India’s first student-led micro-satellite launched

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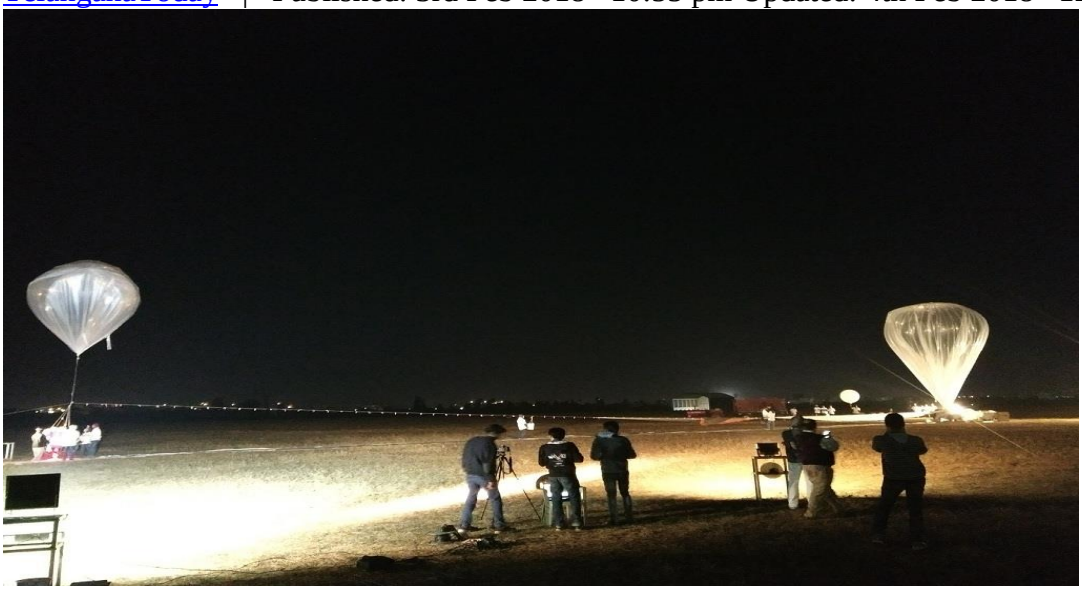

Micro Satellite developed by students launched from Hyderabad.

Hyderabad: The country’s first student-led micro-satellite called ‘Project Apeiro’ was launched from Tata Institute of Fundamental Research (TIFR) Balloon Facility in Secunderabad on Friday. Project Apeiro is an experiment led by undergraduate students from BITS Pilani KK Birla, Goa.

The experiment was launched with the aim of detecting and measuring cosmic radiation in the stratosphere. The study is important to understand the biologically harmful cosmic radiation incidence on Earth, a press release about the launch said. Extended exposure to this radiation leads to an increased risk of cancer and cell tissue damage. Hence, a thorough understanding of this radiation is essential to develop predictive and preventive mechanisms, organisers said.

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. The detector system was supported by on-board high and low voltage power supply systems, along with data acquisition systems. The development of the detector system was completed at TIFR Mumbai.

The TIFR Balloon Facility in Hyderabad is amongst the few institutes in the world capable of supporting such a flight and the balloon and all other flight equipment required for the flight of the Project Apeiro payload were completely developed here. The payload was launched at 2.12 am, and it achieved a first float altitude of 24.8 km. The second float altitude achieved was 26.7 km and the flight was terminated at 5.17 am. All flight control and experiment equipment were recovered successfully without any damage.