

Daily Space Weather Summary (SUPARCO)

Wednesday, April 16, 2025, 15:00 PST



Radio Blackouts			Solar Radiation Storms			Geomagnetic Storms		
-24 Hr	Current	Predicted	-24 Hr	Current	Predicted	-24 Hr	Current	Predicted
R1 – R2	R0 / R1	R1 – R2	S0	S0	S0 / S1	G2	G0 / G1	G2 / G3

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

Critical Frequency of F2 layer (foF2)				14.0 MHz				
Virtual Height of F2 layer (h`F2)				315 km				
Total Electron Content (TEC)				34 TECU				
Maximum Usable Frequency (MUF) and Optimum Traffic Frequency (FOT) for various distances								
Distance (Km)	100	200	400	600	800	1000	1500	3000
MUF (MHz)	14.2	14.7	15.2	17.9	21.0	23.4	27.3	30.5
FOT (MHz)	12.1	12.5	12.9	15.2	17.8	20.0	23.2	26.0

Local HF conditions are normal as compared to the predicted monthly median MUF.

LOCAL GEOMAGNETIC CONDITIONS

K-index	2 (Quiet)
Total Field (F) (Son/Isb)	45770/50714 nT

The local geomagnetic field is quiet at the moment.

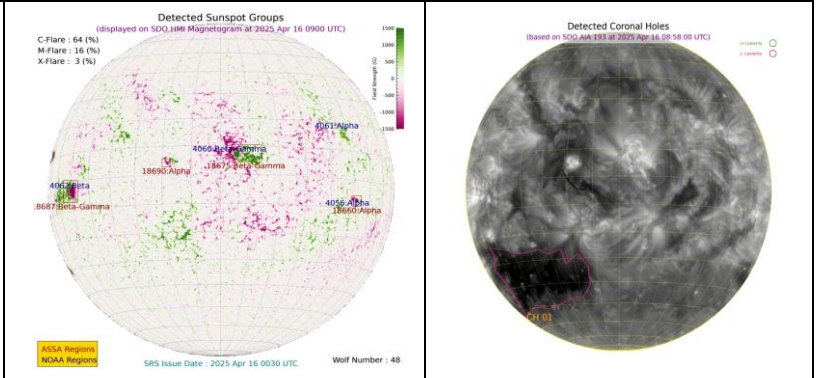
LATEST SOLAR CONDITIONS

Sunspot Number (SN)	58
Solar radio flux (F10.7)	153 sfu
Solar wind speed	547.9 km/s (varied in the past 24 hrs between 380 & 663 km/s)
Solar x-ray flares	C1.4 (max flare in the past 24 hrs (M1, 1020 UT)
Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)	+13.16 nT (varied in the past 12 hrs between +12.38 nT & +24.69 nT) +10.89 nT (varied in the past 12 hrs between -10.61 nT & +17.1 nT)

Solar conditions are at low levels with background X-ray flux at C-class level.

There is one active region AR4060 present on the Sun capable of producing strong M and X-class solar flares having chances of 16% and 3% respectively.

01 Coronal Hole (CH) is detected on the solar disk.



DISCUSSION:

Solar activity is expected to be at low levels. Multiple M-class solar flares occurred which cause minor to moderate levels radio blackouts. In case of more M/X-class solar flares, minor to moderate level radio blackouts may be observed. A CME which hit Earth yesterday cause G2 levels Geomagnetic storm. Moderate to elevated levels of solar wind speed is expected to prevail due to the presence of coronal hole. Another CME is expected to hit Earth today which may cause (G2-G3) levels geomagnetic storms. HF conditions are normal.

Credits:

Solar conditions courtesy to SOHO, DSCOVR and GOES-16 missions.

NOAA SWPC is acknowledged for solar radio flux conditions.

Korean Space Weather Centre is acknowledged for solar disk and coronal hole images.

Sonmiani (SON): 25.2° N, 66.75° E

Islamabad (ISB): 33.7° N, 73.13° E

RSG SCALES

<u>Radio Blackouts</u>				
Minor R1	Moderate R2	Strong R3	Severe R4	Extreme R5
<u>Solar Radiation Storms</u>				
Minor S1	Moderate S2	Strong S3	Severe S4	Extreme S5
<u>Geomagnetic Storms</u>				
Minor G1	Moderate G2	Strong G3	Severe G4	Extreme G5