Daily Space Weather Summary (SUPARCO)

Wednesday, October 09, 2024, 15:02 PST

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)	
Critical Frequency of F2 layer (foF2)	13.5 MHz
Virtual Height of F2 layer (h`F2)	282 km
Total Electron Content (TEC)	75 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)	13.6	14.0	15.3	17.1	19.3	21.6	27.3	34.4
FOT (MHz)	11.6	11.9	13.0	14.5	16.4	18.4	23.2	29.3

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

LOCAL GEOMAGNETIC CONDITIONS	
K-index	3 (Quiet)
Total Field (F) (Son/Isb)	45691/51569 nT

The local geomagnetic field is quiet at the moment.

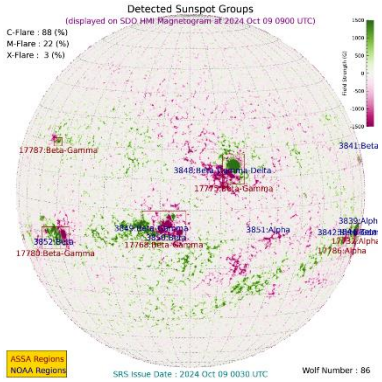
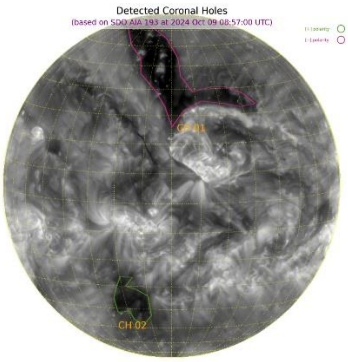
LATEST SOLAR CONDITIONS	
Sunspot Number (SN)	165
Solar radio flux (F10.7)	225 sfu
Solar wind speed	418.4 km/s (varied in the past 24 hrs between 268 & 637 km/s)
Solar x-ray flares	C4.6 (max flare in the past 24 hrs (X1, 0156 UT)
Interplanetary Magnetic Field (IMF) **Total Field (Bt)** **Z Component of Field (Bz)**	+6.64 nT (varied in the past 12 hrs between +5.97 nT & +9.17 nT) -4.78 nT (varied in the past 12 hrs between -7.96 nT & +5.54 nT)

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

Sonmiani (SON): 25.2° N, 66.75° E, Islamabad (ISB): 33.7° N, 73.13° E

Notes: *Credits:* www.spaceweather.go.kr,www.sws.bom.gov.au,www.spaceweather.com,www.solen.info

Daily Sun: 9 October 2024

There are three regions AR3842, AR3848 and AR3849 present on the Sun capable of producing strong M and X-class solar flares having chances of 22% and 3% respectively. 02 Coronal Holes (CHs) are detected on the solar disk.		

DISCUSSION:

Solar activity is expected to be at moderate levels. Some M/X-class solar flares, have already occurred from the regions present on the solar limb. In case of more M/X-class solar flares, R1-R2 levels radio blackouts may be observed. Moderate to slightly elevated solar wind speed is expected to prevail due to the effect of CME. Geomagnetic activity is expected to be quiet. HF conditions are slightly enhanced.