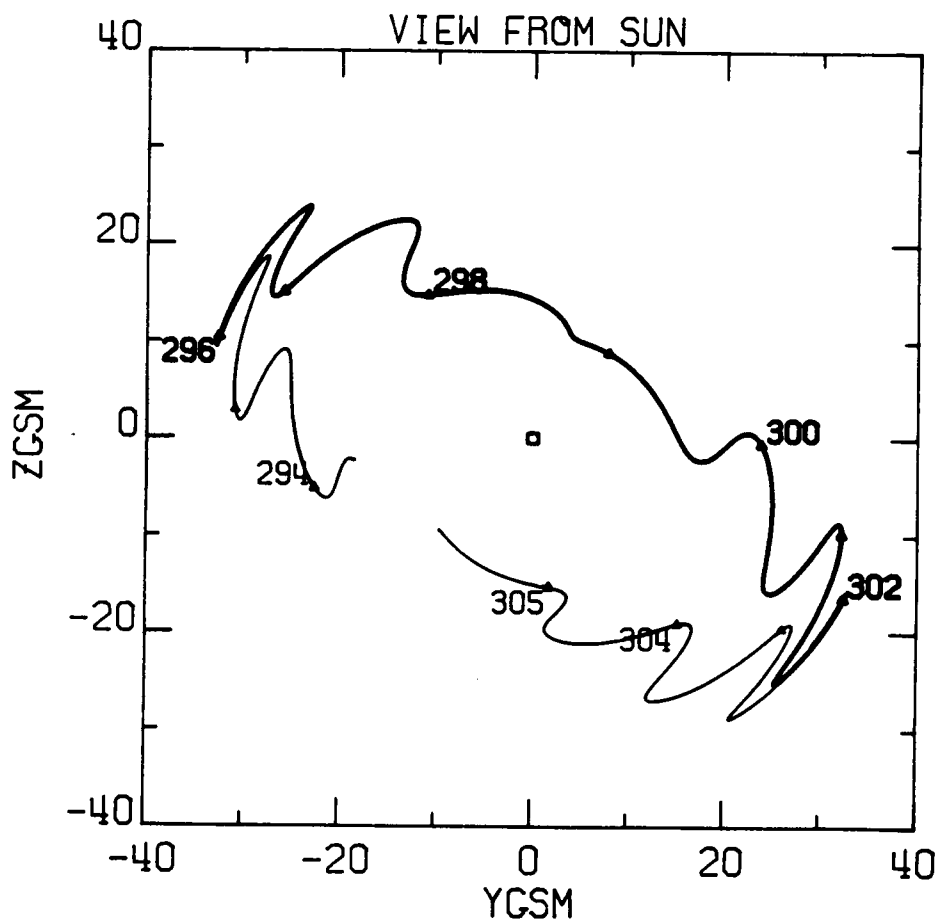
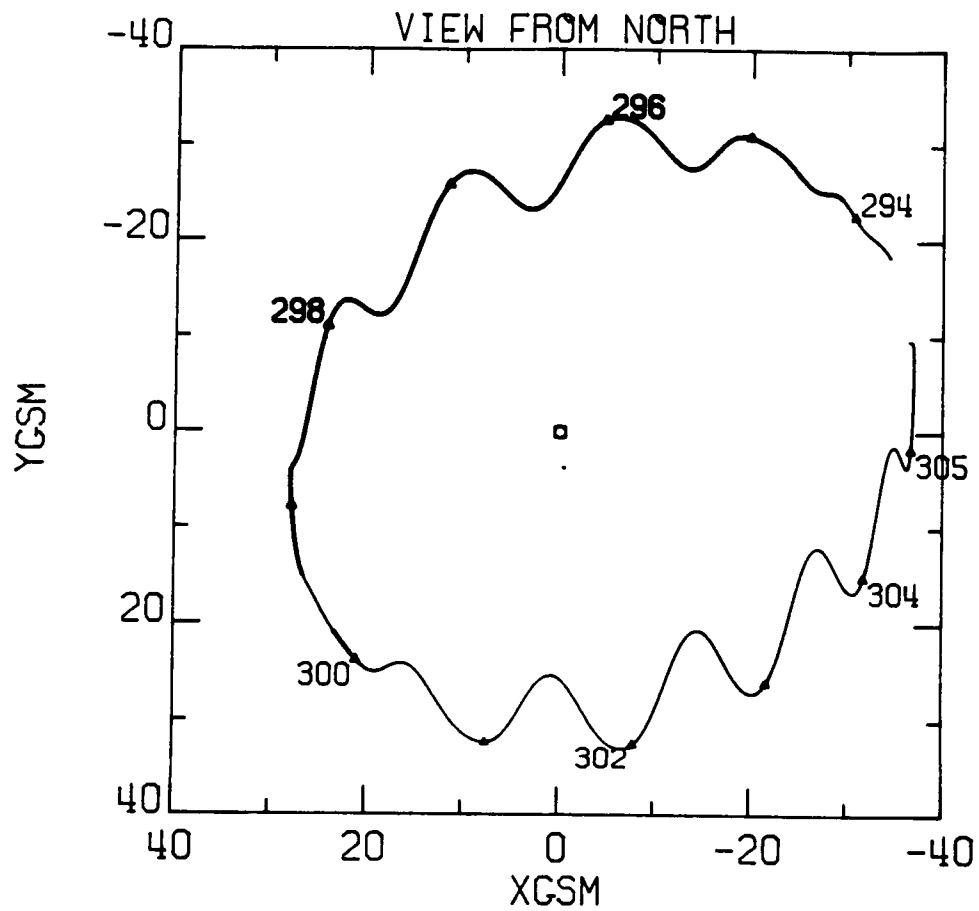
IMP 7 FROM OCT 7 TO OCT 19 1976



IMP 7 TRAJECTORY. ASCENDING NODE 122
 FROM OCT 7 TO OCT 19 1976
 DAYS 281 THRU 293



IMP 7 FROM OCT 19 TO OCT 31 1976



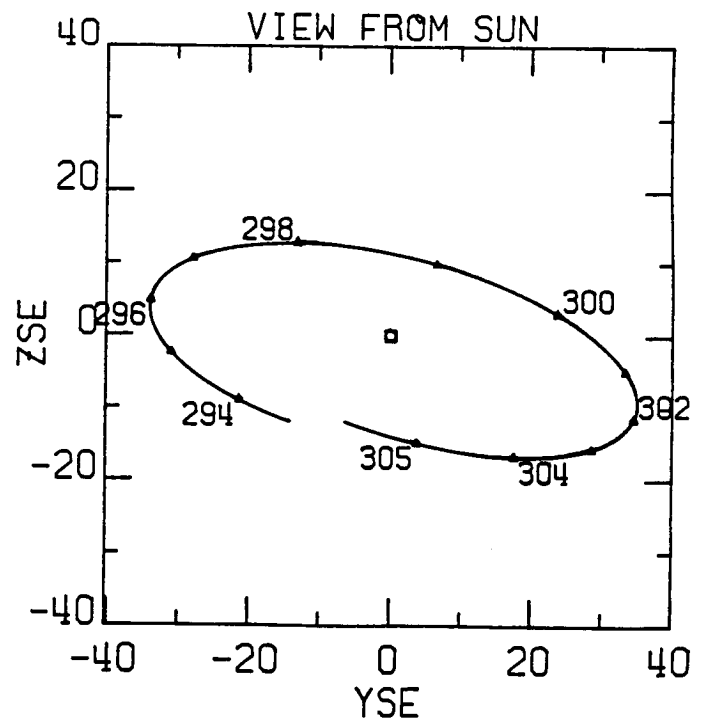
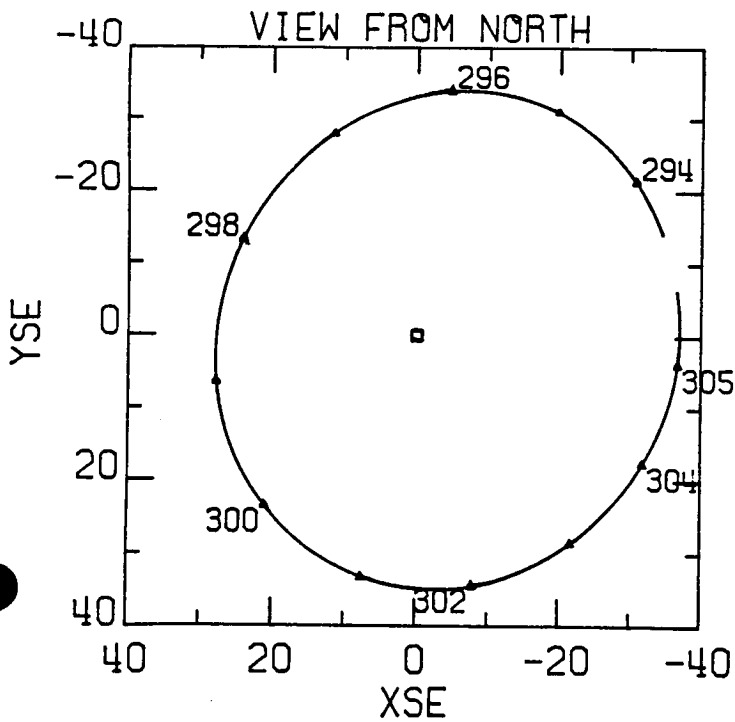
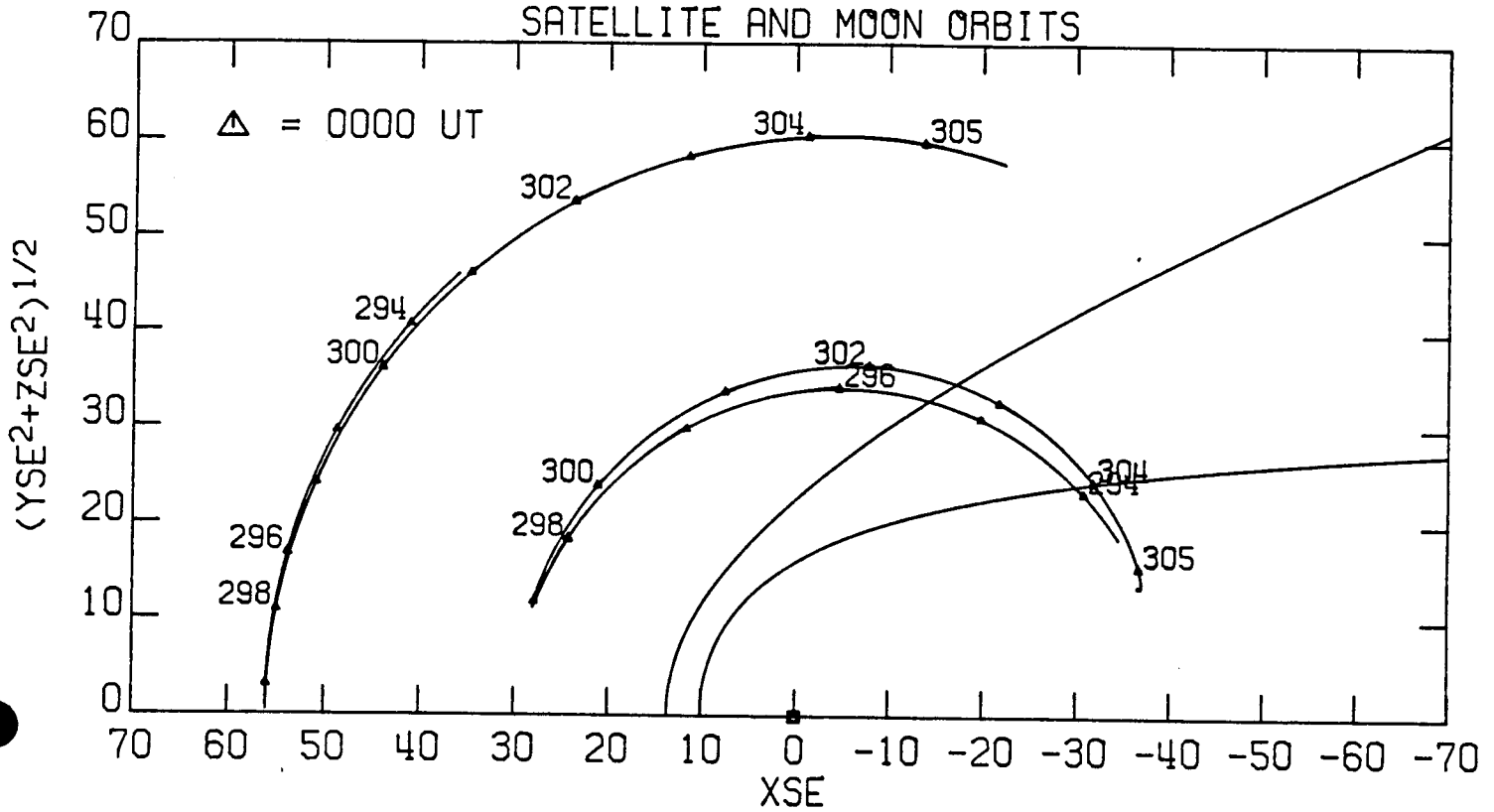
IMP 7 TRAJECTORY.

ASCENDING NODE 123

FROM OCT 19 TO OCT 31 1976

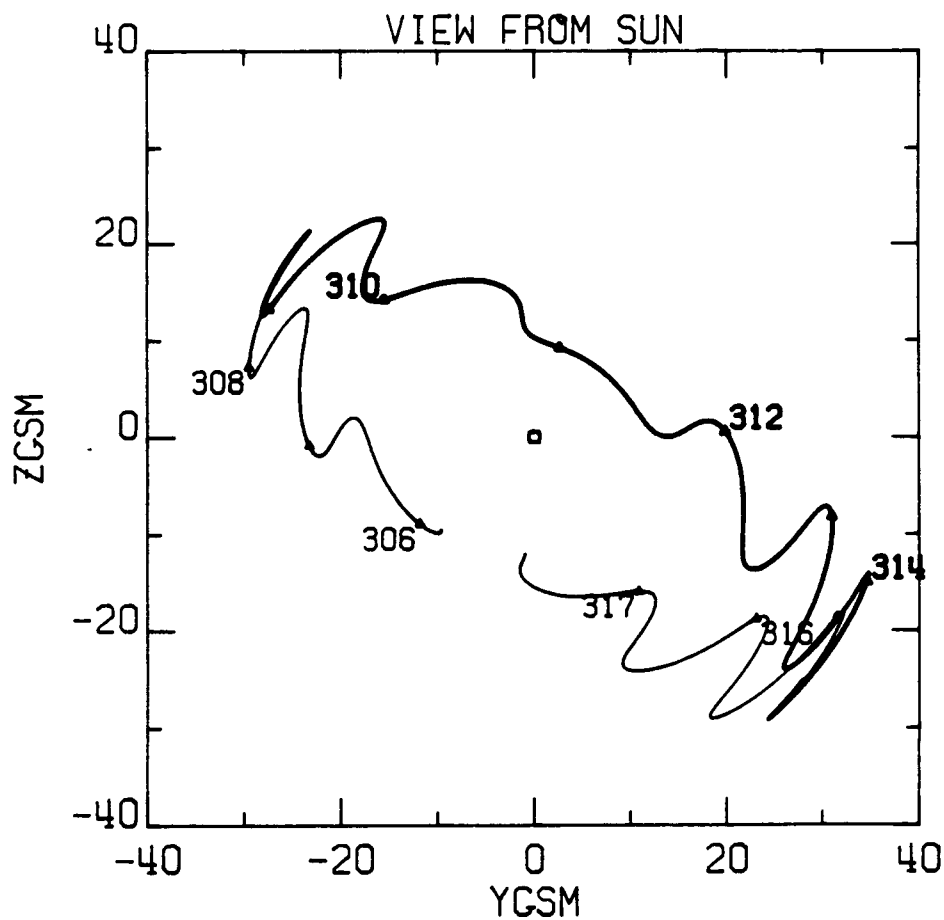
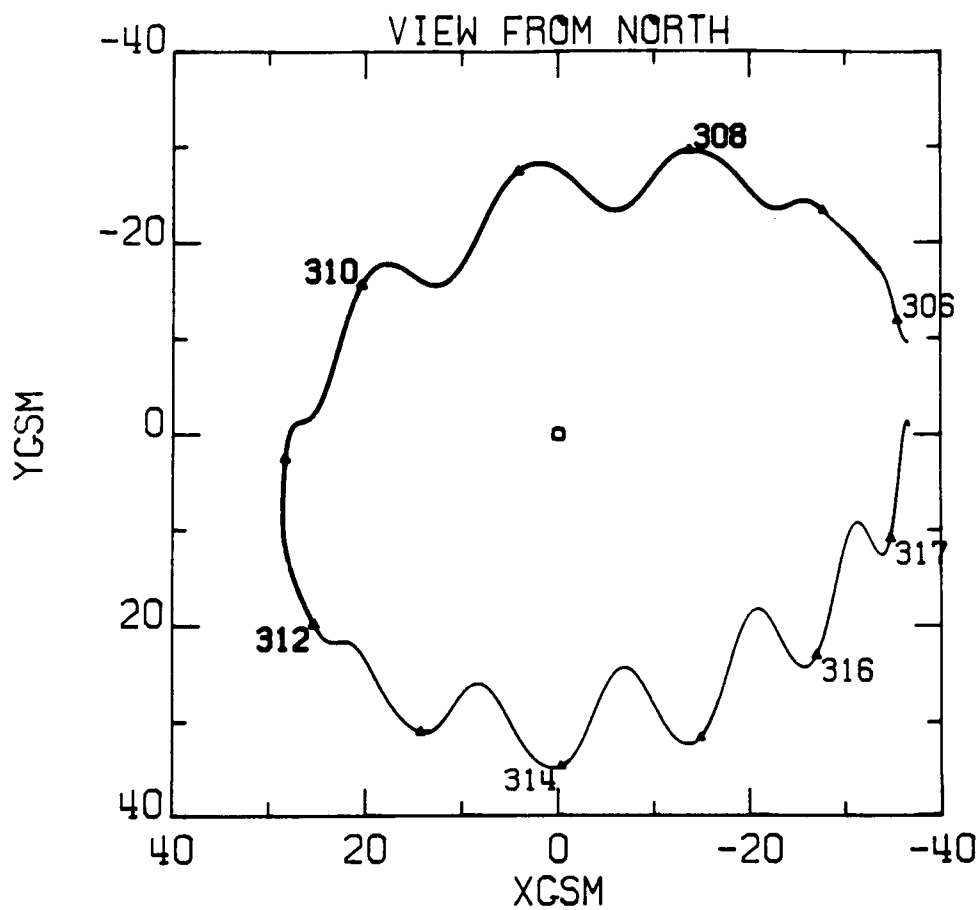
DAYS 293 THRU 305

SATELLITE AND MOON ORBITS



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IMP 7 FROM OCT 31 TO NOV 12 1976



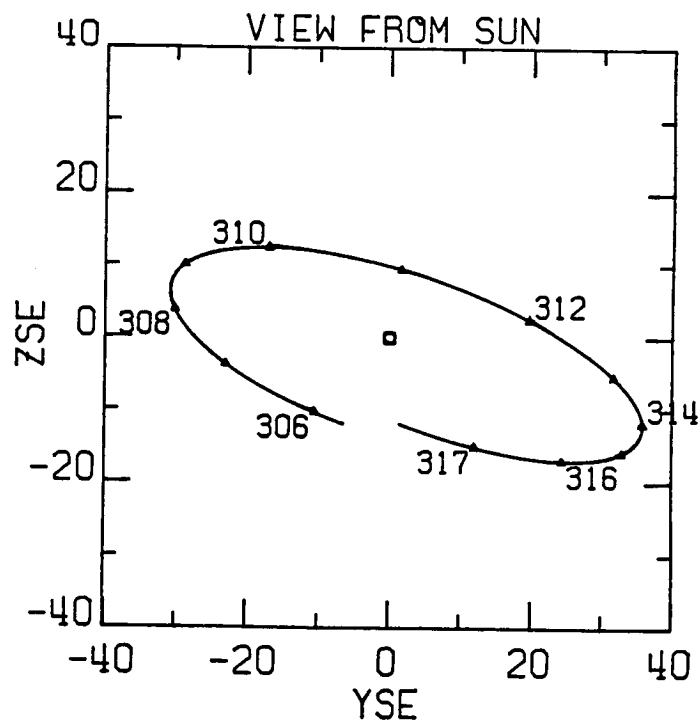
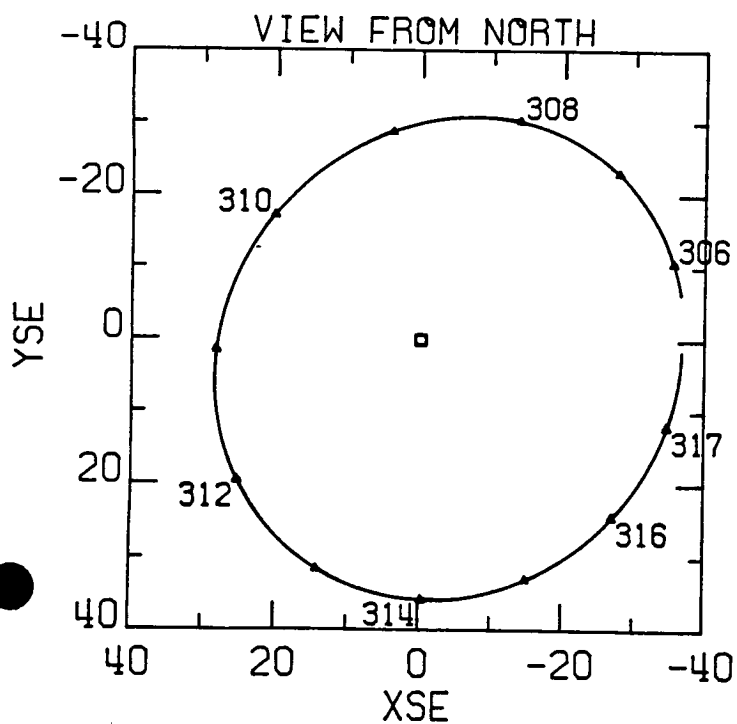
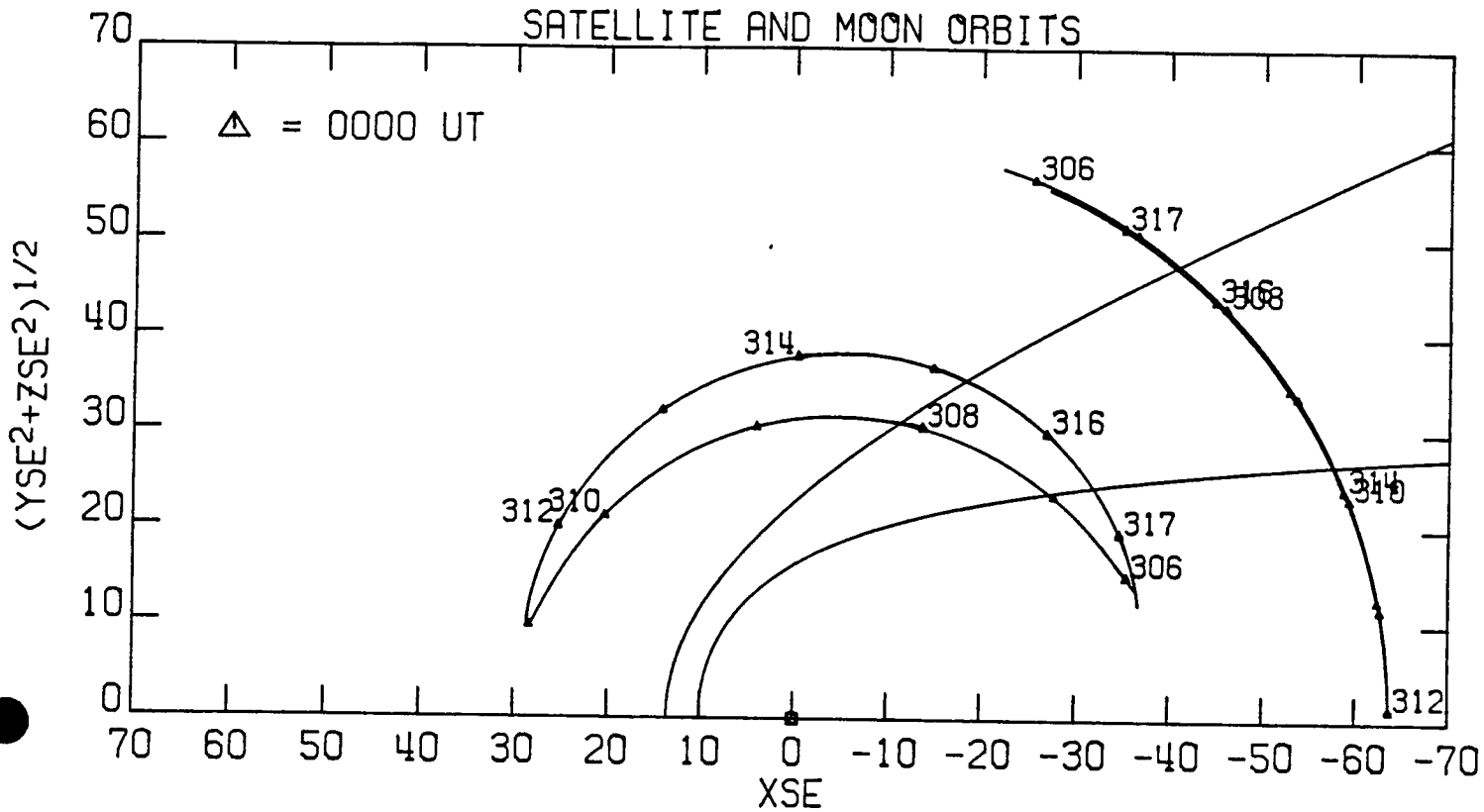
IMP 7 TRAJECTORY.

ASCENDING NODE 124

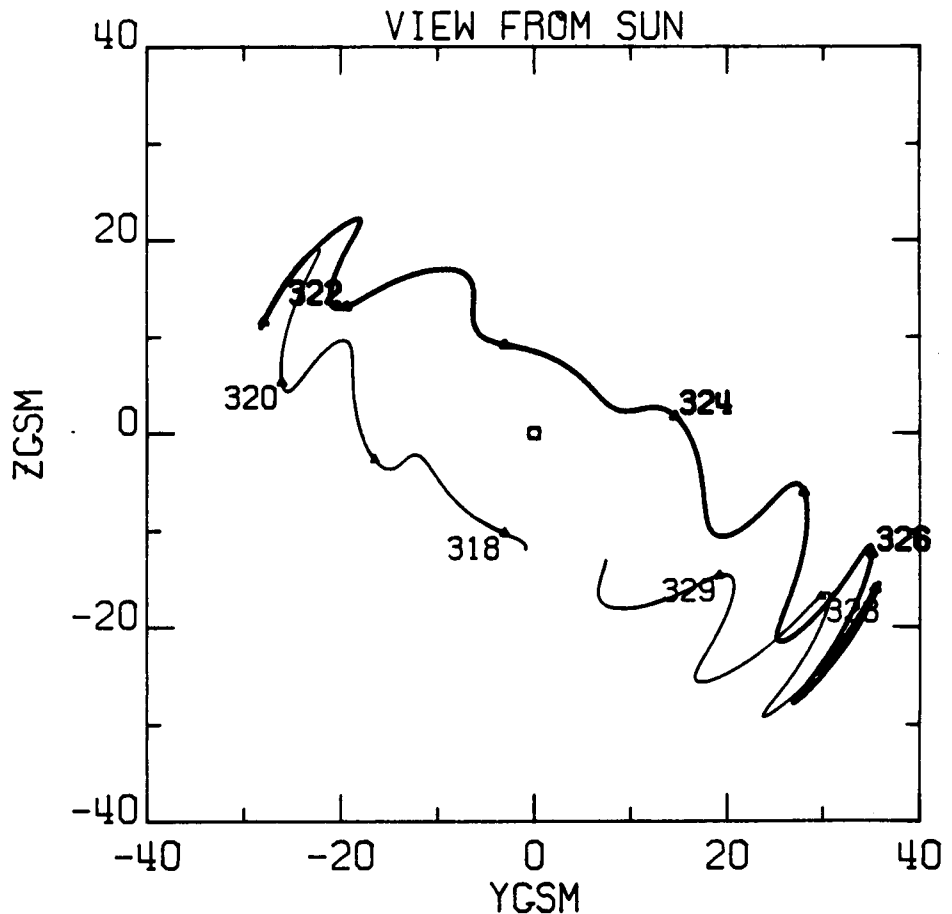
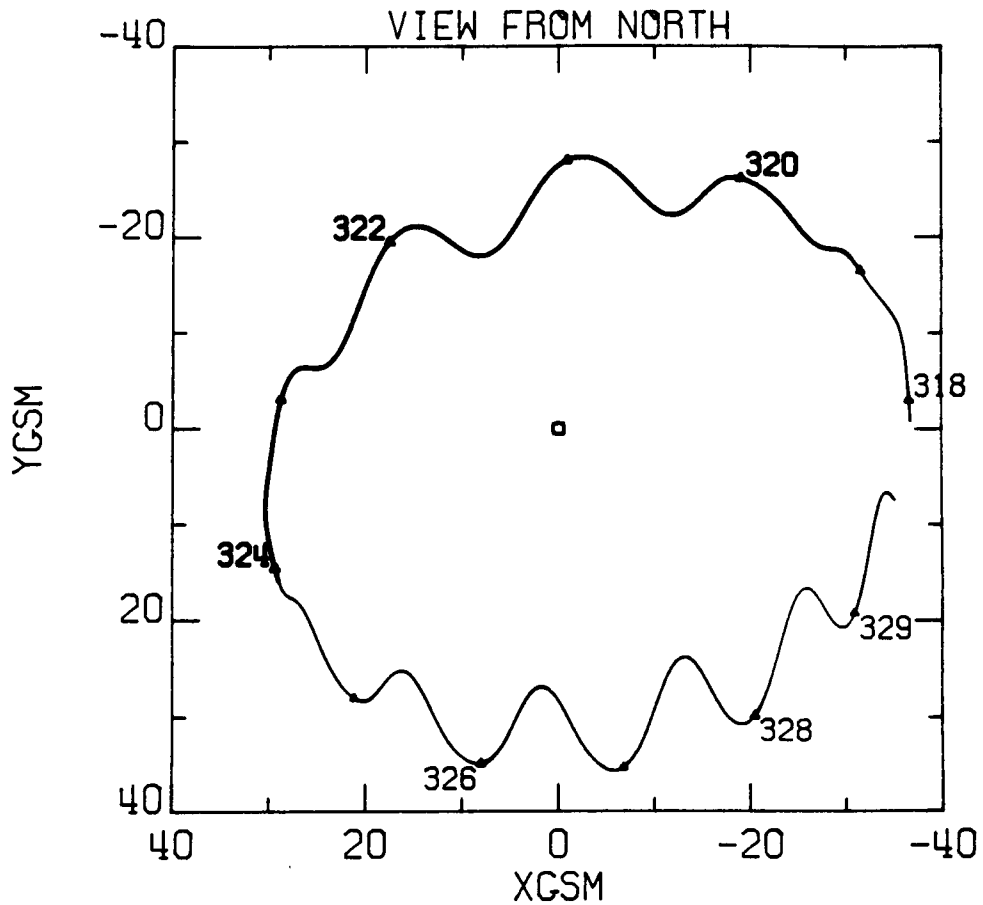
FROM OCT 31 TO NOV 12 1976

DAYS 305 THRU 317

SATELLITE AND MOON ORBITS



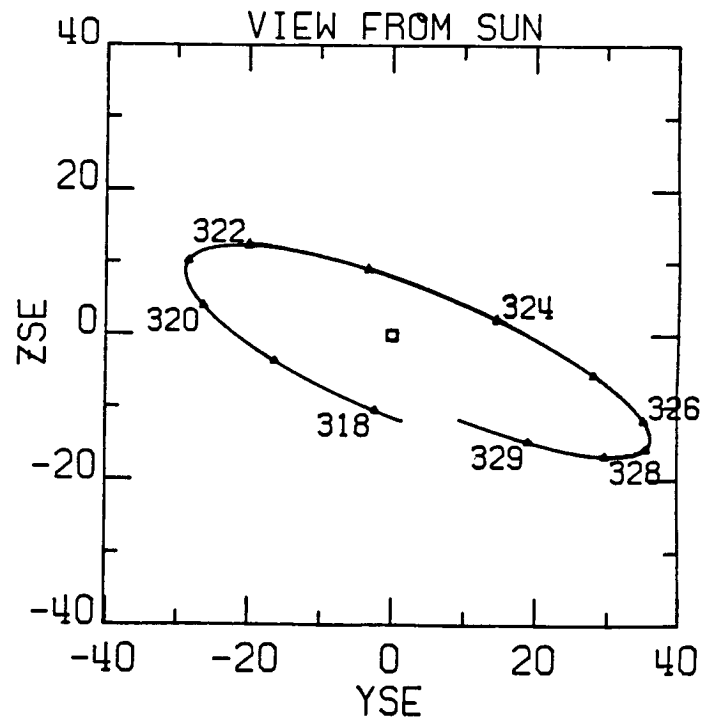
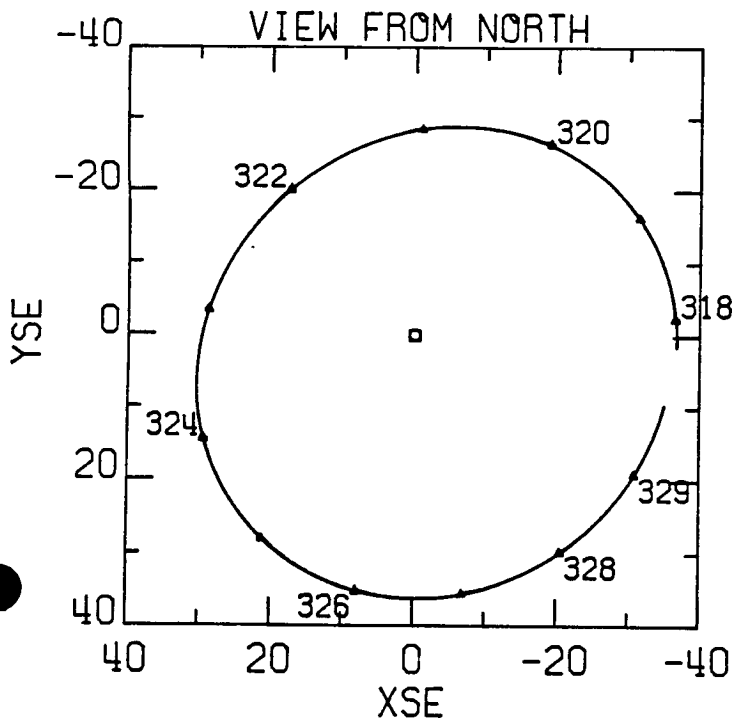
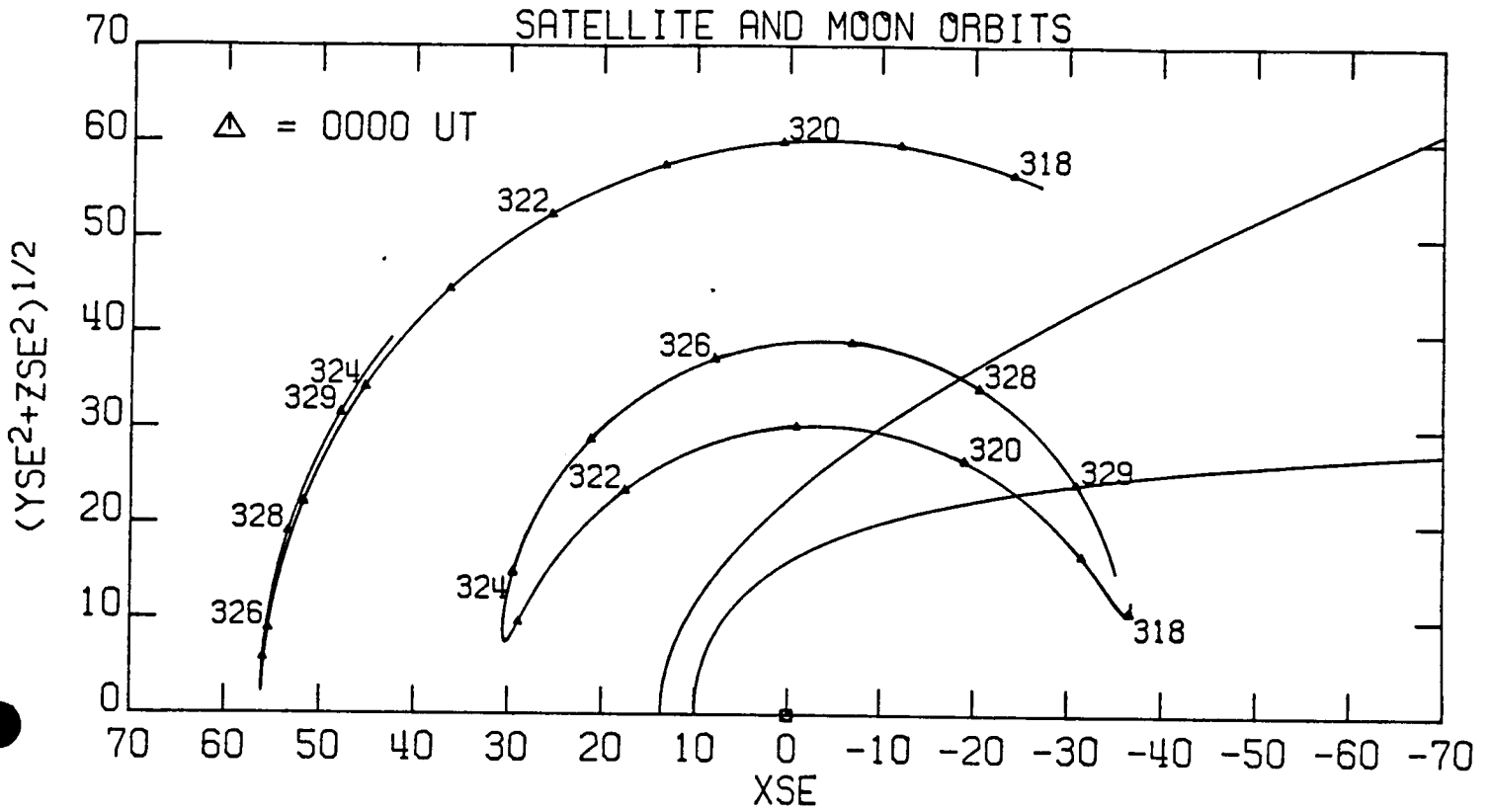
IMP 7 FROM NOV 12 TO NOV 24 1976



IMP 7 TRAJECTORY. ASCENDING NODE 125

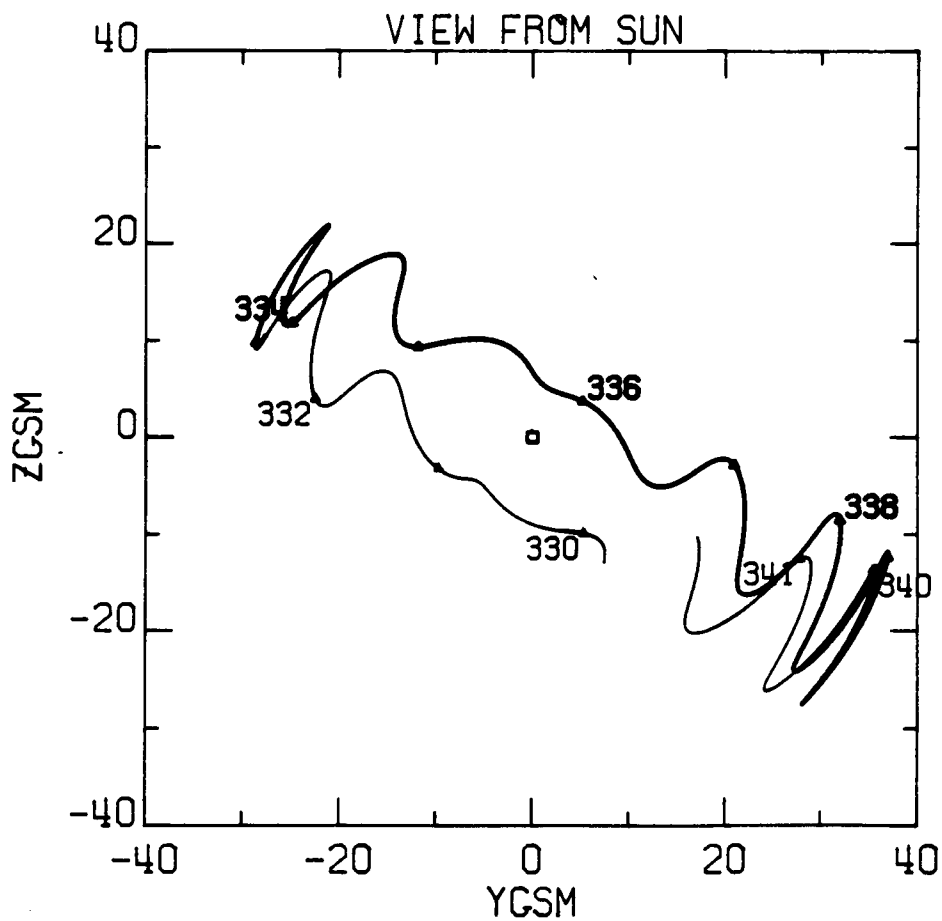
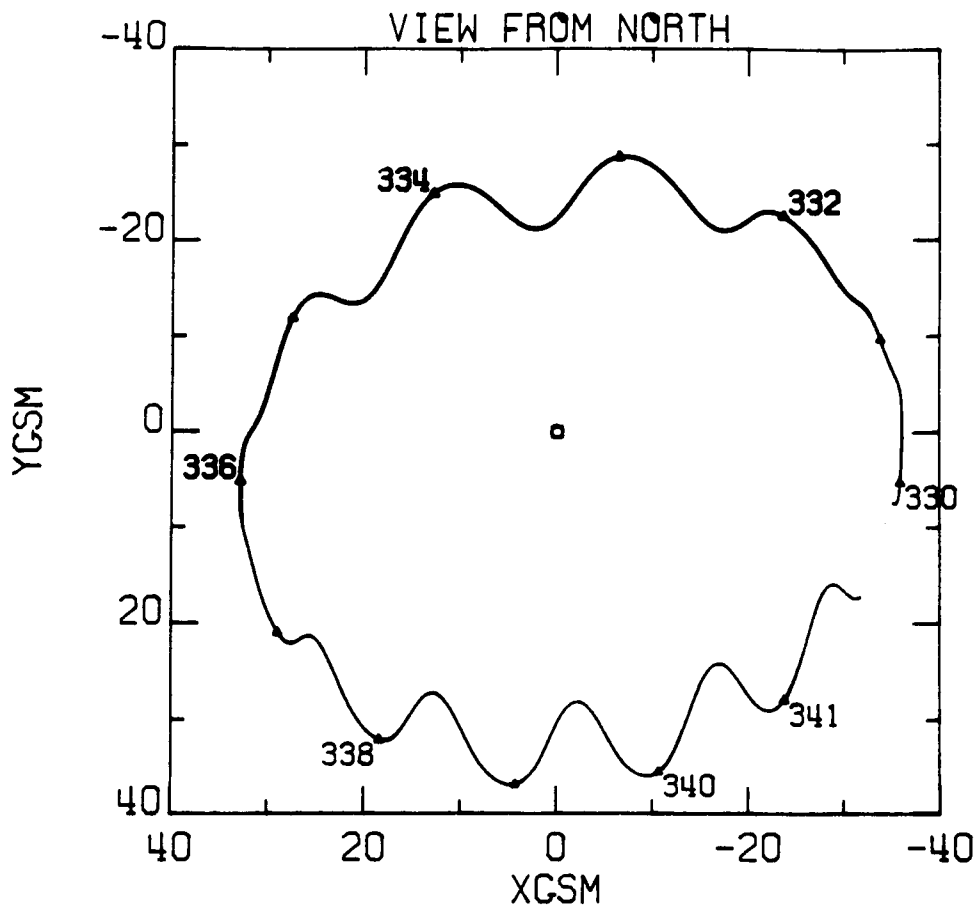
FROM NOV 12 TO NOV 24 1976

DAYS 317 THRU 329



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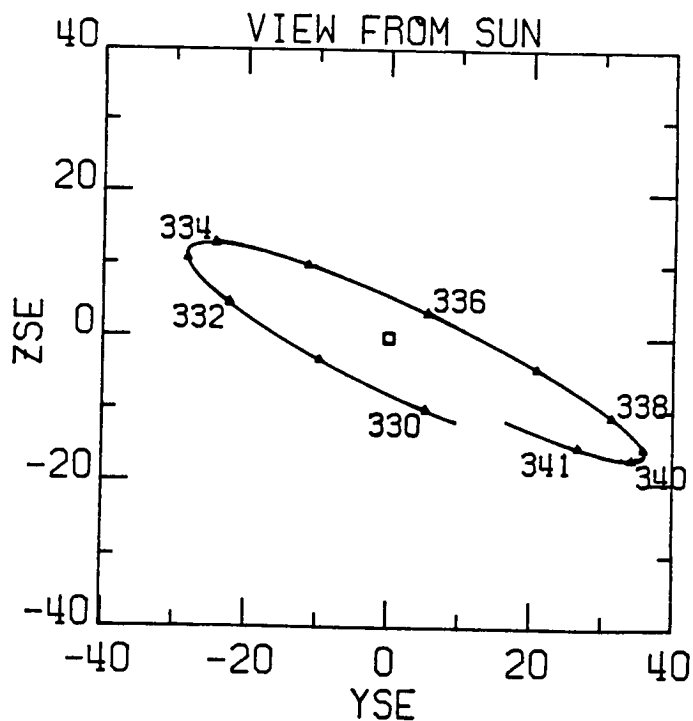
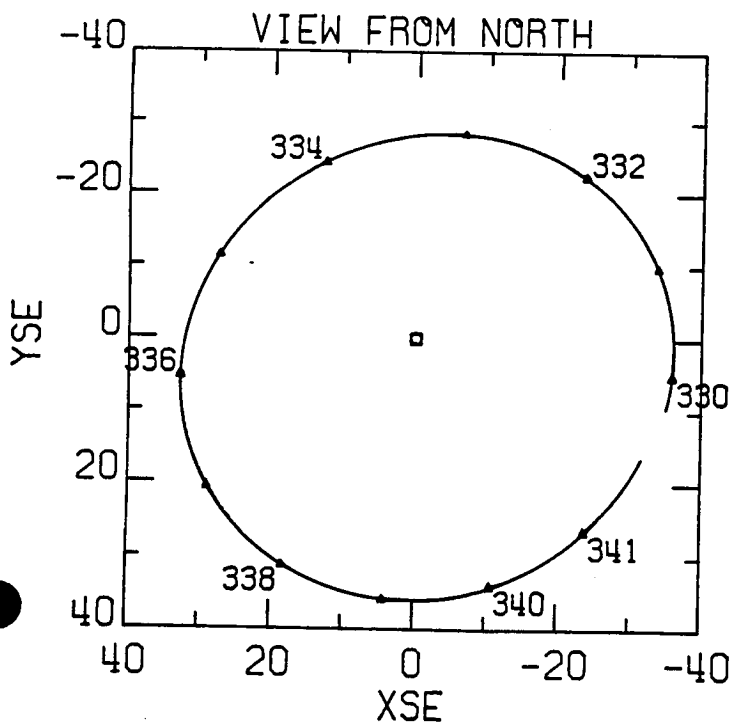
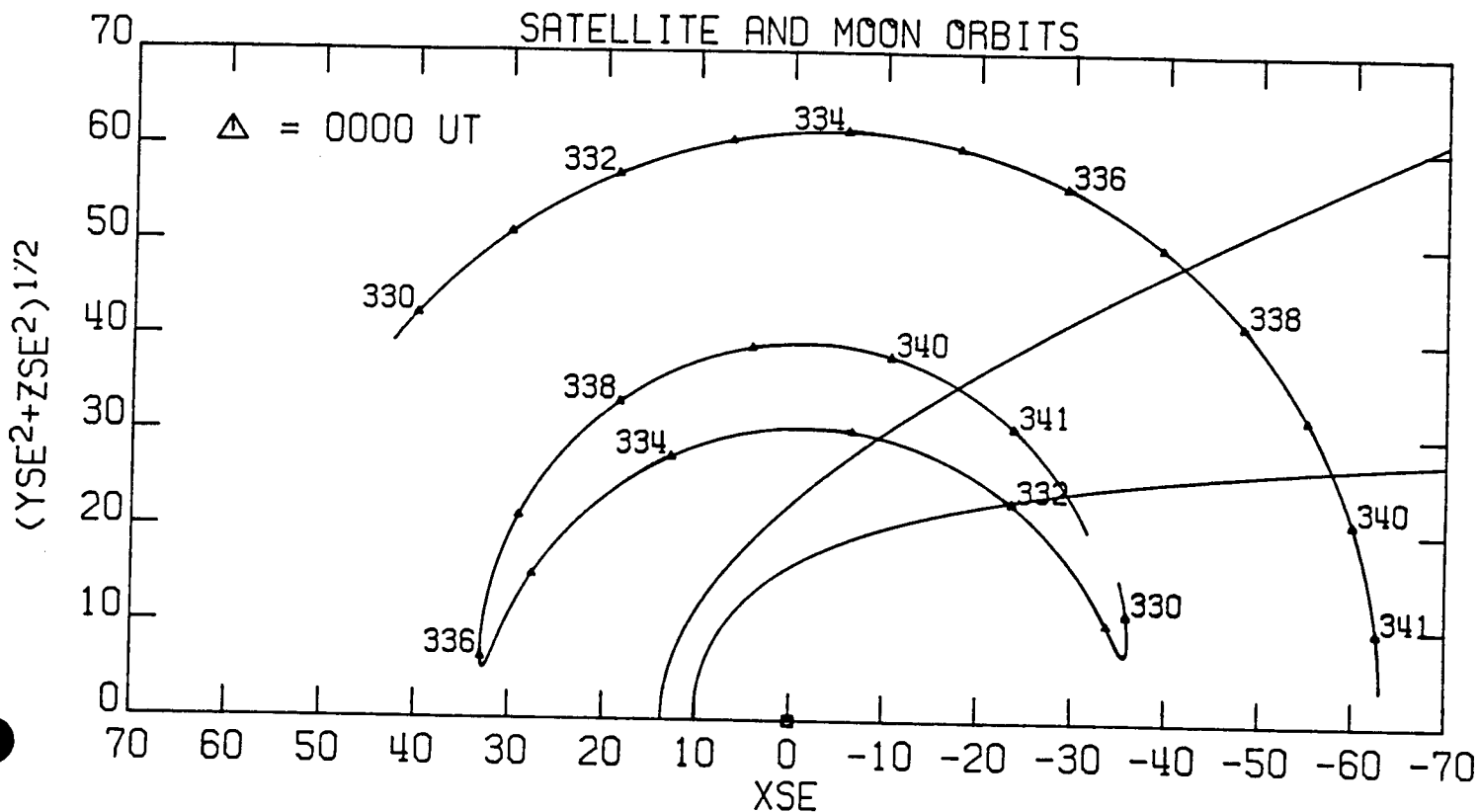
IMP 7 FROM NOV 24 TO DEC 6 1976



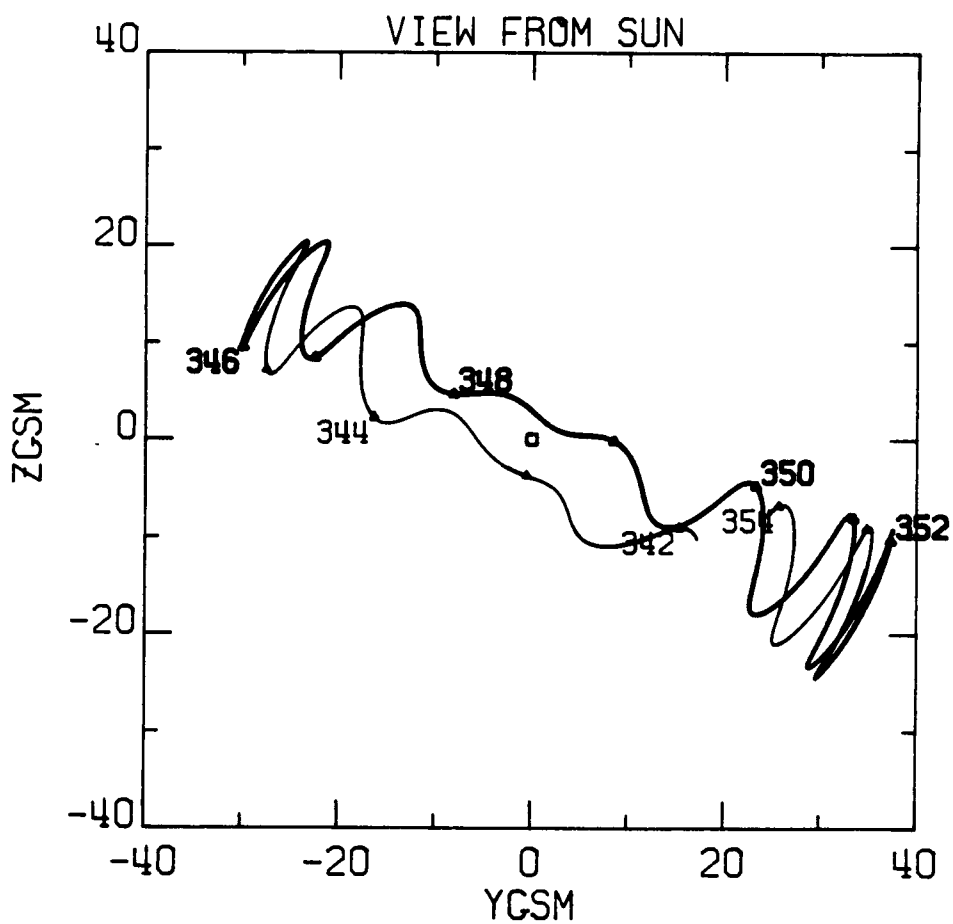
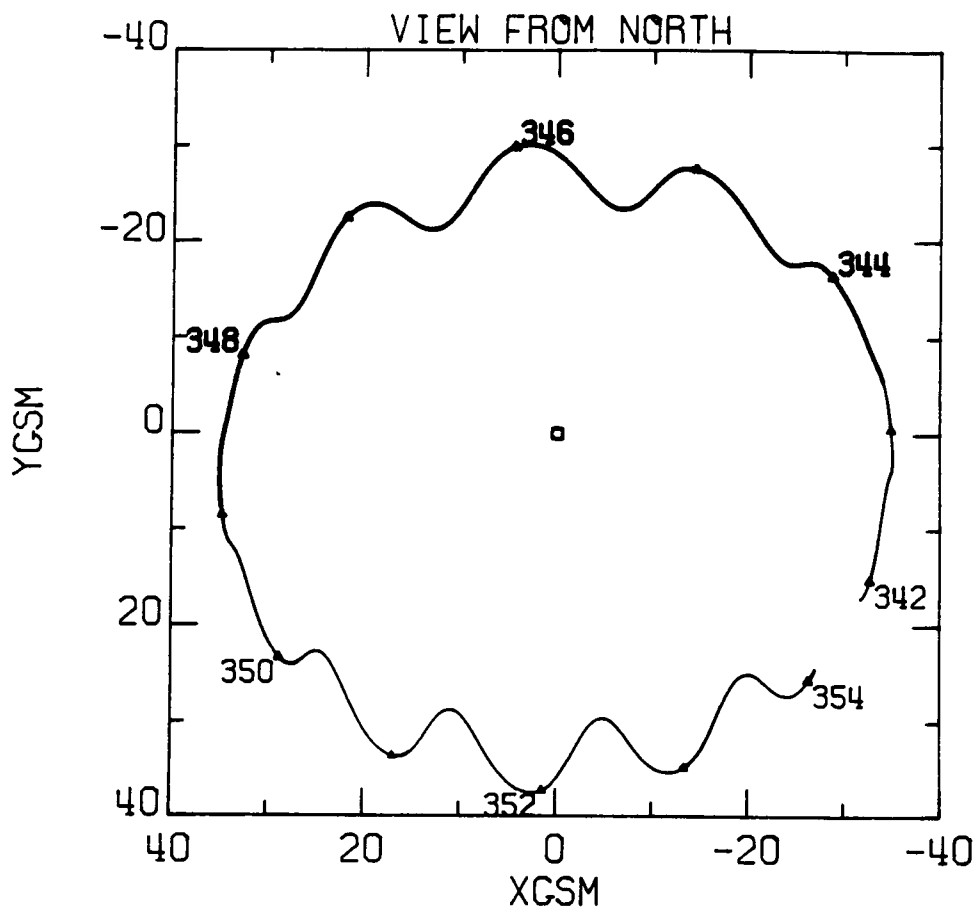
IMP 7 TRAJECTORY. ASCENDING NODE 126

FROM NOV 24 TO DEC 6 1976

DAYS 329 THRU 341

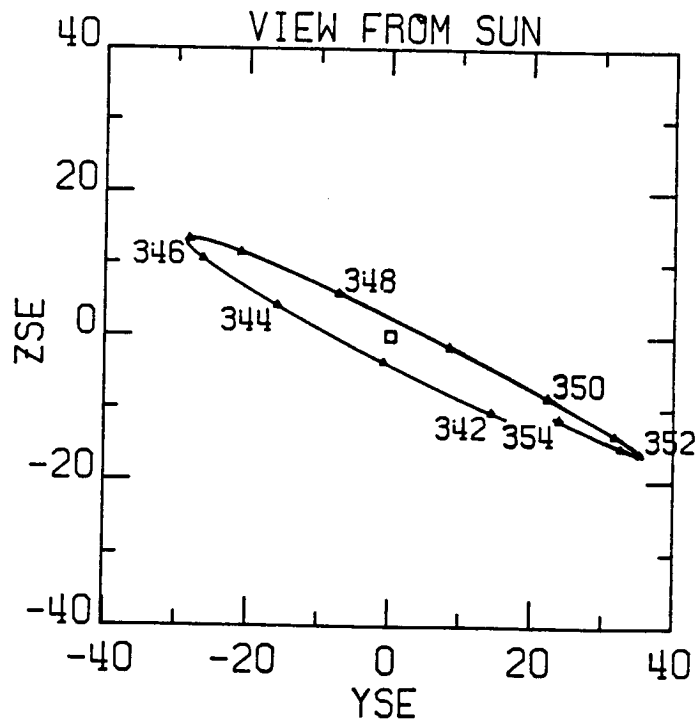
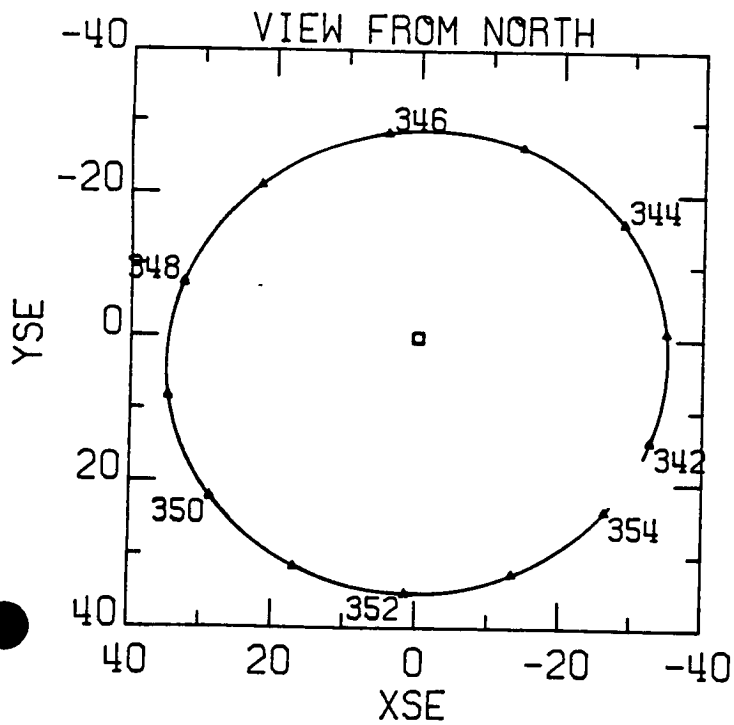
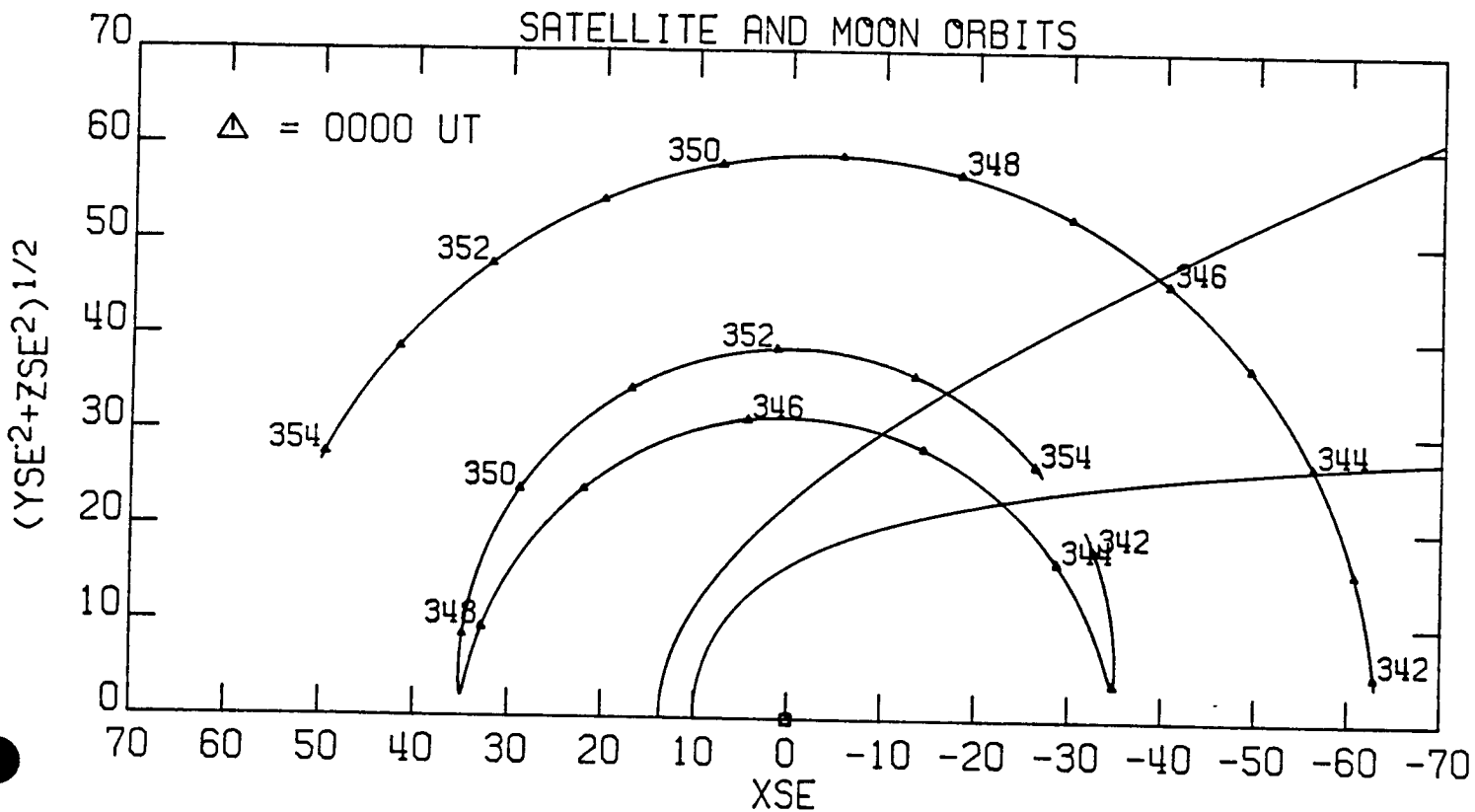


IMP 7 FROM DEC 6 TO DEC 19 1976

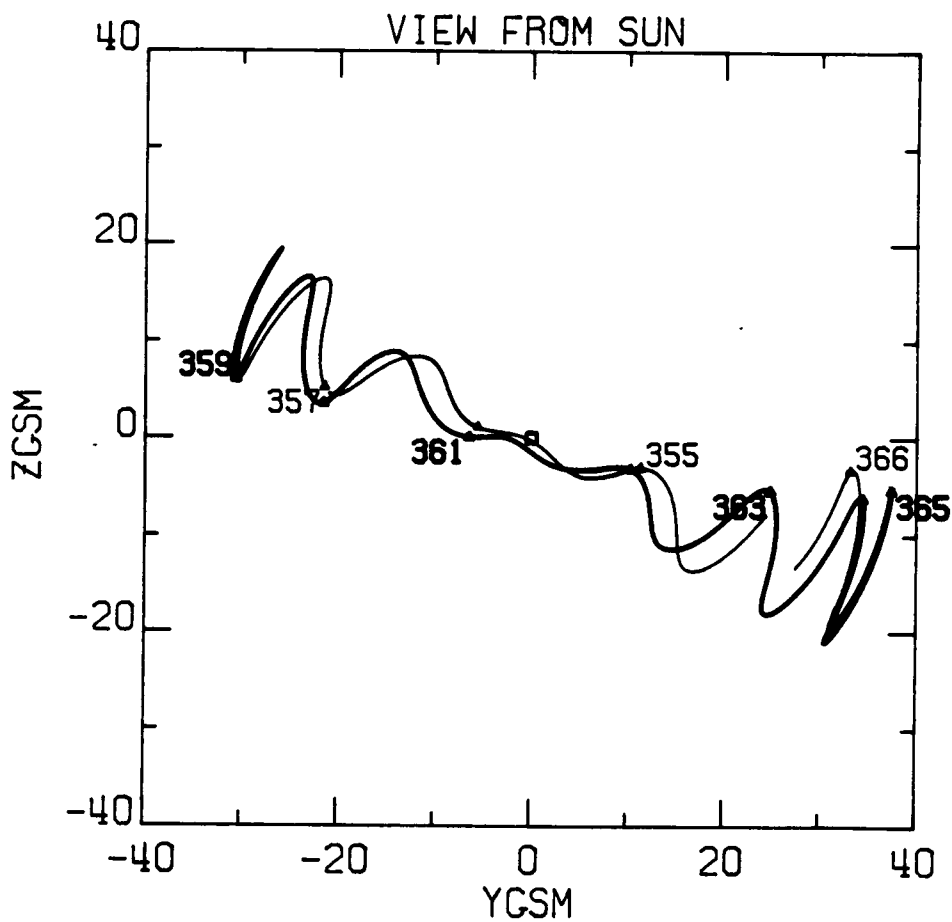
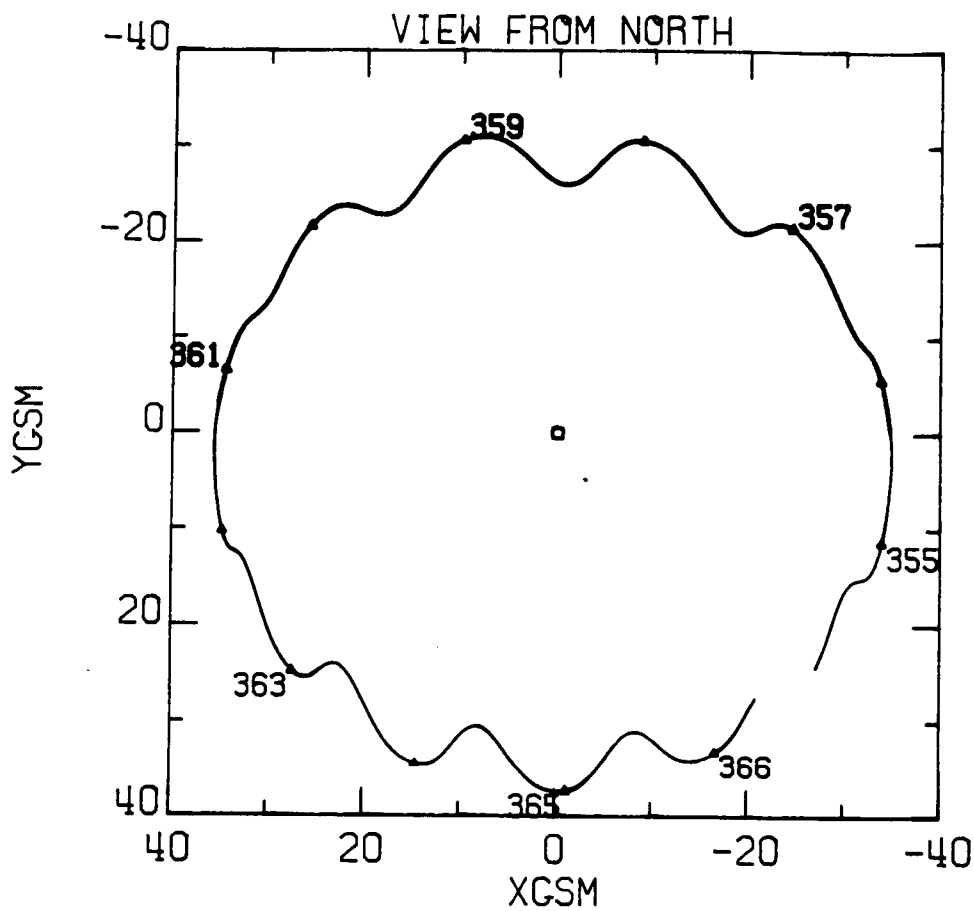


FROM DEC 6 TO DEC 19 1976

DAYS 341 THRU 354

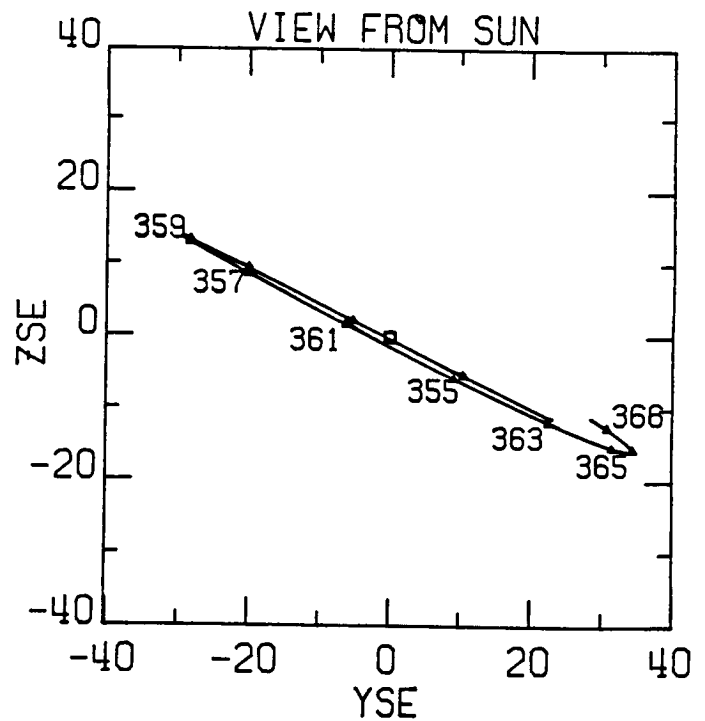
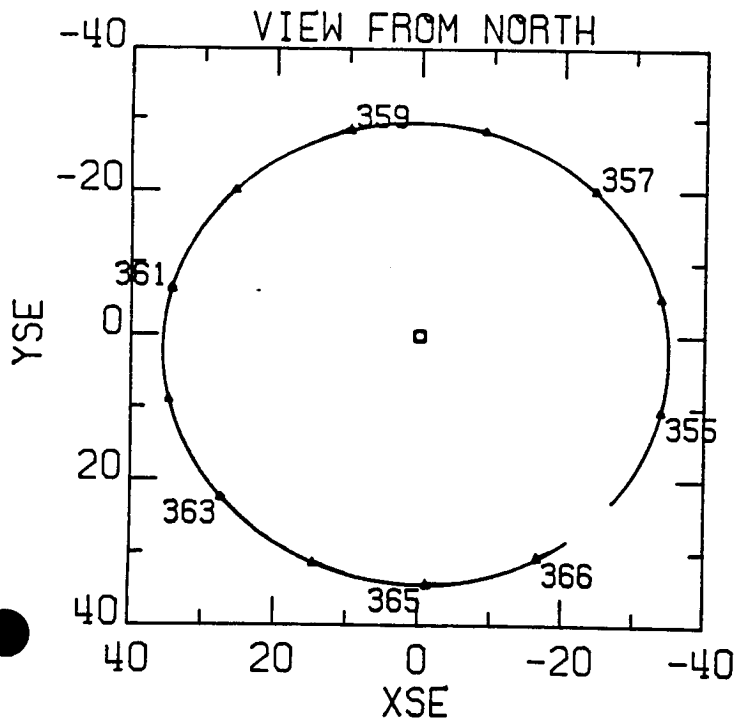
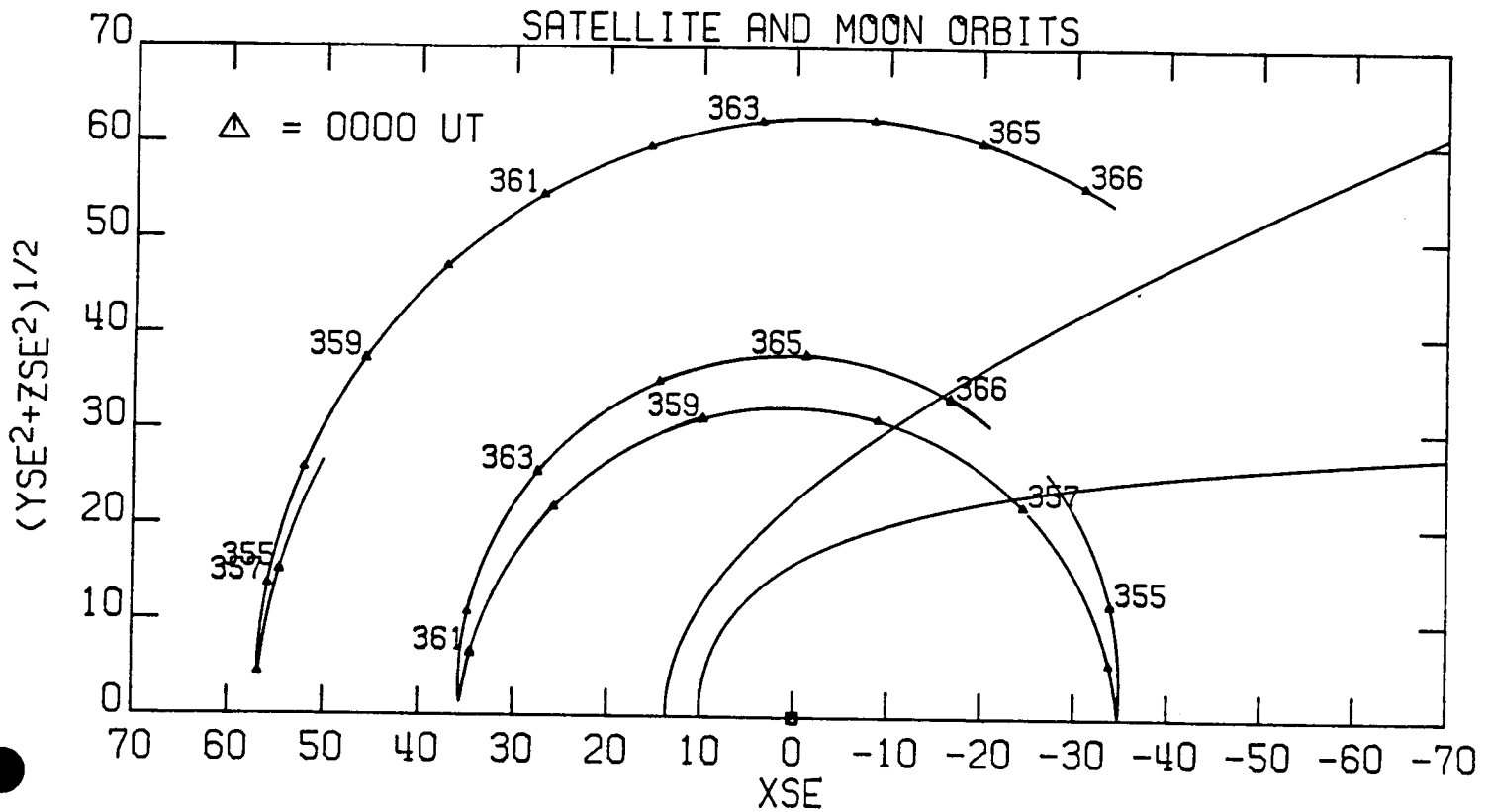


IMP 7 FROM DEC 19 TO DEC 31 1976

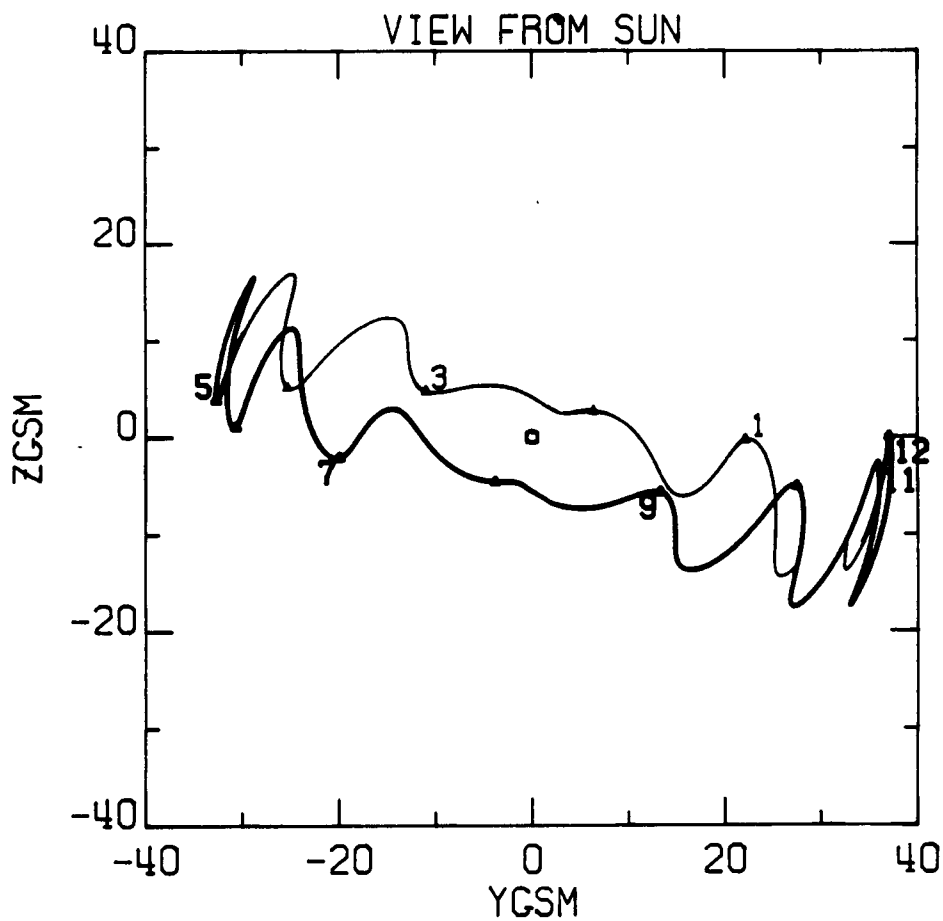
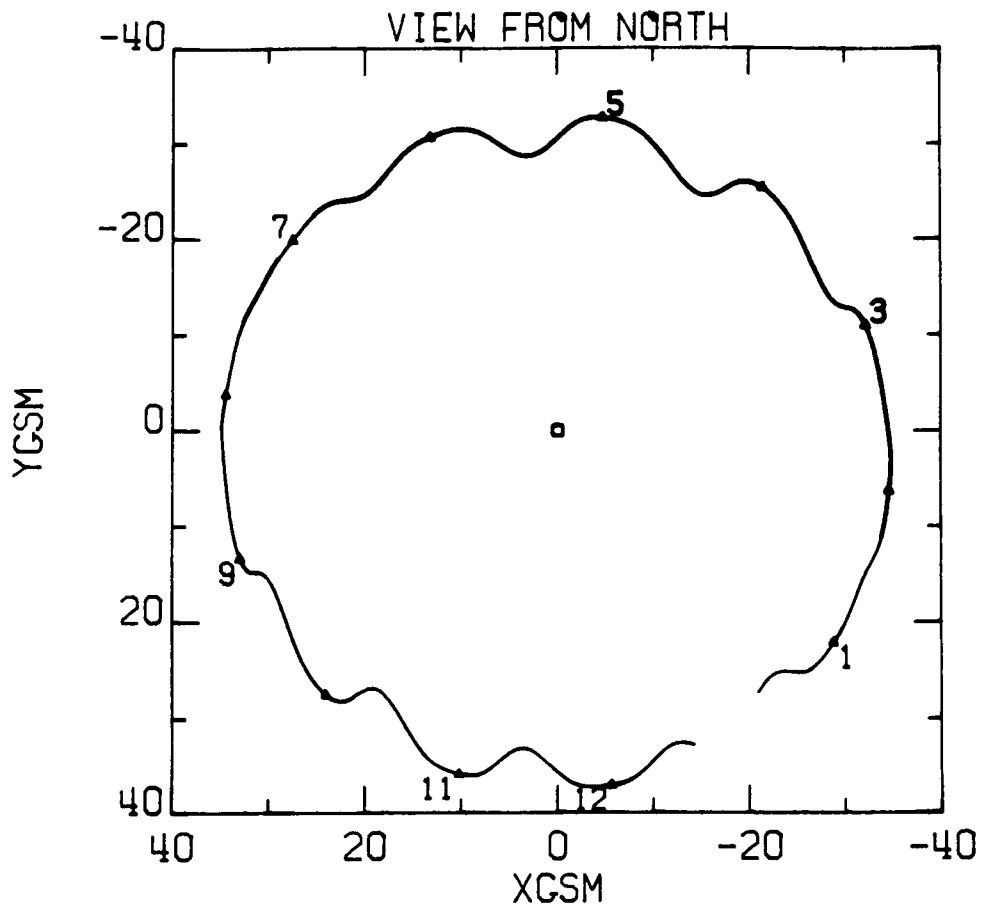


FROM DEC 19 TO DEC 31 1976

DAYS 354 THRU 366

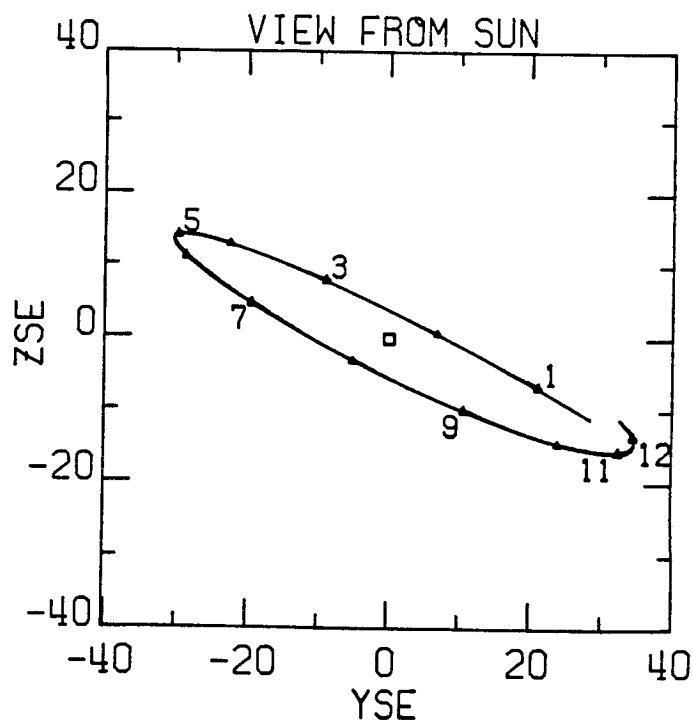
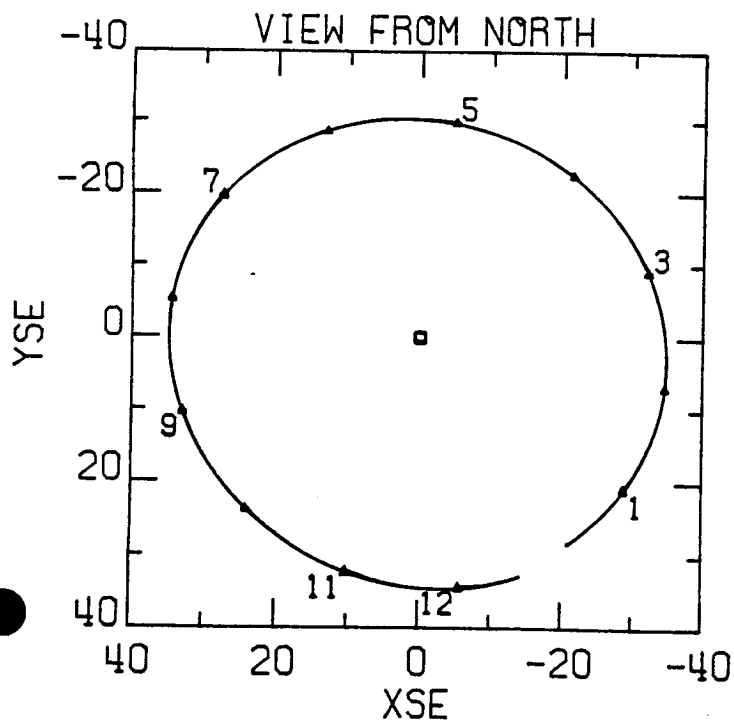
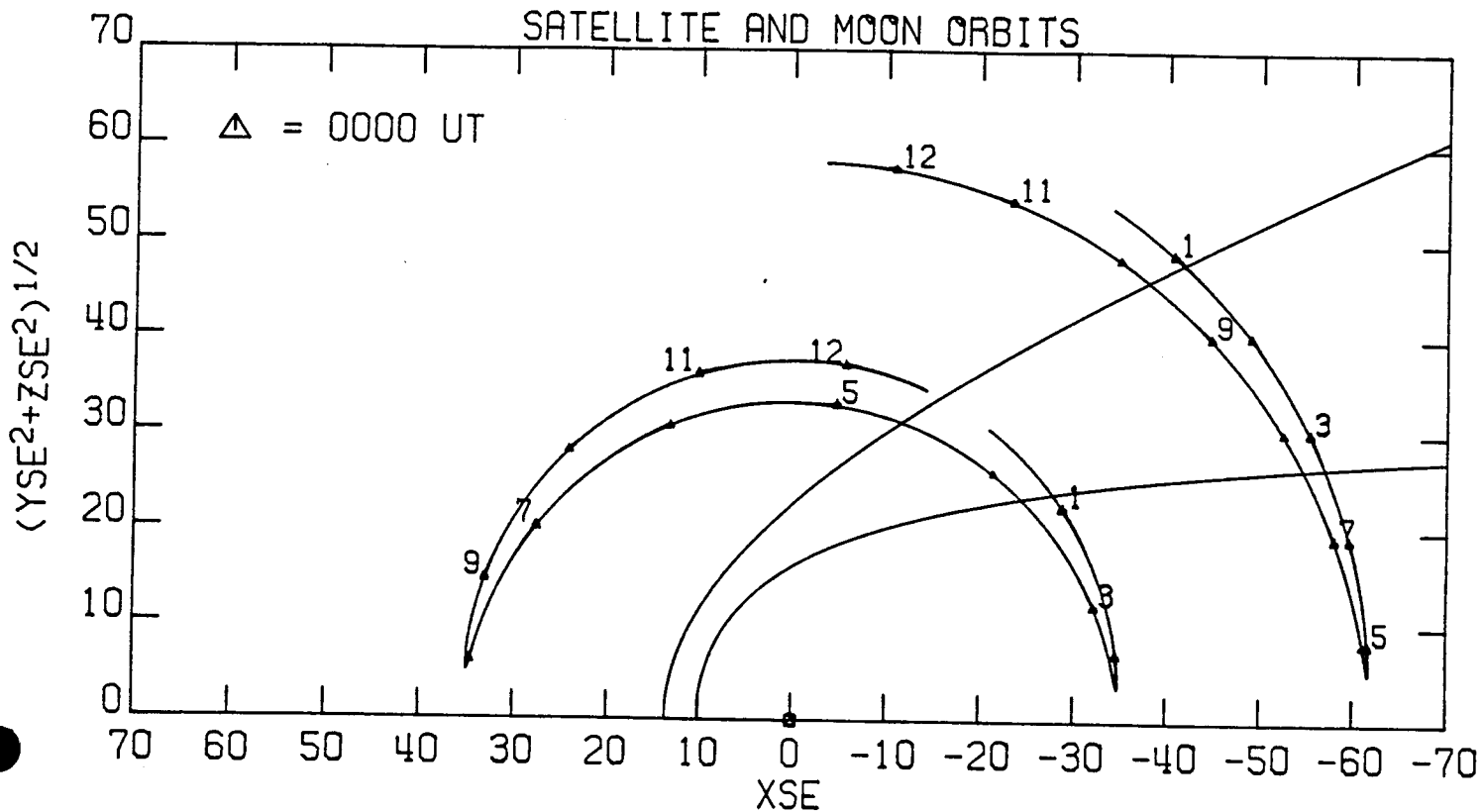


IMP 7 FROM DEC 31 TO JAN 12 1977

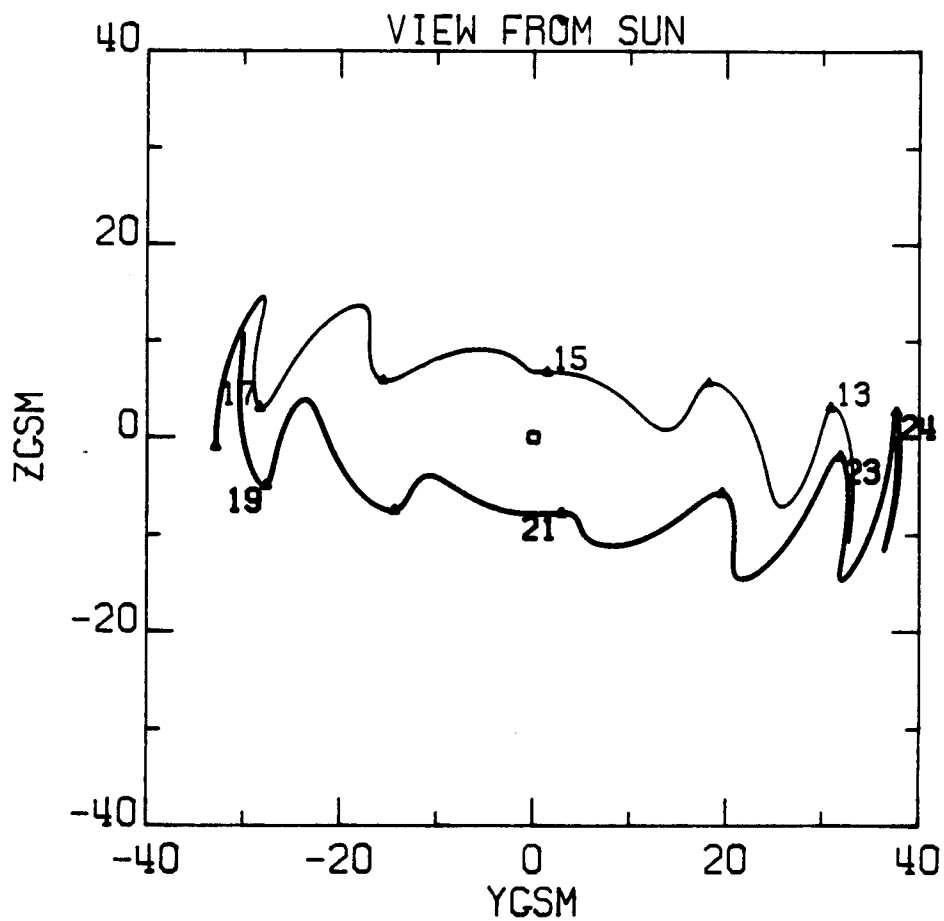
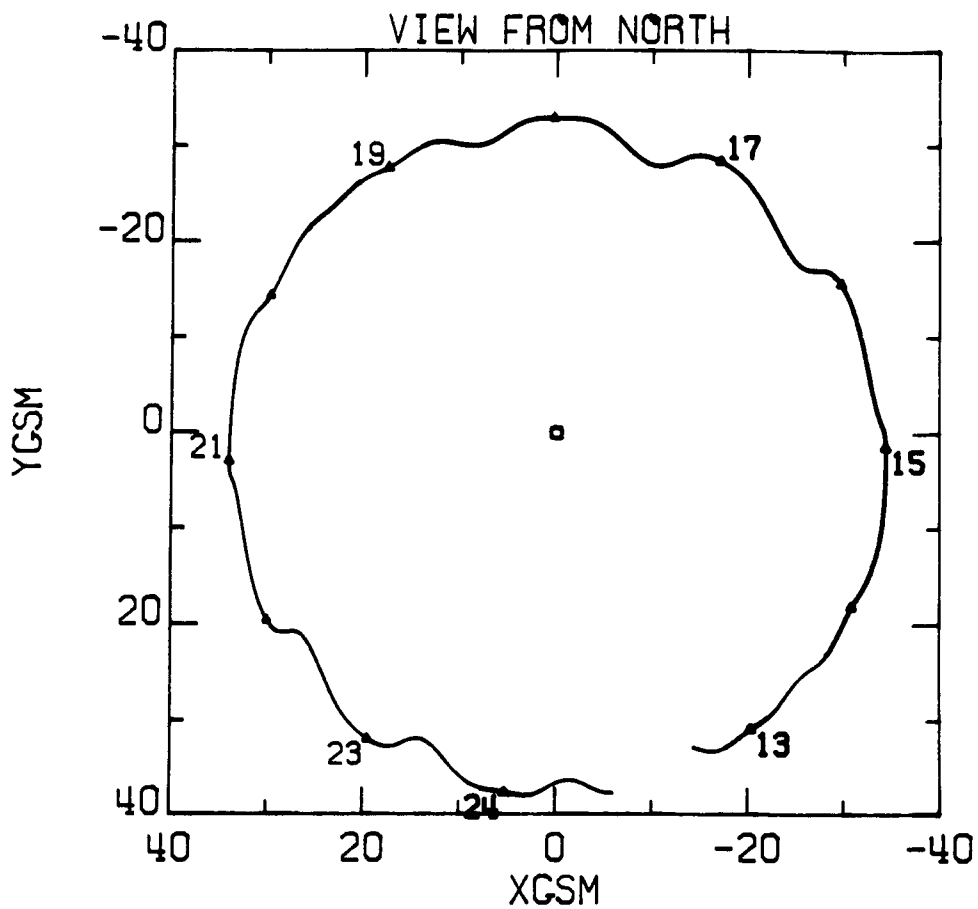


FROM DEC 31 TO JAN 12 1977

DAYS 366 THRU 12



IMP 7 FROM JAN 12 TO JAN 24 1977



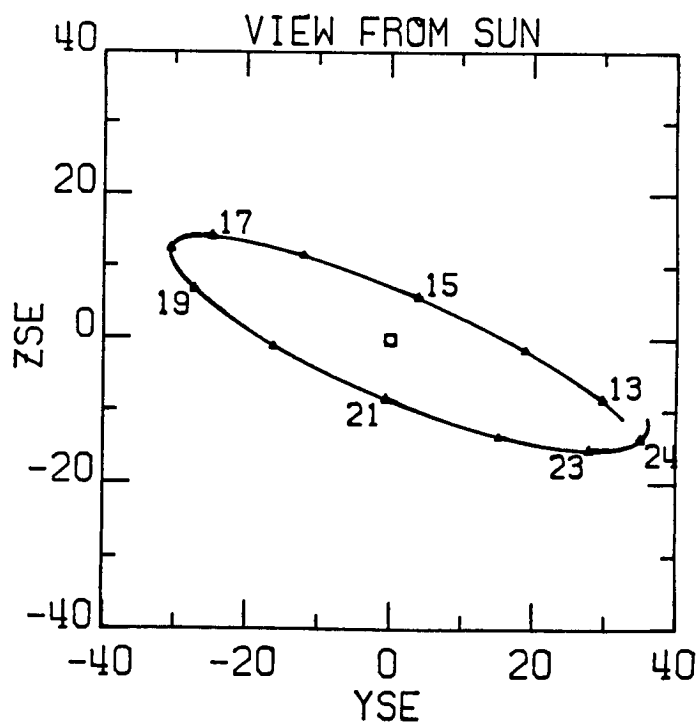
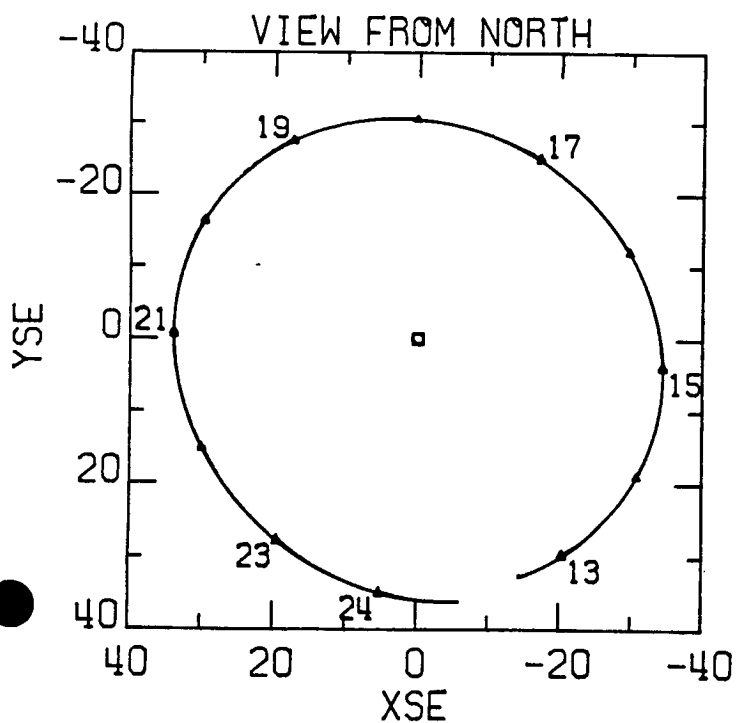
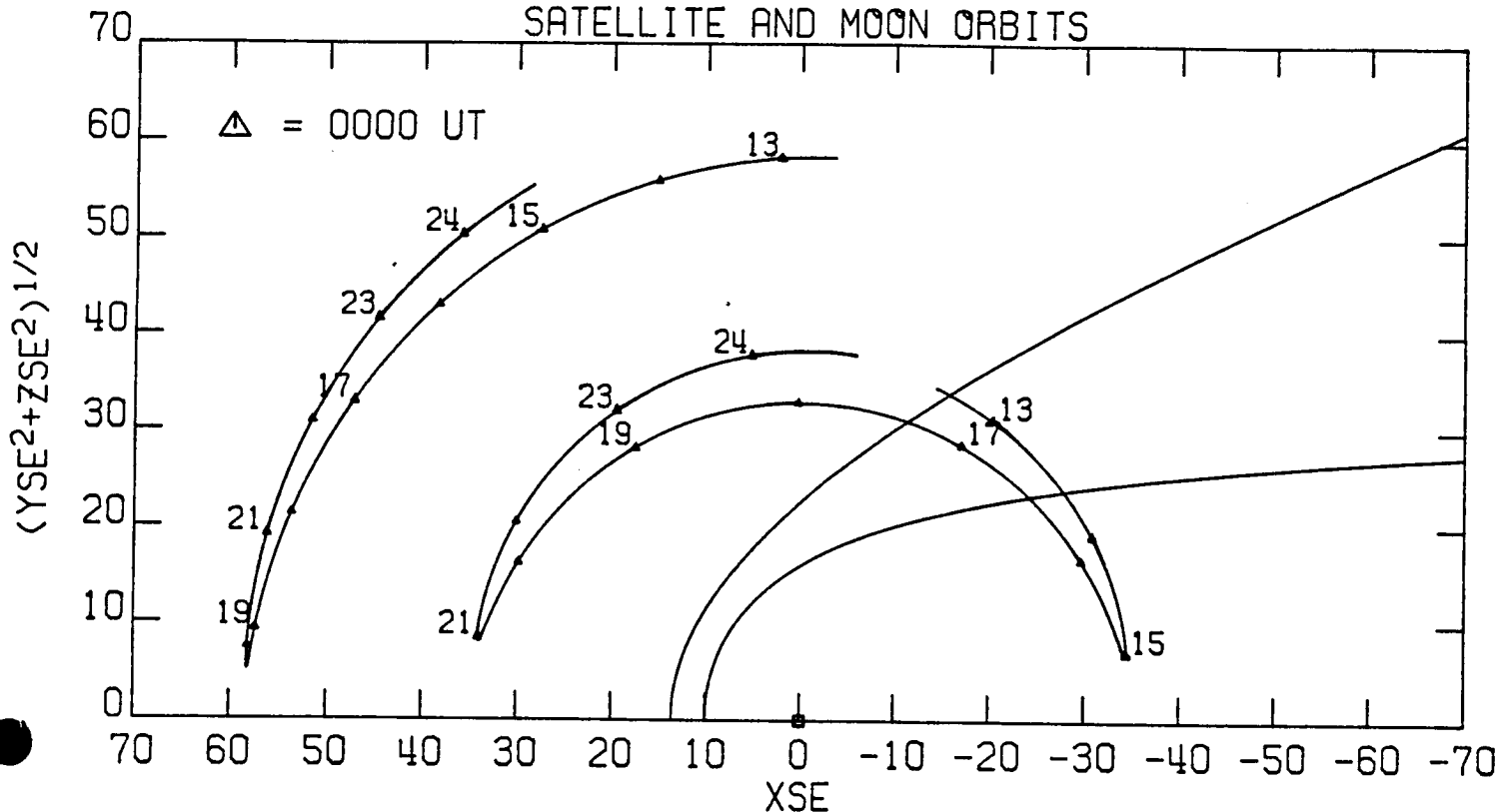
IMP 7 TRAJECTORY.

