Daily Space Weather Summary (SUPARCO)

Monday, October 28, 2024, 14:49 PST

SUPARCO

Radio Blackouts			Solar Radiation Storms			Geomagnetic Storms		
-24 Hr	Current	Predicted	-24 Hr	Current	Predicted	-24 Hr	Current	Predicted
R1	R0	R1 - R2	S2	S2	S1	G1	G0	G1 - G2

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)	
Critical Frequency of F2 layer (foF2)	15.2 MHz
Virtual Height of F2 layer (h`F2)	320 km
Total Electron Content (TEC)	74 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)	15.4	15.9	17.9	20.6	23.8	27.0	31.2	36.4
FOT (MHz)	13.1	13.5	15.2	17.5	20.2	23.0	26.5	30.9

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

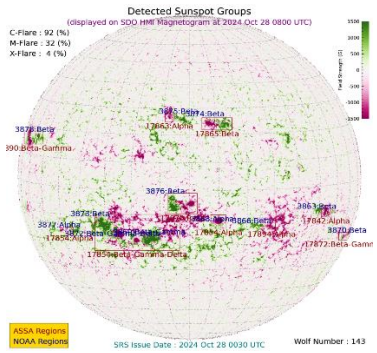
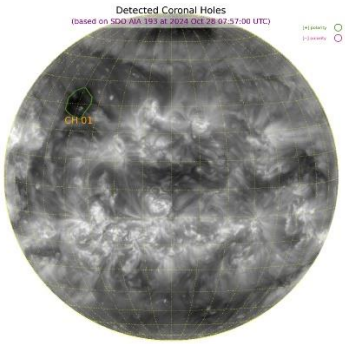
LOCAL GEOMAGNETIC CONDITIONS	
K-index	4 (Unsettled)
Total Field (F) (Son/Isb)	45701/50711 nT

The local geomagnetic field is unsettled at the moment.

LATEST SOLAR CONDITIONS	
Sunspot Number (SN)	198
Solar radio flux (F10.7)	246 sfu
Solar wind speed	544.3 km/s (varied in the past 24 hrs between 341 & 614 km/s)
Solar x-ray flares	C5.1 (max flare in the past 24 hrs (M2, 2324 UT)
Interplanetary Magnetic Field (IMF) **Total Field (Bt)** **Z Component of Field (Bz)**	+12.54 nT (varied in the past 12 hrs between +5.56 nT & +13.02 nT) -6.63 nT (varied in the past 12 hrs between -5.65 nT & +11.57 nT)

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

Daily Sun: 28 October 2024

There are two active regions AR3869 and AR3872 present on the Sun capable of producing strong M and X-class solar flares having chances of 32% and 4% 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/X-class solar flares, have already occurred from the regions mentioned above causing R1-R3 levels radio blackouts and disturbed geomagnetic conditions. In case of more M/X-class solar flares, minor to moderate radio blackouts may be observed. Moderated to slightly elevated solar wind speed is expected due to the effect of CME and coronal hole. Geomagnetic activity is expected to be at quiet to disturbed levels. 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**

Geomegnatic Storms				
Minor	**Moderate**	**Strong**	**Severe**	**Extreme**
G1	**G2**	**G3**	**G4**	**G5**