

# Daily Space Weather Summary (SUPARCO)

Monday, September 16, 2024, 12:57 PST



## 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>   | 67 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>  | 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 slightly enhanced as compared to the predicted monthly median MUF.

## LOCAL GEOMAGNETIC CONDITIONS

|                                  |                |
|----------------------------------|----------------|
| <b>K-index</b>                   | 3 (Quiet)      |
| <b>Total Field (F) (Son/Isb)</b> | 45669/51569 nT |

The local geomagnetic field is quiet at the moment.

## LATEST SOLAR CONDITIONS

|   |  |
|---|--|
| <b>Sunspot Number (SN)</b>  | 68   |
| <b>Solar radio flux (F10.7)</b>   | 173 sfu  |
| <b>Solar wind speed</b>   | 420.3 km/s (varied in the past 24 hrs between 412 & 580 km/s)  |
| <b>Solar x-ray flares</b>   | C1.5 (max flare in the past 24 hrs (C5, 0125 UT))  |
| <b>Interplanetary Magnetic Field (IMF)<br/>Total Field (Bt)<br/>Z Component of Field (Bz)</b> | +8.52 nT (varied in the past 12 hrs between +7.12 nT & +9.67 nT)<br>+6.43 nT (varied in the past 12 hrs between -6.35 nT & +3.09 nT) |

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

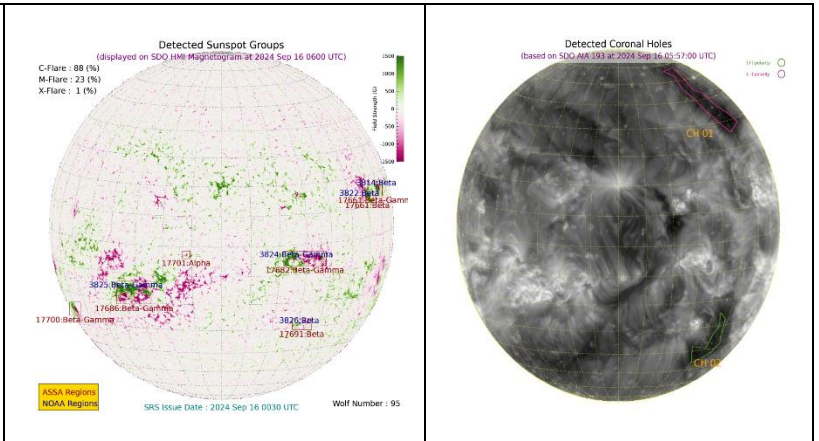
Sonmiani (SON): 25.2° N, 66.75° E, Islamabad (ISB): 33.7° N, 73.13° E

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: 16 September 2024

There are two active regions AR3824 and AR3825 present on the Sun capable of producing strong M and X-class solar flares having chances of 23% and 1% respectively.

02 Coronal Holes (CHs) are detected on the solar disk.



### DISCUSSION:

Solar activity is expected to be at moderate to high levels. Some M/X-class solar flares, have already occurred from the regions mentioned above causing radio blackouts. In case of more M/X-class solar flares, minor to moderate radio blackouts may be observed. A CME is expected to sideswipe Earth's magnetic field in upcoming hours which may cause G3-G4 level geomagnetic storm. Moderate to elevated solar wind speed and quiet to disturbed geomagnetic conditions are expected. HF conditions are slightly enhanced.