

# Daily Space Weather Summary (SUPARCO)

Tuesday, October 15, 2024, 12:15 PST



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

## LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

<b>Critical Frequency of F2 layer (foF2)</b>		14.4 MHz						
<b>Virtual Height of F2 layer (h`F2)</b>		378 km						
<b>Total Electron Content (TEC)</b>		72 TECU						
<b>Maximum Usable Frequency (MUF) and Optimum Traffic Frequency (FOT) for various distances</b>								
Distance (Km)	100	200	400	600	800	1000	1500	3000
<b>MUF (MHz)</b>	14.5	14.8	16.1	17.9	20.1	22.5	28.3	36.0
<b>FOT (MHz)</b>	12.3	12.6	13.7	15.2	17.1	19.1	24.1	30.6

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

## LOCAL GEOMAGNETIC CONDITIONS

<b>K-index</b>	2 (Quiet)
<b>Total Field (F) (Son/Isb)</b>	45695/50723 nT

The local geomagnetic field is quiet at the moment.

## LATEST SOLAR CONDITIONS

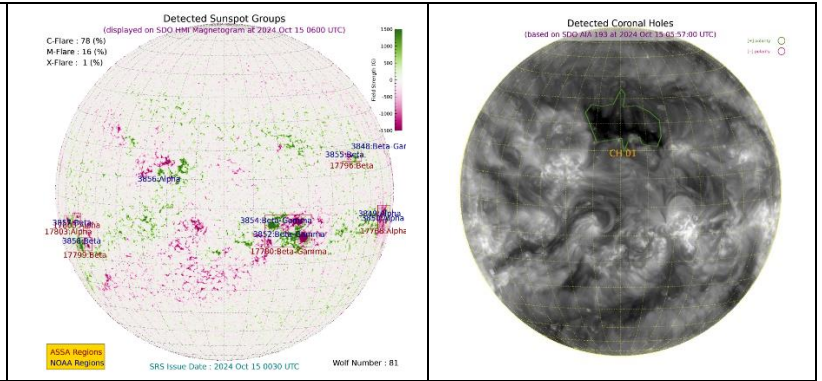
<b>Sunspot Number (SN)</b>	146
<b>Solar radio flux (F10.7)</b>	182 sfu
<b>Solar wind speed</b>	390.9 km/s (varied in the past 24 hrs between 375 & 462 km/s)
<b>Solar x-ray flares</b>	C3.7 (max flare in the past 24 hrs (M1, 0213 UT))
<b>Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)</b>	+6.91 nT (varied in the past 12 hrs between +6.79 nT & +9.85 nT) -5.3 nT (varied in the past 12 hrs between -6.15 nT & +6.25 nT)

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

## Daily Sun: 15 October 2024

There are three active regions AR3848, AR3852, and AR3854 present on the Sun capable of producing strong M and X-class solar flares having chances of 16% and 1% respectively.

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



### DISCUSSION:

Solar activity is expected to be at low to moderate levels. Few M-class solar flares, have already occurred from the regions mentioned above. In case of M/X-class solar flares, R1-R2 levels radio blackouts may be observed. Low to moderate solar wind speed and quiet geomagnetic activity is expected. HF conditions are enhanced.

### 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

#### Radio Blackouts

Minor	Moderate	Strong	Severe	Extreme
R1	R2	R3	R4	R5

#### Solar Radiation Storms

Minor	Moderate	Strong	Severe	Extreme
S1	S2	S3	S4	S5

#### Geomagnetic Storms

Minor	Moderate	Strong	Severe	Extreme
G1	G2	G3	G4	G5