

Daily Space Weather Summary (SUPARCO)

Tuesday, October 21, 2025, 14:40 PST



Radio Blackouts			Solar Radiation Storms			Geomagnetic Storms		
-24 Hr	Current	Predicted	-24 Hr	Current	Predicted	-24 Hr	Current	Predicted
R0 – R1	R0 / R1	R0 – R1	S0	S0	S0	G0	G0	G0

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

Critical Frequency of F2 layer (foF2)	15.4 MHz
Virtual Height of F2 layer (h`F2)	380 km
Total Electron Content (TEC)	84 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)	15.5	15.9	17.4	19.5	22.0	24.7	31.2	36.6
FOT (MHz)	13.2	13.5	14.8	16.6	18.7	21.0	26.5	31.1

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)	45686/50715 nT

The local geomagnetic field is quiet at the moment.

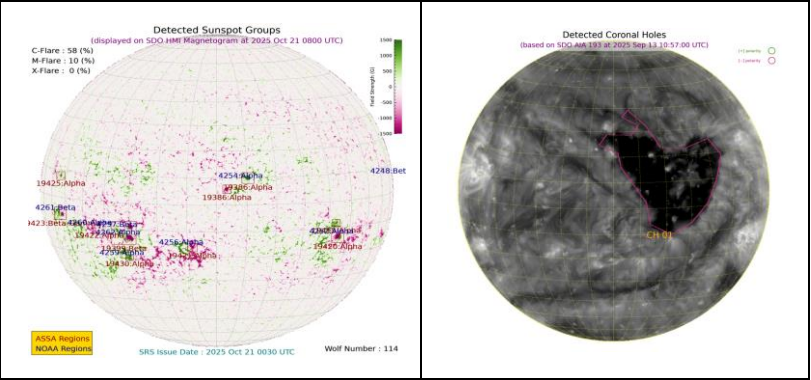
LATEST SOLAR CONDITIONS

Sunspot Number (SN)	109
Solar radio flux (F10.7)	140 sfu
Solar wind speed	489.1 km/s (varied in the past 24 hrs between 438 & 584 km/s)
Solar x-ray flares	B9.7 (max flare in the past 24 hrs (C3, 0649 UT)
Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)	+6.75 nT (varied in the past 12 hrs between +4.57 nT & +6.69 nT) +1.58 nT (varied in the past 12 hrs between -4.02 nT & +3.03 nT)

Solar conditions are at low to moderate levels with background X-ray flux at B-class level.

There is no active region present on the Sun capable of producing strong solar flares.

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



DISCUSSION:

Solar activity is expected to be at low to moderate levels. Multiple M-class solar flares, have already occurred from the regions present on the solar disk. In case of more M/X-class solar flares, minor level HF radio blackouts may be observed. Moderate to slightly elevated levels of solar wind speed is expected due to the presence of coronal hole high speed stream (CH HSS). Geomagnetic activity is expected to be at quiet levels. 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

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