ASCENDING NODE 130

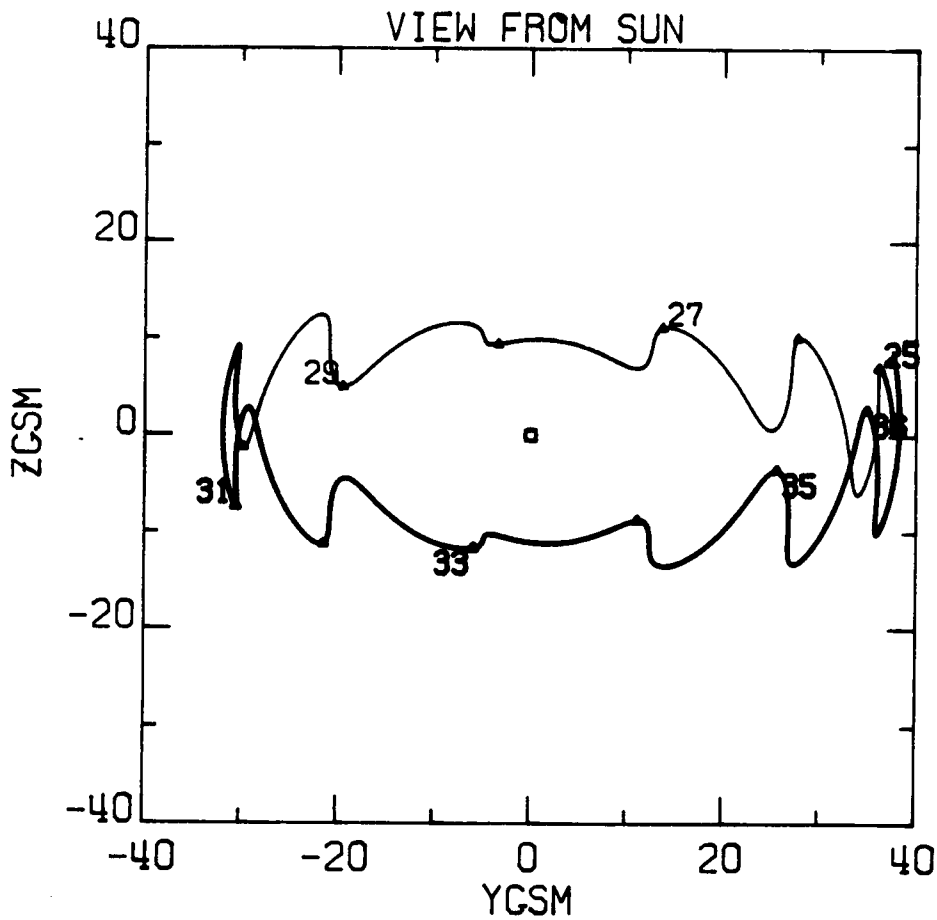
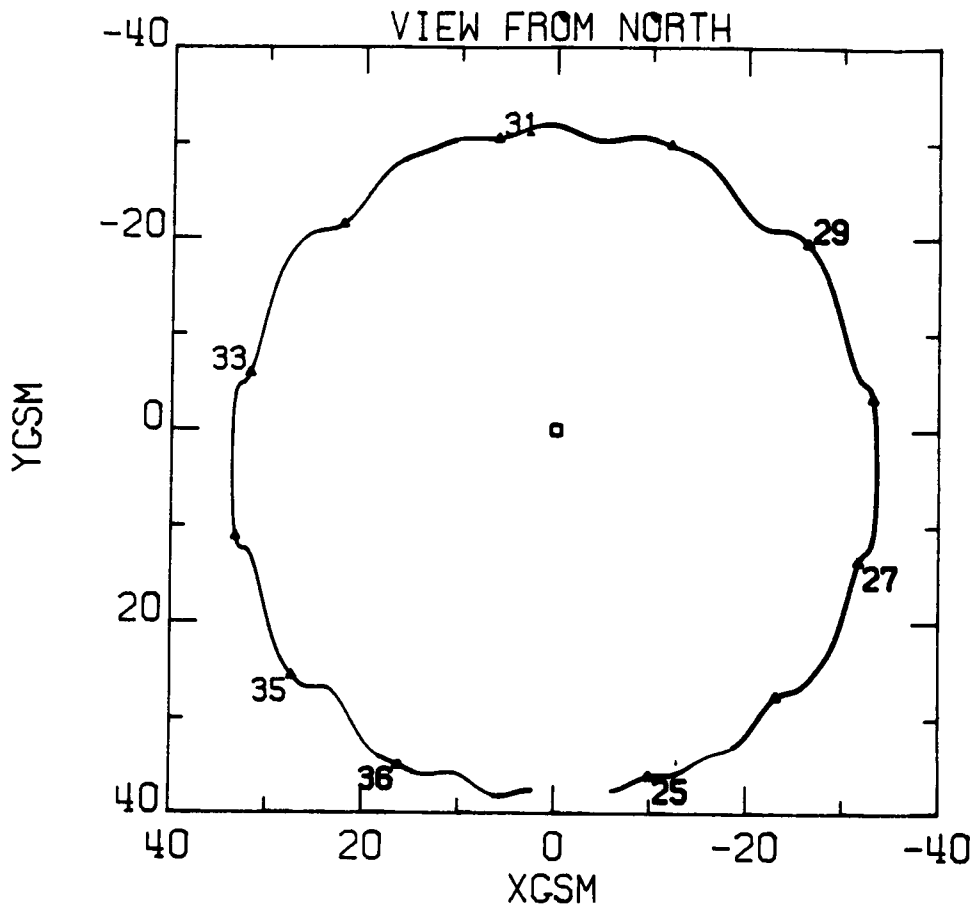
FROM JAN 12 TO JAN 24 1977

DAYS 12 THRU 24

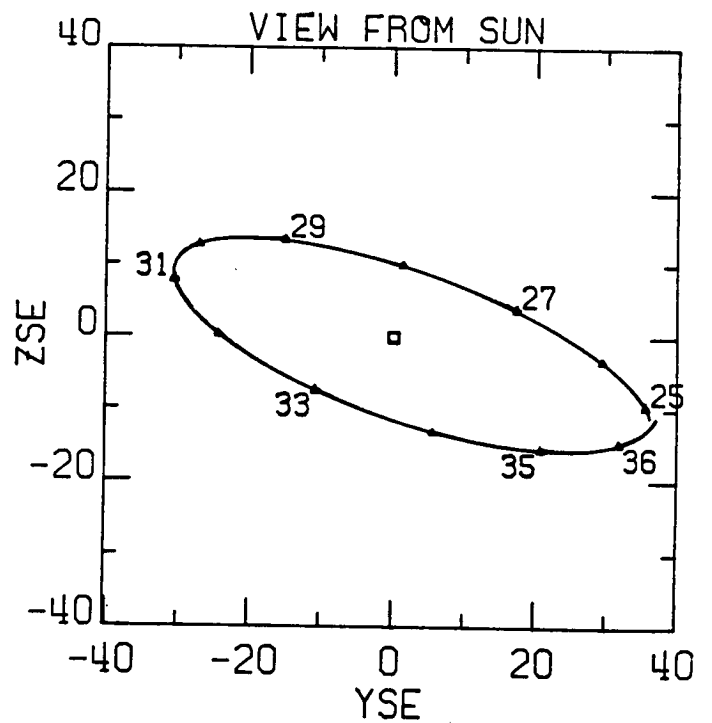
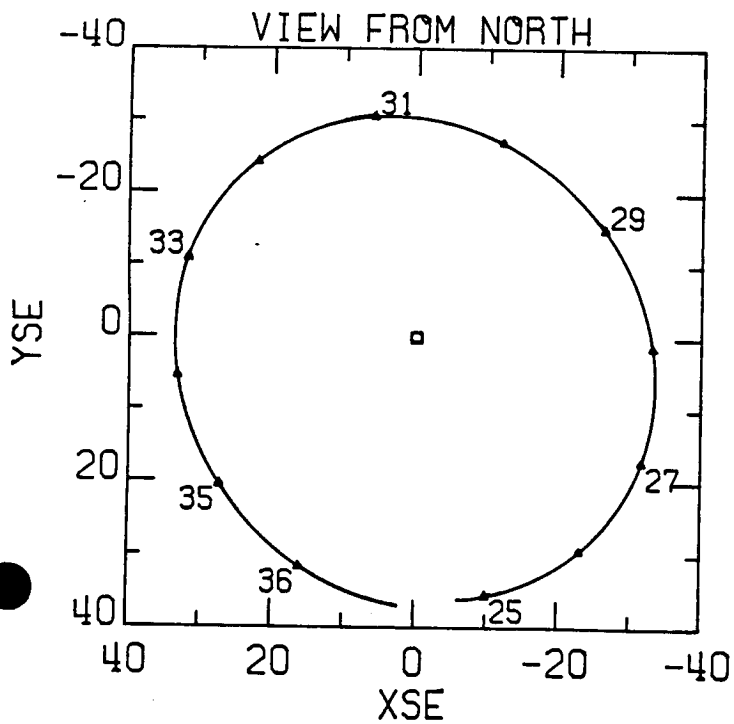
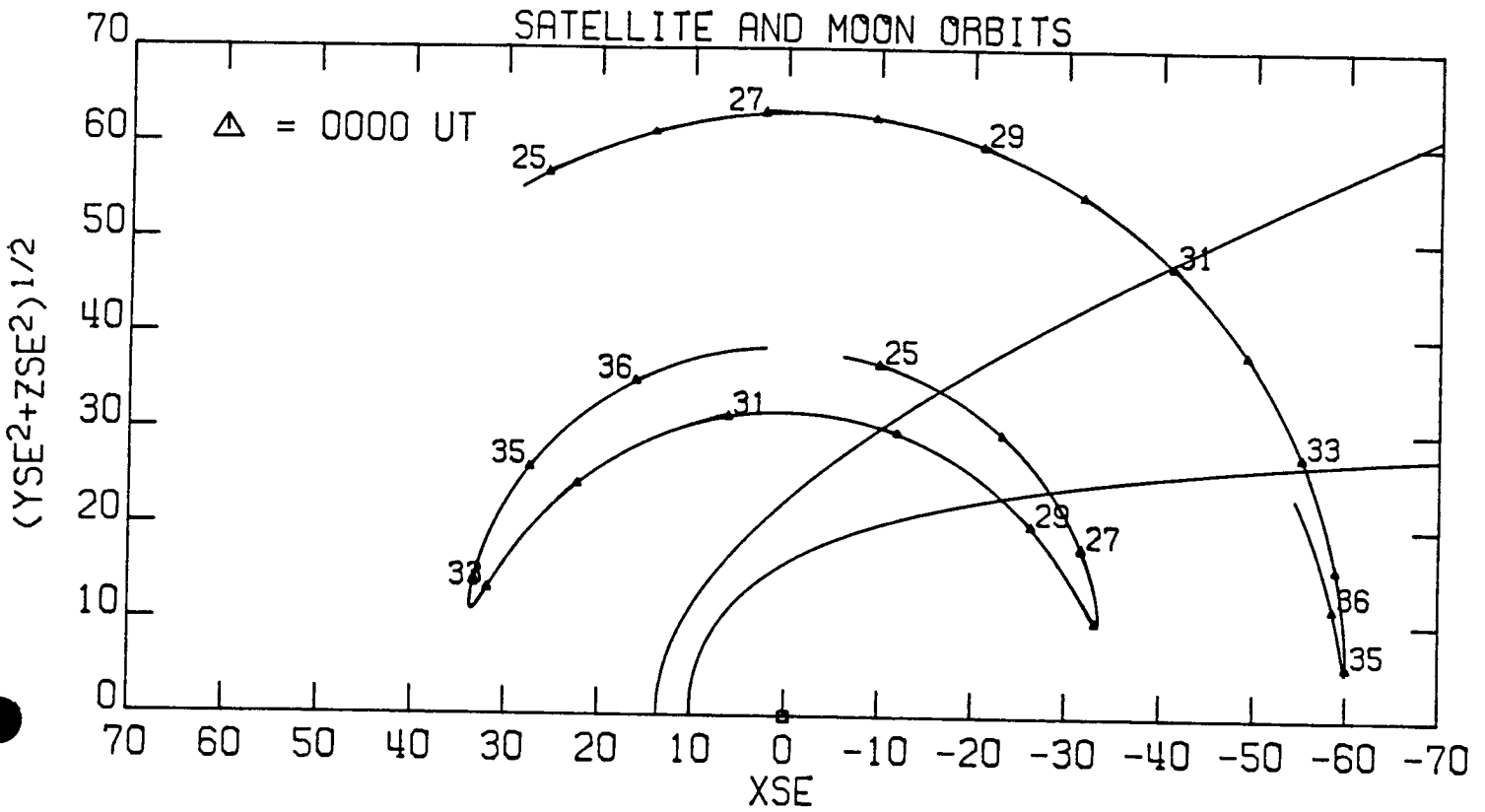
SATELLITE AND MOON ORBITS



IMP 7 FROM JAN 24 TO FEB 5 1977

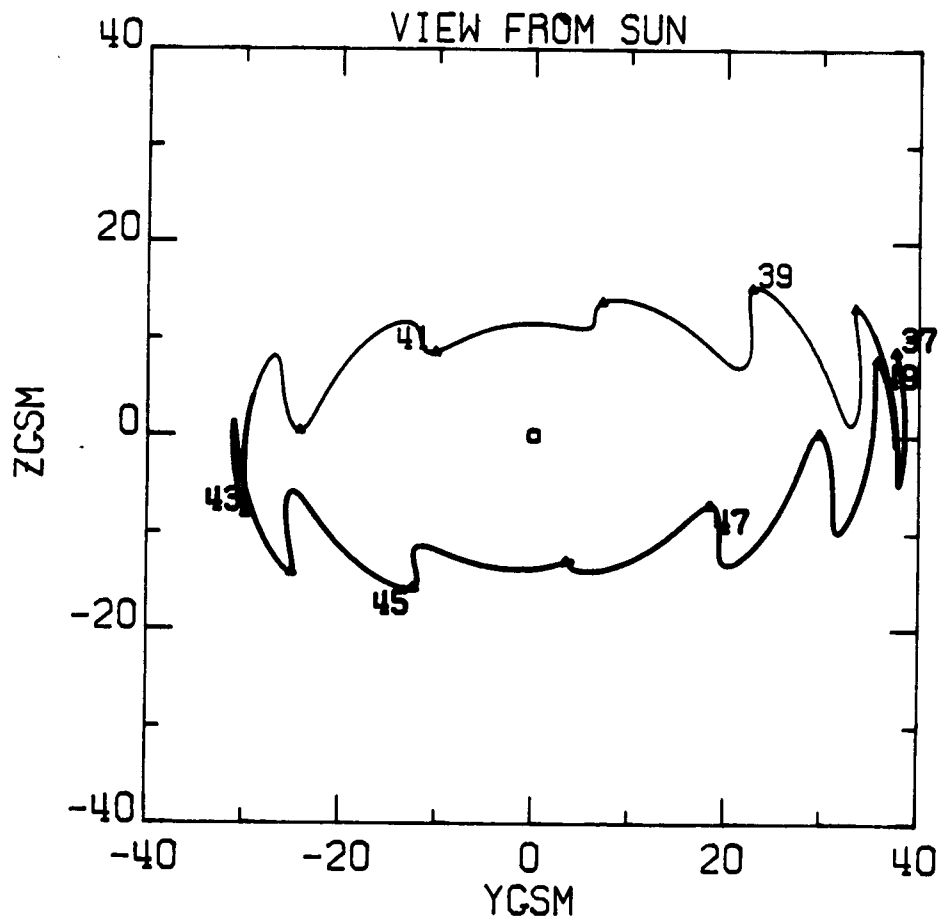
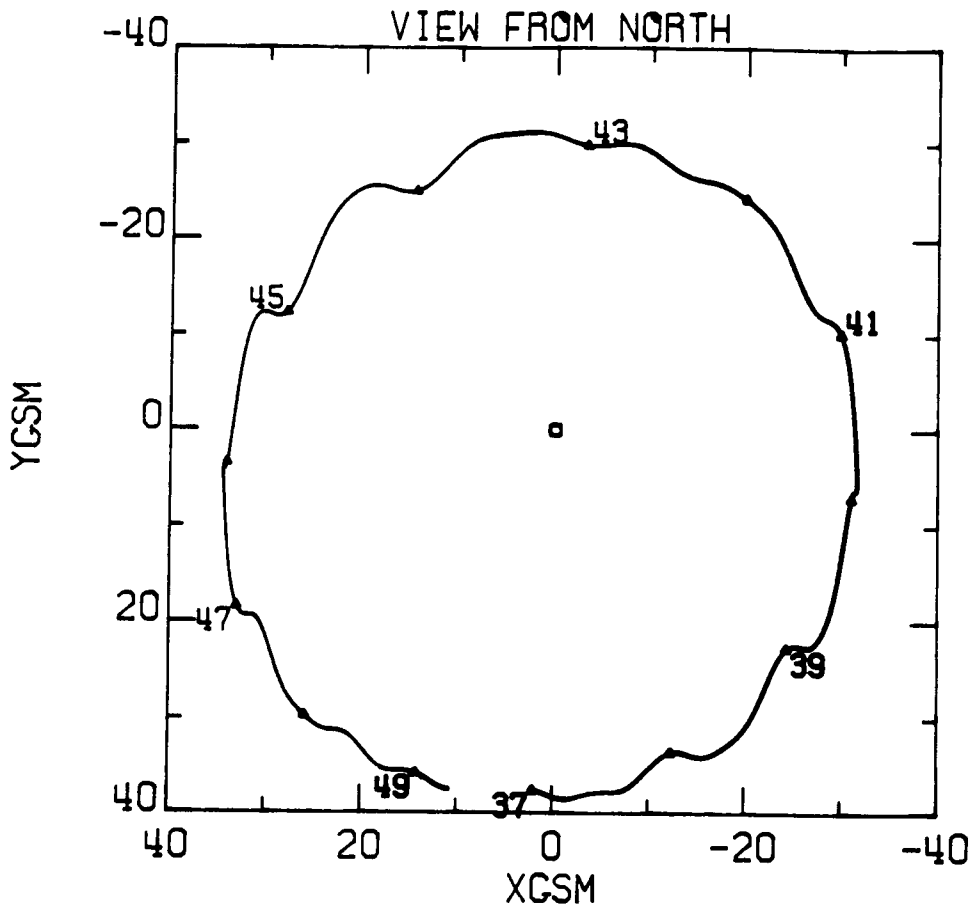


IMP 7 TRAJECTORY. ASCENDING NODE 131
 FROM JAN 24 TO FEB 5 1977
 DAYS 24 THRU 36



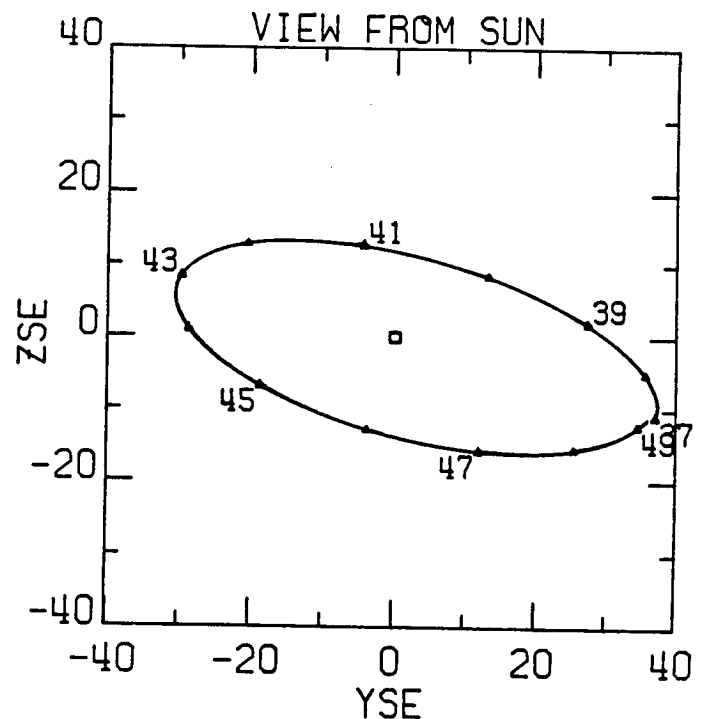
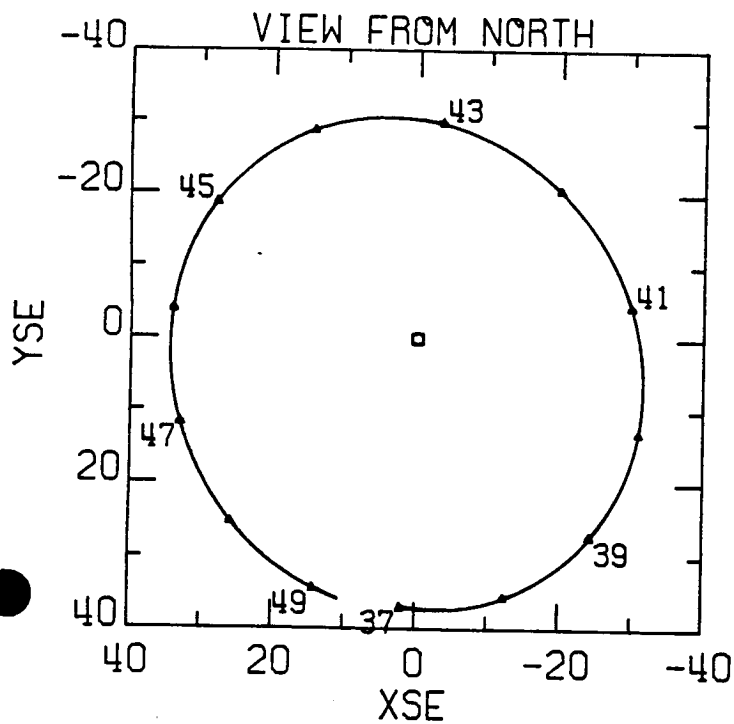
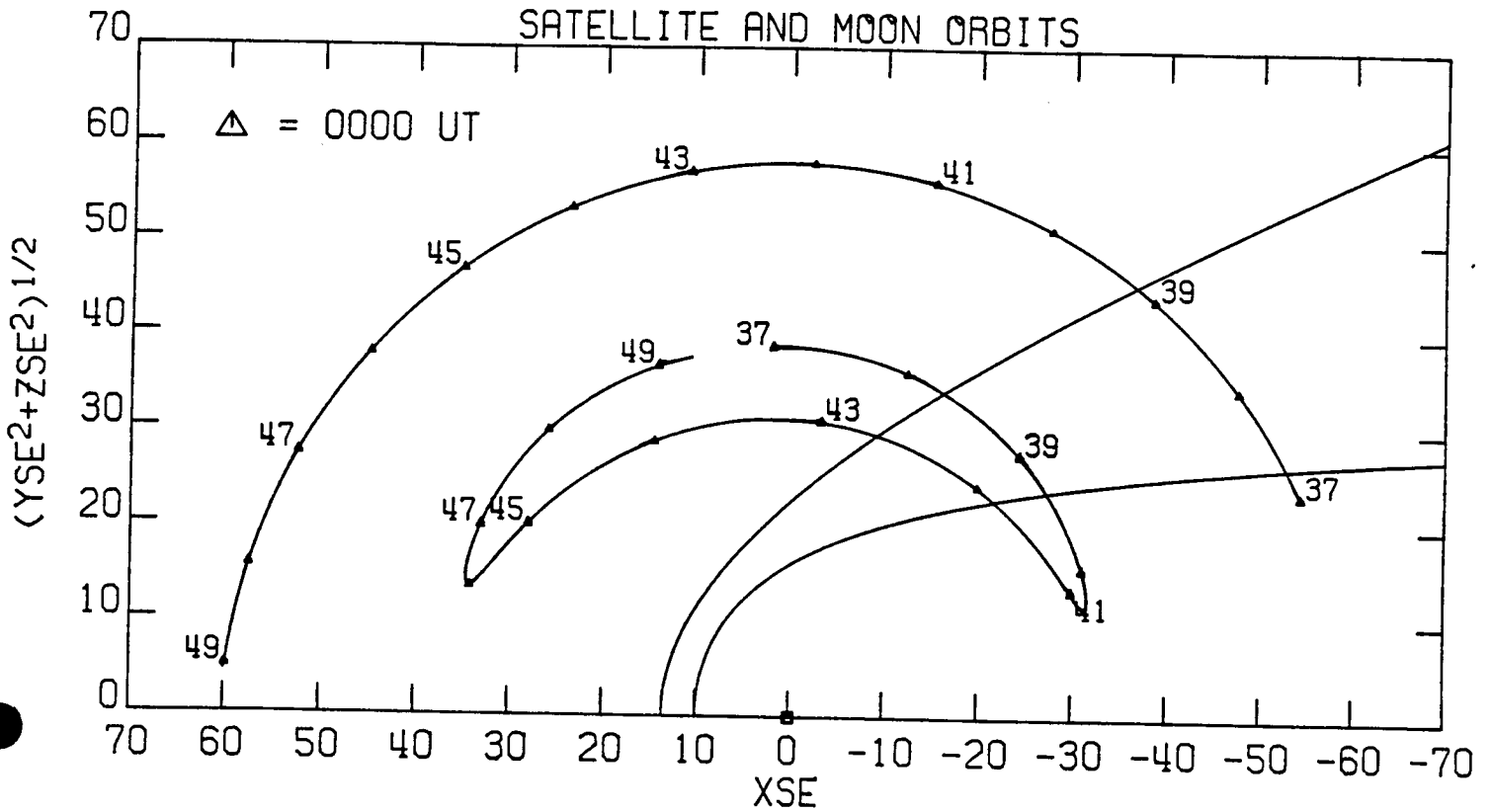
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IMP 7 FROM FEB 5 TO FEB 18 1977

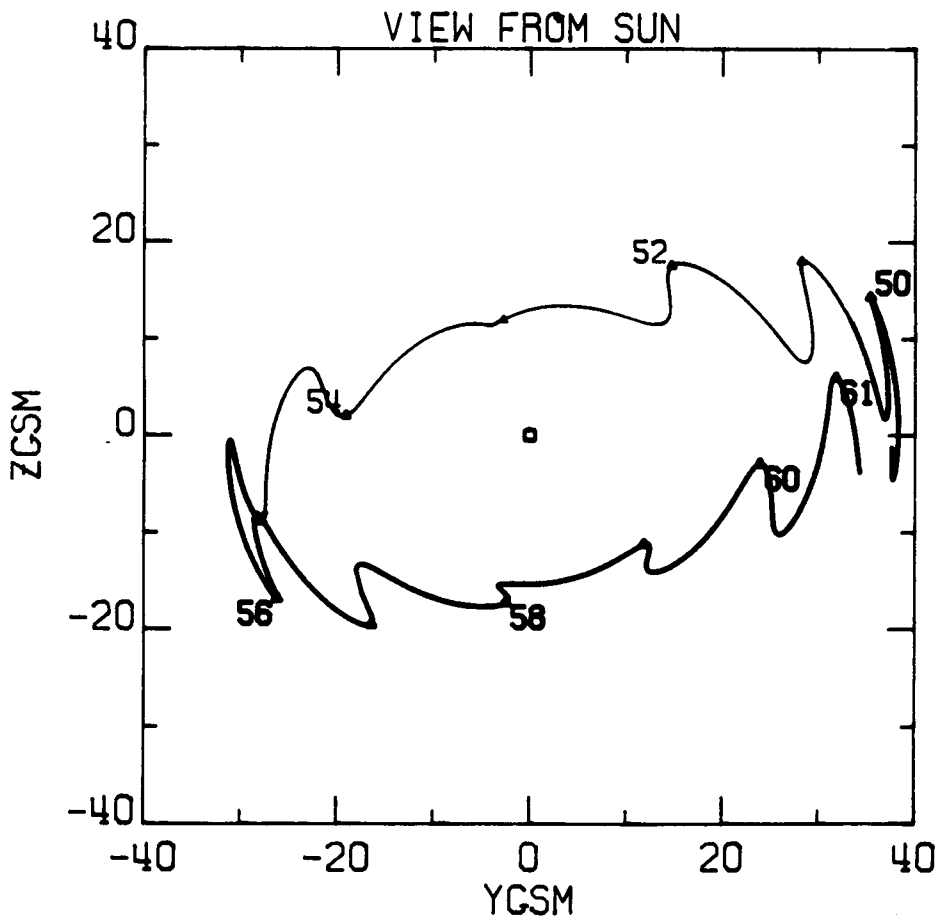
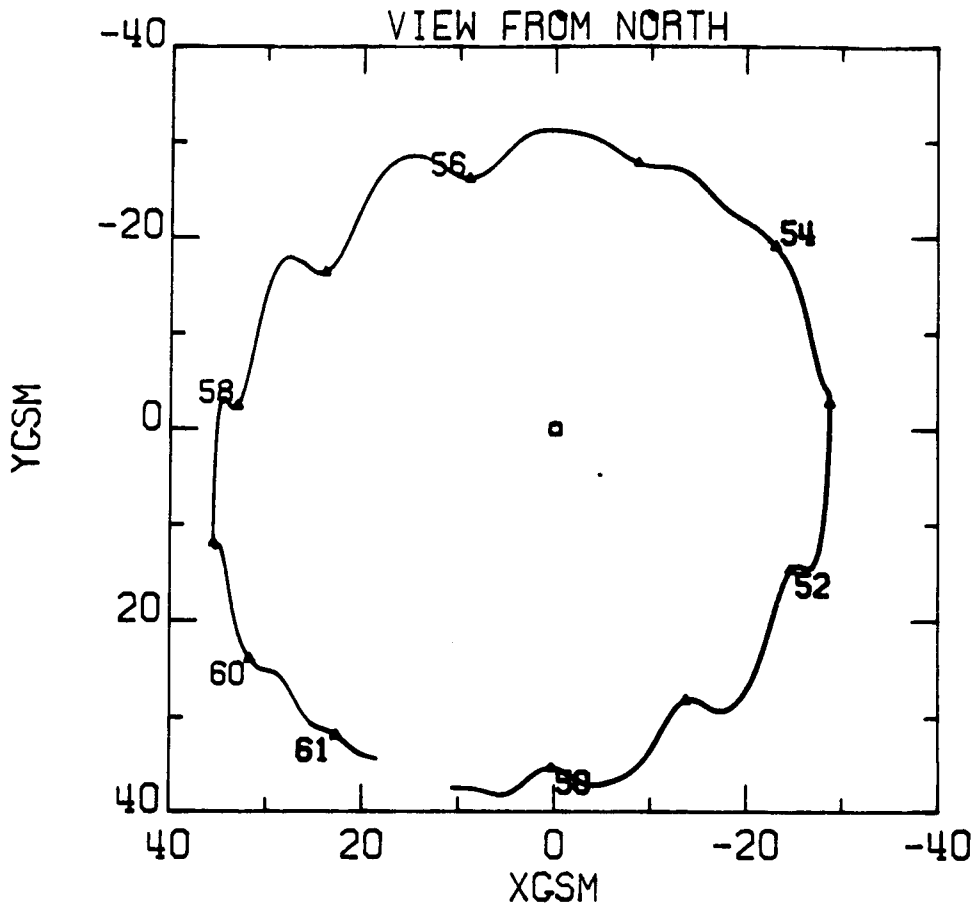


IMP 7 TRAJECTORY. ASCENDING NODE 132
 FROM FEB 5 TO FEB 18 1977

DAYS 36 THRU 49

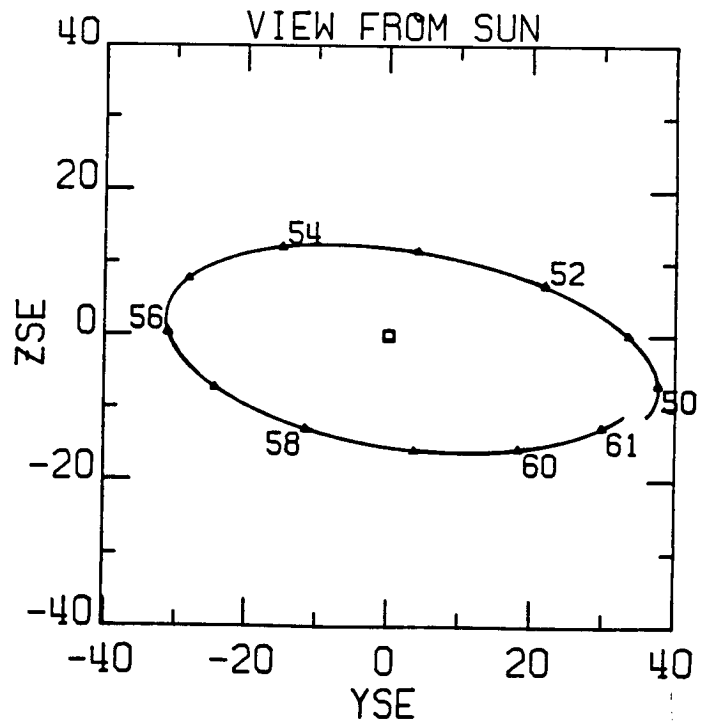
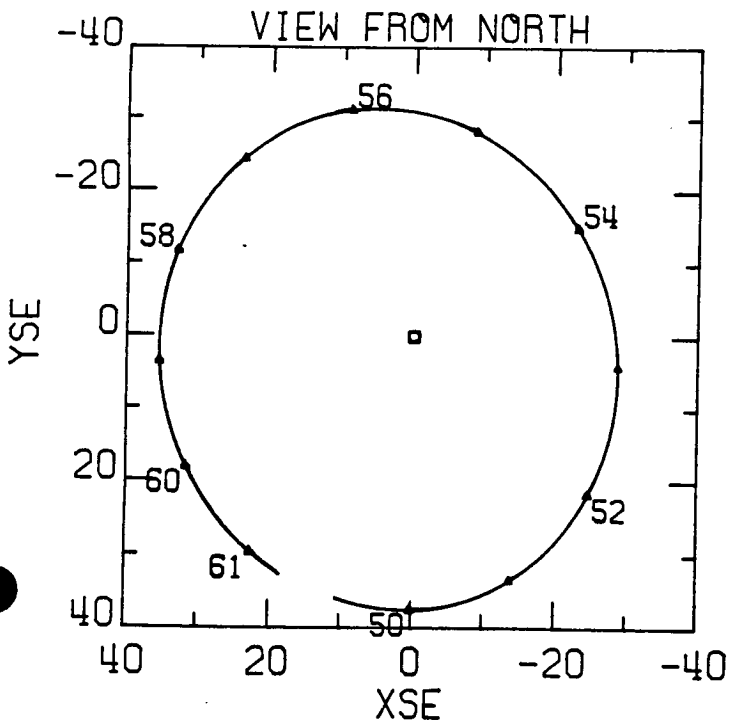
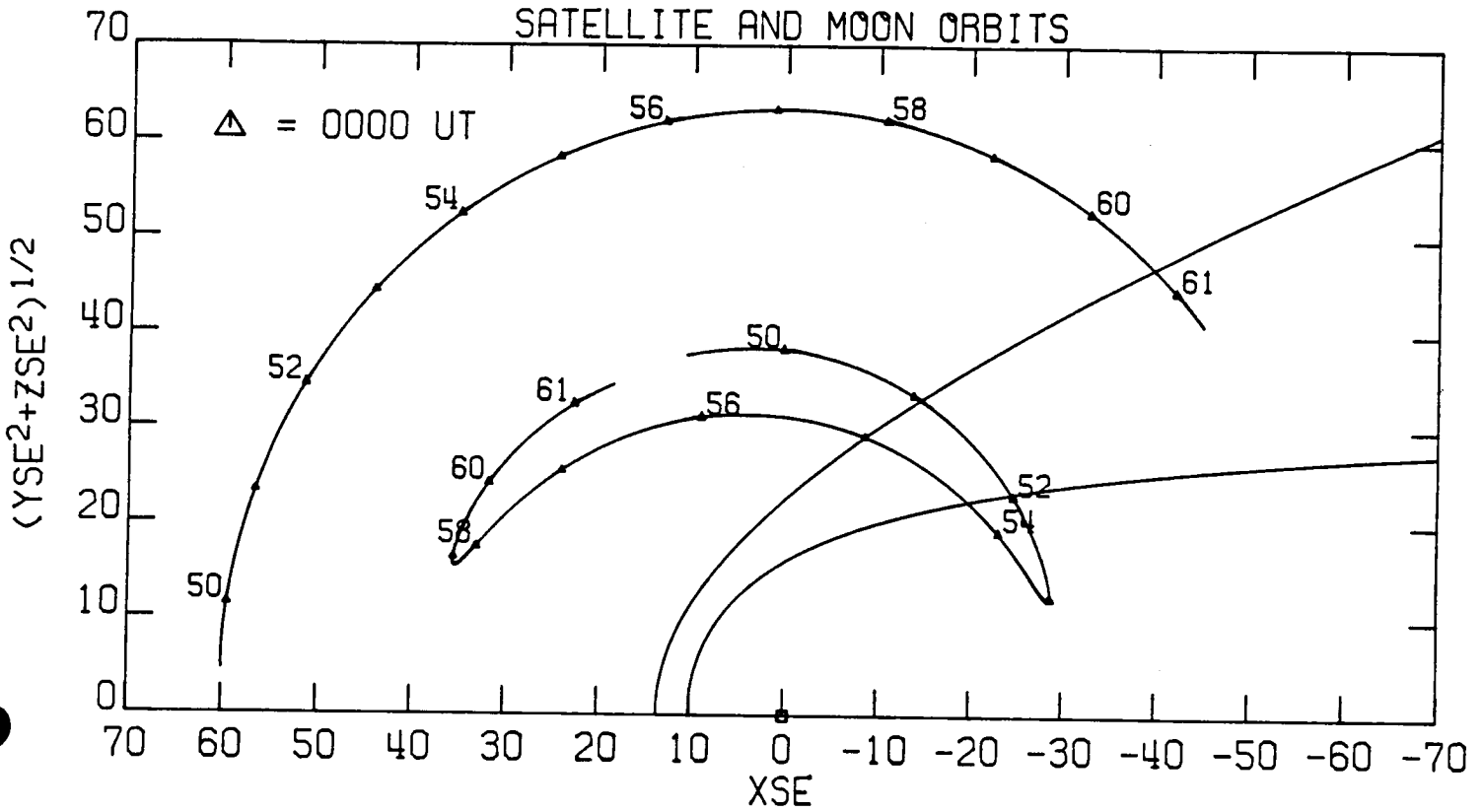


IMP 7 FROM FEB 18 TO MAR 2 1977

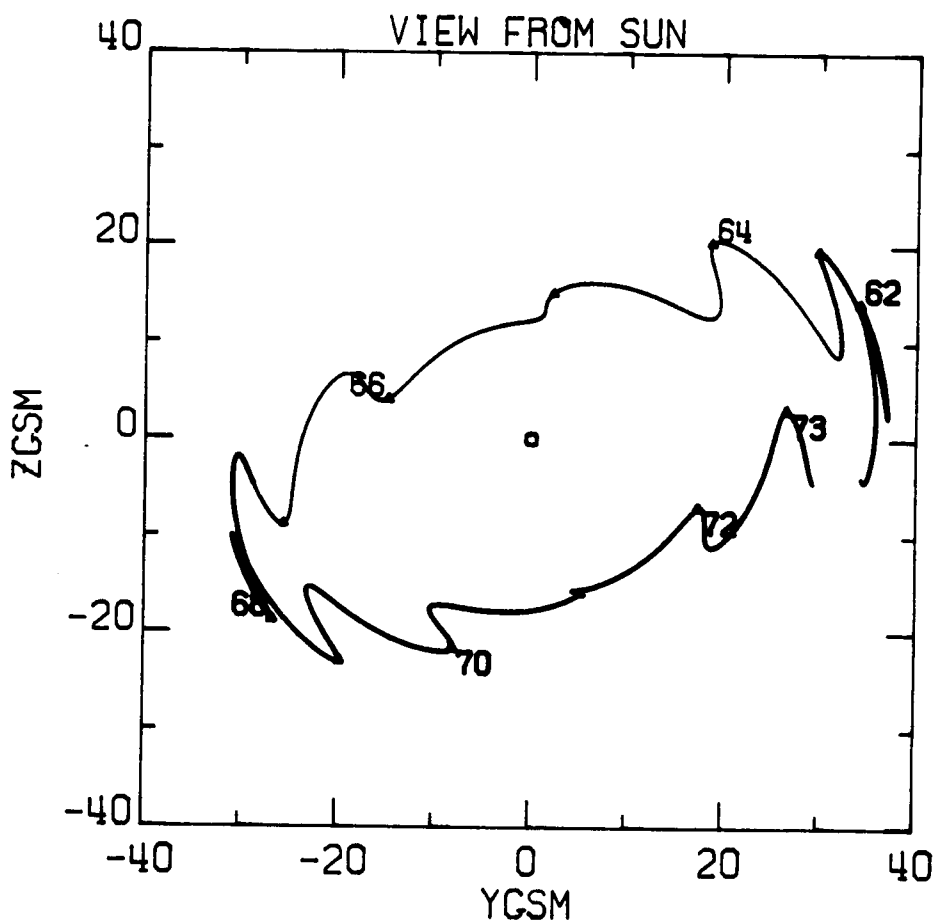
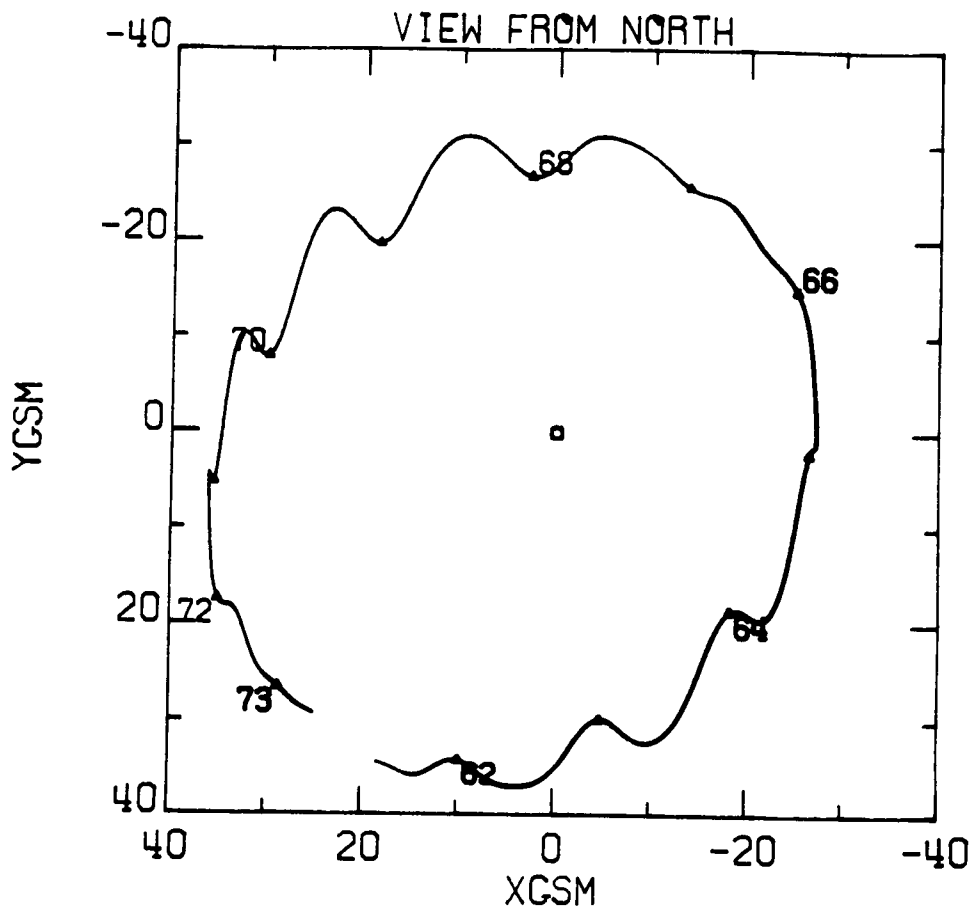


IMP 7 TRAJECTORY. ASCENDING NODE 133
 FROM FEB 18 TO MAR 2 1977

DAYS 49 THRU 61



IMP 7 FROM MAR 2 TO MAR 14 1977

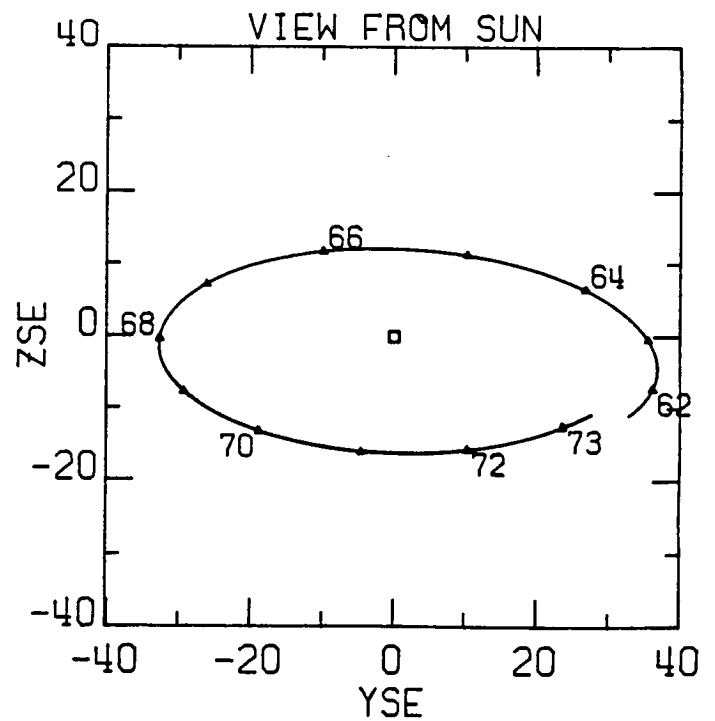
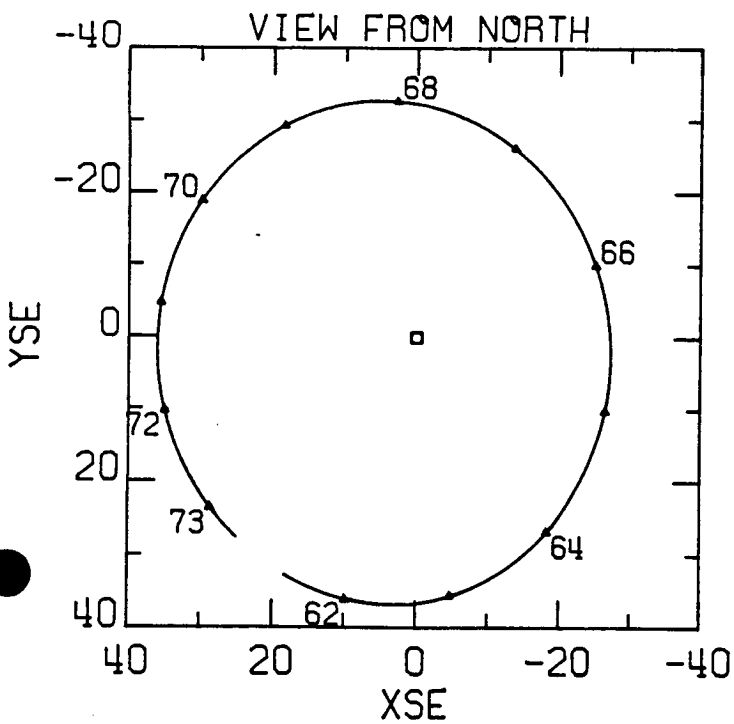
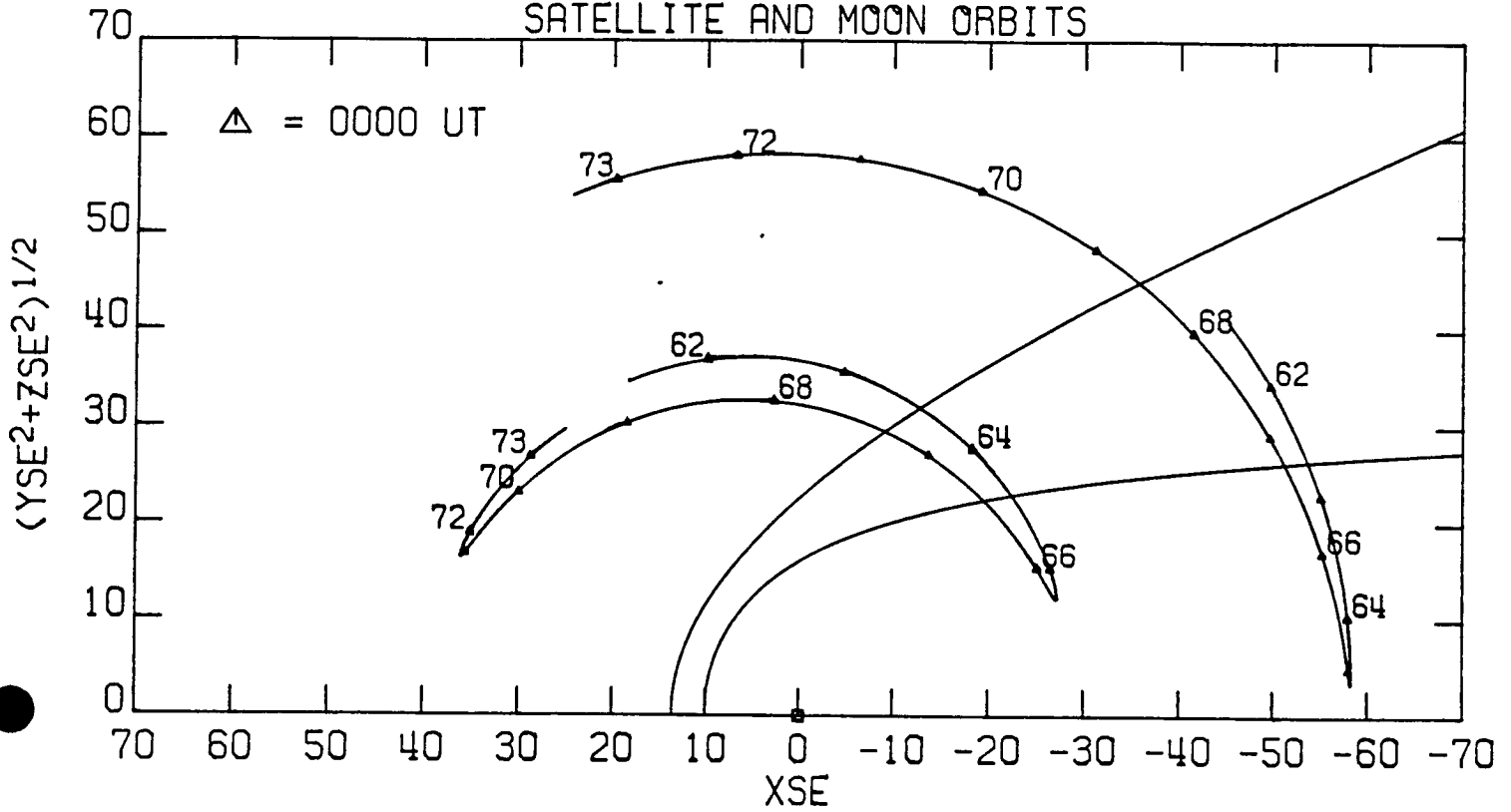


IMP 7 TRAJECTORY. ASCENDING NODE 134

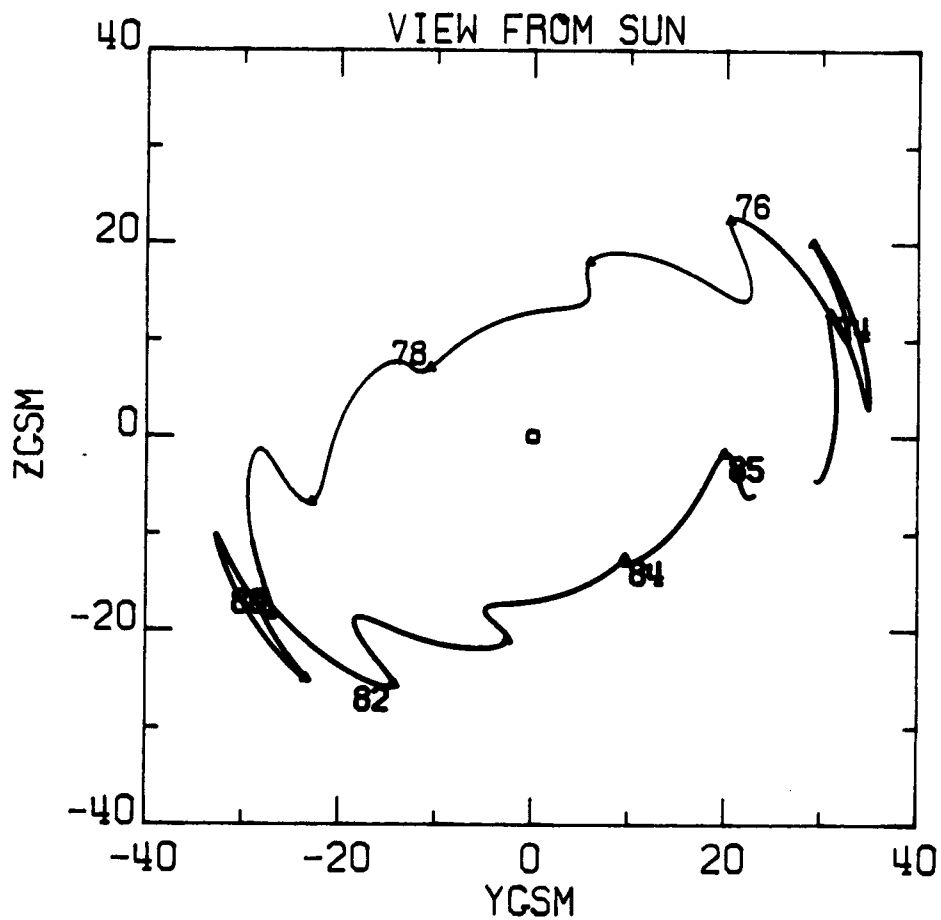
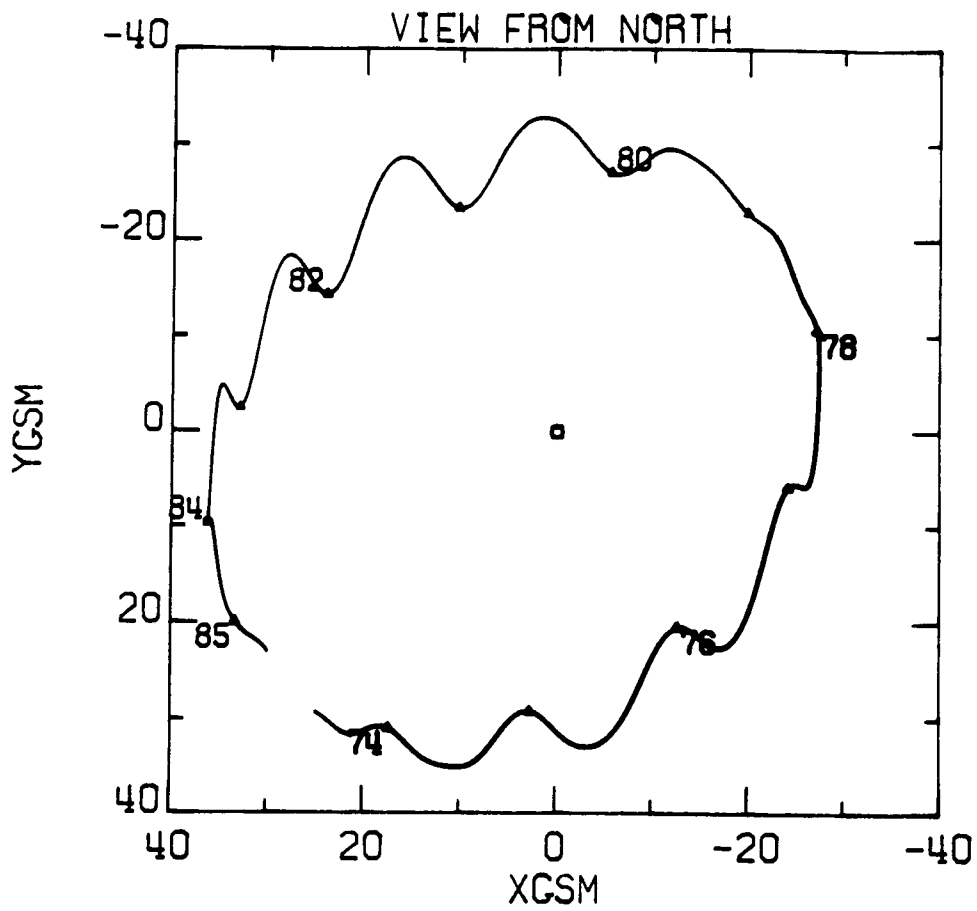
FROM MAR 2 TO MAR 14 1977

DAYS 61 THRU 73

SATELLITE AND MOON ORBITS



IMP 7 FROM MAR 14 TO MAR 26 1977

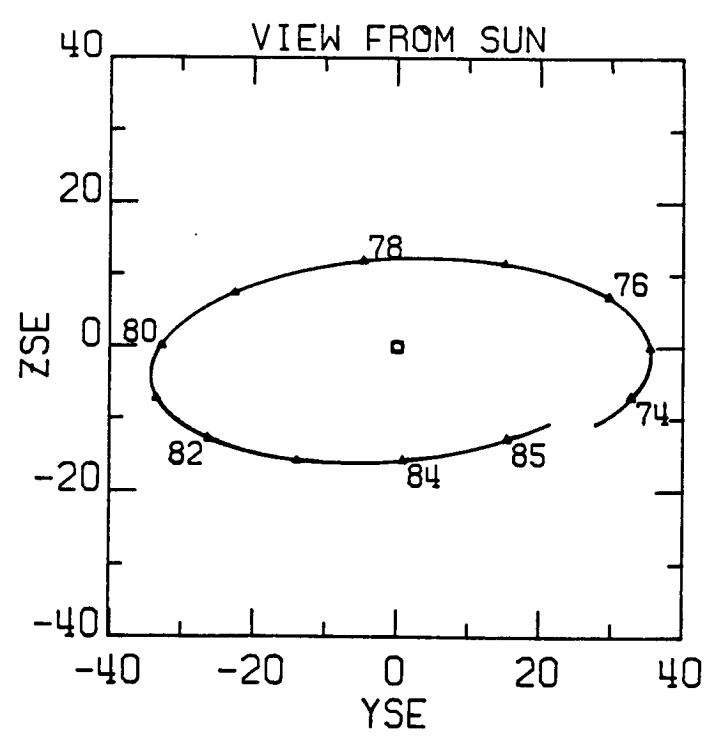
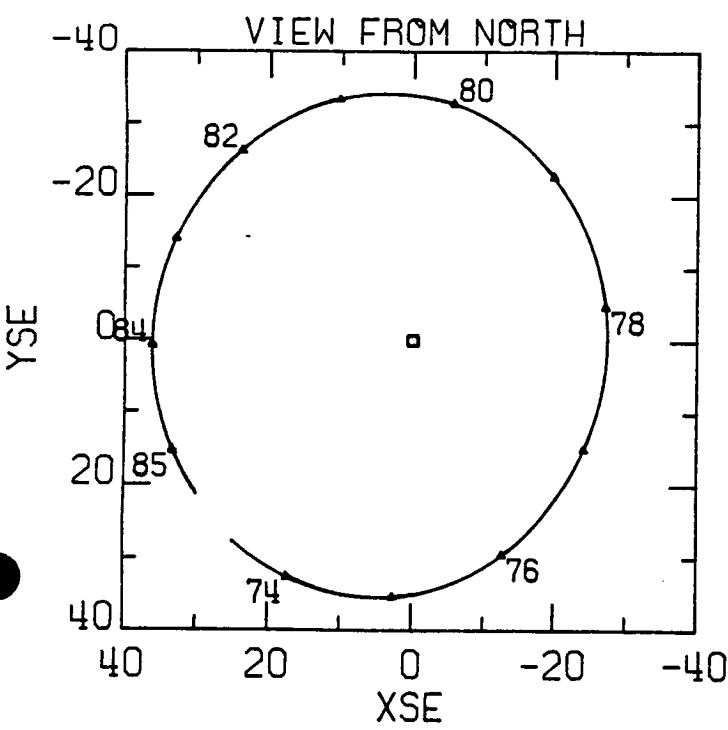
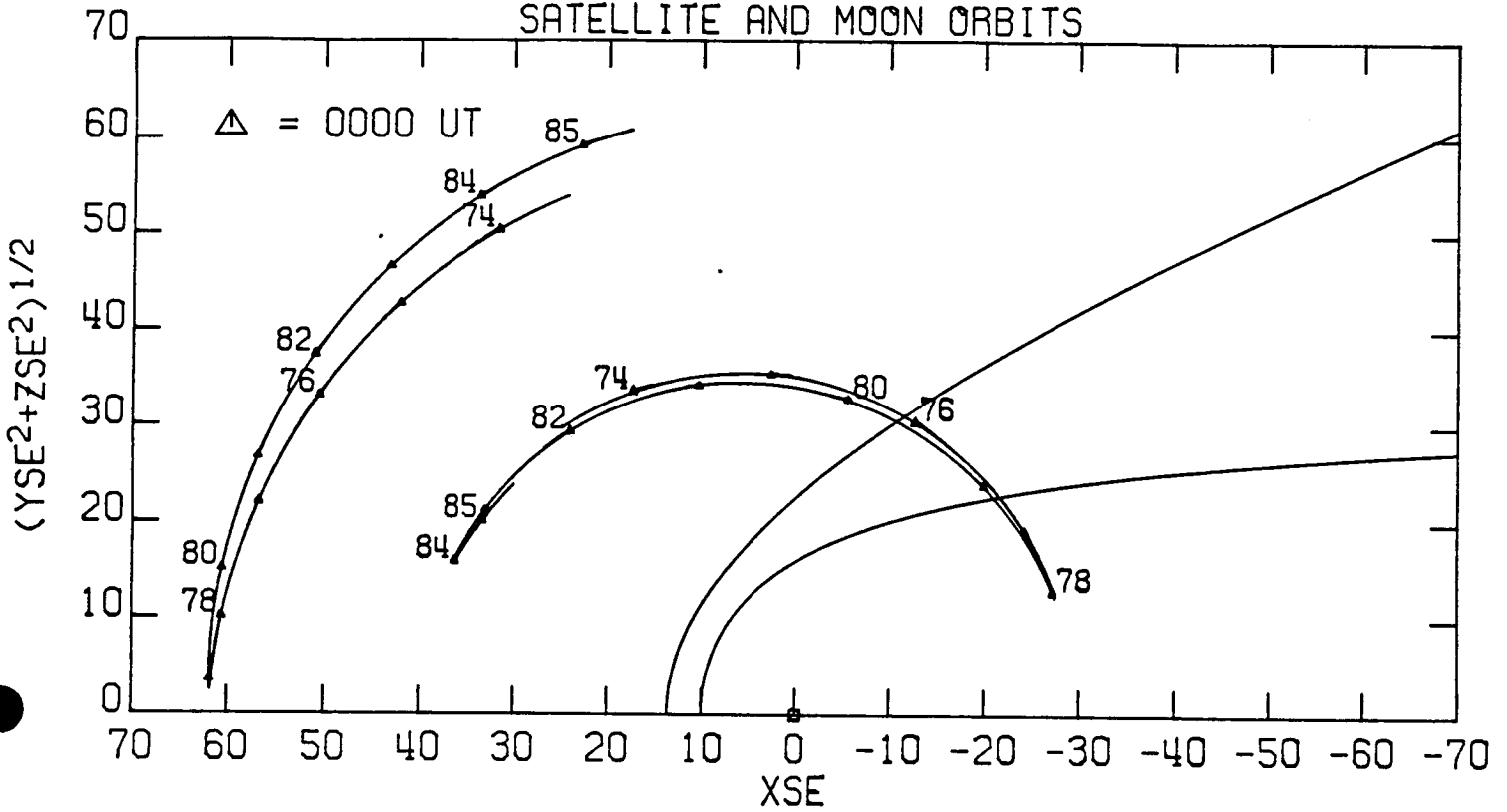


IMP 7 TRAJECTORY. ASCENDING NODE 135

FROM MAR 14 TO MAR 26 1977

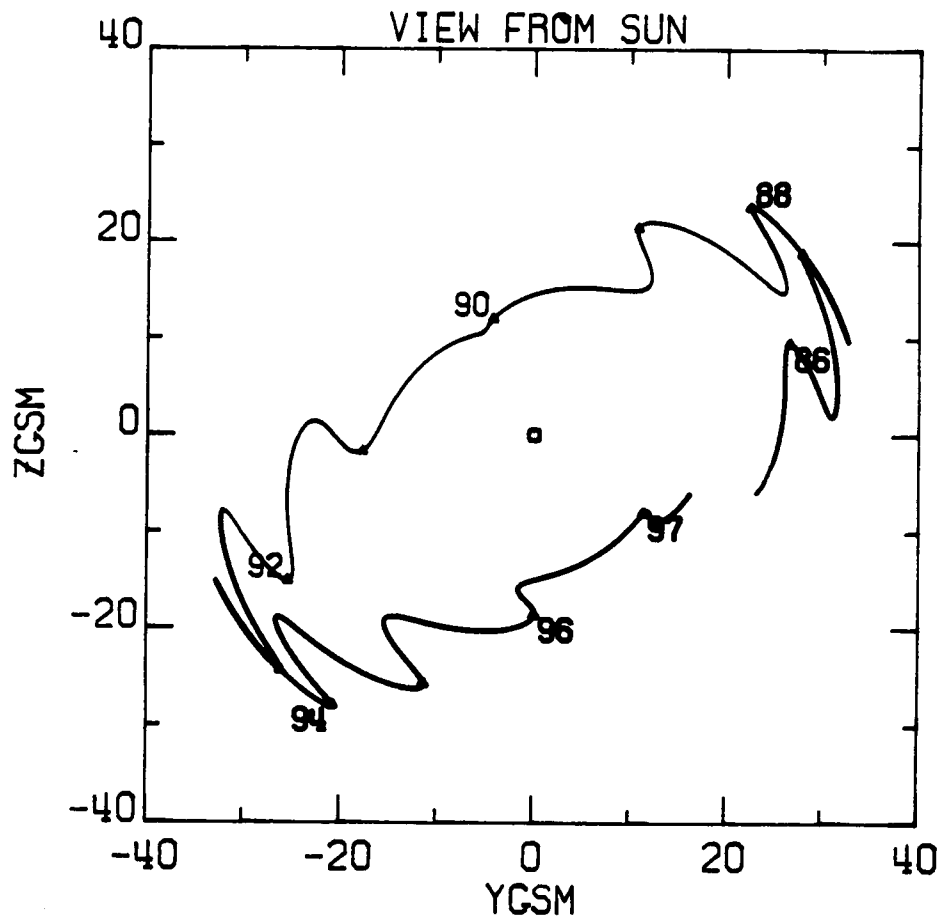
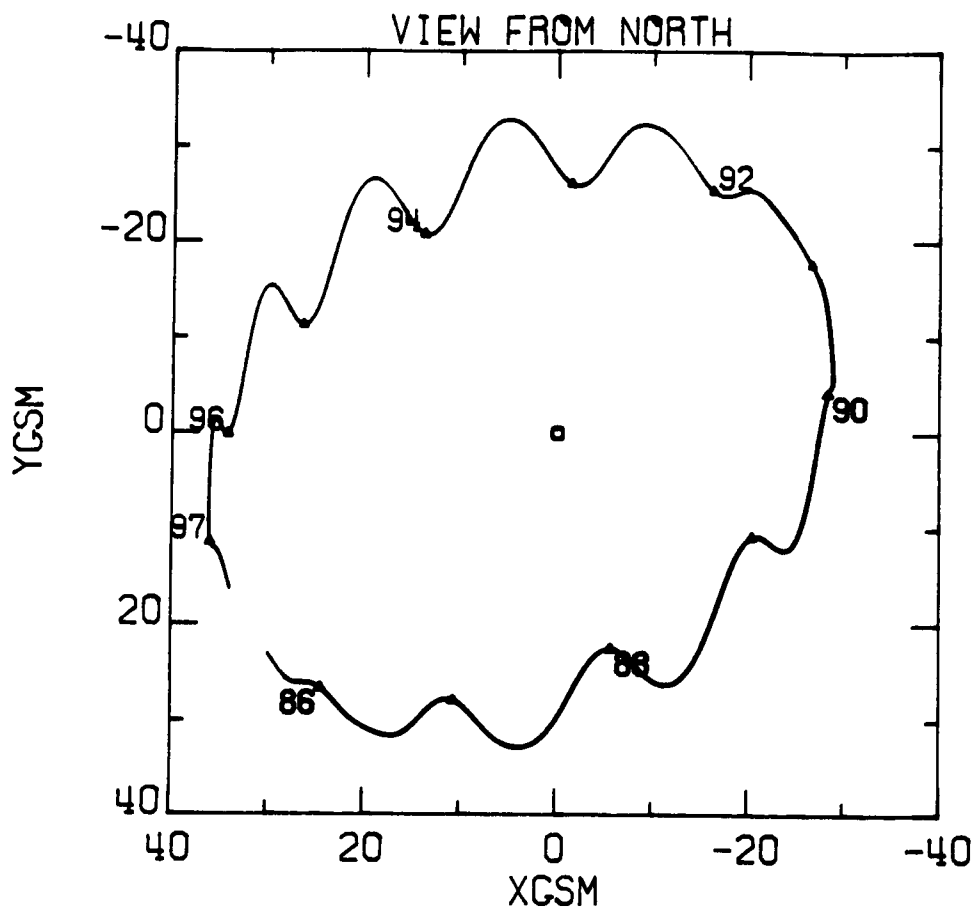
DAYS 73 THRU 85

SATELLITE AND MOON ORBITS



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IMP 7 FROM MAR 26 TO APR 7 1977



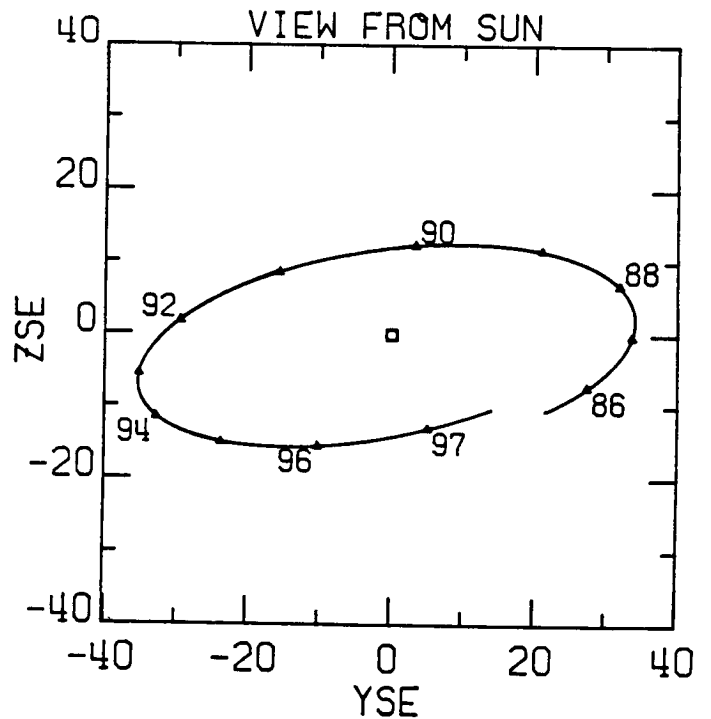
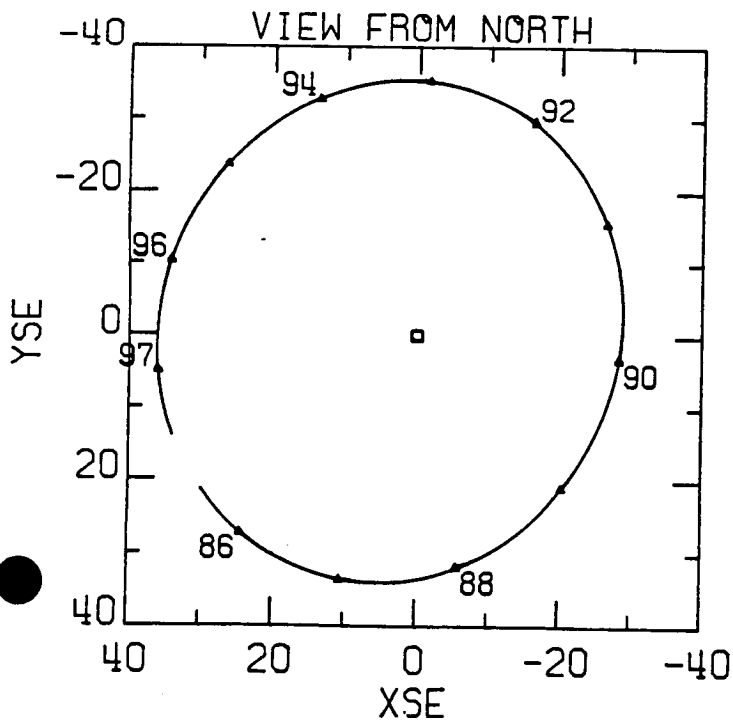
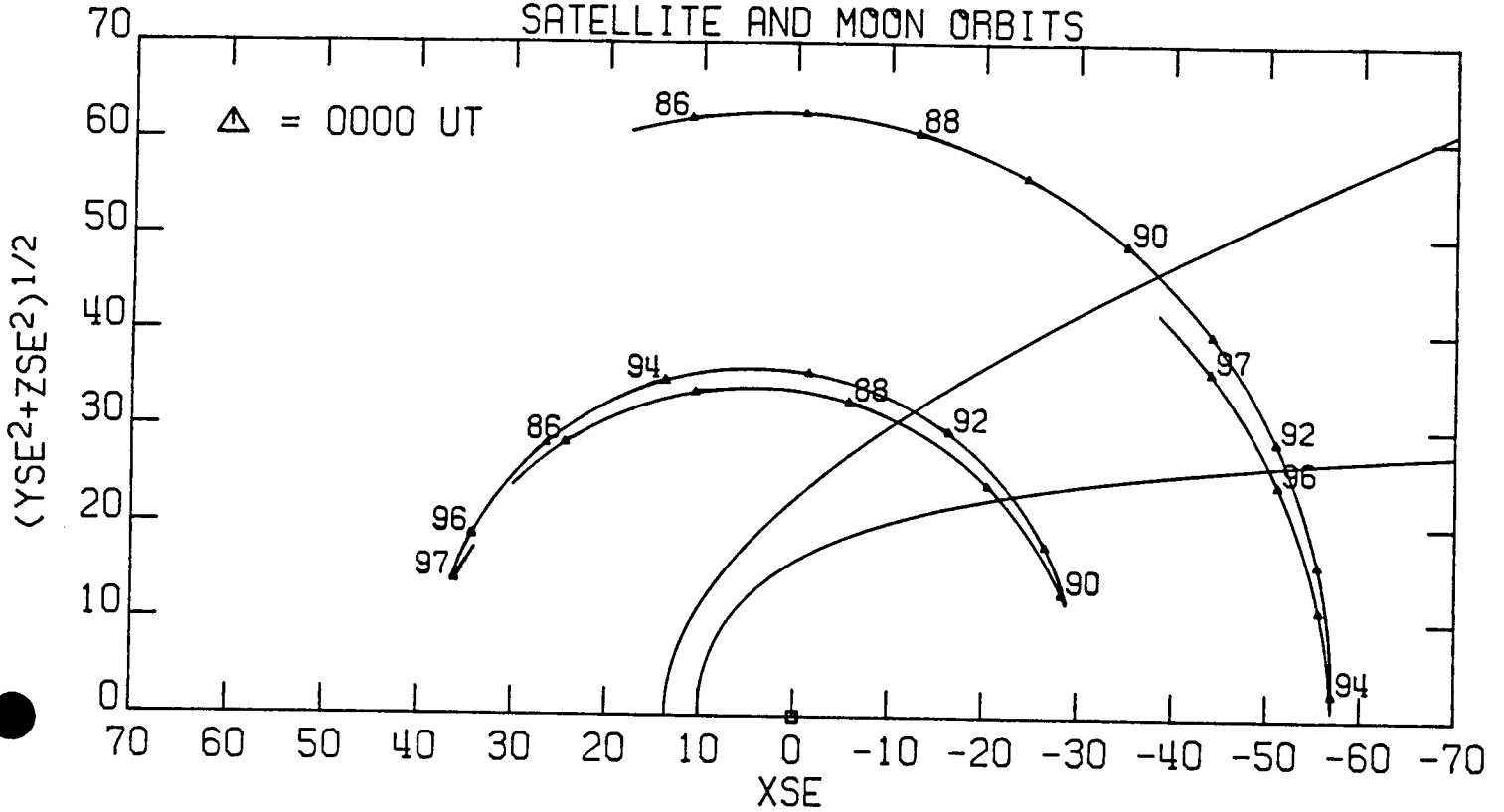
IMP 7 TRAJECTORY.

