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On geophysical excitation of prograde diurnal polar motion

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A new 15-year time series of the Earth rotation parameters (polar motion and universal time UT1) with subdiurnal resolution has been derived from the very long baseline interferometry observations by the least square collocation method. The method of complex demodulation has been applied in order to extract from the polar motion series a signal in the prograde diurnal frequency band (Kudryashova and Petrov, 2005, in. Proc. Journees 2005, Space Res. Centre PAS, Warsaw). This signal is used to estimate the so-called 'geodetic excitation' which is then compared to the available subdiurnal estimates of the atmospheric and oceanic angular momenta (Brzezinski et al., 2004, J. Geophys. Res, Vol. 109, doi: 10.1029 /2004JB003054). The comparison is done for the main spectral lines in the prograde diurnal band as well as in the time domain.