

Aditya-L1 payload model enthralls many



Visitors look at a display at Jawaharlal Nehru Planetarium during the screening of the launch of Aditya-L1, in Bengaluru on Saturday | SHASHIDHAR BYRAPPA

EXPRESS NEWS SERVICE @ Bengaluru

AFTER the success of Chandrayaan-3, Bengalureans have taken a keen interest in science and space. About 70 individuals gathered at the Indian Institute of Astrophysics (IIA) to witness the live telecast launch of Aditya-L1 from the Satish Dhawan Space Centre at Sriharikota (SHAR) which took off at 11:50 am on Saturday.

The crowd started counting down together and cheered when the PSLV-C57 lifted Aditya-L1. Individuals were seen congratulating each other and celebrating India's maiden mission to the Sun's L1 point. A miniature model of IIA's payload, Visible Emission Line Coronagraph (VELC) onboard the Aditya-L1 was also showcased in the auditorium for viewers to understand its functions and how it was built. The scientists at IIA also spoke about the mission, its objectives and answered questions. The original VELC weighs 90 kg and is 1.7m x 700 mm. The miniature model is about half the size of the original payload and is used as a part of IIA's outreach programmes for stu-

dents. Jayant Joshi, Assistant Professor, IIA, said, "The miniature model has the same thermal insulation used on the original one."

CM, Governor congratulate ISRO for launch

Chief Minister Siddaramaiah, Governor Thaawarchand Gehlot, and others congratulated ISRO for successfully launching the Aditya-L1 mission designed to study the Sun. "Heartiest congratulations to @isro for the successful launch of solar observatory mission #AdityaL1. This is a great milestone achieved by ISRO and a proud moment for India," the CM tweeted on X.

"It is an immense pleasure to know that after Chandrayaan-3's success, ISRO has planned and successfully launched Aditya-L1 mission, the first space-based Indian mission to study the Sun," the Governor wrote to ISRO Chairman S Somanath.

This mission will provide a great advantage in observing solar activities and their effect on space. This exceptional success is due to the dedication and commitment of our scientists, he stated and congratulated them for making India proud.

Somanath: Aditya-L1 has 95% success rate

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It was PSLV's 59th flight and 25th mission with an XL configuration. The rocket, which is India's workhorse, has a whopping 95% success rate. ISRO chairman S Somanath said:

"The Aditya-L1 satellite has been injected into an elliptical orbit of 235/19,500 km, which is a very precise and intended orbit. It is a very unique mission as the two burn sequence of the upper stage - PS4 - was performed for the first time. For now on, Aditya-L1, after some Earth-bound manoeuvres, will begin its 125 days long journey to reach the L1 point."

Project director Nigar Shaji said once Aditya-L1 is operational, it will be an asset to the heliophysicists of the country and the global scientific fraternity.

In the coming days, Aditya-L1 will travel several times around the Earth before being launched towards the L1 point by using on-board propulsion Liquid Apogee Motor (LAM).

After exiting Earth's gravitational Sphere of Influence (SOI), the cruise phase will start and subsequently the spacecraft will be injected into a large halo orbit around L1, which is located at a distance of 1.5 million km from the Earth - 1% of the Earth-Sun distance.

Former ISRO scientist Myslswamy Annadurai told TNIE, "Aditya-L1 will be technically challenging to acquire an orbit around L1 Lagrange point, scientifically reward-

ing to understand solar activities and model them, and operationally meaningful mission to forewarn disturbance in space weather due to solar activities to take safety measures on the operational satellites."

The spacecraft carries seven scientific payloads. It will study the solar corona (the outermost layer); the photosphere (the Sun's surface or the part we see from the Earth) and the chromosphere (thin layer of plasma that lies between the photosphere and the corona).

The studies will help scientists understand solar activity, such as solar wind and solar flares, and their effect on Earth and near-space weather in real time.

Shankar Subramanian, principal scientist, Aditya-L1, said:

"Seven payloads will provide new insights into initiations

of coronal mass ejections, some wave bands which are very important for the Earth's ionosphere like high energy radiations and particles coming from solar flares etc. This is some of the information that will be coming from this particular mission that will allow us to understand the Sun, its dynamics and inner heliosphere."

Prof Annapurni S, Director of Indian Institute of Astrophysics (IIA), which provided the primary payload - Visible Emission Line Coronagraph (VELC), said this instrument will look at the corona from the disk of the Sun 24/7.