ASCENDING NODE 136

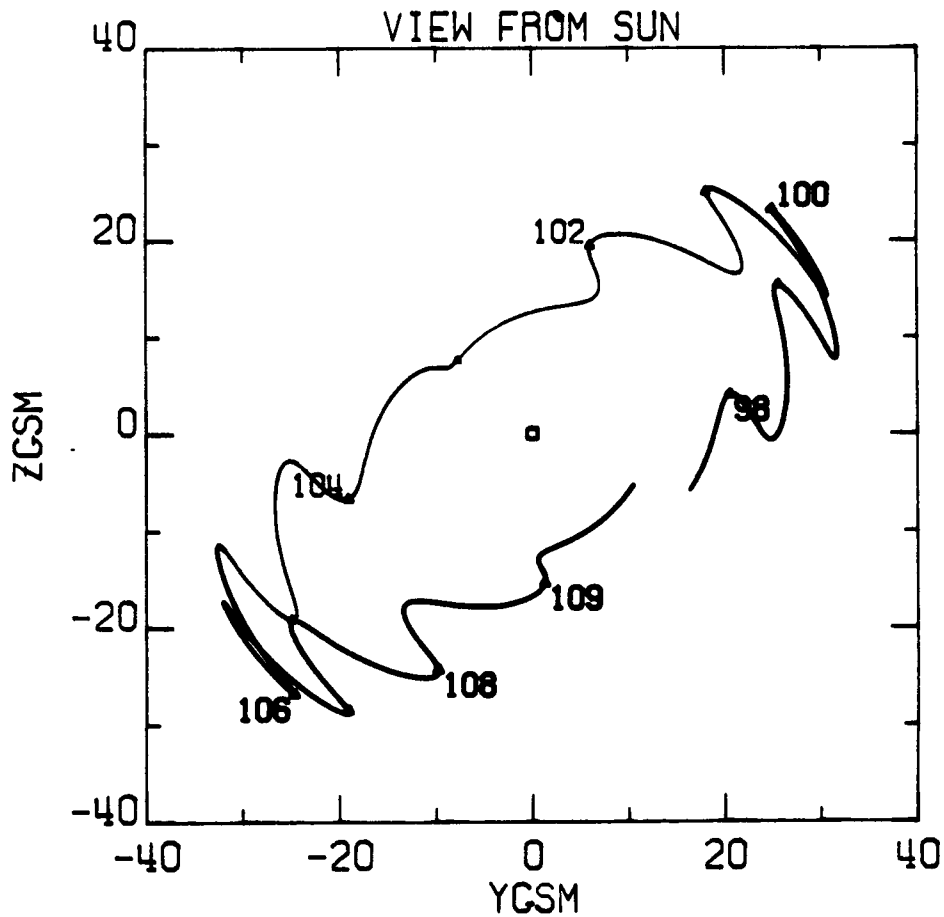
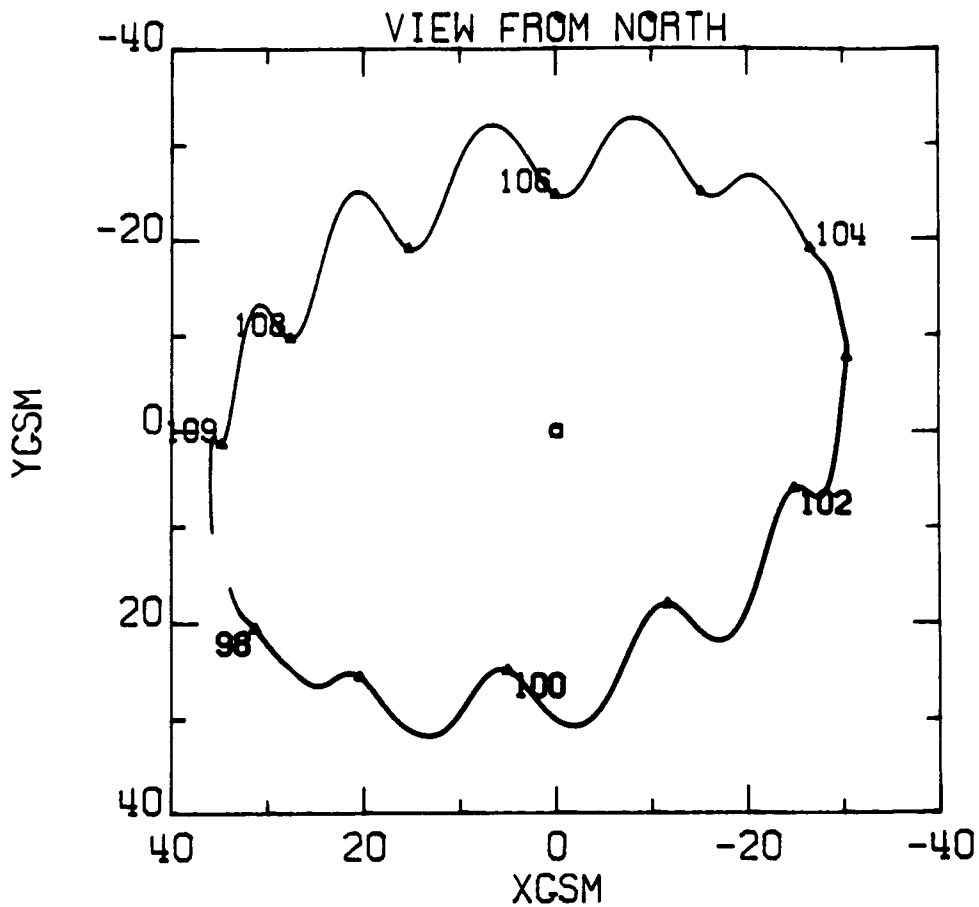
FROM MAR 26 TO APR 7 1977

DAYS 85 THRU 97

SATELLITE AND MOON ORBITS



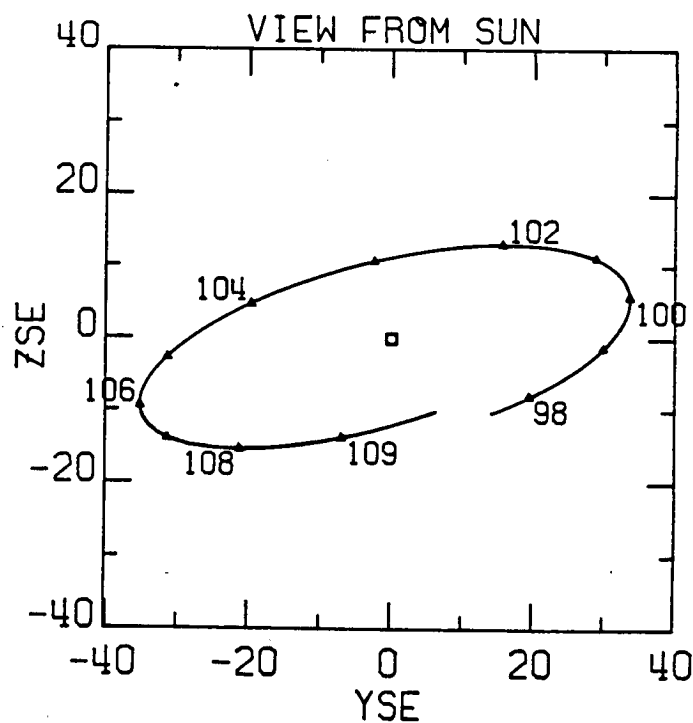
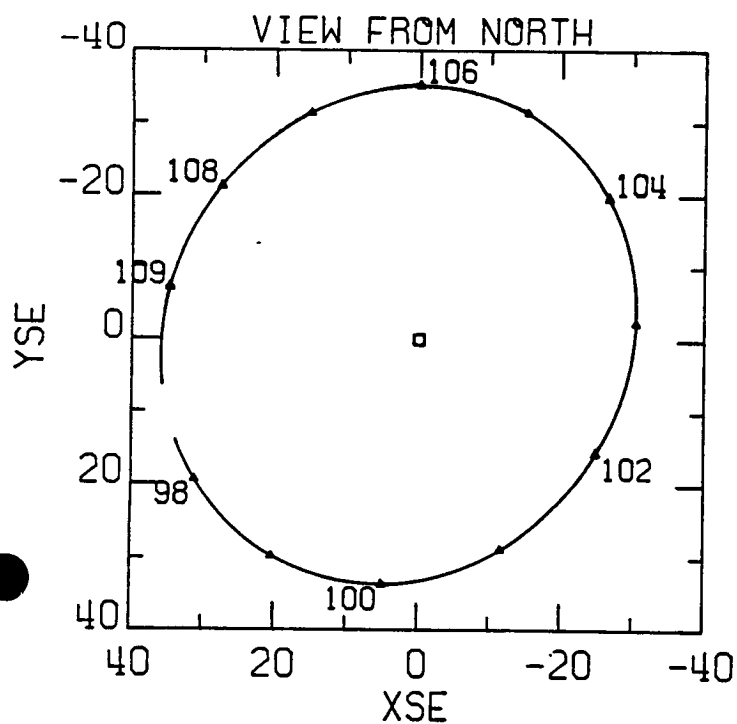
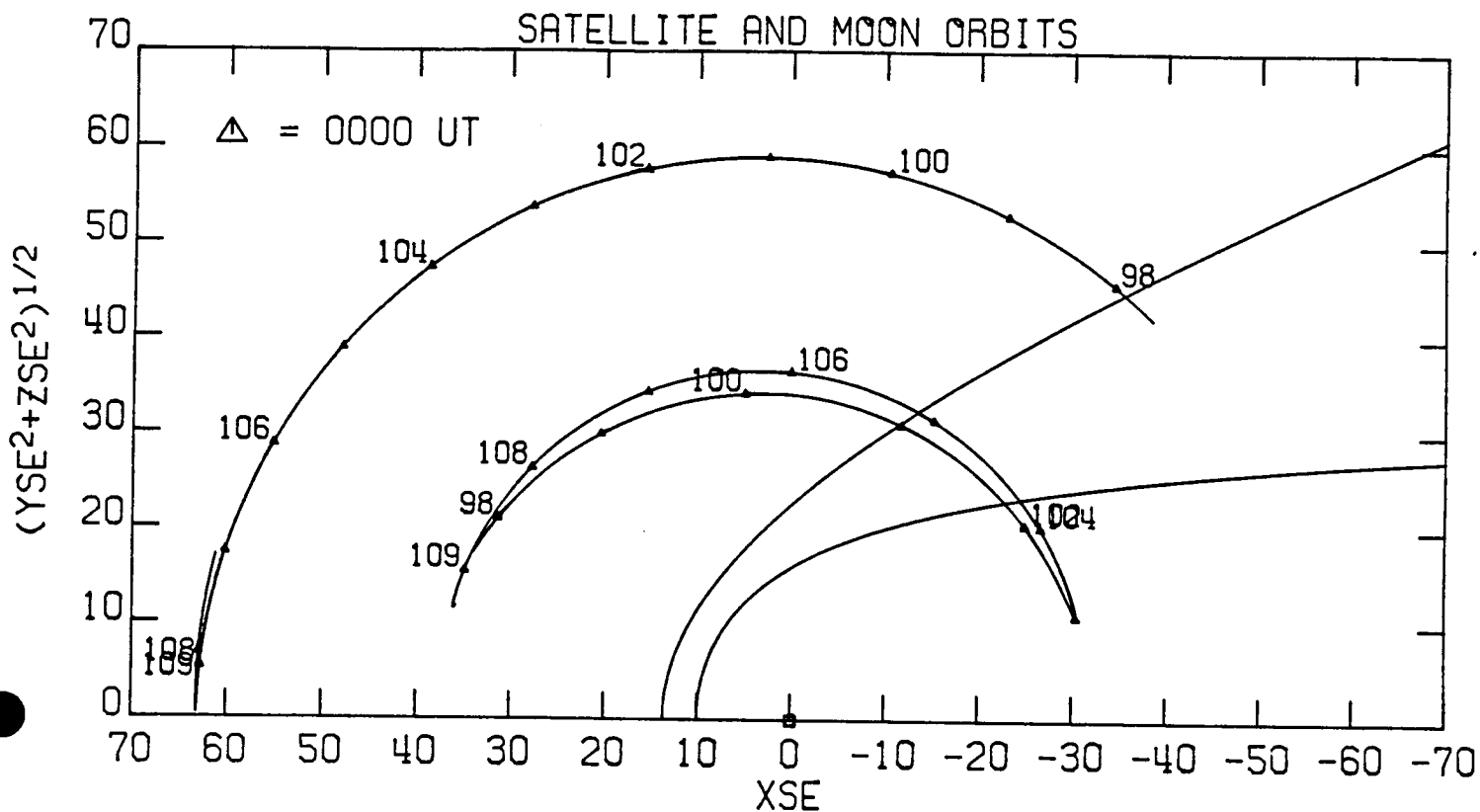
IMP 7 FROM APR 7 TO APR 19 1977



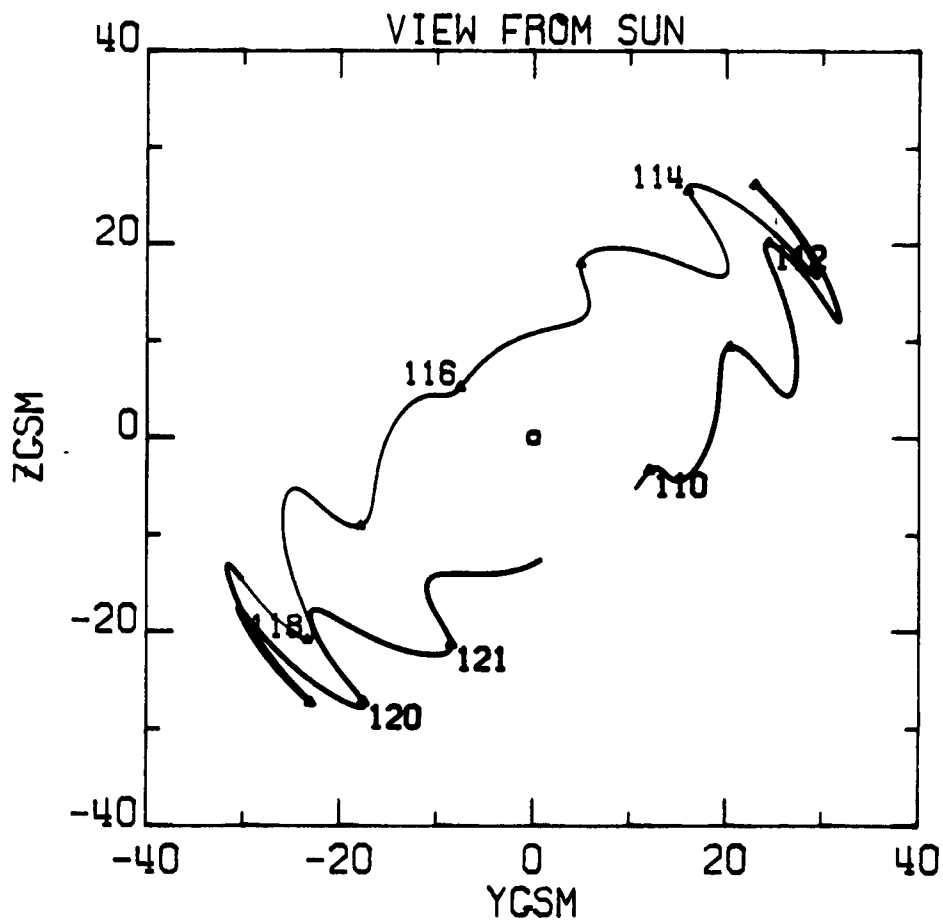
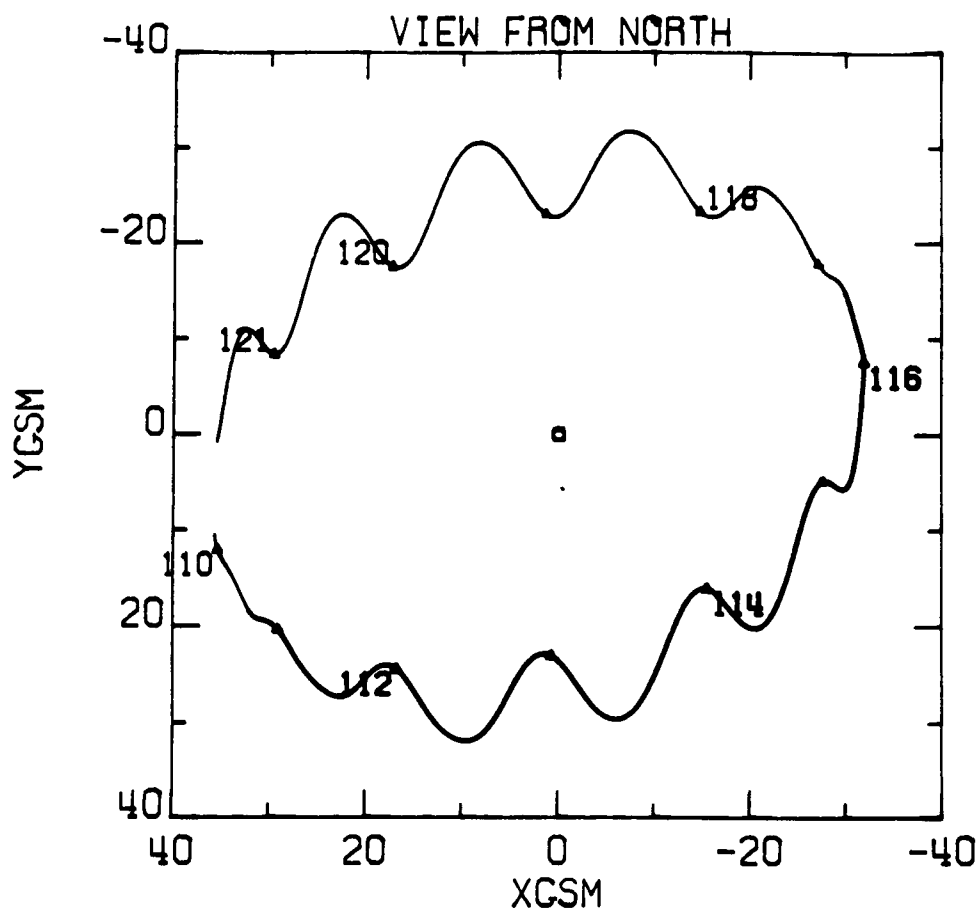
IMP 7 TRAJECTORY. ASCENDING NODE 137

FROM APR 7 TO APR 19 1977

DAYS 97 THRU 109



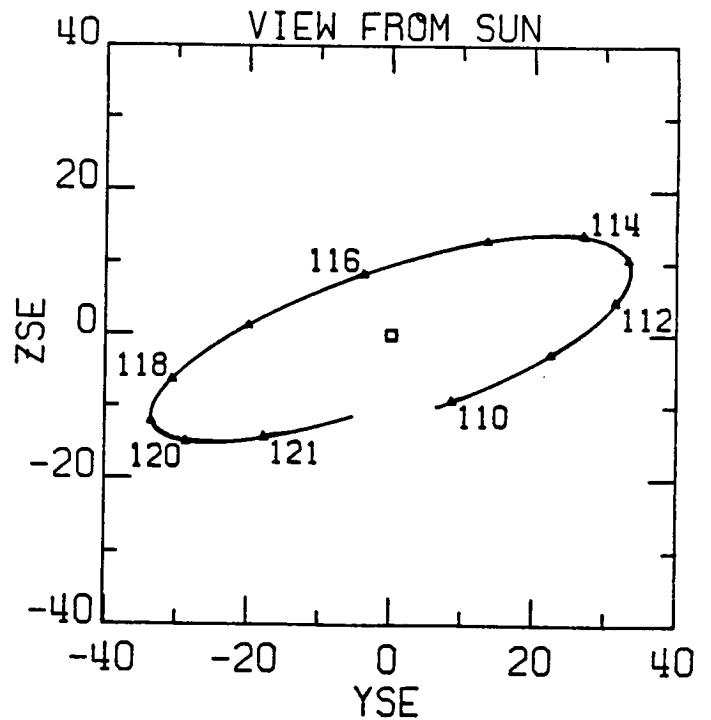
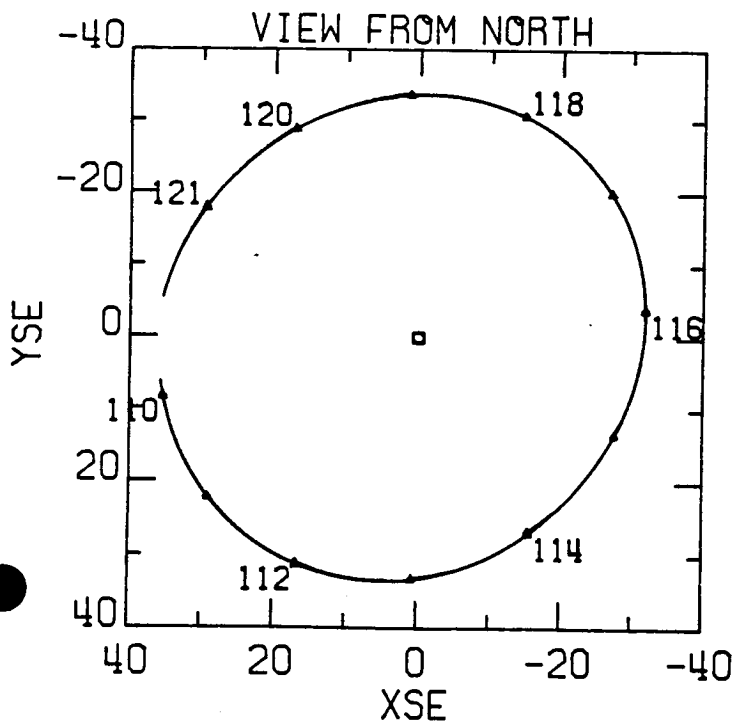
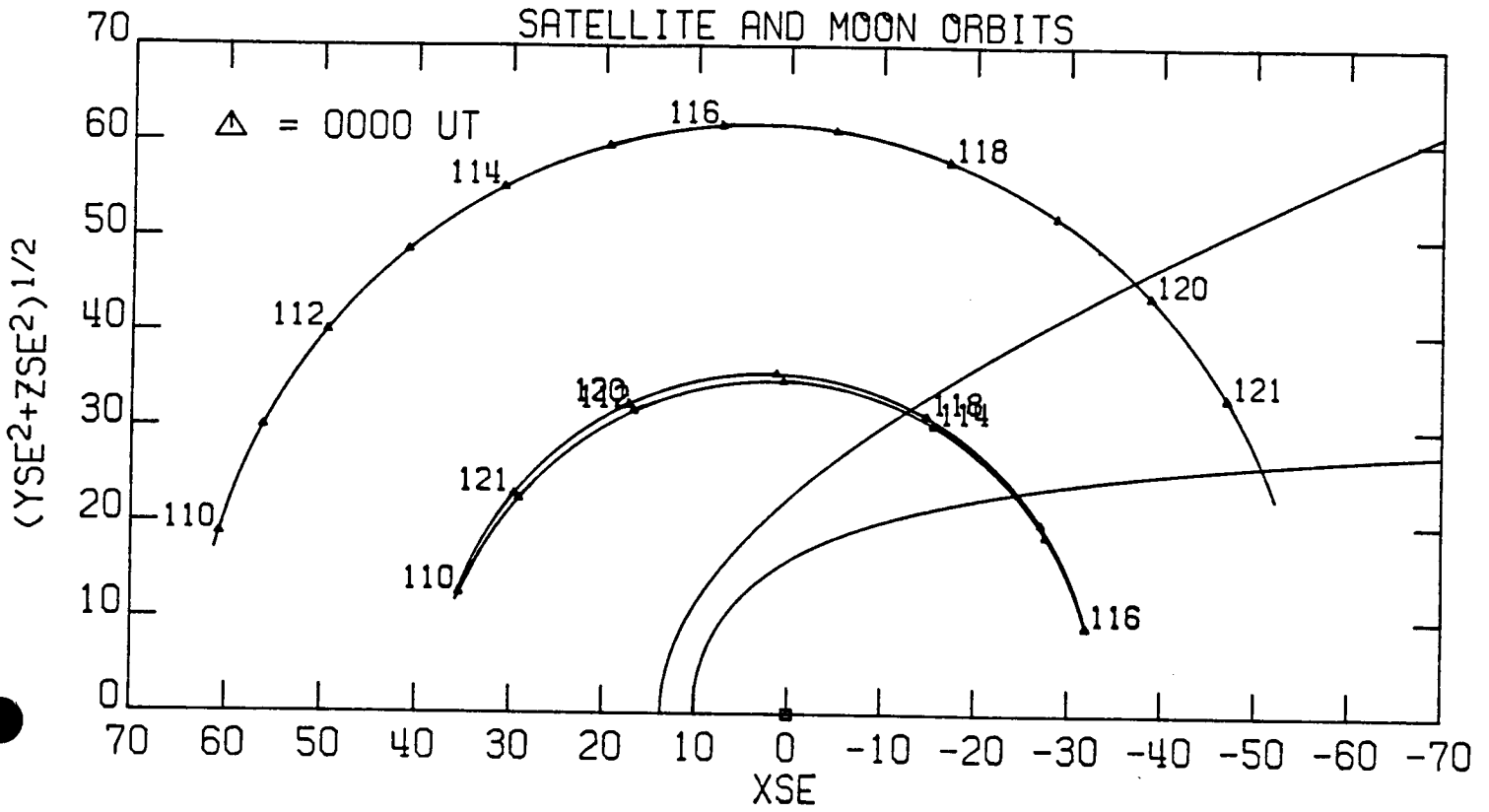
IMP 7 FROM APR 19 TO MAY 2 1977



IMP 7 TRAJECTORY. ASCENDING NODE 138

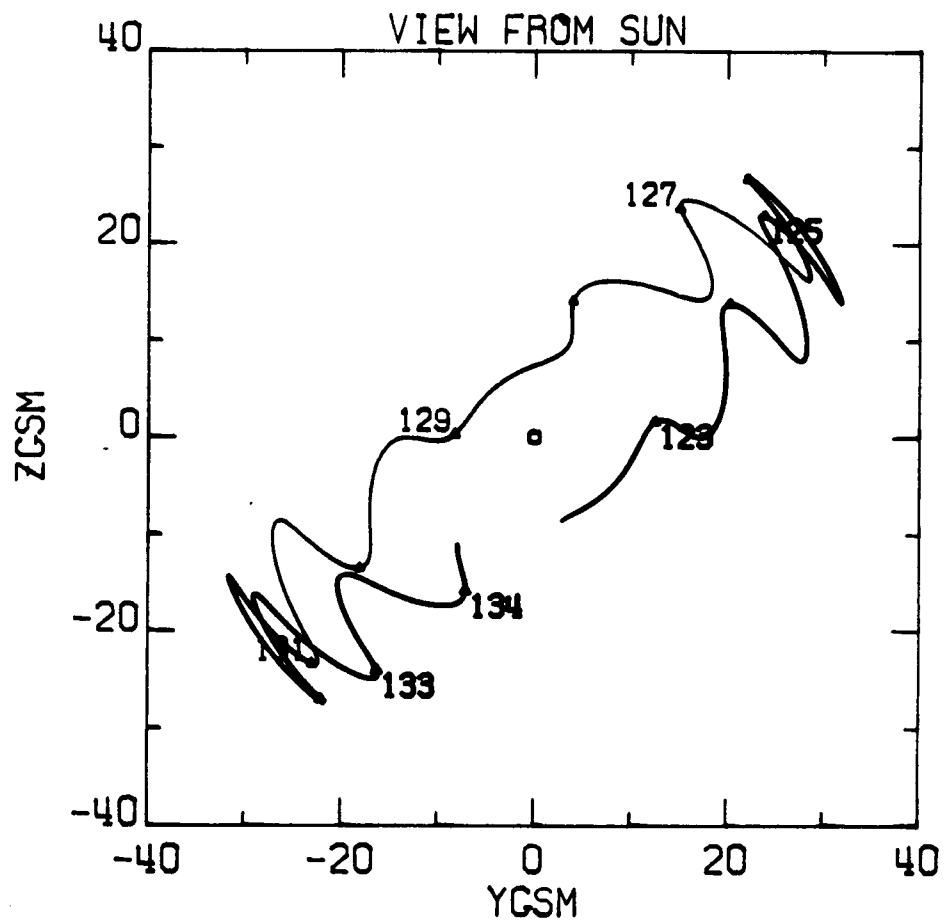
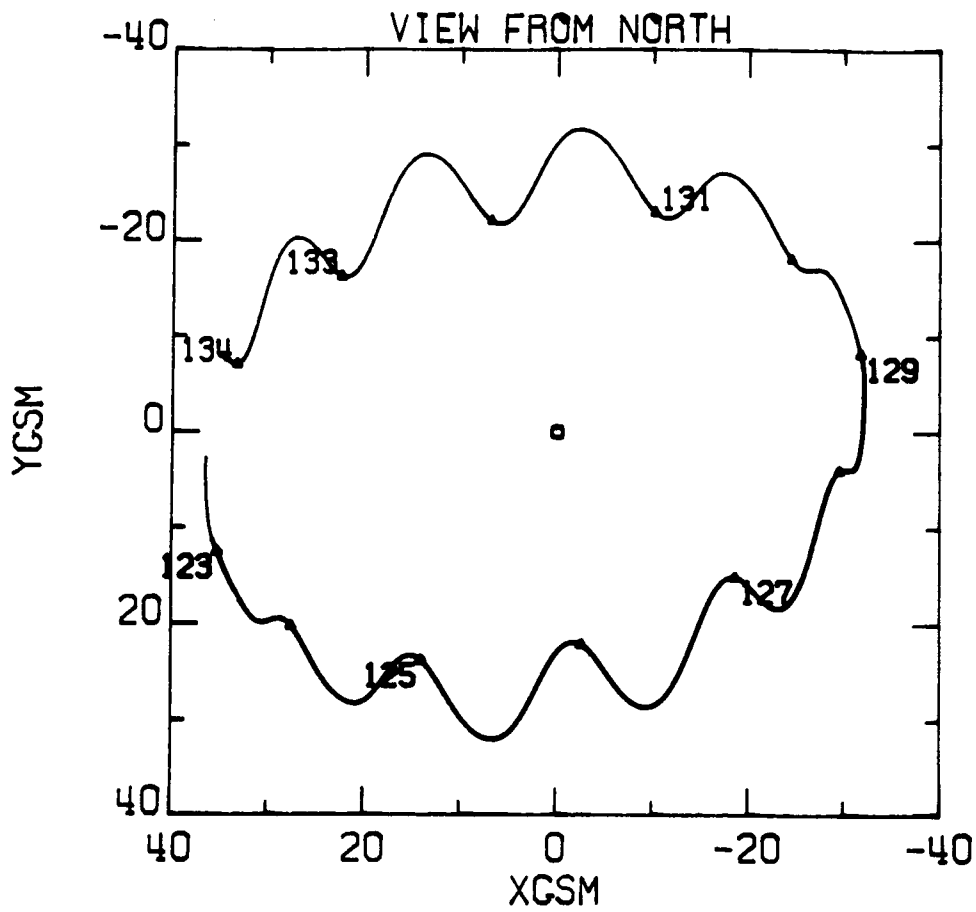
FROM APR 19 TO MAY 2 1977

DAYS 109 THRU 121



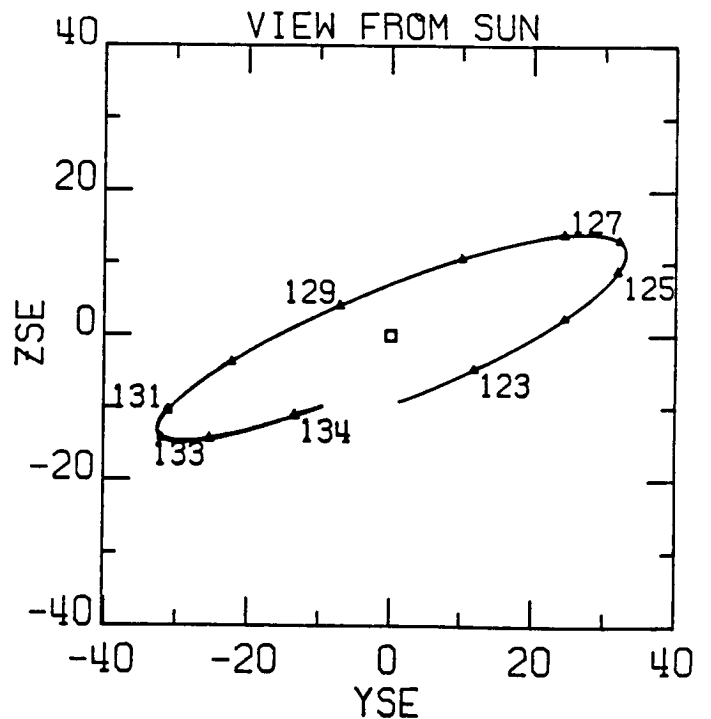
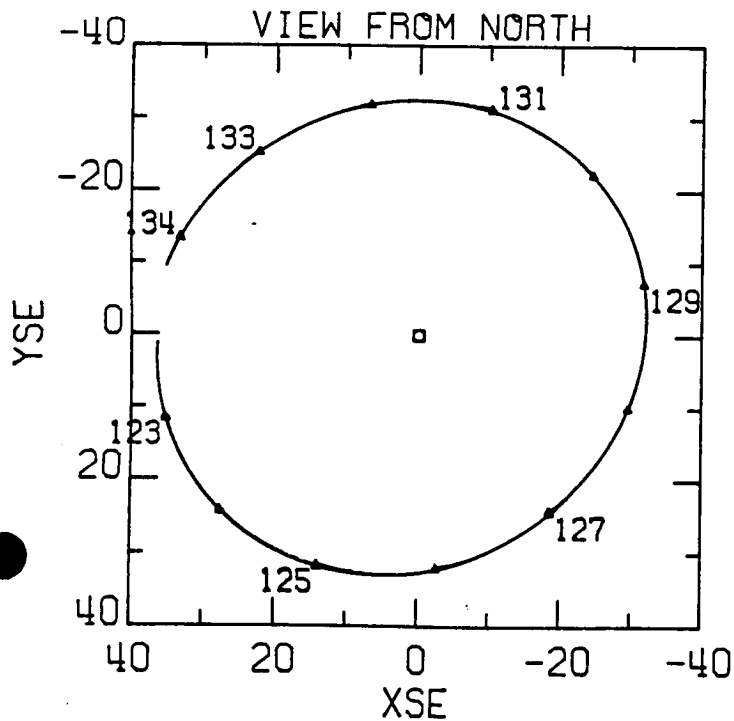
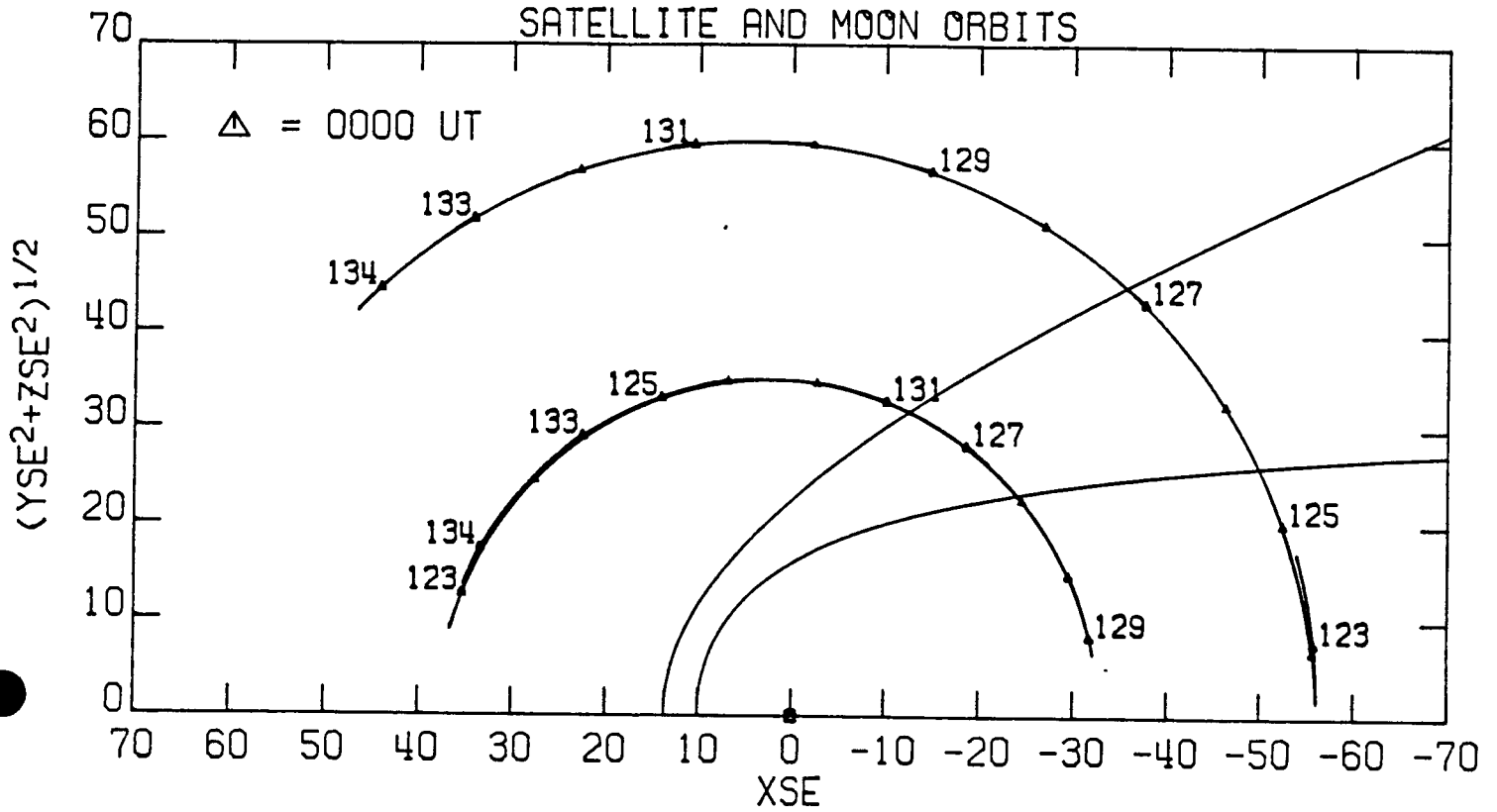
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 Center for
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IMP 7 FROM MAY 2 TO MAY 14 1977

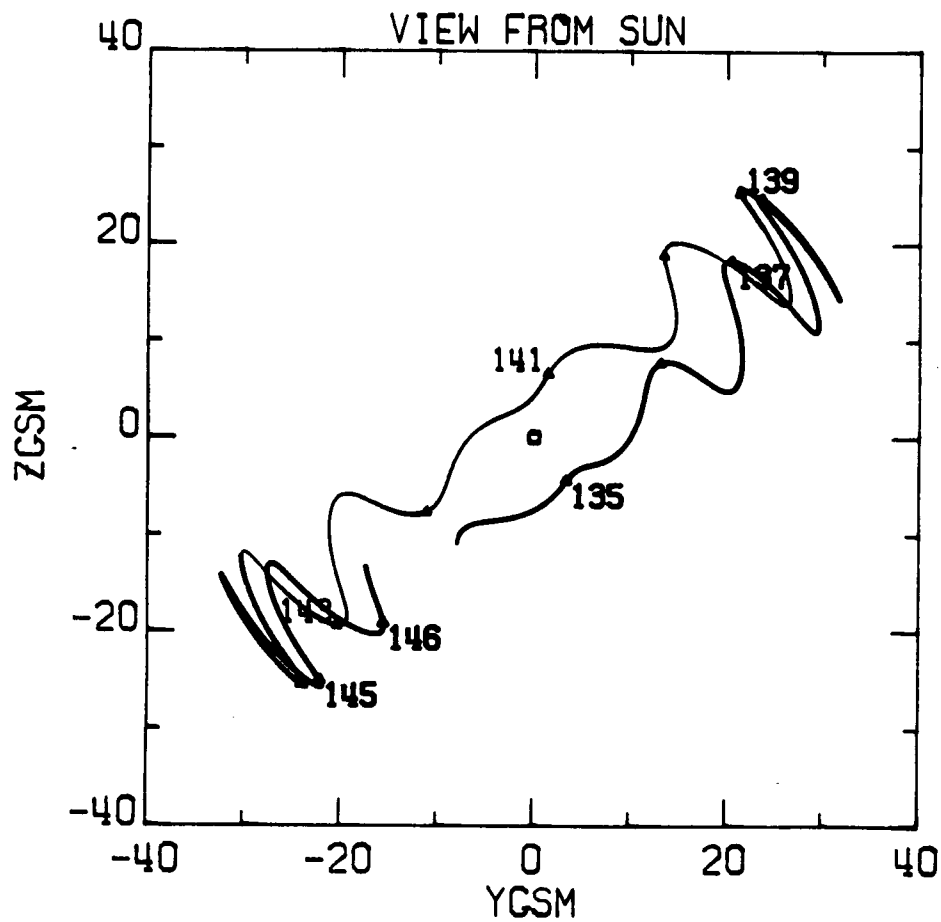
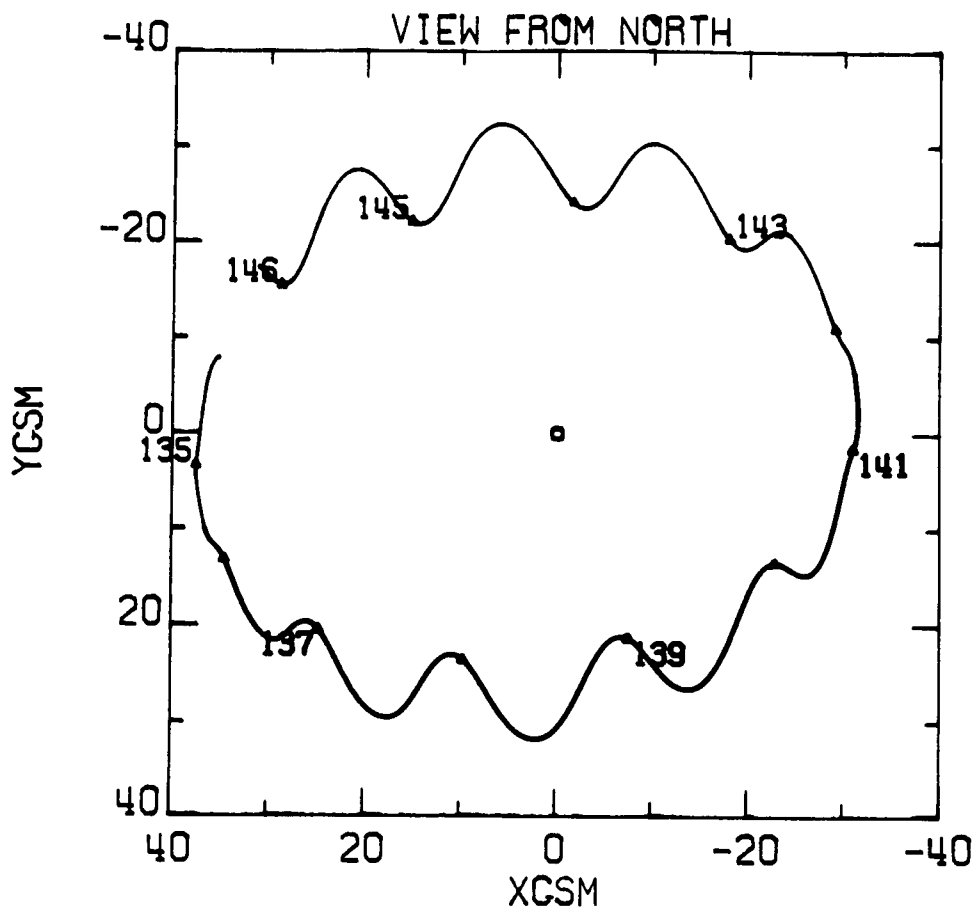


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IMP 7 TRAJECTORY. ASCENDING NODE 139
 FROM MAY 2 TO MAY 14 1977
 DAYS 122 THRU 134



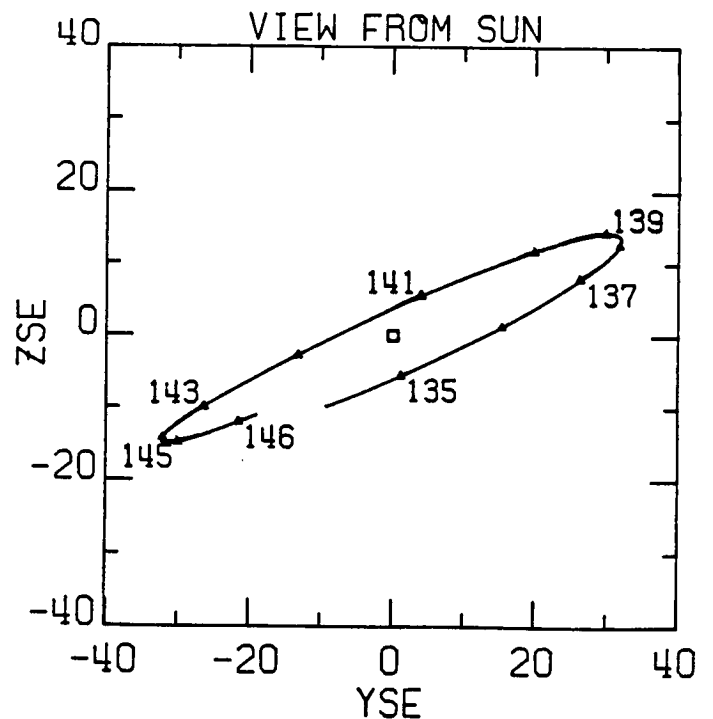
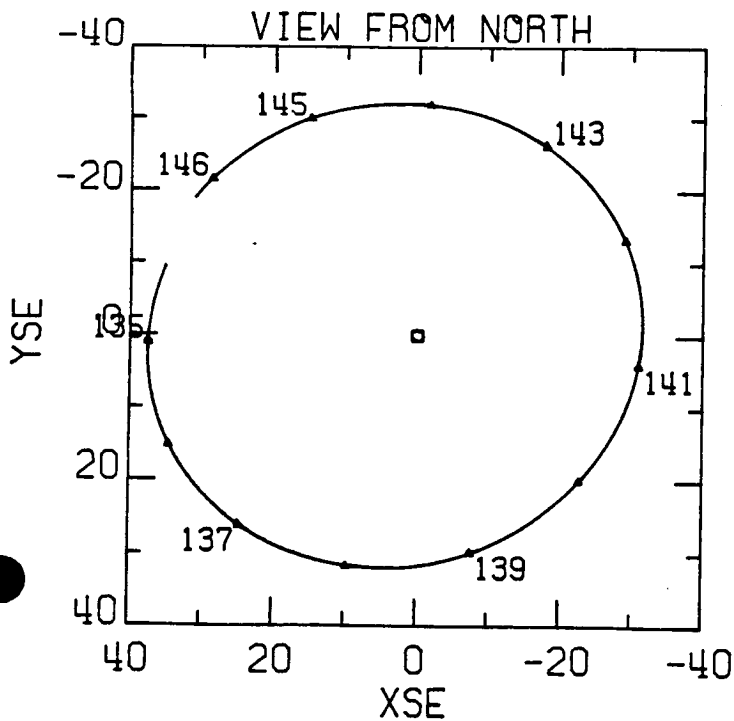
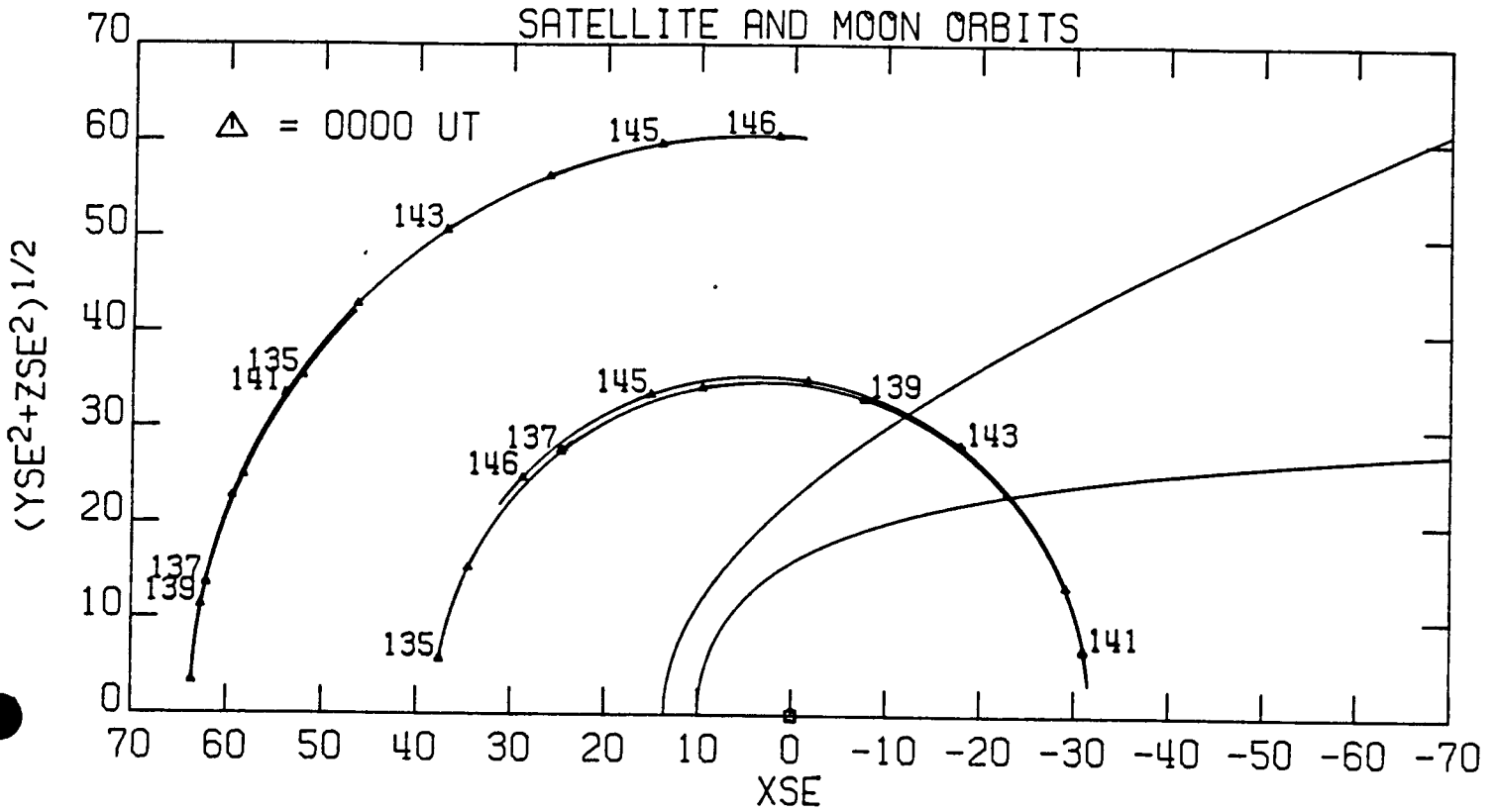
IMP 7 FROM MAY 14 TO MAY 26 1977



IMP 7 TRAJECTORY. ASCENDING NODE 140

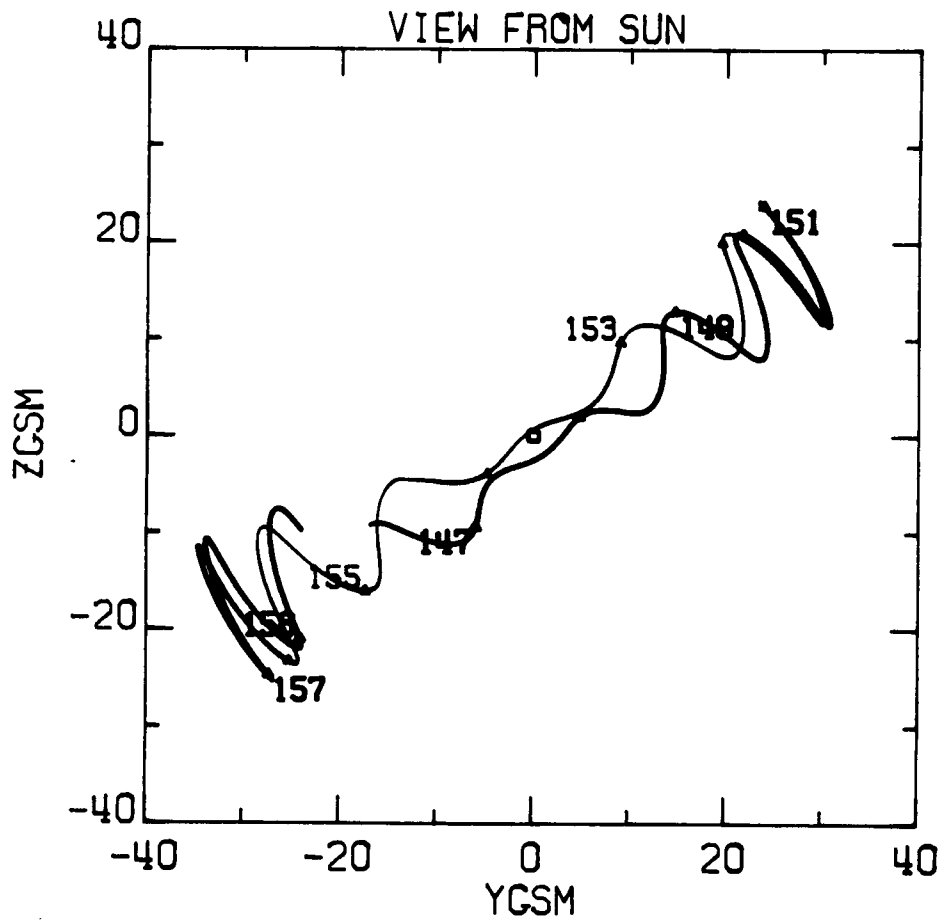
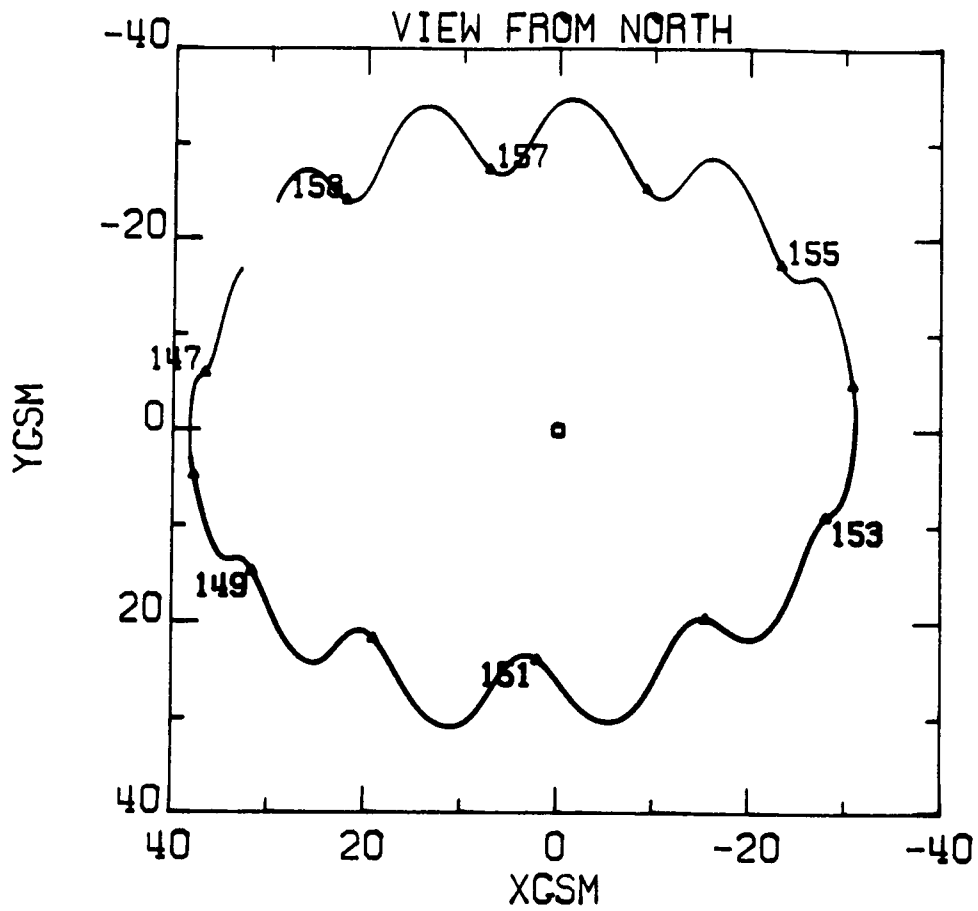
FROM MAY 14 TO MAY 26 1977

DAYS 134 THRU 146



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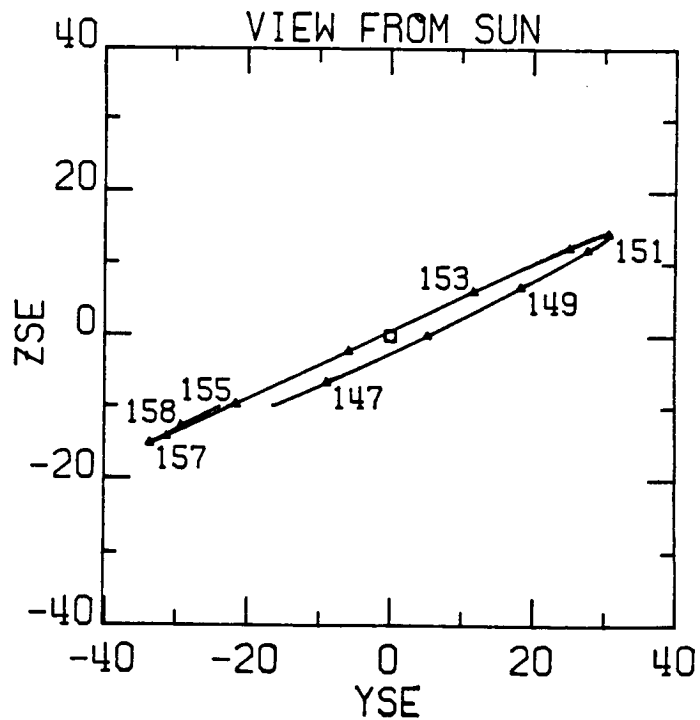
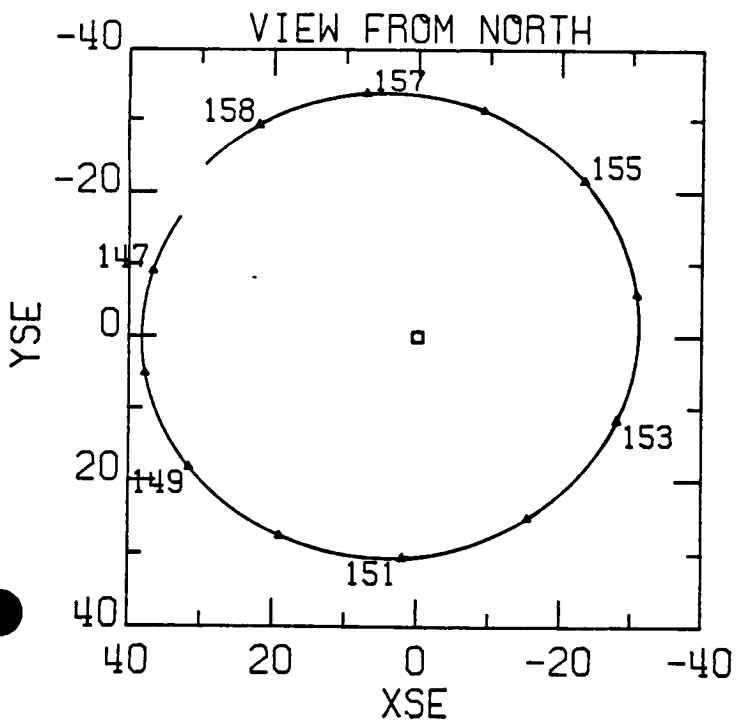
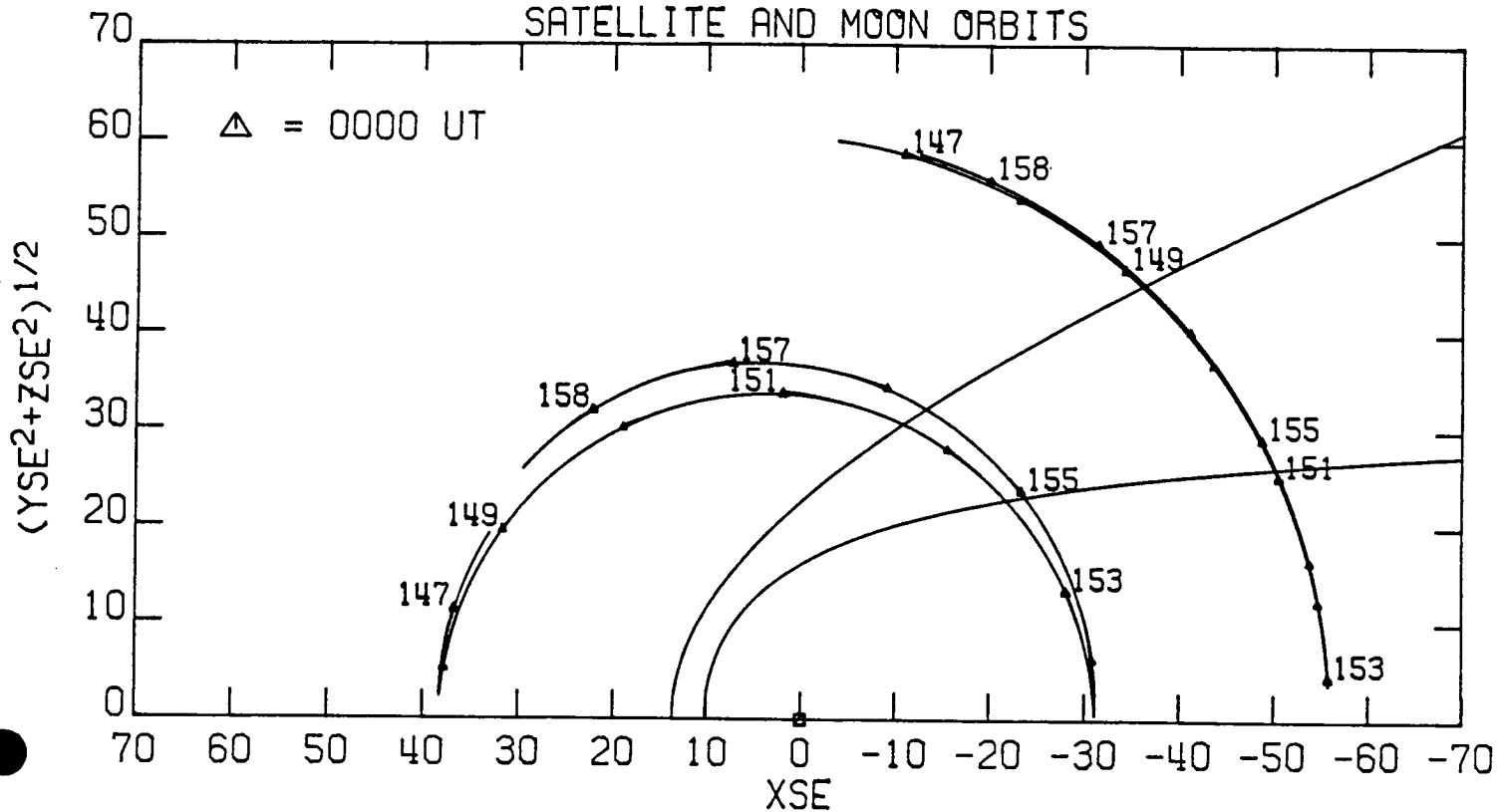
IMP 7 FROM MAY 26 TO JUN 7 1977



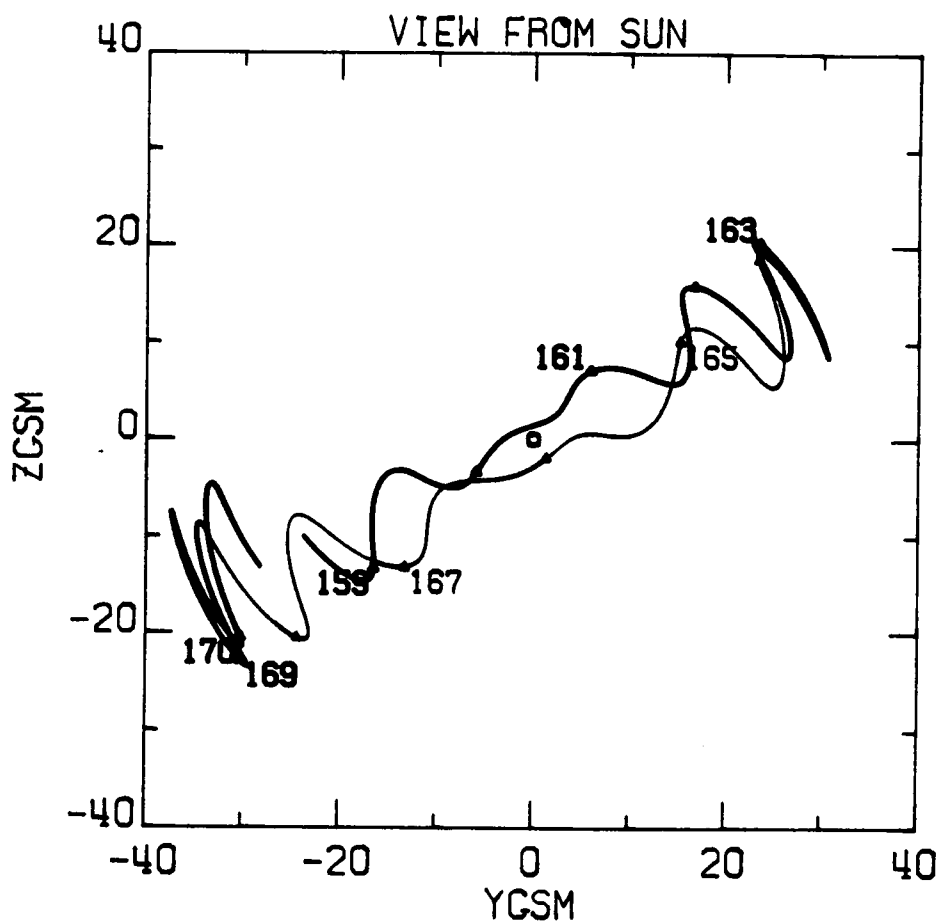
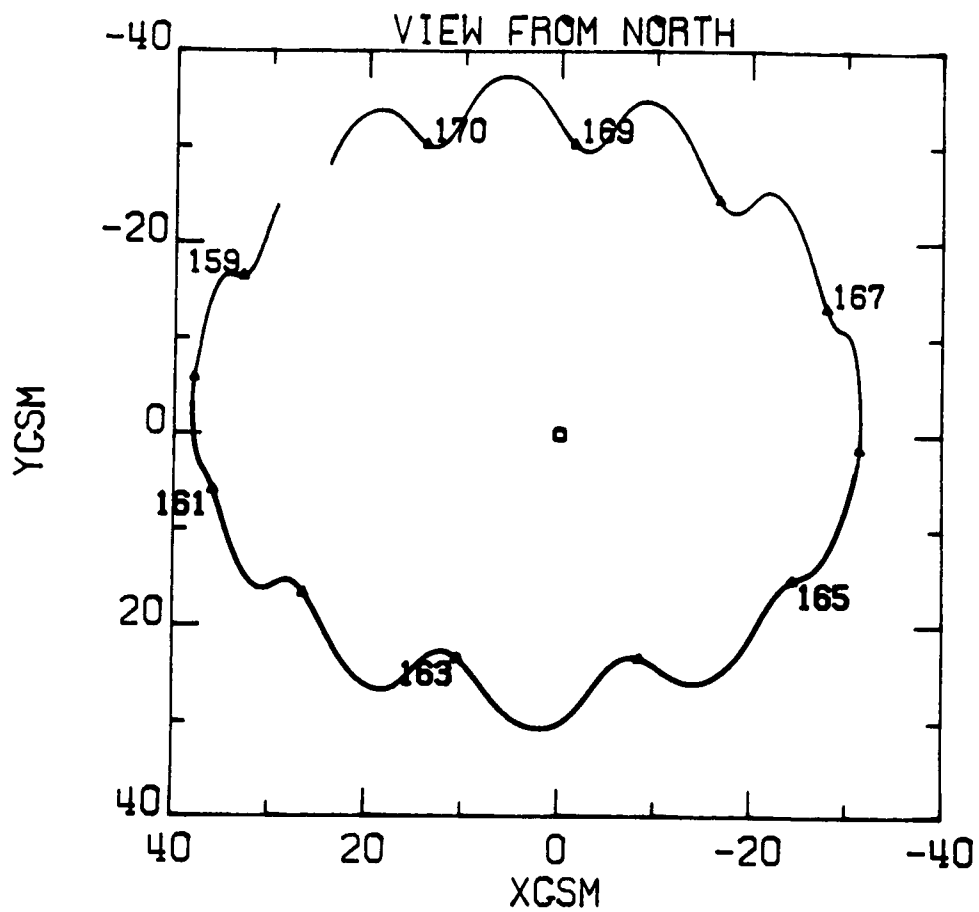
FROM MAY 26 TO JUN 7 1977

DAYS 146 THRU 158

SATELLITE AND MOON ORBITS



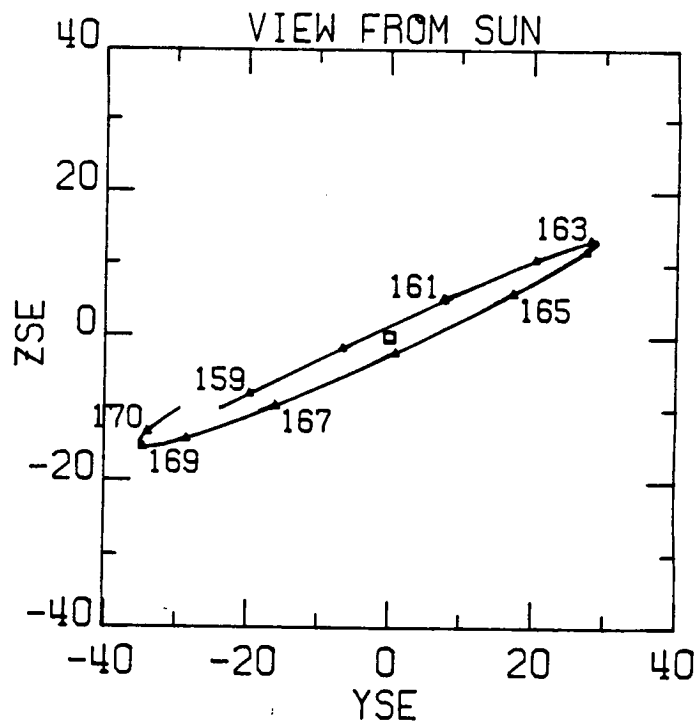
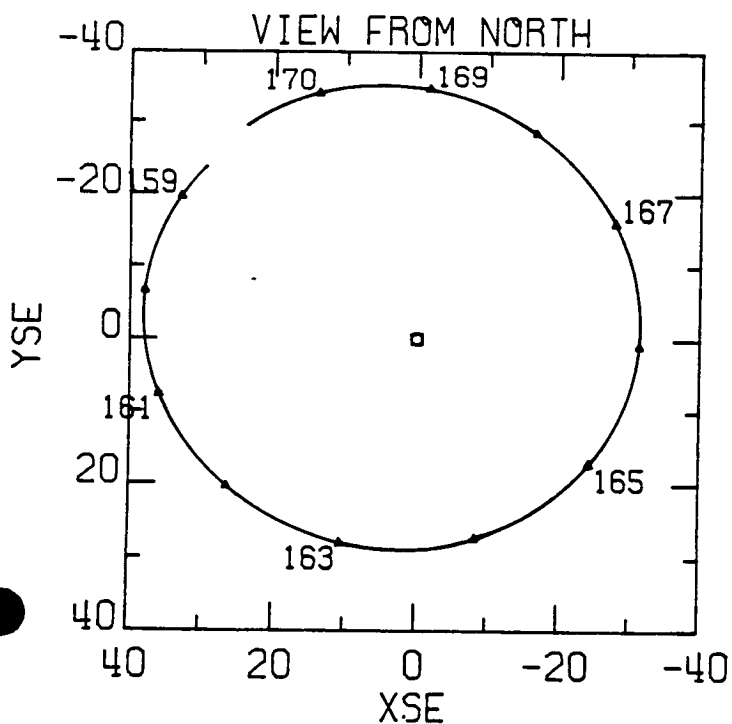
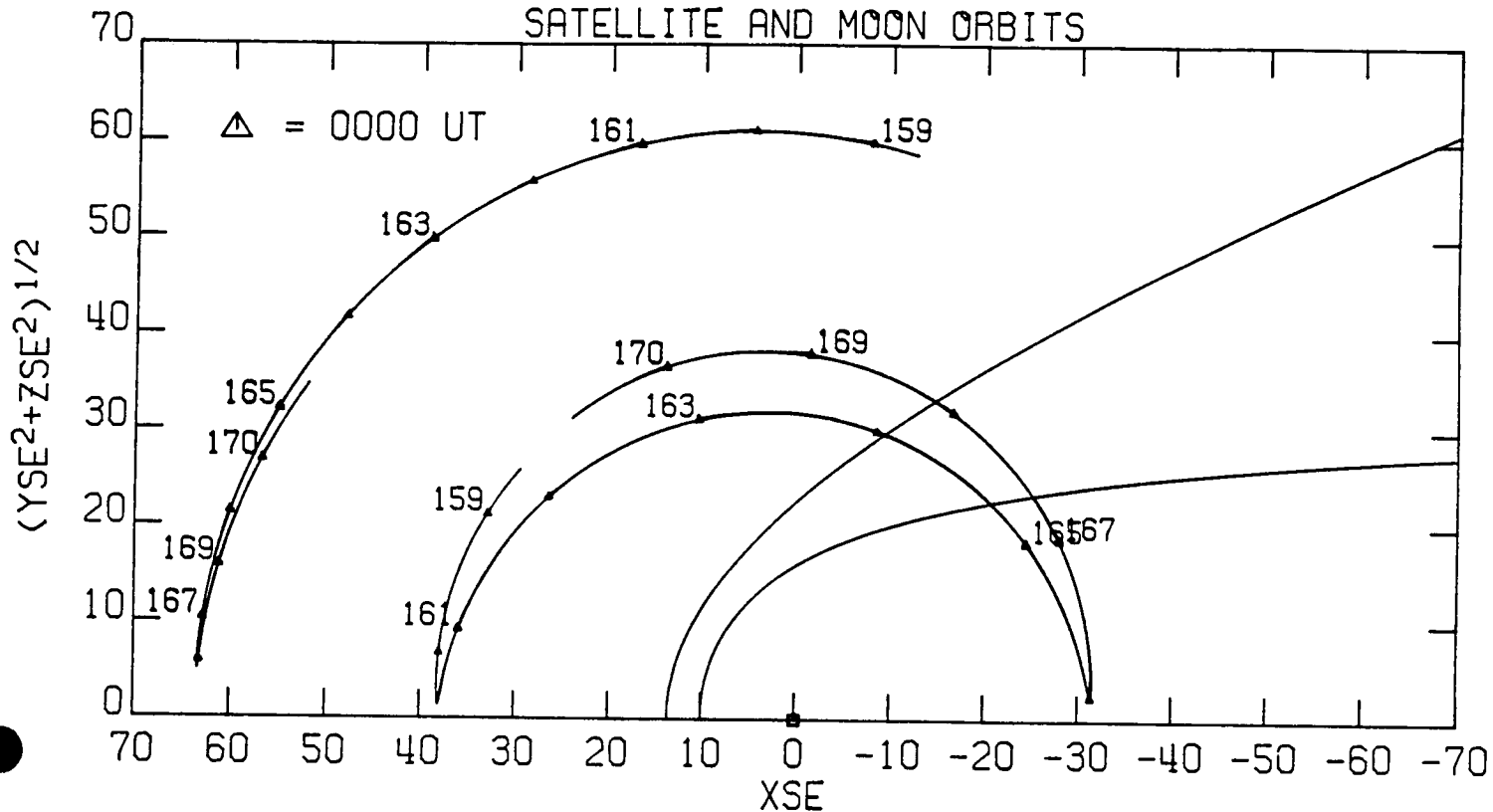
IMP 7 FROM JUN 7 TO JUN 19 1977



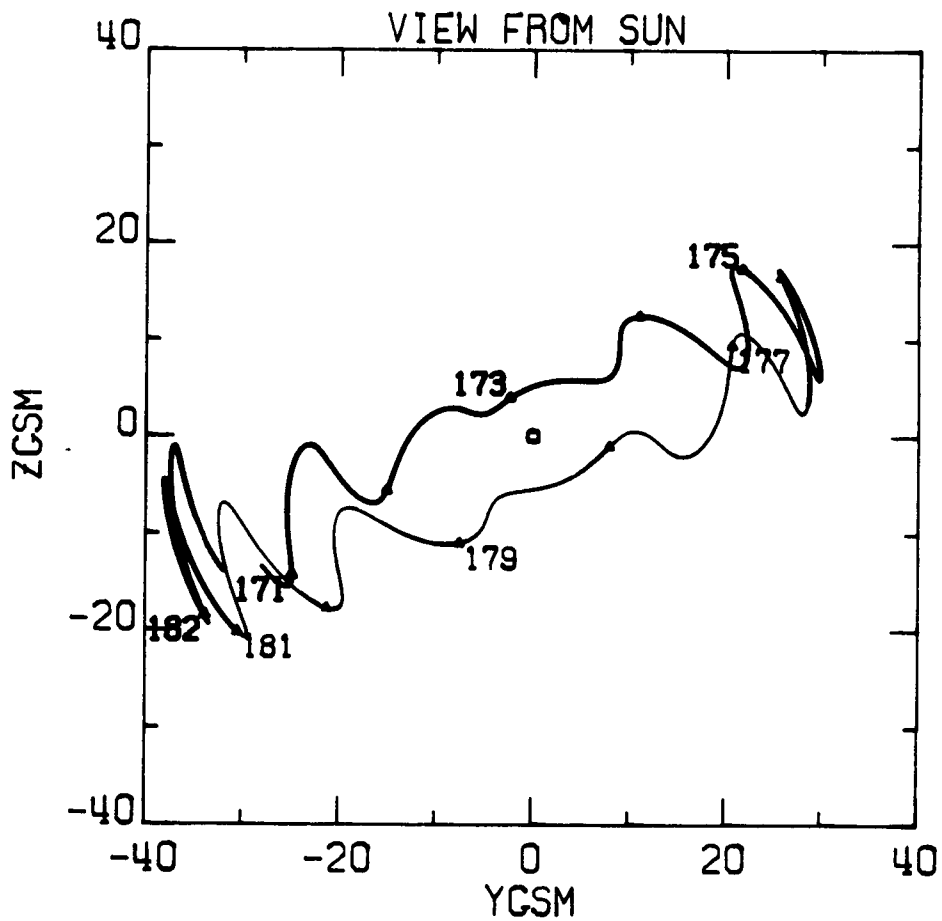
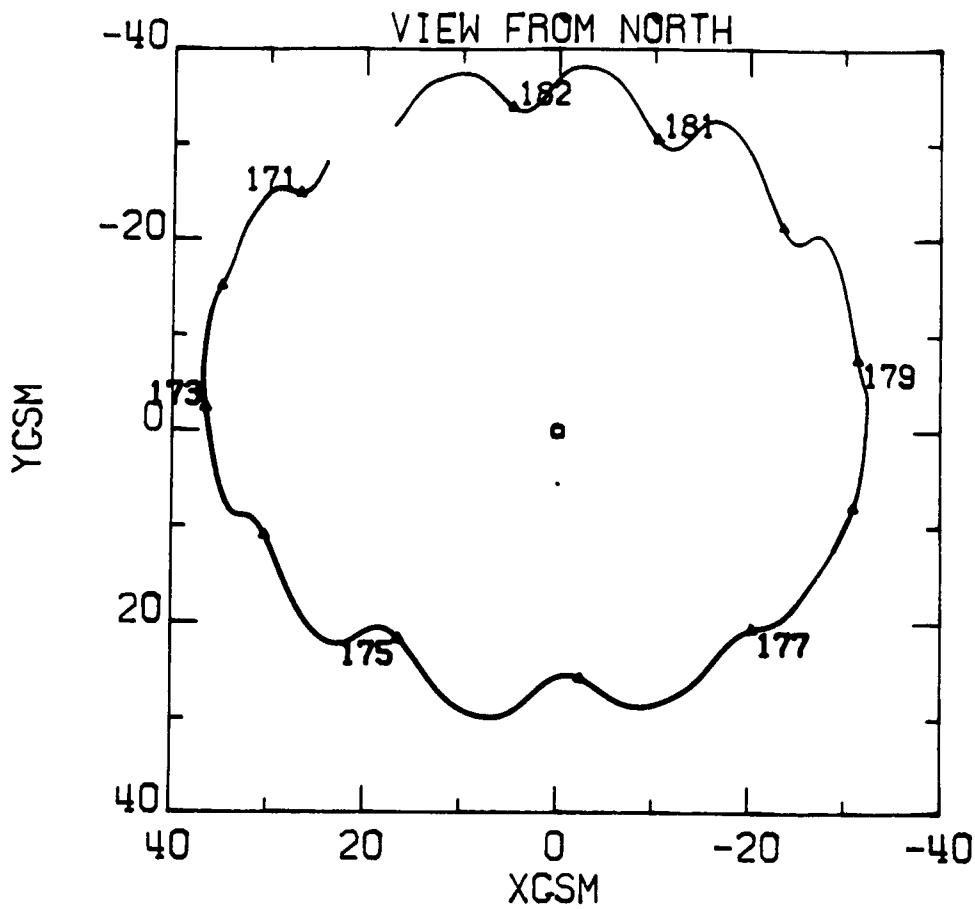
FROM JUN 7 TO JUN 19 1977

DAYS 158 THRU 170

SATELLITE AND MOON ORBITS



IMP 7 FROM JUN 19 TO JUL 1 1977



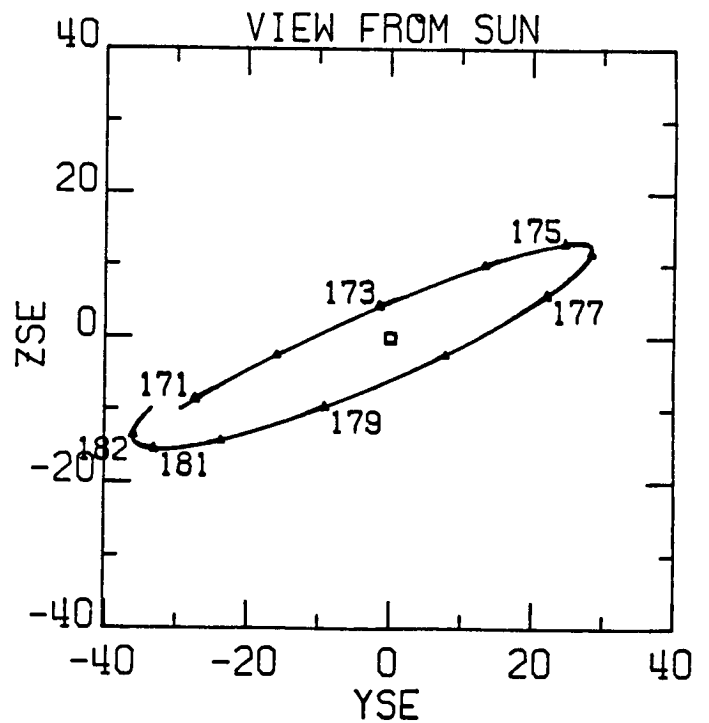
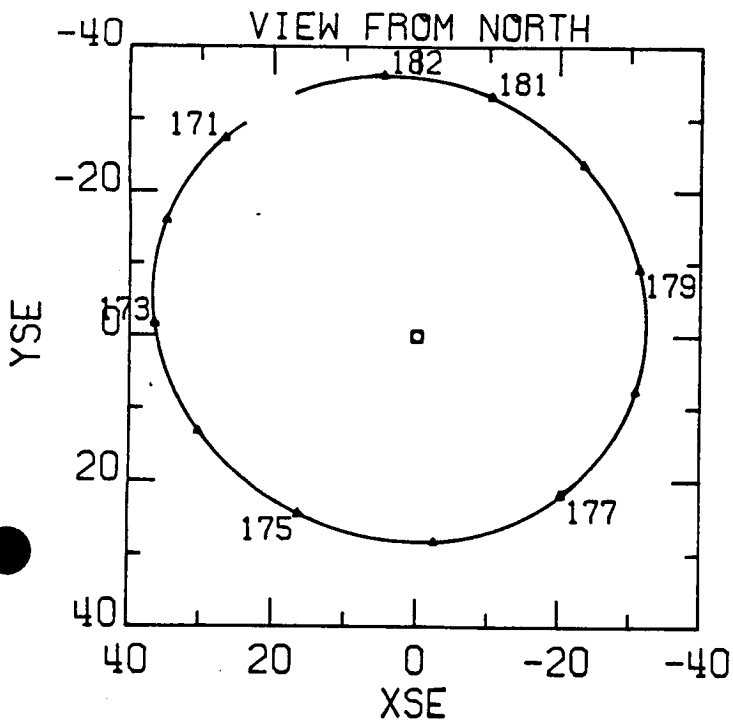
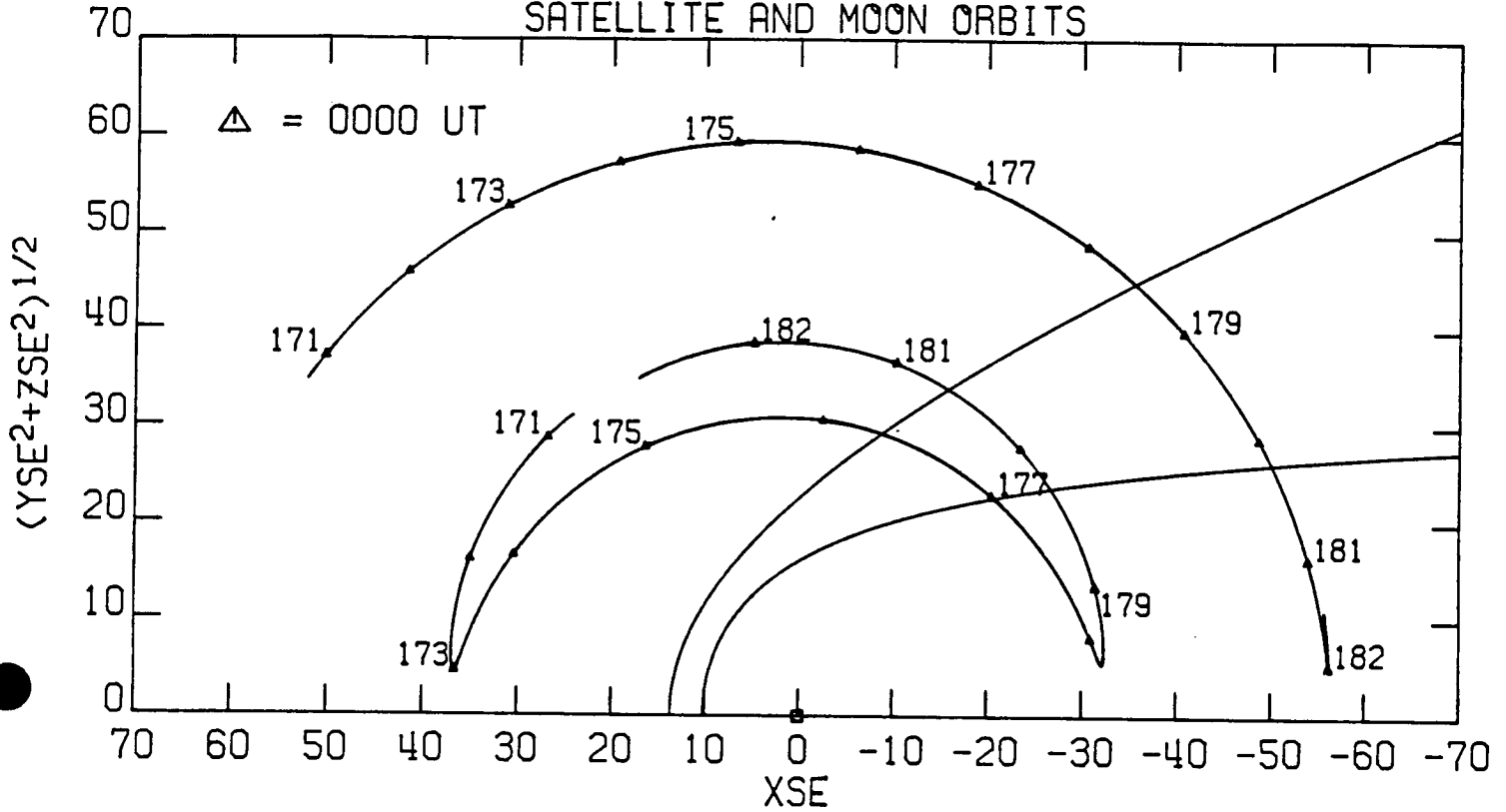
IMP 7 TRAJECTORY.

