2-Day Space Weather Conditions (SUPARCO)
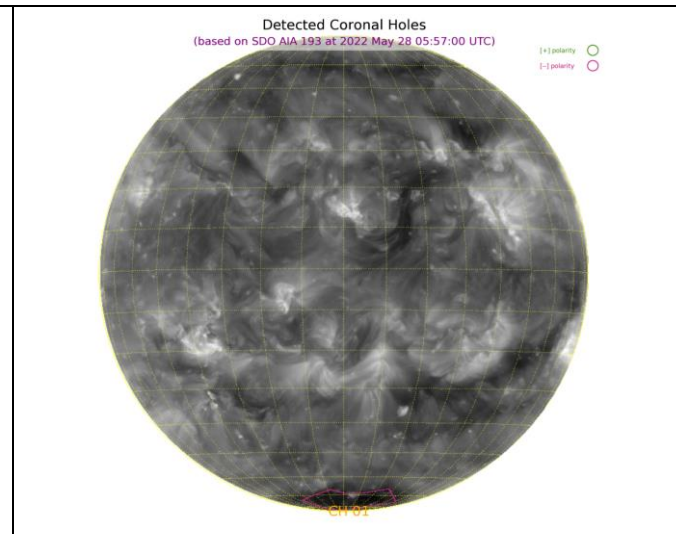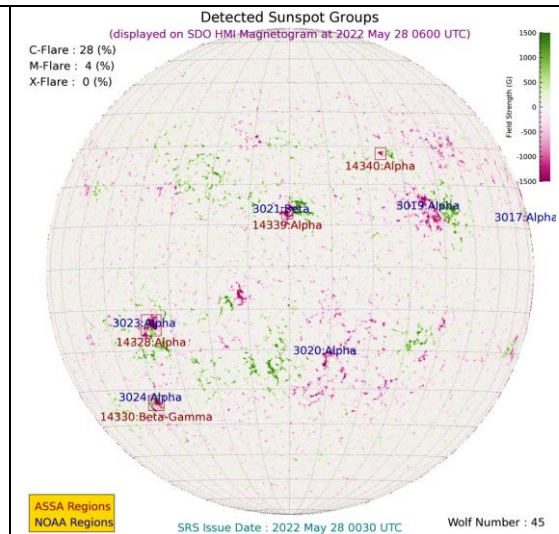## Saturday, May 28, 2022, 12:42 PST

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)		
DATE	**28-May-22**	**29-May-22 (noon)**
foF2	10.5 MHz	10.1 MHz
h'F2	363 km	358 km
TEC	57 TECU	55 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) for 2 days(28 & 29 May)	10.6	10.9	11.9	13.3	15.0	16.8	21.2	26.2
	9.0	9.3	10.1	11.3	12.8	14.3	18.0	22.3
FOT (MHz) for 2 days(28 & 29 May)	10.2	10.5	11.5	12.9	14.6	16.4	20.8	26.0
	8.7	8.9	9.8	11.0	12.4	13.9	17.7	21.9

Local ionospheric conditions are normal as compared to predicted monthly median MUF.

LOCAL GEOMAGNETIC CONDITIONS		
K-index	4 (Unsettled)	Quiet geomagnetic activity expected
F(SON/ISB)	45464/50074 nT	45473±30/50079±20nT

The local geomagnetic field is quiet at the moment.

SOLAR CONDITIONS		
SN	69	62 (SSN-predicted)
F 10.7	114 sfu	105 sfu
V$_{SW}$	539.4 km/sec (varied in the past 12 hrs between 308 & 564 km/s)	Moderate solar wind speed is expected.
Solar flares	B 5.6 (max. flare in the past 24 hrs: C2, 1127 UT)	Low to moderate levels of solar activity expected.
IMF Bt **Bz**	6.8 nT (varied in the past 12 hrs between 7.1 & 9.3 nT) 4.5 nT (varied in the past 12 hrs between -7.6 & 4.4 nT)	Expected to vary between positive and negative sectors.

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

Daily Sun: 28 May 2022

There is no active region present on the Sun capable of producing strong solar flares.

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

Detected Sunspot Groups
(displayed on SDO HMI Magnetogram at 2022 May 28 0600 UTC)

C-Flare : 28 (%)
M-Flare : 4 (%)
X-Flare : 0 (%)

14340:Alpha

3021:Beta   3019:Alpha   3017:Alpha
14339:Alpha

3023:Alpha
14328:Alpha   3020:Alpha

3024:Alpha
14330:Beta-Gamma

ASSA Regions
NOAA Regions

SRS Issue Date : 2022 May 28 0030 UTC   Wolf Number : 45

Detected Coronal Holes
(based on SDO AIA 193 at 2022 May 28 05:57:00 UTC)

[+] polarity
[–] polarity

CH 01

1-Day Conditions

Solar activity is expected to be at low to moderate levels.
Moderate solar wind speed is expected due to geo-effective coronal hole.
Unsettled geomagnetic conditions are prevalent which are expected to subside within the next 24 hours.
Local Ionospheric conditions are normal. It is advised to use the frequency ranges mentioned in the ionospheric section.

Sonmiani (SON): 25.2⁰ N, 66.75⁰ E

Islamabad (ISB): 33.7⁰ N, 73.13⁰ E

<div align="center">ANNEXURE</div>

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, underline difference limit from night time value of quiet conditions: 25-30 nT, max: 260 nT
ISP	Islamabad Geomagnetic Observatory mean value
SN	Relative sunspot numbers
V_{SW}	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.