

Progress of ICSWSE and MAGDAS project in recent years

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International Center for Space Weather Science and Education (ICSWSE), Kyushu University is the research institute for conducting research and education in space weather. Our magnetometer array named as "MAGDAS/CPMN (MAGnetic Data Acquisition System/Circum-pan Pacific Magnetometer Network)" (Principal Investigator: Dr. A. Yoshikawa) has over seventy fluxgate magnetometers, one induction magnetometer, and four FM-CW (Frequency Modulated Continuous Wave) radars around the world. One of our recent research topics is Equatorial Electrojet (EEJ). We calculate EE-index (Uozumi et al, 2008; Fujimoto et al., 2016) for space weather nowcast/forecast using realtime magnetometer data along the magnetic equator, and update it at each hour on the website (<http://data.icswse.kyushu-u.ac.jp/eeindex/>). To accelerate the understanding of EEJ structure, we constructed dense magnetometer array near magnetic equator at Peru and Malaysia in recent year. In addition, we finished to install new FM-CW radar at Sicaya, Peru. The instrument works well current now. We are providing our observational information and data including old project via our website (<http://data.icswse.kyushu-u.ac.jp/>). We also provide them via IUGONET (Inter-university Upper Atmosphere Observation NETwork) Type-A (<http://search.iugonet.org/>) which is one-stop web service system for researchers to search data, get the information of data, and plot data, and SPEDAS (Space Physics Environment Data Analysis System)/UDAS (iUgonet Data Analysis System). We will provide them via SuperMAG (<http://supermag.jhuapl.edu/>) in the near future. For accelerating the usage of MAGDAS and its science, we held a tutorial session in International Conference on Space Weather and Satellite Application 2018 at Malaysia, for handling MAGDAS and other data related our research field by using IUGONET system. We believe researchers use MAGDAS data on proper rule and develop their science. We will introduce other research activities in ICSWSE and MAGDAS project, for example, plasma bubble, geomagnetically induced current, and so on.