ASCENDING NODE 143

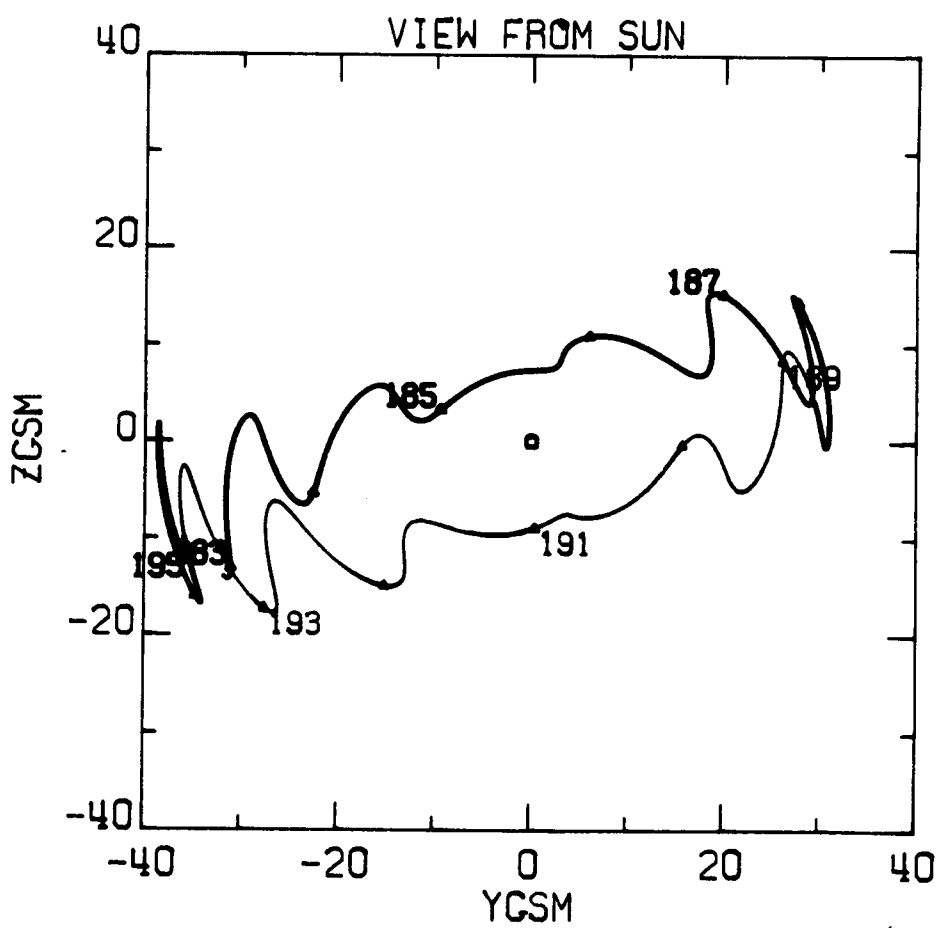
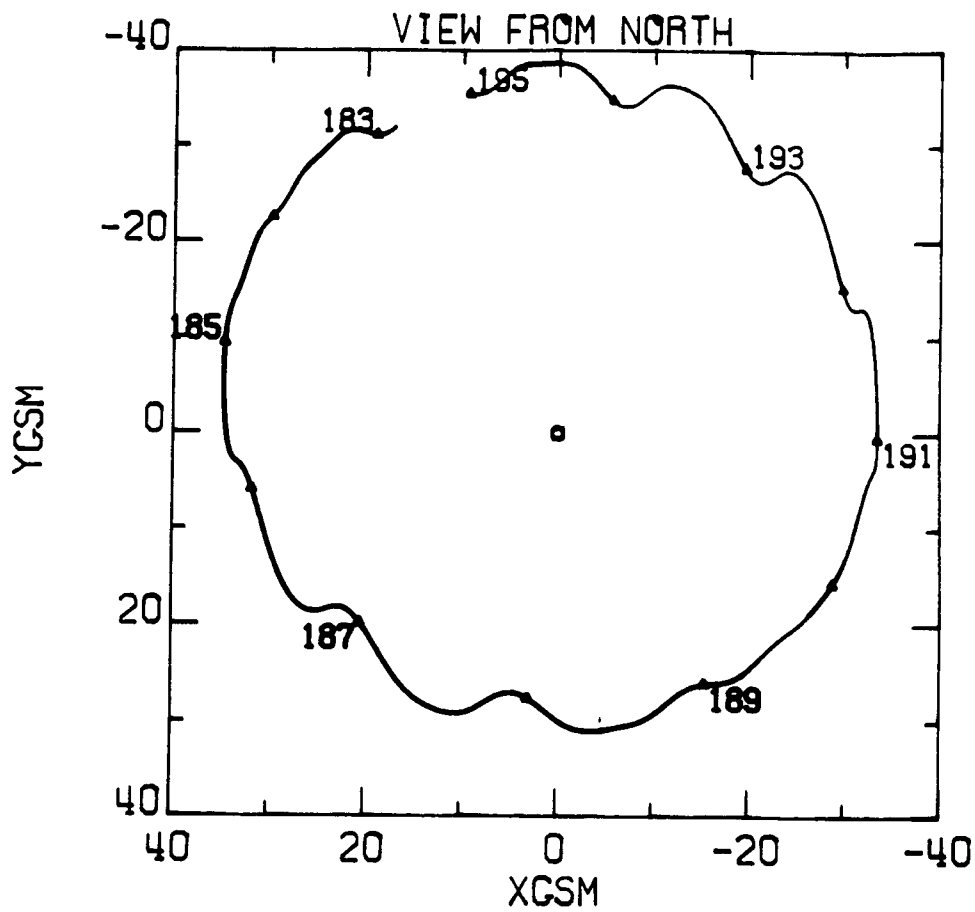
FROM JUN 19 TO JUL 1 1977

DAYS 170 THRU 182

SATELLITE AND MOON ORBITS

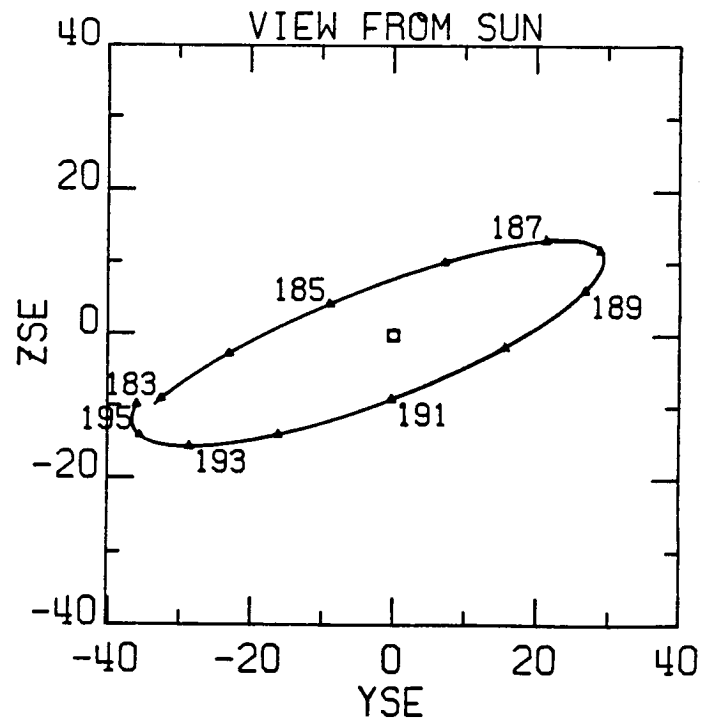
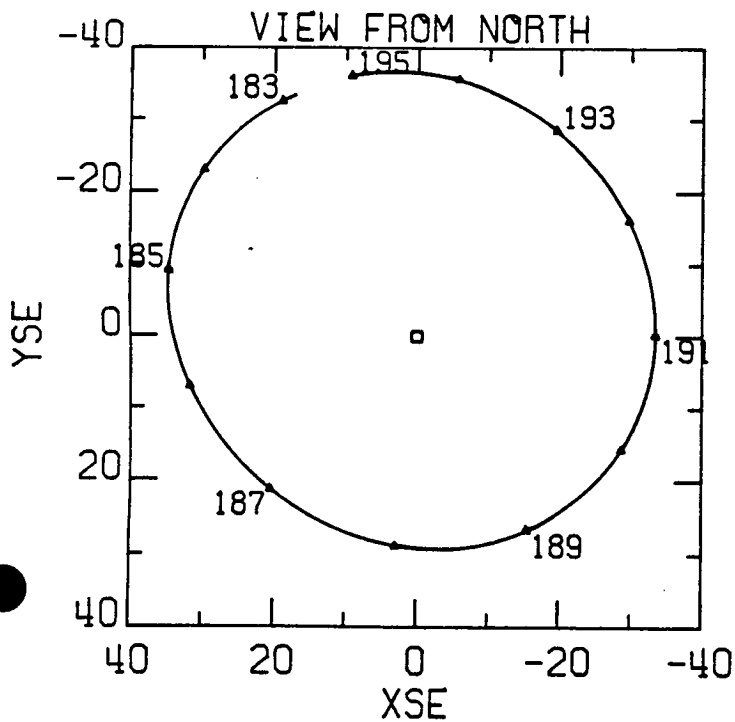
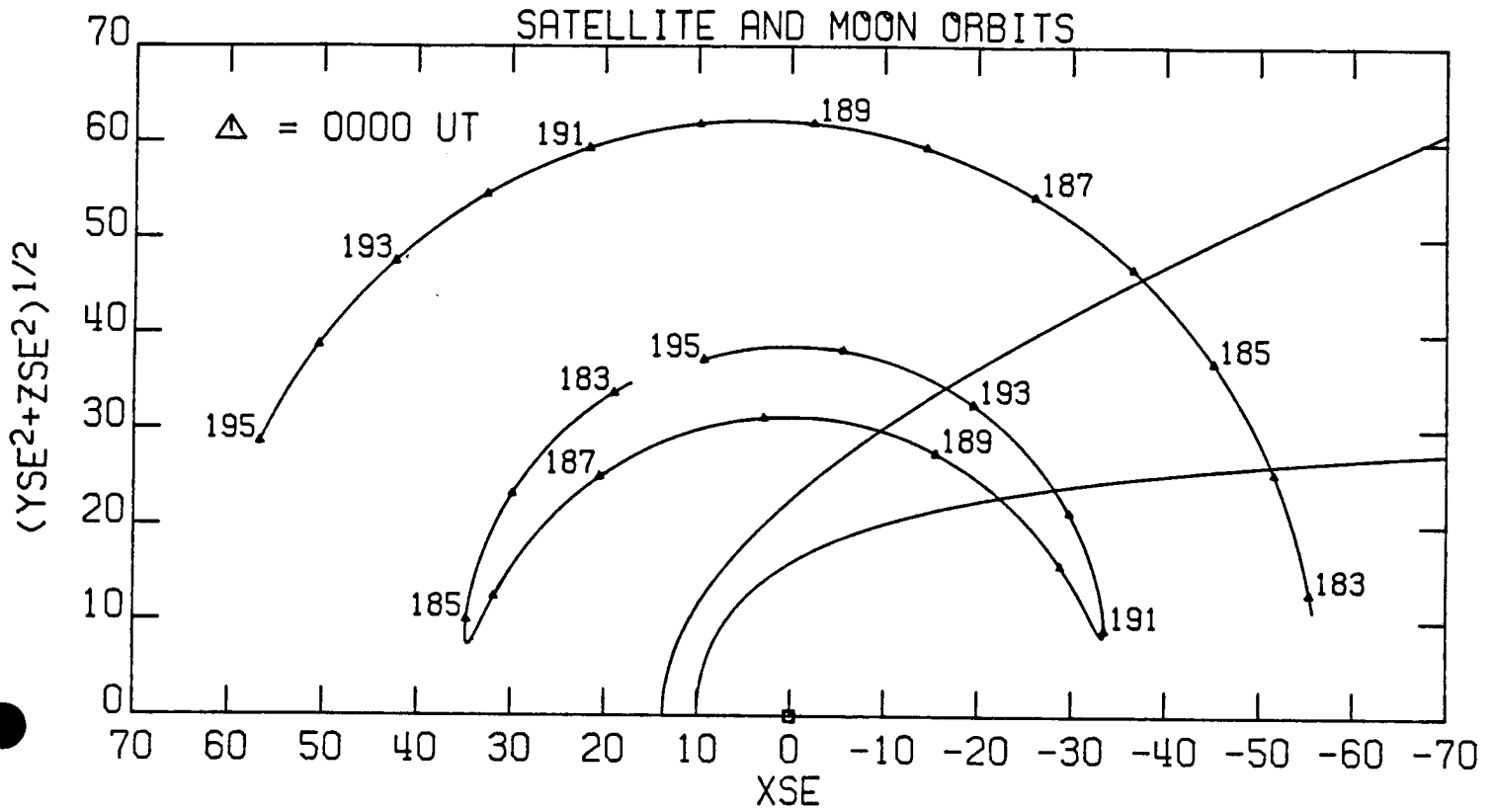


IMP 7 FROM JUL 1 TO JUL 14 1977



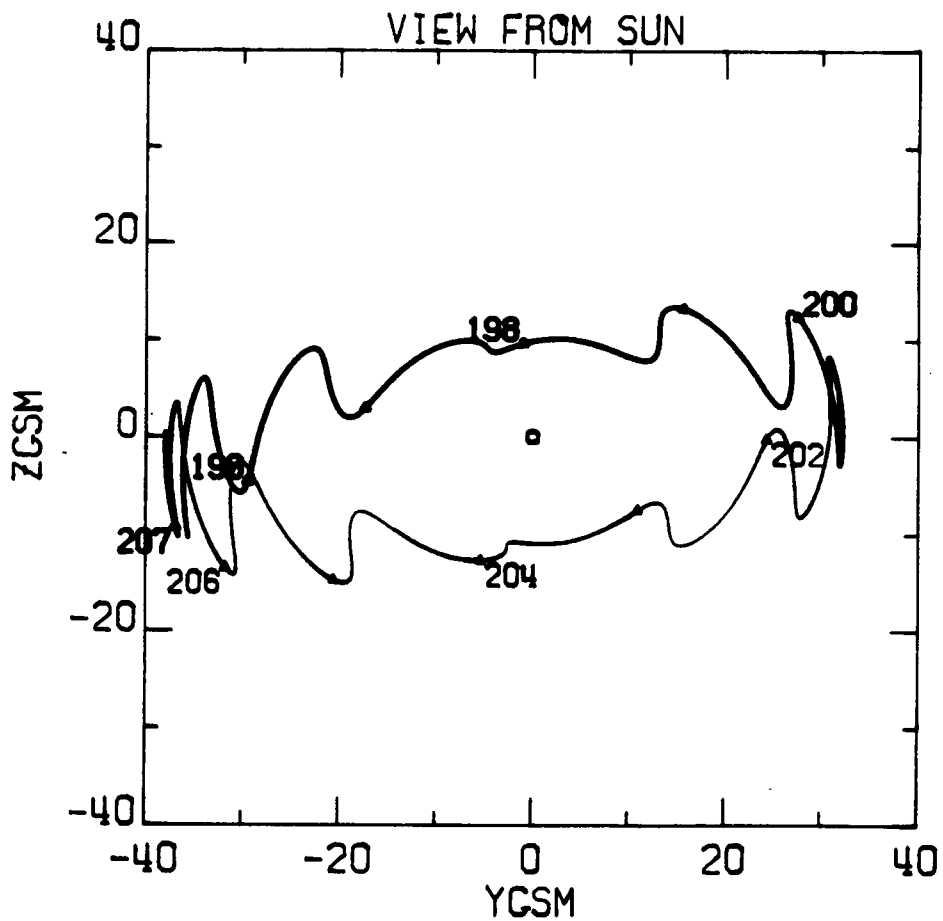
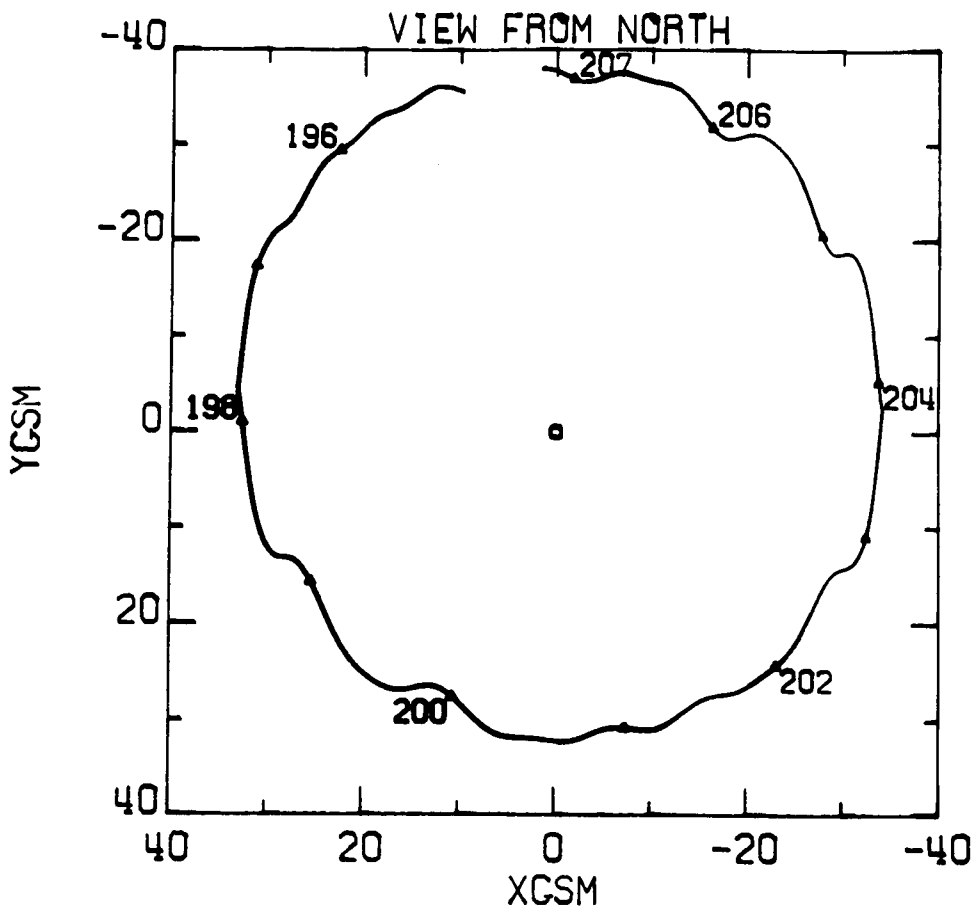
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IMP 7 TRAJECTORY. ASCENDING NODE 144
 FROM JUL 1 TO JUL 14 1977
 DAYS 182 THRU 195



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IMP 7 FROM JUL 14 TO JUL 26 1977

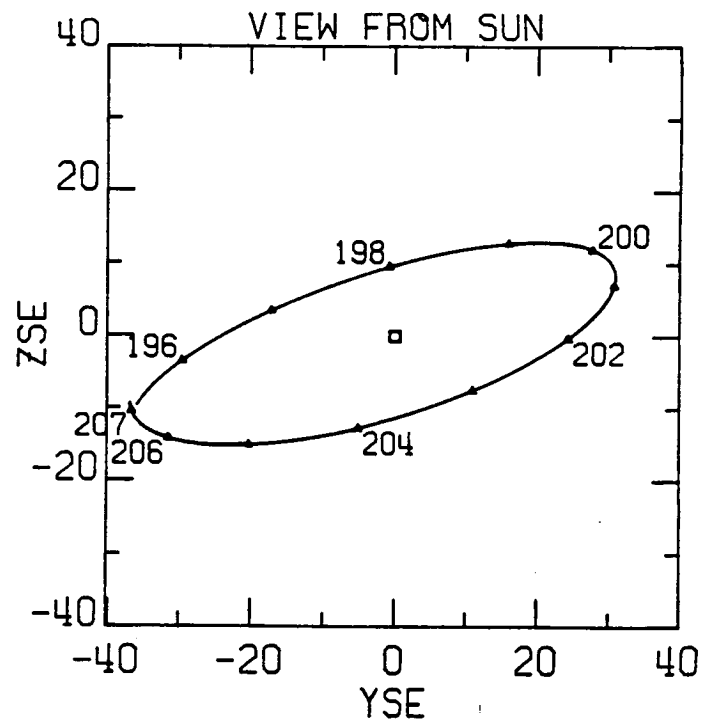
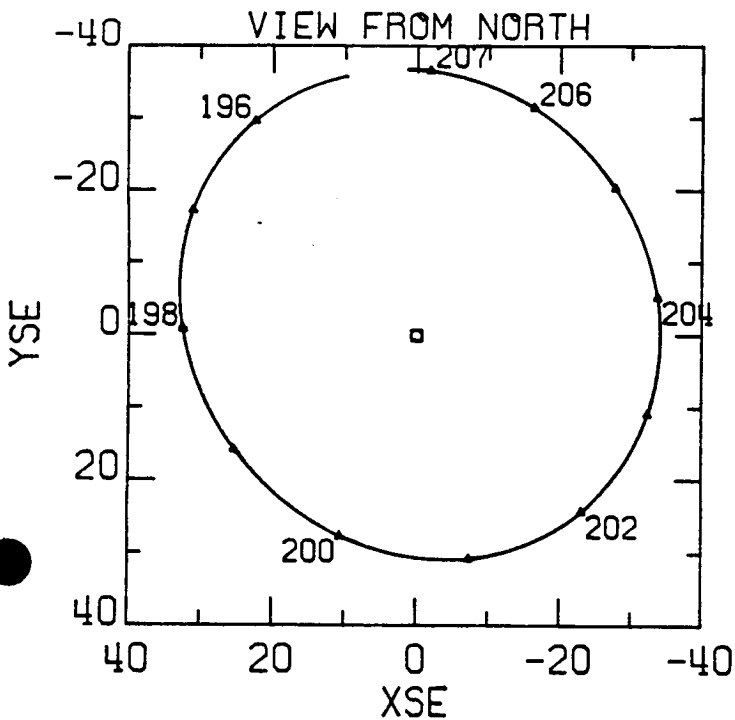
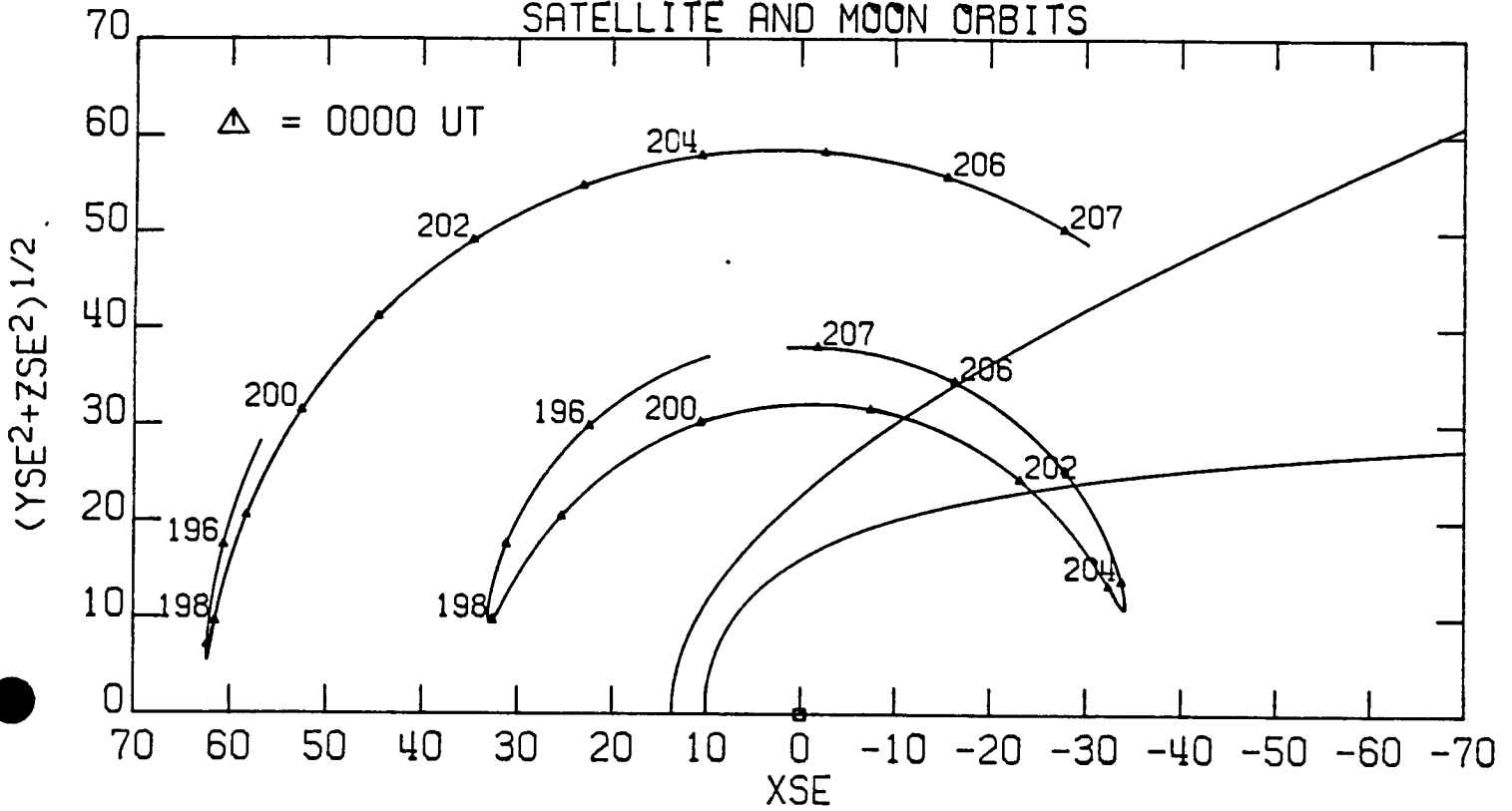


IMP 7 TRAJECTORY. ASCENDING NODE 145

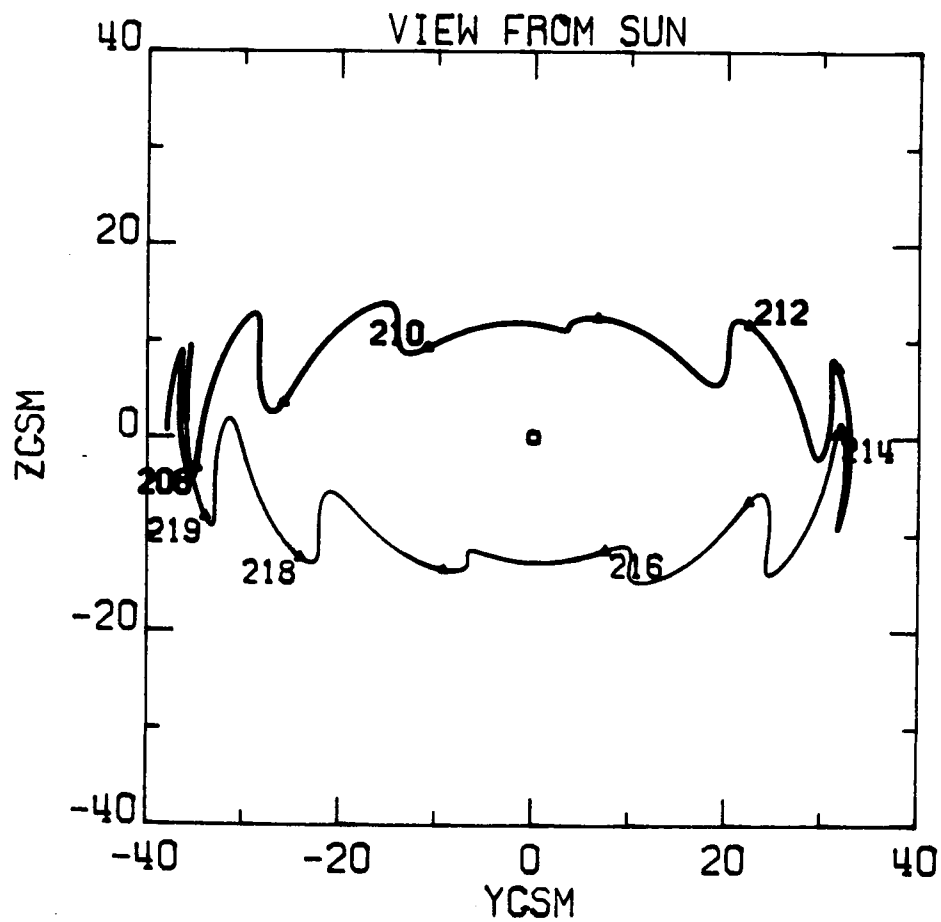
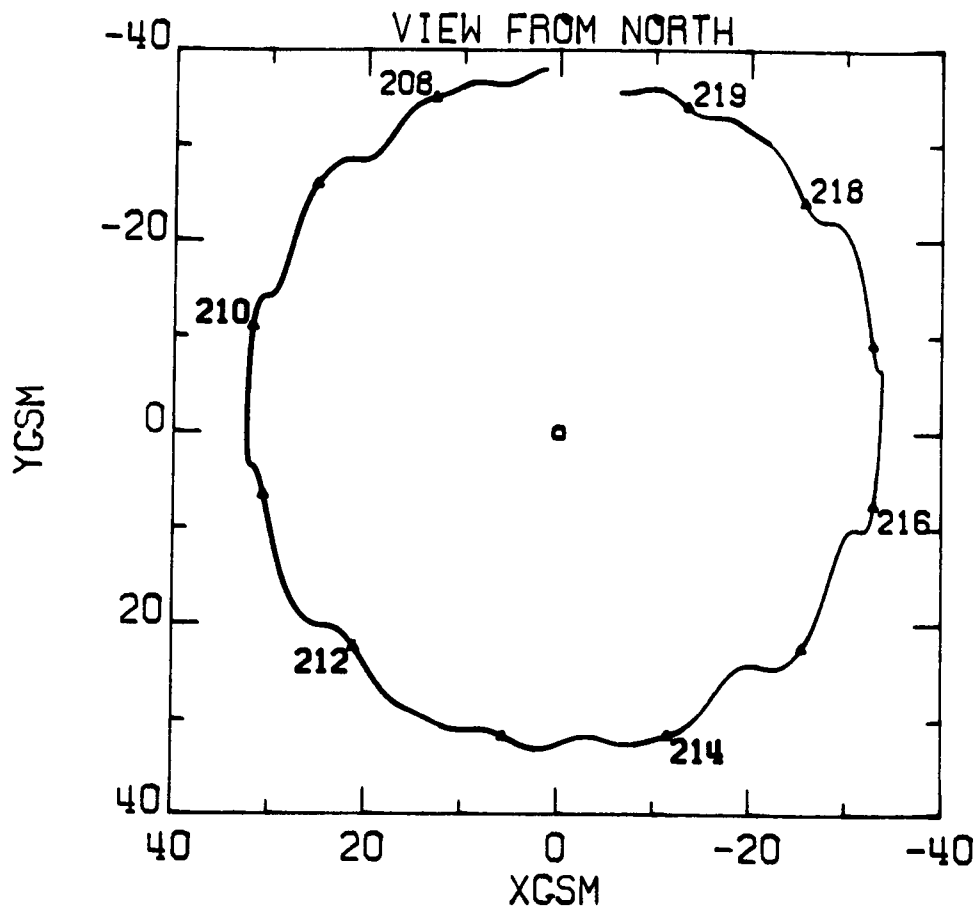
FROM JUL 14 TO JUL 26 1977

DAYS 195 THRU 207

SATELLITE AND MOON ORBITS



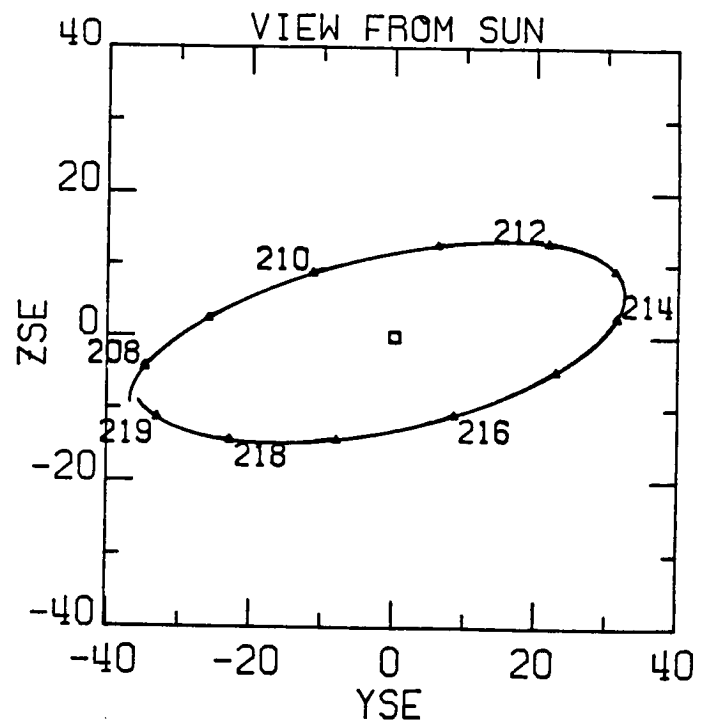
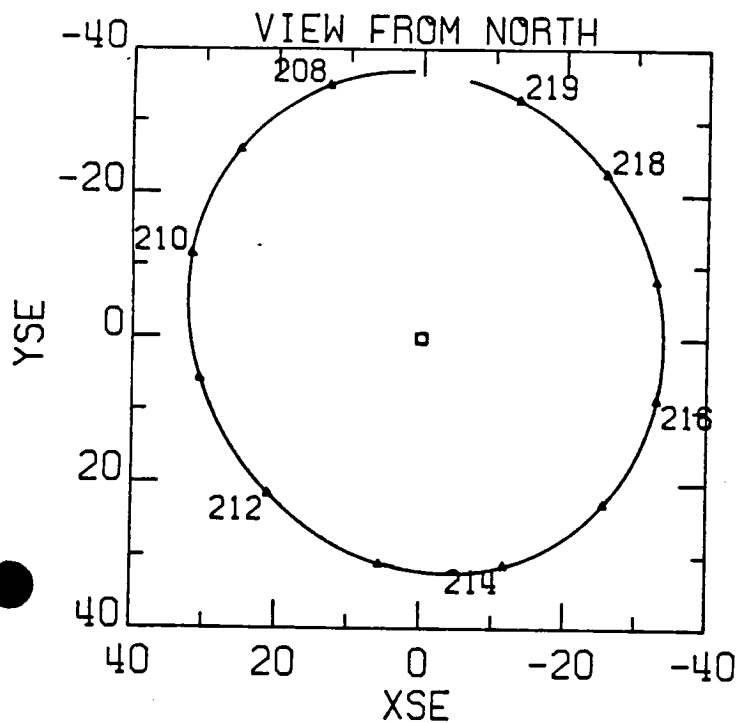
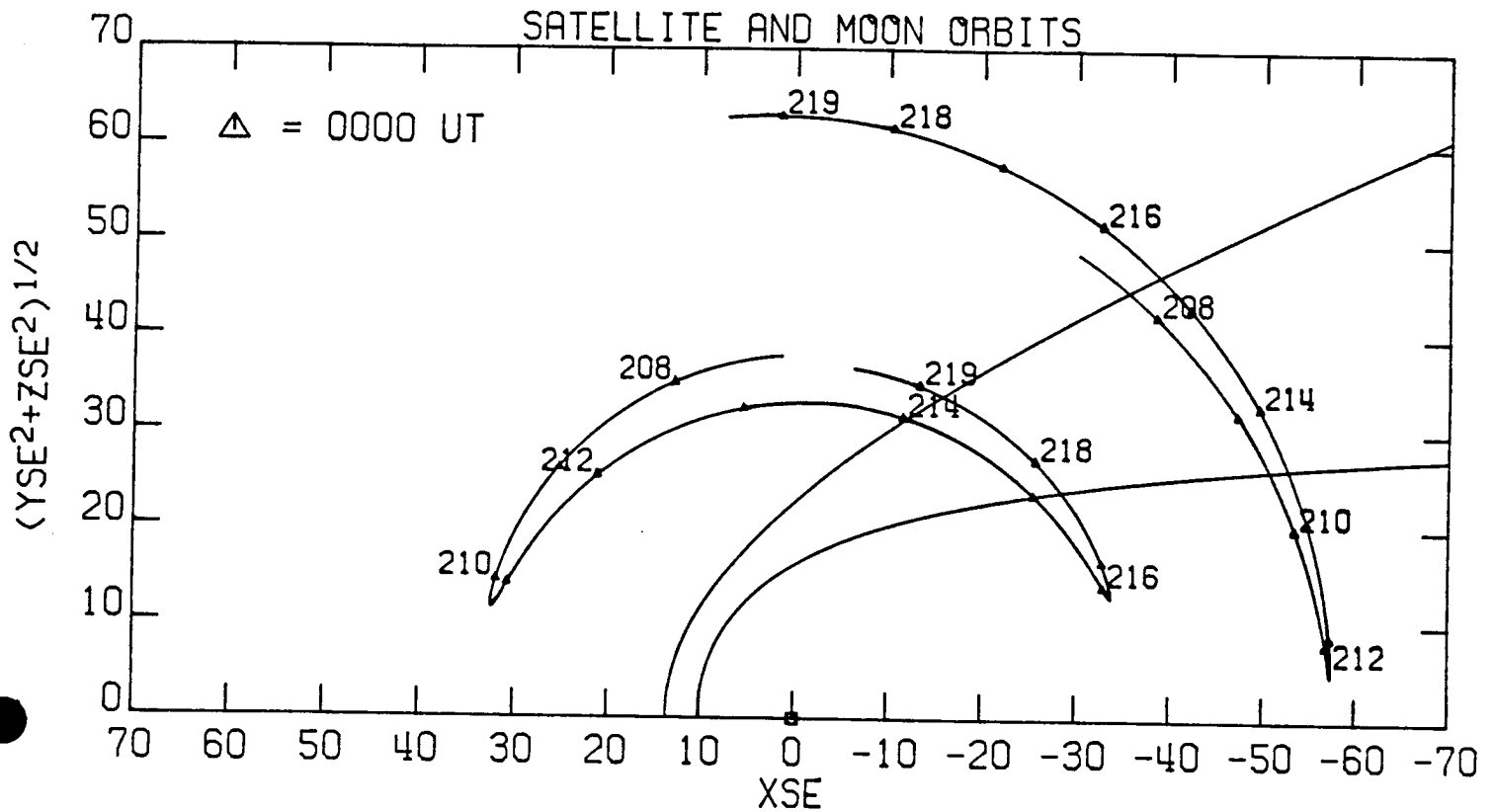
IMP 7 FROM JUL 26 TO AUG 7 1977



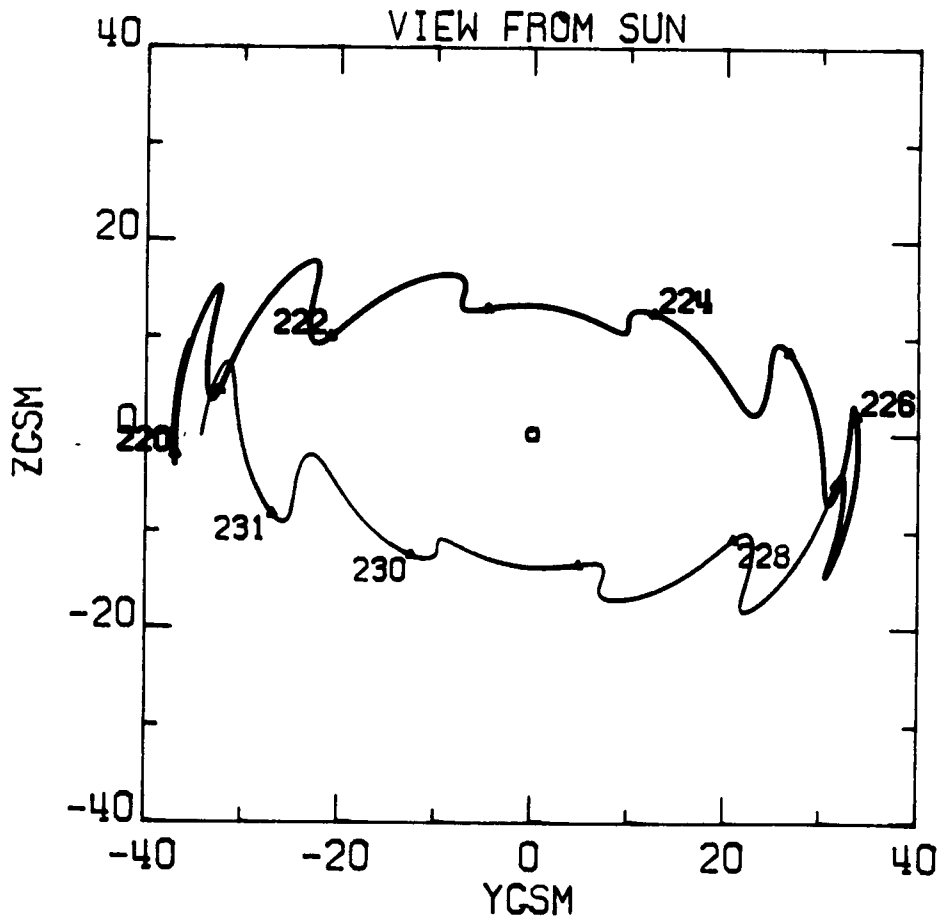
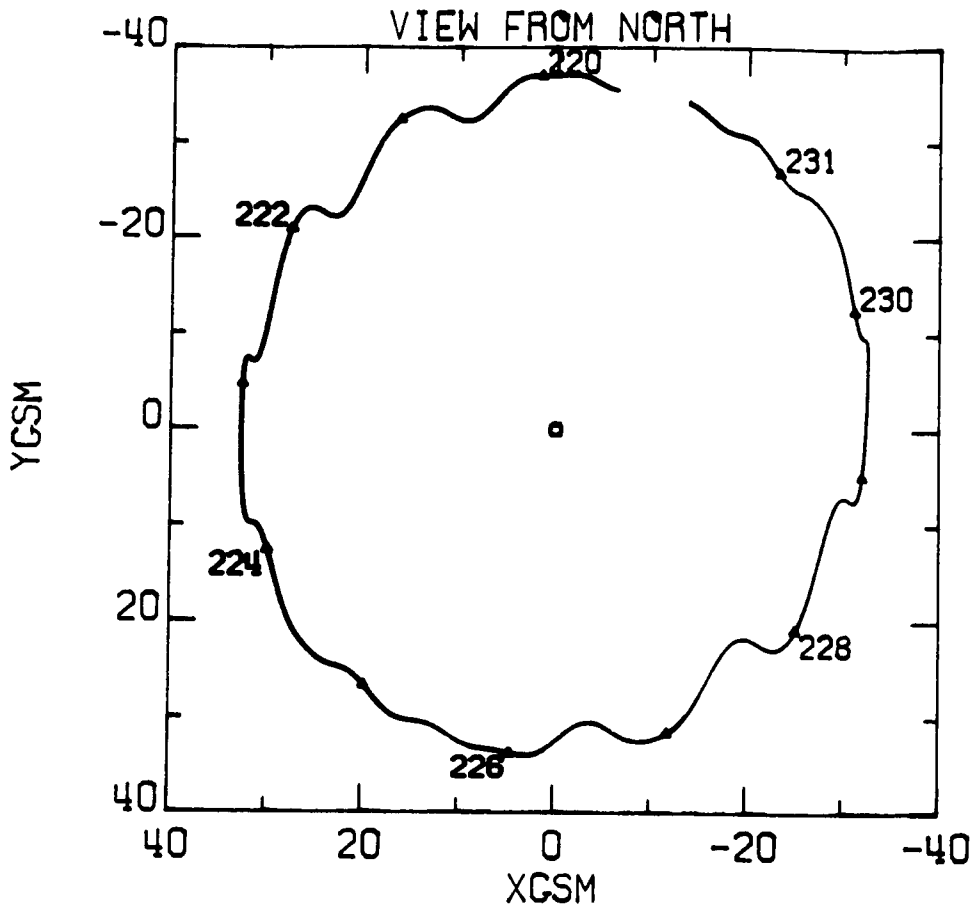
IMP 7 TRAJECTORY. ASCENDING NODE 146

FROM JUL 26 TO AUG 7 1977

DAYS 207 THRU 219



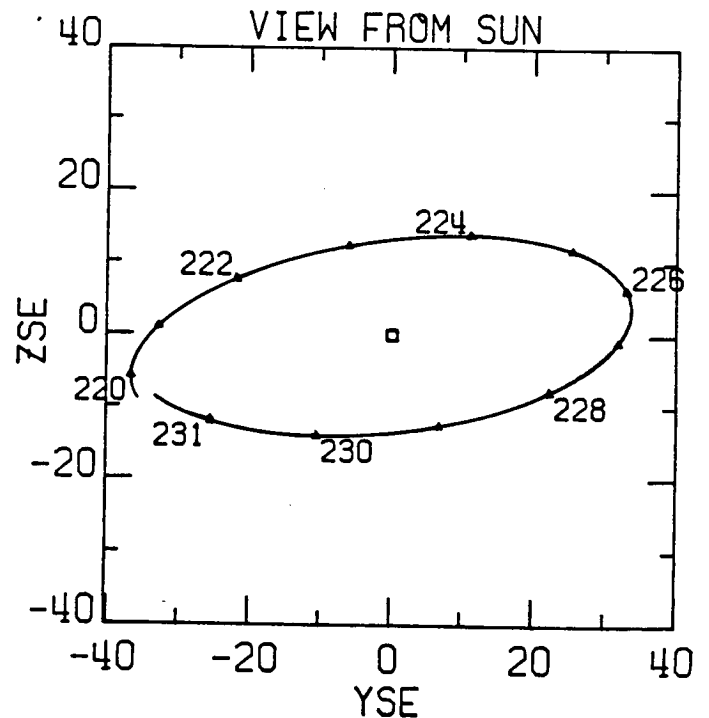
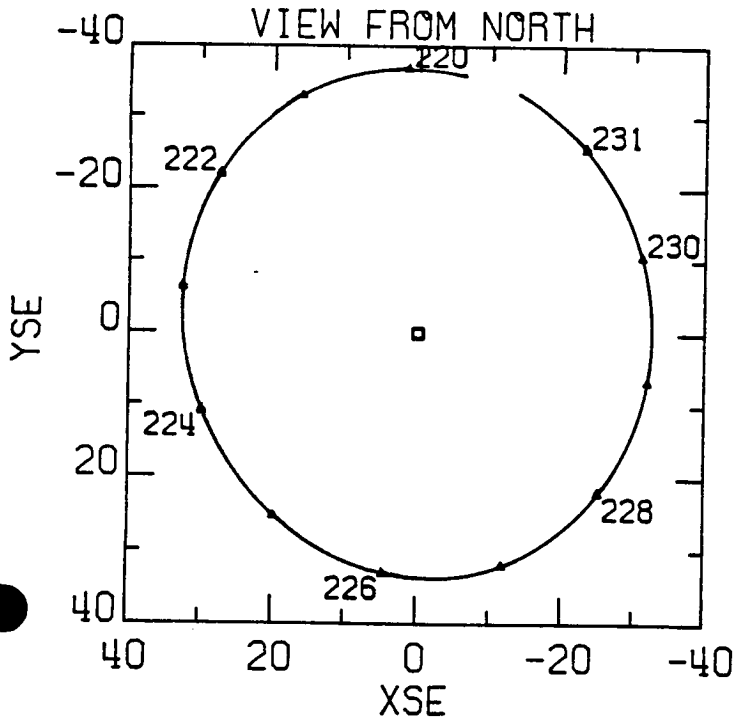
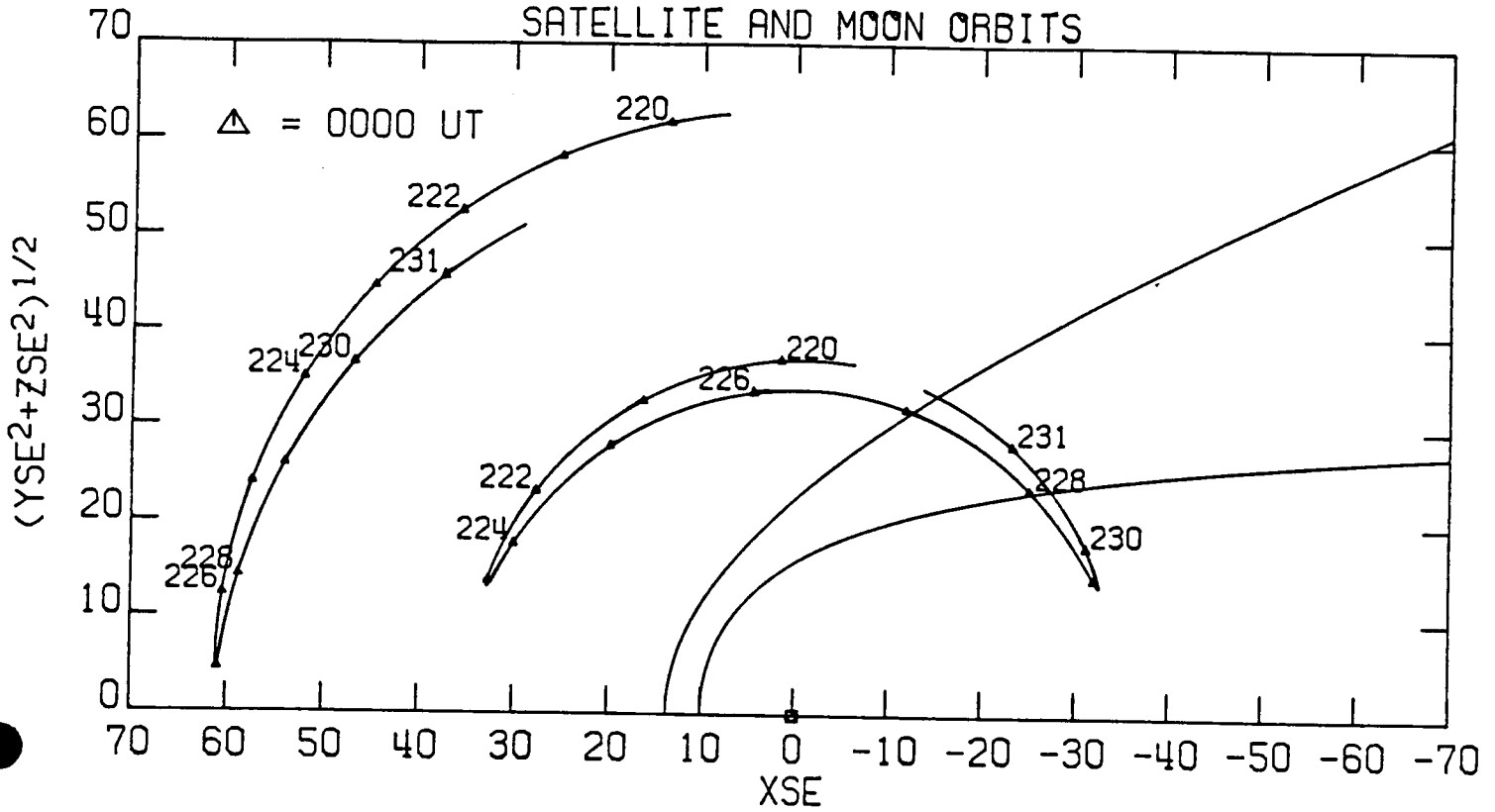
IMP 7 FROM AUG 7 TO AUG 19 1977



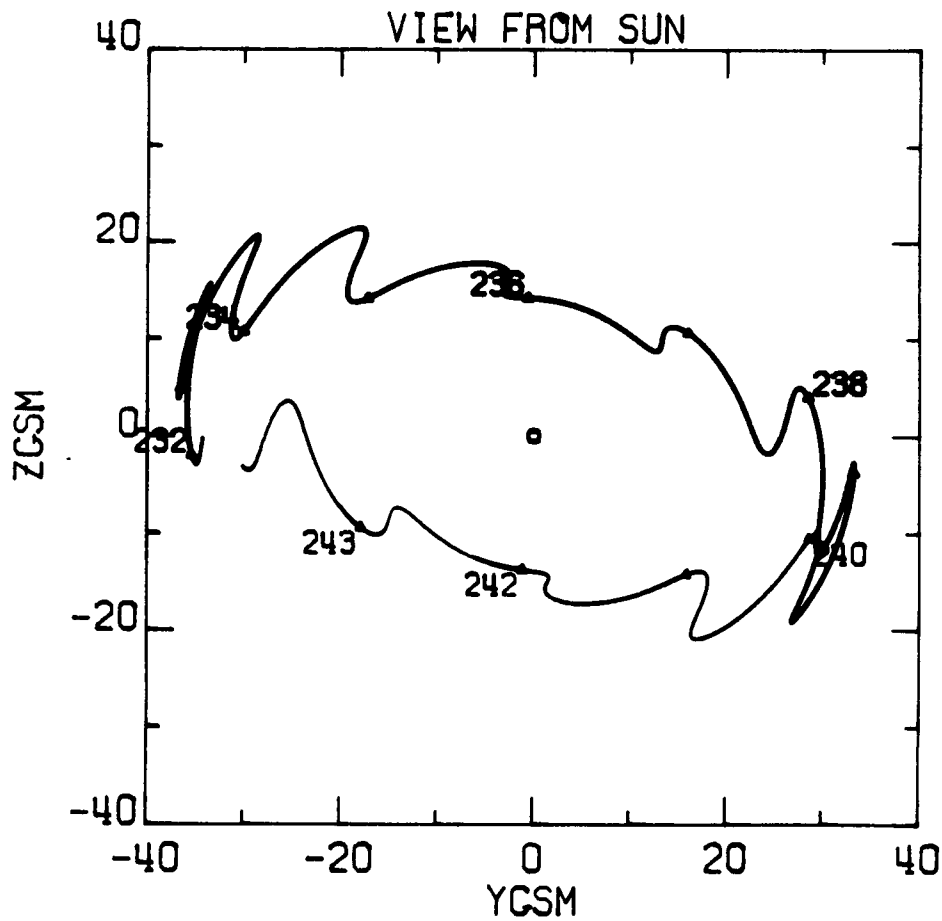
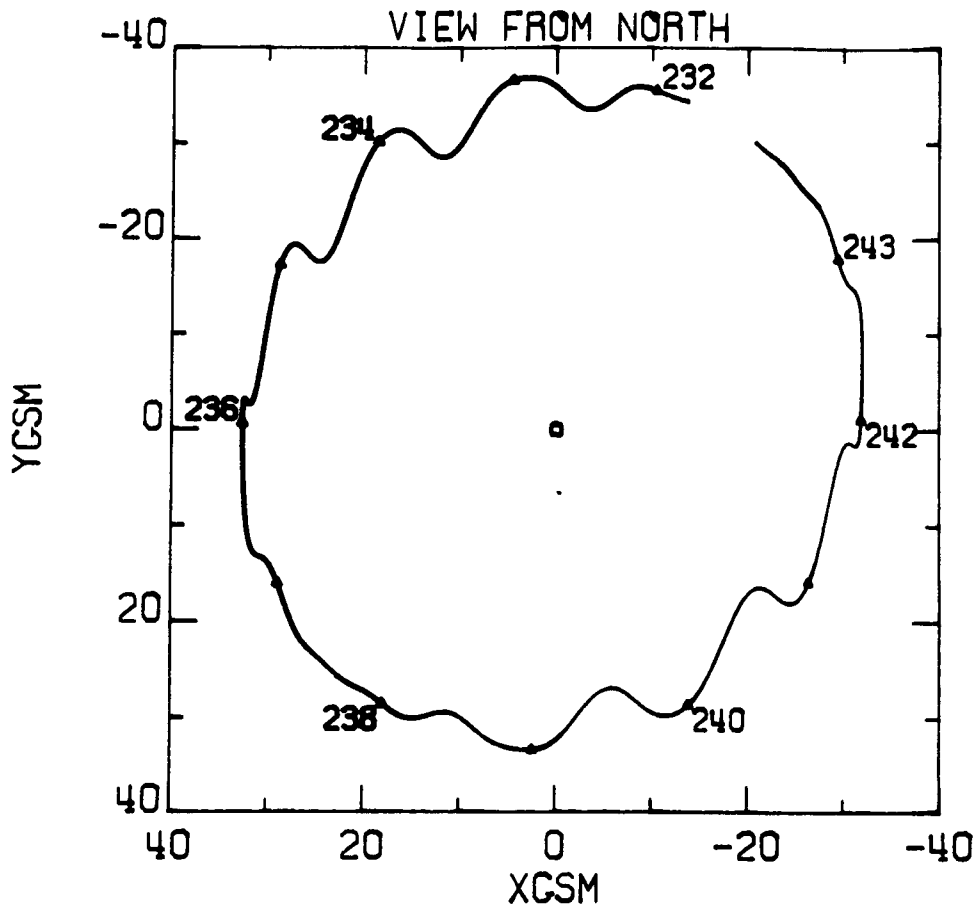
FROM AUG 7 TO AUG 19 1977

DAYS 219 THRU 231

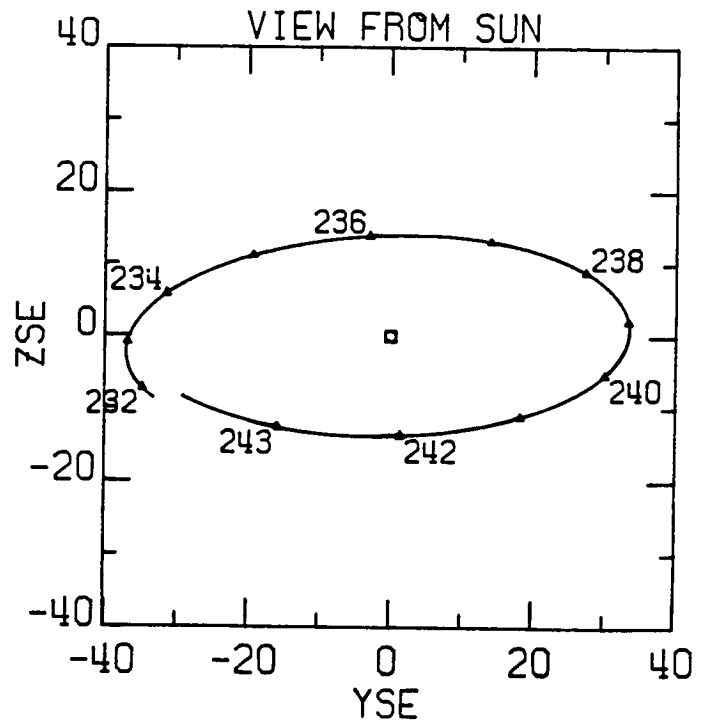
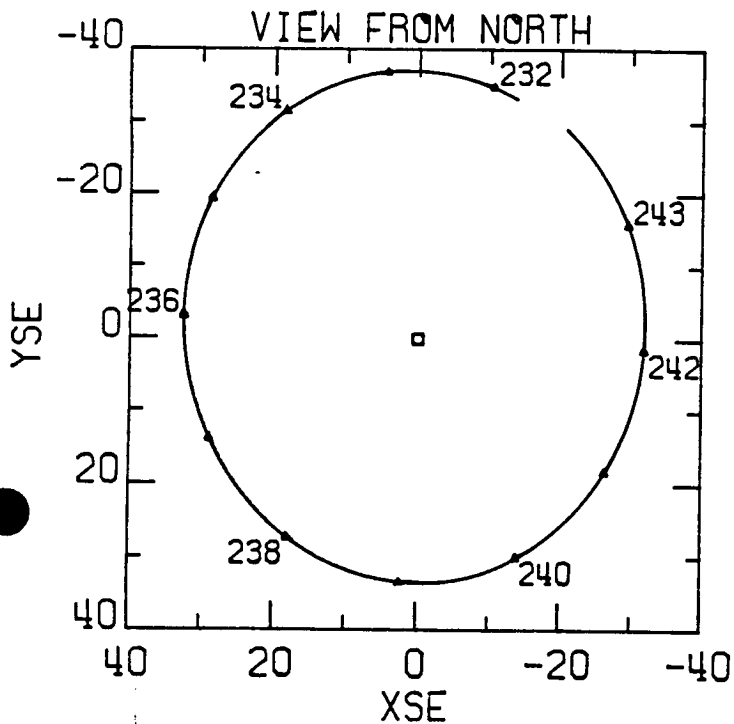
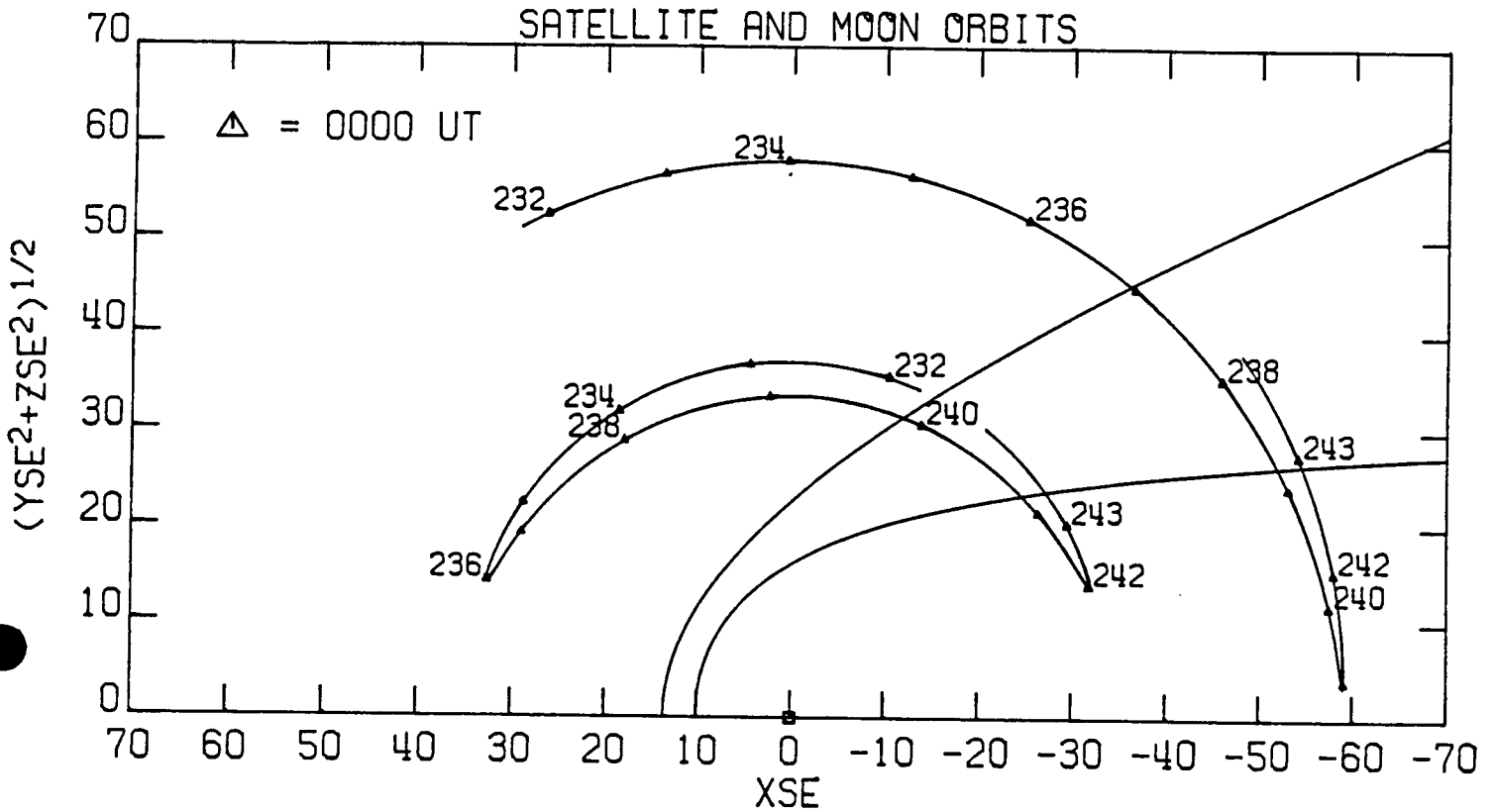
SATELLITE AND MOON ORBITS



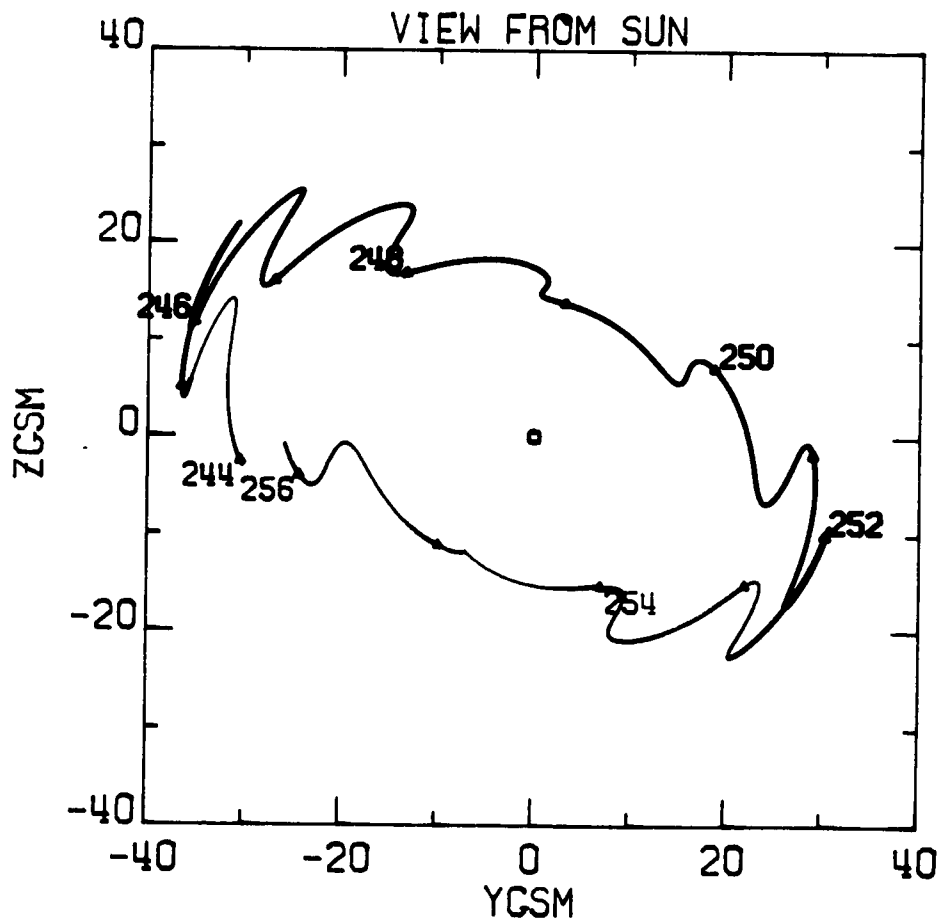
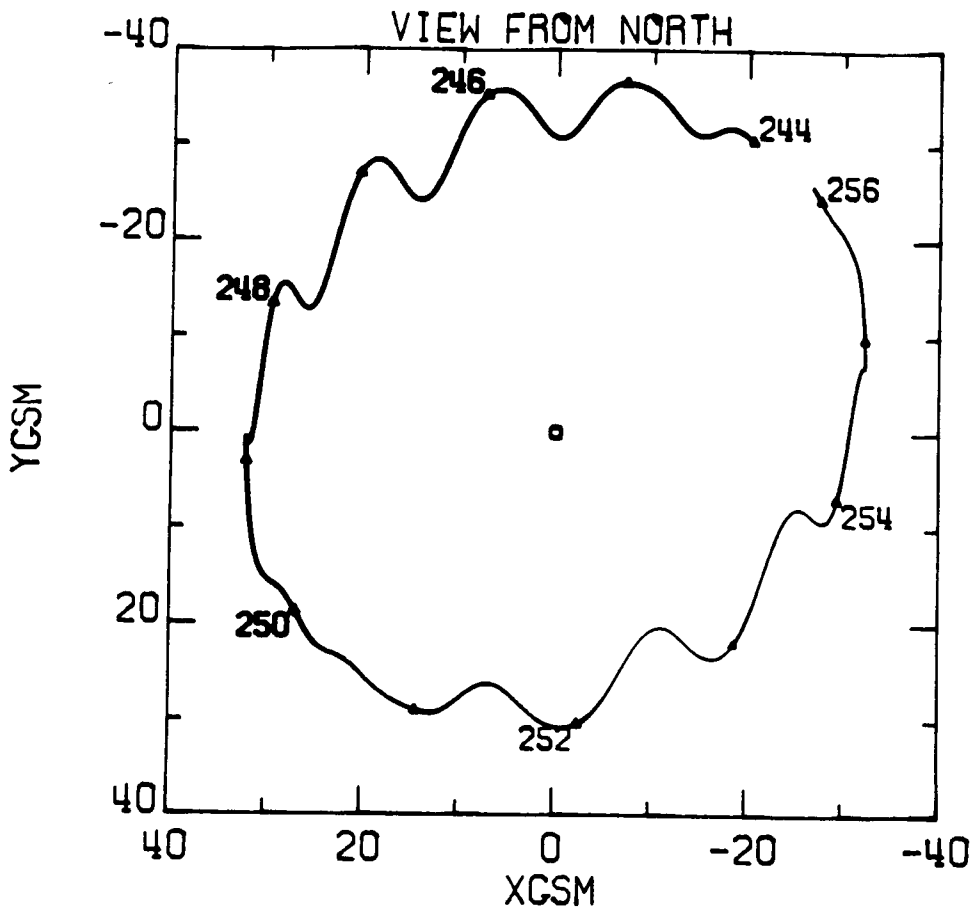
IMP 7 FROM AUG 19 TO AUG 31 1977



IMP 7 TRAJECTORY. ASCENDING NODE 148
 FROM AUG 19 TO AUG 31 1977
 DAYS 231 THRU 243



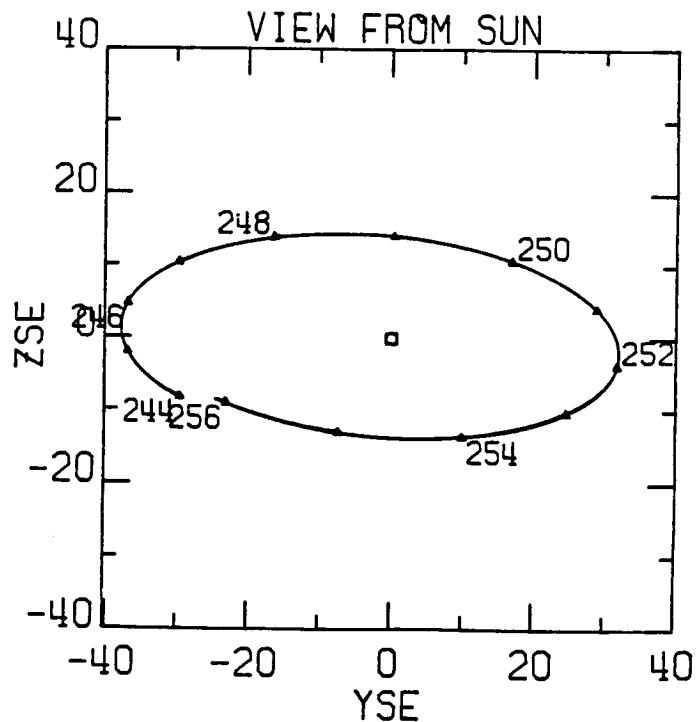
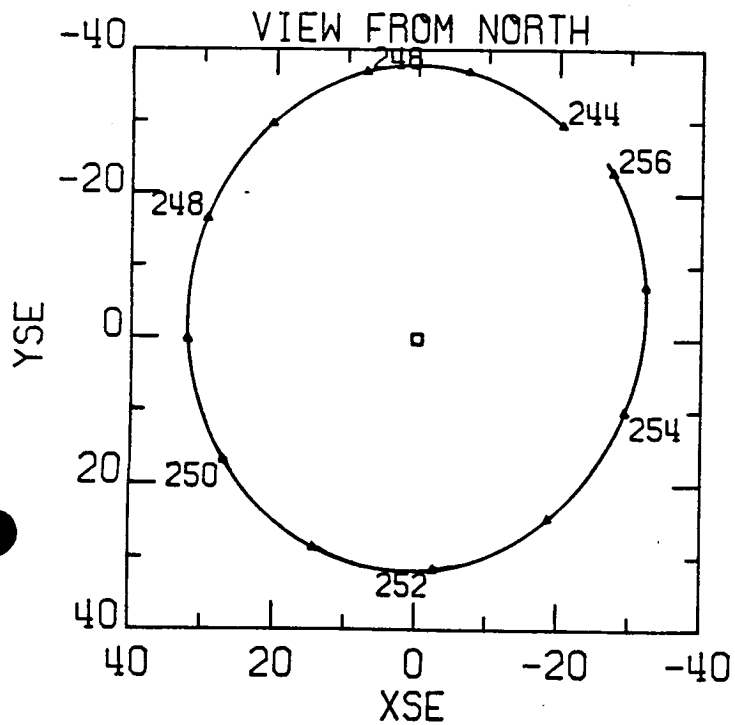
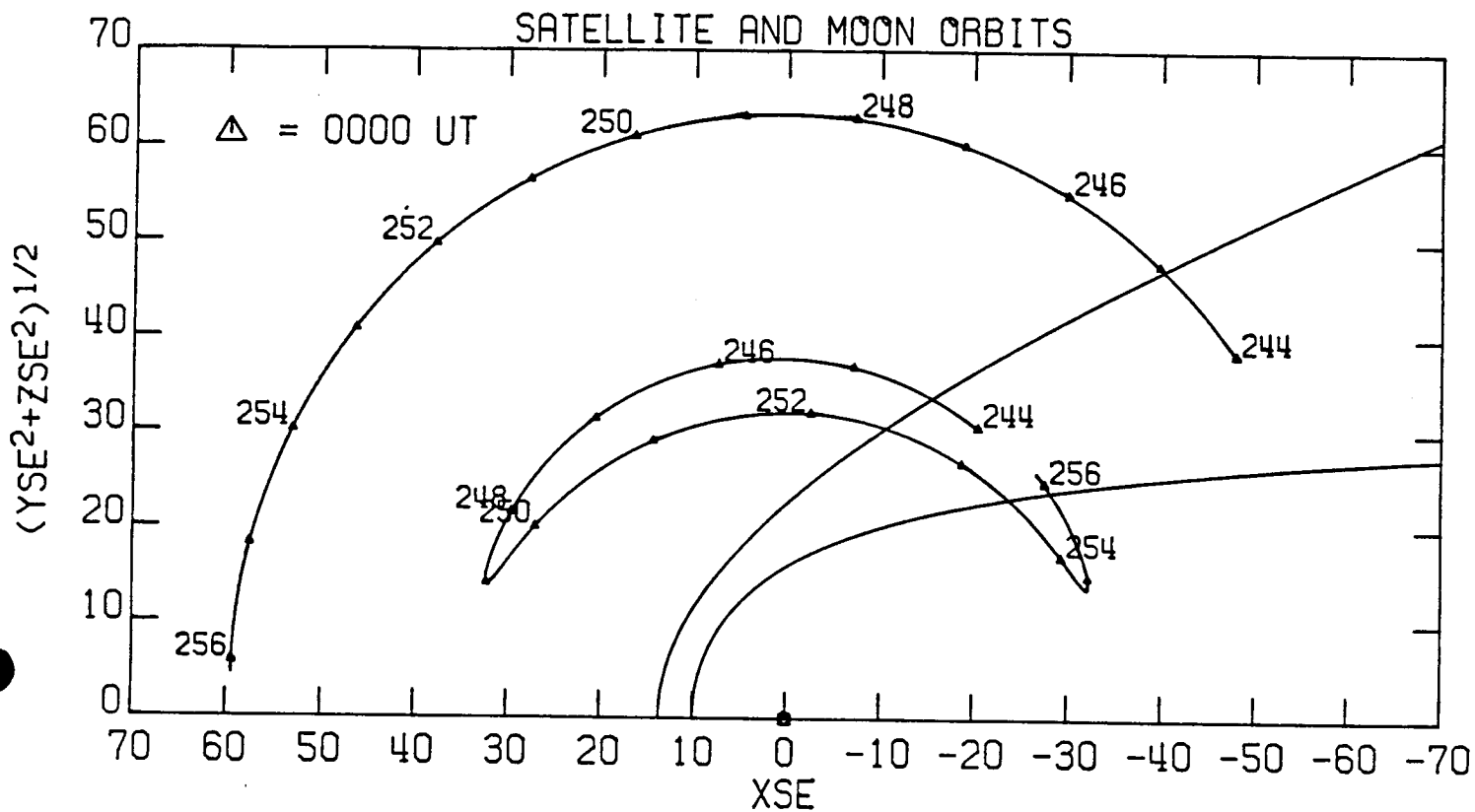
IMP 7 FROM AUG 31 TO SEP 13 1977



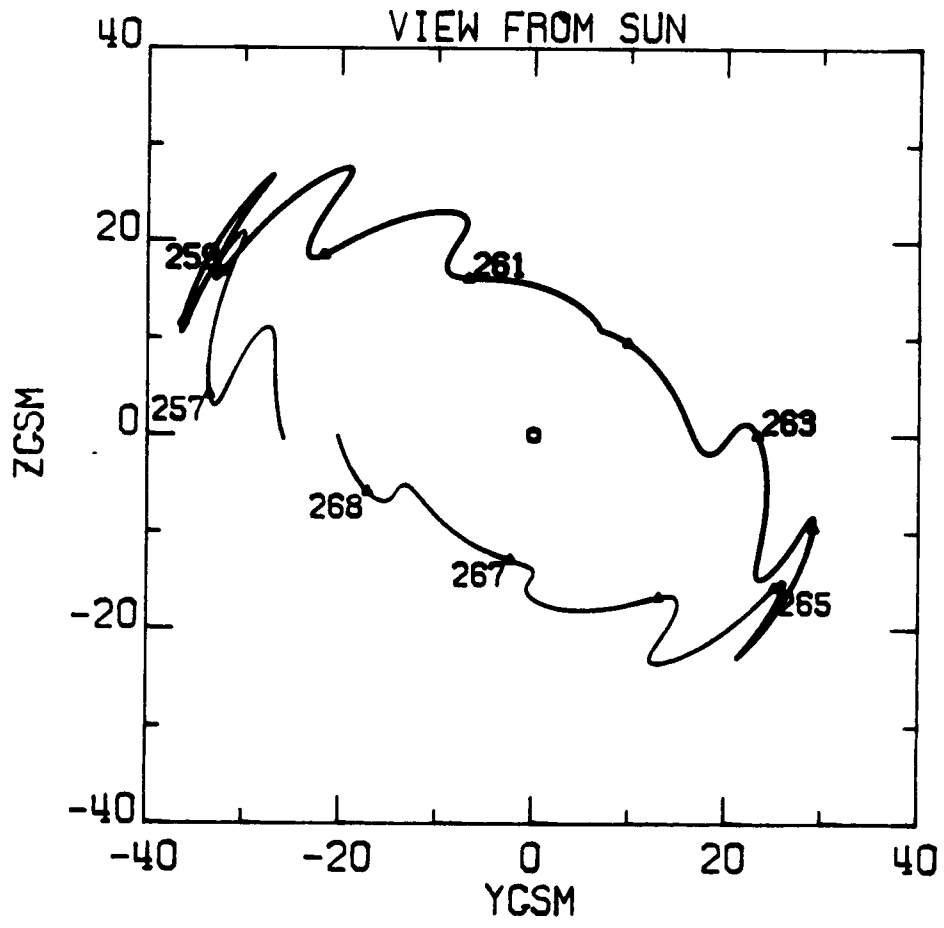
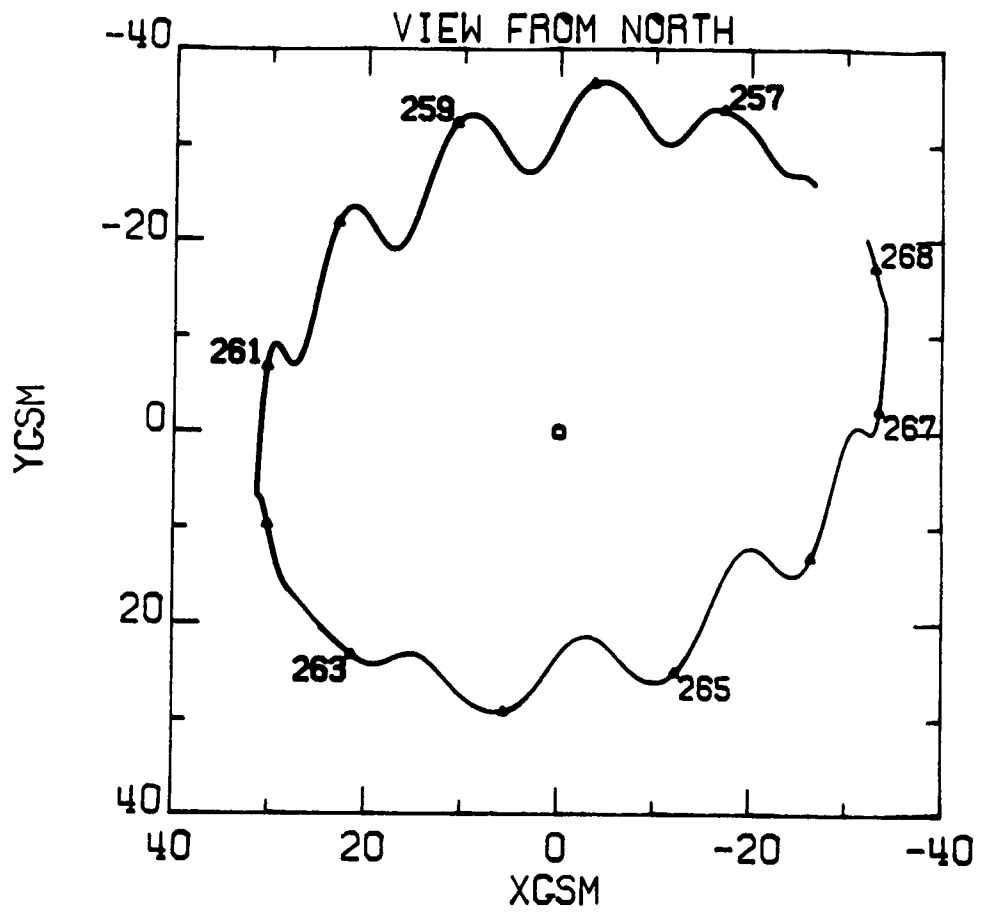
IMP 7 TRAJECTORY. ASCENDING NODE 149

FROM AUG 31 TO SEP 13 1977

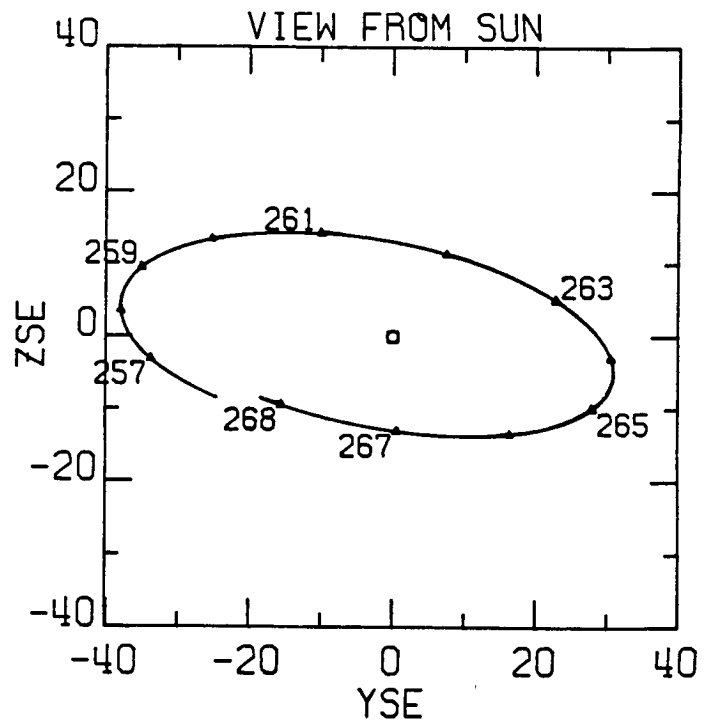
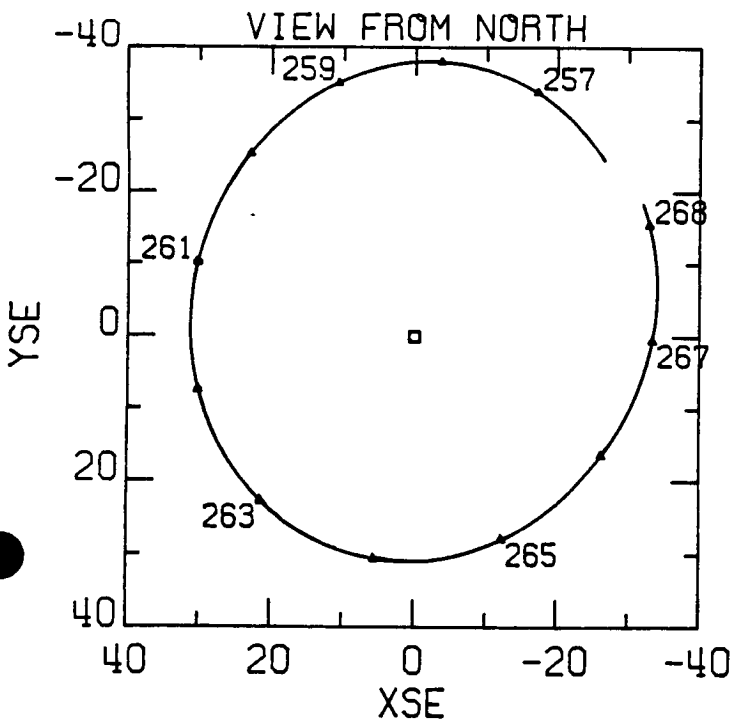
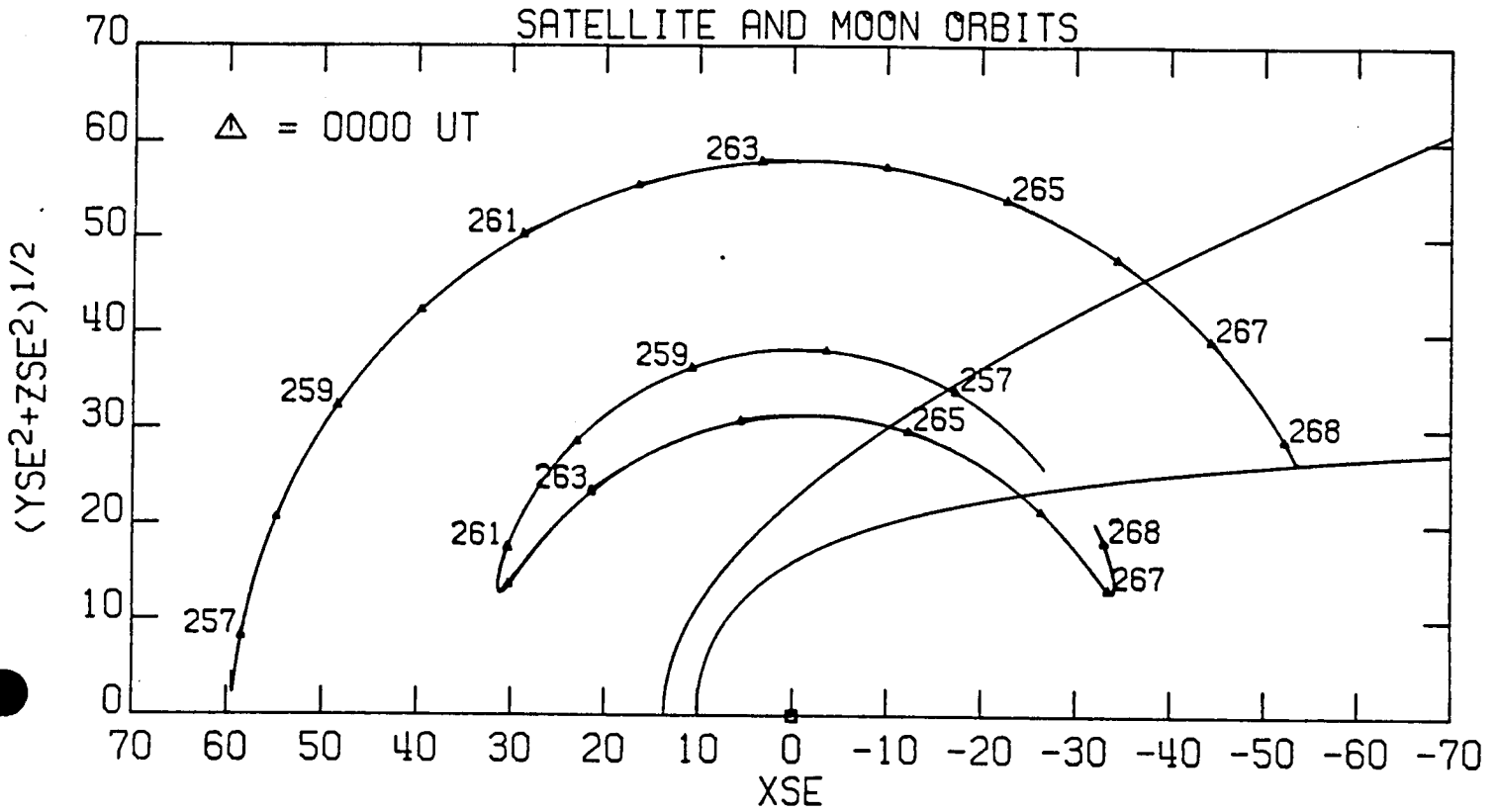
DAYS 243 THRU 256



IMP 7 FROM SEP 13 TO SEP 25 1977

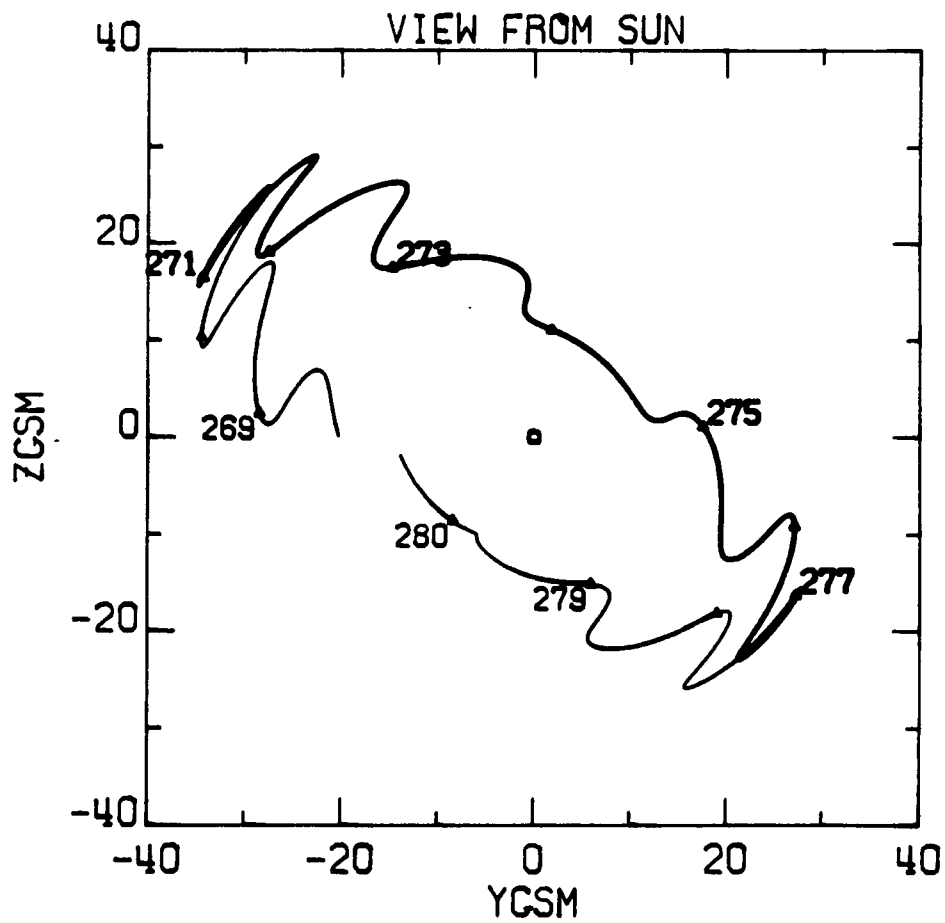
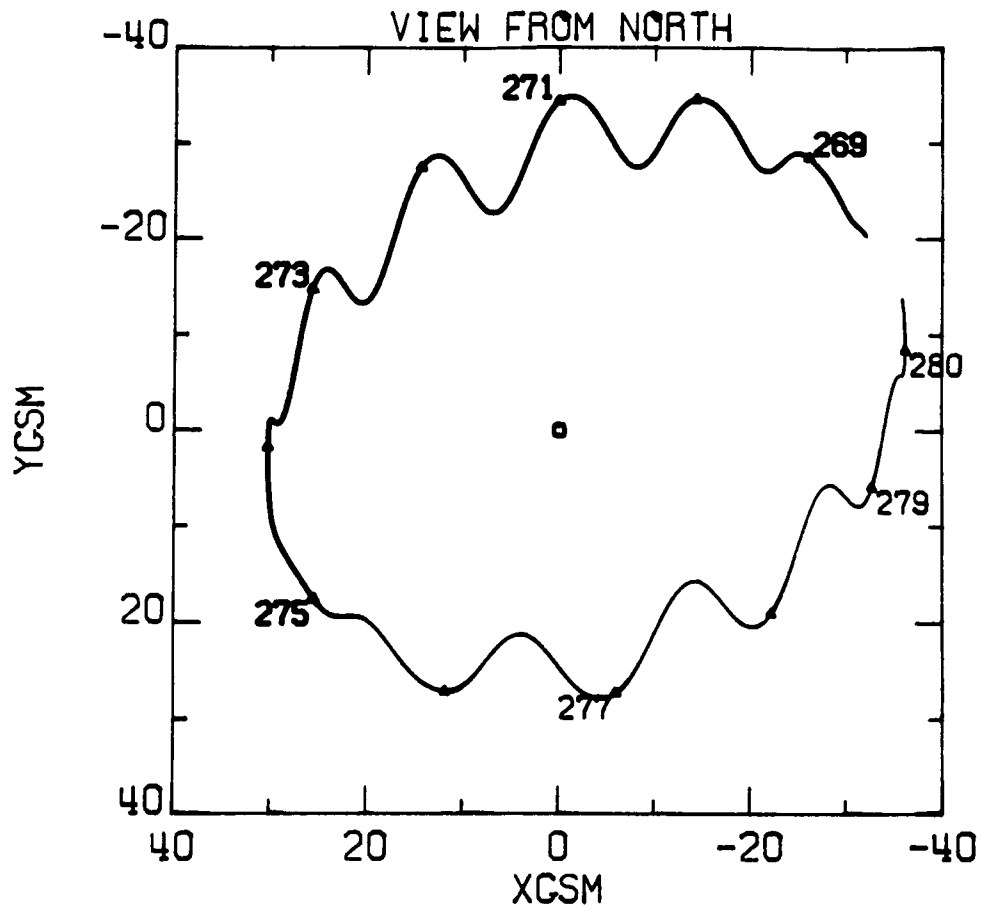


IMP 7 TRAJECTORY. ASCENDING NODE 150
 FROM SEP 13 TO SEP 25 1977
 DAYS 256 THRU 268

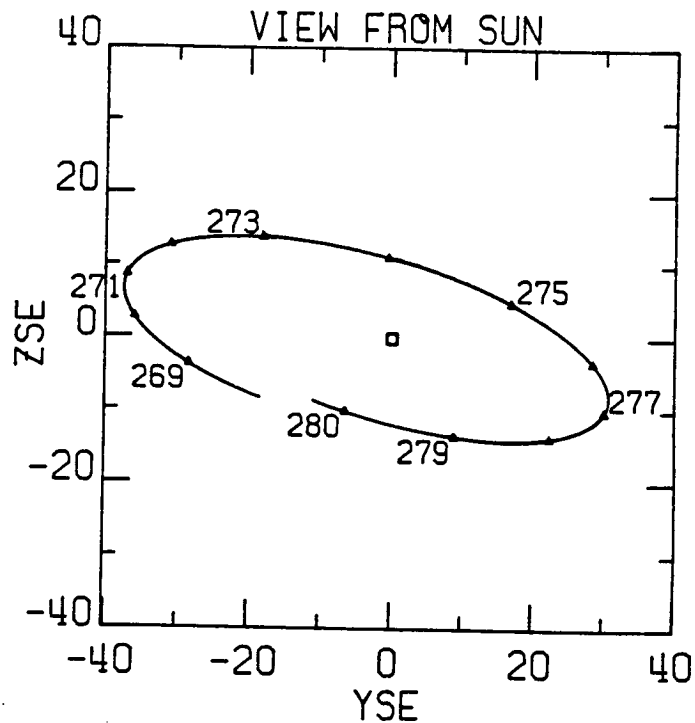
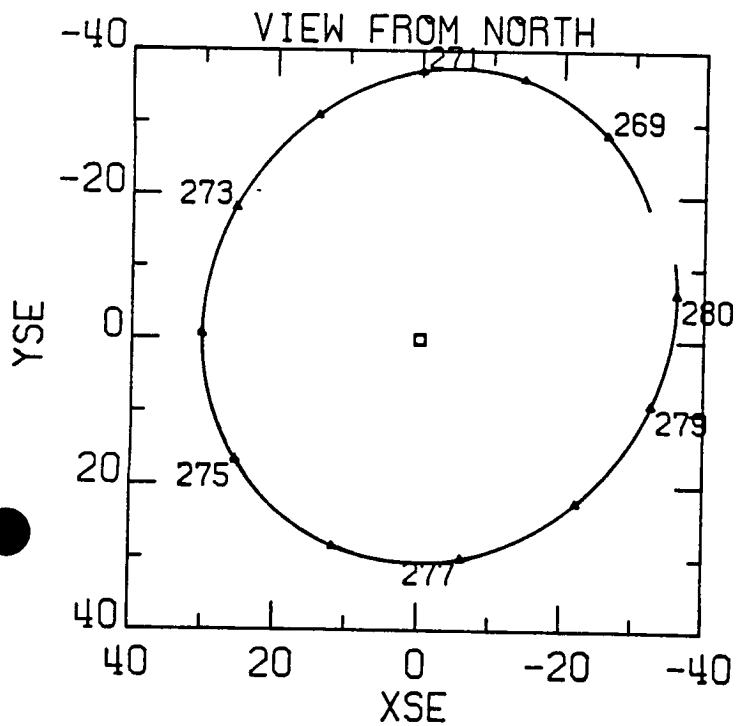
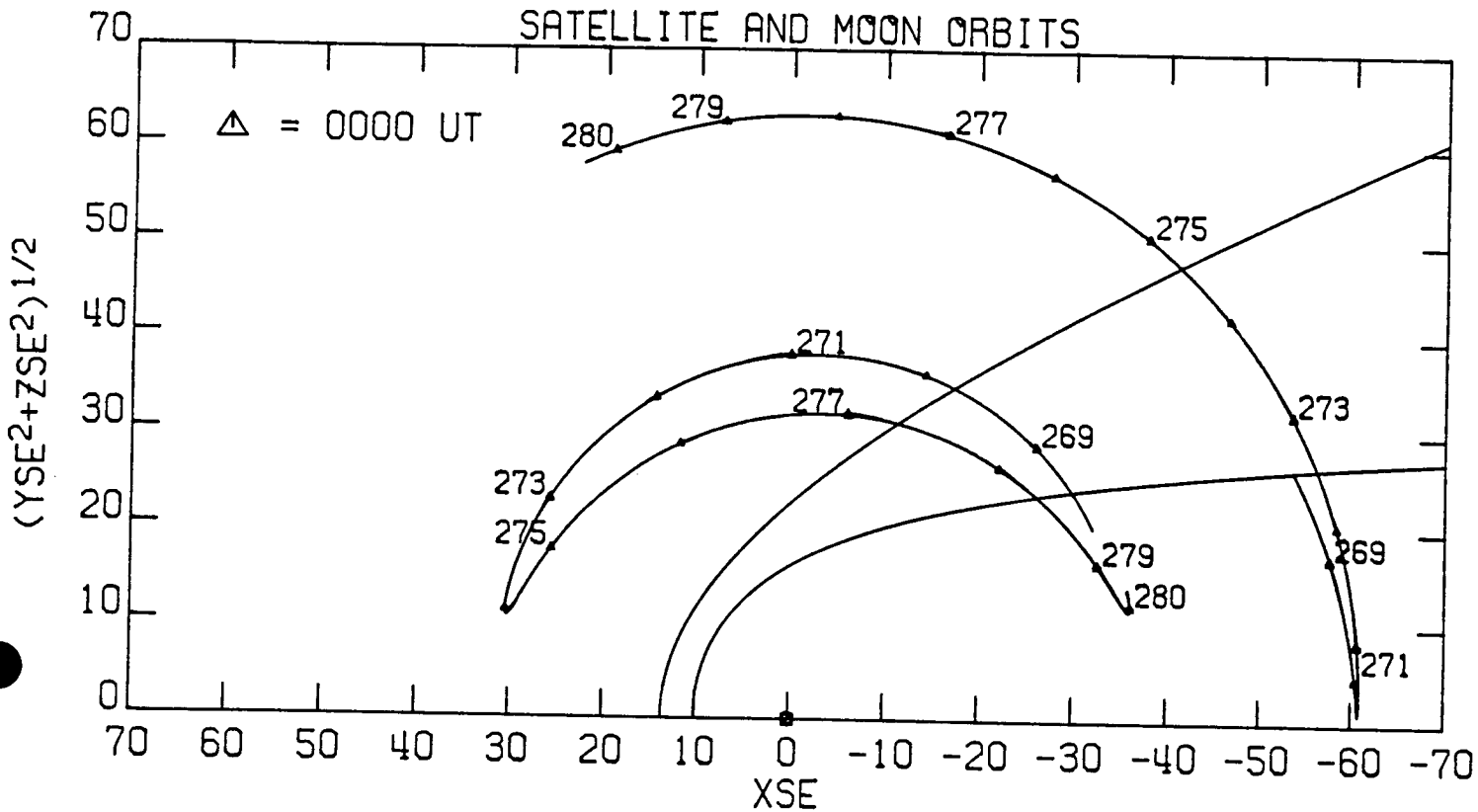


