

Project Apeirolaunched from TIFR Balloon Facility

Hyderabad, February 4

Project Apeiro, an experimental student-led satellite has been launched from TIFR Balloon Facility in Hyderabad.

The undergraduate Students from BITS Pilani KK Birla Goa Campus initiated the project with the support of Tata Institute of Fundamental Research which developed the detector.

The experiment flight is aimed to detect and measure cosmic radiation in stratosphere, according to a statement.

This study is important to understand the biologically harmful cosmic radiation incident on earth from outer space.

Extended exposure to this radiation leads to an increased risk in cancer and tissue damage. Hence, a thorough understanding of this radiation is essential to develop predictive and preventive mechanisms against their impact.

The experiment was conducted using the technique of High Altitude Ballooning. This method allows studies in the near-space environment with the help of a zero-pressure plastic balloon which lifts the experimental payload to desired altitude.

The experimental payload consisted of a cosmic radiation detector made with a combination of scintillator and photomultiplier tubes. This detector system was supported by an on-board high and low voltage power supply systems along with data acquisition systems.

The balloon and all other flight equipment required for the flight of the Project Apeiro payload were completely developed at this facility.

The payload was launched on February 2 and achieved a first float altitude at 24.8 km. The second float altitude was achieved at 26.7 km. The flight was terminated later.

All flight control and experiment equipment were recovered successfully without any damage. This flight sets history by successfully completing the country's first near-space experiment completely developed by students.

B Satyanarayana, Scientific Officer (H), TIFR Mumbai was the project mentor for a group of students.