



Wavelet analysis of VLBI nutation series with respect to FCN

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In this paper we investigate the temporal variability of the Free Core Nutation (FCN) from the DGFI and GSFC nutation time series. Both series were computed independently from VLBI data, using different software packages (OCCAM by DGFI, CALC/SOLVE by GSFC). The Morlet wavelet analysis of both series reveals clearly the variation of the energy distribution of the nutation series in the FCN frequency-band with respect to both, time and period. However, whereas from the theoretical point of view the temporal variation of the magnitude can be explained physically by variations of the excitations, the period of the FCN should be rather stable around a retrograde period of about 431 days. In order to study the period variations in more detail we rerun the wavelet analysis of both series several times changing the shape of the Morlet function. The scalogram results encourage the assumption that these energy variations are due to the superposition of adjacent oscillations.