Daily Space Weather Summary (SUPARCO)

Wednesday, January 24, 2024, 12:35 PST

SUPARCO

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)	
Critical Frequency of F2 layer (foF2)	10.5 MHz
Virtual Height of F2 layer (h`F2)	290 km
Total Electron Content (TEC)	43 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)	10.7	11.3	12.5	14.4	16.6	18.9	24.0	27.2
FOT (MHz)	9.1	9.1	10.6	12.4	14.1	16.1	20.4	23.1

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

LOCAL GEOMAGNETIC CONDITIONS	
K-index	2 (Quiet)
Total Field (F) (Son/Isb)	45613/50623 nT

The local geomagnetic field is quiet at the moment.

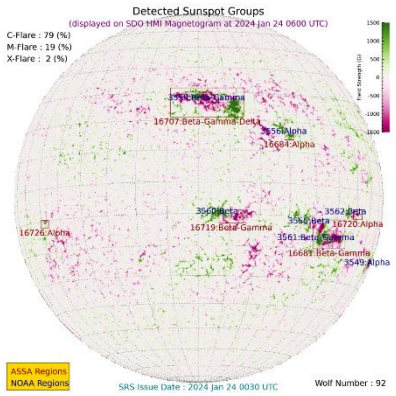
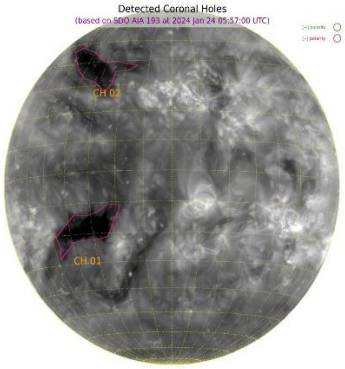
LATEST SOLAR CONDITIONS	
Sunspot Number (SN)	123
Solar radio flux (F10.7)	180 sfu
Solar wind speed	466.3 km/s (varied in the past 24 hrs between 372 & 470 km/s)
Solar x-ray flares	C3.4 (max flare in the past 24 hrs (M4, 1640 UT)
Interplanetary Magnetic Field (IMF) **Total Field (Bt)** **Z Component of Field (Bz)**	+2.5 nT (varied in the past 12 hrs between +2.3 nT & +7.3 nT) +0.9 nT (varied in the past 12 hrs between -4.6 nT & +3.5 nT)

Solar conditions are at moderate to high 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: 24 January 2024

There are two active regions AR3559 and AR3561 present on the Sun capable of producing strong M and X-class solar flares having chances of 19% and 2% 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 present on the solar limb. In case of more M/X-class solar flares, minor to moderate radio blackouts may be observed. Moderate to slightly solar wind speed is expected to prevail due the combine effect of CME and coronal holes. Quiet to unsettled geomagnetic activity is expected. HF conditions are slightly enhanced.