

Introduction to STSAT-1

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STSAT-1, also known as KAISTSAT-4, is the fourth satellite developed by Korea Advanced Institute of Science and Technology, following two 50 kg size KITSATs and a 100 kg size KITSAT-3. While the main payloads of the previous three satellites were remote sensing cameras, STSAT-1 is the first satellite developed for a scientific purpose. STSAT-1 was launched into a sun-synchronous orbit at 685 km altitude on September 27, 2003, with a spectral sky survey of hot Galactic plasmas as a primary mission objective using a far ultraviolet spectrograph. The instrument is also capable of taking auroral/airglow spectra with a reduced aperture. A set of plasma instruments on board the same spacecraft measures electrons of energies from below 1 eV to about 400 keV over the polar region. The data from these instruments are studied in connection with the auroral spectra obtained from the simultaneous observation using the spectrograph. This paper will discuss the instruments and some initial results.