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FIRST RESULTS FROM INSPIRESAT-1

Abstract

INSPIRESat-1 (IS-1) is the flagship mission under the INternational Satellite Program In Research and Education (INSPIRE). IS-1 launched on February 14 at 00:30 UTC to a sun synchronous dawn-dusk orbit onboard the Indian Space Research Organisation's PSLV C52 mission. First contact was established with the spacecraft 45 minutes after launch. IS-1 has returned more than 10000 beacons in its first 10 days in orbit and the first science instruments were turned on by February 27th. IS-1 carries an ionospheric payload for in-situ plasma measurement from National Central University (NCU) of Taiwan and an X-Ray Solar Spectrometer for understanding solar coronal heating processes developed by University of Colorado at Boulder. The IS-1 spacecraft was primarily developed at the Laboratory for Atmospheric and Space Physics (LASP) at the University of Colorado with significant contributions from the Indian Institute of Space Science and Technology (IIST), NCU Taiwan and Nanyang Technological University in Singapore. In this paper we will present details on spacecraft performance in a unique dawn dusk orbit which presents thermal challenges not encountered frequently by nano-satellite platforms. We will also present preliminary science results from its two instruments.