



On application of the complex demodulation procedure for VLBI data analysis: consistency check with the standard approach using the long periodic EOP components

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In the recent work (Boehm et al., *J. Geodynamics*, 62 (2012) 56–68) we demonstrated the application of the complex demodulation technique to VLBI parameter estimation for determination of the Earth orientation parameters (EOP). This technique enables simultaneous estimation of the long period components of polar motion (x, y), $dUT1$ ($=UT1-UTC$) and nutation (celestial pole offsets dX, dY) as well as the high frequency (diurnal, semidiurnal, ...) components of polar motion and $dUT1$. In this work we address the problem of consistency of the complex demodulation with the conventional approach to the EOP estimation. For this purpose we perform an analysis of the long periodic time series $x, y, dUT1, dX, dY$ derived by the complex demodulation algorithm implemented in the Vienna VLBI Software (VieVS). Next, we compare those series to the EOP series derived by the standard VieVS run as well as to the other available EOP data sets.