

SDF NUMBER 047

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 2200Z 16 FEB 1984

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 15/2100Z TO 16/2100Z: SOLAR ACTIVITY HAS BEEN AT A LOW LEVEL AS FAR AS OPTICAL FLARES AND X-RAY EVENTS ARE CONCERNED. REGION 4418 (S12W62) CONTINUES TO BE A LARGE AND SOMEWHAT COMPLEX GROUP, BETA-DELTA MAGNETICALLY. THE REST OF THE REGIONS HAVE BEEN GENERALLY STABLE THIS PERIOD. NO NEW REGIONS HAVE BEEN OBSERVED. HOWEVER, MINOR SURGE ACTIVITY HAS BEEN REPORTED AT NE 11.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE LOW DURING THIS FORECAST PERIOD UNLESS OLD ACTIVE REGIONS RETURN AS MAJOR EVENT PRODUCERS.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 15/2100Z TO 16/2100Z: THE GEOMAGNETIC FIELD HAS BEEN GENERALLY UNSETTLED TO QUIET DURING THE PAST 24 HOURS.

A PROTON EVENT WAS OBSERVED AT SATELLITE ALTITUDES BEGINNING AT 0910 UT. THE EVENT REACHED MAXIMUM OF 660 P/CM²/SEC/STER AT GREATER THAN 10MEV AT 1005 UT. AT 0935 UT A MAXIMUM OF 280 P/CM²/SEC/STER AT GREATER THAN 100 MEV WAS OBSERVED. THIS EVENT WAS OBSERVED AS A GROUND LEVEL EVENT ON THE THULE NEUTRON MONITOR. THE EVENT WAS OBSERVED AT ALMOST THE SAME TIME THROUGHOUT THE ENERGY SPECTRUM. NO OPTICAL OR X-RAY EVENTS WERE OBSERVED WITH OR PRIOR TO THE EVENT. USING THE TIME AND ENERGY SPECTRUM IT IS THOUGHT THAT THIS EVENT ORIGINATED BEHIND THE WEST LIMB FROM OLD REGION 4408 (S12, L342).

IIB. GEOPHYSICAL ACTIVITY FORECAST: THE GEOMAGNETIC FIELD IS EXPECTED TO BE AT UNSETTLED LEVELS UNTIL LATE ON 19 FEBRUARY WHEN THE FIELD IS FORECAST TO REACH ACTIVE TO MINOR STORM CONDITIONS FOR THE REST OF THE FORECAST PERIOD.

III. EVENT PROBABILITIES 17 FEBRUARY - 19 FEBRUARY

CLASS M 05/05/05

CLASS X 01/01/01

PROTON 01/01/01

PCAF GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 16 FEBRUARY 117

PREDICTED 17-19 FEBRUARY 117/118/128

90-DAY MEAN 16 FEBRUARY 107

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 15 FEBRUARY 012/018

ESTIMATED AFR/AP 16 FEBRUARY 008/015

PREDICTED AFR/AP 17-19 FEBRUARY 012/015-012/025-020/020

SOLAR TERRAIN WARN

BT