

A statistical comparison of Cluster magnetic data with the Tsyganenko 2001 model.

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As part of the GEOSPACE consortium we are looking at ways to improve the characterisation of the external sources of the magnetic field at the Earth. The high altitude orbit of the four Cluster spacecraft (19,000 to 119,000 km) complements well the Tsyganenko models. Preliminary investigations found variations in the absolute residuals between the data and the model of up to approximately 50 nT at closest approach on both the day and nightside. To build a more complete picture of the observed residuals we have compared a large quantity of Cluster data from the flux-gate magnetometer (FGM) with the 2001 version of the Tsyganenko magnetospheric magnetic field model.