

# Daily Space Weather Summary (SUPARCO)

Monday, July 18, 2022, 12:28 PST



## LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

|   |            |            |            |            |            |             |             |             |
|---|------------|------------|------------|------------|------------|-------------|-------------|-------------|
| <b>Critical Frequency of F2 layer (foF2)</b>  | 10.2 MHz   |            |            |            |            |             |             |             |
| <b>Virtual Height of F2 layer (h`F2)</b>  | 345 km     |            |            |            |            |             |             |             |
| <b>Total Electron Content (TEC)</b>   | 20 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>  | 10.3       | 10.6       | 11.7       | 13.2       | 15.0       | 16.9        | 21.4        | 26.2        |
| <b>FOT (MHz)</b>  | 8.8        | 9.0        | 9.9        | 11.2       | 12.8       | 14.4        | 18.2        | 22.3        |

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

## LOCAL GEOMAGNETIC CONDITIONS

|                                  |                |
|----------------------------------|----------------|
| <b>K-index</b>                   | 0 (Quiet)      |
| <b>Total Field (F) (SON/ISB)</b> | 45584/50094 nT |

The local geomagnetic field is quiet at the moment.

## LATEST SOLAR CONDITIONS

|   |   |
|---|---|
| <b>Sunspot Number (SN)</b>  | 166   |
| <b>Solar radio flux (F10.7)</b>   | 166 sfu   |
| <b>Solar wind speed</b>   | 374.7 km/s (varied in the past 24 hrs between 375 & 474 km/s)   |
| <b>Solar x-ray flares</b>   | C1.1 (max flare in the past 24 hrs: C6, 1227 UT)  |
| <b>Interplanetary Magnetic Field (IMF)<br/>Total Field (Bt)<br/>Z Component of Field (Bz)</b> | 5.7 nT (varied in the past 12 hrs between 4.9 nT & 6.1 nT)<br>1.3 nT (varied in the past 12 hrs between -4.5 nT & 4.3 nT) |

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

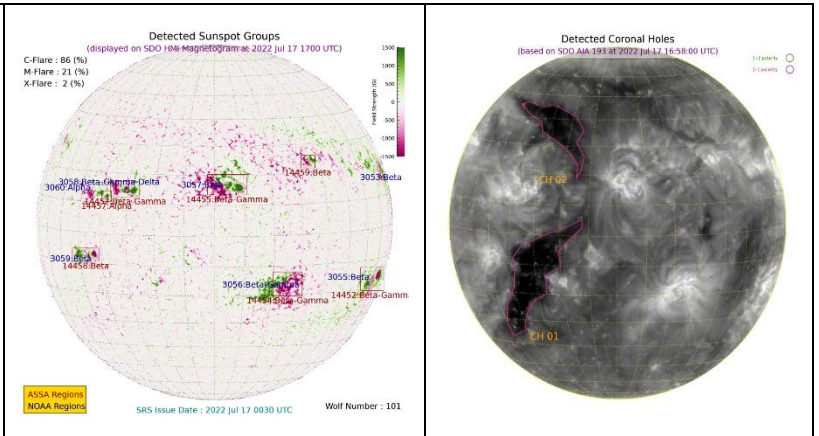
Sonmiani (SON): 25.2° N, 66.75° E, Islamabad (ISB): 33.7° N, 73.13° E

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: 18 July 2022

There is one active region AR3058 present on the Sun capable of producing strong C and M-class solar flares having chances of 86% and 21% respectively.

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



### DISCUSSION:

Solar activity is expected to remain at high levels. Low solar wind speed and quiet geomagnetic activity is expected. Local HF conditions are enhanced. Minor to moderate radio blackouts may be observed in case of M-class solar flares.