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News / India / Solar flares behind aurora were captured by Chandrayaan-2 orbiter, Aditya-L1: ISRO

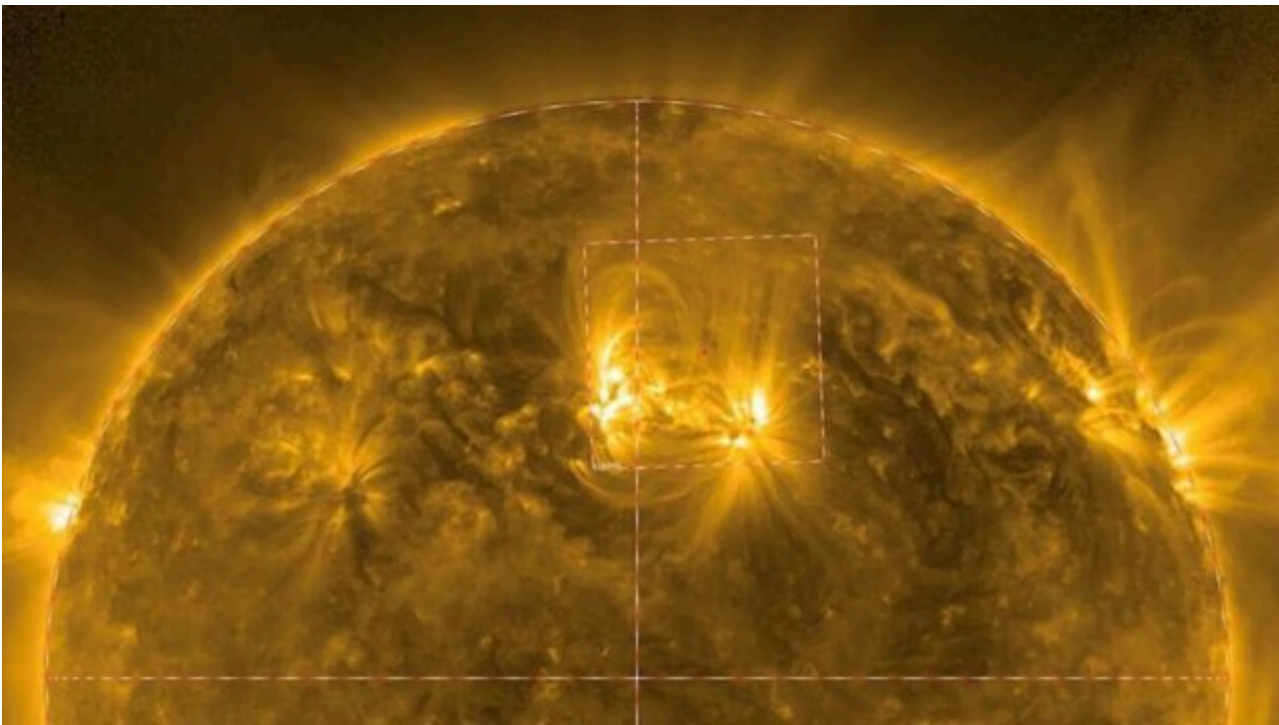
Solar flares behind aurora were captured by Chandrayaan-2 orbiter, Aditya-L1: ISRO

The colourful lights in the night sky are a result of the charged particles ejected by the Sun hitting the gases in Earth's upper atmosphere.

Written by **Anonna Dutt** [Follow](#)

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Screenshot of video of Sun taken by NASA's Solar Dynamics Observatory. (X/@NASASun)

While most of India did not get to see the Aurora lights visible in many parts of the world recently, the solar flares that caused it were seen by Indian ground stations, the spacecraft [Aditya-L1](#) studying the Sun from a point 1.5 million km away, and the [Chandrayaan-2 orbiter](#) circling the moon.

The colourful lights in the night sky are a result of the charged particles ejected by the Sun hitting the gases in Earth's upper atmosphere. Usually, these particles travel along the Earth's magnetic fields, reaching the poles where the vibrant colours are seen. But, during a geomagnetic storm, like the one witnessed recently, the magnetic fields may break and allow the particles to reach the upper atmosphere.

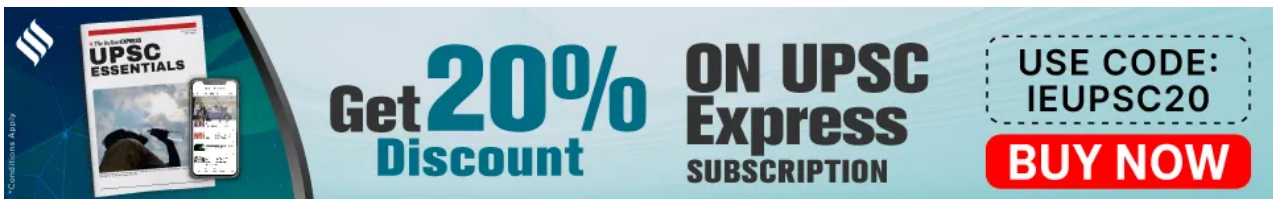
The geomagnetic storm witnessed recently was the most intense seen since 2003, according to a statement by the [Indian Space Research Organisation](#), and led to disruptions in communications and GPS systems. On the geomagnetic storm index, it touched a nine, the maximum available, the space agency said.

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“Indian sector got less affected as the main hit of the storm happened in the early morning of 11th May, when the ionosphere had not developed fully. Also, being at lower latitudes, widespread outages haven’t been reported in India. Ionosphere was very turbulent over the Pacific and American sectors,” said [ISRO](#).

One of the payloads on-board Aditya-L1 called ASPEX captured high speed solar wind, high temperature solar wind plasma (the charged particles expelled by the Sun), and an energetic ion flux. Two other instruments on the space-based observatory had over the previous few days seen multiple M and X-class flares from the same region where the recent one originated. Solar flares are classified based on their strength, with B-class being the smallest ones, followed by C, M, and then X-class that are thousand times stronger than B-class.



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Solar flares are more commonly seen during the solar maximum. In the current cycle, the solar maximum is likely to happen in mid 2025.

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Chandrayaan-2 orbiter also captured the eruptive event from its orbit around the moon, Isro said. The payload XSM on board detected the solar flares, with it being equipped to autonomously identify large flares and activate a mechanism to bring a filter in front of the detector. It also collected information on the local charge particle concentrations, which went up May 9 onwards.

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Anonna Dutt

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Anonna Dutt is a Principal Correspondent who writes primarily on health at the Indian Express. She reports on myriad topics ranging from the growing burden of non-cc [... Read More](#)

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Sports Updated: May 14, 2024 23:03 IST

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