Geophysical Research Abstracts
Vol. 13, EGU2011-3215-1, 2011
EGU General Assembly 2011

Robust receiver function interpretation by comparative processing and imaging

Bo Holm Jacobsen and Lasse Svenningsen
University of Aarhus, Earth Sciences, Aarhus C, Denmark (bo@geo.au.dk)

When interpreting receiver functions from one dataset with one target area, it is typical to employ only one choice of data pre-processing, receiver function estimation method, sorting/stacking, inversion, and possible 2D and 3D imaging.
This study focuses on the differences in receiver functions and their imaging when processing and imaging methods are changed.
We show how flexible application of several methods to the same data will make it clearer what are robust features in the receiver functions, and hence provide a more robust base for reliable interpretation.
Moreover, we show how to generate and use synthetic "twin-datasets" for optimization of processing and modelling/imaging parameters.
These ideas are implemented in an open multi-method receiver function environment in MATLAB.