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IMP 7 FROM SEP 25 TO OCT 7 1977

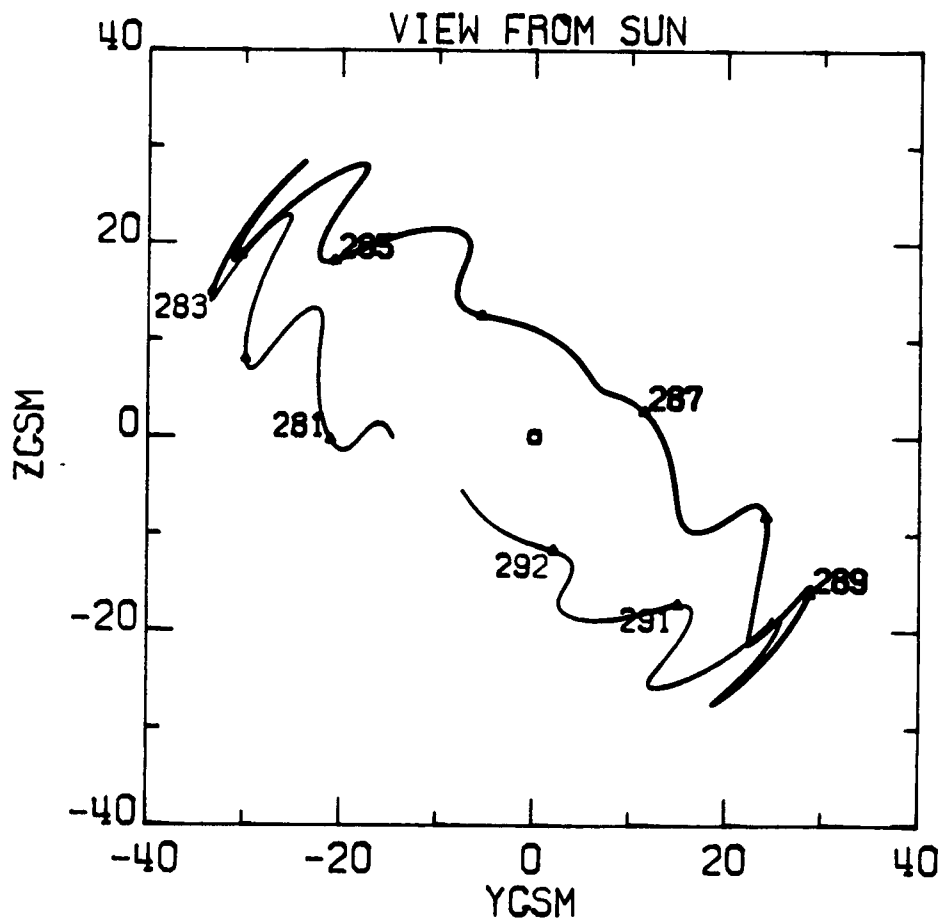
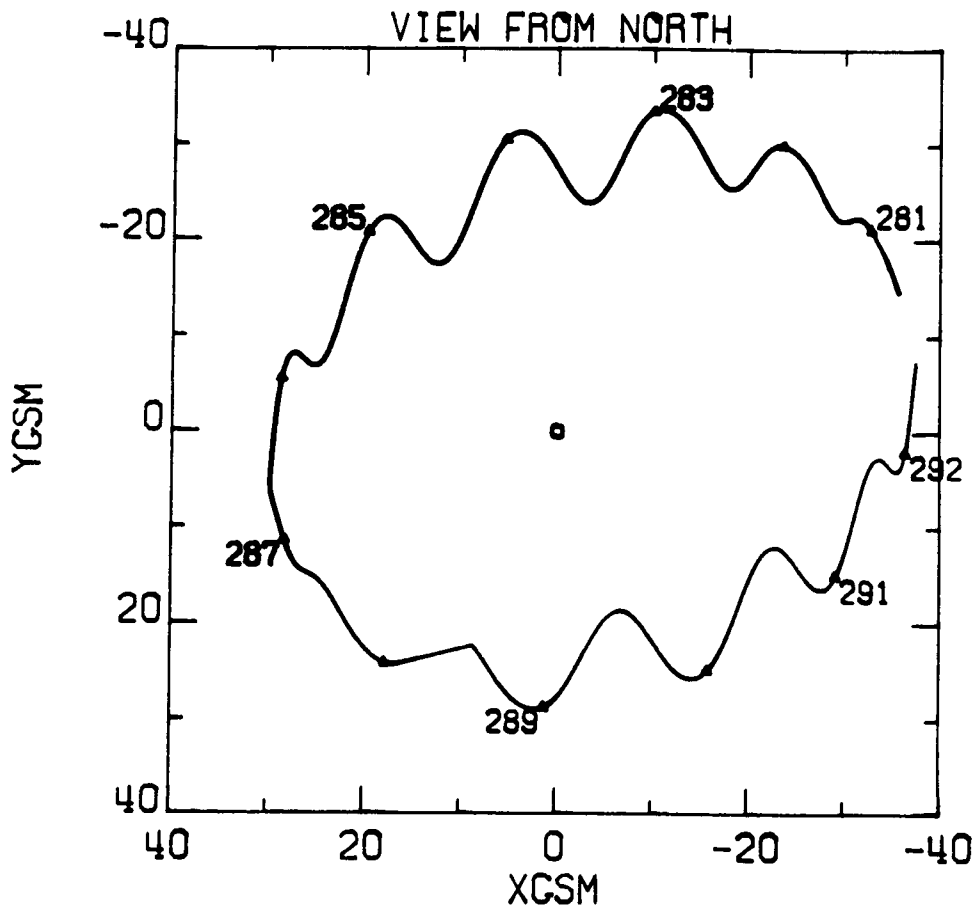


IMP 7 TRAJECTORY. ASCENDING NODE 151
 FROM SEP 25 TO OCT 7 1977
 DAYS 268 THRU 280

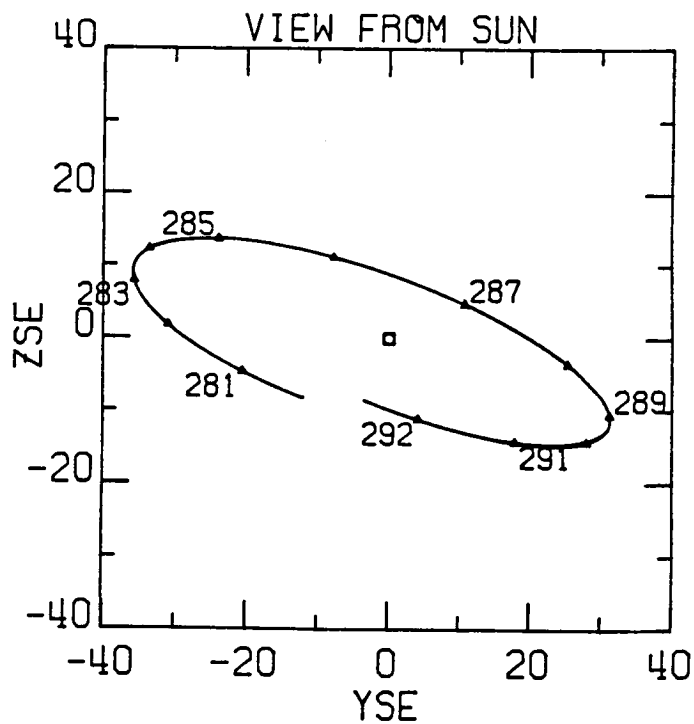
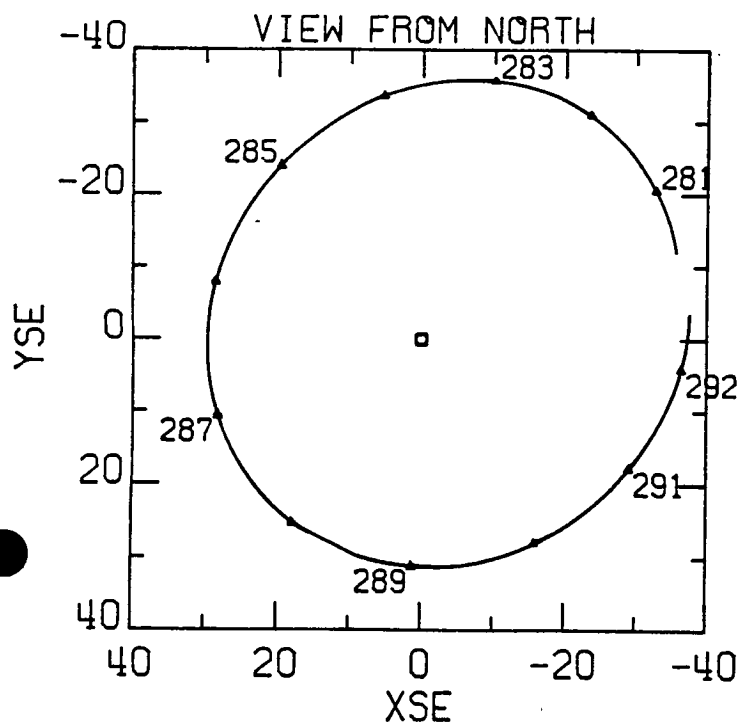
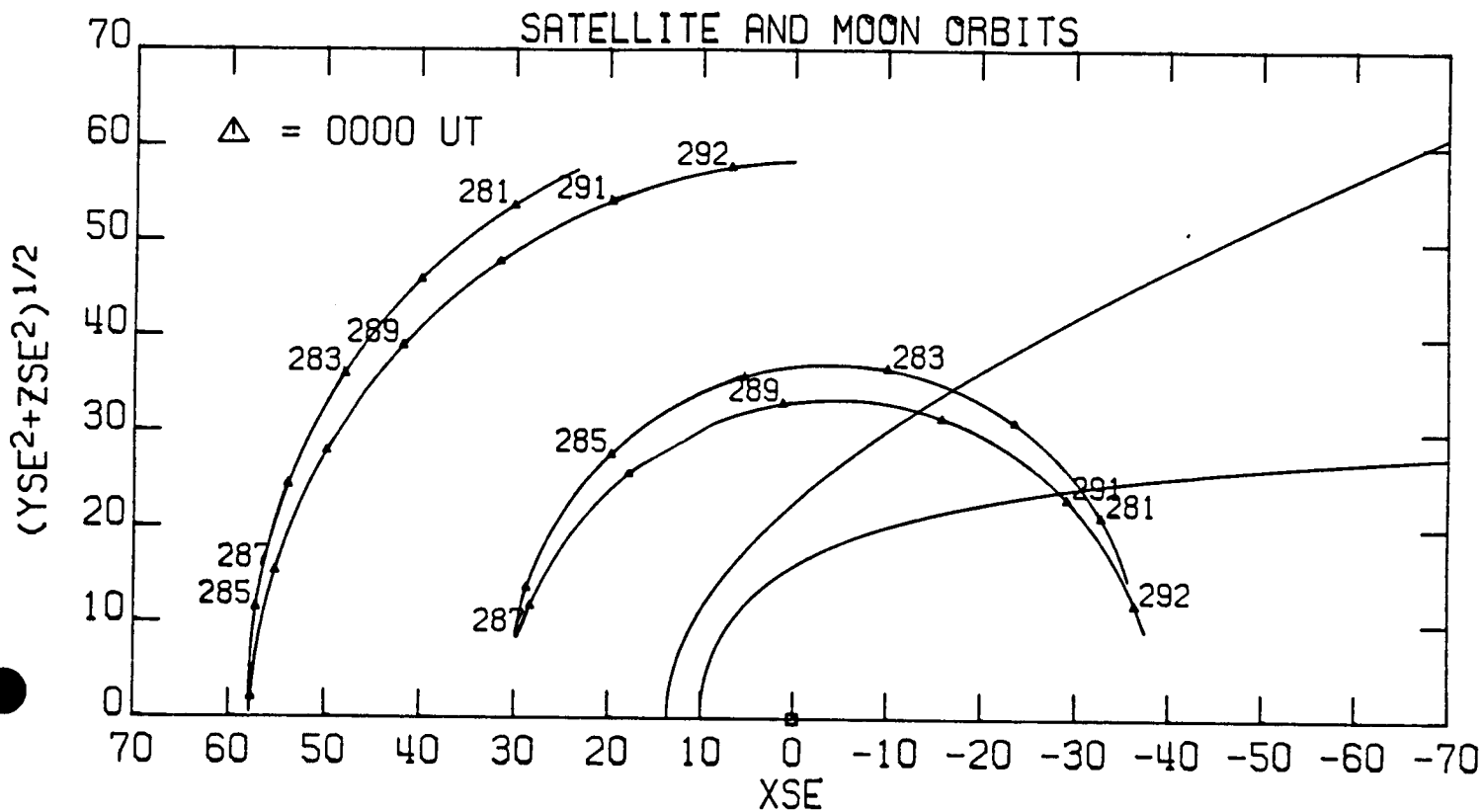


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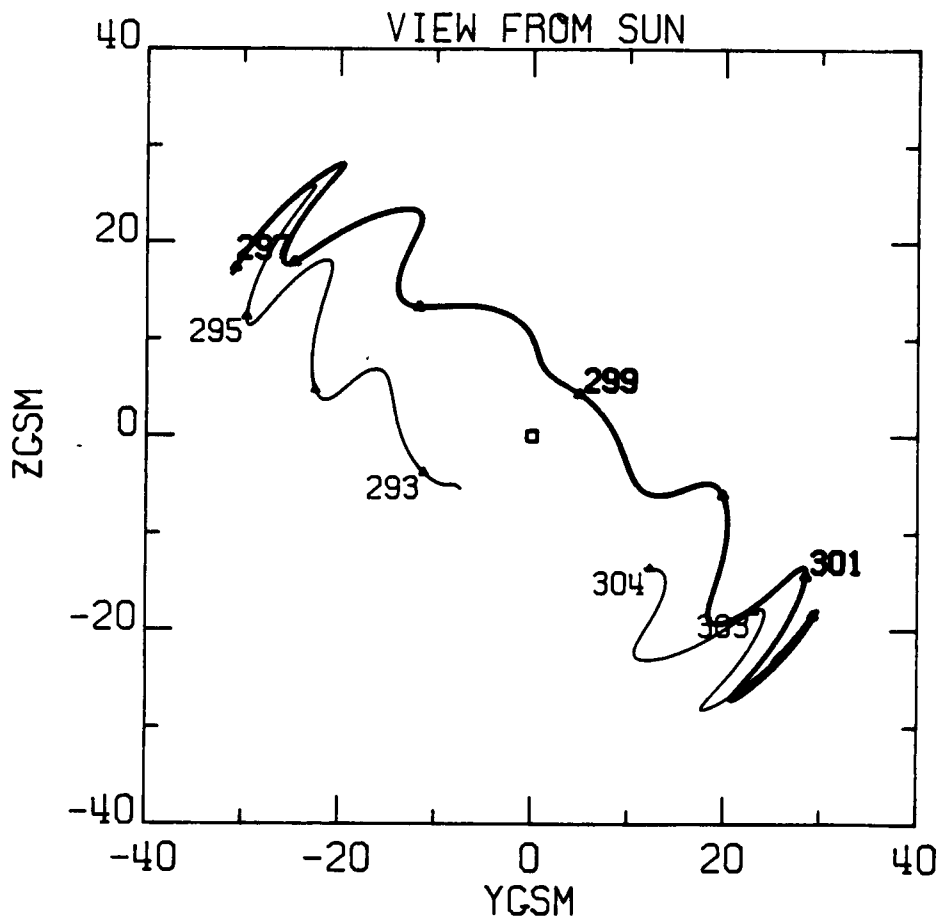
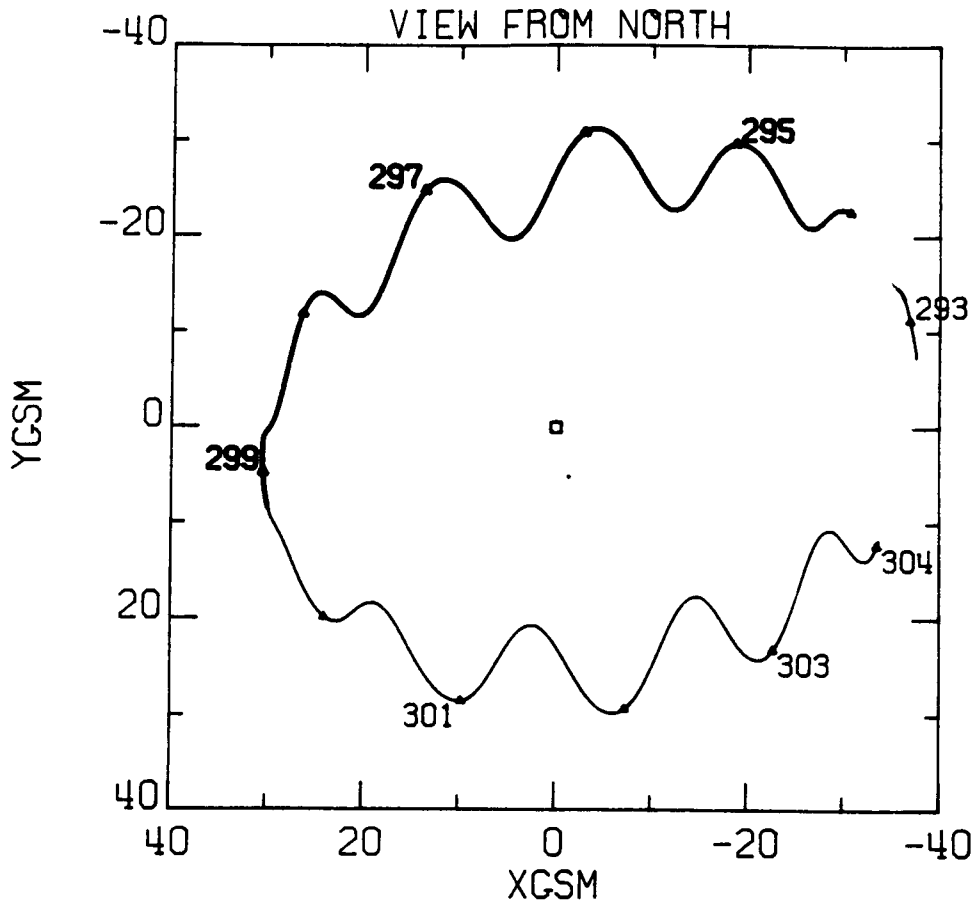
IMP 7 FROM OCT 7 TO OCT 19 1977



IMP 7 TRAJECTORY. ASCENDING NODE 152
 FROM OCT 7 TO OCT 19 1977
 DAYS 280 THRU 292



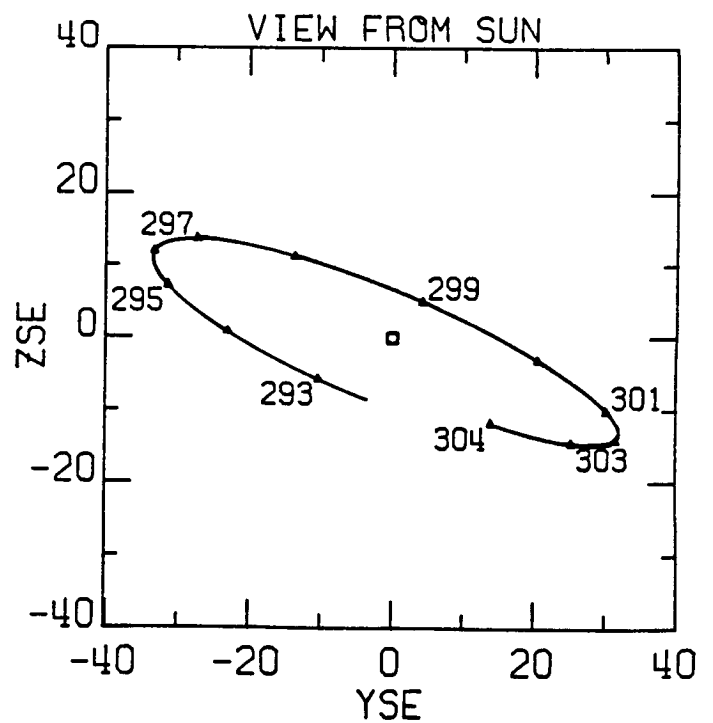
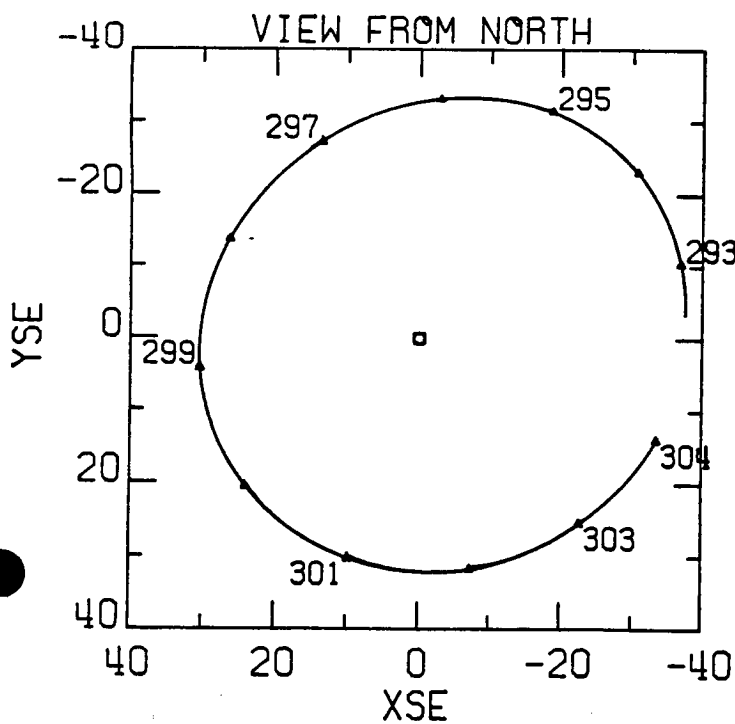
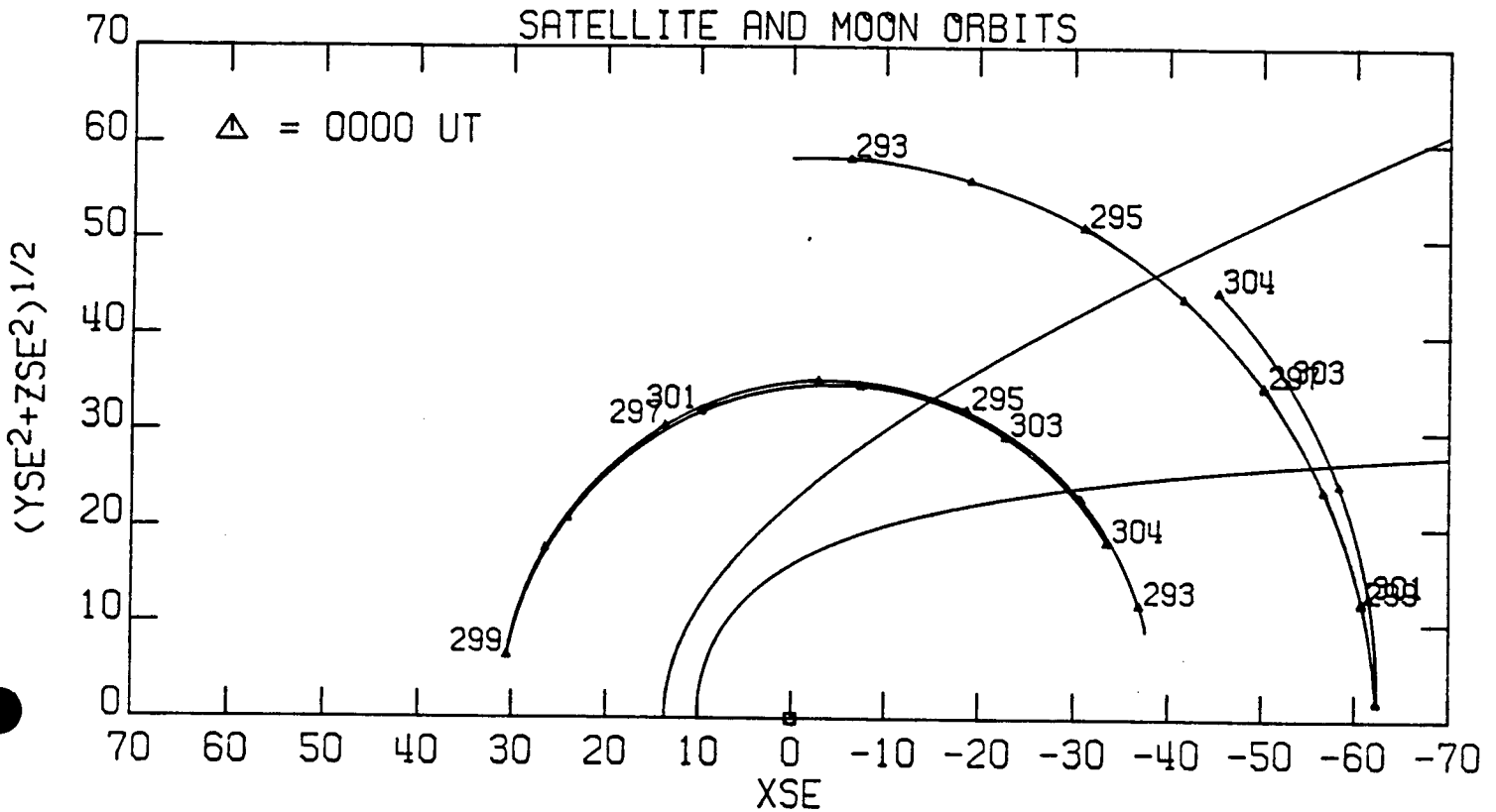
IMP 7 FROM OCT 19 TO OCT 31 1977



IMP 7 TRAJECTORY. ASCENDING NODE 153

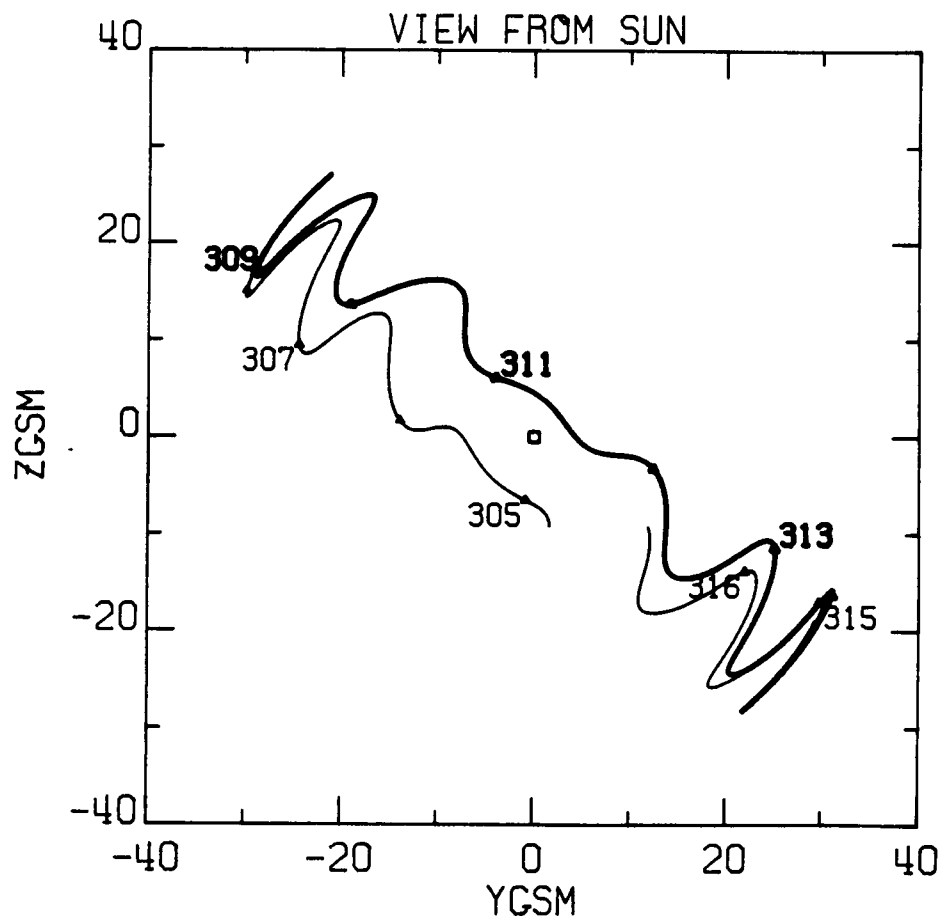
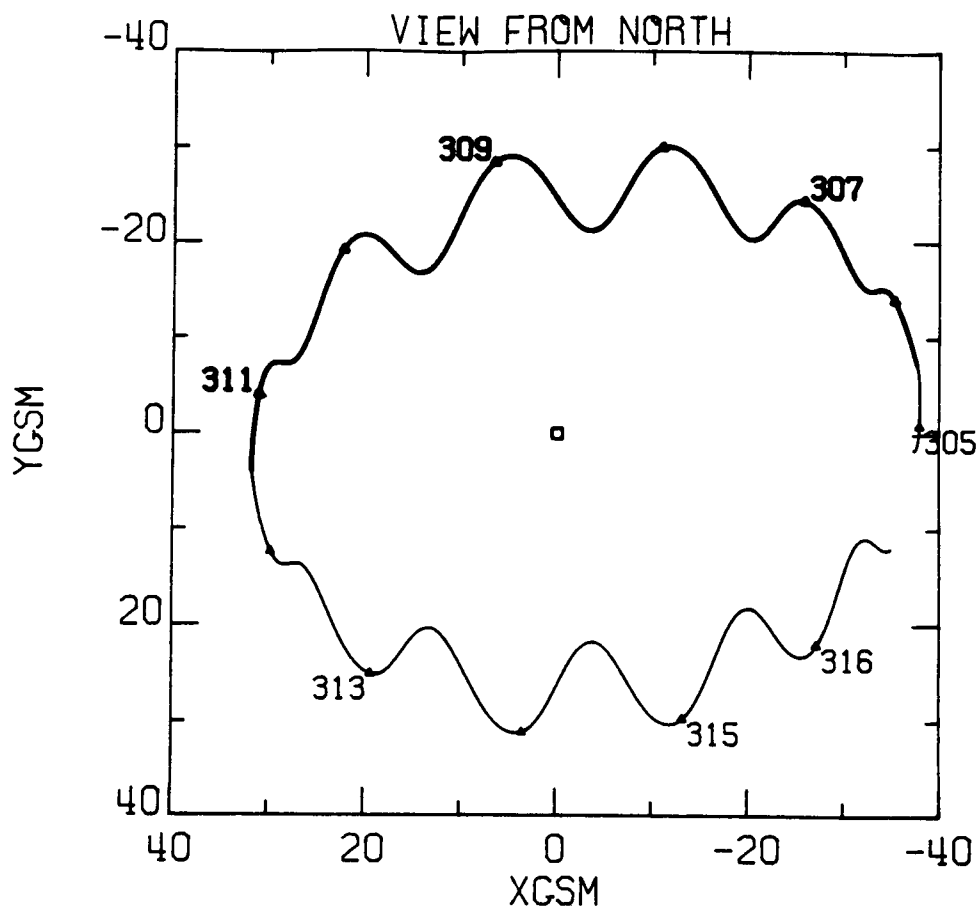
FROM OCT 19 TO OCT 31 1977

DAYS 292 THRU 304



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IMP 7 FROM OCT 31 TO NOV 12 1977

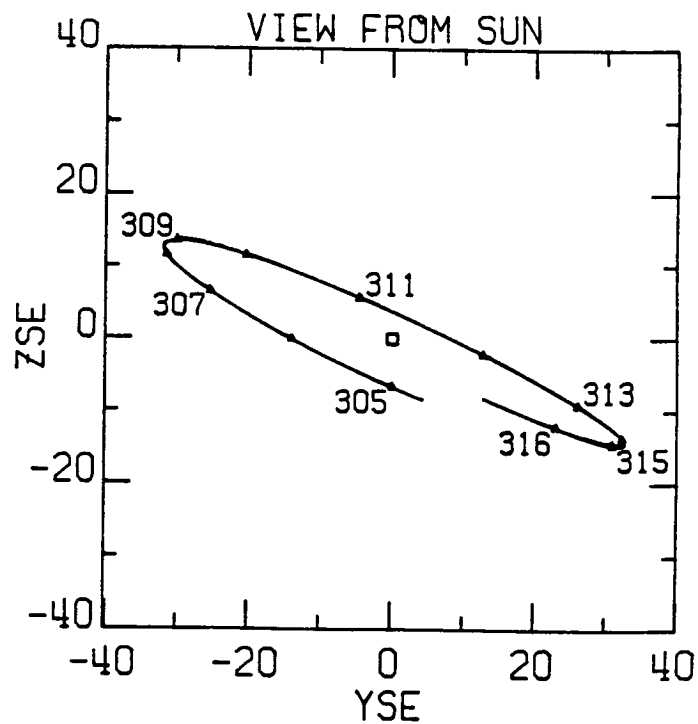
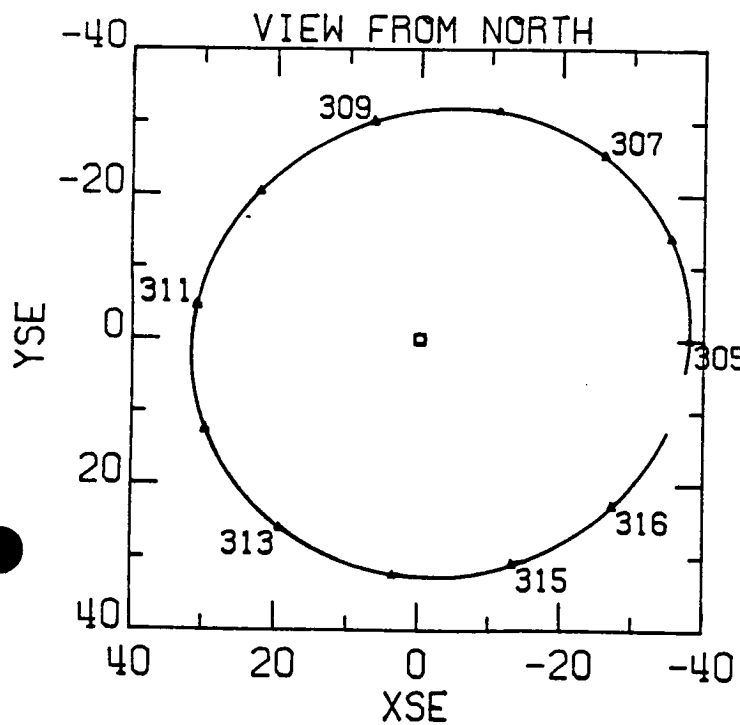
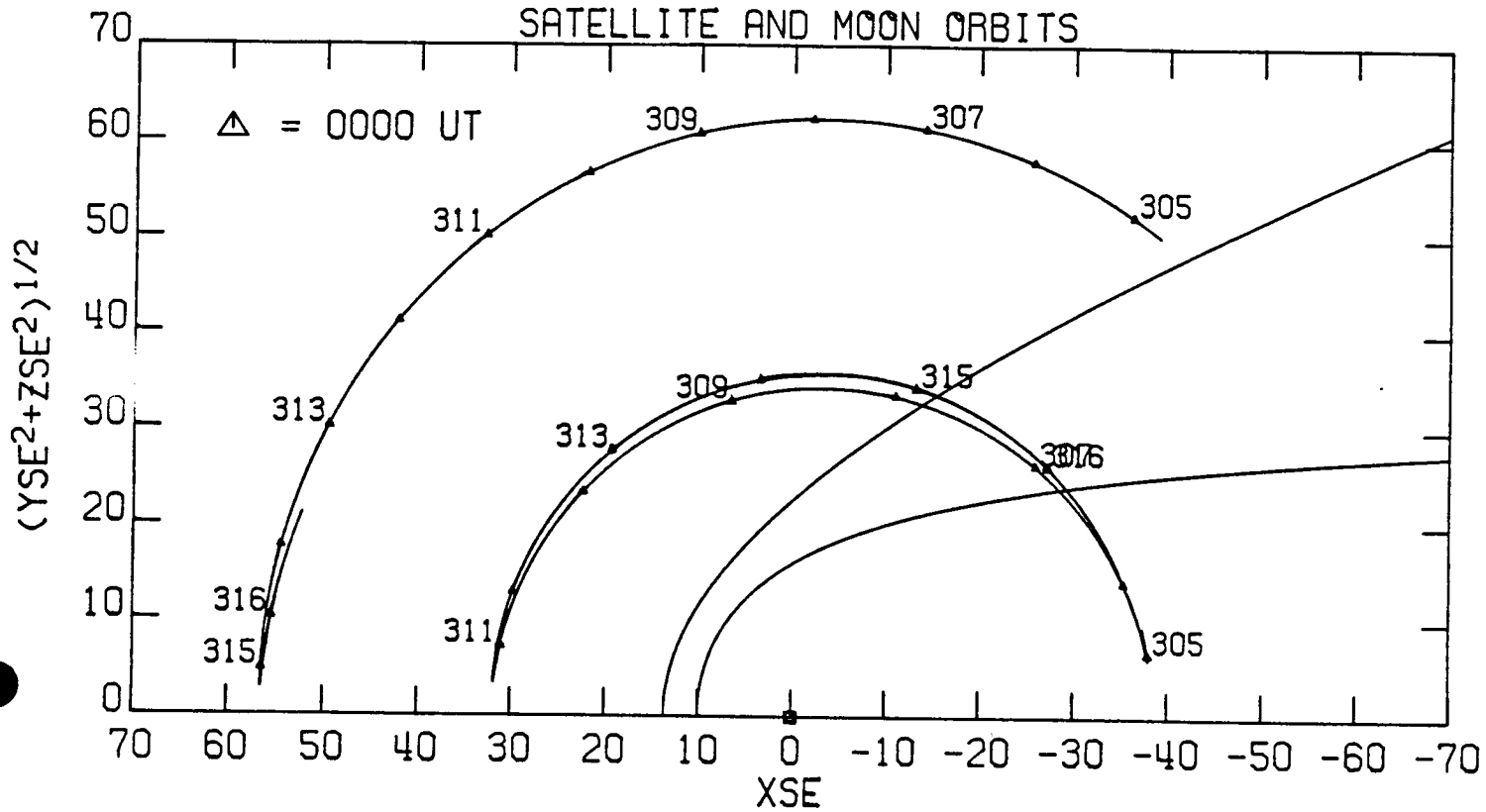


IMP 7 TRAJECTORY. ASCENDING NODE 154

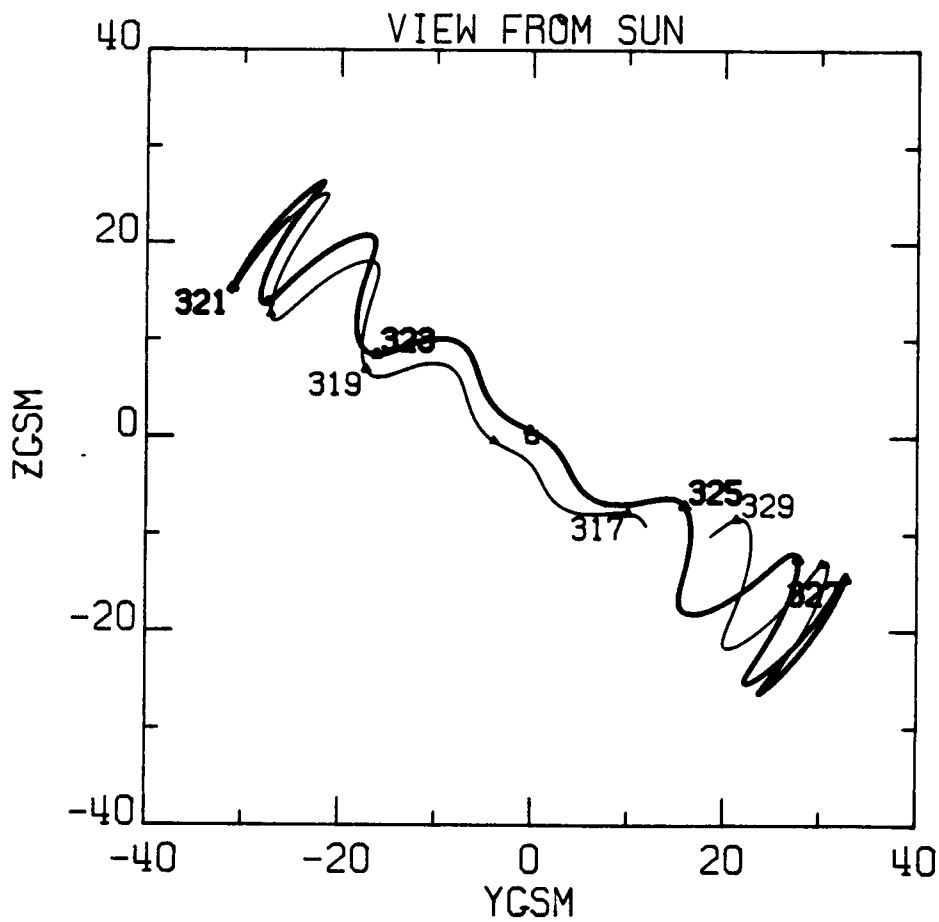
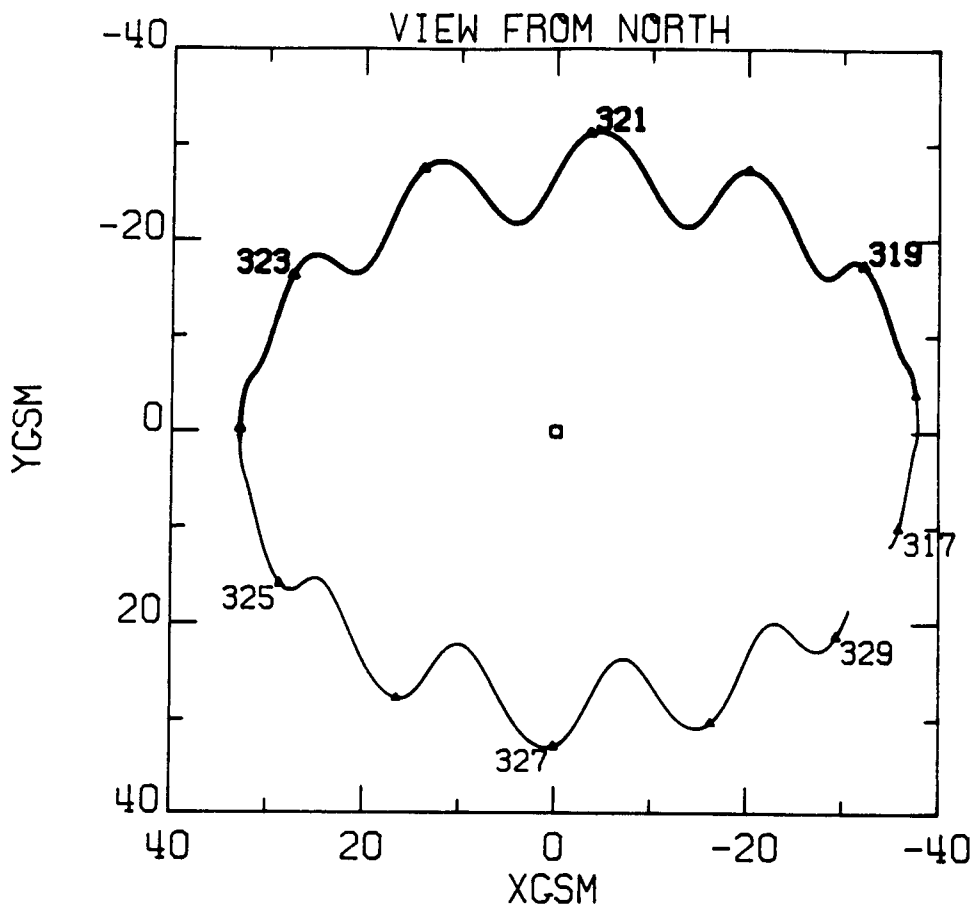
FROM OCT 31 TO NOV 12 1977

DAYS 304 THRU 316

SATELLITE AND MOON ORBITS



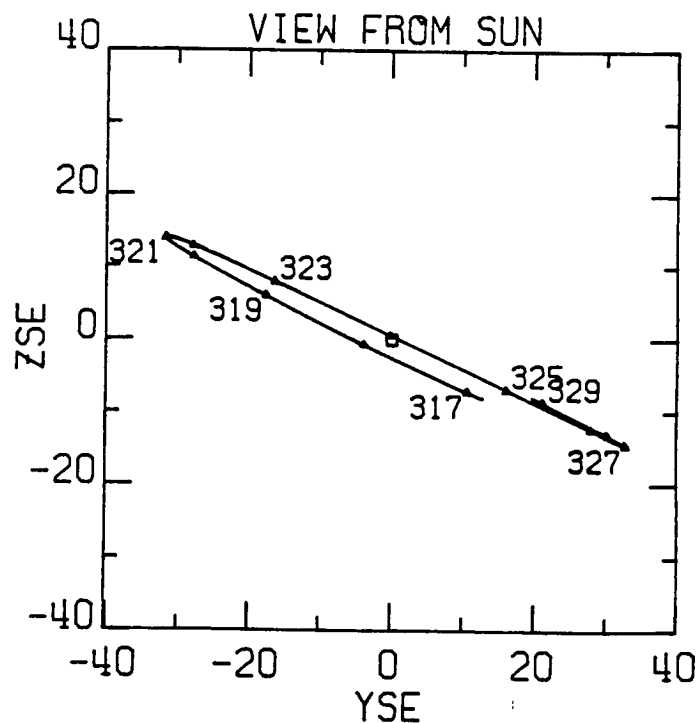
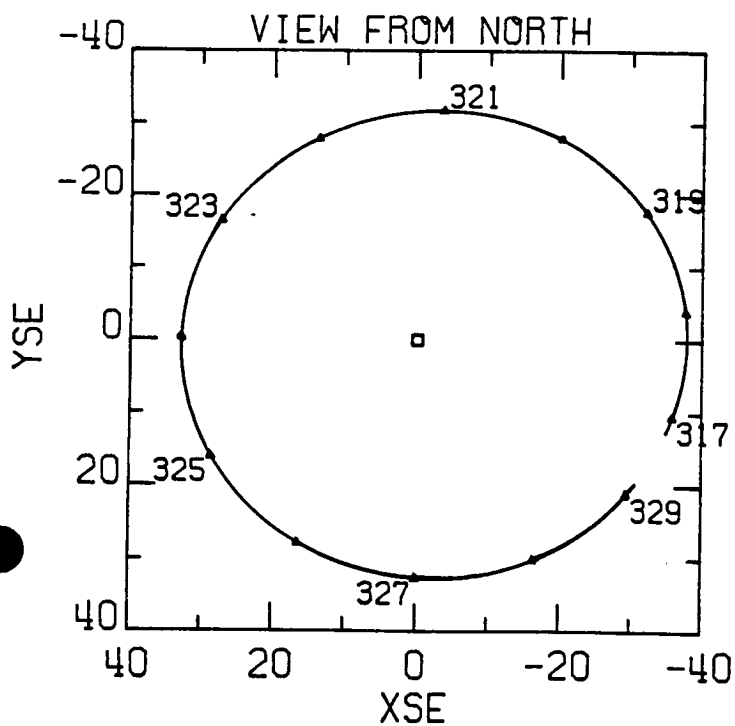
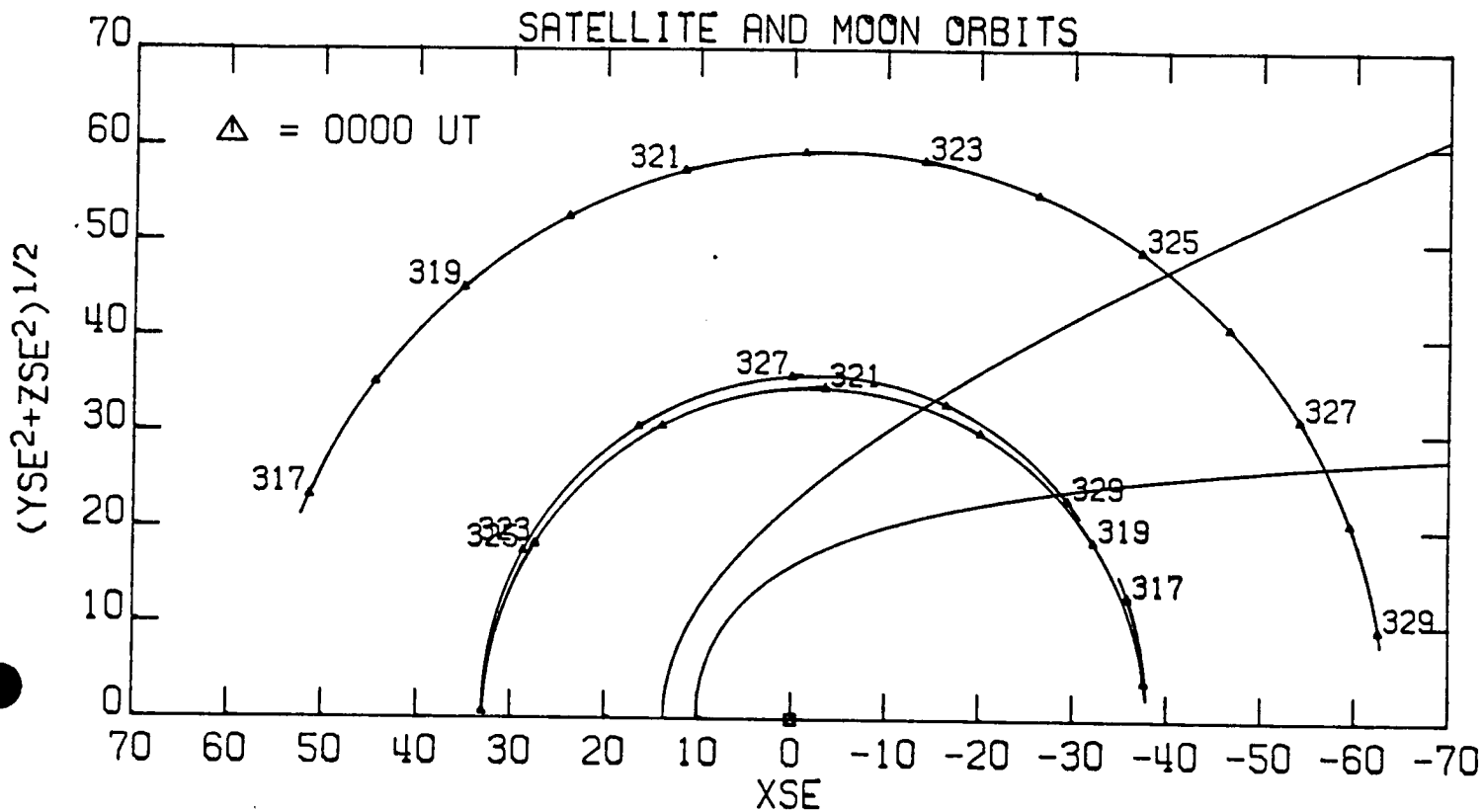
IMP 7 FROM NOV 12 TO NOV 25 1977



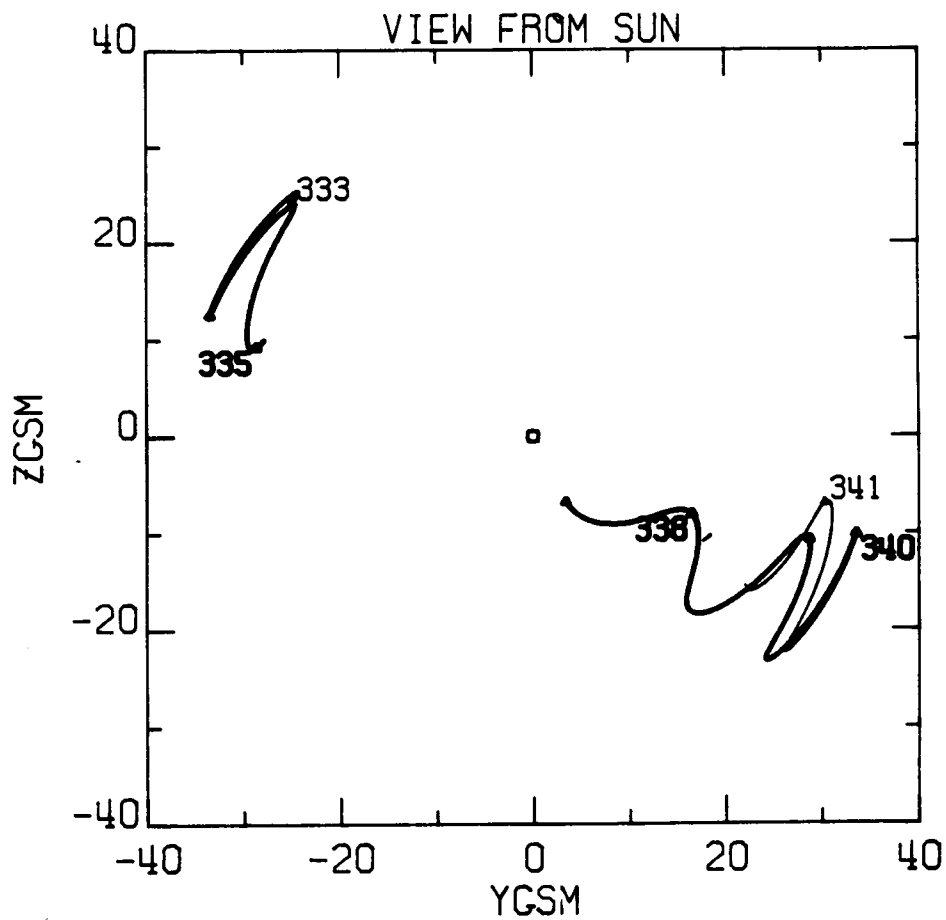
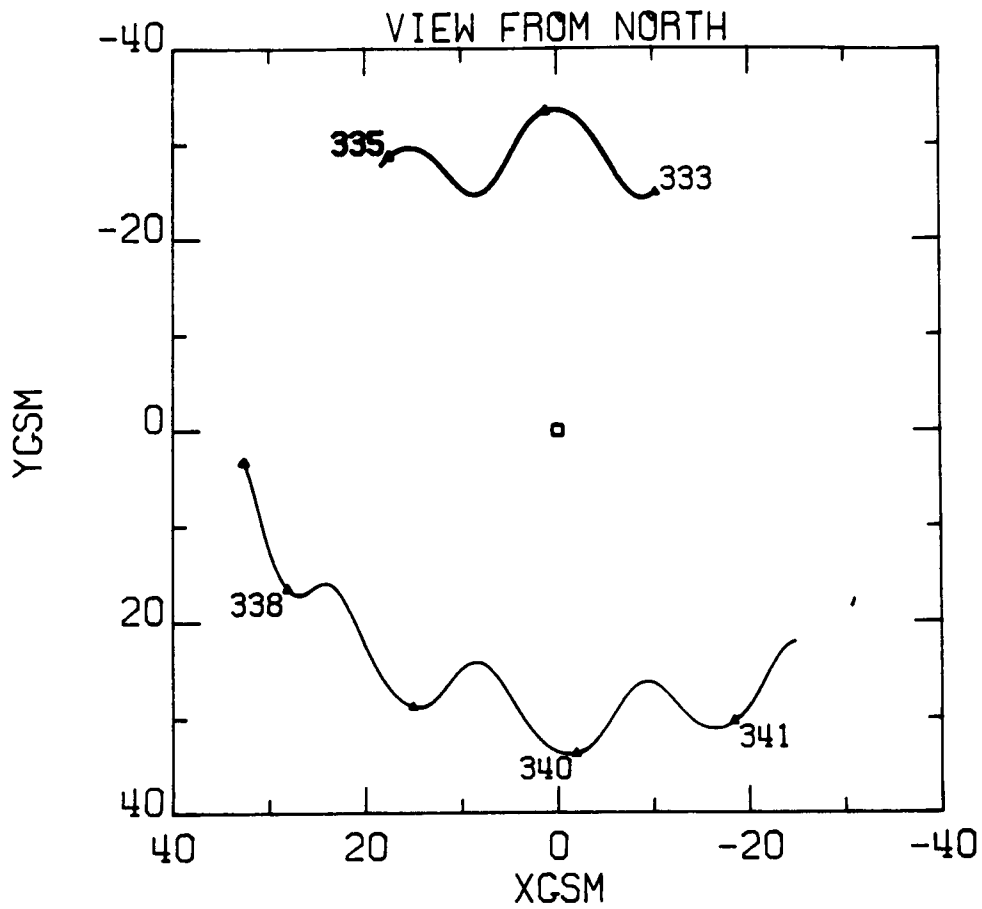
IMP 7 TRAJECTORY. ASCENDING NODE 155

FROM NOV 12 TO NOV 25 1977

DAYS 316 THRU 329



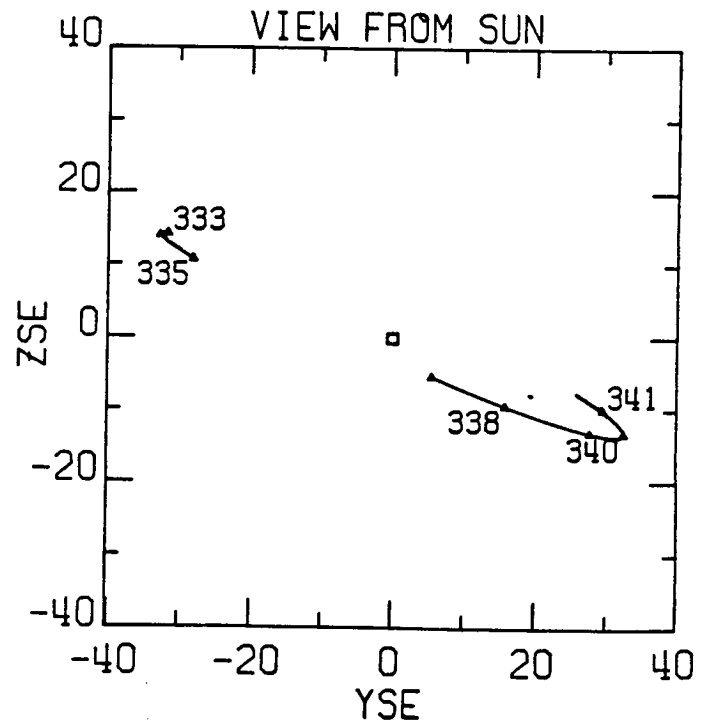
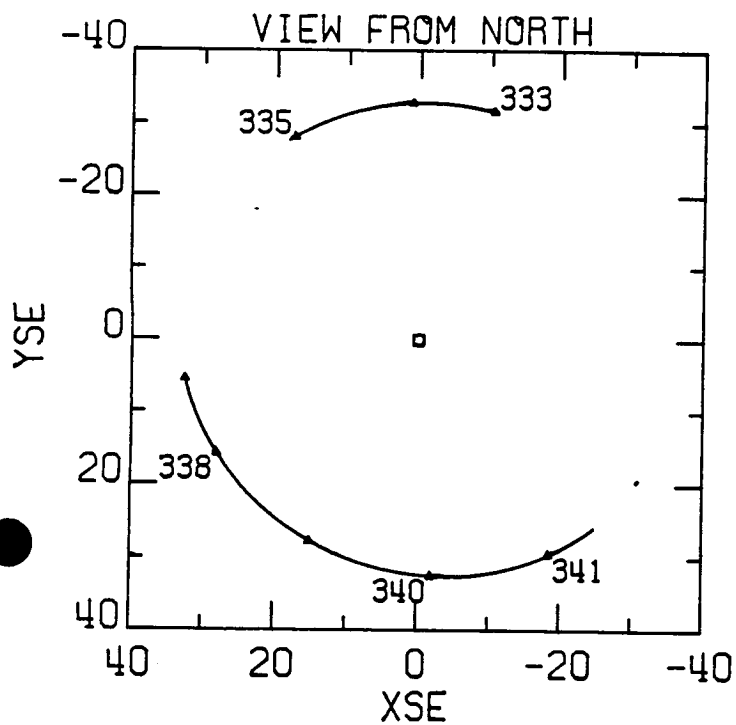
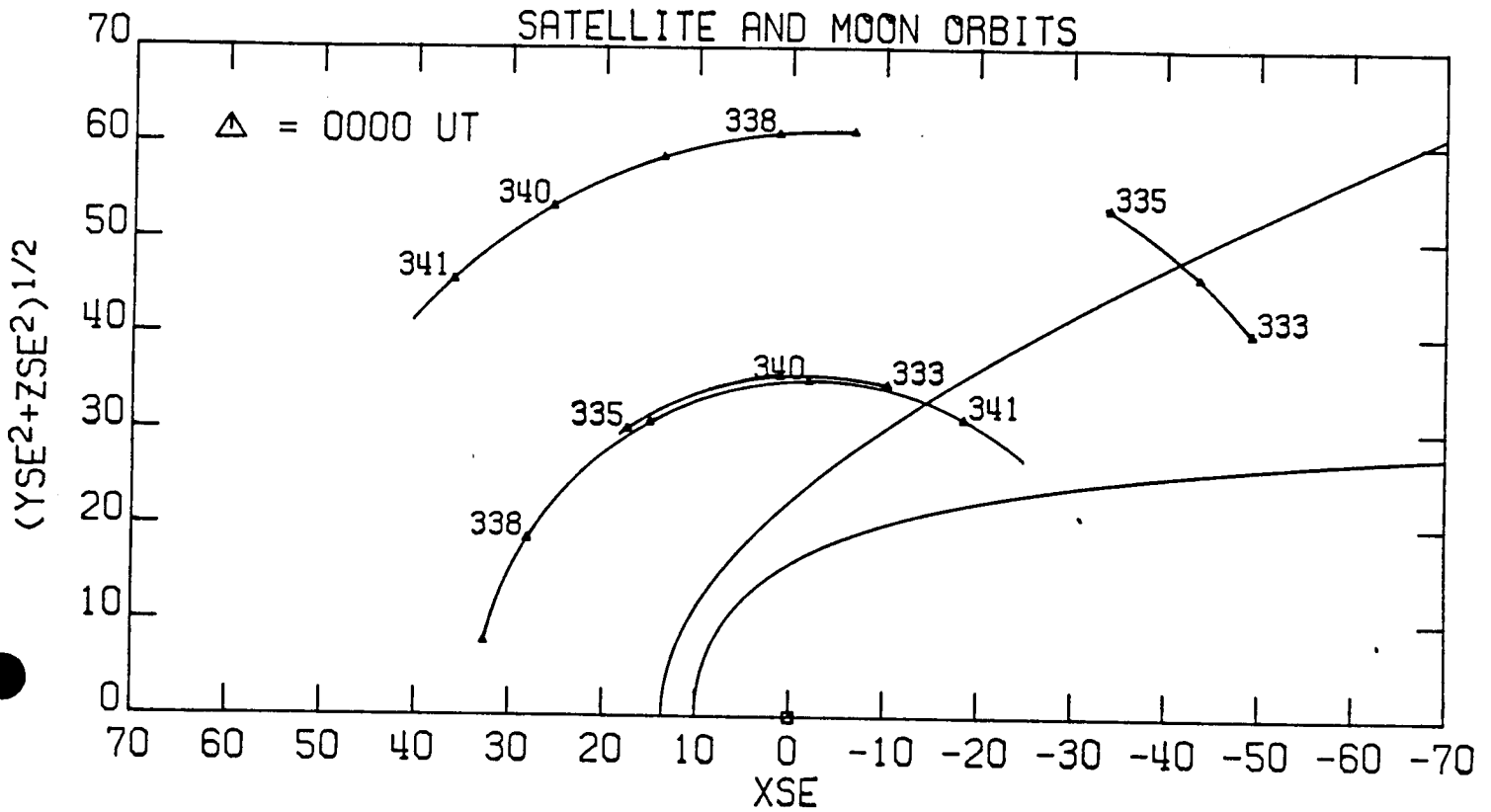
IMP 7 FROM NOV 25 TO DEC 7 1977



IMP 7 TRAJECTORY. ASCENDING NODE 156

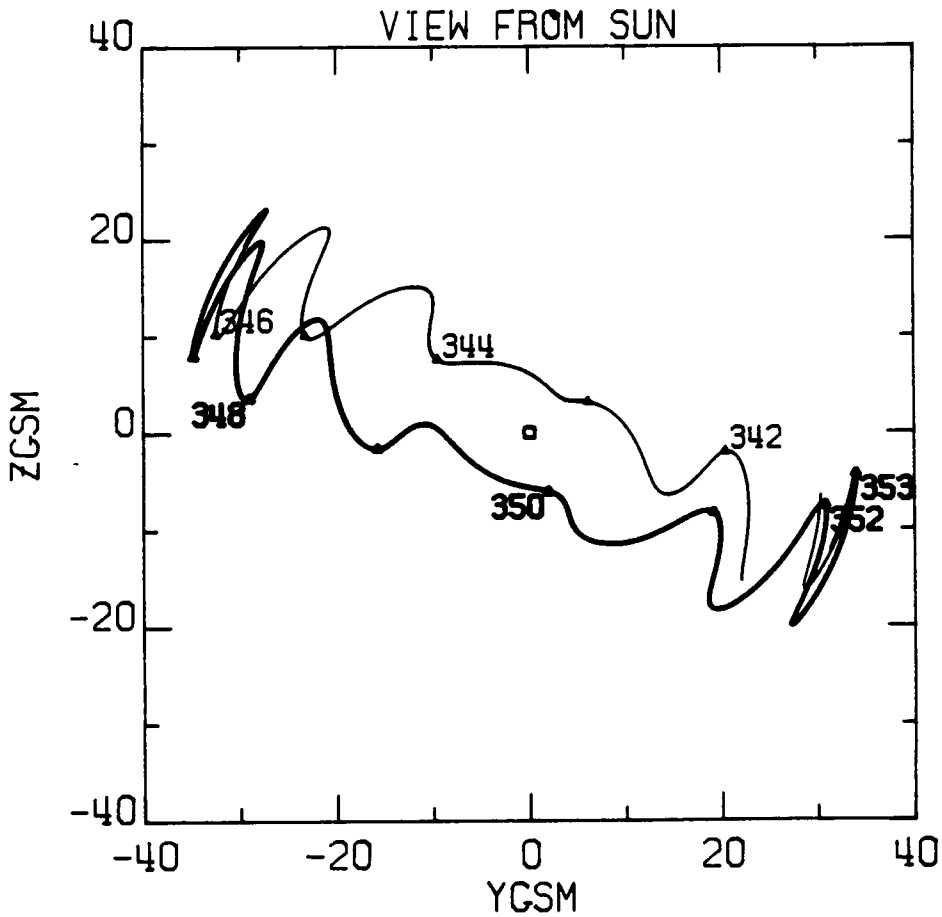
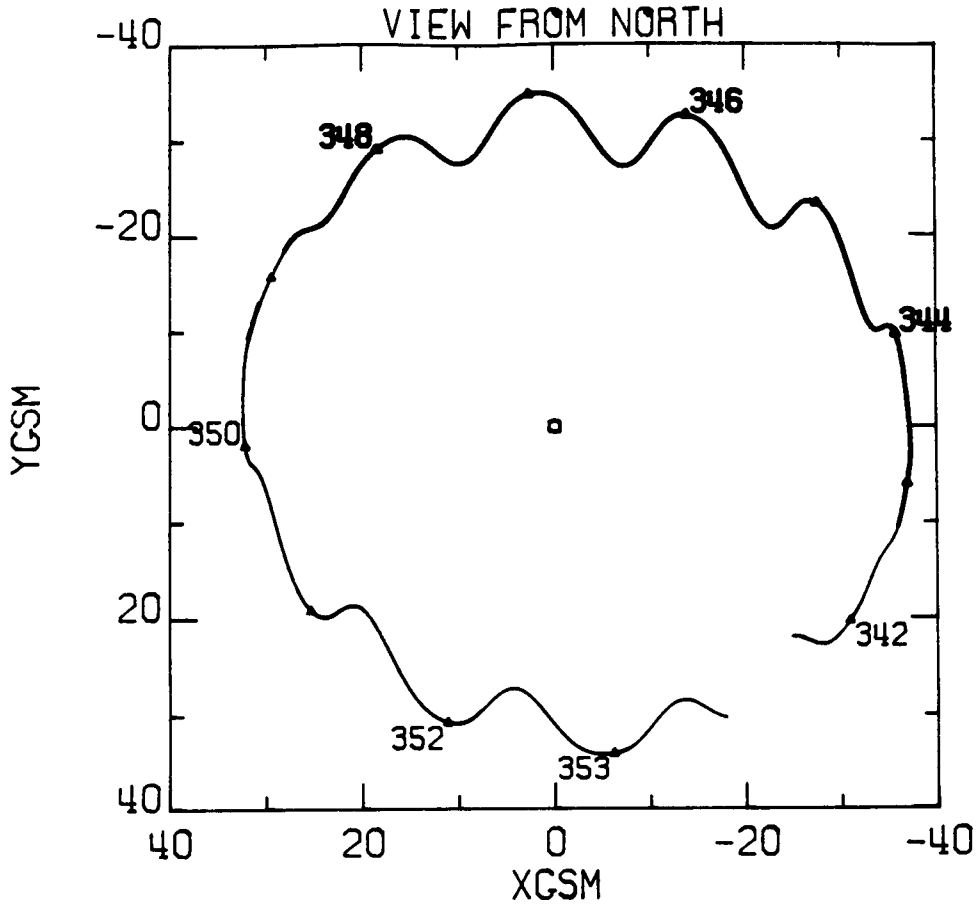
FROM NOV 25 TO DEC 7, 1977

DAYS 329 THRU 341

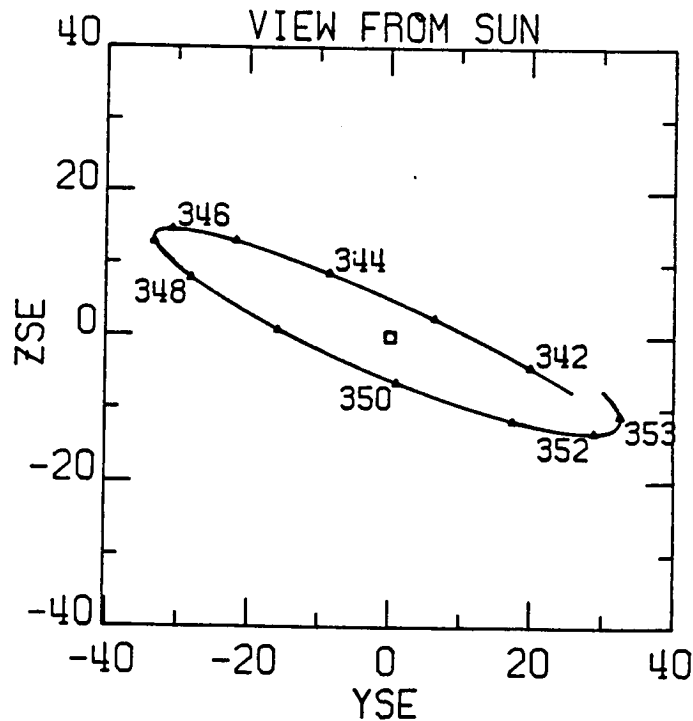
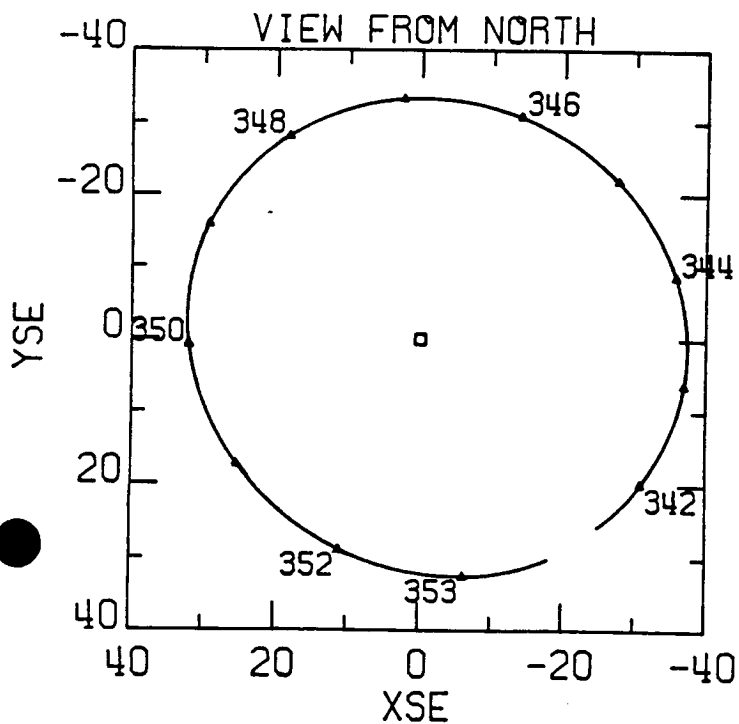
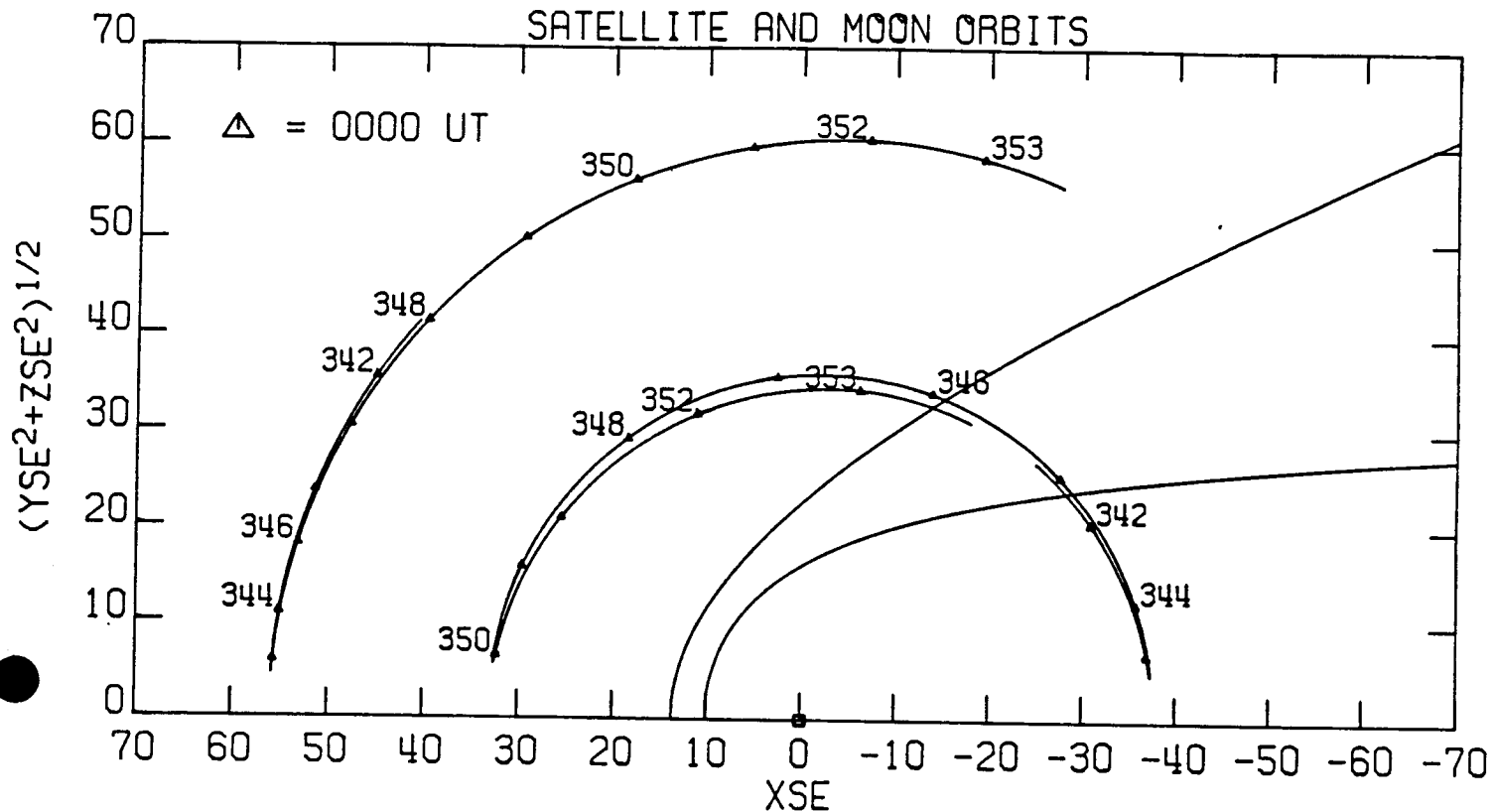


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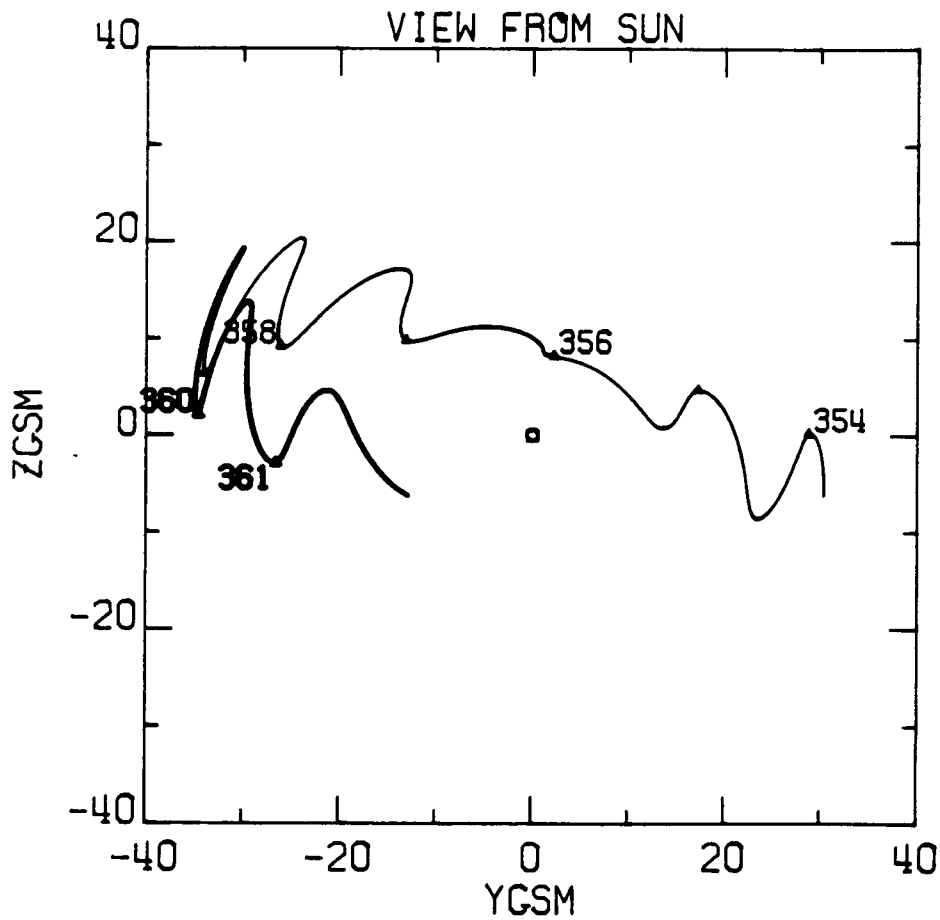
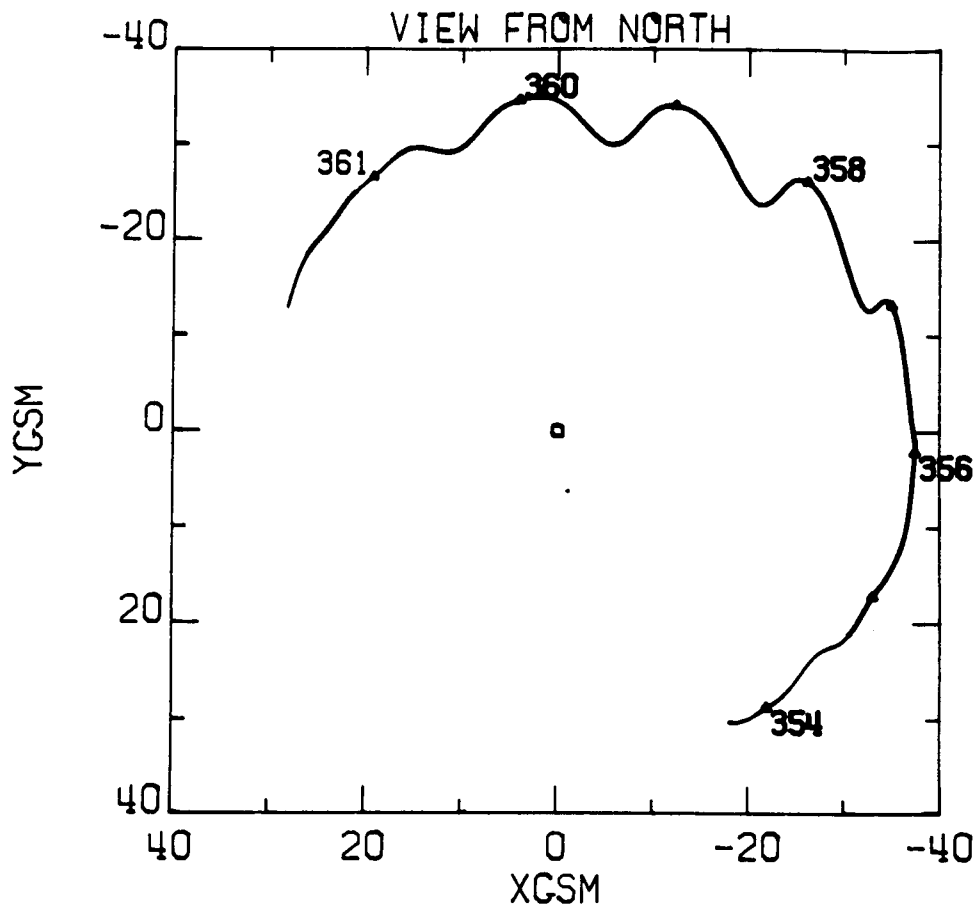
IMP 7 FROM DEC 7 TO DEC 19 1977



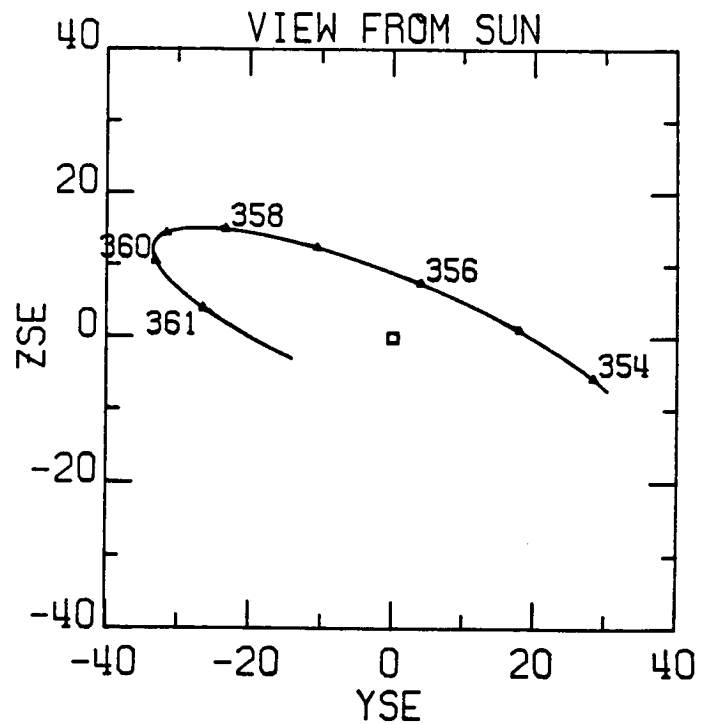
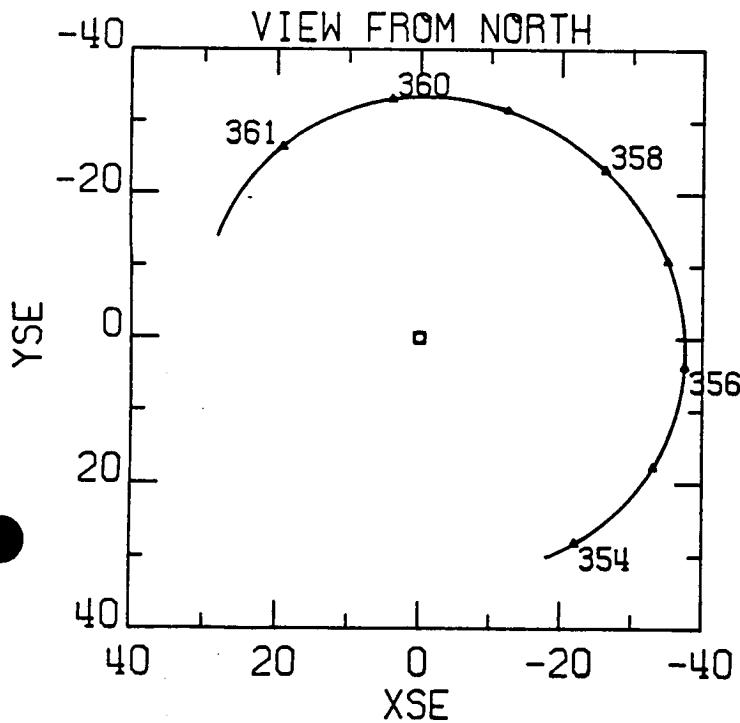
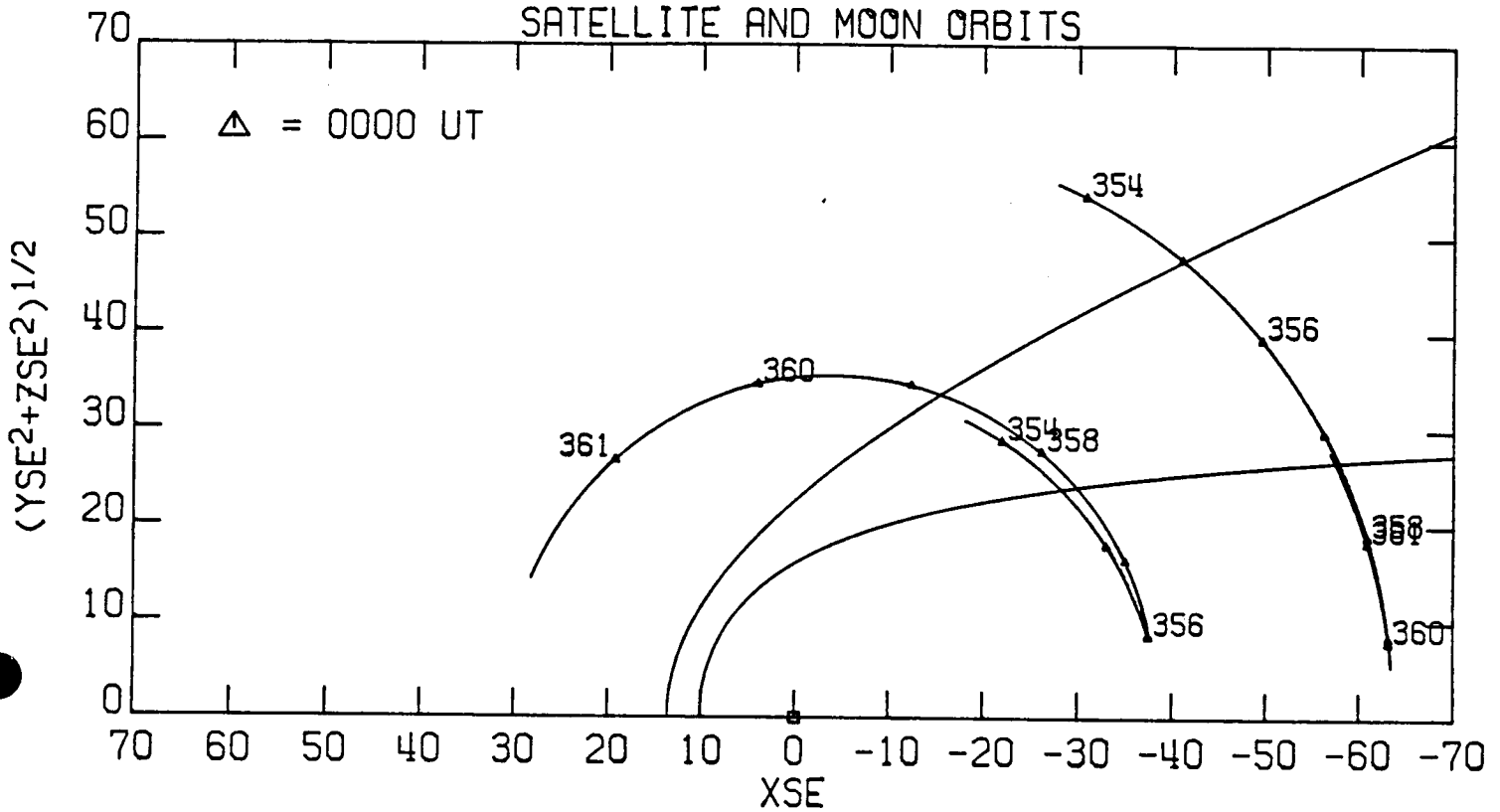
IMP 7 TRAJECTORY. ASCENDING NODE 157
 FROM DEC 7 TO DEC 19 1977
 DAYS 341 THRU 353



