

## **‘FROM MOONWALK TO SUN DANCE’, DR JITENDRA SINGH LAUDS SUCCESSFUL INSERTION OF ADITYA-L1 TO HALO ORBIT**

Relevant for: Science & Technology | Topic: Science and Technology- developments and their applications and effects in everyday life

From Moonwalk to Sun Dance, Aditya L1 marks ISRO's success trilogy with three success stories, one after the other, in quick succession... Chandrayaan 3, XPoSAt and Aditya L1 at the Lagrange point.

This was the instant first response of Union Minister for Space, Dr Jitendra Singh soon after Aditya L1 reached its designated destination at the Lagrange point.



In a tweet which went viral, the Minister said "From Moon walk to Sun Dance! What a glorious turn of year for Bharat! Under the visionary leadership of PM Narendra Modi, yet another success story scripted by Team ISRO. AdityaL1 reaches its final orbit to discover the mysteries of the Sun-Earth connection".

In a series of media interviews, Minister said that the success of Aditya L1 is going to be a path breaking effort to discover the mysteries of the Sun, which were hitherto either not understood or became a part of the fairy tales and folktales.

India also has a special stake in the study of Sun phenomena because of the large number of satellites in space, said Dr Jitendra Singh. The Minister also took the example of the private space exploration company SpaceX losing 40 satellites in a go, after being hit by a solar storm a day after launch, to underline how important the understanding of solar phenomena is. Pointing out the importance of the mission, the Minister said that all scientists in the space exploration field are eagerly waiting for inputs from the Aditya L1 mission.



Dr Jitendra Singh also said that this mission will help us in understanding Solar heating, Solar storms, Solar flares and Coronal Mass Ejections among other solar phenomena.

The Minister also said that the Aditya L1 mission is not only indigenous but also a very cost effective mission, just like Chandrayaan, with a budget of only Rs. 600 Crore. Dr Jitendra Singh said that even though talent was never lacking in the country, the missing link of enabling milieu was created under the leadership of Prime Minister Narendra Modi.

The Halo Orbit insertion (HOI) of Aditya L1 was achieved at approximately 4:00 PM today. The final phase of maneuver involved firing of control engines for a short duration. The orbit of Aditya L1 spacecraft is located roughly 1.5 million Kilometres from earth on a continuously moving Sun – Earth line, with an orbital period of about 177.86 earth days. The specific halo orbit is selected to ensure a mission lifetime of 5 years, minimizing station keeping maneuvers and thus fuel consumption and ensuring a continuous, unobstructed view of the sun.

The halo orbit insertion of the spacecraft presented a critical mission phase, which demanded precise navigation and control. The success of this insertion not only signifies ISRO's capabilities in such complex orbital maneuvers, but it gives confidence to handle future interplanetary missions.



Aditya L1 was designed and realized at UR Rao Satellite Centre (URSC) with participation from various ISRO centers. The payloads onboard Aditya L1 were developed by Indian scientific laboratories, IIA, IUCA and ISRO. The Aditya L1 spacecraft was launched by PSLV-P57 on September 2, 2023. The spacecraft underwent a cruise phase lasting approximately 110 days to reach the halo orbit.

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