



## **Instantaneous ocean dynamic topography profiles - assessment through smoothed GRACE geoids and altimetric sea surface height profiles**

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The essential improvements of GRACE gravity field models and the high along-track resolution of altimetry suggests to estimate the absolute ocean dynamic topography by a geometric profile wise approach, subtracting geoid heights (N) from altimetric sea surface heights (SSH). However, small scale sea surface structures observed by altimetry are not resolved by the geoid - due to the band limited gravity field models. Therefore, one and the same filter has to be applied, to obtain a consistent spectral content of both, geoid and sea surface. In the present paper a 1-dimensional along-track filter for the altimeter profiles is developed, acting efficiently equivalent to the spectral filter process applied to the GRACE geoid. This way it is possible to estimate instantaneous profiles of the absolute ocean dynamic topography. The results are compared with models of the mean dynamic topography estimated independently by other investigations.