

# Daily Space Weather Summary (SUPARCO)

Wednesday, February 19, 2025, 11:51 PST



Radio Blackouts			Solar Radiation Storms			Geomagnetic Storms		
-24 Hr	Current	Predicted	-24 Hr	Current	Predicted	-24 Hr	Current	Predicted
R1 – R2	R0	R0 – R1	S0	S0	S0	G0 – G1	G0	G0

## LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

<b>Critical Frequency of F2 layer (foF2)</b>	11.2 MHz							
<b>Virtual Height of F2 layer (h`F2)</b>	298 km							
<b>Total Electron Content (TEC)</b>	32 TECU							
<b>Maximum Usable Frequency (MUF) and Optimum Traffic Frequency (FOT) for various distances</b>								
<b>Distance (Km)</b>	<b>100</b>	<b>200</b>	<b>400</b>	<b>600</b>	<b>800</b>	<b>1000</b>	<b>1500</b>	<b>3000</b>
<b>MUF (MHz)</b>	11.4	13.2	15.2	17.9	21.0	23.4	27.3	30.5
<b>FOT (MHz)</b>	9.7	11.2	12.9	15.2	17.8	20.0	23.2	26.0

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

## LOCAL GEOMAGNETIC CONDITIONS

<b>K-index</b>	2 (Quiet)
<b>Total Field (F) (Son/Isb)</b>	45770/50714 nT

The local geomagnetic field is quiet at the moment.

## LATEST SOLAR CONDITIONS

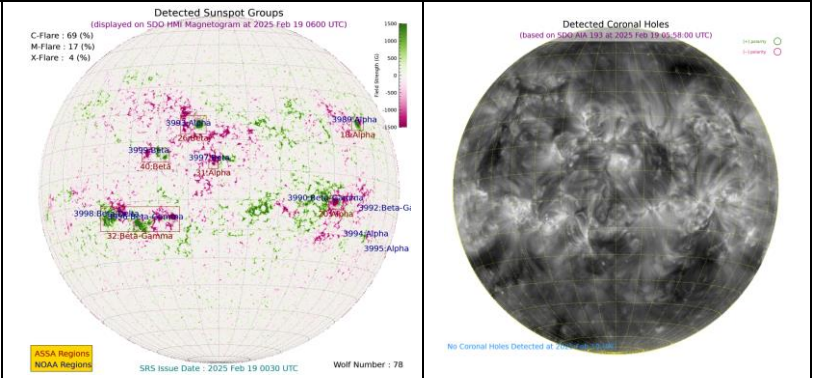
<b>Sunspot Number (SN)</b>	187
<b>Solar radio flux (F10.7)</b>	185 sfu
<b>Solar wind speed</b>	505.5 km/s (varied in the past 24 hrs between 280 & 700 km/s)
<b>Solar x-ray flares</b>	C1.1 (max flare in the past 24 hrs (C3, 0750 UT)
<b>Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)</b>	+7.87 nT (varied in the past 12 hrs between +5.73 nT & +10.46 nT) +2.53 nT (varied in the past 12 hrs between -7.56 nT & +6.46 nT)

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

## Daily Sun: 19 February 2025

There are four active regions AR3990, AR3992, AR3996 and AR3998 present on the Sun capable of producing strong M and X-class solar flares having chances of 17% and 4% respectively.

No Coronal Hole (CH) is detected on the solar disk.



### DISCUSSION:

Solar activity is expected to be at low levels. In case of M/X-class solar flares, minor level radio blackouts may be observed. Low to moderate solar wind speed is expected to prevail due to the presence of coronal hole. Geomagnetic activity is expected to be at quiet to unsettled levels. 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

<u>Radio Blackouts</u>				
Minor	Moderate	Strong	Severe	Extreme
R1	R2	R3	R4	R5
<u>Solar Radiation Storms</u>				
Minor	Moderate	Strong	Severe	Extreme
S1	S2	S3	S4	S5
<u>Geomagnetic Storms</u>				
Minor	Moderate	Strong	Severe	Extreme
G1	G2	G3	G4	G5