

## **SEPARATING THE INFLUENCE OF MANTLE CONDUCTIVITY AND CORE-SURFACE FLOW ON JERK EVENTS**

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New geomagnetic field models (Wardinski and Lesur 2009, in preparation), covering the last fifty years, enable comparative jerk investigations. We apply the method of non-harmonic downward continuation to calculate the secular variation of magnetic field components at the CMB. Phase differences in the secular variation and differences in the occurrence times of geomagnetic jerks in the radial and tangential components at the CMB provide constraints for the lower mantle conductivity. We use the inconsistencies between these differences to estimate conductivity corrections. For the validated conductivity model, the geomagnetic jerks at the CMB are newly determined. This allows to study their dynamical morphology at the CMB. For each component, this quantity can be considered as a contribution to the secular acceleration. Its amplitude is identical with the jerk slope differences taken at the place and time of the jerk occurrence. In this way, a link between changes in core processes and jerks may be stated.

Jerk, non-harmonic downward continuation, mantle conductivity

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