



Influence of admittance theory on oceanic tidal angular momentum

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Within the project SPOT (Short Period Ocean Tidal variations in Earth rotation), we develop an improved model of short period ocean tidal effects in polar motion and length-of-day. Thereby, we need to determine the contributions of individual tidal constituents to the variation in polar motion and length-of-day in terms of oceanic tidal angular momentum (OTAM).

Recent studies show that minor tides from admittance theory, hydrodynamic modelling and estimated from satellite altimetry differ significantly. Here minor tides describe all tidal constituents which are not in the group of {K1,O1,P1,Q1, M2,S2,N2,K2} in the diurnal and semidiurnal band.

Therefor, we investigate systematically the influence of different implementations of admittance theory for minor tides on OTAM. In addition, we study the influence of different tidal heights models, like EOT1 1a, HAMTIDE and FES2012, as well as linear and quadratic admittance for semidiurnal tides.