



The mass balance of the Greenland Ice Sheet: Comparing results from GRACE and predictions based on altimetry observations

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Identifying the mass balance of the Greenland Ice Sheet (GIS) is of paramount importance when identifying the components of contemporary sea-level change. This talk will present our findings where we have applied a Wiener Optimal Filter to the available GRACE monthly gravity models in order to resolve temporal and spatial changes in the GIS. Secular and annual trends are identified from the times series of the spherical-harmonic coefficients of the gravity models. We compare our inferred trends with predictions based on ice-elevation measurements from satellite and airborne altimetry. Despite the relatively short time span now available ($2 \frac{1}{2}$ years), the results so far obtained give us confidence that as the GRACE mission progresses (with a life expectancy of 10 years), useful constraints on the GIS's current behavior will be gained and hence, allow a better understanding of the various contributions to present-day sea-level change.