Daily Space Weather Summary (SUPARCO)

Wednesday, September 20, 2023, 12:01 PST

SUPARCO

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)	
Critical Frequency of F2 layer (foF2)	10.6 MHz
Virtual Height of F2 layer (h`F2)	295 km
Total Electron Content (TEC)	42 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)	7.4	7.8	9.3	11.3	13.6	16.0	21.4	30.2
FOT (MHz)	6.3	6.7	7.9	9.6	11.6	13.6	18.2	25.7

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

LOCAL GEOMAGNETIC CONDITIONS	
K-index	2 (Quiet)
Total Field (F) (Son/Isb)	45518/50028 nT

The local geomagnetic field is quiet at the moment.

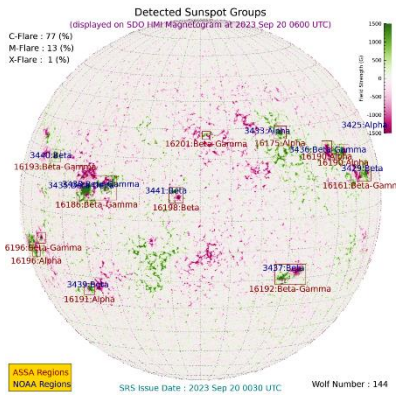
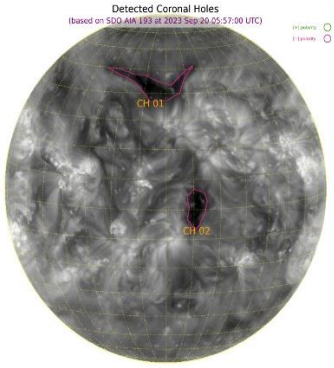
LATEST SOLAR CONDITIONS	
Sunspot Number (SN)	143
Solar radio flux (F10.7)	166 sfu
Solar wind speed	536.5 km/s (varied in the past 24 hrs between 483 & 621 km/s)
Solar x-ray flares	C1.5 (max flare in the past 24 hrs (M4 2014 UT)
Interplanetary Magnetic Field (IMF) **Total Field (Bt)** **Z Component of Field (Bz)**	+10.5 nT (varied in the past 12 hrs between +5.5 nT & +8.6 nT) +4.4 nT (varied in the past 12 hrs between -0.2 nT & +5.1 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: 20 September 2023

There are three active regions AR3435, AR3436 and AR3438 present on the Sun capable of producing strong M and X-class solar flares having chances of 13% and 1% respectively. 02 Coronal Holes (CHs) are detected on the solar disk.		

DISCUSSION:

Solar activity is expected to be at moderate levels. Multiple M class flares have already occurred from the regions present on the solar limb. In case of more M/X solar flares, minor to moderate radio blackouts may be observed. Moderate to elevated solar wind speed and quiet to unsettled geomagnetic activity is expected. HF conditions are enhanced.