

## MAGDAS Project and Its Preliminary Results

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The Space Environment Research Center (SERC), Kyushu University is installing the MAGnetic Data Acquisition System (MAGDAS) at 50 stations in the Circum-pan Pacific Magnetometer Network (CPMN) region, and several FM-CW radars along the 210 magnetic meridian. The MAGDAS project has the potential to contribute greatly to IHY/CAWSES by supporting ground-based magnetometer array for worldwide studies, and by demonstrating the beauty, importance, and relevance of space science to the world. Nearly 20 and 10 MAGDAS units were installed in collaborations with 30 organizations in the world, respectively, along the 210 magnetic meridian in 2005 and along the magnetic dip equator in 2006. In the year 2007, 20 MAGDAS units will be deployed in places such as South Africa, India, Italy, Mexico, Alaska, Siberia, and Antarctica. The goal of MAGDAS is to become the most comprehensive ground-based monitoring system of the earth's magnetic field.

In the present paper, we will introduce preliminary results obtained from MAGDAS Project; (1) We compared long-term spectrum peaks of solar wind parameters, geomagnetic indices, and MAGDAS data to understand couplings of the solar wind-magnetosphere-ionosphere-atmosphere system. The spectrum peaks of 7.5, and 14.5 day period on the equatorial MAGDAS data mean a strong interaction of the atmospheric neutral wind with the ionospheric Sq current. (2) Pi 2 pulsations at the world-widely separated stations near the dip equator are found to show an amplitude enhancement around each 10:00-13:00 local time. The closer the observation site is to the magnetic dip equator, the amplitudes tend to become larger. (3) From analysis of SC-associated electric fields observed by FM-CW radar at Sasaguri, we found a superimposed effect of the polar electric field and the westward electric field of compressional hydromagnetic wave, which were caused simultaneously by the interplanetary shocks.