

Geophysical Research Abstracts,  
Vol. 10, EGU2008-A-05963, 2008  
SRef-ID: 1607-7962/gra/EGU2008-A-05963  
EGU General Assembly 2008  
© Author(s) 2008



## **Simplifying spherical cap harmonic analysis**

**A. De Santis**, E. Qamili

Istituto Nazionale di Geofisica e Vulcanologia (desantisag@ingv.it)

Problems over the sphere are usually tackled with spherical harmonic analysis (SHA). When we are interested only in details of a certain area with typical lengths shorter than a given size (say, one thousand km) we must resort to a local analysis: for instance, for Laplacian fields such as geomagnetic and gravity fields over the Earth's surface, spherical cap harmonic analysis (SCHA) can be applied to solve most of the cases. Introduced for the first time in 1985, this technique has evolved progressively during the recent years finally arriving to the Revised SCHA (R-SCHA). Here we present what we consider a good compromise to cope with most of the cases, in order to take advantage of both the original concepts of the SCHA and those typical of the most recent R-SCHA.