

# Daily Space Weather Summary (SUPARCO)

Tuesday, April 16, 2024, 14:30 PST



## LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

|   |            |            |            |            |            |             |             |             |
|---|------------|------------|------------|------------|------------|-------------|-------------|-------------|
| <b>Critical Frequency of F2 layer (foF2)</b>  | 9.0 MHz    |            |            |            |            |             |             |             |
| <b>Virtual Height of F2 layer (h`F2)</b>  | 284 km     |            |            |            |            |             |             |             |
| <b>Total Electron Content (TEC)</b>   | 40 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>  | 9.2        | 9.7        | 11.5       | 14.0       | 16.9       | 19.7        | 22.1        | 25.4        |
| <b>FOT (MHz)</b>  | 7.8        | 8.2        | 9.8        | 11.9       | 14.3       | 16.8        | 18.8        | 21.6        |

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> | 45512/50630 nT |

The local geomagnetic field is quiet at the moment.

## LATEST SOLAR CONDITIONS

|   |  |
|---|--|
| <b>Sunspot Number (SN)</b>  | 193  |
| <b>Solar radio flux (F10.7)</b>   | 192 sfu  |
| <b>Solar wind speed</b>   | 380.1 km/s (varied in the past 24 hrs between 317 & 413 km/s)  |
| <b>Solar x-ray flares</b>   | C2.1 (max flare in the past 24 hrs (M3, 1932 UT)   |
| <b>Interplanetary Magnetic Field (IMF)<br/>Total Field (Bt)<br/>Z Component of Field (Bz)</b> | +10.8 nT (varied in the past 12 hrs between +7.6 nT & +10.6 nT)<br>-5.9 nT (varied in the past 12 hrs between -7.1 nT & +1.5 nT) |

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

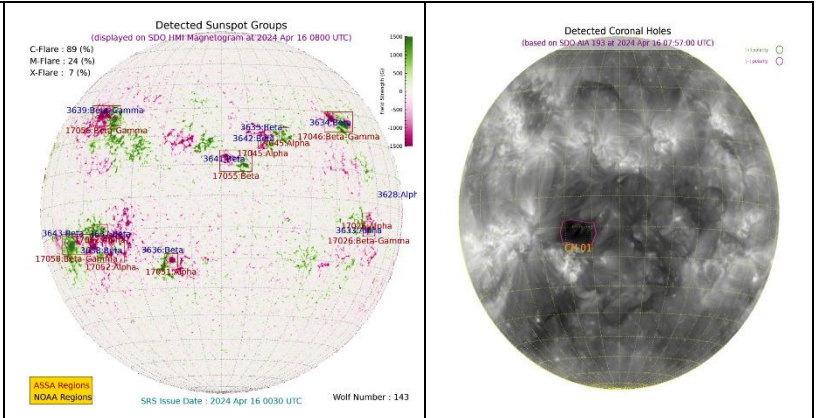
Sonmiani (SON): 25.2° N, 66.75° E, Islamabad (ISB): 33.7° N, 73.13° E

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 April 2024

There is one active region AR3639 present on the Sun capable of producing strong M and X-class solar flares having chances of 24% and 7% respectively.

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



### DISCUSSION:

Solar activity is expected to be at low to moderate levels. Multiple M-class solar flares, have already occurred from the region mentioned. In case of more M/X-class solar flares, minor to moderate radio blackouts may be observed. Low to moderate solar wind speed is expected due to the combine effect of coronal hole and CME. Geomagnetic activity is expected to be quiet. HF conditions are normal.

