

Indian scientists predict Sun's corona for Europe eclipse

TIMES NEWS NETWORK

Bengaluru: Indian solar physicists have predicted the structure of the Sun's million-degree corona ahead of the total solar eclipse that will sweep across parts of Europe on Aug 12.

The team, led by the Raman Research Institute (RRI), has forecast multiple large-scale, petal-like structures and elongated streamers in the Sun's outer atmosphere.

The prediction is based on two distinct computational models of the Sun's magnetic field, using solar observations available up to Aug

10. The eclipse began at 9:04 pm IST on Wednesday and wasn't visible from India. The Moon's shadow covered the Sun for 2 minutes and 18 seconds. Much of Spain experienced it in totality, while western Europe, parts of northwestern Africa and some parts of the US will see a partial eclipse.

Scientists study the corona during eclipses because it is normally difficult to observe. The corona is much fainter than the Sun's visible surface, but when the Moon blocks the solar disk during an eclipse, its structures become visible.

Outside eclipses, scien-

tists rely on coronagraphs, artificial disks that block out the Sun's glare, such as those aboard India's Aditya-L1 satellite and the European Space Agency's SOHO and Proba-3 missions, the latter of which was launched by Isro.

Understanding the corona is important because changes in its magnetic field can trigger solar flares, solar storms and coronal mass ejections (CMEs). These eruptions send energy and charged particles towards Earth and can disrupt satellites, communications, GPS networks and power systems. They can also expose astronauts to increased radiation.