



## **New method of checking the Earth's magnetic field models**

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In DOK-2 energetic particle experiments onboard of Interball-1 and -2 spacecrafts we have observed fine dispersion structures in energetic particle spectra corresponding to ions and electrons which experience a gradient-curvature drift around the Earth after their pulse injection. Our analysis showed that in several cases these particles have made 2-3 full turn and we can determine accurately their drift period, so, for example,  $T_{obs}=1908\pm 10$  s for 221 keV electrons. The comparison of observed drift periods with those obtained from particle motion simulations in any model magnetic field may be used for testing of these models. It can give, in principle, more accurate results than using of direct S/C magnetic field measurements made in different points, at different times, by different magnetosphere state. We used several magnetic field models for simulations: T96+IGRF, TS01+IGRF, T04+IGRF with or without electric field. All models used give more fast drift especially the latest T04+IGRF model (65% of  $T_{obs}$ ). The best result was for TS01+IGRF (89%). Addition of electric fields decreases the period 8% more.