

Daily Space Weather Summary (SUPARCO)

Tuesday, April 22, 2025, 13:06 PST



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

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

Critical Frequency of F2 layer (foF2)				13.2 MHz				
Virtual Height of F2 layer (h`F2)				313 km				
Total Electron Content (TEC)				28 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)	13.4	15.2	17.2	19.8	22.9	25.4	28.0	30.8
FOT (MHz)	11.4	13.2	14.9	16.9	19.6	22.1	24.4	26.4

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)		45775/50710 nT						

The local geomagnetic field is quiet at the moment.

LATEST SOLAR CONDITIONS

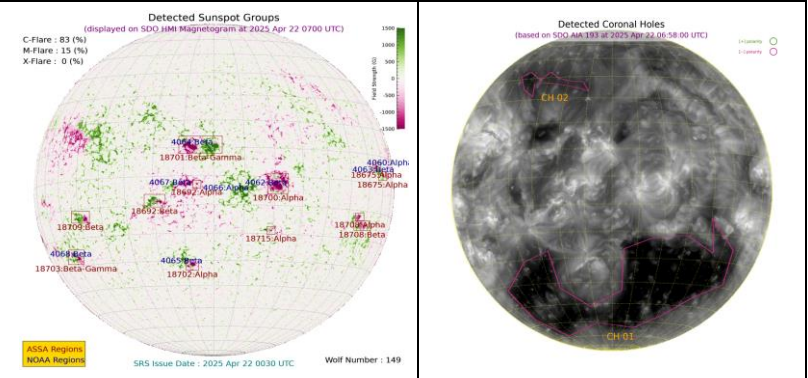
Sunspot Number (SN)		137						
Solar radio flux (F10.7)		163 sfu						
Solar wind speed		617.8 km/s (varied in the past 24 hrs between 494 & 745 km/s)						
Solar x-ray flares		C1.6 (max flare in the past 24 hrs (M1, 1837 UT)						
Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)		+3.8 nT (varied in the past 12 hrs between +4.15 nT & +8.73 nT) +1.78 nT (varied in the past 12 hrs between -4.6 nT & +7.14 nT)						

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

Daily Sun: 22 April 2025

There is no active region present on the Sun capable of producing strong C and M-class solar flares having chances of 83% and 15% respectively.

02 Coronal Holes (CHs) are detected on the solar disk.



DISCUSSION:

Solar activity is expected to be at low to moderate levels. In case of more M/X-class solar flares, minor to moderate levels radio blackouts may be observed. Low to moderate solar wind is expected to prevail due to the presence of coronal holes. Unsettled to disturbed levels of geomagnetic activity is expected. 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