

Fluctuation of the axial dipole field in paleosecular variation models

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In previous paleosecular variation models for the last 5 My derived from paleointensity datasets, quotations of the geocentric axial dipole (GAD) fluctuation are much larger than those derived from paleodirection datasets. However, both ways have some problems. By using paleointensity datasets, the estimate of the GAD fluctuation seems to be excessive, because intensity data have a large uncertainty and it is difficult to guess a GAD intensity from a measured field intensity at each site. From paleodirection datasets, on the other hand, the field fluctuation cannot be detected when the Gauss coefficients change with correlation. In this case, the GAD fluctuation might be underestimated.