Geophysical Research Abstracts
Vol. 12, EGU2010-9666, 2010
EGU General Assembly 2010

CHAMP and related missions as forerunners for Swarm – illustrating the many facets of geomagnetic research and applications.

Eigil Friis-Christensen and Nils Olsen
National Space Institute, DTU, Copenhagen,Denmark (efc@space.dtu.dk/+45 35362475)

In 1999 the International Decade of Geopotential Field Research was initiated with the launch of the Ørsted Satellite quickly followed by CHAMP and SAC-C the following year. The great success of these missions in terms of scientific results has prompted the decision to launch the next ambitious endeavor in the scientific community, the ESA Swarm satellite constellation mission in 2011.
In addition to the scientific results in the various specific geomagnetic research disciplines based on the unprecedented accuracy of the observations and the long series of continuous data, a number of associated scientific disciplines have been able to take advantage of the magnetic observations in combination with a dedicated set of additional instruments, in particular on the CHAMP satellite.
The results have led to a community initiative to prepare and take further advantage of the unique data set from the three Swarm satellites by proposing a sophisticated application and research facility to calculate new derived scientific products, which can be used in a wider and more general user community.
In this talk we will summarize some of the already obtained scientific results regarding the core field, the lithosphere, the induced currents in the mantle and the contribution from external sources together with an overview of the kind of derived products that could be offered to community at large by means of such a facility.