



INSPIRESAT-1 Cubesat Satellite

Why in News

INSPIRESat-1 CubeSat, developed under the **International Satellite Program in Research and Education (INSPIRE)**, is ready for launch.

Key Points

▪ About:

- It is a small scientific satellite which will be placed in a [low earth orbit](#), equipped with a **Compact Ionosphere Probe** for studying the earth's [ionosphere](#).
 - The **ionosphere is the part of the atmosphere** that is ionized by **solar radiation**.
 - CIP is an all-in-one **plasma sensor** that uses a single instrument to perform multiple sensor functions in a time-sharing mechanism.
- It will also provide a greater understanding of why the [Sun's corona](#) is orders of **magnitude hotter than the photosphere**, why there is an abundance of elements change during different solar events, and how these events **affect the earth's ionosphere**.
 - An **order of magnitude** is an exponential change of plus-or-minus 1 in the value of a quantity or unit.
- It weighs less than 10kg and will be launched aboard an upcoming [Polar Satellite Launch Vehicle \(PSLV\)](#) of the [Indian Space Research Organisation \(ISRO\)](#).
 - **PSLV** is the **third generation launch vehicle of India**. It is the first Indian launch vehicle to be **equipped with liquid stages**.
 - It is a **four-staged launch vehicle** with first and third stages using solid rocket motors and second and fourth stages using liquid rocket engines.

▪ Developed By:

- Laboratory for Atmospheric and Space Physics (LASP) at the University of Colorado Boulder in the U.S.
- National Central University, Taiwan
- Nanyang Technological University in Singapore
- Indian Institute of Space Science and Technology (IIST)

INSPIRE

- INSPIRE is a **consortium of universities with active space programs**, formed to advance space science and engineering.
- A **constellation of earth and space-weather observation satellites is envisaged** under the INSPIRE program which includes a series of INSPIRESats i.e INSPIRESat-1 to INSPIRESat-7.

International Satellite Program in Research and Education Constellation of Satellites



Cubesat

- A **cube satellite (cubesat)** is a standardized, **low cost, small satellite** design typically used for technological demonstration and research.
- It is a **Nanosatellite** and other Nanosatellites include PocketQubes, TubeSats, Sun Cubes, ThinSats etc.
 - **Nanosatellites** are any satellite weighing less than 10 kilograms.

[Source: TH](#)

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