

Regional model of the geomagnetic field in Japan by the continuous observation data (2)

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We constructed the regional geomagnetic model representing the spatial-temporal geomagnetic changes for Japan by the natural orthogonal components (NOC) analysis and spherical cap harmonic analysis (SCHA).

The geomagnetic data used in the analysis are three-month mean values from 1999 to 2002 obtained by the geomagnetic observatories of JMA, and the geodetic observatories and 11 continuous observation stations of GSI.

The data contains the low frequency component caused by the internal main field and the high frequency component related to current systems in the Earth's ionosphere and magnetosphere.

The later part makes NOC analysis difficult to obtain the temporal function described the internal main field. In this study, we propose pretreatment of the data for reducing the effect of external field with high frequency and report the modeling results.