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{ ISRO ON A ROLL }

India's solar observatory Aditya-L1 successfully carries out another significant manoeuvre

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NEW DELHI: Aditya-L1, India's first solar observatory, on Tuesday began its 110-day journey to the Lagrange Point-1 of the Sun-Earth system after the Indian Space Research Organisation (Isro) successfully performed the trans-Lagrangean Point insertion, pushing the craft out of Earth's orbit.

"Off to Sun-Earth L1 point! The Trans-Lagrangean Point 1 Insertion (TL1I) manoeuvre is performed successfully. The spacecraft is now on a trajectory that will take it to the Sun-Earth L1 point. It will be injected into an orbit around L1 through a manoeuvre after about 110 days," Isro said in a statement after the manoeuvre was successfully performed early in the day.

THE MANOEUVRE FINALLY RELEASED THE SPACECRAFT FROM THE EARTH'S ORBIT TOWARDS ITS DESTINATION

This is the fifth consecutive time the Isro has successfully transferred an object on a trajectory towards another celestial body or location in space, the space agency said.

Aditya-L1 is the first Indian space-based observatory to study the Sun from a halo orbit around first Sun-Earth Lagrangian point (L1), located roughly 1.5 million km from earth, which is about one per cent of the Earth-Sun distance. According to the National Aeronautics and Space Administration (Nasa), Lagrange Points are positions in space where the gravitational forces of a two-body system like the Sun and Earth produce enhanced regions of attraction and repulsion.

"These can be used by spacecraft as 'parking spots' in space to remain in a fixed position with minimal fuel consumption," a Nasa document read. →P2

Aditya-L1 successfully exits Earth's orbit: Isro

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A senior Isro scientist explained the instruments on-board Aditya-L1 has already started sending its first round of data and over the course of the next 110 days till the craft is finally placed at L1's orbit, other instruments will also be made functional in a phase-wise manner.

Isro launched the country's maiden solar observatory Aditya-L1 from Sriharikota on September 2.

"We have started receiving data and the coming few months will also be crucial for us in terms of collecting data and closely monitoring the progress of the craft," said the scientist, requesting anonymity.

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"These can be used by spacecraft as 'parking spots' in space to remain in a fixed position with minimal fuel consumption," a Nasa document read. On September 2, Isro launched the Aditya-L1 spacecraft from the spaceport in Sriharikota.

The mission will allow India's scientists to unlock new insights about the centre of our solar system, by ensuring uninterrupted observations of the Sun.

The spacecraft is meant to be placed in a halo orbit around L1 of the Sun-Earth system, which is about 1.5 million km from the Earth. Tuesday's manoeuvre finally released the spacecraft from the Earth's orbit towards its destination. Before being placed at L1, the space agency will conduct a final manoeuvre to bind the craft where it will spend at least the next five years studying various aspects of the Sun.