

Fast Preview

Note: This is not exactly what the published abstract will look like

Improving gravity field models on short wavelength with the help of non-gravitational observations

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(Sponsor: **Hans-Peter Plag**)

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Geoid models over oceanic areas are determined on the basis of a combination of satellite, air-borne and ship-borne gravity-related observations. Inconsistencies between the different data-types and the different observational campaigns introduce significant errors affecting particularly shorter wavelengths. The marine geoid is closely linked to sea surface height and the dynamic topography of the sea surface. Therefore, independent observations of the sea surface height and the dynamic topography can be used to identify errors in the geoid models and eventually help to remove inconsistencies in the database leading to these errors. However, sea surface heights determined from satellite altimetry and dynamic topography models determined from oceanographic observations or ocean circulation models have their own error characteristics which need to be taken into account in studying the quality of the geoid models. We will focus on the methodology to analysis the quality and errors of different models for the marine geoid, mean dynamic topography and mean sea surface heights through consistency studies utilising their interrelation. Based on spatial correlation coefficients, a large number of models of the three quantities given for the North Atlantic will be intercompared and their degree of consistency quantified. As a result, the geographical locations of areas with high probability for inconsistencies in the database used for geoid computation will be discussed.

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Not Applicable

Willing to chair a session:

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G - Geodesy

Special Session:
G11 - Potential Fields in Geodynamics, Geophysics, and Geology

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Contributed

Poster presentation requested:

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