

3-day Space Weather Conditions (SUPARCO)

Friday, October 26, 2018, 1430PST



LOCAL CURRENT IONOSPHERIC CONDITIONS OVER PAKISTAN			
DATE	26-Oct-18 (noon)	27-Oct-18 (noon)	28-Oct-18 (noon)
foF2	ISL/SON: 6/8.6 MHz	7/9 MHz	6/8 MHz
h`F2	ISL/SON: 250/270 km	245/260 km	260/285 km
MUF	ISL/SON: 18/25 MHz	21/27 MHz	18/24 MHz
TEC	ISL/SON: 30/40 TECU	32/45 TECU	35/45 TECU

Local ionospheric conditions are nominal with good MUF conditions. It is advised to try a higher frequency band in case of HF communications difficulty.

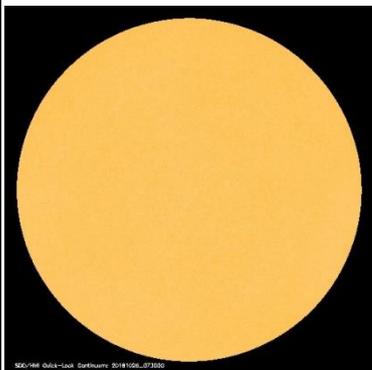
LOCAL GEOMAGNETIC CONDITIONS OVER PAKISTAN			
K-index	1	1	1
F	ISL/SON: 49832/45206 nT	49770±30 /45265±35 nT	49760±30/45270±35 nT
D	ISL/SON: 0.67/0.54 degrees	0.66 /0.56 degrees	0.66/0.56 degrees

The local geomagnetic field is quiet at the moment.

SOLAR CONDITIONS			
SN	0	2 (SSN-predicted)	2 (SSN-predicted)
F 10.7	69 sfu	68 sfu	68 sfu
V _{sw}	379 km/sec (varied in the past 12 hrs between 354 & 382 km/s)	Solar wind expected to stay at ambient levels	Solar wind expected to stay at ambient levels
Solar flares	A 1.1 (max. flare in the past 24 hrs: A 1.0 0707 UT Oct 26)	Low levels of solar flare activity expected.	Very low levels of solar flare activity expected
IMF Bt Bz	7.4 nT (varied in the past 12 hrs between 5.56 & 7.9 nT) +5.3 nT (varied in the past 12 hrs between +6.4 & -6.63 nT)	Expected to vary between positive and negative sectors	Expected to vary between positive and negative sectors

Solar conditions are at very low levels with background X-ray flux at A-class levels. Local HF working frequencies are good as compared to monthly average predicted values.

Daily Sun: 26 October 2018

<p>There are no active regions on the Sun capable of producing strong solar flares.</p> <p><i>(Credit: discerned from solar image processed and analysed by SUPARCO)</i></p>		<p>No Data</p>
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2-Day Conditions

Solar activity will remain at very low levels over the weekend. Local geomagnetic conditions are expected to remain quiet as there are no chances for the solar wind to get enhanced. Good HF conditions are expected over the weekend.

ANNEXURE

DEFINITIONS OF TERMINOLOGIES USED IN THIS SUMMARY	
foF2	Maximum frequency of F2-layer of the ionosphere
h'F2	Virtual height of the F2-layer
MUF	Maximum usable frequency for 3000 km
K-index	Local index defining geomagnetic conditions
Declination	Planetary A index defining geomagnetic conditions, predicted value during geomagnetic unsettled conditions
F	Magnitude of the total geomagnetic field vector (unit in nano Teslas)
SON, difference	Sonmiani Geomagnetic Observatory mean value, <u>difference limit</u> from night time value of quiet conditions: 25-30 nT, max: 260 nT
ISP	Islamabad Geomagnetic Observatory mean value
SN	Relative sunspot numbers
Vsw	Solar Wind Speed (km/s)
F10.7	Solar radio flux at 2.8 GHz (10.7 cm wavelength)
sfu	Solar flux unit (defines the solar radio 10.7 cm flux)
Solar Flare	Could be B, C, M and X depending upon the intensity of x-rays being emitted (each type has further 10 classes based on amount of energy released by the flare)
IMF	Interplanetary magnetic field (the source of which is the Sun)
Bt	Total IMF (unit in nano Teslas)
Bz	Vertical component of IMF (could be north/upward/positive or south/downward/negative) (unit in nano Teslas)
AR	Active Regions on the sun currently in view
CME	Coronal Mass Ejection
CH	Coronal Hole
KASI	Korean Astronomy & Space Science Institute
SWFs	Short-wave fadeouts, caused by M/X class flares on the daylit side of the hemisphere absorbing lower frequencies and hampering HF communication.
SSN-predicted	Smooth Sunspot Number-it is an estimated value using a mathematical relation to forecast it.

For information on radio blackout levels, please follow the link:

<http://www.swpc.noaa.gov/noaa-scales-explanation>

Acknowledgements:

Images source: Solar Dynamics Observatory-SDO) Both images showing the Solar disk and Coronal Holes have been processed at SUPARCO using Automatic Solar Synoptic Analyzer (ASSA), developed jointly by the Korean Space Weather Centre of the Radio Research Agency (RRA) & Space Environment Laboratory (SELab).

Data sources: The planetary indices and solar data are taken from the URLs below:

<http://www.spaceweather.go.kr>

<http://www.sws.bom.gov.au>

<http://www.solarmonitor.org>

Sonmiani (SON): 25.2° N, 66.75° E

Islamabad (ISB): 33.7° N, 73.13° E