Extraction of the EEJ component by using CPMN/MAGDAS data.

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The magnetic equatorial region is considered as the terminator of the energy flow in the Sun-Earth connection system. Thus, the study of the equatorial electrojet (EEJ) is very important to understand the solar wind-magnetosphere-ionosphere-thermosphere coupling system (Uozumi et al., 2008, Yumoto and the MAGDAS Group, 2006). Space Environmental Research Center (SERC), Kyushu University is now constructing a new index, called EE-index, to monitor short-term and long-term variations of the EEJ by using data from MAGDAS/CPMN (MAGnetic Data Acquisition System/Circum-pan Pacific Magnetometer Network).

The EEJ is usually the most dominant phenomenon on the magnetogram at magnetic equatorial stations, but it can be hard to identify during magnetic storms because of the superposition of storm-associated perturbations. We need to properly separate out the storm-associated component, or to be more specific, the Dst component (its source is mainly the ring current), from the EEJ component. Uozumi et al. (2008) obtained the EEJ component by subtracting *"EDst"* from the H component data from each MAGDAS/CPMN equatorial-network station, where the *"EDst"* is defined as the mean value of nighttime H-component variations at the stations; they named thus obtained EEJ component *EE-index* (*EU* and *EL*).

In the present paper, we use data from the CPMN stations, constructed before the MAGDAS/CPMN. Because the EEJ component is very small at mid- and low-latitudes, we obtain the EEJ component by subtracting the H component data from the mid- or low-latitude stations from those of the equatorial stations. Then, the Dst component is calculated by subtracting the EEJ component from the H component data from each equatorial station. The advantage of our method is that the diurnal variation of the EEJ intensity can be properly obtained even when the ring current grows.

At the meeting we present the EEJ component and the Dst component, obtained by using the above-stated method, and discuss their reliability during magnetic storms.