

Daily Space Weather Summary (SUPARCO)

Tuesday, January 02, 2024, 14:19 PST



LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

Critical Frequency of F2 layer (foF2)	10.4 MHz							
Virtual Height of F2 layer (h`F2)	288 km							
Total Electron Content (TEC)	40 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)	10.5	11.0	12.5	14.5	16.8	19.2	24.7	27.2
FOT (MHz)	8.8	9.4	10.6	12.3	14.3	16.3	21.0	23.0

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

LOCAL GEOMAGNETIC CONDITIONS

K-index	1 (Quiet)
Total Field (F) (Son/Isb)	45613/50623 nT

The local geomagnetic field is quiet at the moment.

LATEST SOLAR CONDITIONS

Sunspot Number (SN)	44
Solar radio flux (F10.7)	136 sfu
Solar wind speed	413.8 km/s (varied in the past 24 hrs between 305 & 449 km/s)
Solar x-ray flares	B8.6 (max flare in the past 24 hrs (M4, 1225 UT))
Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)	+7.5 nT (varied in the past 12 hrs between +6.5 nT & +10.1 nT) +3.9 nT (varied in the past 12 hrs between -8.6 nT & +6.2 nT)

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

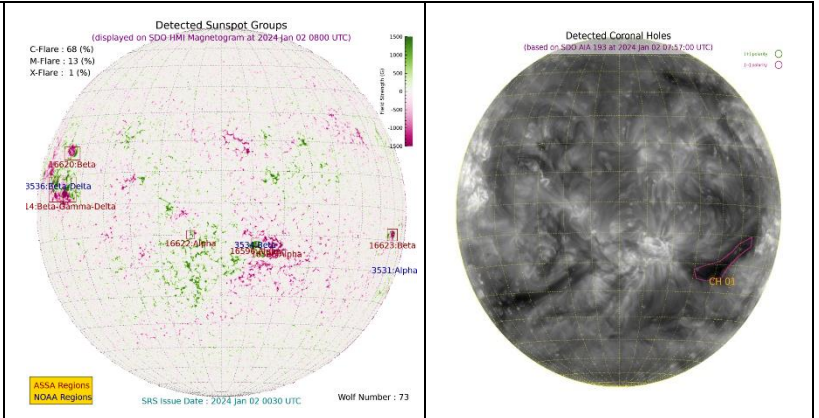
Sonmiani (SON): 25.2° N, 66.75° E, Islamabad (ISB): 33.7° N, 73.13° E

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

Daily Sun: 2 January 2024

There is one active region AR3536 present on the Sun capable of producing strong M and X-class solar flares having chances of 13% and 1% respectively.

01 Coronal Hole (CH) is detected on the solar disk.



DISCUSSION:

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