

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE**

LOK SABHA

**UNSTARRED QUESTION NO. 1732
TO BE ANSWERED ON WEDNESDAY, DECEMBER 13, 2023**

LAUNCH OF ADITYA L1

**1732. SHRI BALASHOWRY VALLABHANENI:
SHRI THIRUMAVALAVAN THOL:**

Will the PRIME MINISTER be pleased to state:

- (a) whether Aditya-L1 will shape the next phase of India's space forays, if so, the details thereof;**
- (b) the extent to which Aditya-L1 is going to be able to study Solar's corona, solar activity and space weather;**
- (c) the extent to which Indian Institutes of Astrophysics is playing its role in achieving the objectives of Aditya-L1;**
- (d) whether Aditya-L1 has been successfully launched, if so, the details thereof;**
- (e) whether Aditya-L1 is in its planned trajectory and**
- (f) if so, the time by which Aditya-L1 is expected to reach the Langrange Point 1?**

ANSWER

**MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC
GRIEVANCES & PENSIONS AND IN THE PRIME MINISTER'S OFFICE**

(DR. JITENDRA SINGH):

(a) & (b)

Yes Sir. Aditya L1 is set to become India's first space-based mission dedicated to studying the Sun. The spacecraft will be positioned in a halo orbit encircling Lagrange point 1 (L1) within the Sun-Earth system, situated approximately 1.5 million kilo meter away from Earth. This will provide an uninterrupted view of the Sun, and hence, will enhance our ability to monitor solar activities.

The spacecraft is equipped with seven (07) payloads designed to observe various layers of the Sun, including the photosphere, chromosphere, and the outermost layer, the corona. These observations are made possible through a combination of electro-magnetic particle, and magnetic field detectors. Positioned at the advantageous L1 point, four of the payloads directly observe the Sun, while the remaining three conduct in-situ studies of particles and fields at Lagrange point L1.

The Aditya L1 payloads are anticipated to yield vital insights into key solar phenomena, such as coronal heating, coronal mass ejections, pre-flare and flare activities, as well as the characteristics and dynamics of space weather. Additionally, the studies will contribute to a deeper understanding of the propagation of particles and fields in space.

- (c) The Indian Institute of Astrophysics (IIA), Bangalore, has developed, with the support of the ISRO centres, the Visible Emission Line Coronagraph (VELC) payload for the Aditya-L1 mission, which is meant to study the solar corona, by imaging and spectroscopic techniques.**
- (d) Yes Sir. The Aditya-L1 spacecraft has been successfully launched on September 2, 2023, onboard PSLV-C57. The vehicle has placed the satellite precisely into its intended orbit.**
- (e) Yes Sir. Aditya-L1 is in its planned trajectory.**
- (f) Aditya-L1 is expected to reach the Sun-Earth L1 point in the first half of January, 2024.**
