

In second action by ISTRAC, Aditya-L1 enters new orbit

The manoeuvre was performed in the early hours of Tuesday, and the new orbit attained was 282 km x 40,225 km; three more manoeuvres are scheduled, with the next fixed for September 10

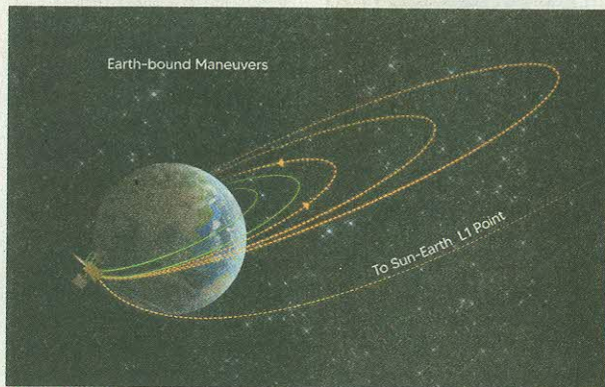
The Hindu Bureau
BENGALURU

The second earth-bound manoeuvre of the Aditya L1 mission to study the sun has been performed successfully by the ISRO Telemetry, Tracking and Command Network (ISTRAC), Bengaluru.

“ISTRAC/ISRO’s ground stations at Mauritius, Bengaluru and Port Blair tracked the satellite during this operation,” the space agency said.

The manoeuvre was performed in the early hours of Tuesday and the new orbit attained was 282 km x 40,225 km. Three more manoeuvres are scheduled, with the next scheduled for around 2.30 a.m. on September 10.

After the final manoeuvre on September 18, Aditya-L1 will undergo a trans-Lagrangian insertion manoeuvre, marking the beginning of its 110-day trajectory to the destination around the L1 La-



New chapter: Aditya L1, country’s first solar mission, successfully performed the second earth-bound manoeuvre, on Tuesday. ISRO

grange point. Upon arrival at the L1 point, another manoeuvre will bind Aditya-L1 to an orbit around L1, a balanced gravitational location between the earth and the sun.

The satellite spends its whole 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 will be the first Indian space-based observatory to study the sun from a halo orbit around first sun-earth La-

grangian point (L1), which is located roughly 1.5 million km from earth.

The first earth-bound manoeuvre was successfully performed on September 3.

The ISRO’s Polar Satellite Launch Vehicle (PSLV-C57) successfully launched the Aditya-L1 spacecraft from the Second Launch Pad of Satish Dhawan Space Centre (SDSC), Sriharikota, on September 2.

After a flight duration of 63 minutes and 20 seconds, Aditya-L1 spacecraft

was successfully injected into an elliptical orbit of 235 km x 19,500 km around the earth.

According to the ISRO, a satellite placed in the halo orbit around the L1 point has the major advantage of continuously viewing the sun without any occultation and eclipses.

This will provide a greater advantage of observing the solar activities and its effect on space weather in real time.

Aditya-L1 carries seven scientific payloads indigenously developed by the ISRO and national research laboratories, including the Indian Institute of Astrophysics (IIA), Bengaluru, and the Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune.

The payloads are to observe the photosphere, chromosphere and the outermost layers of the sun (the corona) using electromagnetic and particle and magnetic field detectors. (With inputs from PTI)