Daily Space Weather Summary (SUPARCO)

Wednesday, August 27, 2025, 14:34 PST

SUPARCO

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	G0	G0	G0

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)	
Critical Frequency of F2 layer (foF2)	12.8 MHz
Virtual Height of F2 layer (h`F2)	313 km
Total Electron Content (TEC)	68 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)	13.0	13.4	17.6	20.4	23.2	25.4	27.7	30.2
FOT (MHz)	11.1	11.4	15.0	17.3	19.7	21.6	23.5	25.7

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

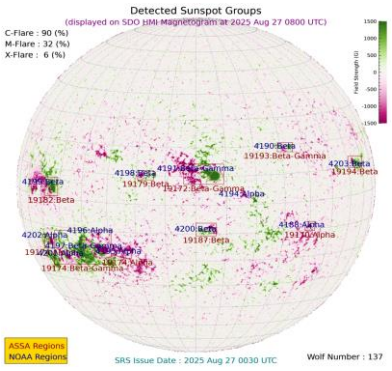
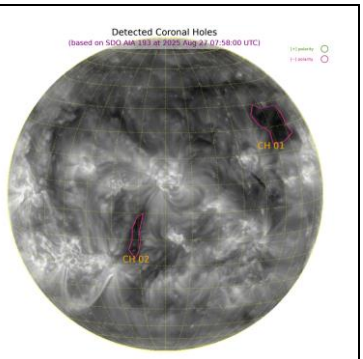
LOCAL GEOMAGNETIC CONDITIONS	
K-index	2 (Quiet)
Total Field (F) (Son/Isb)	45770/50714 nT

The local geomagnetic field is quiet at the moment.

LATEST SOLAR CONDITIONS	
Sunspot Number (SN)	193
Solar radio flux (F10.7)	175 sfu
Solar wind speed	365.8 km/s (varied in the past 24 hrs between 323 & 429 km/s)
Solar x-ray flares	C2.5 (max flare in the past 24 hrs (M1, 1407 UT)
Interplanetary Magnetic Field (IMF) **Total Field (Bt)** **Z Component of Field (Bz)**	+7.45 nT (varied in the past 12 hrs between +5.39 nT & +7.79 nT) -2.59 nT (varied in the past 12 hrs between -3.44 nT & +3.78 nT)

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

Daily Sun: 27 August 2025

There are two active regions AR4191 and AR4197 present on the Sun capable of producing strong M and X-class solar flares having chances of 32% and 6% respectively. 02 Coronal Holes (CHs) are detected on the solar disk.		

DISCUSSION:

Solar activity is expected to be at moderate to high levels. Multiple M-class solar flares, have already occurred from the regions mentioned above causing minor level radio blackouts. In case of more M/X-class solar flares, minor to moderate level radio blackouts may be observed. Low solar wind speed and quiet 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**