IMP 7 FROM DEC 19 TO DEC 31 1977

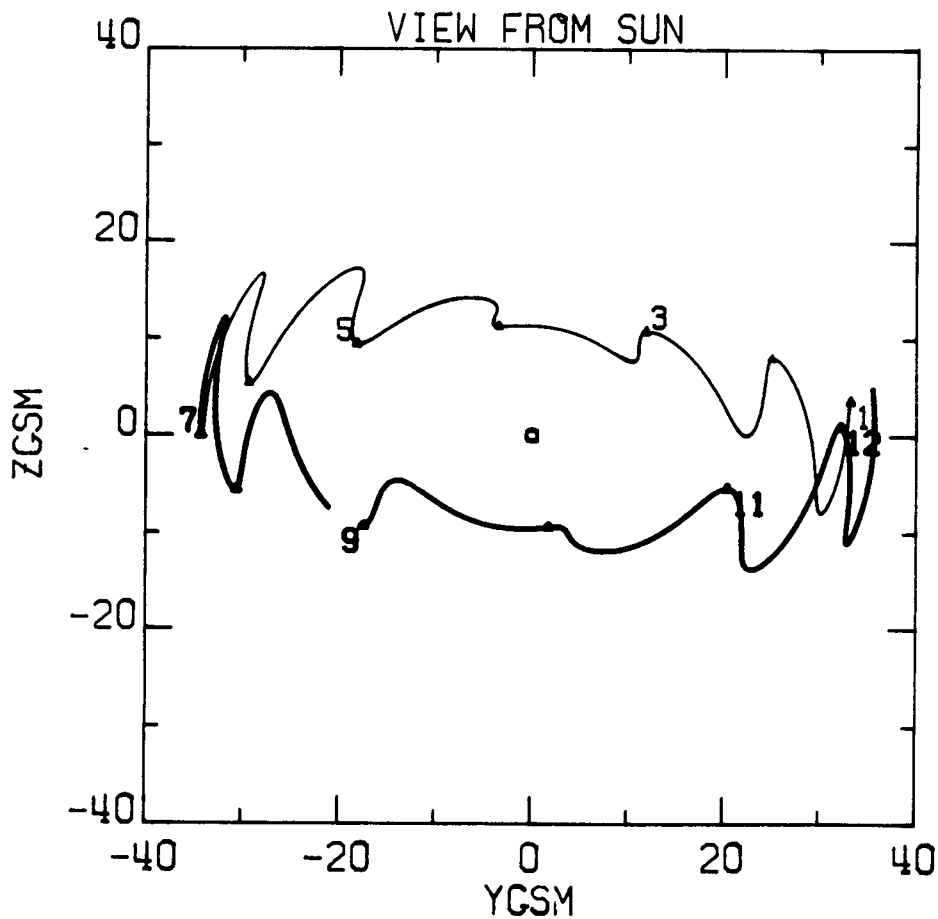
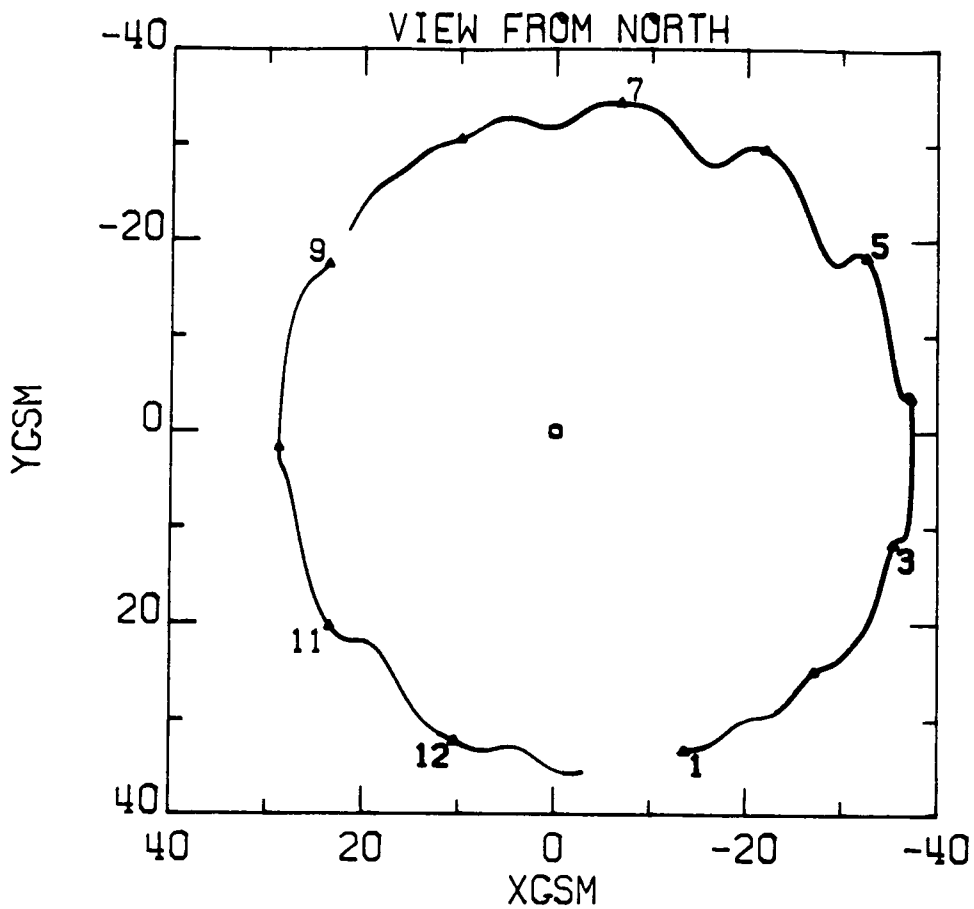


IMP 7 TRAJECTORY. ASCENDING NODE 158
 FROM DEC 19 TO DEC 31 1977
 DAYS 353 THRU 361



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IMP 7 FROM DEC 31 TO JAN 12 1978

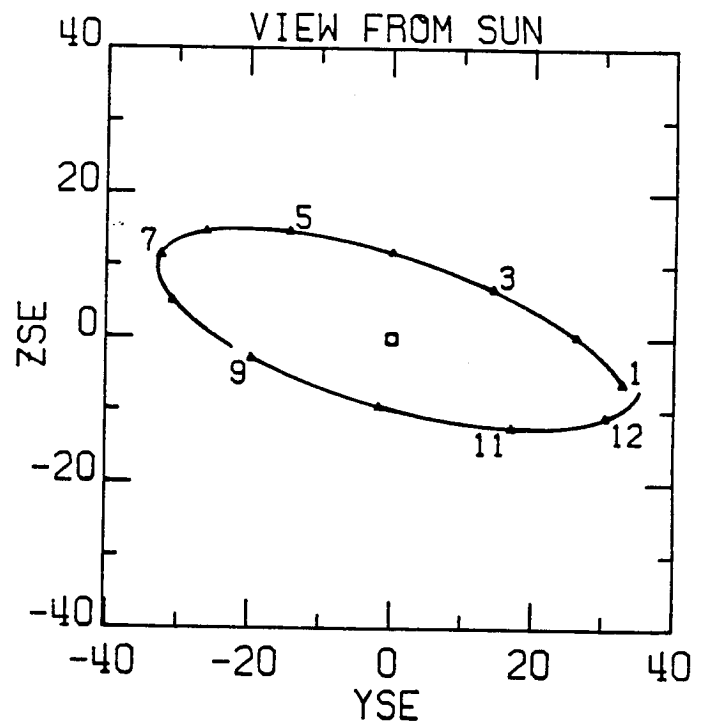
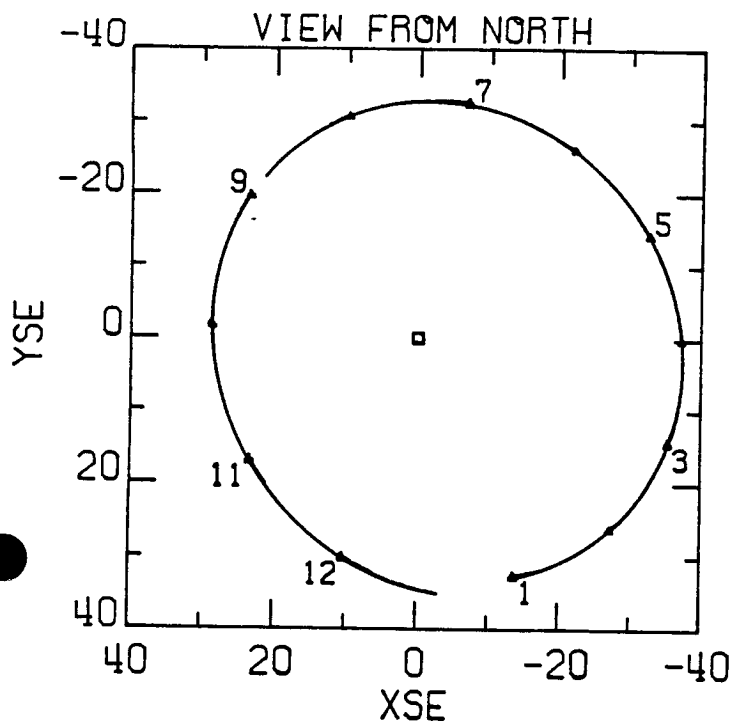
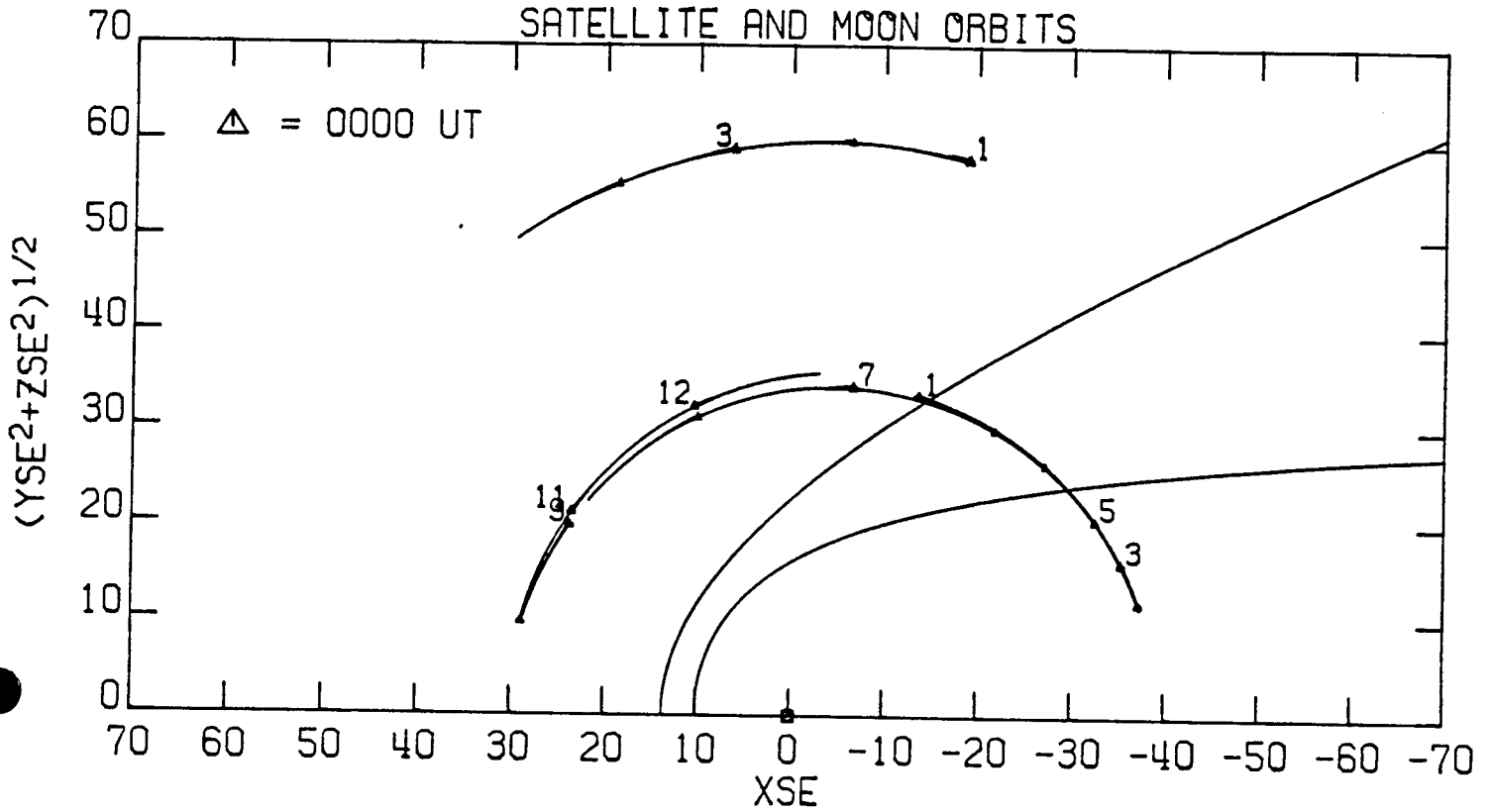


IMP 7 TRAJECTORY. ASCENDING NODE 159

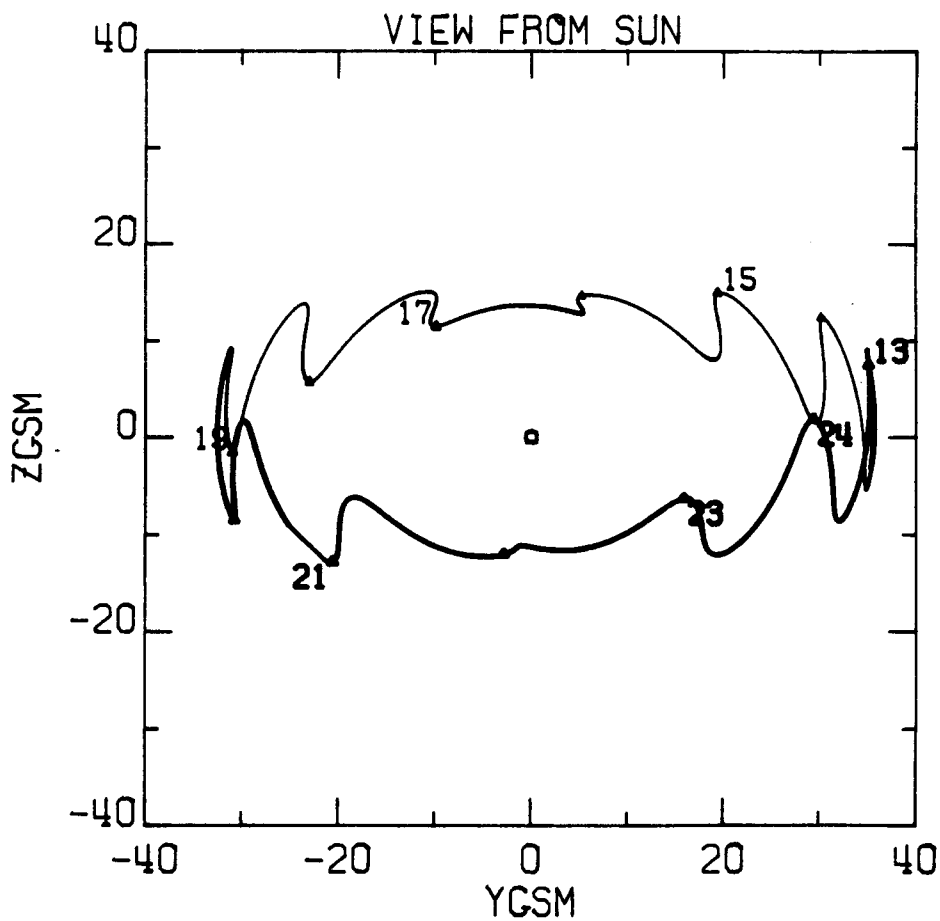
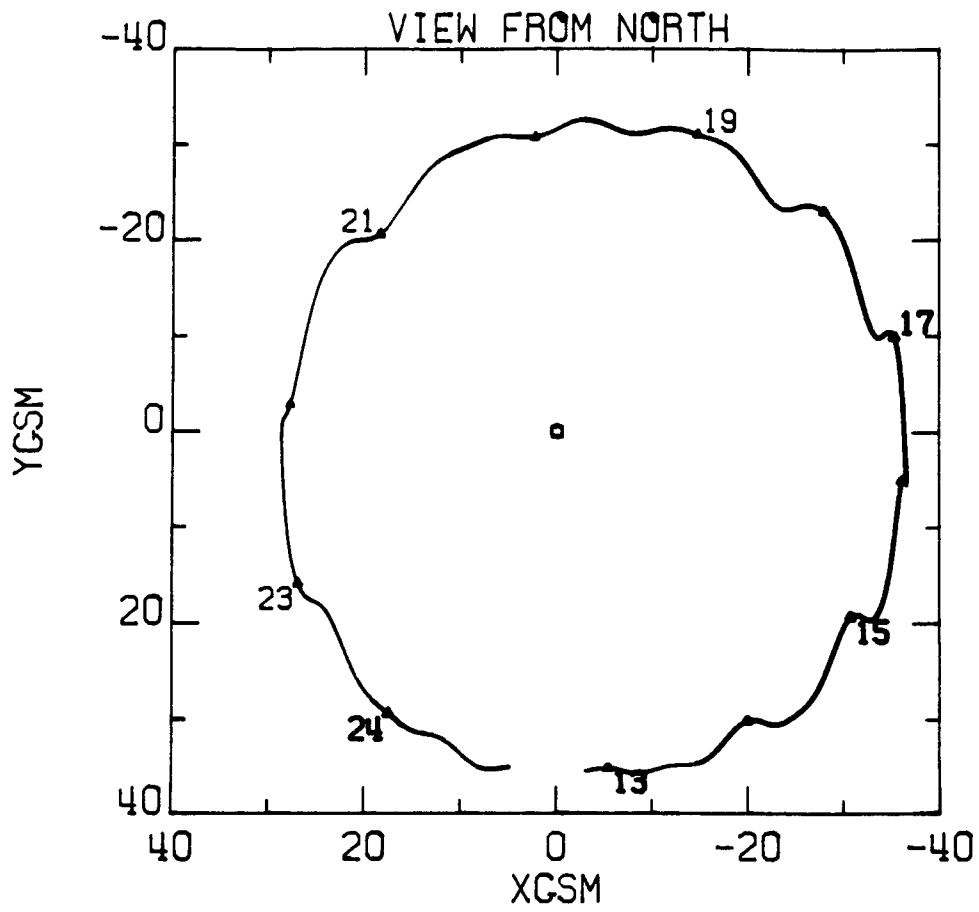
FROM DEC 31 TO JAN 12 1978

DAYS 365 THRU 12

SATELLITE AND MOON ORBITS



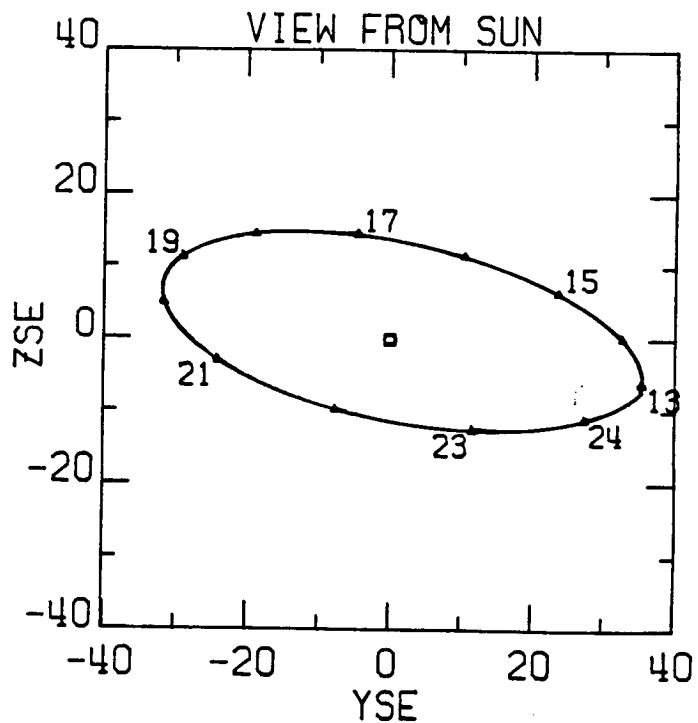
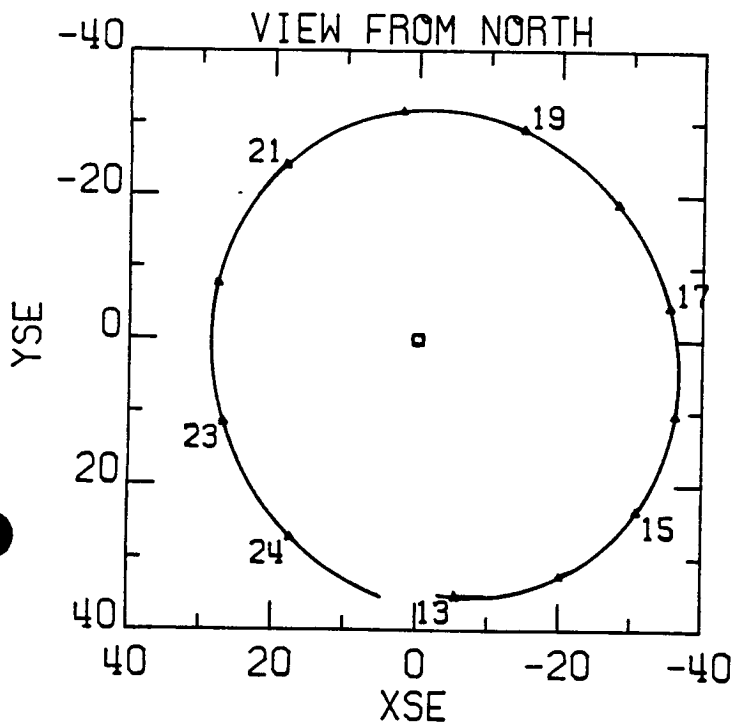
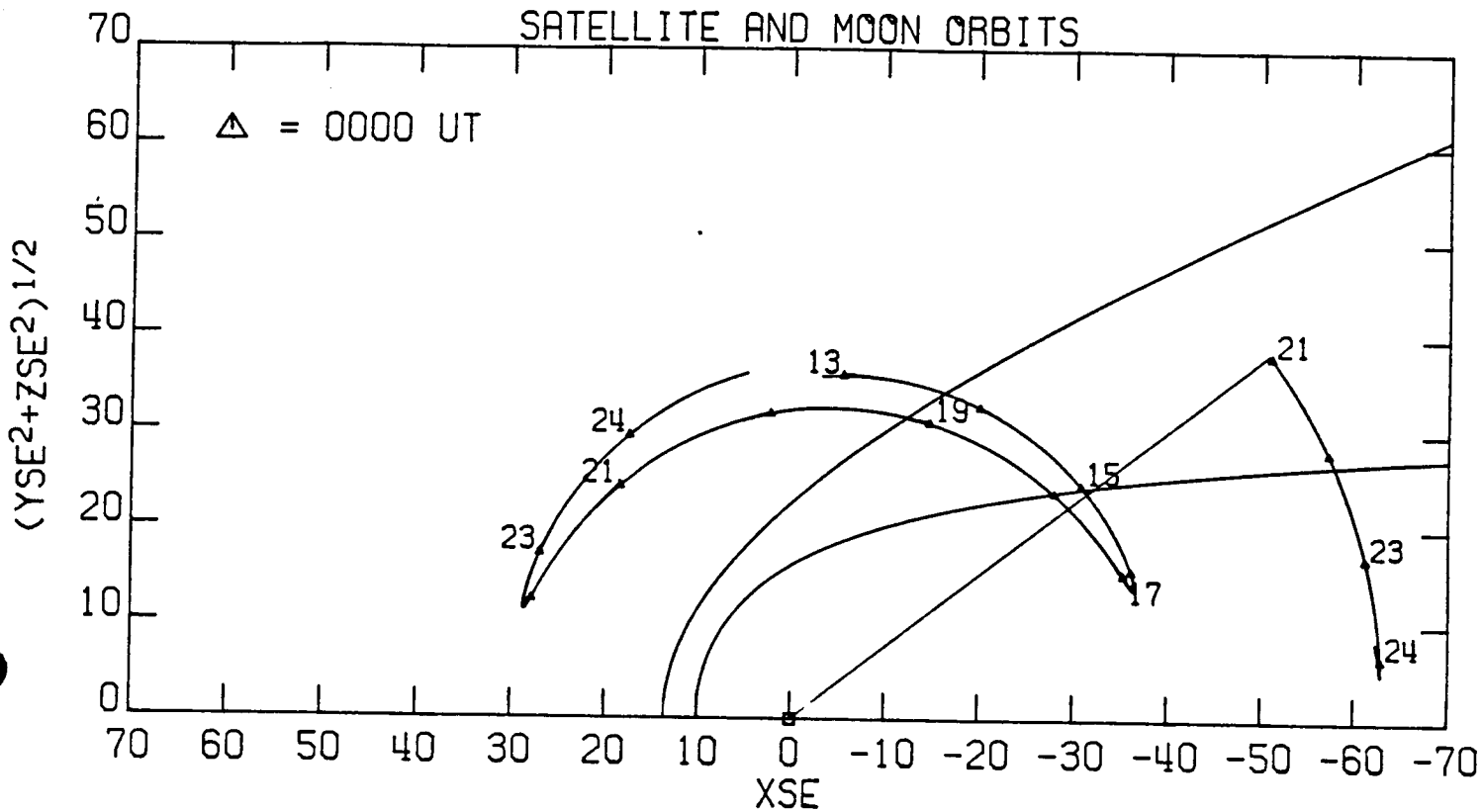
IMP 7 FROM JAN 12 TO JAN 24 1978



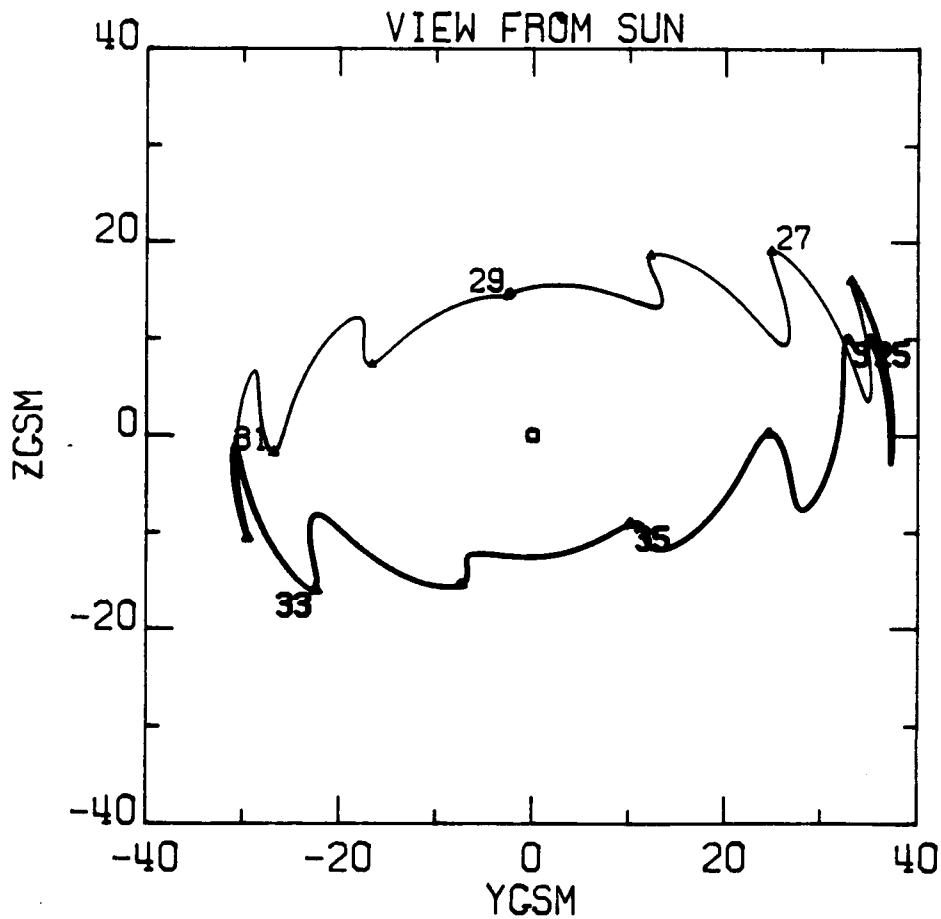
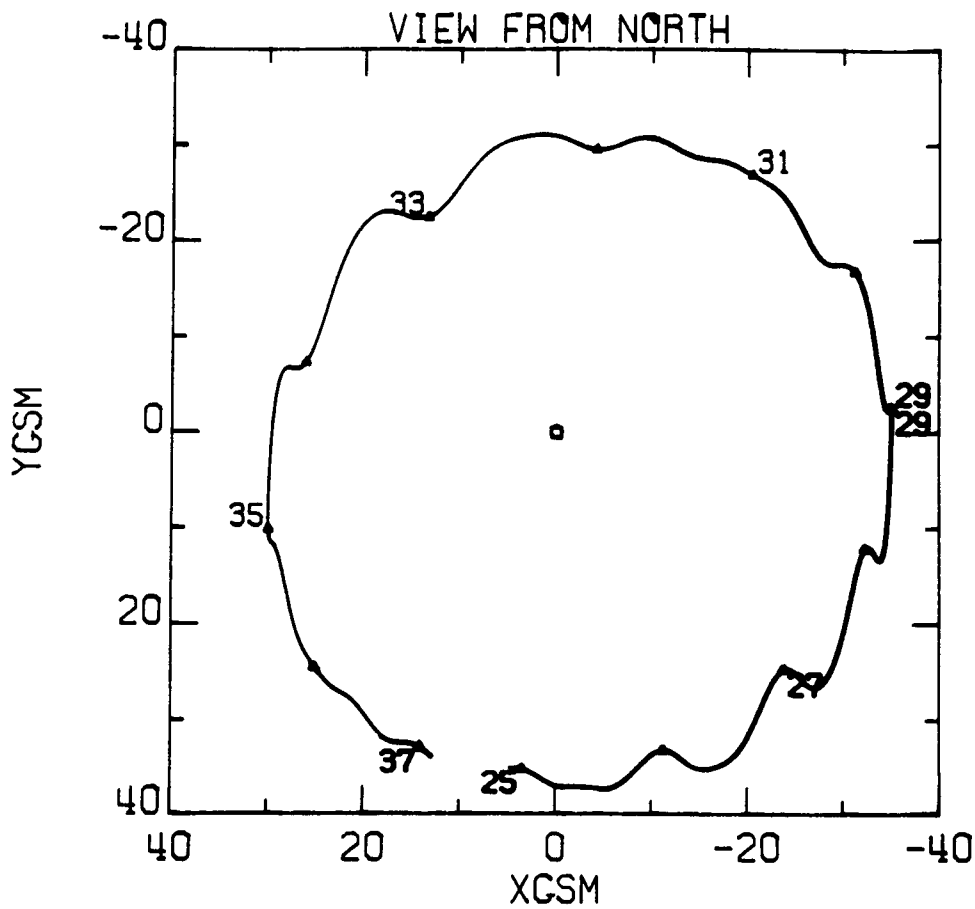
IMP 7 TRAJECTORY. ASCENDING NODE 160

FROM JAN 12 TO JAN 24 1978

DAYS 12 THRU 24



IMP 7 FROM JAN 24 TO FEB 6 1978



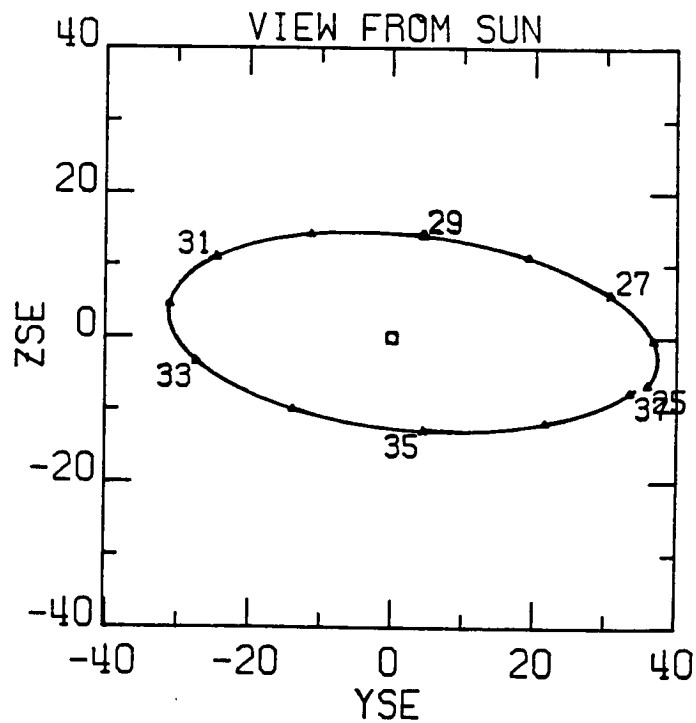
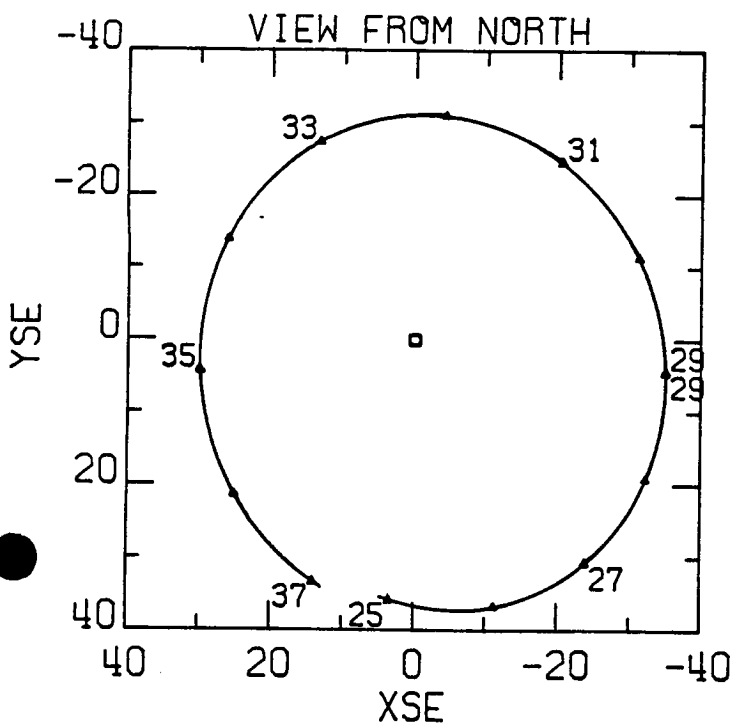
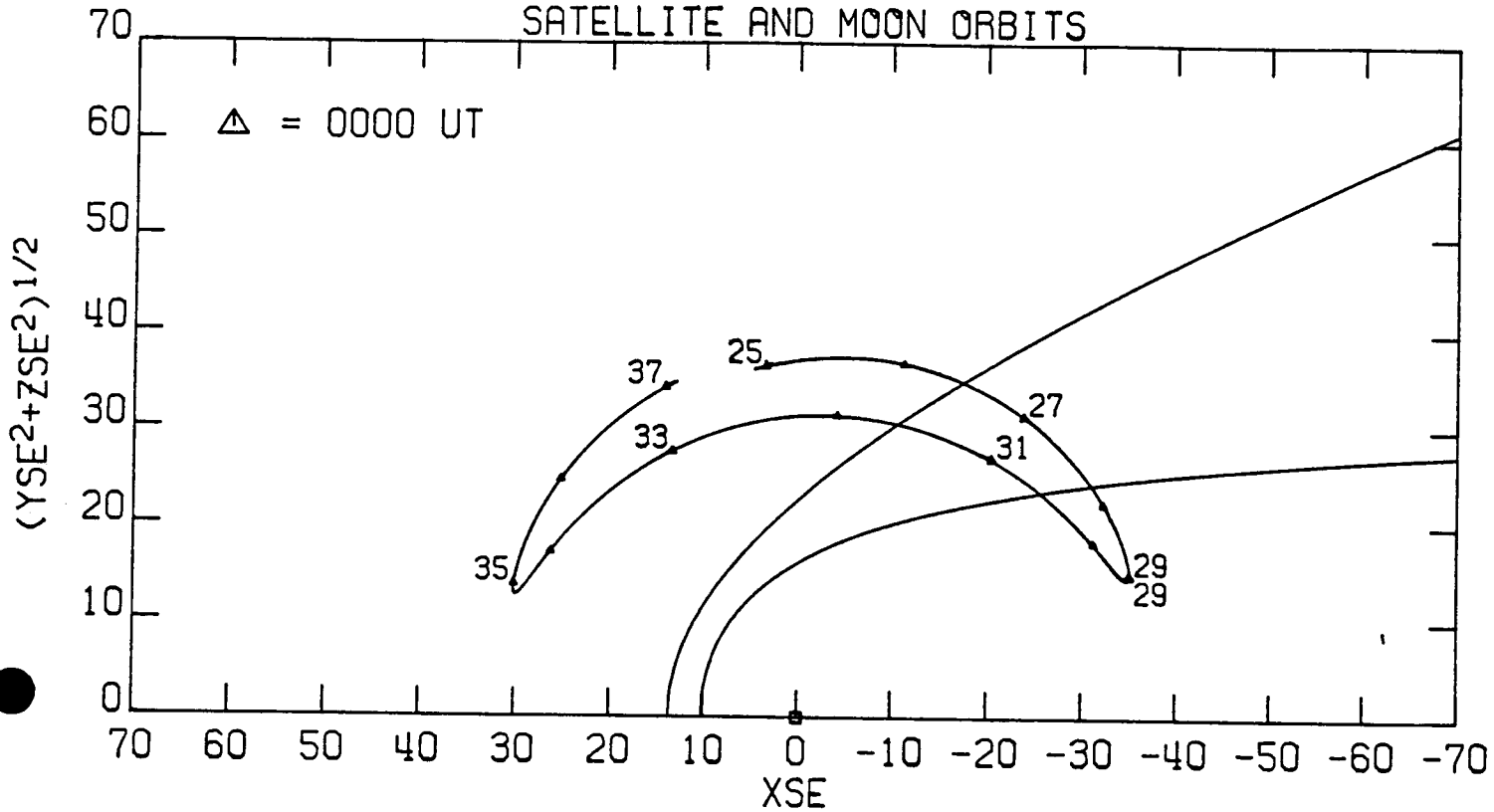
IMP 7 TRAJECTORY.

ASCENDING NODE 161

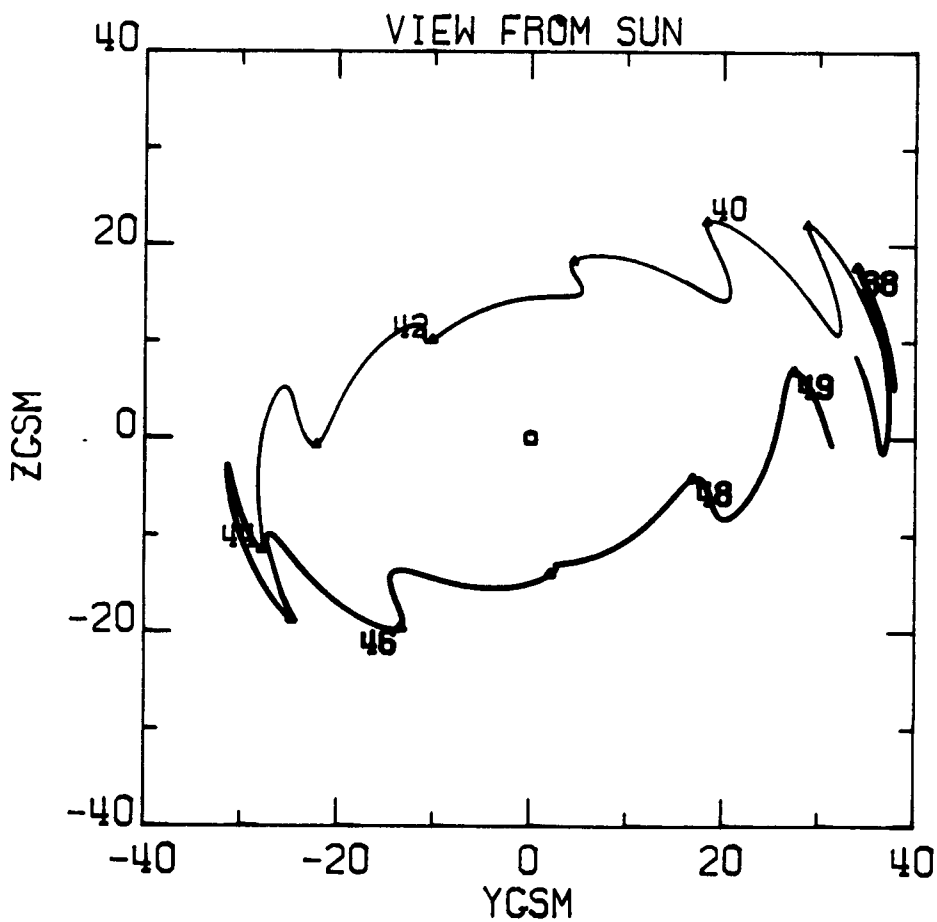
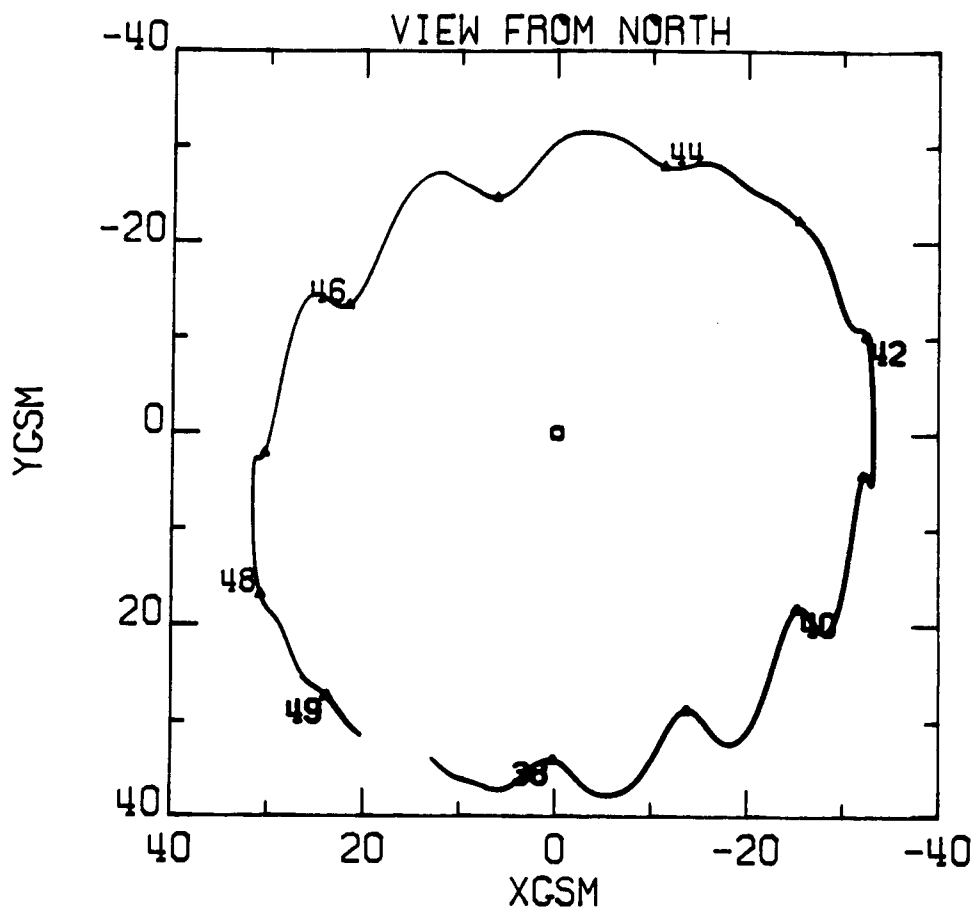
FROM JAN 24 TO FEB 6 1978

DAYS 24 THRU 37

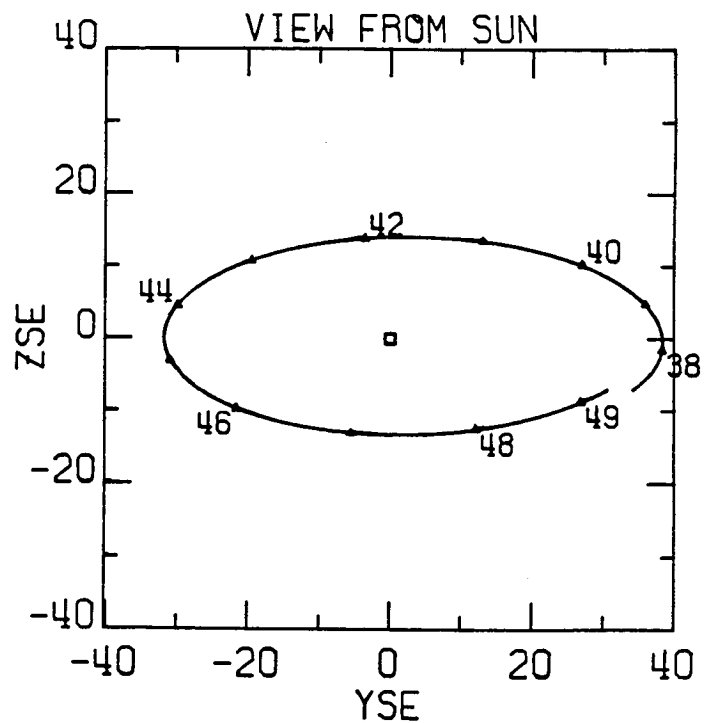
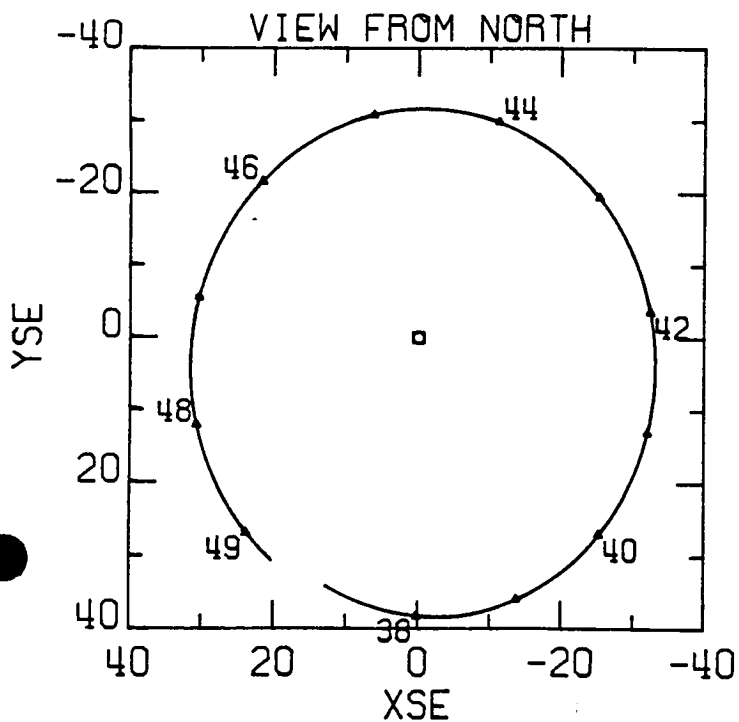
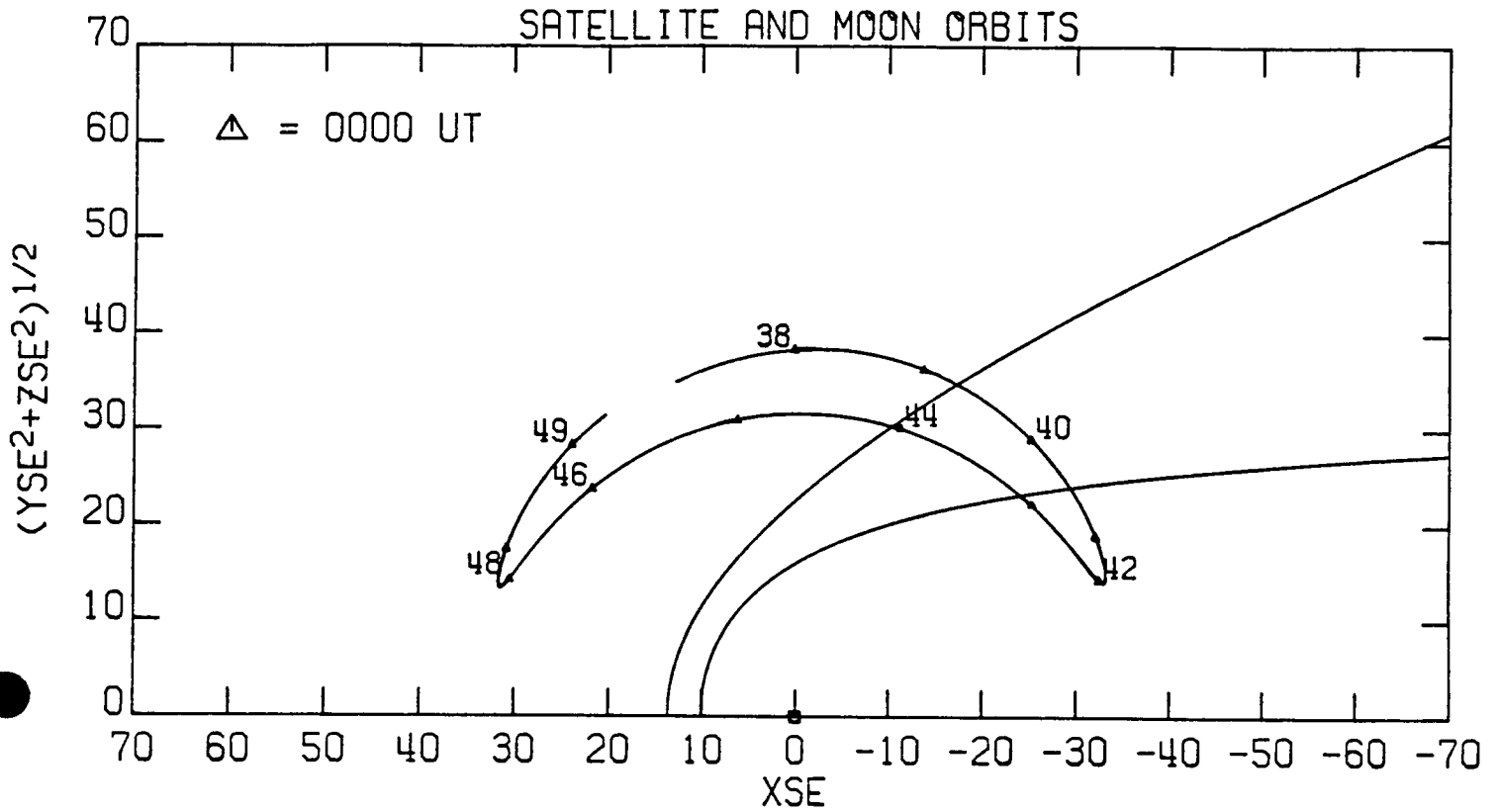
SATELLITE AND MOON ORBITS



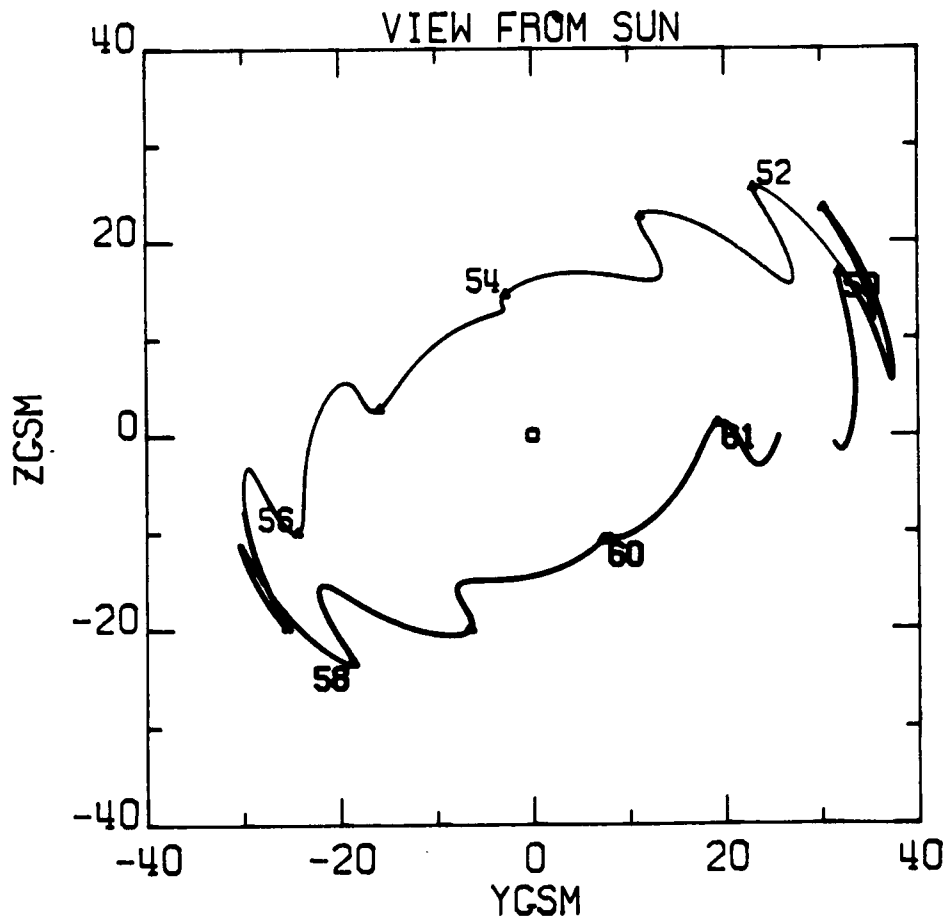
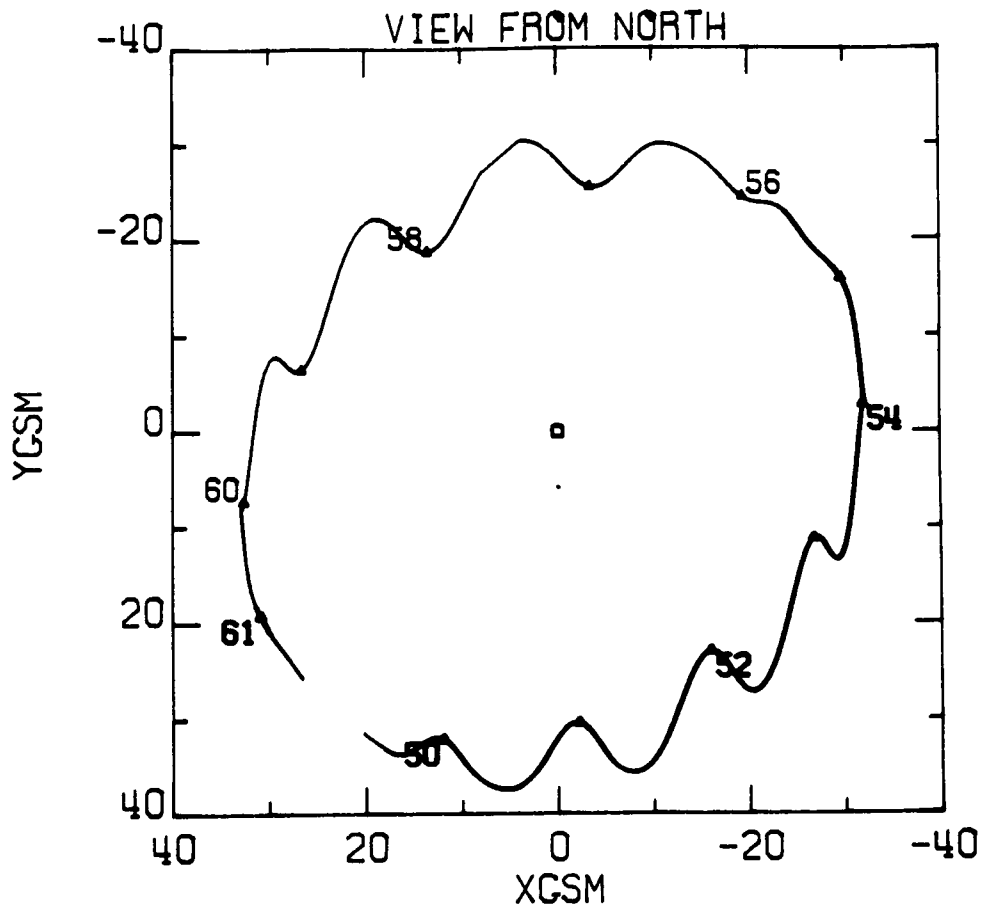
IMP 7 FROM FEB 6 TO FEB 18 1978



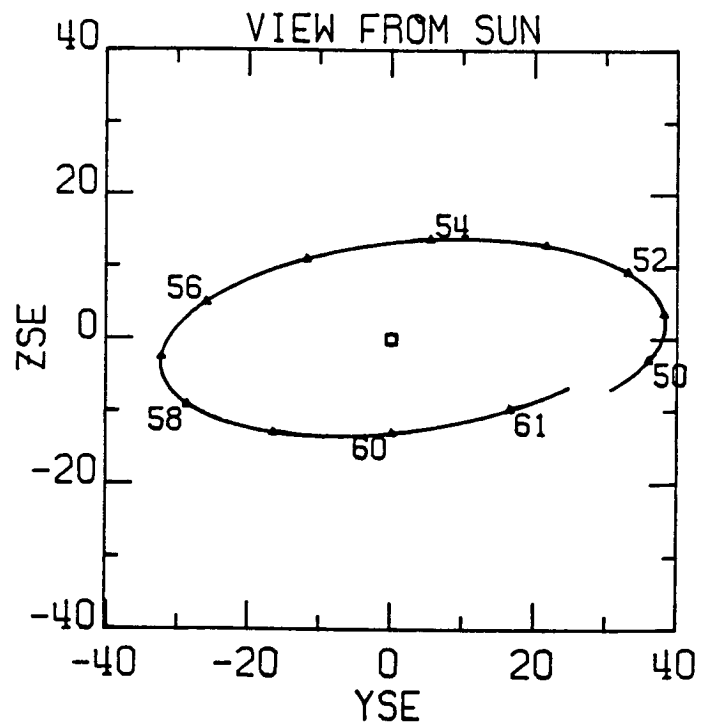
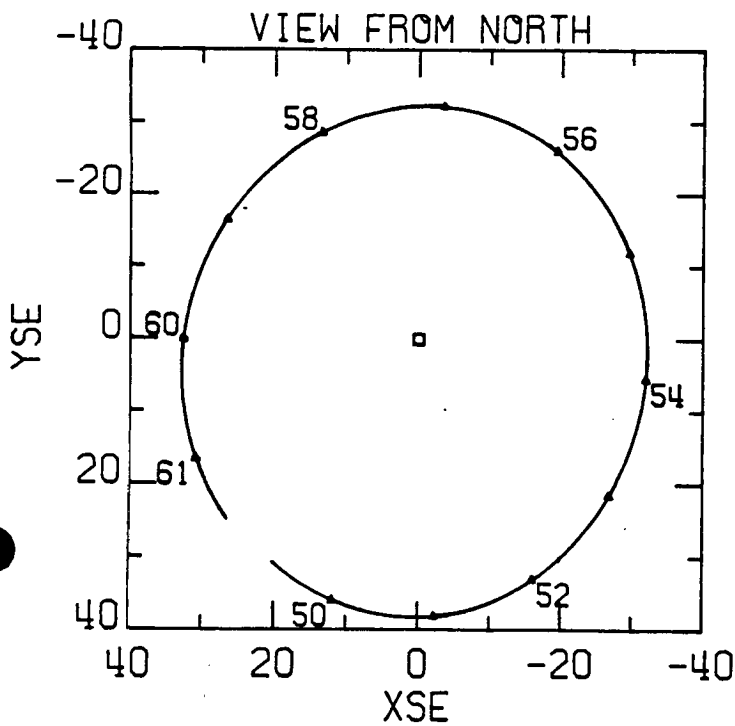
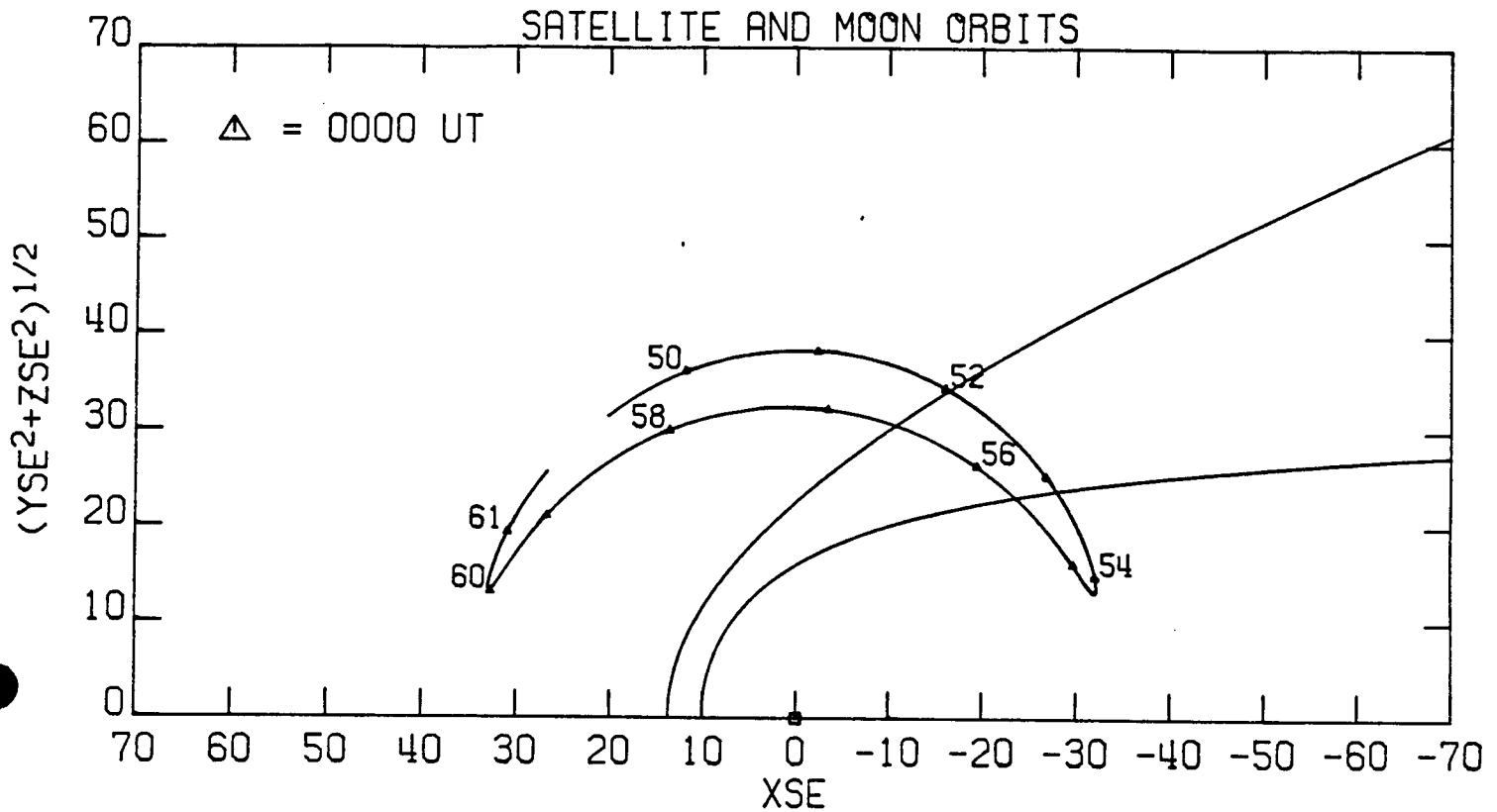
IMP 7 TRAJECTORY. ASCENDING NODE 162
 FROM FEB 6 TO FEB 18 1978
 DAYS 37 THRU 49



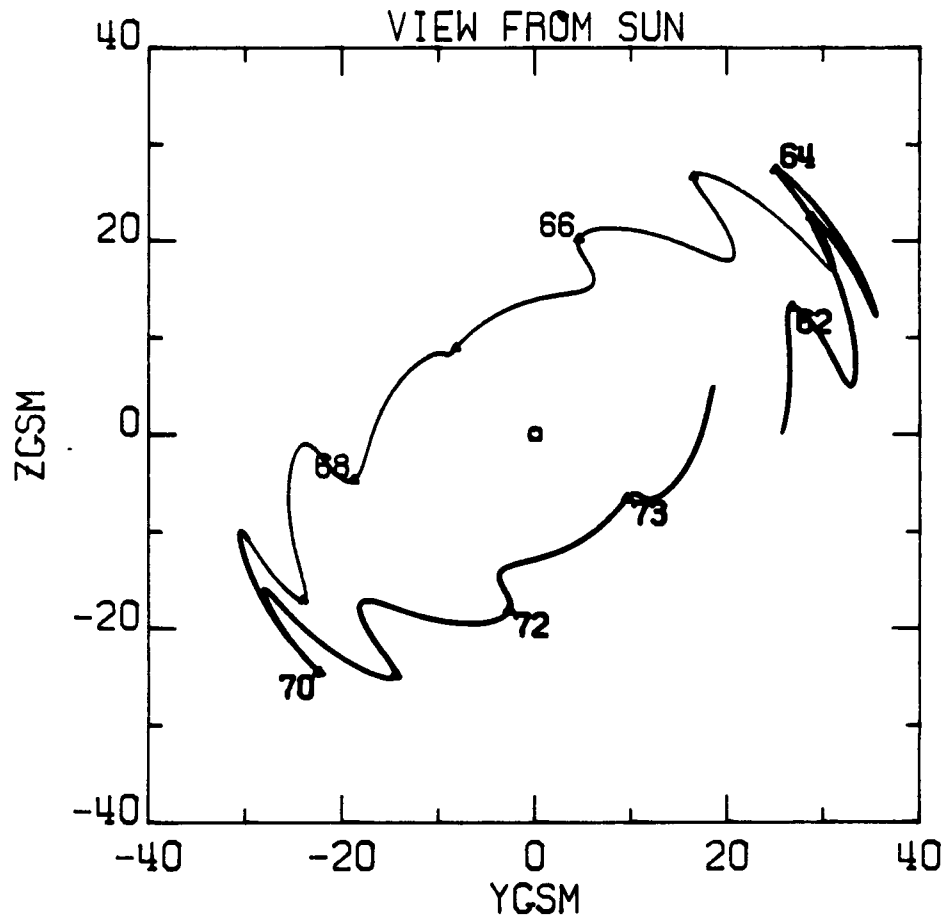
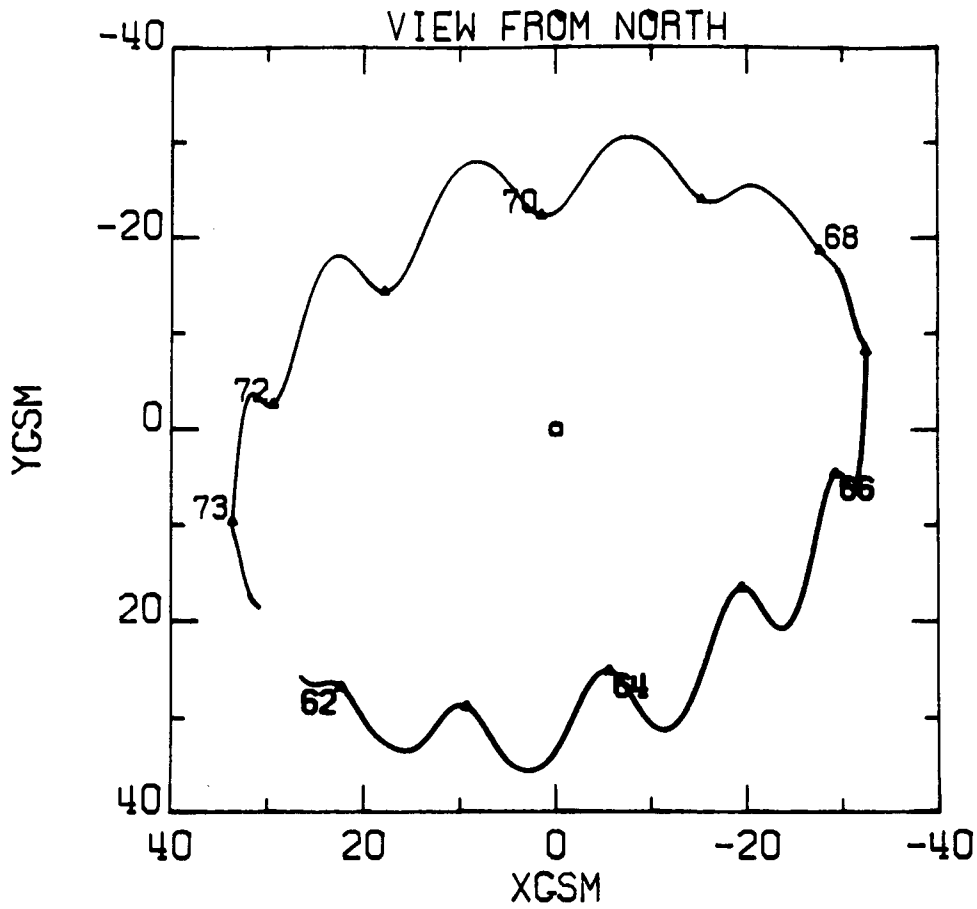
IMP 7 FROM FEB 18 TO MAR 2 1978



IMP 7 TRAJECTORY. ASCENDING NODE 163
 FROM FEB 18 TO MAR 2 1978
 DAYS 49 THRU 61



IMP 7 FROM MAR 2 TO MAR 14 1978



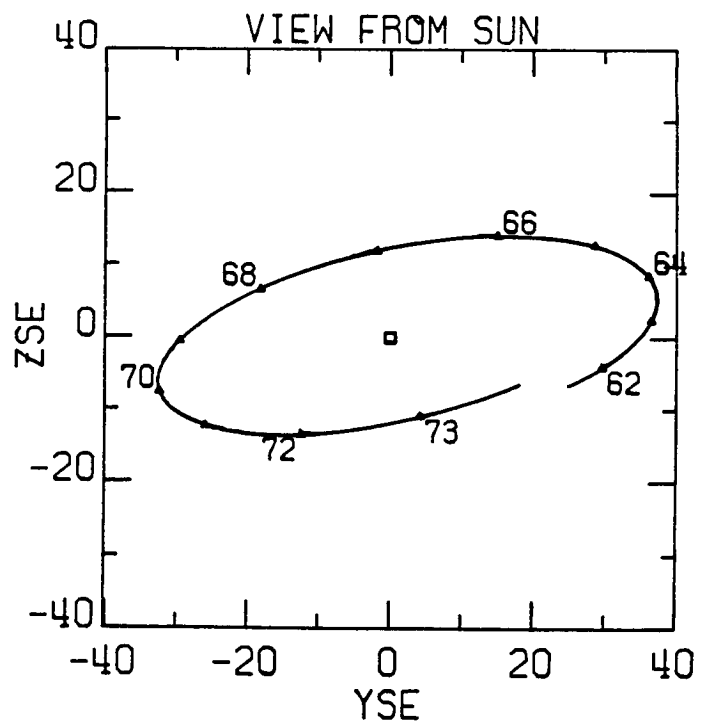
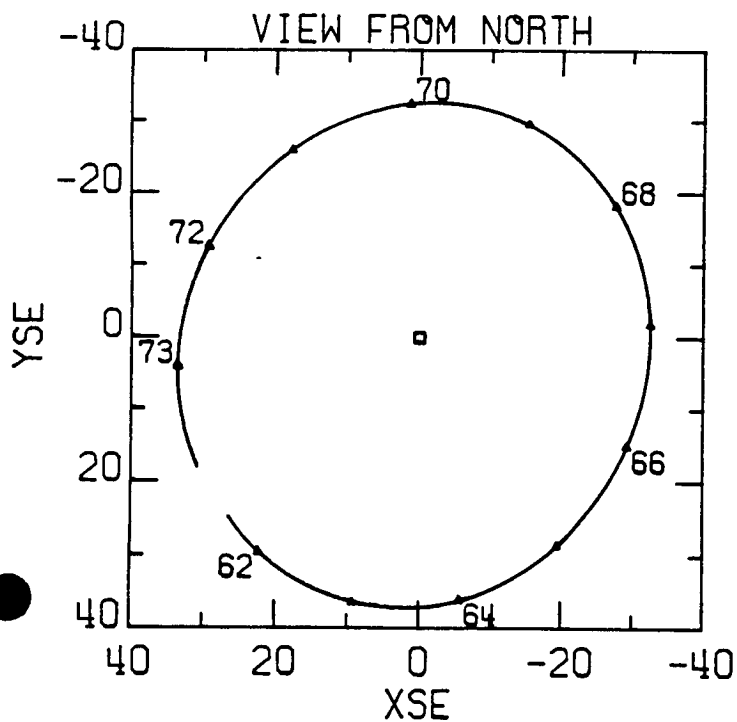
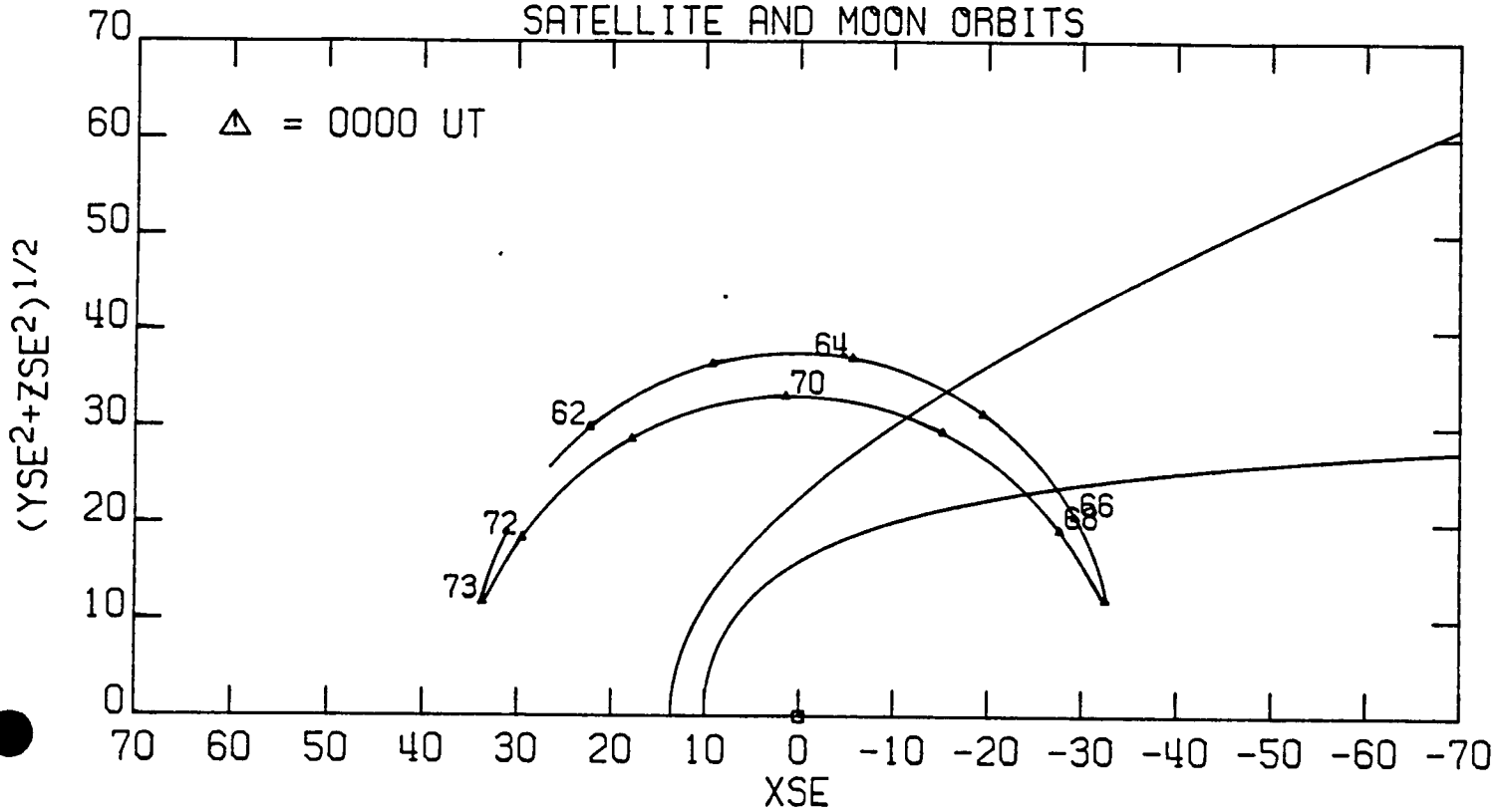
IMP 7 TRAJECTORY.

ASCENDING NODE 164

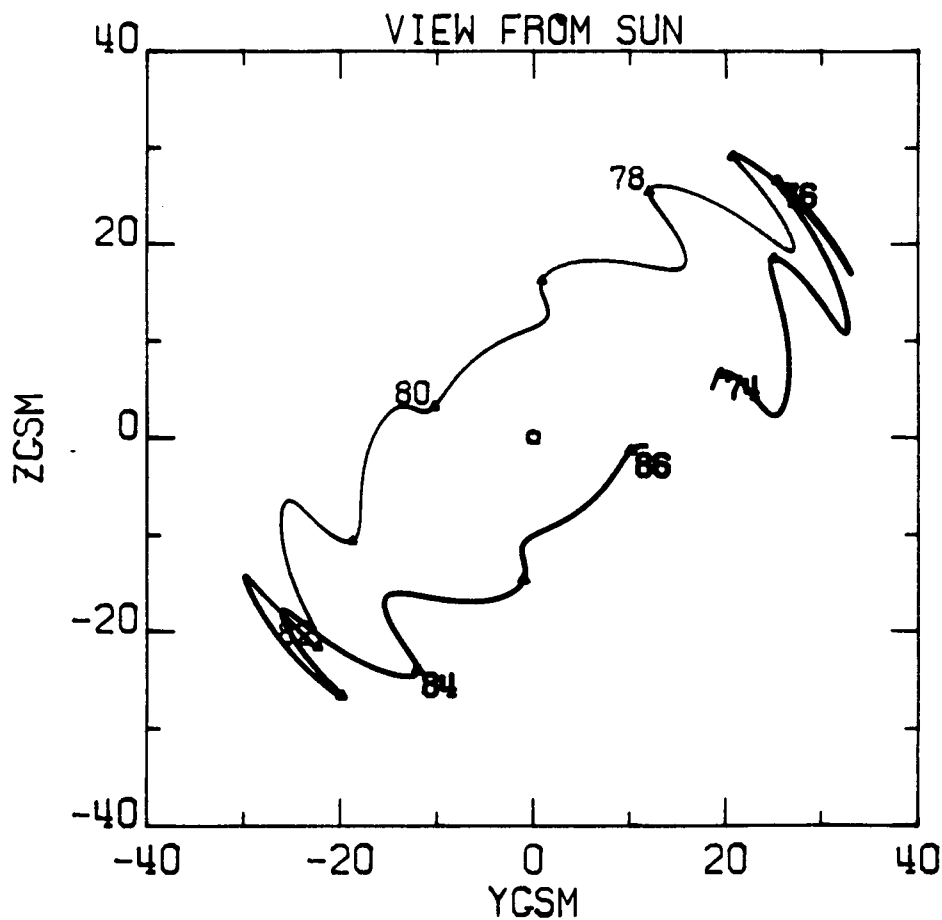
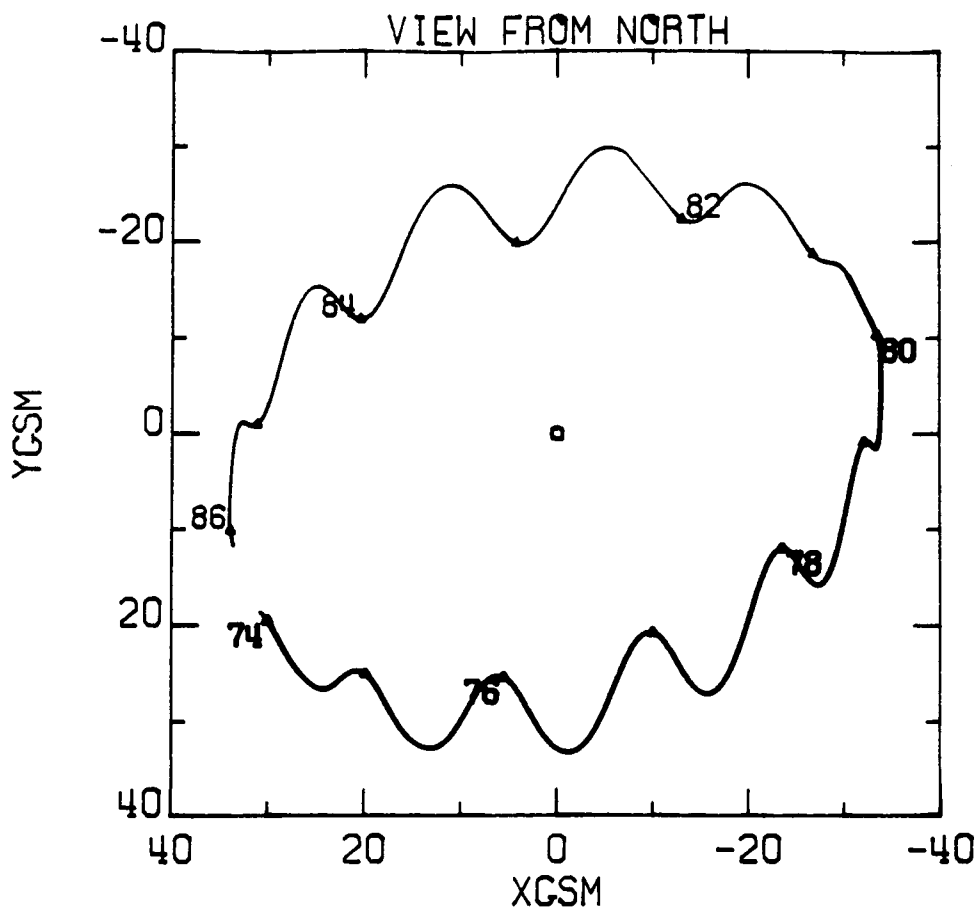
FROM MAR 2 TO MAR 14 1978

DAYS 61 THRU 73

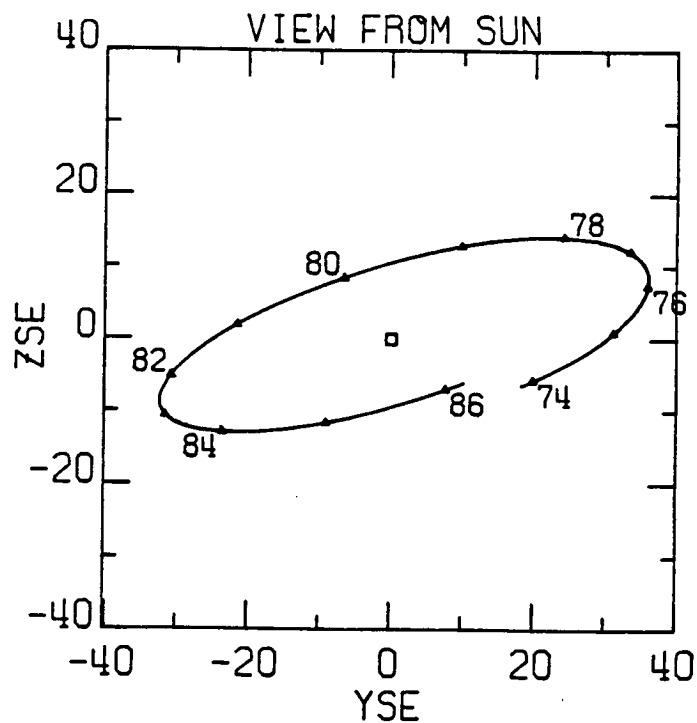
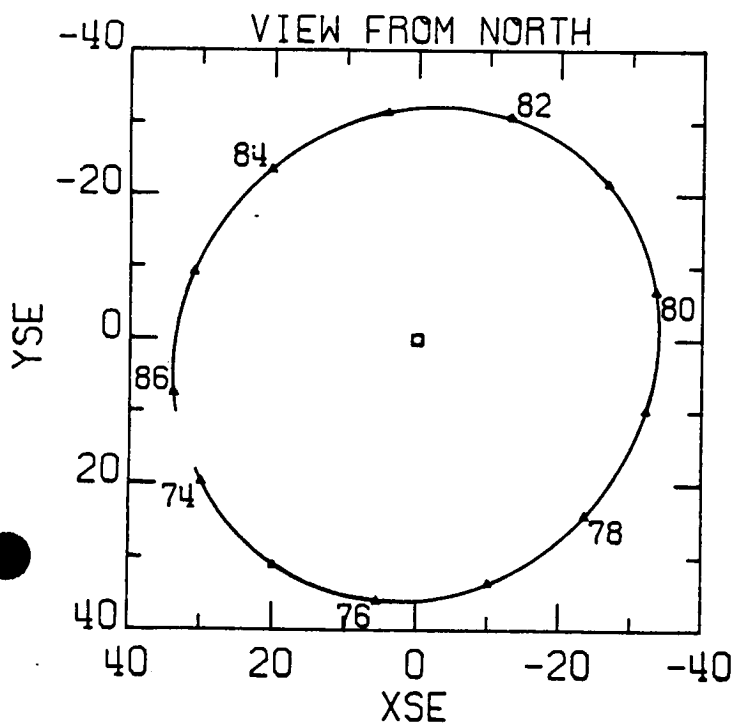
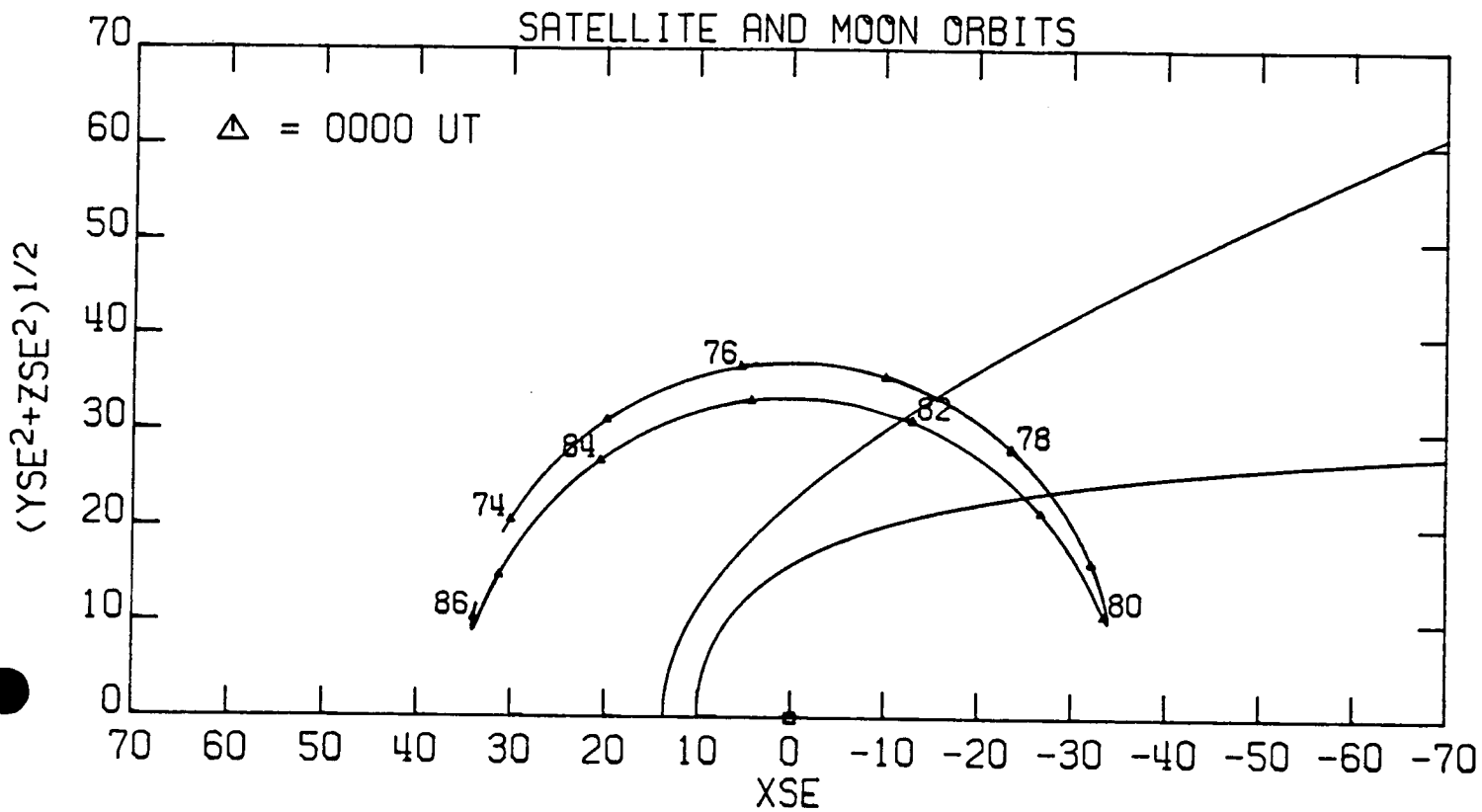
SATELLITE AND MOON ORBITS



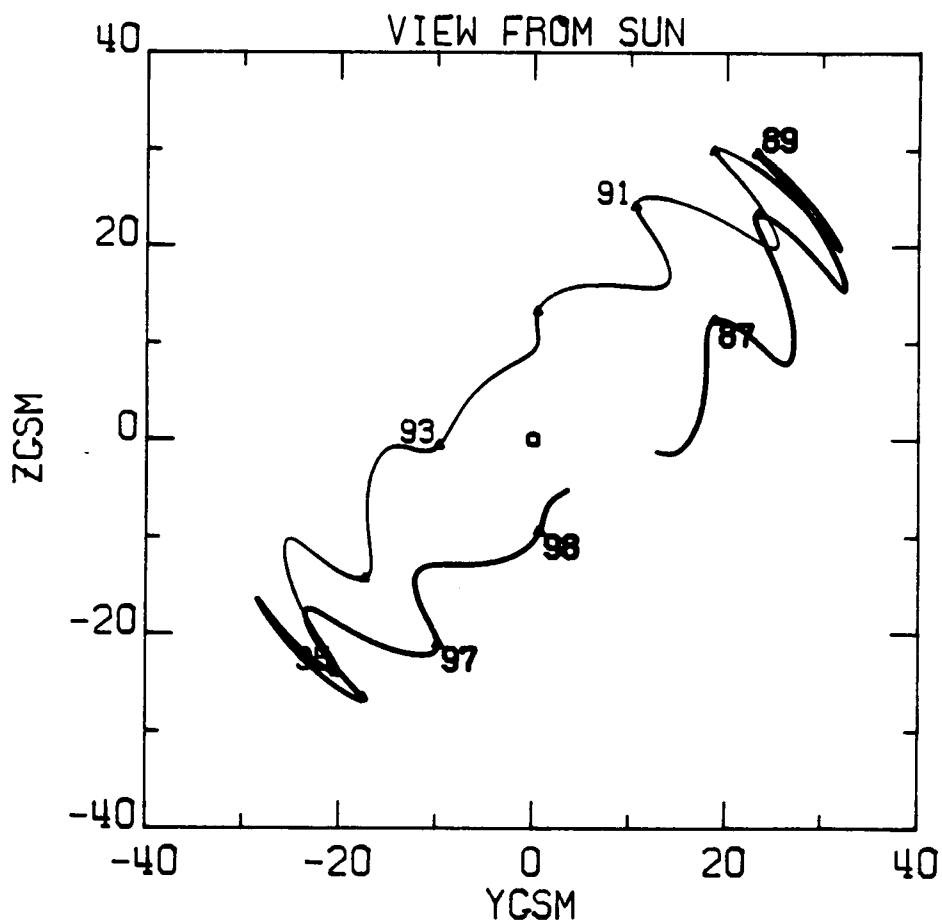
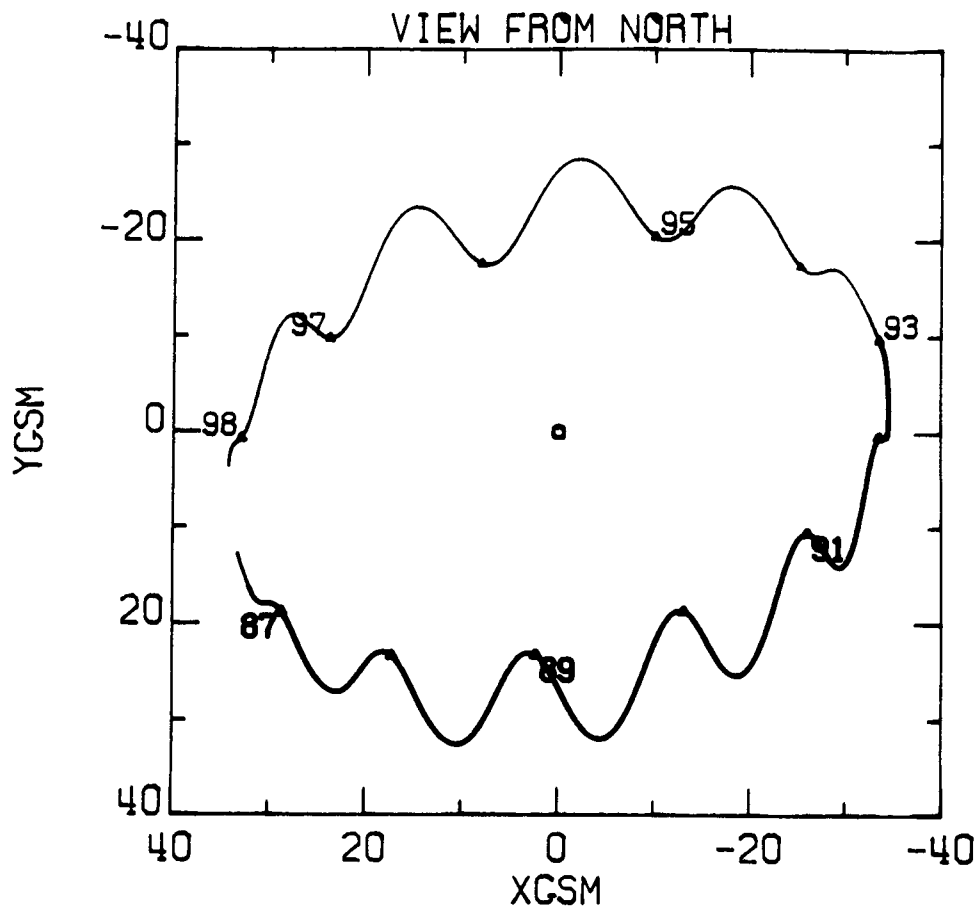
IMP 7 FROM MAR 14 TO MAR 27 1978



IMP 7 TRAJECTORY. ASCENDING NODE 165
 FROM MAR 14 TO MAR 27 1978
 DAYS 73 THRU 86



IMP 7 FROM MAR 27 TO APR 8 1978



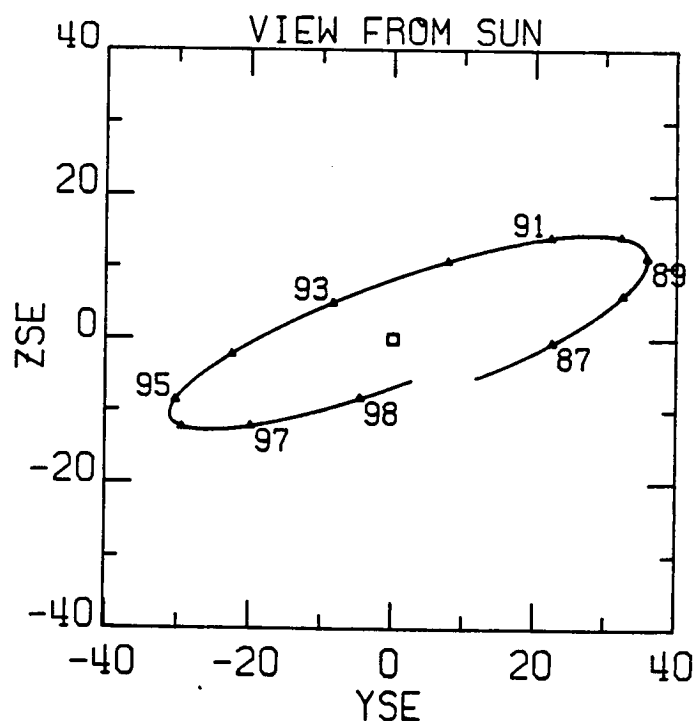
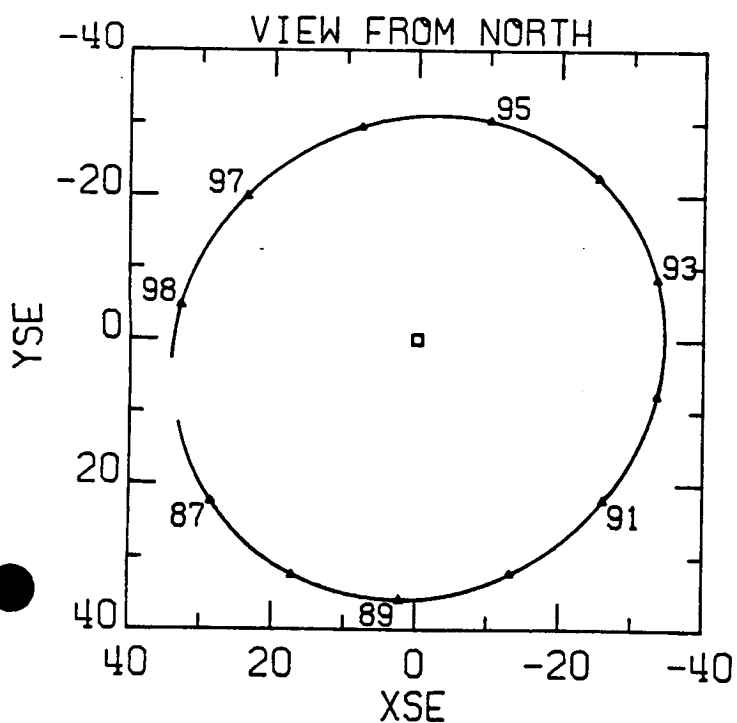
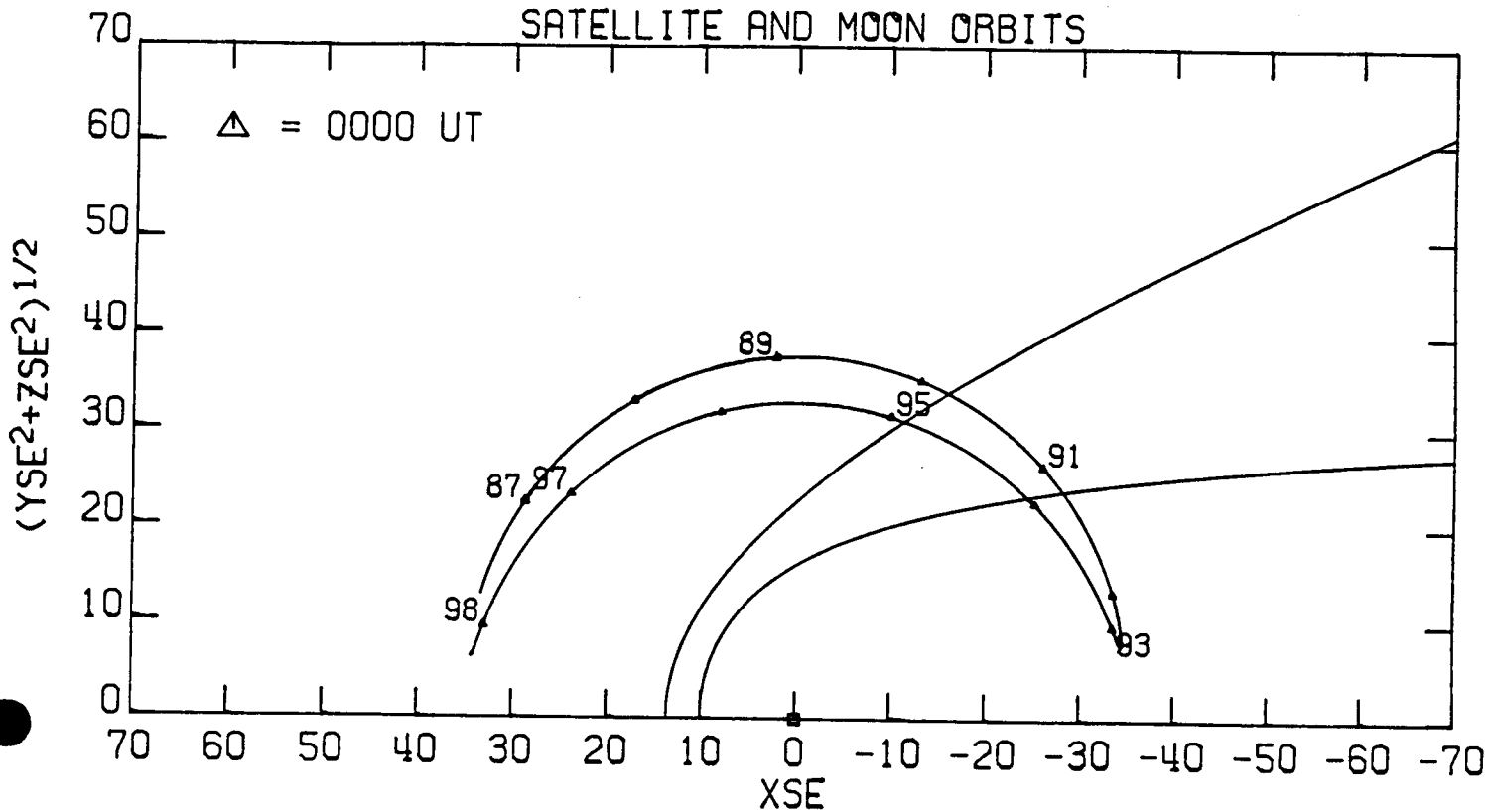
IMP 7 TRAJECTORY.

