

# **MAGNETIZATION MODELS DERIVED FROM HIGH RESOLUTION SATELLITE LITHOSPHERIC ANOMALY FIELDS**

KATHRYN WHALER 1, Michael E Purucker 2

1 School of GeoSciences, University of Edinburgh, West Mains Road, Edinburgh EH9 3JW, UK

2 NASA Goddard Space Flight Center, Code 698 Greenbelt, MD 20771, USA

Almost a decade of continuous monitoring of the magnetic field from space has given unprecedented resolution of the smaller scale lithospheric anomaly field as well as the core field generated by the geodynamo. A generation of models of the anomaly field of increasing accuracy have documented that progress, and are now able to demonstrate a difference between the character of the oceanic and continental field, and identify magnetic stripes in the oceans. We will present global, continuously varying models of sub-surface magnetization obtained from inversion of data synthesised from a recent anomaly model. The model has minimum root-mean-square magnetization for a given fit to the data and allows both remanent and induced magnetization. The pattern of magnetization is well constrained, which permits investigation of correlation length, but the amplitude is not. We compare with models produced by other strategies, and test whether the magnetization distribution, like the field from which it is calculated, is discernibly different between the oceans and continents.

magnetization modelling, induced and remanent

Kathy Whaler, School of GeoSciences, University of Edinburgh, West Mains Road, Edinburgh EH9 3JW, UK, tel. +44-131-650-4904, FAX +44-131-668-3184, e-mail [kathy.whaler@ed.ac.uk](mailto:kathy.whaler@ed.ac.uk)