

ADITYA-L1 SPACE CRAFT ESCAPES SPHERE OF EARTH'S INFLUENCE

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Aditya-L1 Mission: The fourth Earth-bound manoeuvre (EBN#4) is performed successfully. ISRO's ground stations at Mauritius, Bengaluru, SDSC-SHAR and Port Blair tracked the satellite during this operation, while a transportable terminal currently stationed in the Fiji islands for Aditya-L1 will support post-burn operations. | Photo Credit: ANI

The [Aditya-L1](#) space craft which is headed to the Lagrangian 1 (L1) point has escaped the sphere of Earth's influence. Aditya-L1 is India's first space based observatory to study the Sun."The spacecraft has travelled beyond a distance of 9.2 lakh kilometres from Earth, successfully escaping the sphere of Earth's influence. It is now navigating its path towards the Sun-Earth Lagrange Point 1 (L1)," ISRO said on Saturday.

The space agency added that this is the second time in succession that ISRO could send a spacecraft outside the sphere of influence of the Earth, the first time being the Mars Orbiter Mission. On September 19, ISRO carried out the Trans-Lagrangian1 Insertion (TL1I) manoeuvre to send it towards L1. The TL1I manoeuvre marked the beginning of Aditya-L1's 110-day journey towards the L1 point which lies between the Sun-Earth line.

L1 is about 1.5 million km from the Earth and the distance of L1 from Earth is approximately 1% of the Earth-Sun distance.

[Aditya-L1](#) was launched [on September 2](#) by the Polar Satellite Launch Vehicle (PSLV) from the Satish Dhawan Space Centre in Sriharikota.

Following the launch ISTRC carried out four earth-bound manoeuvres between September 3 and September 15.

Aditya-L1 which is dedicated to the comprehensive study of the Sun has seven payloads. Five payloads were developed by ISRO and two by Indian academic institutes in collaboration with the space agency.

Upon arrival at the L1 point in January 2024, another manoeuvre will be performed which will bind Aditya-L1 to an orbit around L1. The satellite will spend its mission life orbiting around L1 in an irregularly shaped orbit in a plane roughly perpendicular to the line joining the Earth and the Sun.

Aditya-L1 has a mission life of five years during which its payloads are expected to provide the most crucial information to understand the problem of coronal heating; coronal mass ejection; pre-flare and flare activities and their characteristics; dynamics of space weather; and propagation of particles and fields.

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