



## **Inferring interannual fluctuations of the core angular momentum from geomagnetic field models**

Seiki Asari (1) and Ingo Wardinski (2)

(1) University of Potsdam, Institute for Mathematics, Potsdam, Germany (asari@gfz-potsdam.de), (2) Université de Nantes, Laboratoire de Planétologie et de Géodynamique, Nantes, France (ingo.wardinski@univ-nantes.fr)

Satellite models for Earth's core magnetic field, as well as observations of Earth rotation variation, suggest an existence of interannual core dynamics. Due to its small magnetic signal, however, interannual variations in the core flow and accompanying core angular momentum (CAM) are still subject to a large ambiguity, particularly when inferred from pre-satellite magnetic models. It is nevertheless indicated from our systematic flow inversions with a core field model C<sup>3</sup>FM2 that estimated phases of interannual CAM variations are almost insensitive to prior settings of the inversion. We discuss that the uncertainty of Earth's interannual CAM fluctuations arises from, besides the theoretical lack of resolution, differences of core field models in the interannual secular accelerations. C<sup>3</sup>FM2 may be optimized for better resolving the interannual CAM fluctuations by properly regulating its temporal smoothness.