

# Daily Space Weather Summary (SUPARCO)

Monday, May 13, 2024, 12:50 PST



## LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

<b>Critical Frequency of F2 layer (foF2)</b>	7.4 MHz							
<b>Virtual Height of F2 layer (h`F2)</b>	286 km							
<b>Total Electron Content (TEC)</b>	50 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>	7.6	8.0	9.7	11.2	16.3	17.5	21.0	23.7
<b>FOT (MHz)</b>	6.5	6.8	8.2	9.5	13.9	14.9	17.8	20.1

Local HF conditions are depressed as compared to the predicted monthly median MUF. Satellite operators are advised to monitor the health of sensors on board.

## LOCAL GEOMAGNETIC CONDITIONS

<b>K-index</b>	5 (Unsettled)
<b>Total Field (F) (Son/Isb)</b>	45653/50753 nT

The local geomagnetic field is unsettled at the moment.

## LATEST SOLAR CONDITIONS

<b>Sunspot Number (SN)</b>	186
<b>Solar radio flux (F10.7)</b>	222 sfu
<b>Solar wind speed</b>	706.4 km/s (varied in the past 24 hrs between 662 & 979 km/s) (High, Average value is 400km/sec)
<b>Solar x-ray flares</b>	C4.0 (max flare in the past 24 hrs (M9, 1626 UT)
<b>Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)</b>	+8.3 nT (varied in the past 12 hrs between +6.6 nT & +10.3 nT) +0.6 nT (varied in the past 12 hrs between -8.6 nT & +7.6 nT)

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

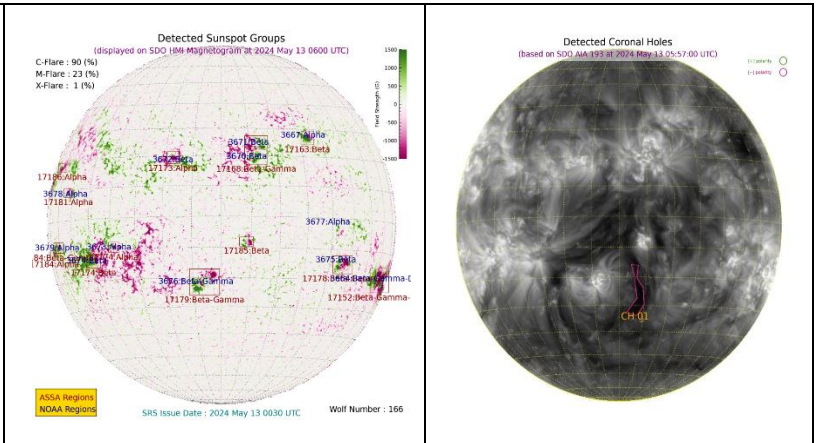
Sonmiani (SON): 25.2° N, 66.75° E, Islamabad (ISB): 33.7° N, 73.13° E

Notes: Credits: [www.spaceweather.go.kr](http://www.spaceweather.go.kr), [www.sws.bom.gov.au](http://www.sws.bom.gov.au), [www.spaceweather.com](http://www.spaceweather.com), [www.solen.info](http://www.solen.info)

## Daily Sun: 13 May 2024

There are two active regions AR3664 and AR3676 present on the Sun capable of producing strong M and X-class solar flares having chances of 23% 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. Multiple M and X-class solar flares, have already occurred from the region mentioned above causing minor to moderate radio blackouts and extreme geomagnetic storm. In case of more M/X-class solar flares, minor to moderate radio blackouts may be observed. Moderate to slightly elevated solar wind speed and quiet to unsettled geomagnetic activity is expected. Minor impact on satellite operations is possible. HF conditions are depressed.