

IERS Working Group on the 2nd Earth Orientation Parameter Prediction Comparison Campaign (2nd EOP PCC)

Charter

Chair: Jolanta Nastula (Poland)

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Introduction

Earth orientation parameters (EOP) comprising of nutation offsets, pole coordinates, and dUT1 represent a critically needed link between the terrestrial and the celestial reference frame. Predictions of EOP are important for a number of operational activities including navigation of deep-space satellite missions, the pointing of astronomical instruments, or satellite-based positioning on Earth. Various agencies and institutions worldwide therefore maintain capacities to rapidly process space geodetic observations to obtain estimates for the Earth orientation parameters with short latencies as a basis for the subsequent prediction. Whereas many users require predictions for only a few days into the future, IERS routinely publishes predictions for up to 1 year ahead within its Bulletin A.

Between 2006 and 2008, the first EOP Prediction Comparison Campaign (EOP PCC; Kalarus et al., 2010) provided a very comprehensive assessment of the capabilities of different EOP prediction methods in an operational setting. Since that time, much progress has been made in terms of improved geodetic data processing, reduced VLBI latency, and routine availability of model-based forecasts of effective angular momentum functions for atmosphere, oceans, and the terrestrial hydrosphere. In light of those developments, a re-assessment of the various EOP prediction capabilities will be pursued by this Working Group.

Objectives

- collect and compare operationally processed EOP predictions from different agencies and institutions over a representative period of time (no hindcast experiments)
- evaluate the accuracy of final estimates of EOP
- identify both accurate and robust prediction methodologies
- assess the inherent uncertainties in present-day EOP predictions

Schedule

- Q1 2021: open call for participation in Working Group via IERS message
- Q2 2021: definition of the validation protocol

- Q2 2021: website of EOP PCC online
- Q2 2021: open call for participation in Campaign via IERS message
- Q3 2021: first weekly submission of EOP predictions
- Q2 2022: presentation of preliminary results at EGU GA
- Q4 2022: last weekly submission of EOP predictions
- Q2 2023: presentation of final results for short-range predictions at EGU GA
- Q4 2023: presentation of final results for long-range predictions at AGU FM

Structure of the EOP PCC Office

- Justyna Sliwinska (CBK, Coordinator)
- Malgorzata Winska (Warsaw Univ. of Technology, Main Scientific Evaluator)
- Aleksander Partyka (CBK, Scientific Member of the Office)
- n.n. (CBK, Scientific Member of the Office)
- n.n. (CBK, Administrative Support)
- n.n. (CBK, IT Support)

All communication should be sent to a dedicated e-mail address of the EOP PCC office.