



**KAMARAJ IAS ACADEMY**  
Only IAS Academy by Grandson of "Perunthalaivar Kamarajar"

# Aditya-L1

Published On: 10-12-2025

**Context:** ISRO's Aditya-L1 Joins Global Effort in Landmark Solar Storm Study.

## Key Findings

### Magnetic Reconnection:

oDuring the storm, **Coronal Mass Ejections (CMEs)** collided in space.

oThe CMEs compressed each other, causing **magnetic field lines inside one CME to snap and reconnect** in new configurations.

### Impact:

oSudden reversal of magnetic field strengthened the storm.

oParticle acceleration occurred due to increased energy, confirming the **magnetic reconnection** phenomenon.

## About Aditya-L1

**Nature:** India's **first space-based solar observatory mission**.

**Launch:** September 2023 via **PSLV-C57**.

**Orbit:** Halo orbit around **Lagrangian Point 1 (L1)**, ~1.5 million km from Earth.

o**Advantage:** Continuous, uninterrupted view of the Sun.

**Payloads:** 7 scientific instruments including:

oVisible Emission Line Coronagraph (VELC)

oSolar Low Energy X-ray Spectrometer (SoLEXS)

oPlasma Analyser Package for Aditya (PAPA)

## Significance for Science

Helps **understand solar storms** and their impact on Earth's magnetosphere.

Crucial for **space weather forecasting** to protect satellites, power grids, and communication systems.

Provides insights into **magnetic reconnection**, a fundamental astrophysical process in plasma physics.

**Kamaraj IAS Academy**

Plot A P.127, AF block, 6 th street, 11th Main Rd, Shanthi Colony, Anna Nagar, Chennai, Tamil Nadu 600040

Phone: **044 4353 9988 / 98403 94477** / Whatsapp : **09710729833**