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SPACE ACTIVITIES TO DEVELOP SIX SMALL SATELLITES KITSAT-1 TO STSAT-3 IN SATREC OF KAIST

Abstract

This paper covers development activities of small satellite program, KITSAT and STSAT satellites in Satellite Technology Research Center (SaTReC) of Korea Advanced Institute of Science and Technology (KAIST). The SaTReC of KAIST is a university-associated organization mandated to train manpower in the space industry, undertake research and development in space science, remote sensing and new space technology applications. The first project was a micro satellite named "KITSAT-1" (Uribyul-1) with a mass of 50 kg. The second was a similar micro satellite "KITSAT-2" in Korea. Successful launch and operation of KITSAT-1 and KITSAT-2, the third satellite KITSAT-3 was started to develop the small spacecraft bus with three-axis attitude control systems to observe the Earth. The KITSAT satellites had been verified new technology on orbit. After that KITSAT program, Science and Technology Satellite (STSAT) program was started. There were science instruments, FIMS (Far-ultraviolet IMaging Spectrometer) and SPP in STSAT-1 satellite. STSAT-2 was developed and waits to launch the first Korean launch vehicle, KSLV-1 in Korea. Today STSAT-3 is being developed with many other university students and engineers of R&D Institutes. Through the STSAT-3 program, the SaTReC is training young students and transfer the space technology to other Universities and Institutes.