



## **Combining satellite, airborne and near surface data: Problems in overlaps and chances in reduction**

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In the last years, new satellite products with so far unprecedented quality became available for potential field studies. Many efforts are made to downscale gravity and magnetic satellite data by combining them with airborne and near surface data sets. The presentation will critically review the how space data combines with airborne and near surface data in terms of spectral overlaps and how future surveys should be designed in order to be properly connected to satellite data. New chances of airborne and near surface survey reduction on the base of gravity and magnetic satellite data are shown. CHAMP and GRACE data is used to reduce large scale effects as present on subduction zones or rift basins in order to reveal local to regional structures in a much sharper focus. Such regional reductions help to identify for instance structural material boundaries. A comparison to seismic data shows that most earthquake occur exactly on large local to regional gravity gradients in subduction zone as in Chile or in Sunda Strait, the main location of the catastrophic tsunami event. Statistic methods in seismics are used to map asperities, areas of high seismic moment release. Such asperity structures seem to correlate well with the edges of low gravity "basins structures". It is the aim to map such correlations as well on continental rift structures as the Dead Sea Rift.