

THIRTY YEARS OF DERIVATION OF GEOMAGNETIC INDICES AT THE WDC FOR GEOMAGNETISM, KYOTO AND LESSONS LEARNT

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The derivation of AE, Dst and ASY/SYM indices started at the WDC for Geomagnetism, Kyoto, in 1978, 1985 and 1990, respectively. Before we started derivation of the AE indices, they were derived at the University of Alaska and then at NOAA. On the Dst index, it was derived and distributed by Prof. Masahisa Sugiura for long time at NASA/GSFC and when he moved to Kyoto University, we succeeded the service. The method of derivation of the AE and the Dst indices had been established when we succeeded derivation and they were rather simple. Most of the problems we had so far relate to obtaining the data used for the derivation. It is essential to get continuous data with high quality, however, it is not so easy for each observatory to keep the quality high under severe conditions in economic, political or technical aspects. International supports such as IAGA resolutions helped very much to improve the situation and continue derivation. Another problem we experienced was the change (or variety) of needs. Progress in space weather research or many new satellite programs requested more quick (or real-time) derivation of the indices, and our efforts were devoted to near real-time data transfer and derivation since middle of 1990's. The efforts still continue under the collaboration with various groups, institutions and observatories. In this talk, we report our current status.

AE, Dst, ASY/SYM, space weather

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