Daily Space Weather Summary (SUPARCO)

Wednesday, October 16, 2024, 12:01 PST

SUPARCO

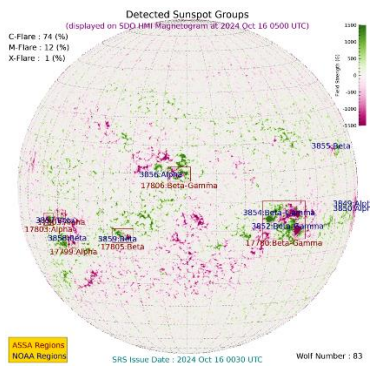
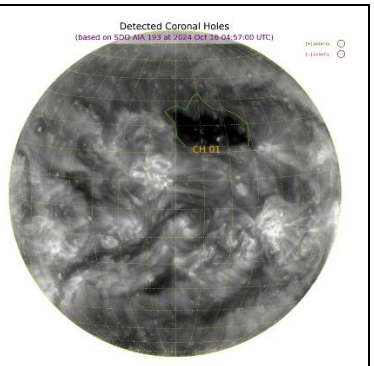
Radio Blackouts			Solar Radiation Storms			Geomagnetic Storms		
-24 Hr	Current	Predicted	-24 Hr	Current	Predicted	-24 Hr	Current	Predicted
R1	R0	R0 - R1	S0	S0	S0	G0	G0	G0

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)								
Critical Frequency of F2 layer (foF2)	14.3 MHz							
Virtual Height of F2 layer (h`F2)	375 km							
Total Electron Content (TEC)	70 TECU							
Maximum Usable Frequency (MUF) and Optimum Traffic Frequency (FOT) for various distances								
Distance (Km)	**100**	**200**	**400**	**600**	**800**	**1000**	**1500**	**3000**
MUF (MHz)	14.5	14.8	16.1	17.9	20.1	22.5	28.3	36.0
FOT (MHz)	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	
K-index	2 (Quiet)
Total Field (F) (Son/Isb)	45675/50714 nT
The local geomagnetic field is quiet at the moment.	

LATEST SOLAR CONDITIONS	
Sunspot Number (SN)	141
Solar radio flux (F10.7)	172 sfu
Solar wind speed	384.6 km/s (varied in the past 24 hrs between 366 & 441 km/s)
Solar x-ray flares	C3.7 (max flare in the past 24 hrs (M3, 0323 UT)
Interplanetary Magnetic Field (IMF) **Total Field (Bt)** **Z Component of Field (Bz)**	+9.68 nT (varied in the past 12 hrs between +8.36 nT & +10.22 nT) -3.62 nT (varied in the past 12 hrs between -4.74 nT & +7.95 nT)
Solar conditions are at low to moderate levels with background X-ray flux at C-class level.	

Daily Sun: 16 October 2024

There are two active regions AR3852 and AR3854 present on the Sun capable of producing strong M and X-class solar flares having chances of 12% 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. Some M-class solar flares, have already occurred from the regions mentioned above. In case of M/X-class solar flares, minor radio blackouts may be observed. Low 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**