Do we need model-based EAM forecast longer than 6-days to improve EOP predictions?

Robert Dill*[1] and Henryk Dobslaw

[1]GFZ Potsdam – Telegrafenberg, Germany

Abstract

Effective angular momentum (EAM) forecasts are widely used as an important input to improve short-term polar motion and UT1 predictions. So far, the Earth System modelling group at GFZ (ESMGFZ) provides EAM forecasts based on model forecast runs of the atmosphere, ocean, and hydrology that reach only 6-days into the future. The oceanic and hydrological model forecasts are forced with ECMWF operational 6-day forecasts. ECMWF provides even longer atmospheric forecast data with reduced temporal resolution, however, their prediction skill decreases rapidly after 5 days forecast horizon. Here, we will combine 6-day 3h forecasts with 10-day 6h forecasts to extend the model runs up to 10-day into the future. We analyze the prediction skills of the new 10-day EAM forecasts and use them as an alternative input for polar motion and UT1 predictions. We will compare 90-day EOP predictions based on 6-day EAM forecasts with EOP predictions based on 10-day EAM forecasts.

*Speaker