
Space Physics Sensor on KOMPSAT-1

이대희 · 민경욱 · 최영완 · 신영훈 · 이재진
한국과학기술원 인공위성연구센터

김준
한국항공우주연구소

A small package of plasma instruments, Space Physics Sensor, will monitor the space environment and its effects on microelectronics in the low altitude region as it operates on board the KOMPSAT-1 from 1999 over the maximum of the solar cycle 23. The Space Physics Sensor (SPS) consists of two parts: the Ionospheric Measurement Sensor (IMS) and the High Energy Particle Telescope (HEPD). IMS will make in situ measurements of the thermal electron density and temperature, and is expected to provide a global map of the thermal electron characteristics and the variability according to the solar and geomagnetic activity in the high altitude ionosphere of the KOMPSAT-1 orbit. HEPD will measure the fluxes of high energy protons and electrons, monitor the single event upsets caused by these energetic charged particles, and give the information of the total radiation dose received by the spacecraft. The continuous operation of these sensors, along with the ground measurements such as incoherent scatter radars, digital ionosondes and other spacecraft measurements, will enhance our understanding of this important region of practical use for the low earth orbit satellites.