ASCENDING NODE 166

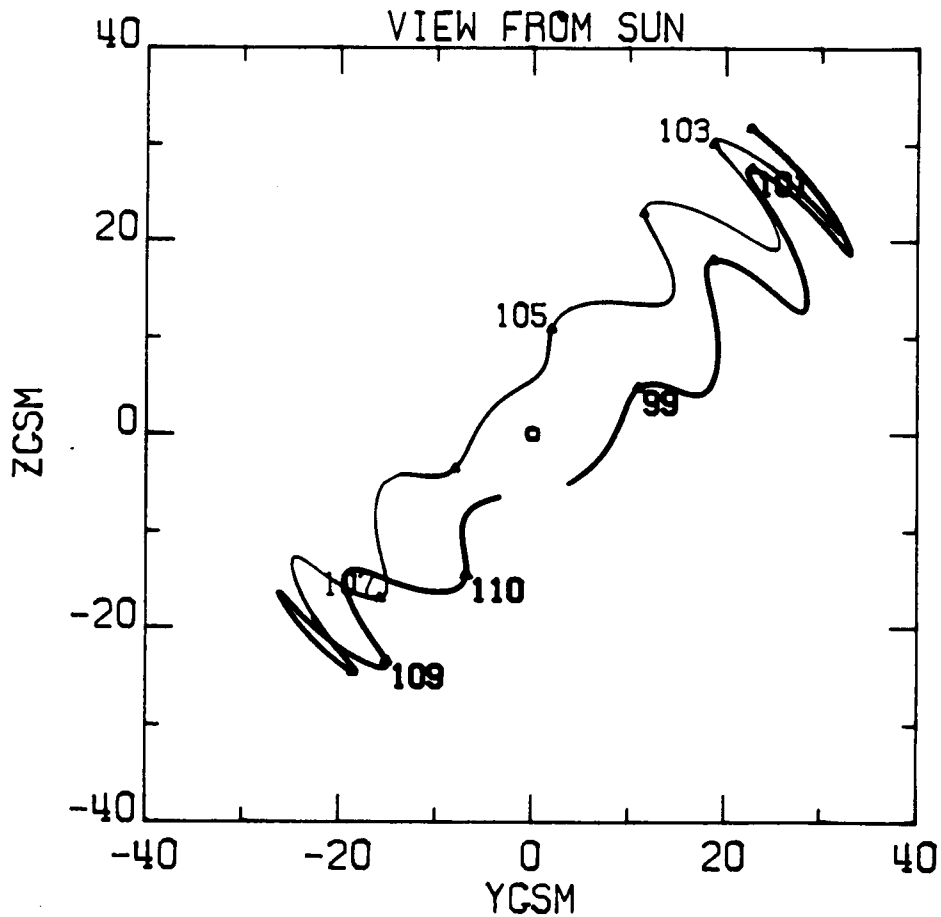
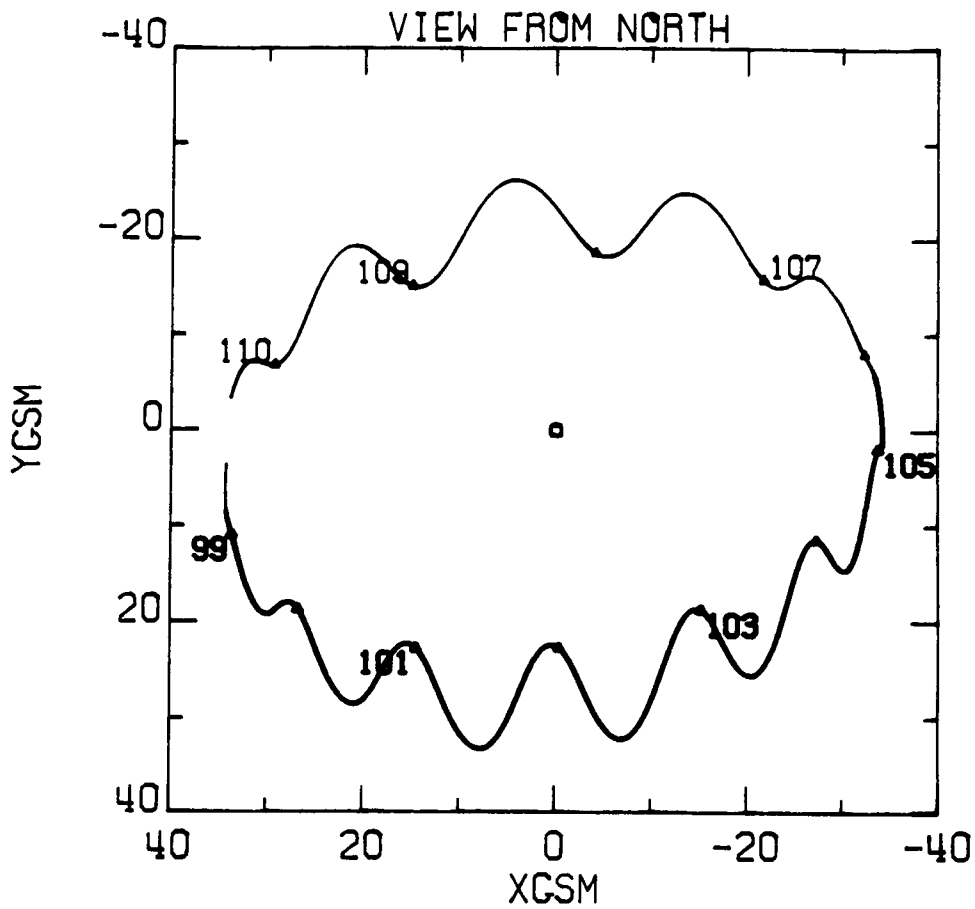
FROM MAR 27 TO APR 8 1978

DAYS 86 THRU 98

SATELLITE AND MOON ORBITS

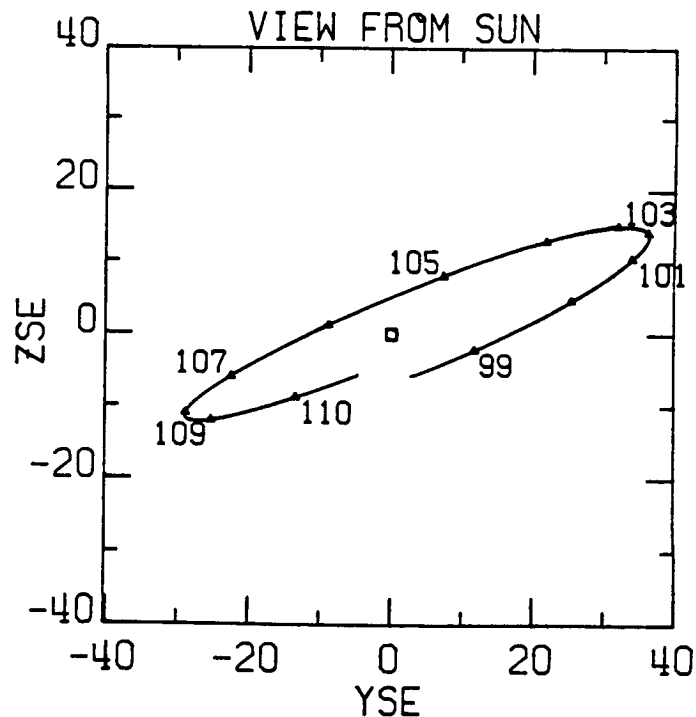
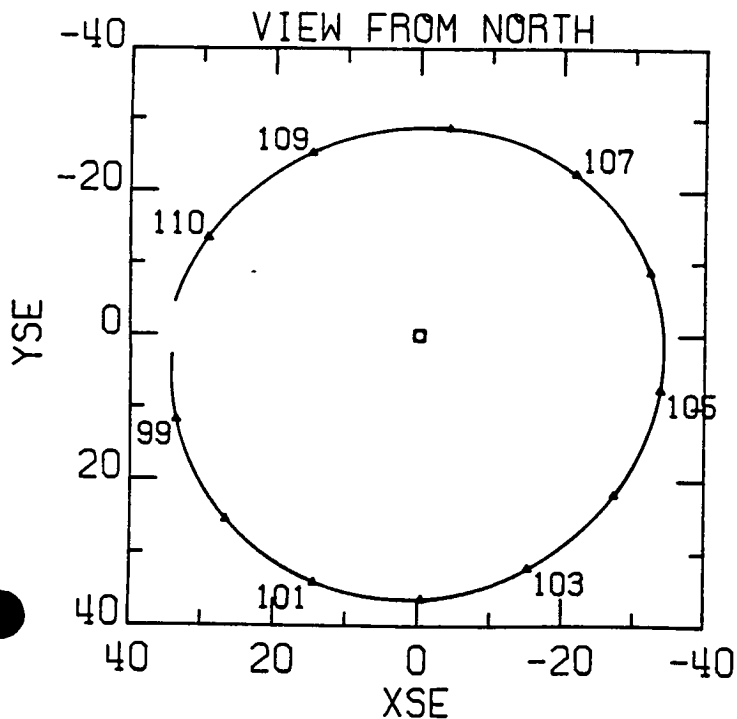
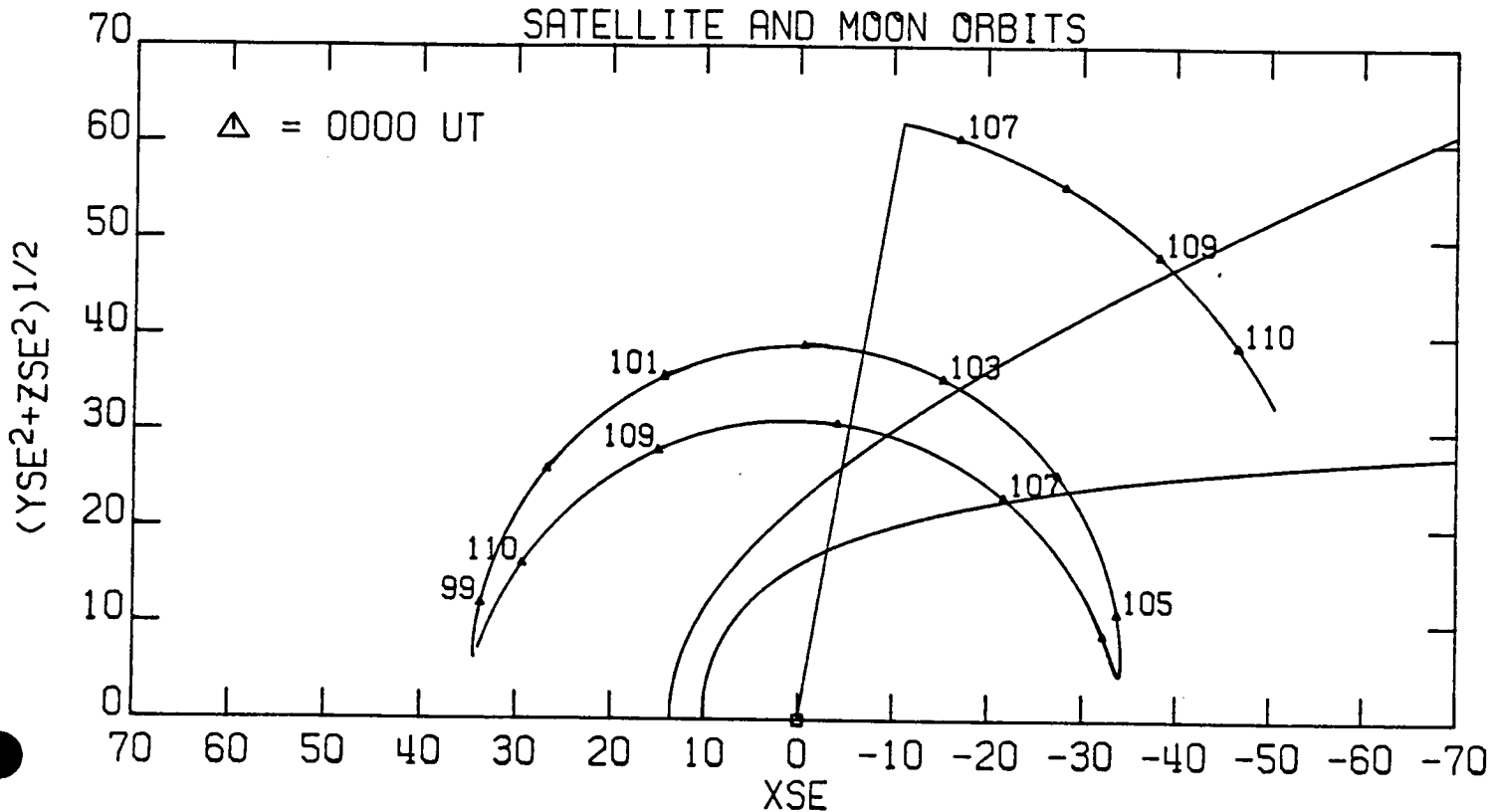


IMP 7 FROM APR 8 TO APR 20 1978



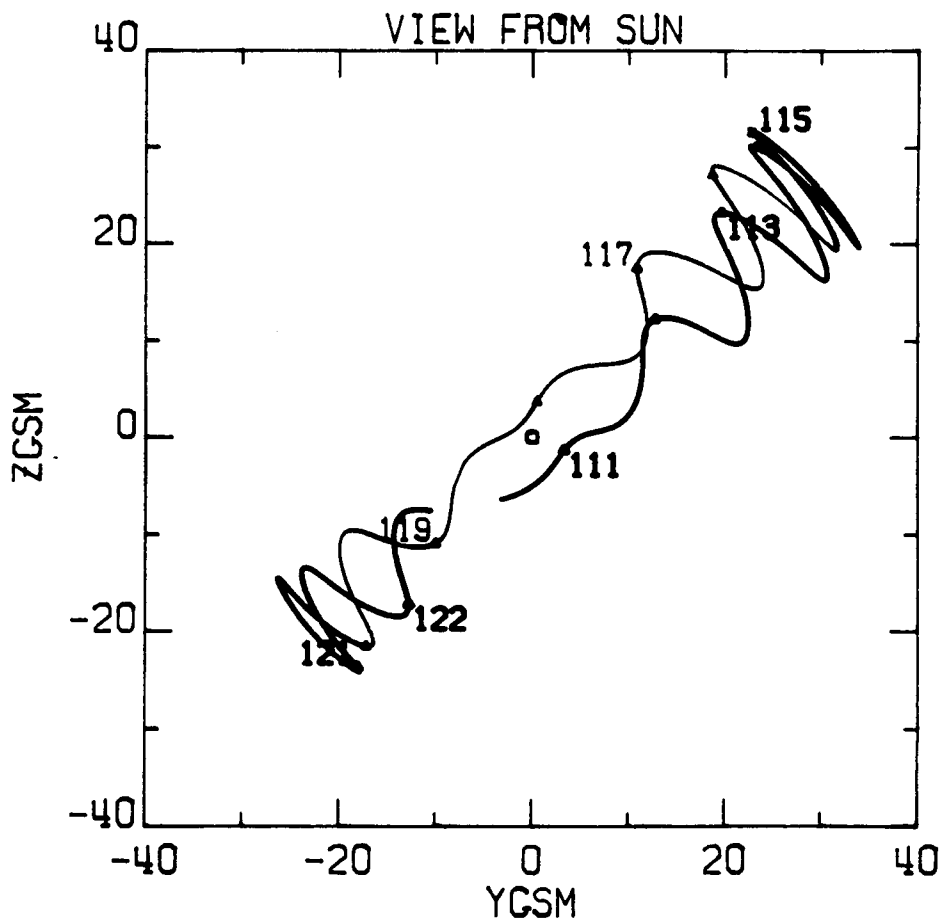
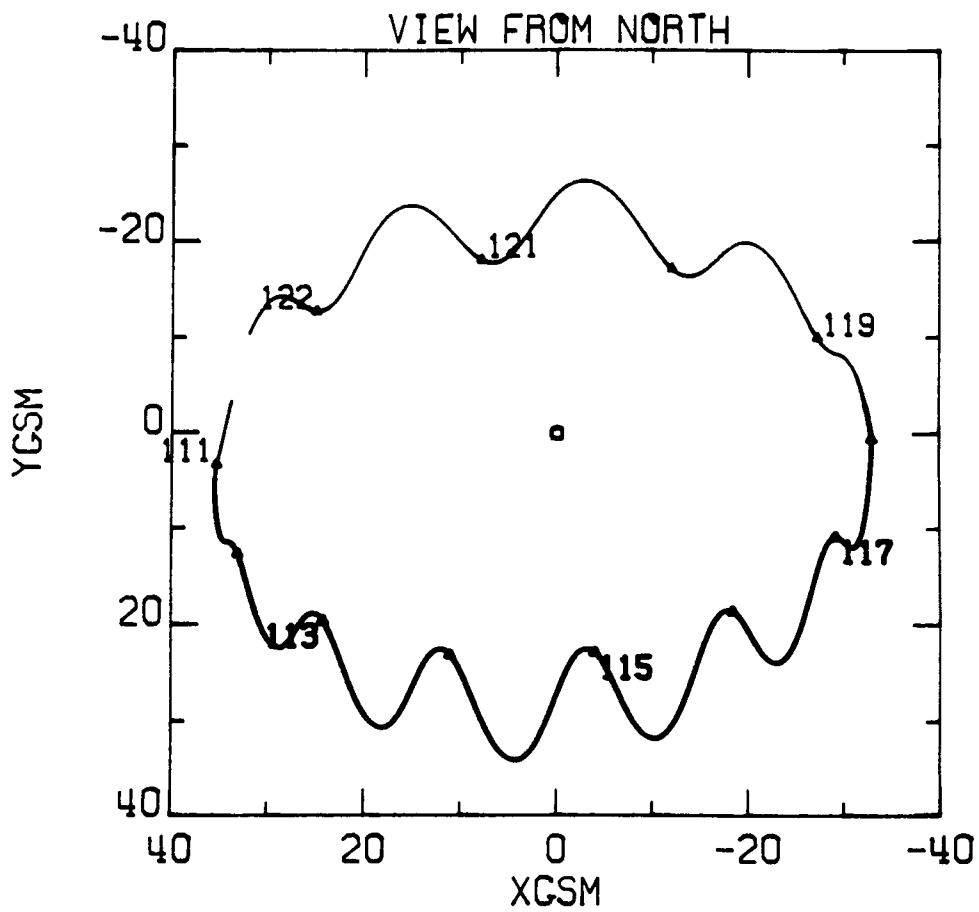
FROM APR 8 TO APR 20 1978

DAYS 98 THRU 110



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IMP 7 FROM APR 20 TO MAY 2 1978

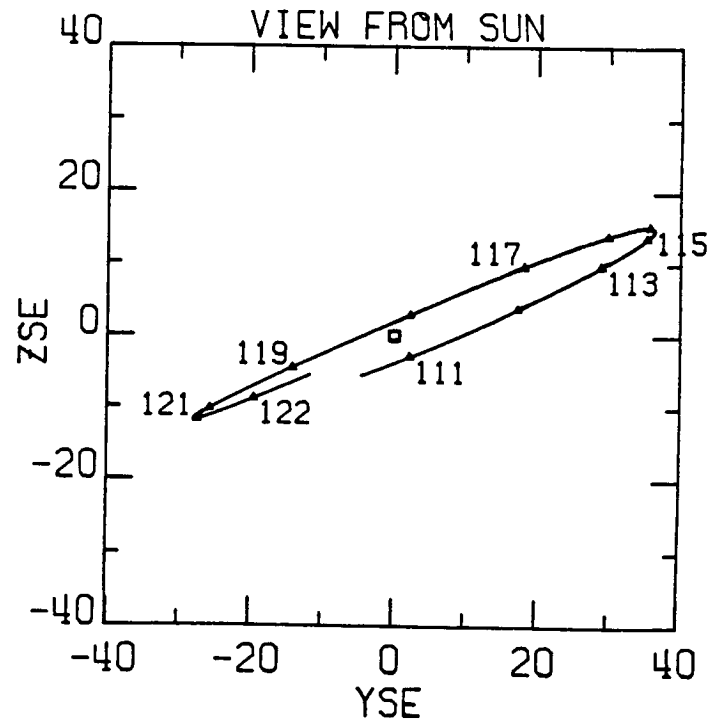
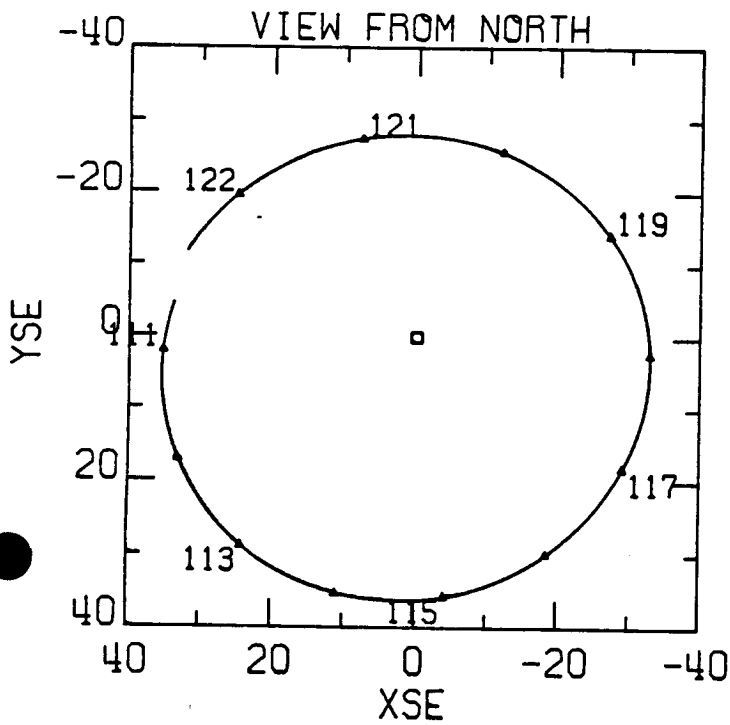
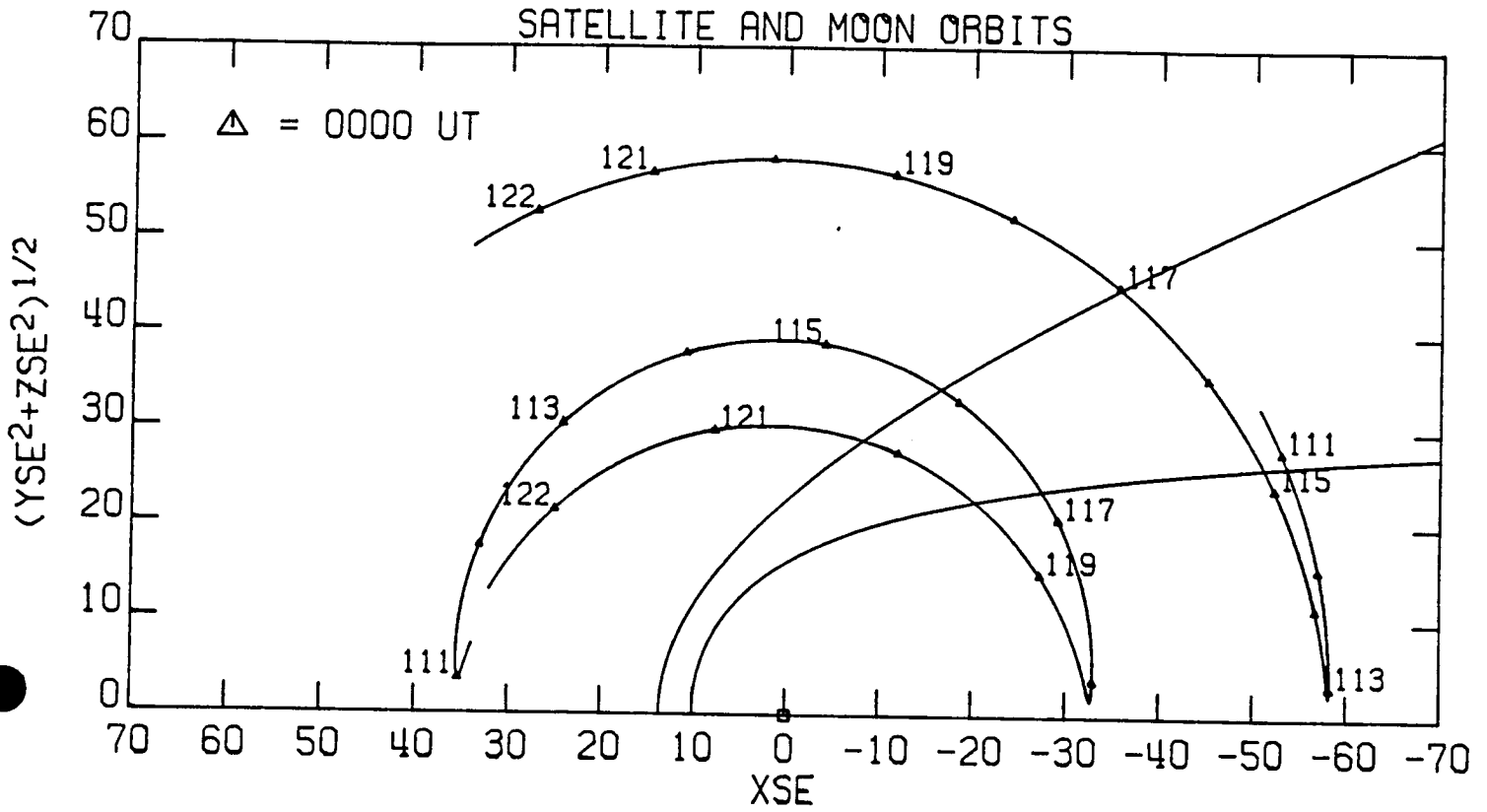


IMP 7 TRAJECTORY.

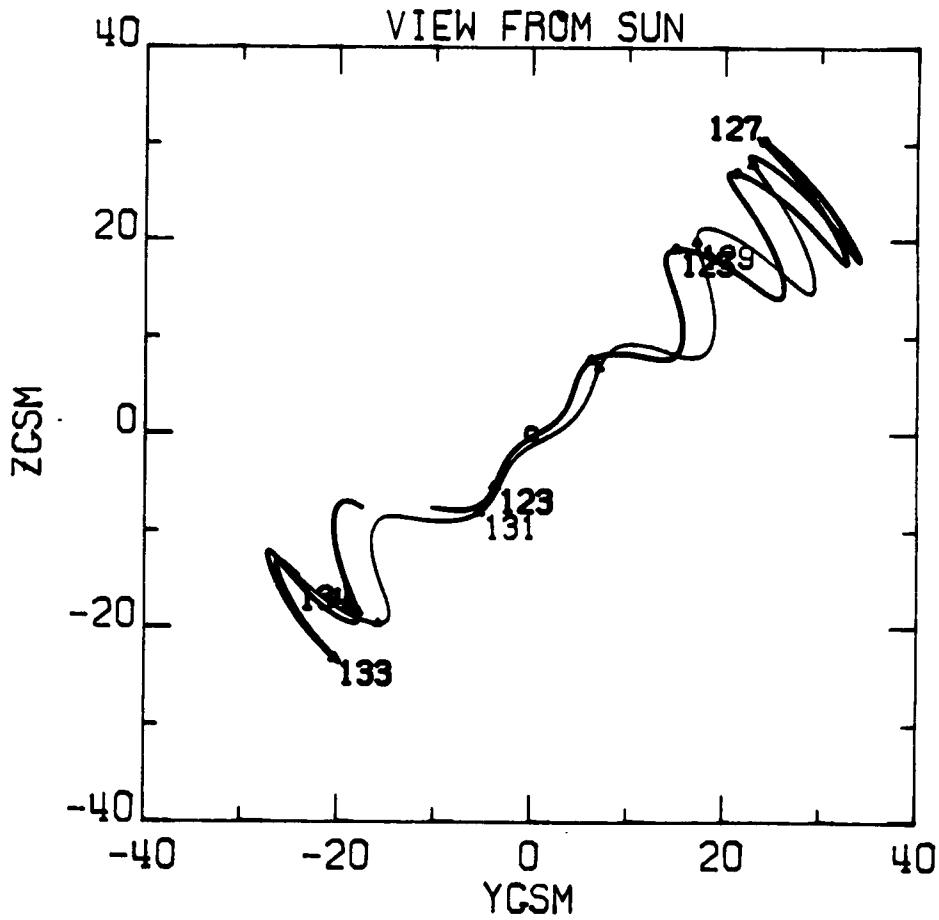
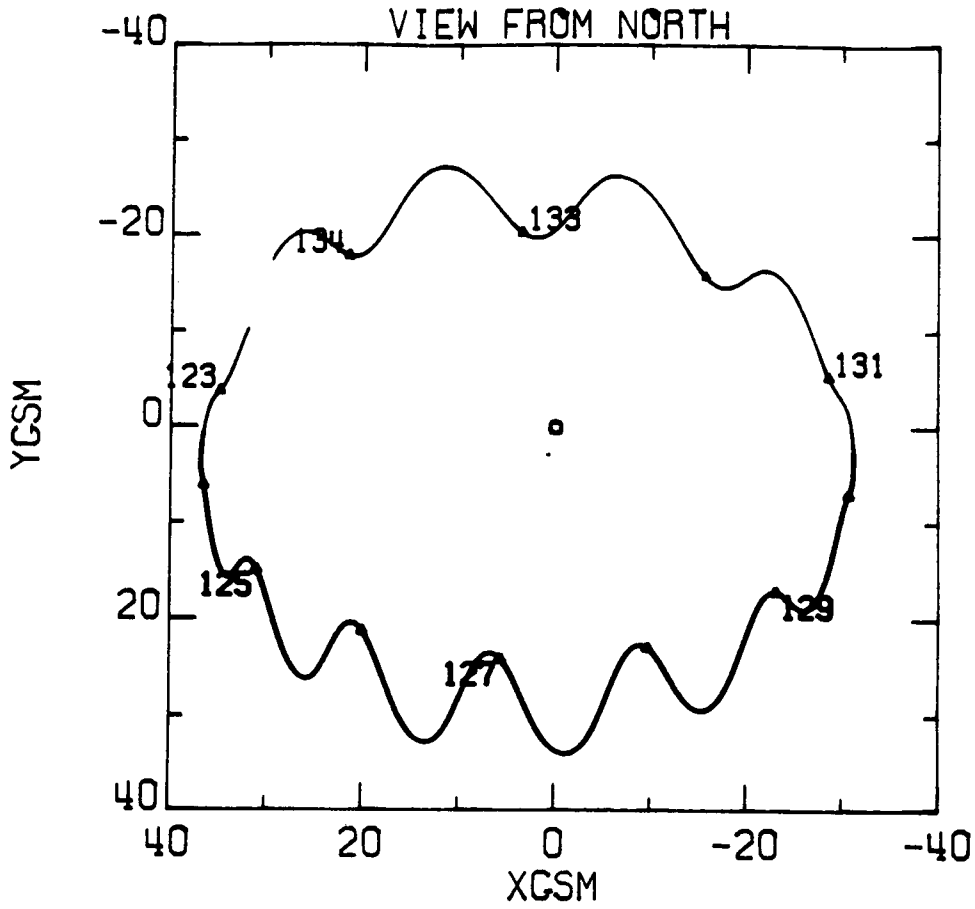
ASCENDING NODE 168

FROM APR 20 TO MAY 2 1978

DAYS 110 THRU 122



IMP 7 FROM MAY 2 TO MAY 14 1978

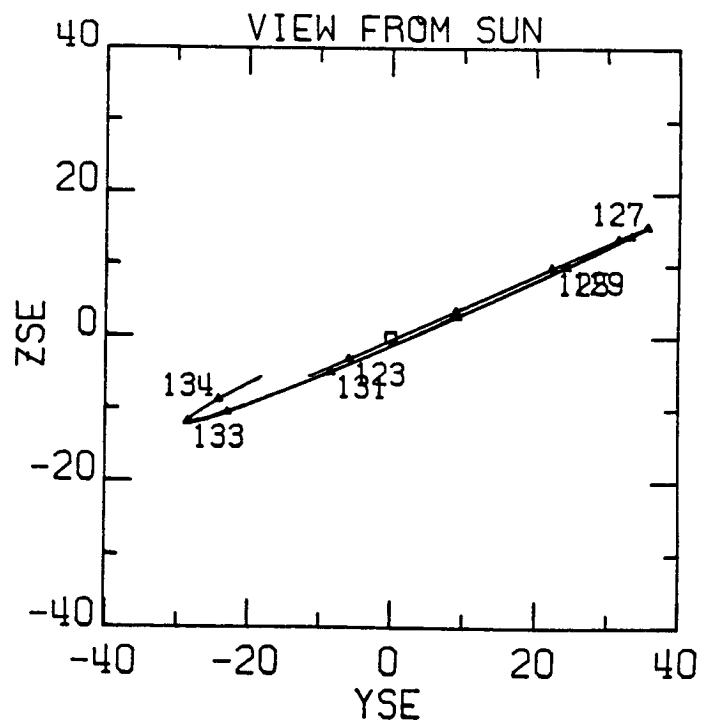
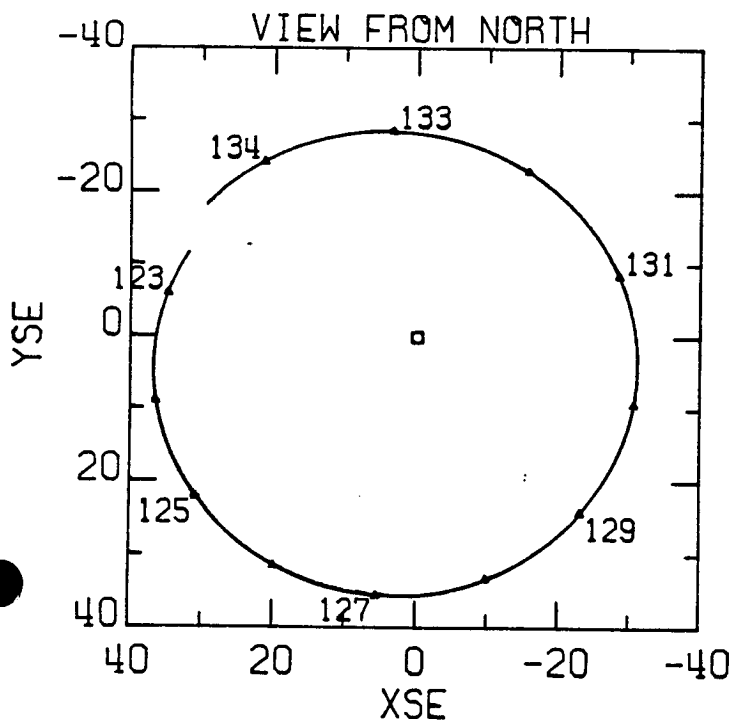
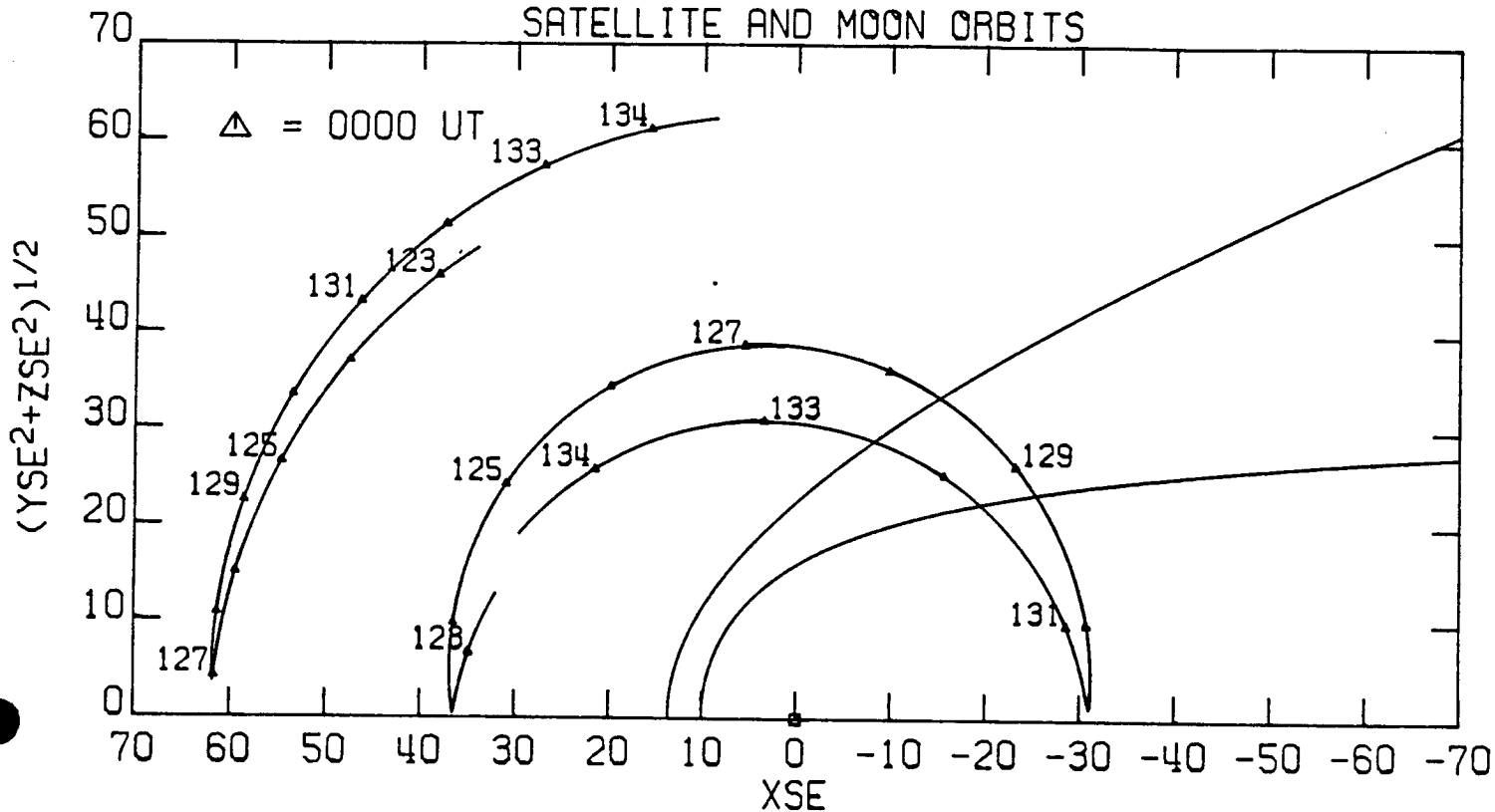


IMP 7 TRAJECTORY. ASCENDING NODE 169

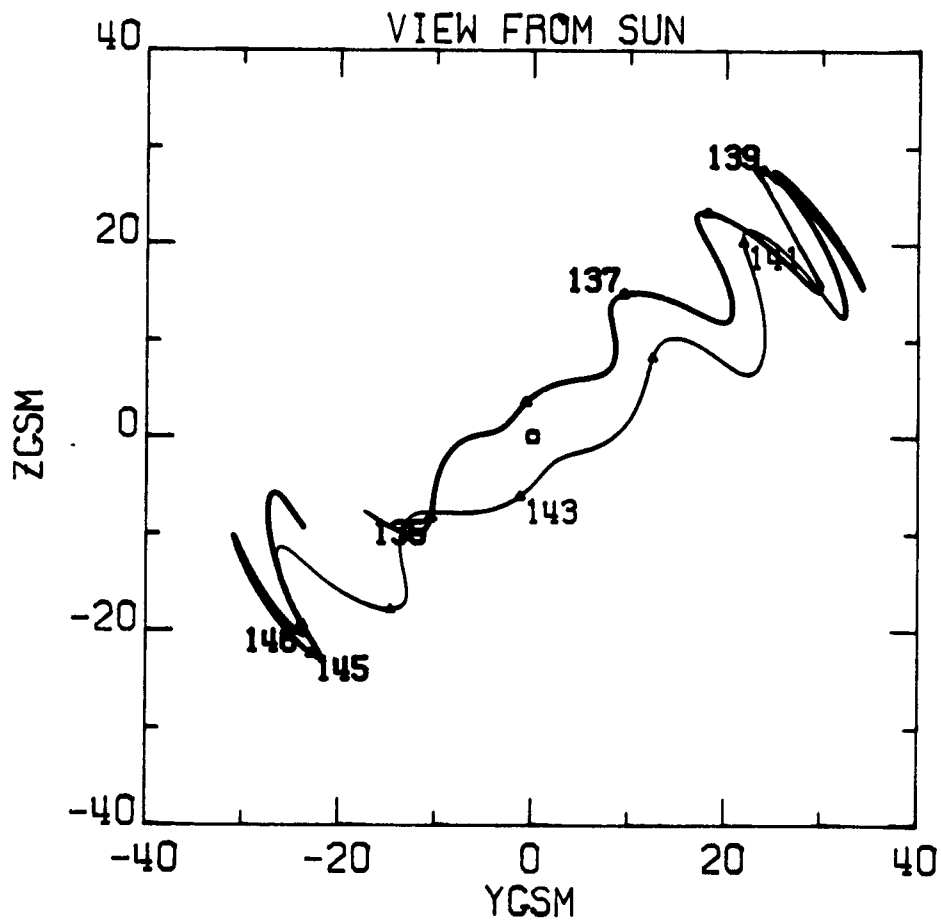
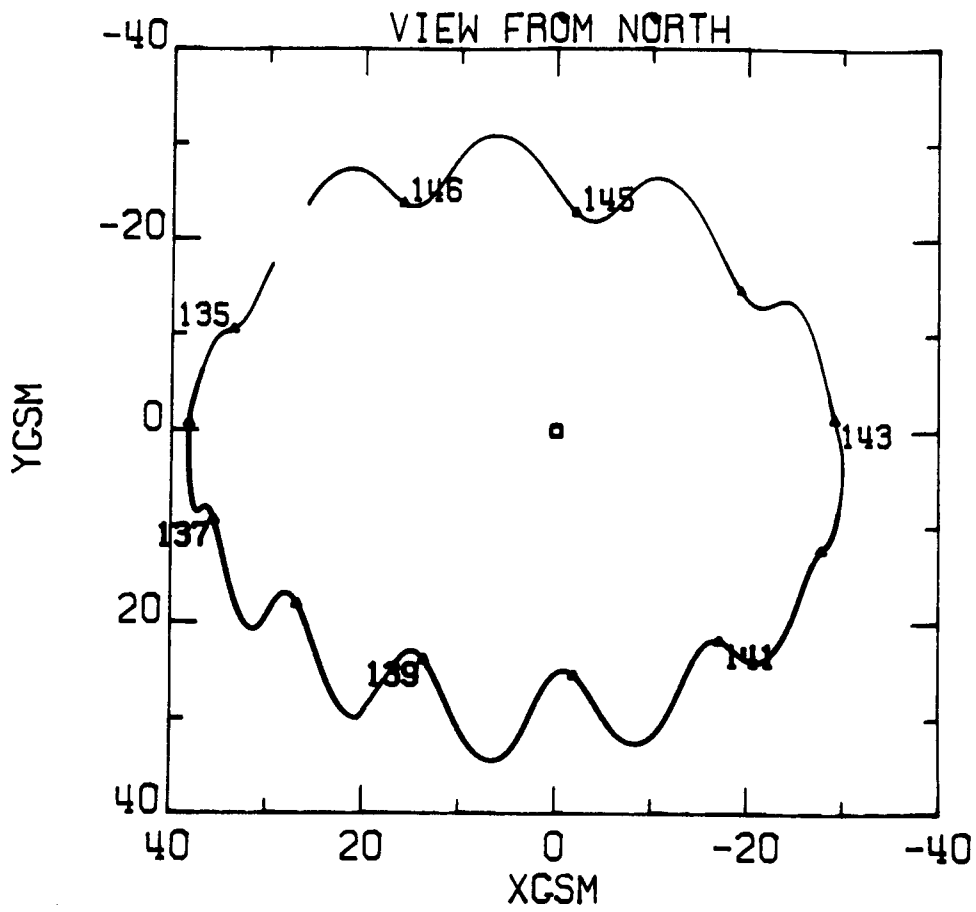
FROM MAY 2 TO MAY 14 1978

DAYS 122 THRU 134

SATELLITE AND MOON ORBITS



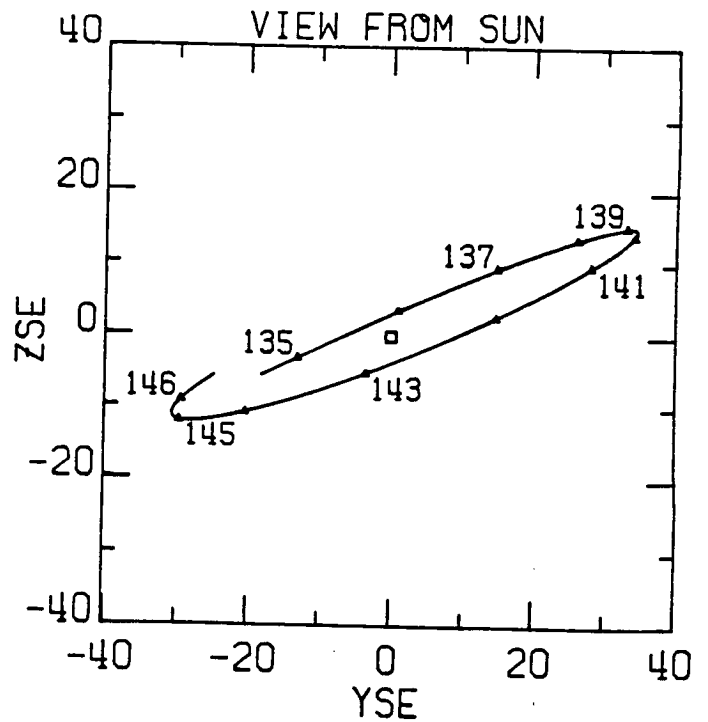
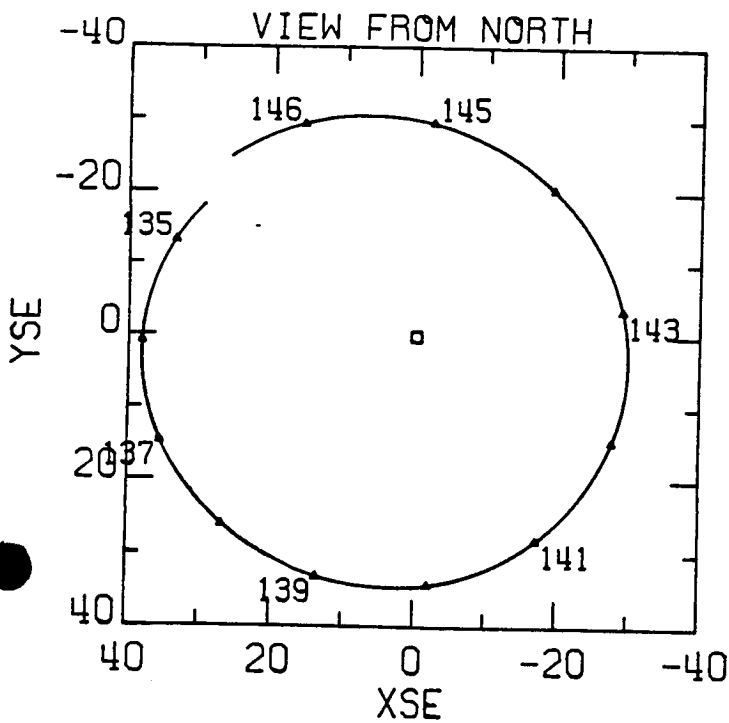
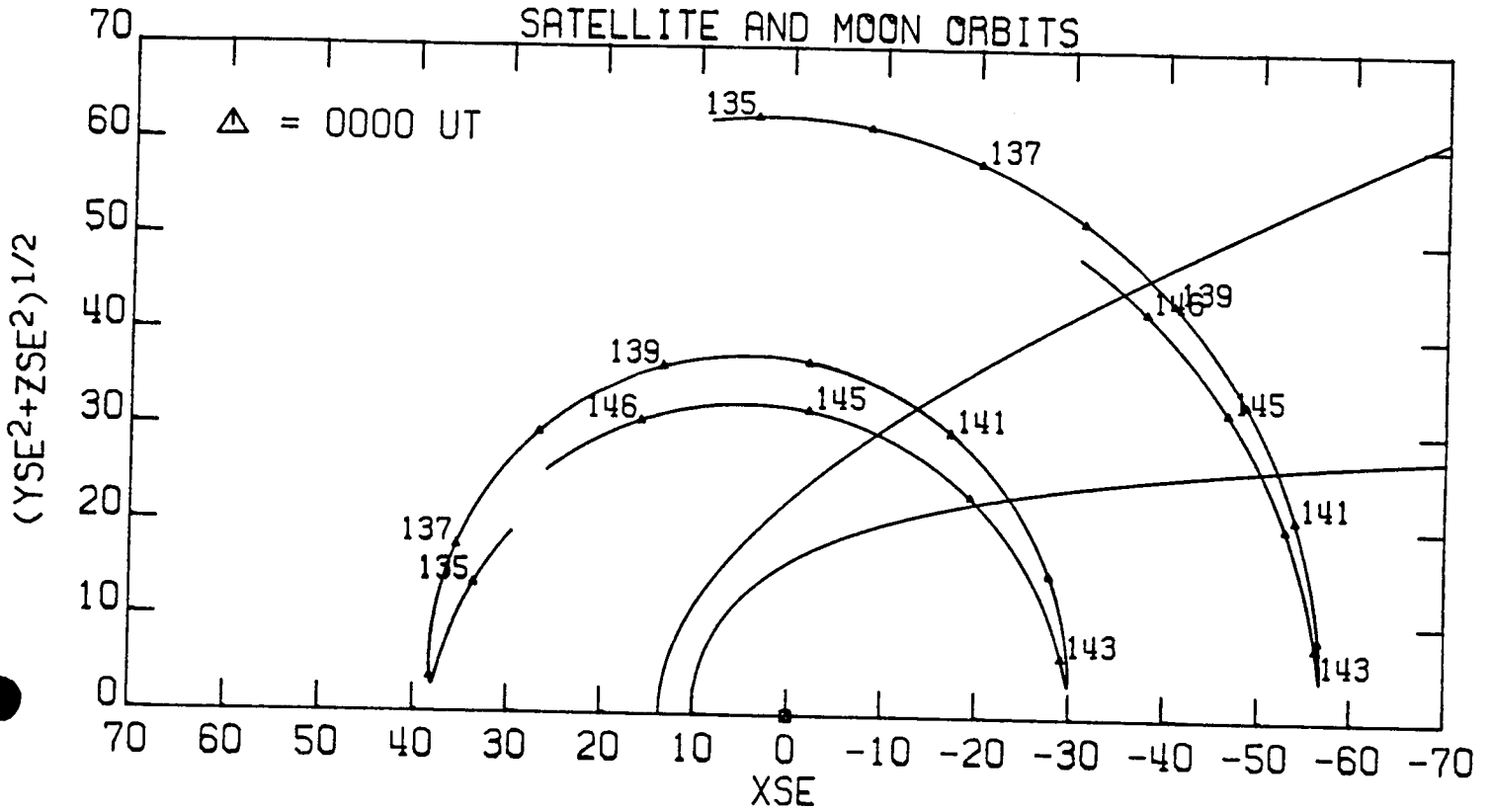
IMP 7 FROM MAY 14 TO MAY 26 1978



IMP 7 TRAJECTORY. ASCENDING NODE 170

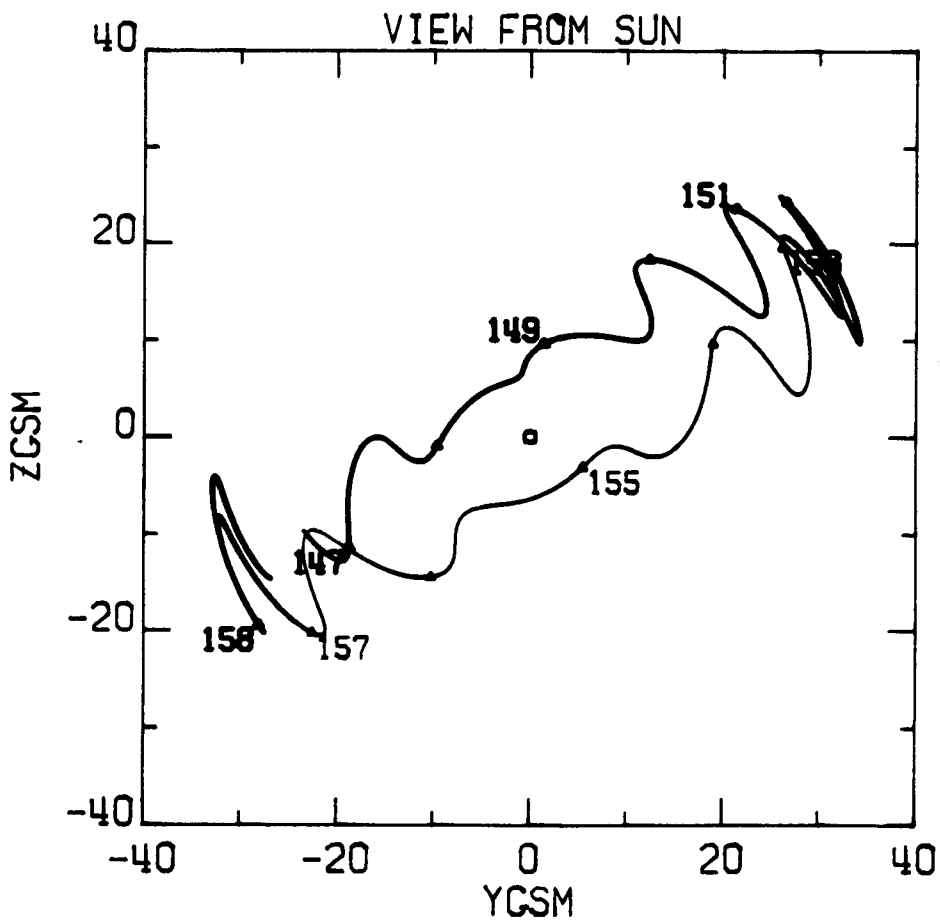
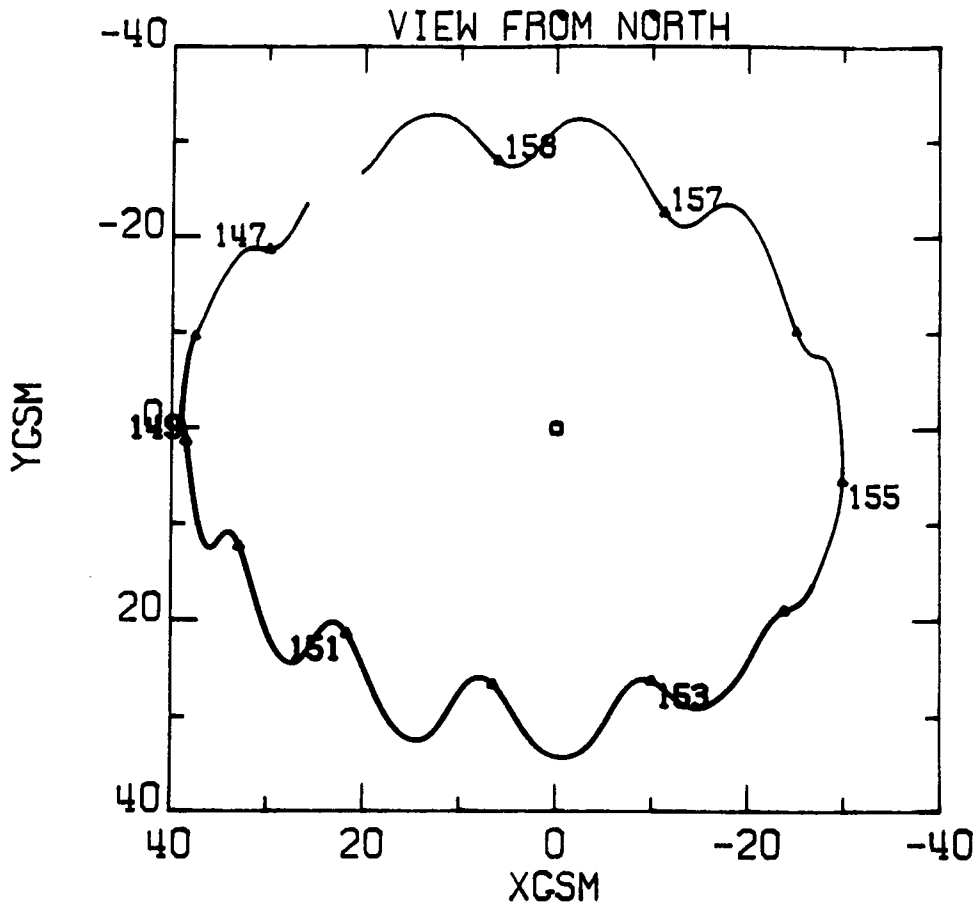
FROM MAY 14 TO MAY 26 1978

DAYS 134 THRU 146



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IMP 7 FROM MAY 26 TO JUN 7 1978

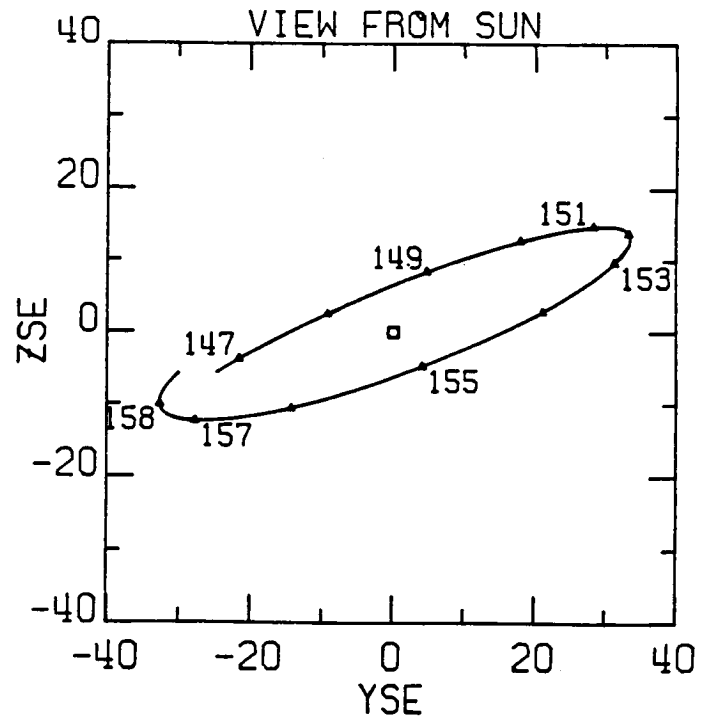
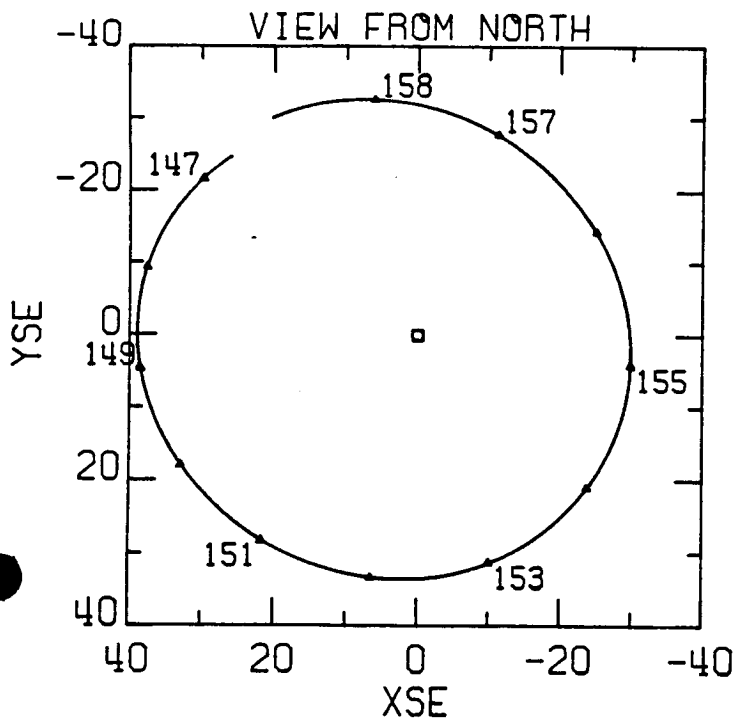
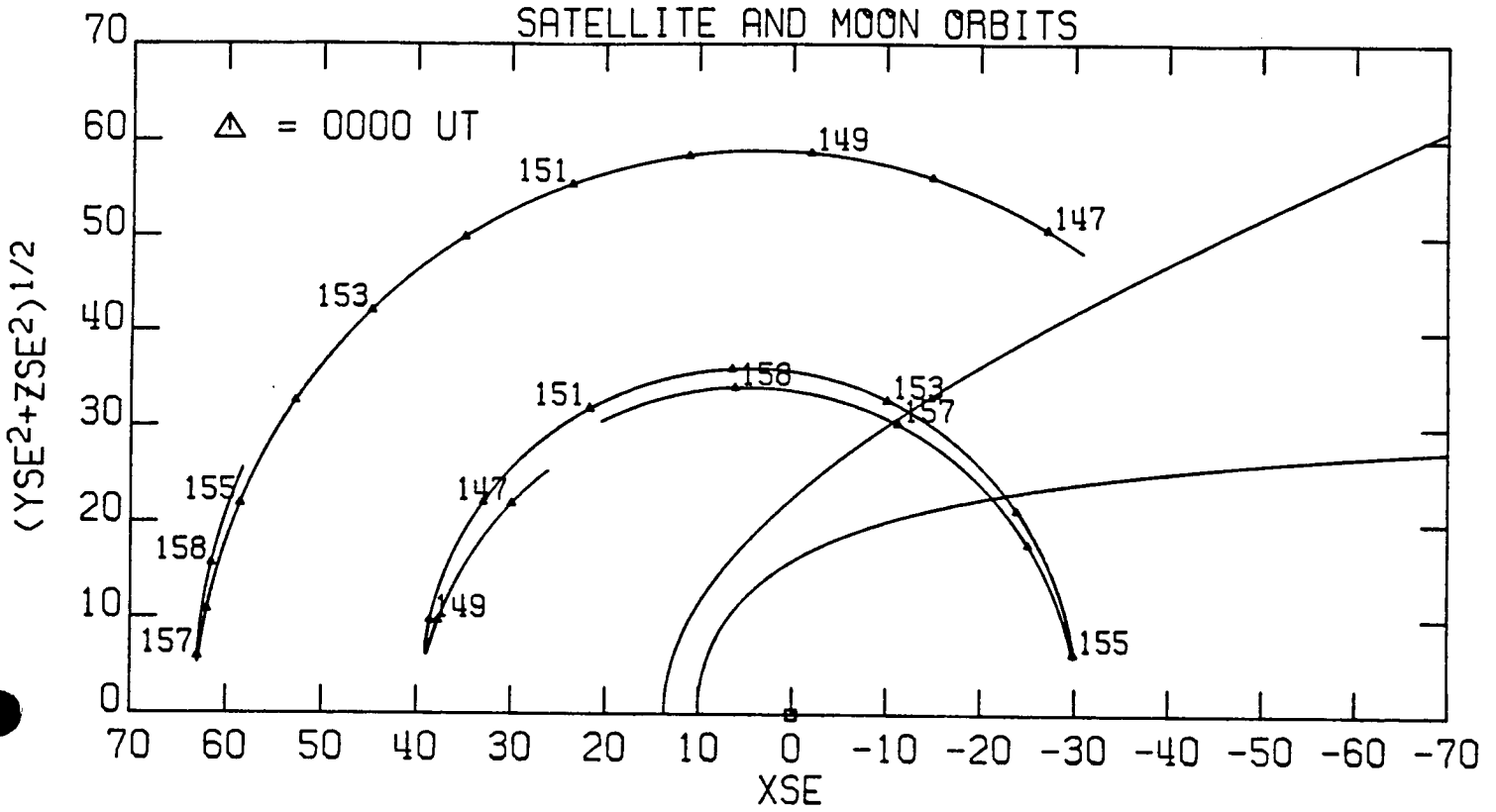


IMP 7 TRAJECTORY.

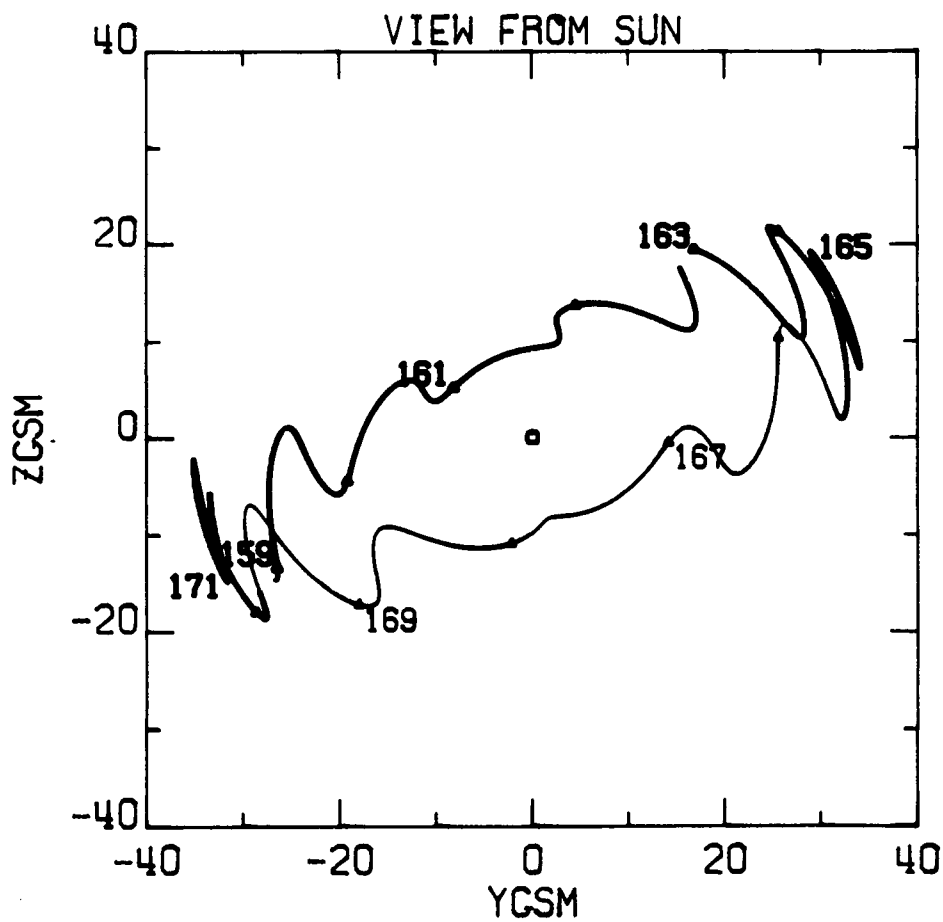
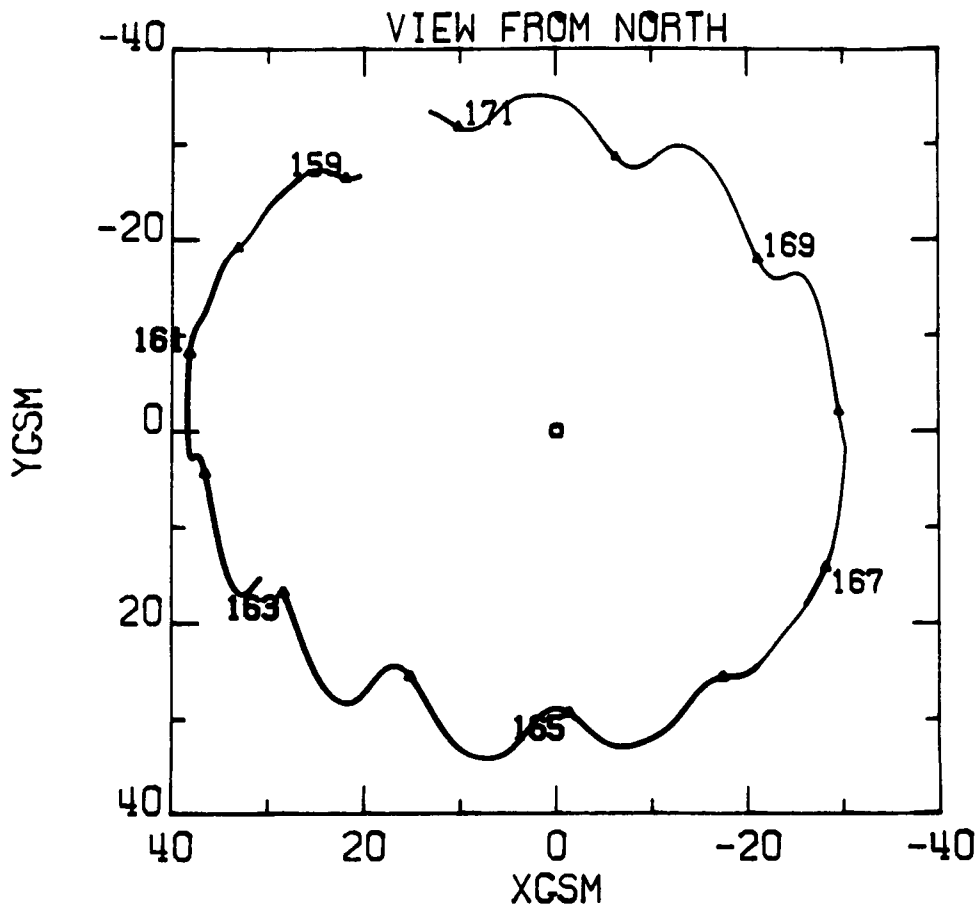
ASCENDING NODE 171

FROM MAY 26 TO JUN 7 1978

DAYS 146 THRU 158

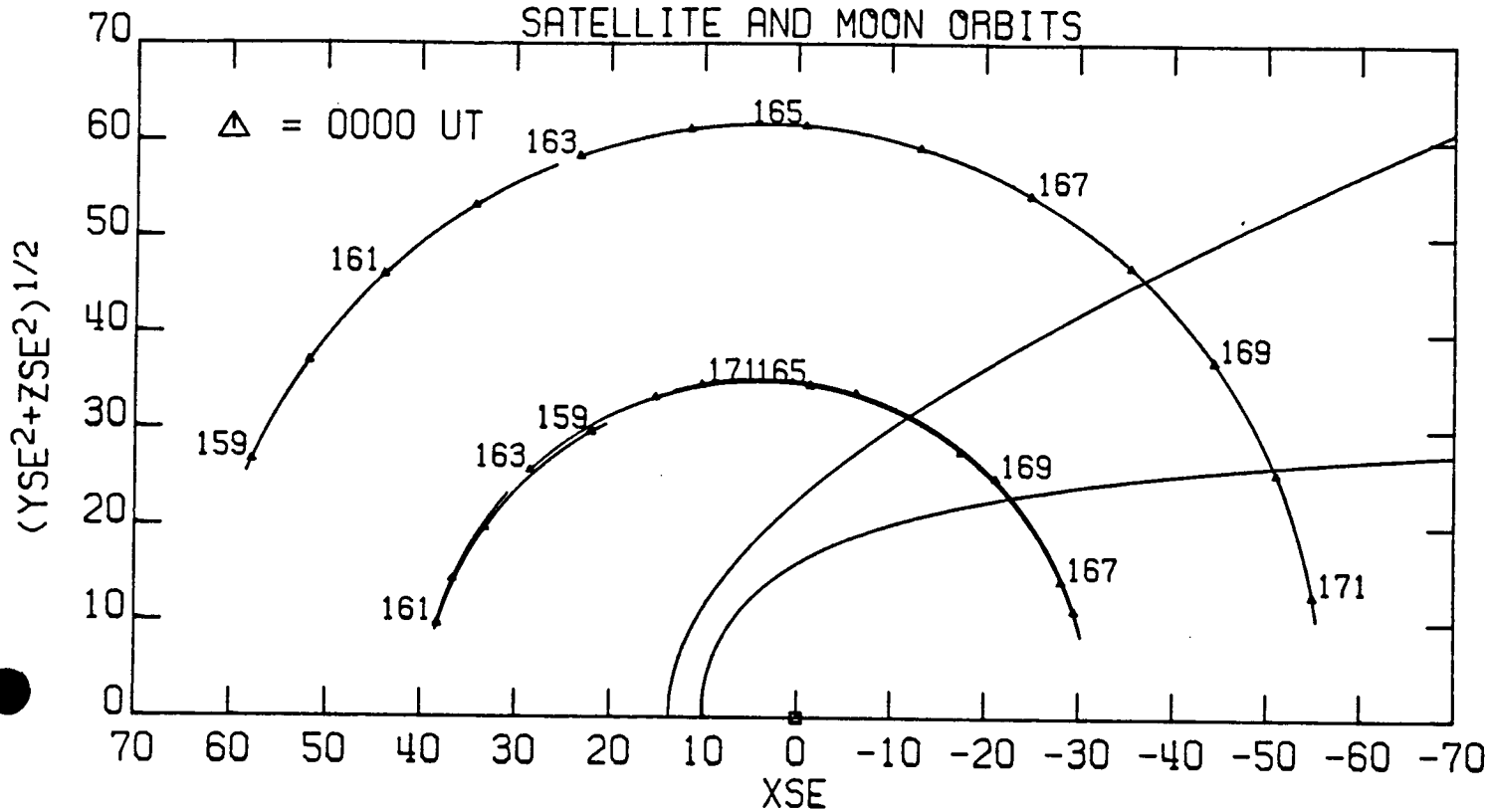


IMP 7 FROM JUN 7 TO JUN 20 1978

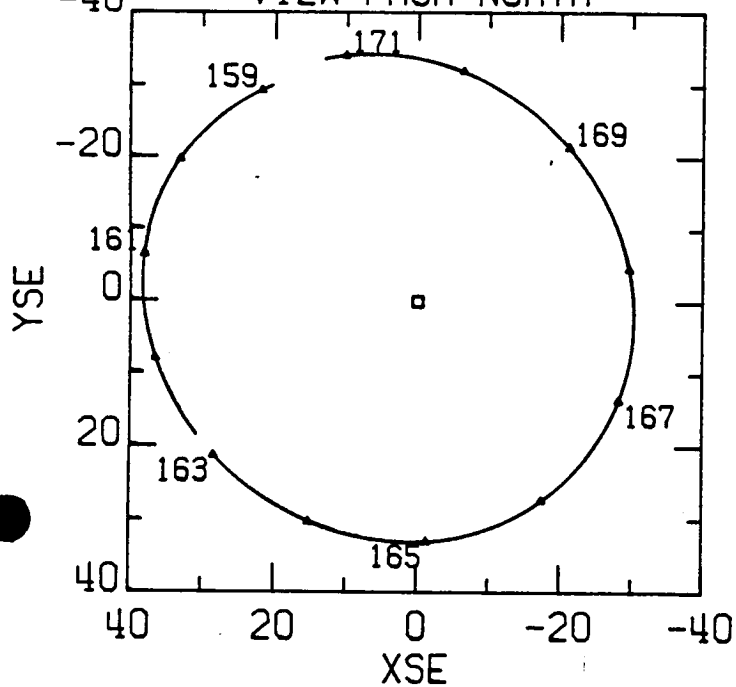


IMP 7 TRAJECTORY. ASCENDING NODE 172
 FROM JUN 7 TO JUN 20 1978
 DAYS 158 THRU 171

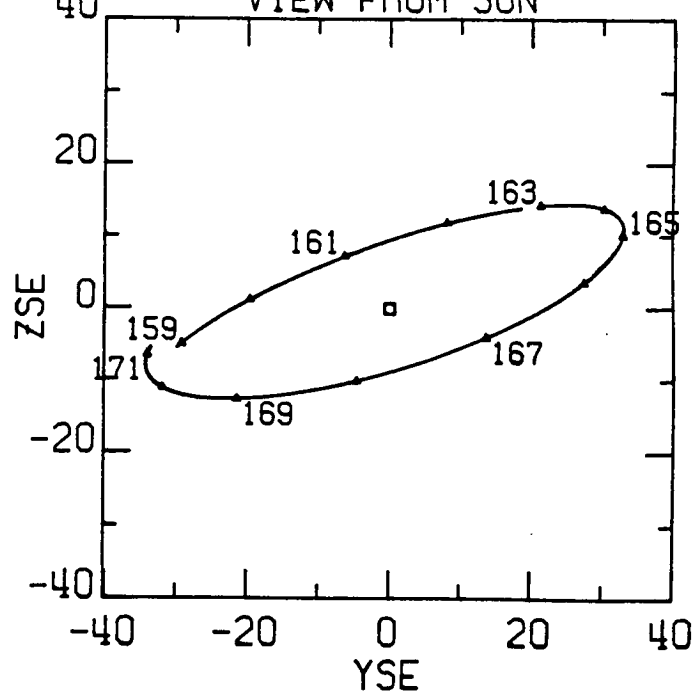
SATELLITE AND MOON ORBITS



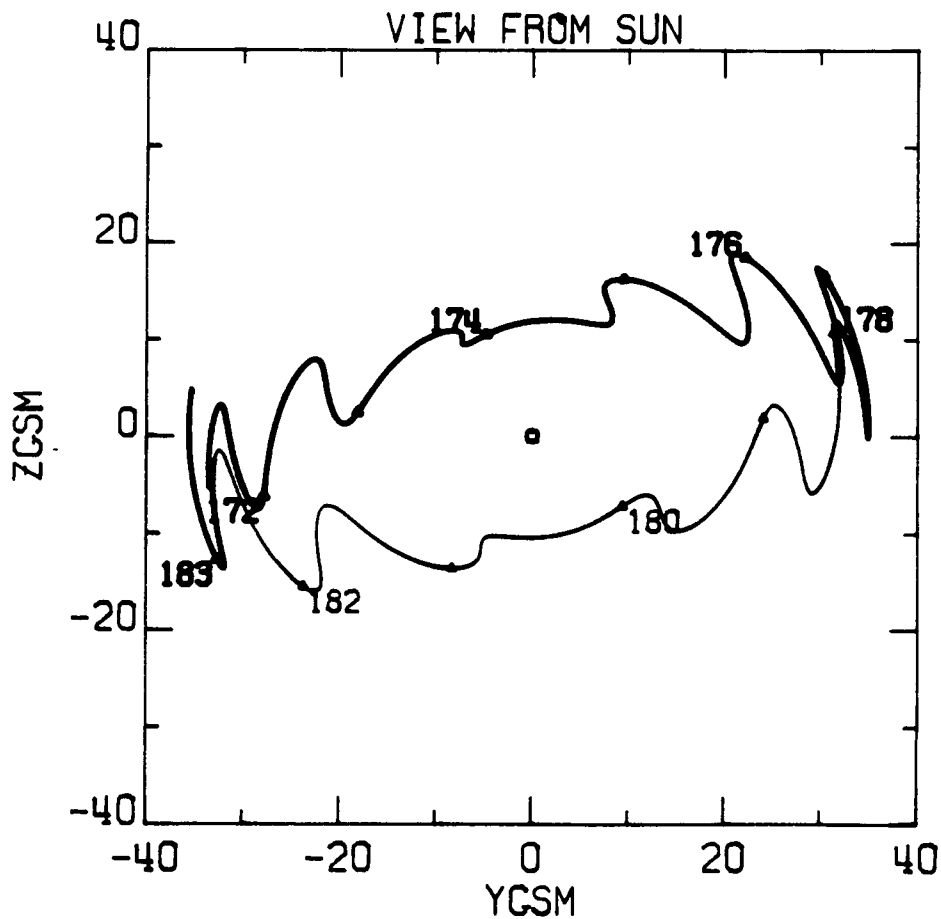
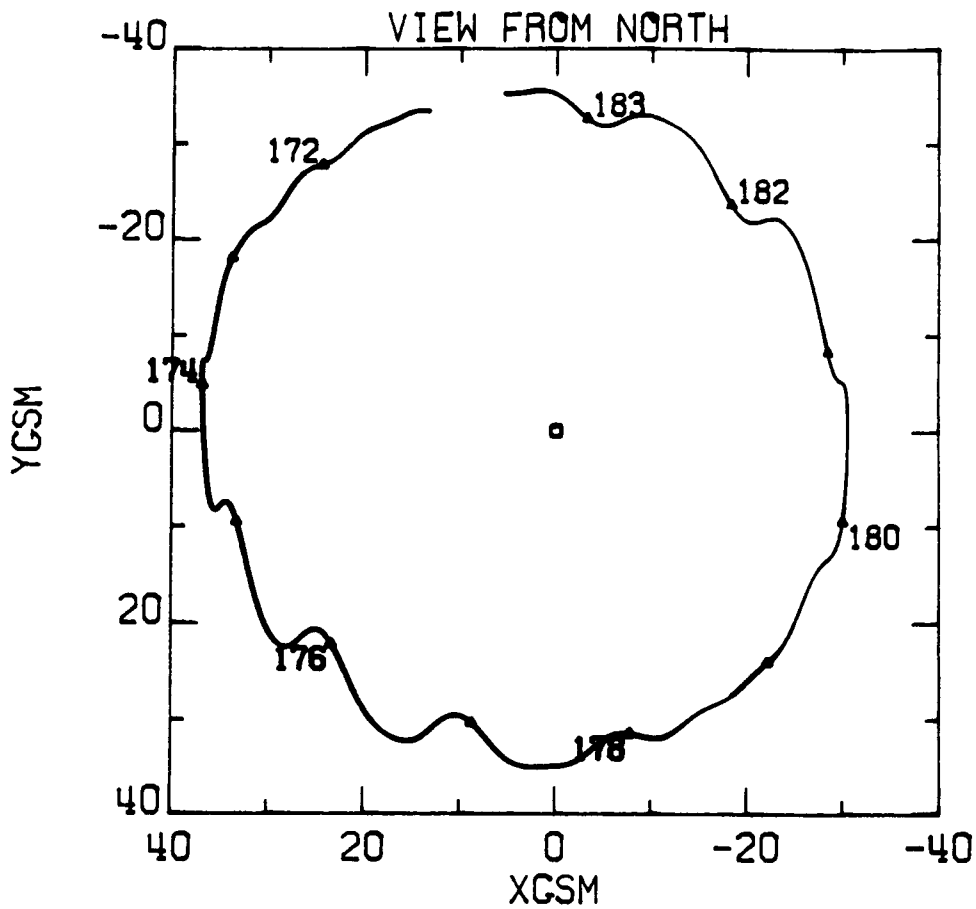
VIEW FROM NORTH



