

Comparison between the annual mean values at Kakioka Magnetic Observatories and IGRF

Yoshitomo Ikoma[1]; Akio Yoshida[2]; Takashi Koide[1]; Takeshi Toya[3]; Yoshiki Ishii[1]

[1] Kakioka Mag. Obs., JMA; [2] Tokyo District Meteorological Observatory; [3] Kakioka Mag., Obs., JMA

<http://www.kakioka-jma.go.jp/>

The Kakioka Magnetic Observatory was established in 1912. We have carried out the continuous geomagnetic observations at Kakioka since the next year, at Memambetsu Branch since 1952, at Kanoya Branch since 1958 and at Chichijima island since 1973. In this study we compared the annual mean values with 10th Generation IGRF Model values for the purpose of quality check of the observational data in the long period and the investigation of the regional geomagnetic characteristics at each point. The following is a summary of the results.

1. The correlation with IGRF values of declination is better than the other components.
2. Difference between IGRF and observational data at Kakioka is nearly constant after 1970s.

The first point is considered to indicate that declination is easier to observe compared to other components. The second is attributed to the installation of new geomagnetic observation system, KASMMER (Kakioka Automatic Standard Magnetometer) in 1976. We think META data, i.e. data of data such as information about instruments and observational methods, are important for confirmation of the quality of the geomagnetic data. Besides these points we found the variation of 11-year period in the difference between the observational values of horizontal component and IGRF which is supposed to represent the effect of solar activity, and existence of the regional characteristics in the long-term variation.