

Interactive comment on “Seasonal variability of radiation tide in Gulf of Riga” by Vilnis Frishfelds et al.

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Correction of answer to interactive comment on "Seasonal variability of radiation tide in Gulf of Riga" by Vilnis Frishfelds et al. Anonymous Referee #1

> Tidal amplitudes are calculated from a model (at times), and it says that in the model tidal stress is implemented through unresolved bottom shear, see Canuto. I have no ideas what that means.

Correction as the first answer was incomplete. Yes, the tidal calculations by the model are used to test that observed peaks in water level spectrum can be described by astronomical tides with exception of S1. And also K1 and P1 components can be differ. Therefore, observed water level spectrum will be included in order to compare

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with spectrum obtained by the model which includes only astronomical forcing. Tidal potential in the model is obtained basing on the actual ephemerides of celestial bodies (Sun and Moon). Ephemerides includes hourly data for right ascension, declination and distance between celestial body and centre of Earth. Gradient of tidal potential provides forcing in momentum equation of ocean circulation. But there are other effects of tides: enhanced mixing and additional drag at the bottom. Mixing is unimportant for homogeneous water, but bottom shear by Canuto at low flow velocities becomes an important factor. Description of numerical model with tidal forcing will be supplemented and corrected in text.

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