Harmonic analysis of the DTU10 global gravity anomalies

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We have computed the Earth's gravity models to degree/order 5400 and 10800 (in terms of the ellipsoidal and spherical harmonics) from a rigorous integration of the 2'x2' and 1'x1' global grids of gravity anomalies provided by the Danish Technical University (DTU). The gravity signal recovered from the DTU10 data shows 1) a strong dependency on the truncation of the EGM2008 gravity model which were used to fill-in land areas in the DTU10 grids and 2) an irregular behaviour at frequencies behind the resolution of the EGM2008. We discuss the gravity signal and its accuracy estimation computed from the complete DTU10 grids as well as separately from the data over land and ocean areas.