PREDICTION OF EARTH ROTATION PARAMETERS WITH USING ADAPTIVE HARMONIC PATTERNS

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The article discusses the methodology for predicting the Earth's rotation parameters (ERP), which differs from the generally accepted one's in that for constructing prognostic models, time series of initial data of various durations are used. At the same time, the estimation of the parameters of models of slow trend changes performed in the interval of the training sample of about 100 years. Intervals from 6 to 40 years are used to evaluate the parameters of the faster quasiperiodic and regular components. This method of dividing the time series into training sample intervals of different durations allows obtaining adaptive models of slow and fast changes in time series with their subsequent integration into a complete prognostic model. The practical implementation of the proposed methodology showed high stability of the forecasting results for all ERP regardless start date of the forecast, which was confirmed by the results of its testing in various international projects and programs.

Keywords: Earth rotation parameters, modeling, training sample, forecasting, universal time, pole movement, approximation

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