VIEW FROM SUN

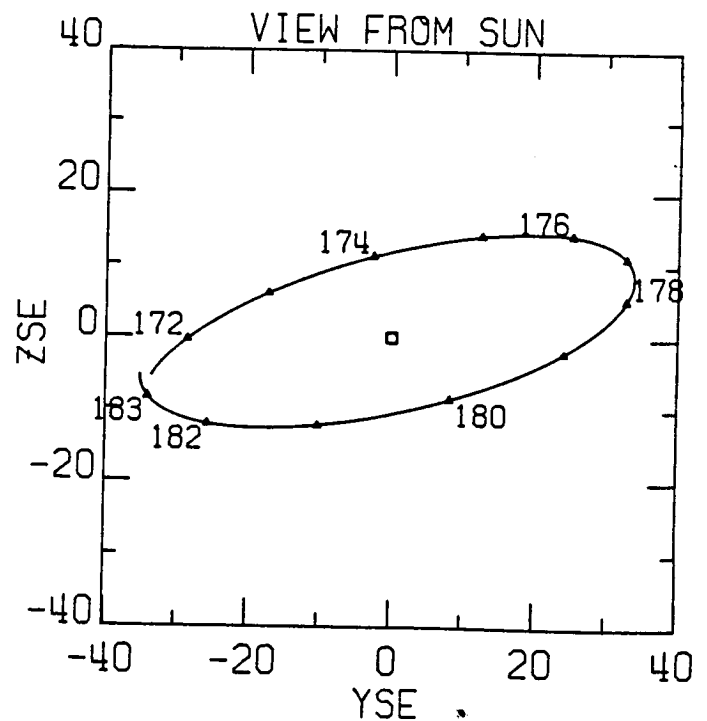
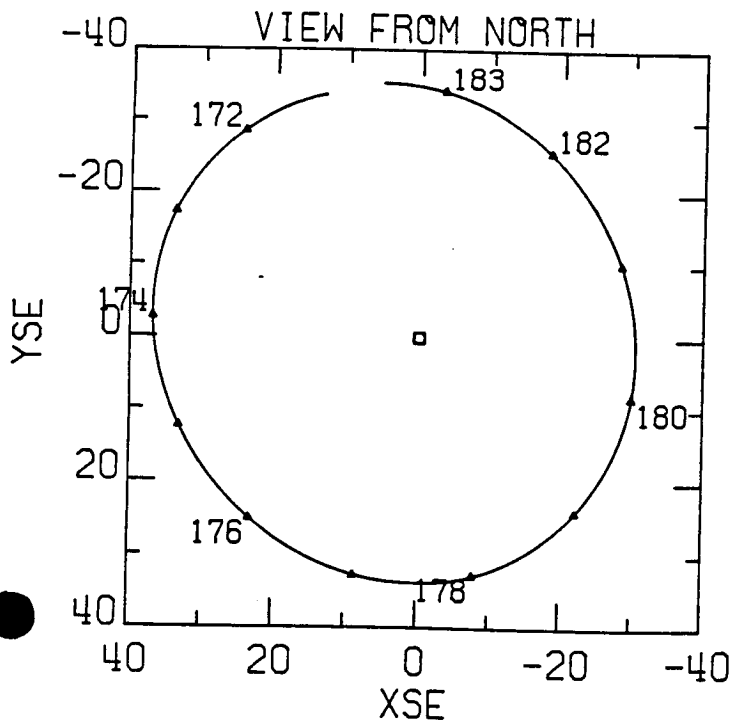
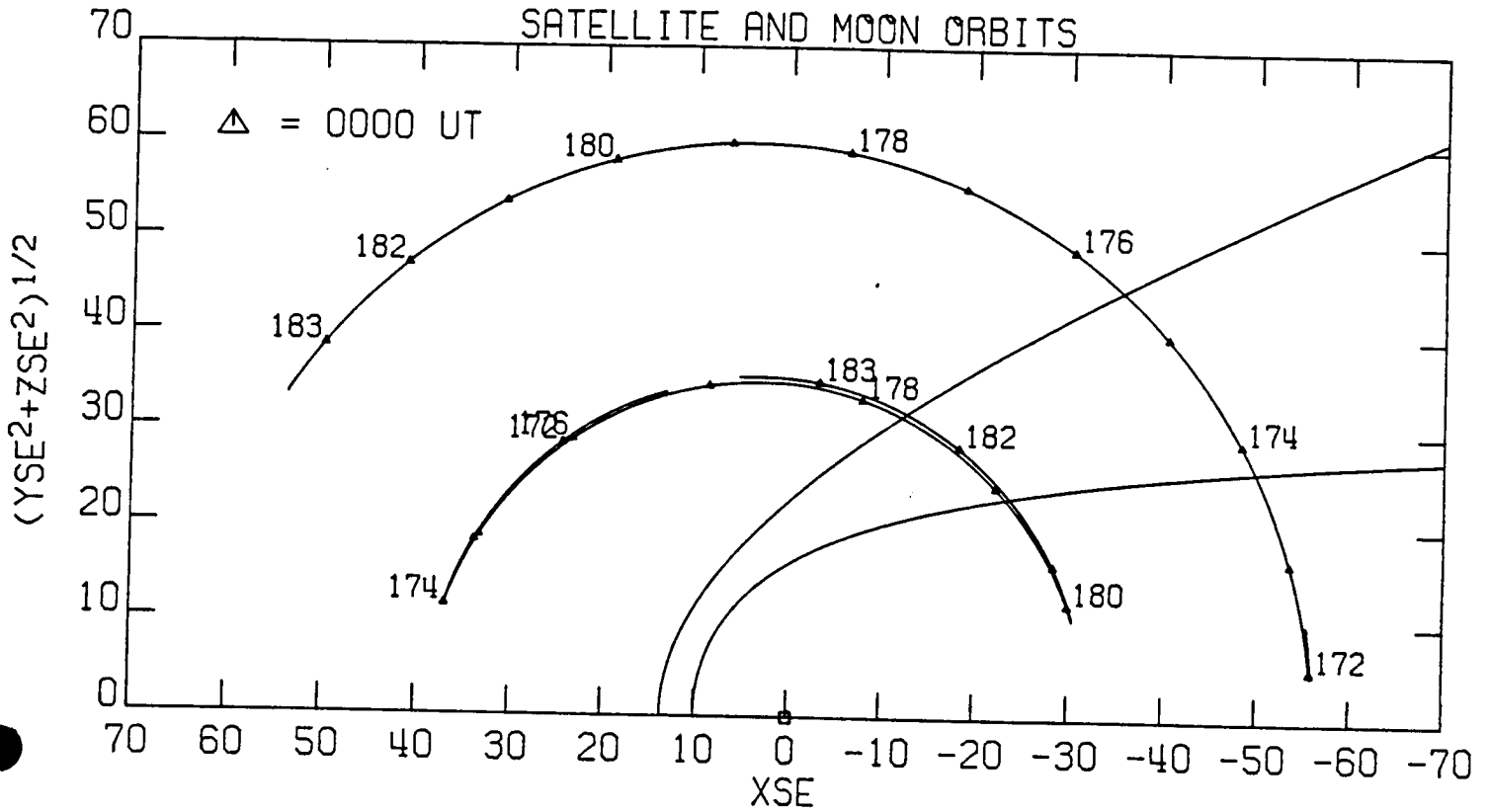


IMP 7 FROM JUN 20 TO JUL 2 1978

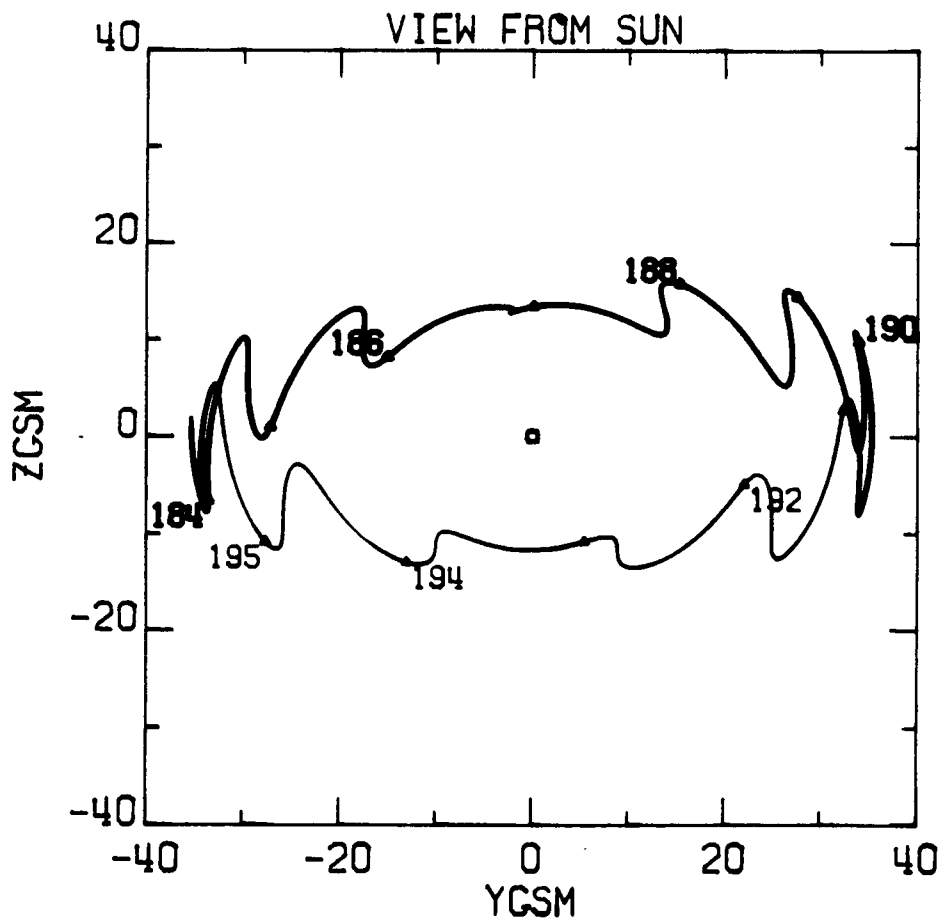
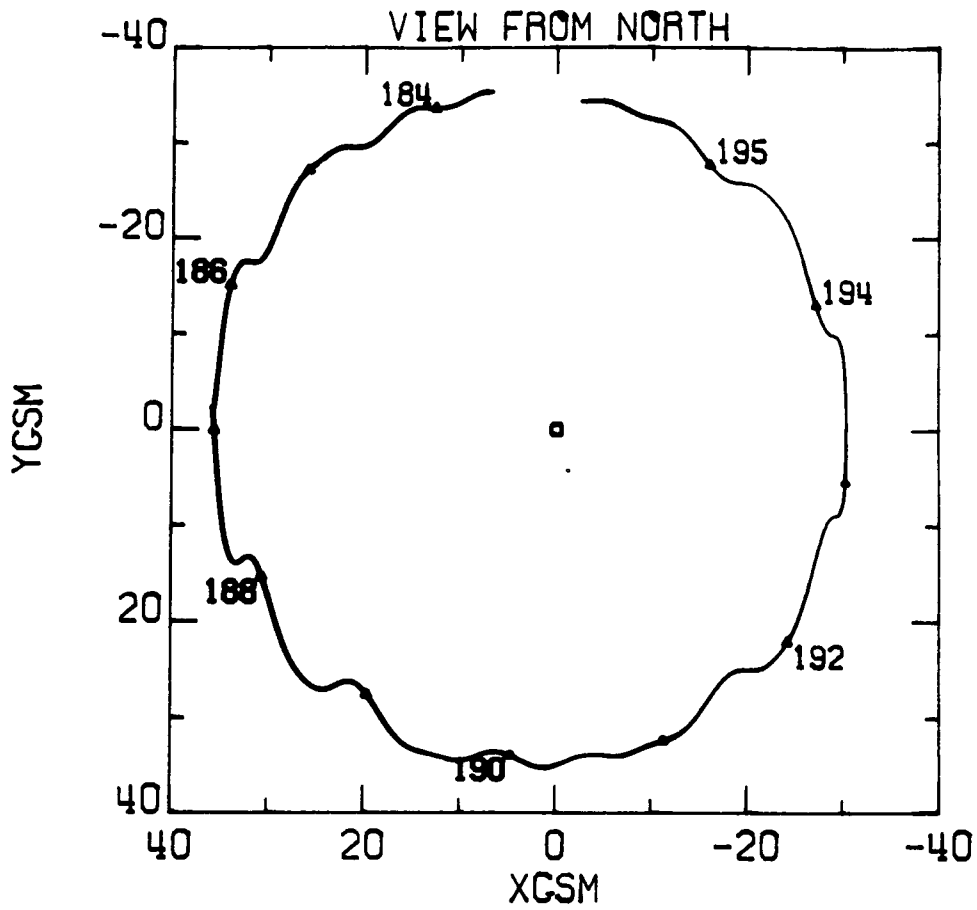


FROM JUN 20 TO JUL 2 1978

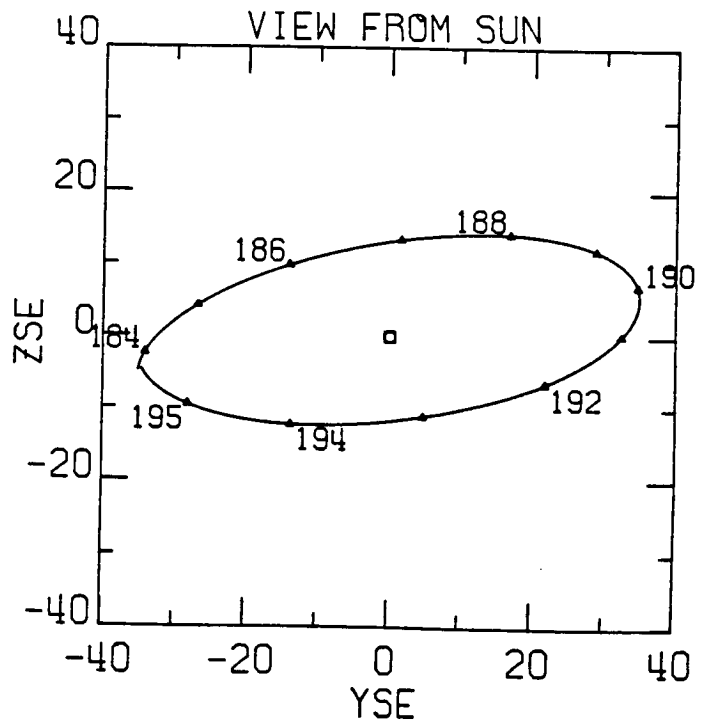
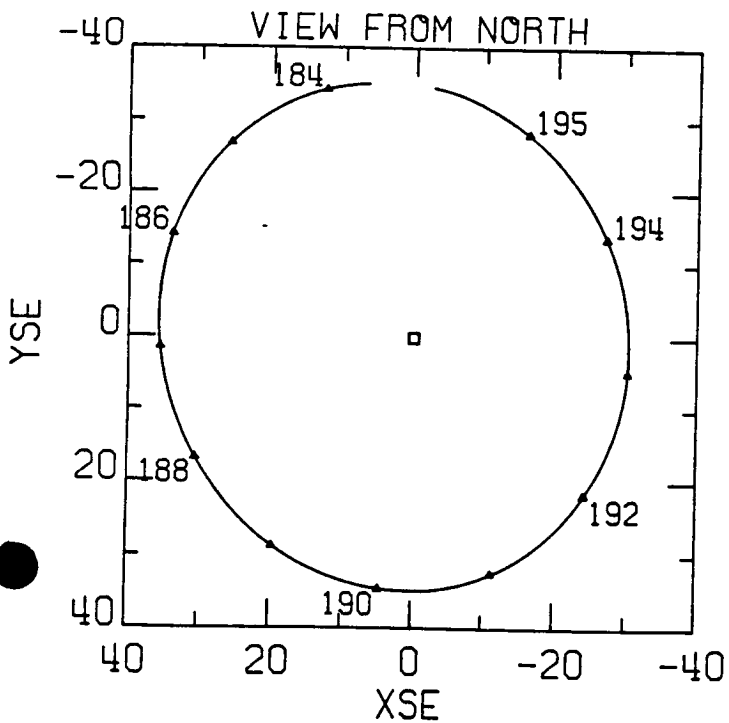
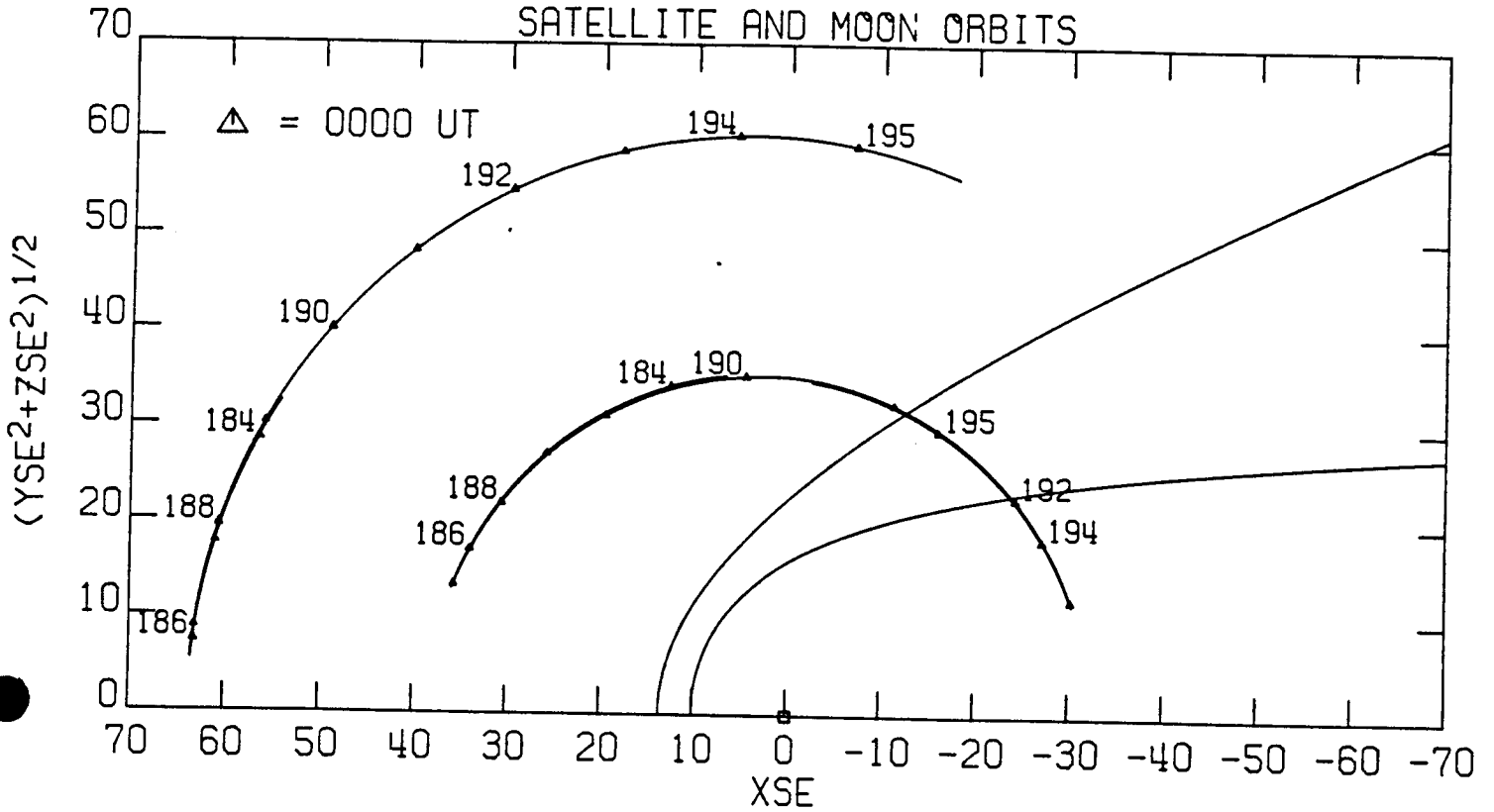
DAYS 171 THRU 183



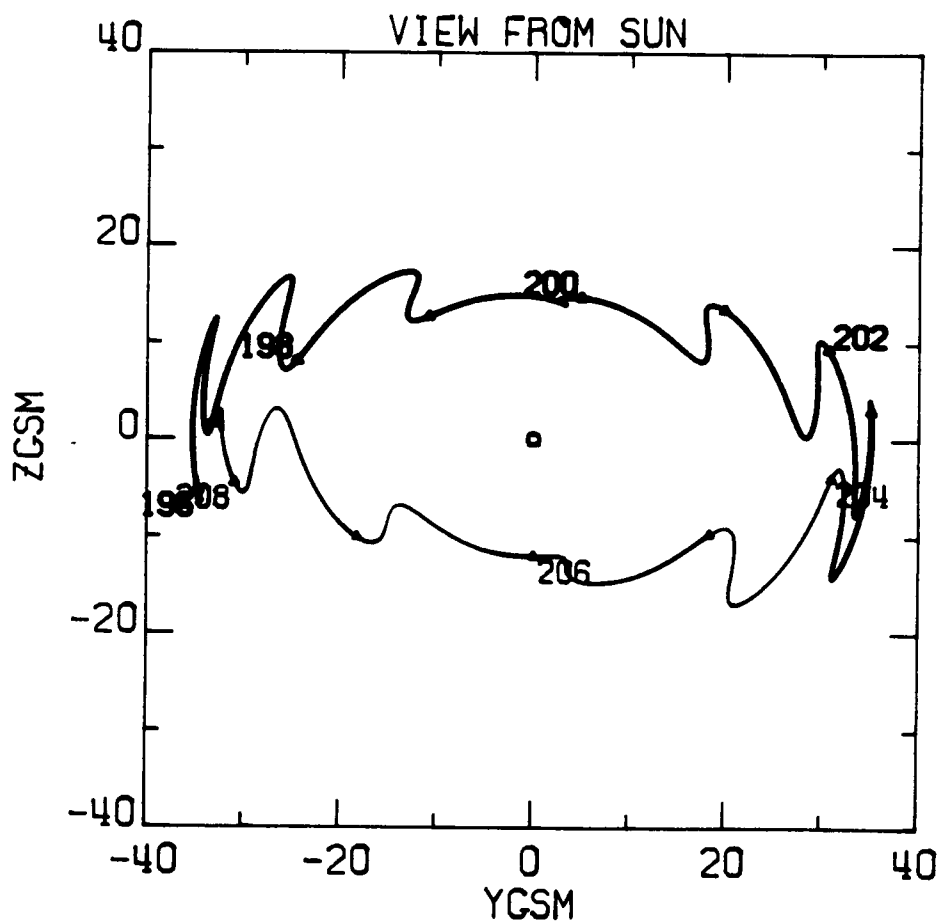
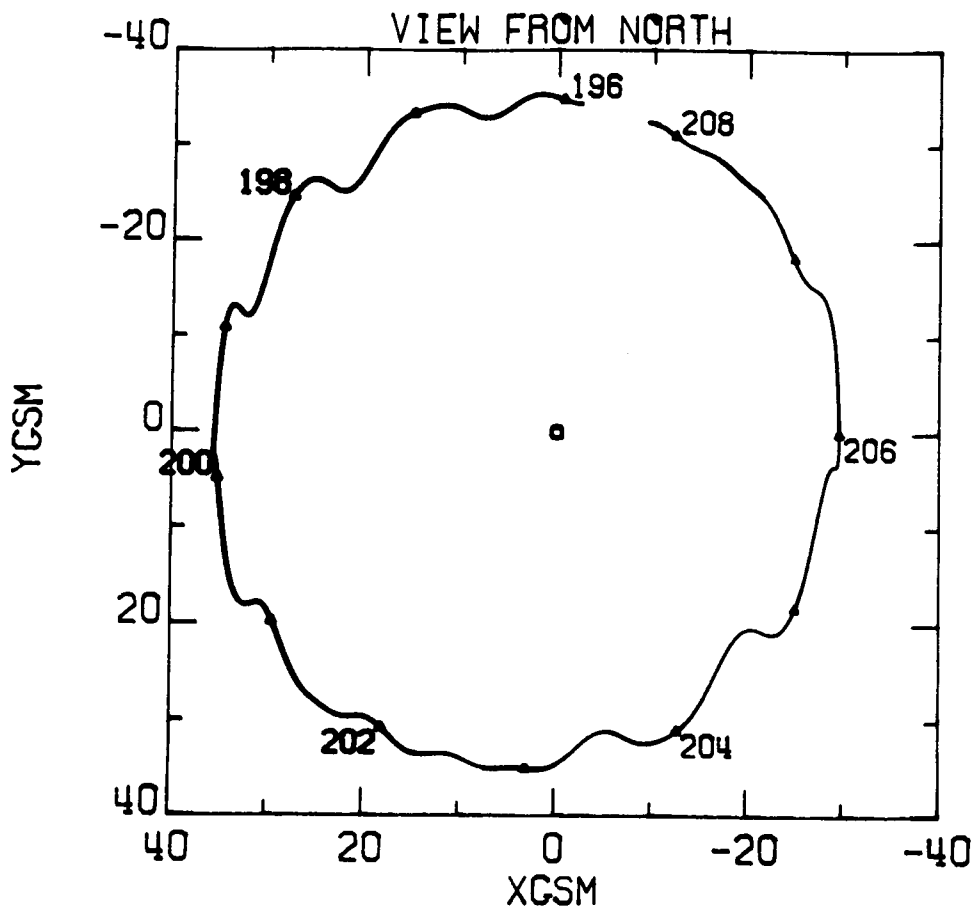
IMP 7 FROM JUL 2 TO JUL 14 1978



IMP 7 TRAJECTORY. ASCENDING NODE 174
 FROM JUL 2 TO JUL 14 1978
 DAYS 183 THRU 195



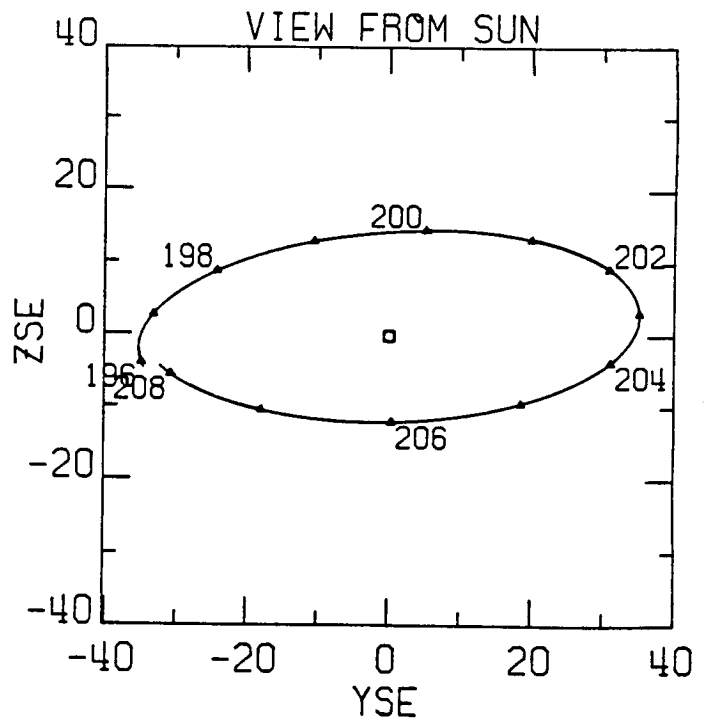
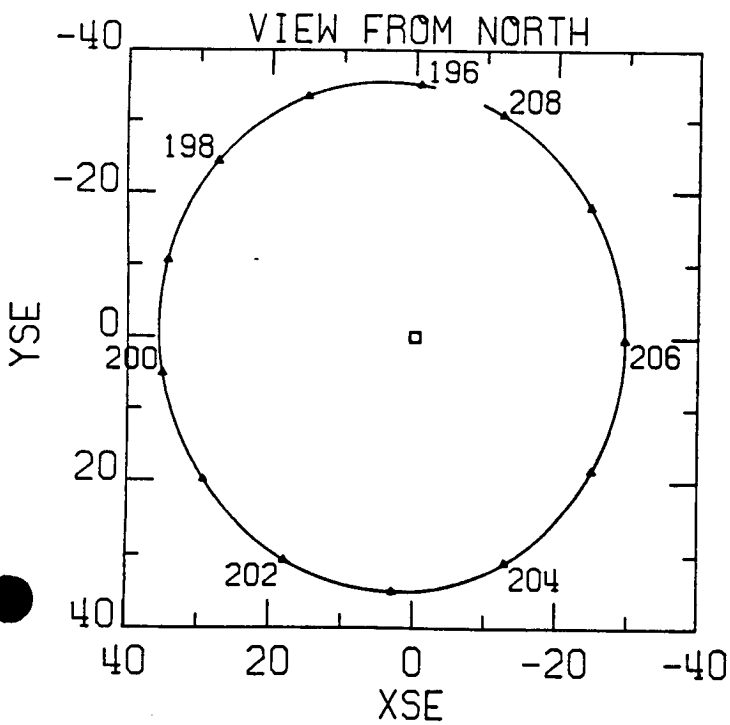
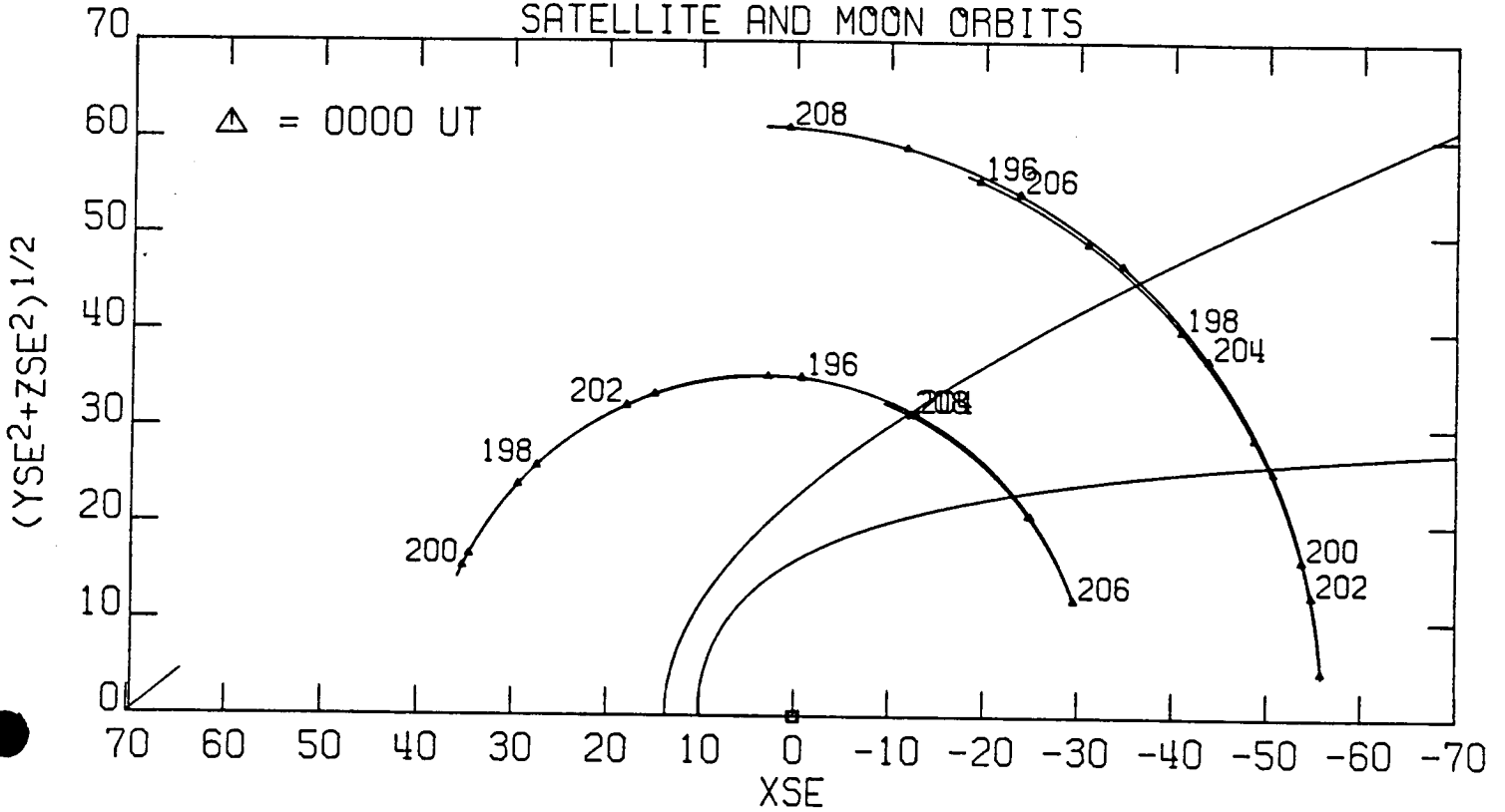
IMP 7 FROM JUL 14 TO JUL 27 1978



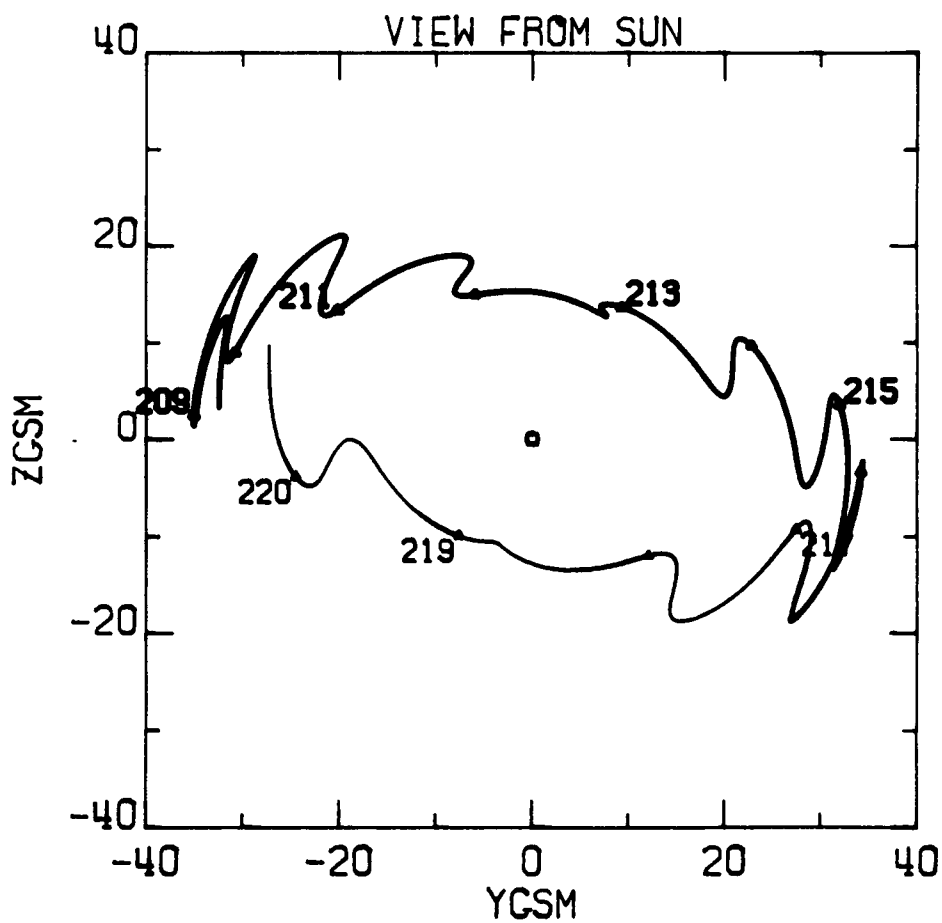
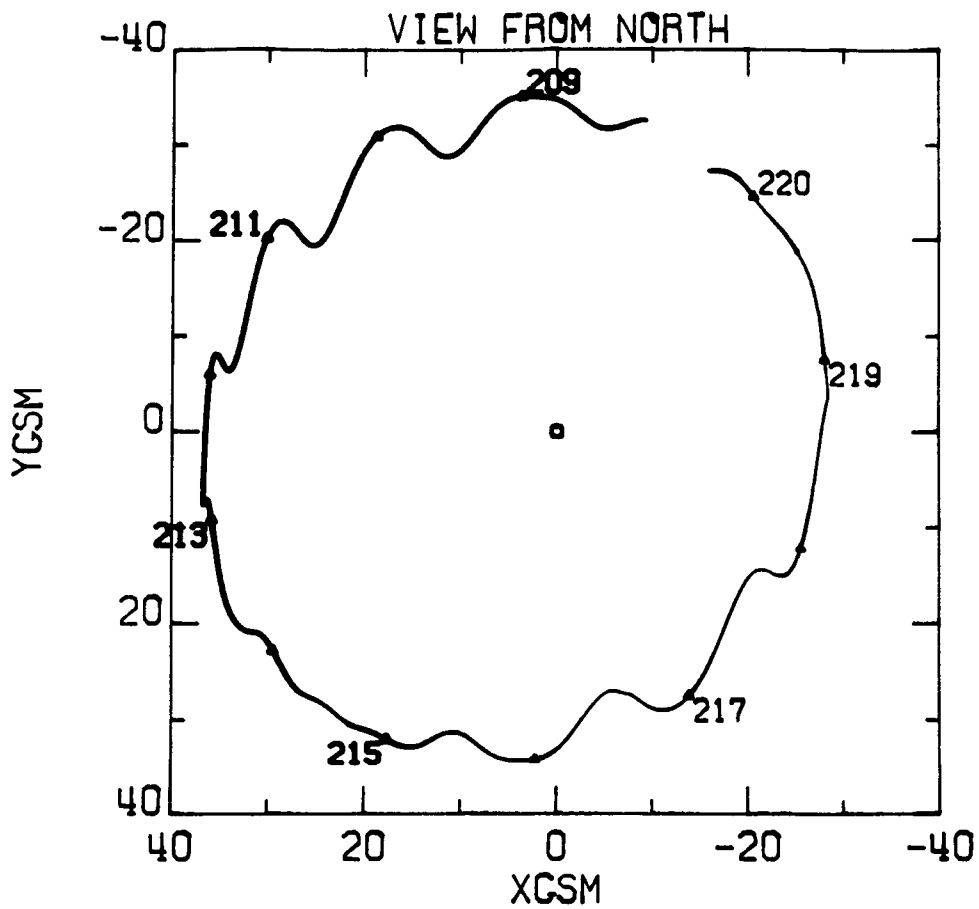
FROM JUL 14 TO JUL 27 1978

DAYS 195 THRU 208

SATELLITE AND MOON ORBITS



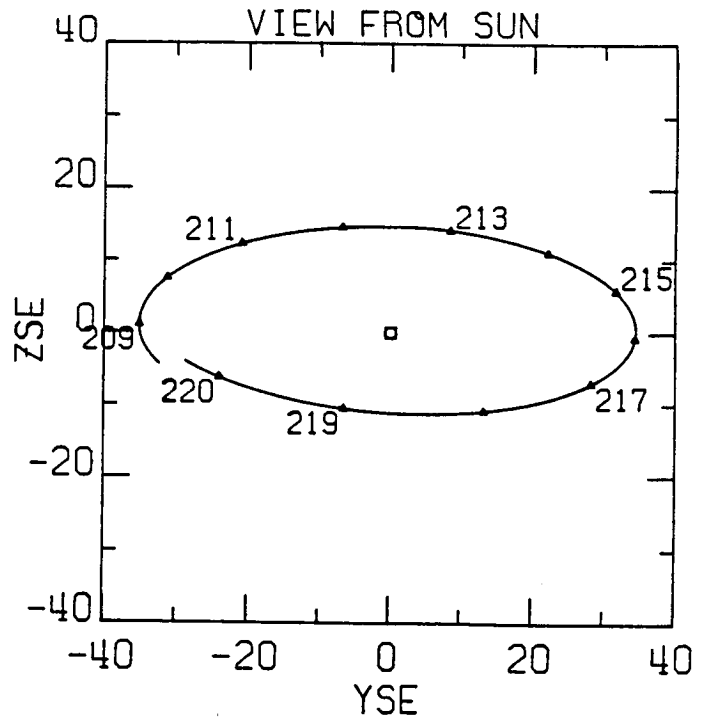
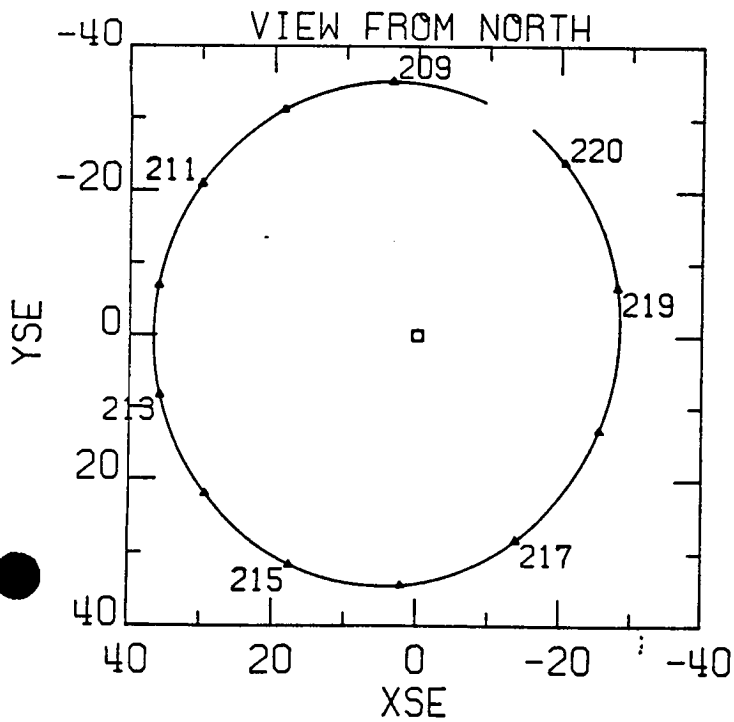
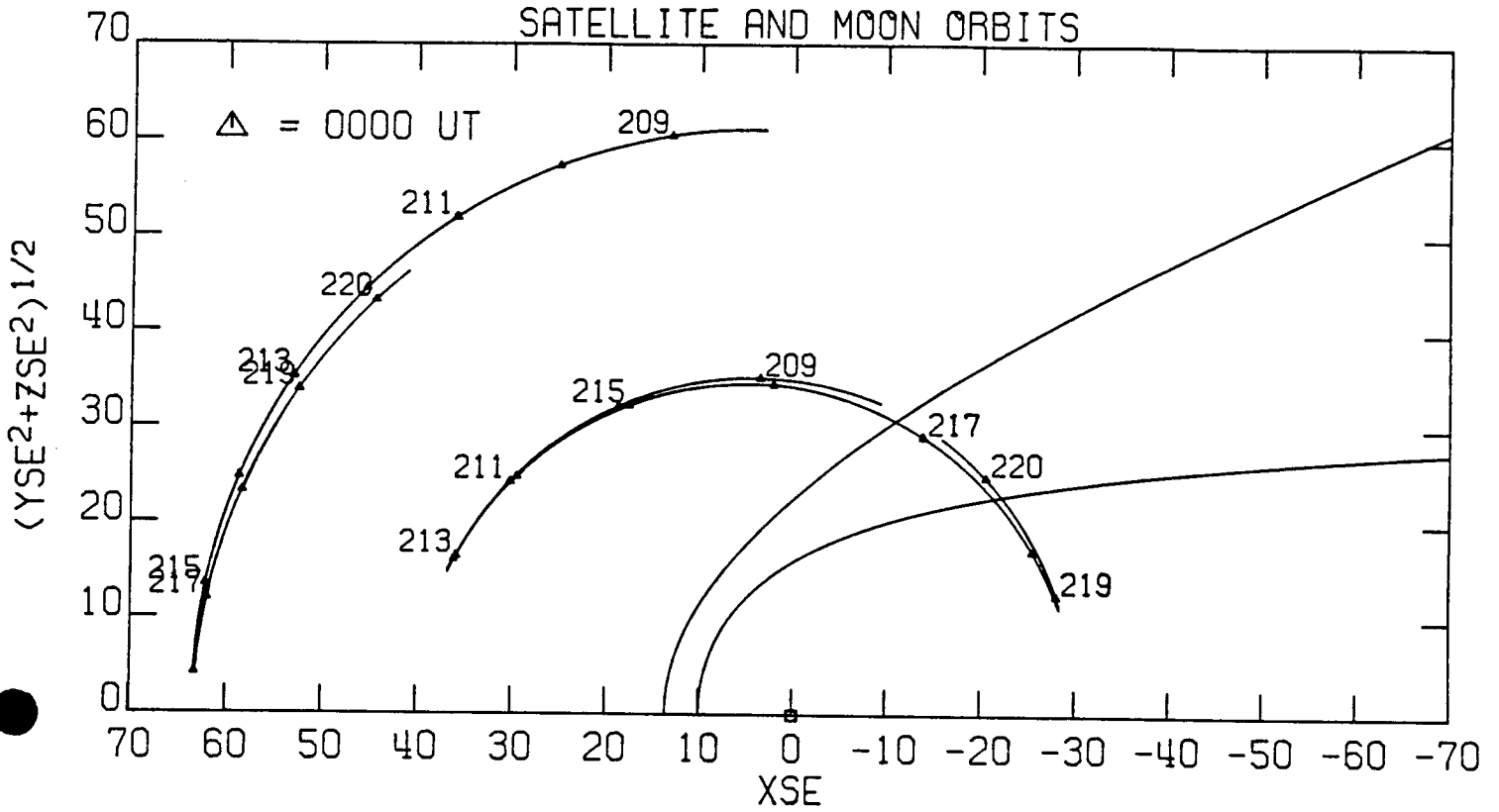
IMP 7 FROM JUL 27 TO AUG 8 1978



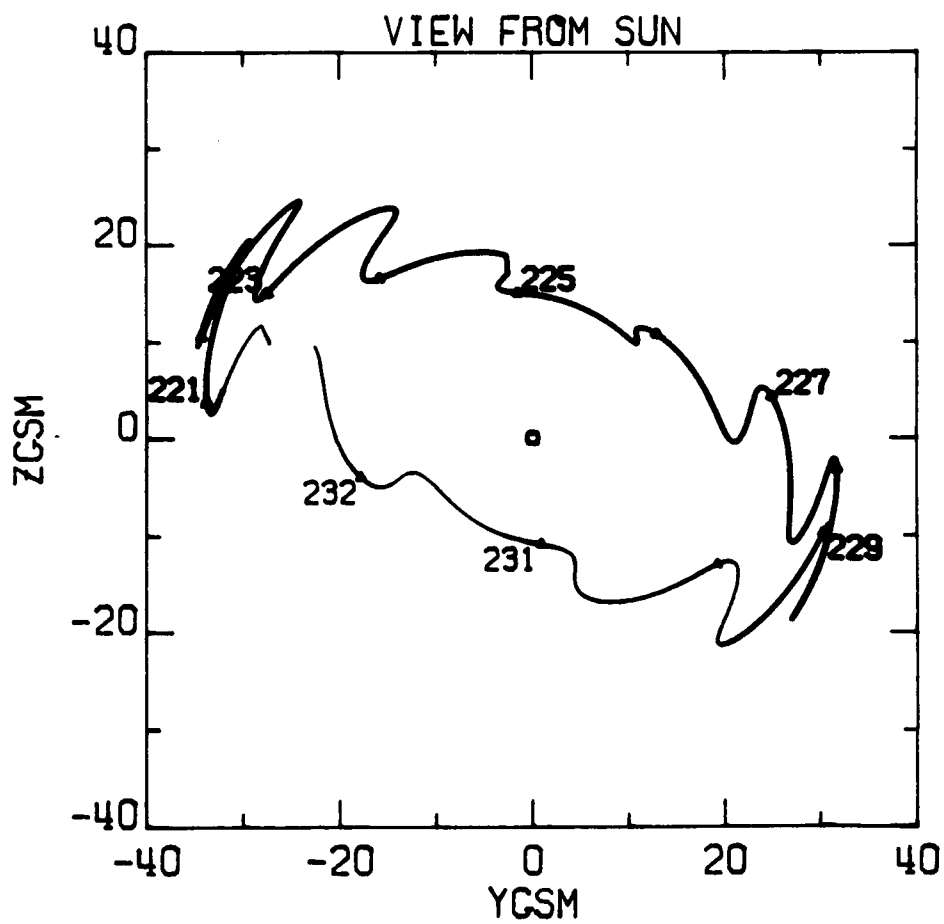
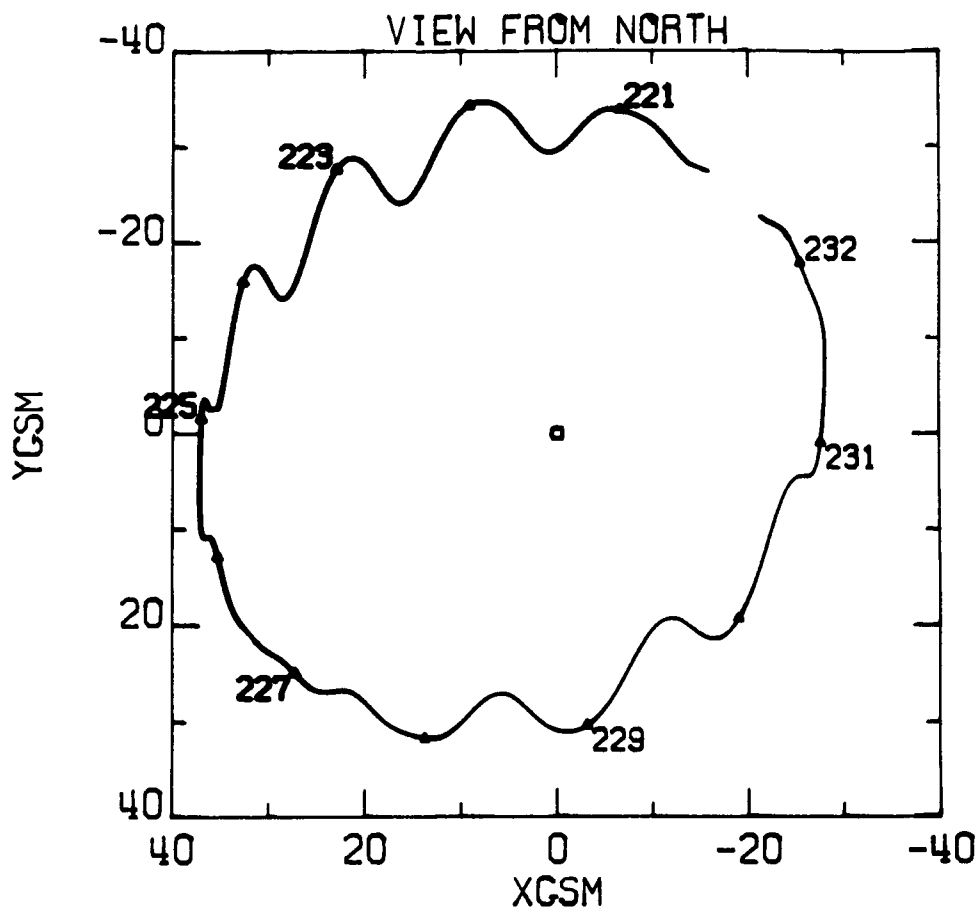
IMP 7 TRAJECTORY... ASCENDING NODE 176

FROM JUL 27 TO AUG 8 1978

DAYS 208 THRU 220



IMP 7 FROM AUG 8 TO AUG 20 1978



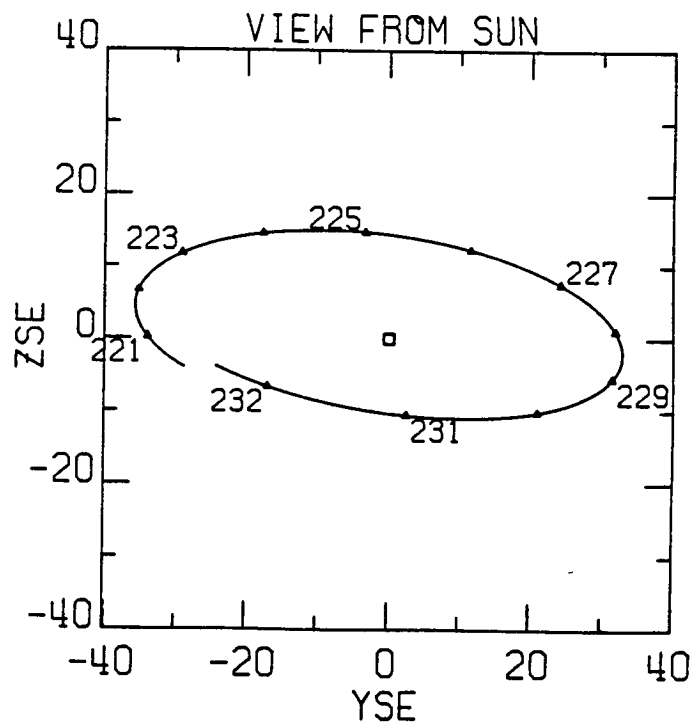
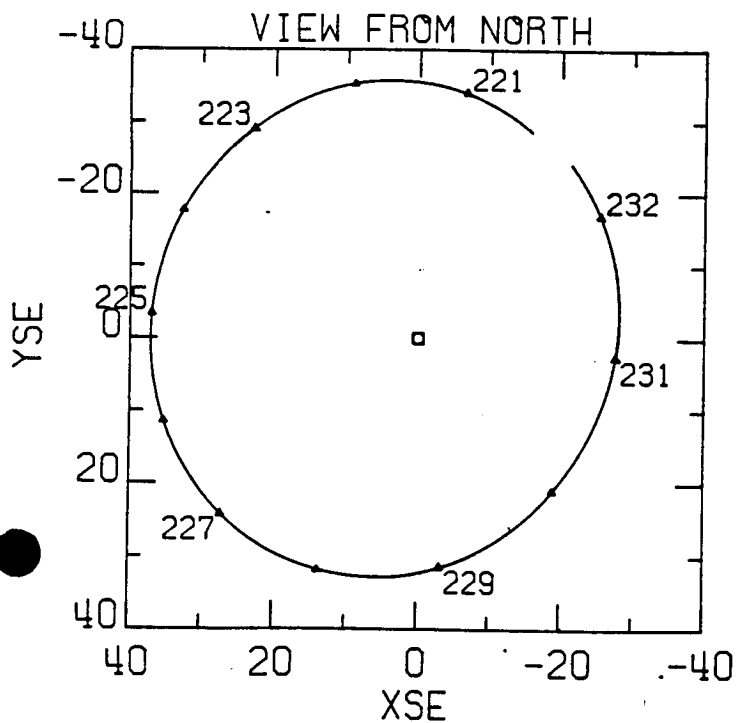
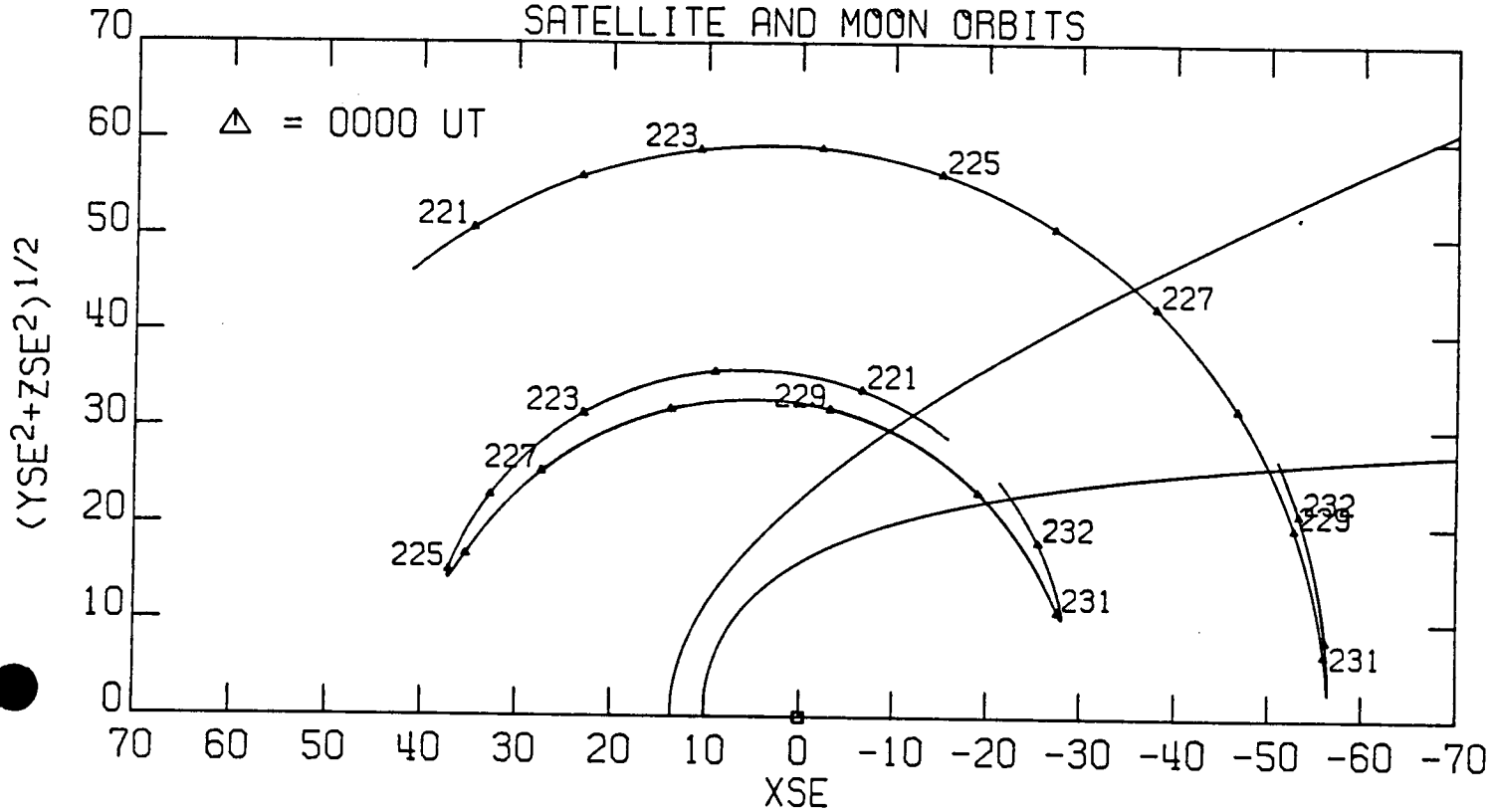
IMP 7 TRAJECTORY.

ASCENDING NODE 177

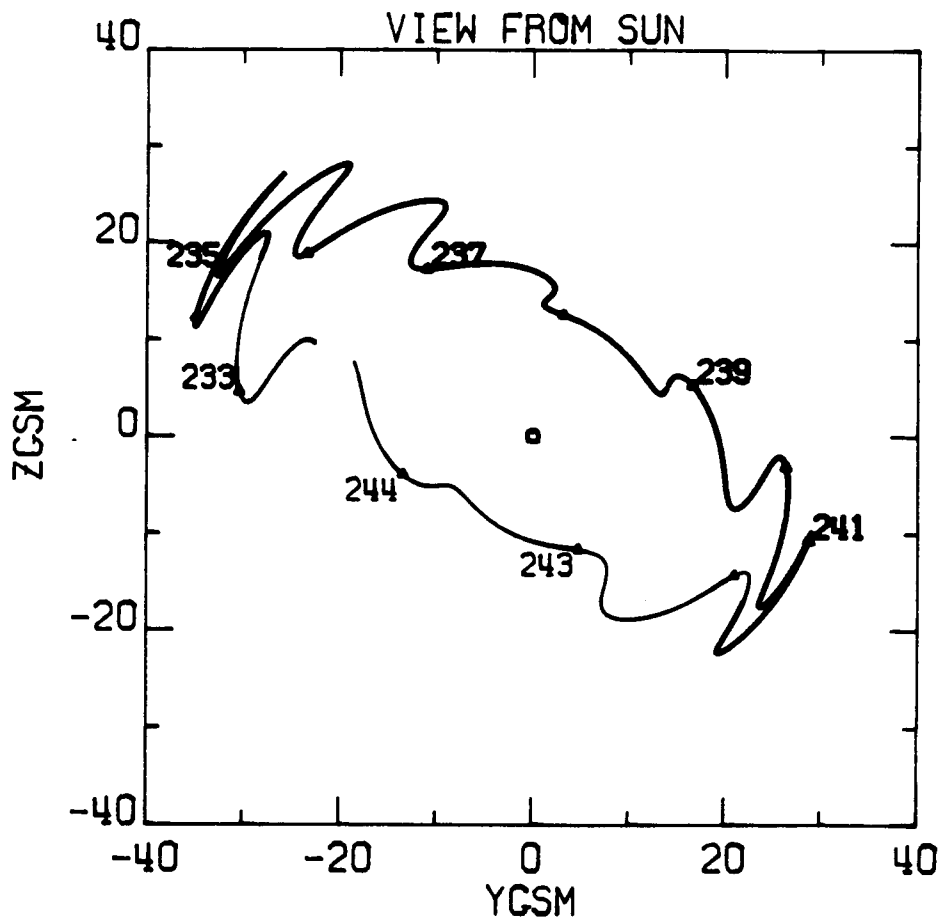
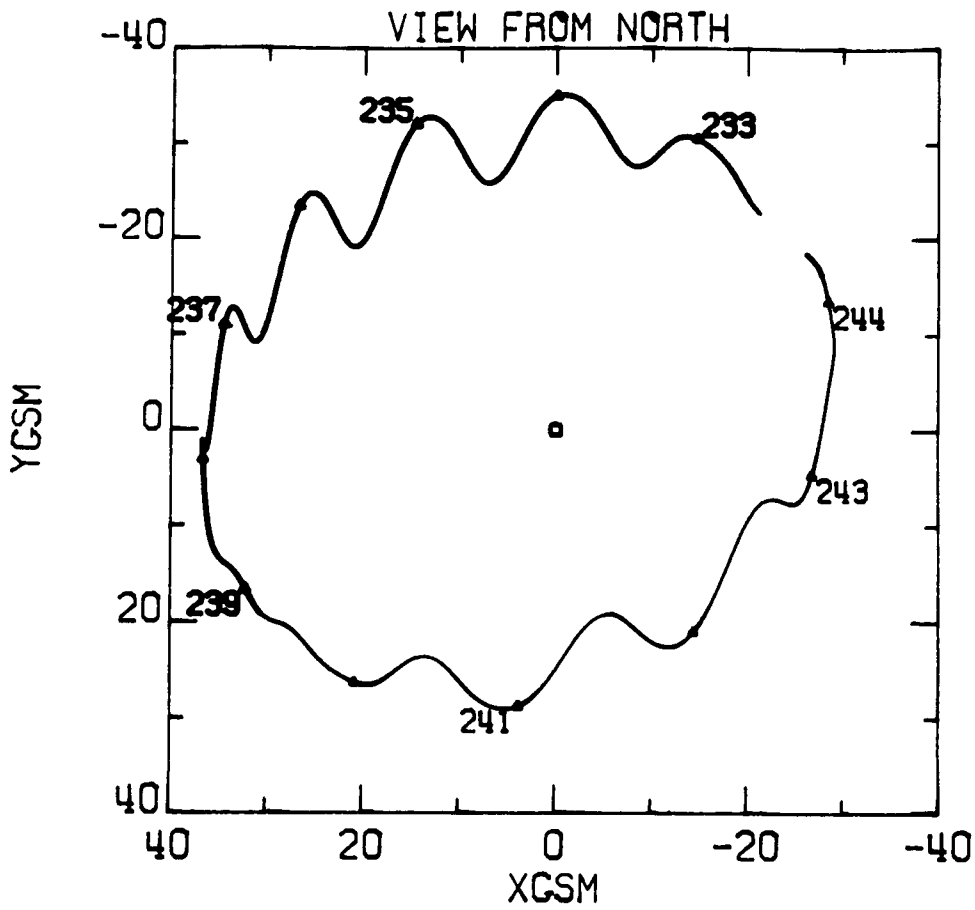
FROM AUG 8 TO AUG 20 1978

DAYS 220 THRU 232

SATELLITE AND MOON ORBITS

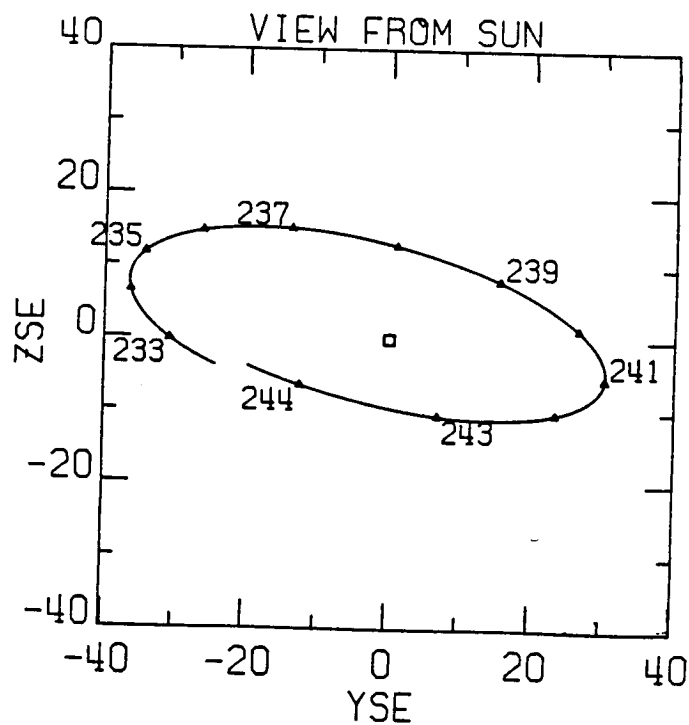
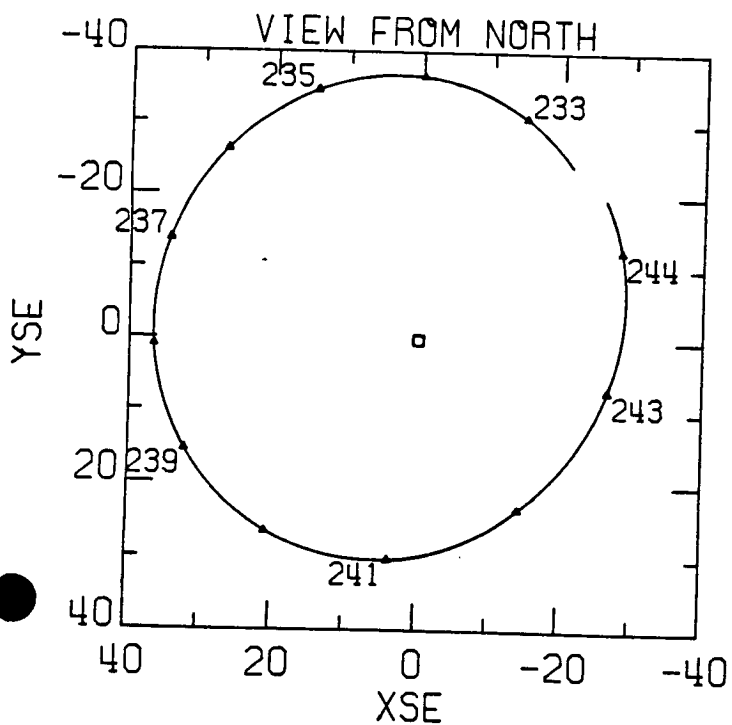
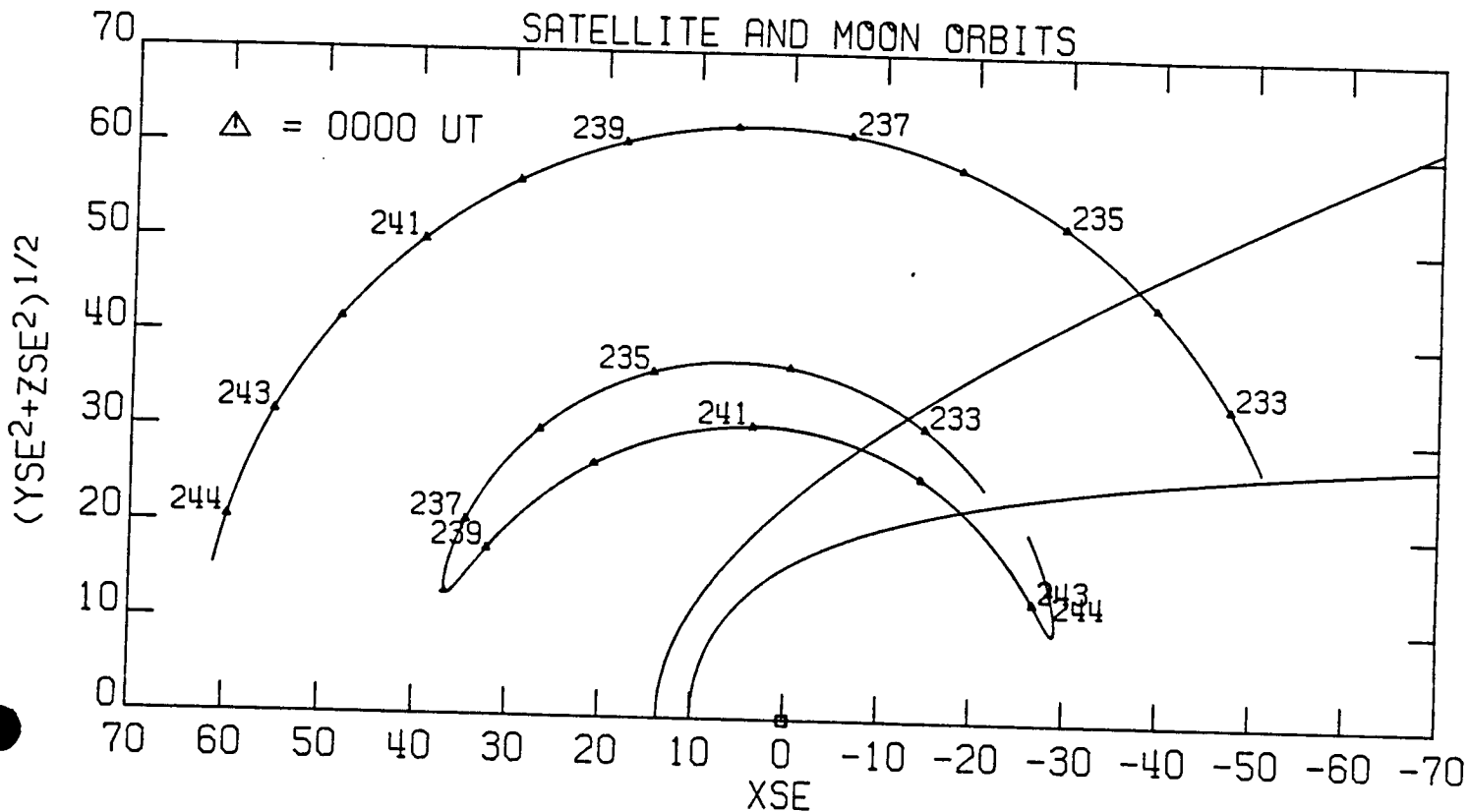


IMP 7 FROM AUG 20 TO SEP 1 1978



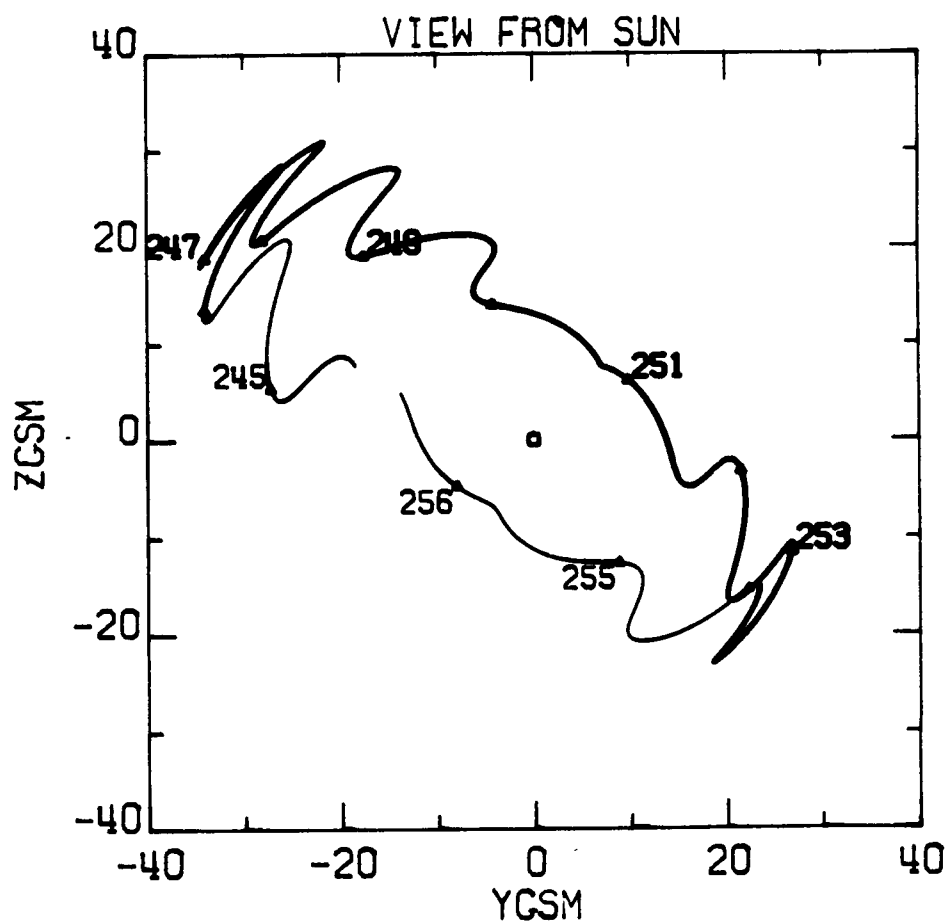
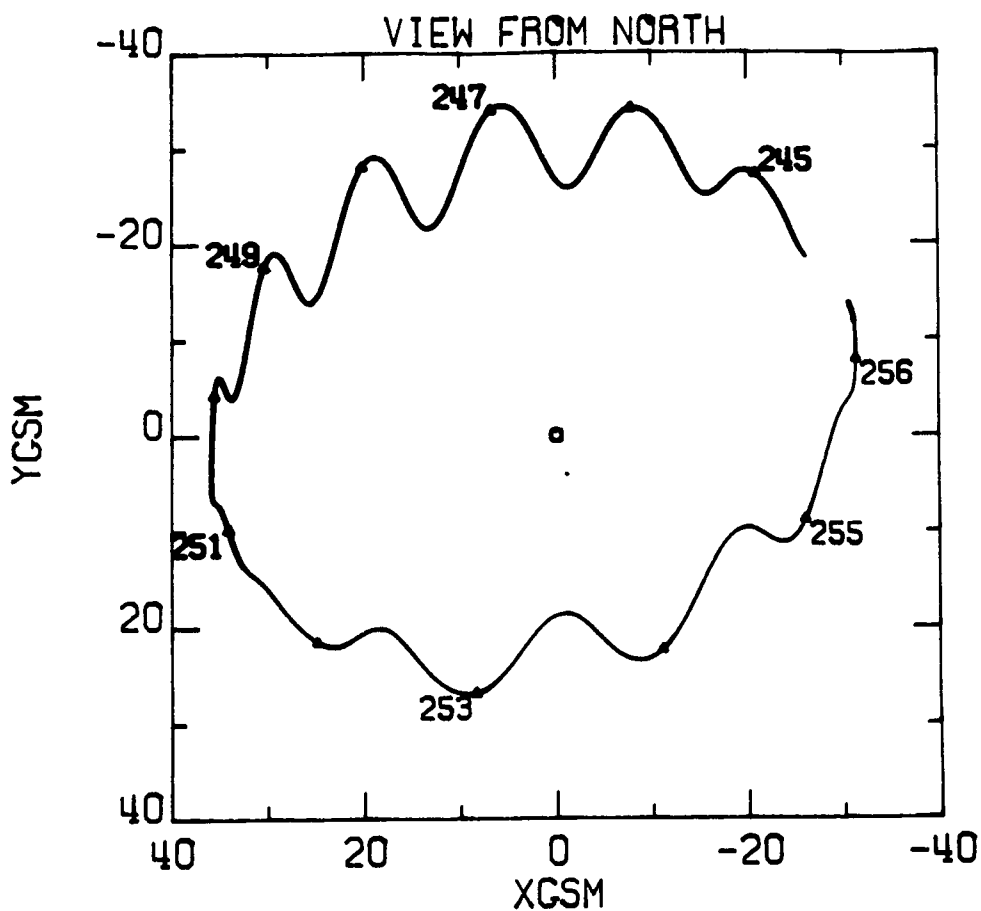
IMP 7 TRAJECTORY. ASCENDING NODE 178
 FROM AUG 20 TO SEP 1 1978

DAYS 232 THRU 244



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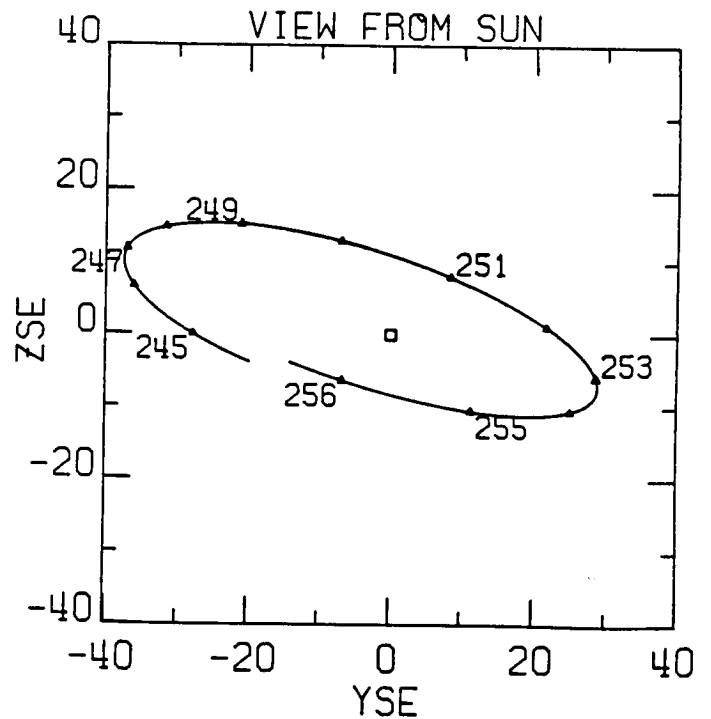
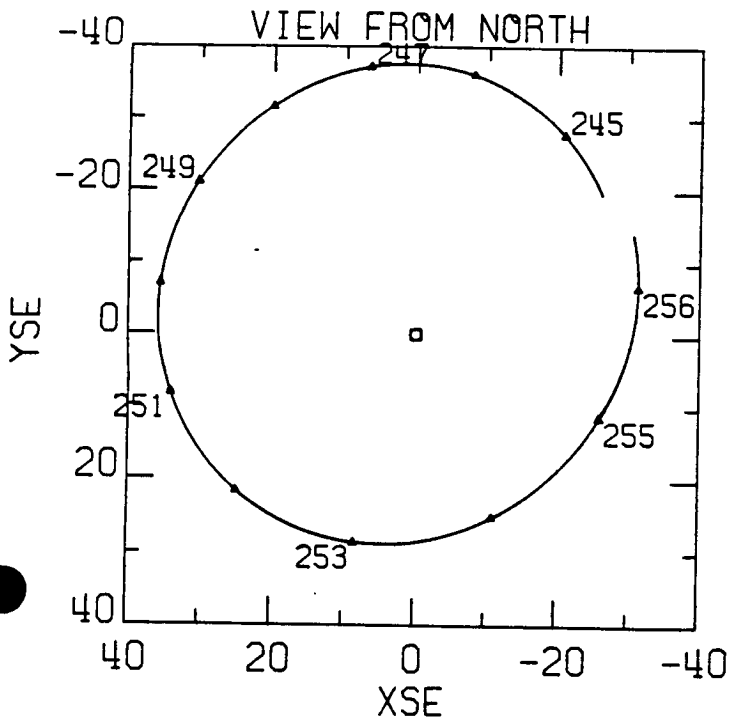
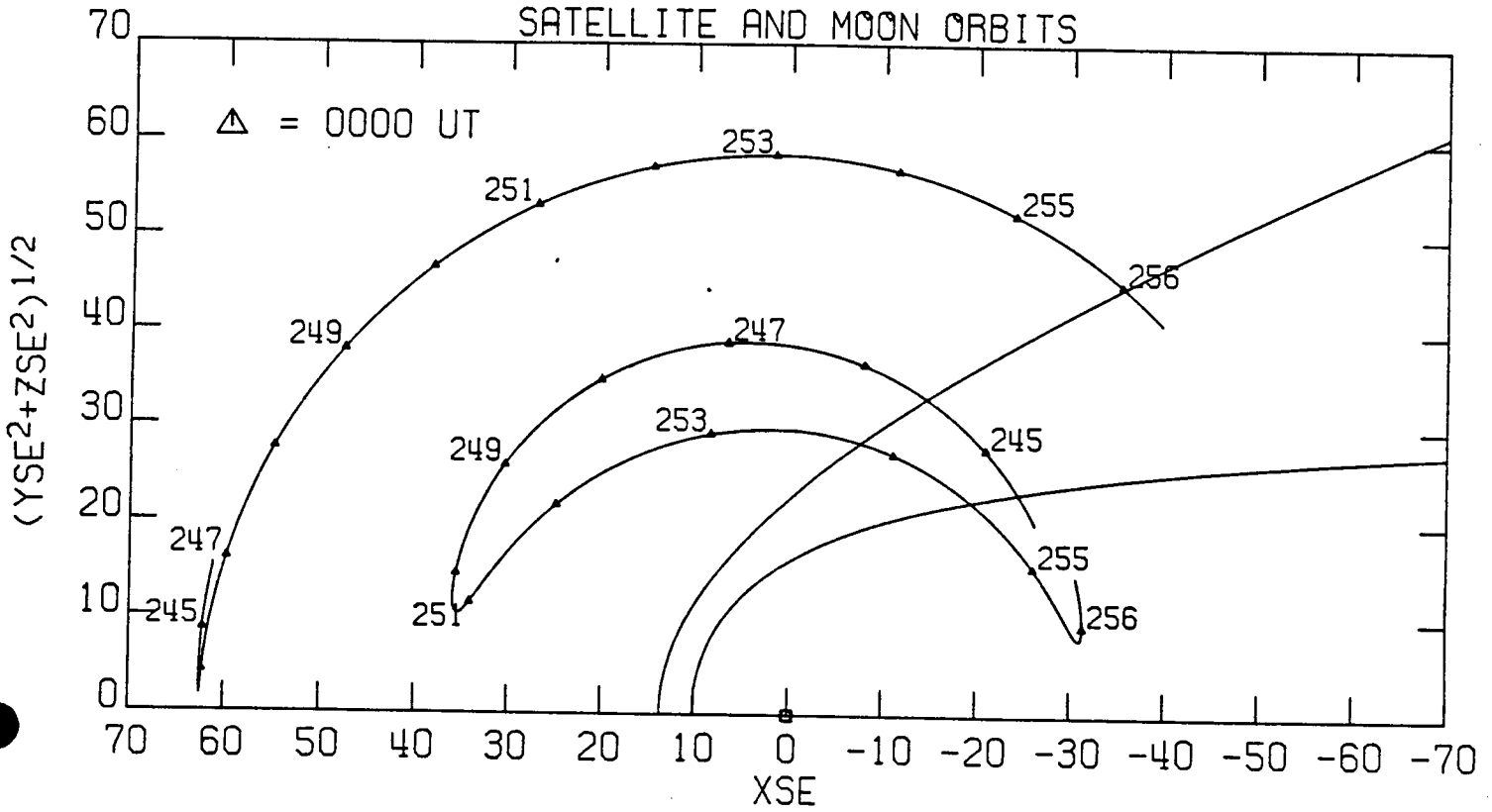
IMP 7 FROM SEP 1 TO SEP 13 1978



IMP 7 TRAJECTORY. ASCENDING NODE 179

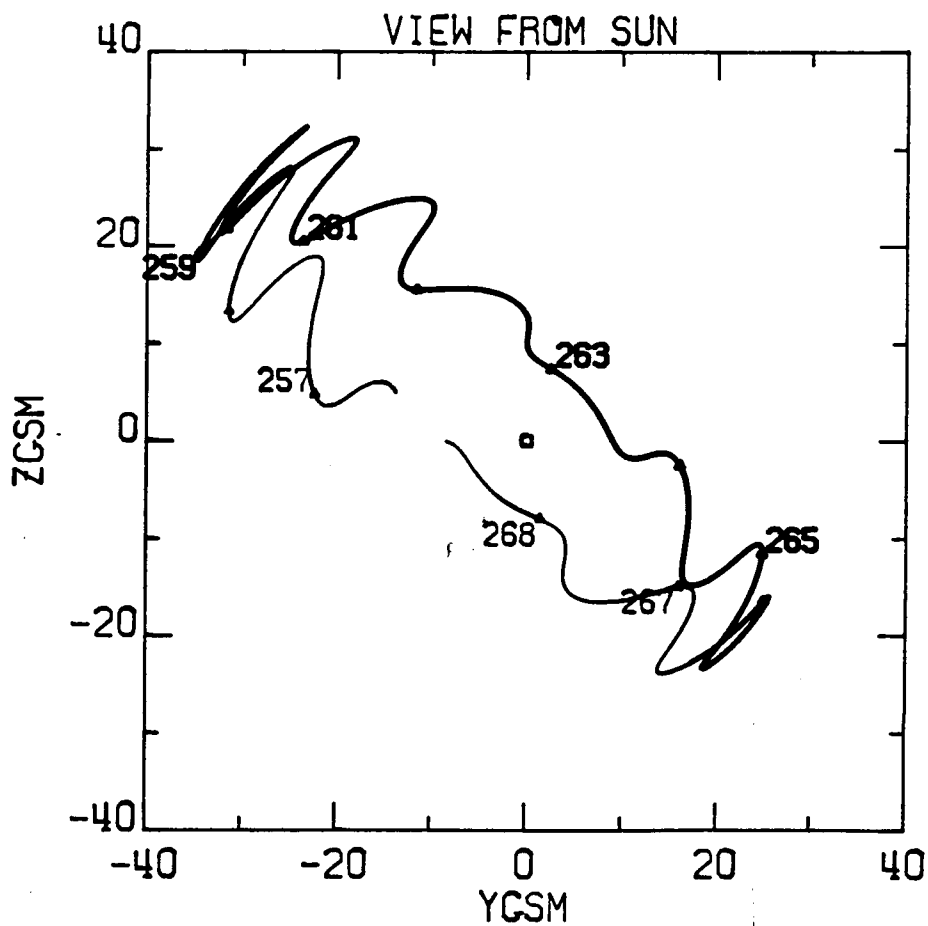
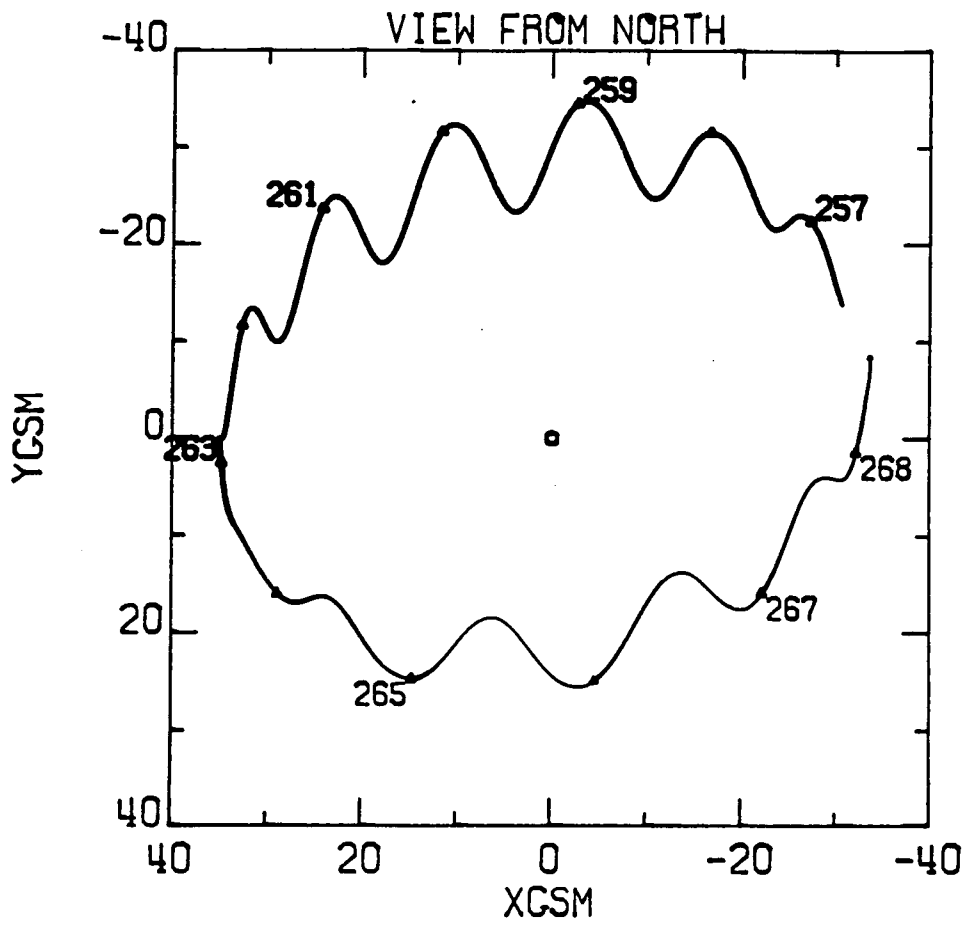
FROM SEP 1 TO SEP 13 1978

DAYS 244 THRU 256



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IMP 7 FROM SEP 13 TO SEP 25 1978



IMP 7 TRAJECTORY. ASCENDING NODE 180

FROM SEP 13 TO SEP 25 1978

DAYS 256 THRU 268

