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# Preliminary study of combined earth tide model, Schwiderski OTL model and the Baltic Sea tidal loading in NSiWT tilt observation, Lohja, Finland

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## Abstract

Tidal loading of the tide gauge based mass variation model of the Baltic Sea is combined to with Schwiderski ocean tide loading model and connected with observed earth tide tilt observations of modern interferometric NSiWT tilt meter together with modern earth model. The Schwiderski ocean tide loading model do not contain the Baltic Sea loading modelling and some wave groups fit well to model tilt together with the Baltic Sea loading. Harmonic tidal diurnal K1 and P1 and semidiurnal S2 and K2 wave groups make correction best to NSiWT observation toward earth tide model. Diurnal O1 and Q1 and semidiurnal M2 and N2 have deviating features. It is interesting, that combined Schwiderski OTL and the Baltic Sea model tilts do not correct at all M2 NSiWT observation toward earth tide model tilt. The interferometric NSiWT tilt meter has internal calibration and scale is therefore well determined and stable.

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