AOGS 2006

Taiwan's ARGO Science Mission

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As Taiwan's space program enters its second 15-year plan phase, the National Space Organization (NSPO) will emphasize the establishment of the capability for satellite bus and scientific payload development. NSPO plans to launch a series of scientific satellites (about one every 3-4 years) during the next 15 years and will actively pursue international collaboration on scientific satellite missions. NSPO is presently in the process of designing and building a LEO satellite, ARGO, which weighs about 450 kg, has an orbit of 97.9° inclination and 620 km altitude, and is planned for launch in late 2008. Besides carrying a remote sensing camera, ARGO will have scientific instruments to carry out the science mission of studying the space weather with emphasis on magnetosphere-ionosphere coupling physics, space weather monitoring, and particle and electromagnetic wave phenomena. To carry out the science mission, four instruments are planned: a flux gate magnetometer (MGF), a neutral particle analyzer (ANA; 0.1 – 2 km/s neutrals), an imaging and rapid-scanning ion mass spectrometer (IRM; 0.5 – 100 eV ions), and an auroral electron spectrometer (AES; few eVs – 12 keV). A low frequency electric field sensor (mHz – few tens of Hz) is under consideration due to spacecraft constraint. These instruments will be built in collaborations with collaborators from Canada and Japan.