

SDF NUMBER 117

JOINT USAF/NOAA PRIMARY REPORT OF SOLAR AND GEOPHYSICAL  
ISSUED 2200Z 27 APRIL 1979

IA. SOLAR ACTIVITY HAS BEEN MODERATE TO HIGH. REGION 1705 (N17E10) PRODUCED AN X1/1B WITH X-RAY START AT 0636Z AND MAXIMUM AT 0652Z. THE OPTICAL FLARE DATA WAS RECEIVED FROM SOLAR OBSERVERS IN USSR. STRONG SHORT WAVE FADE AND APPROXIMATELY 800 F.U. AT 2700 MHZ OCCURRED. CULGOORA RADIO HELIOGRAPH RECORDED STRONG TYPE II (LASTING 24 MIN.) AND MODERATE TYPE IV (LASTING 42 MIN.) BURSTS WITH THIS FLARE. THE FULL RADIO SPECTRUM WAS NOT AVAILABLE. THE FREQUENCY DATA THAT WAS AVAILABLE POINTS TO A PROBABLE U-BURST PROFILE. REGION 1705 ALSO PRODUCED AN M3/SB AT 1628Z WITH MODERATE SHORT WAVE FADE AND 130 F.U. BURST AT 2700 MHZ. REGION 1713 (N14E67), WHICH IS LAGGING REGION 1711 (N14E55), PRODUCED AN M1/1N AT 0535Z. THIS OPTICAL CONFIRMATION ALSO WAS RECEIVED FROM THE USSR. MODERATE SHORT WAVE FADE AND A 74 F.U. BURST AT 2700 MHZ OCCURRED WITH THIS FLARE. REGION 1705 DEVELOPED TRAILER POLARITY STRUCTURE NORTH AND SOUTH OF THE LARGE LEADER SPOT PRODUCING MODERATELY STRONG GRADIENTS AND A DELTA CONFIGURATION. SOME SMALL DEGREE OF MAGNETIC COMPLEXITY EXISTS IN REGIONS 1706 (S25E07), 1707 (S25E23), 1711 (N14E55), AND 1713 (N14E67).

IB. SOLAR ACTIVITY IS EXPECTED TO REMAIN MODERATE TO HIGH. THE VERY COMPLEX MAGNETIC STRUCTURE OF REGION 1705 IS EXPECTED TO PERSIST THROUGH THE FORECAST PERIOD AND IS EXPECTED TO DOMINATE THE ENERGETIC FLARE OCCURRENCES.

II. THE GEOMAGNETIC FIELD HAS BEEN ACTIVE THE PAST 24 HOURS EXCEPT FOR A K-5 RECORDED AT BOULDER (15-18Z) WHICH WAS ASSOCIATED WITH A SUBSTORM. ONSET OF A 12-15 HOUR STORM DUE TO TODAY'S X1 FLARE IS EXPECTED NEAR 28/1800Z. ADDITIONALLY, THE FIELD IS EXPECTED TO BE ACTIVE WITH SHORT PERIODS AT STORM LEVEL AS THE EARTH INTERCEPTS INTERMITTENT HIGH SPEED STREAMS DURING THE REST OF THE FORECAST PERIOD.

III. EVENT PROBABILITIES 28 - 30 APR

CLASS M 85/85/85

CLASS X 35/35/35

PROTON 25/30/35

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 27 APR 190

PREDICTED 28 - 30 APR 196/200/204

90-DAY MEAN 27 APR 191

V. GEOMAGNETIC A INDICES

OBSERVED FREDERICKSBURG 26 APR 11

ESTIMATED AFR/AP 27 APR 21/30

PREDICTED AFR/AP 28 - 30 APR 20/35 30/35 30/45

SOLTERWARN