Troposphere and clock parameterization during continuous VLBI campaigns

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The Institute of Geodesy and Geophysics of the Vienna University of Technology is developing new software for the analysis of Very Long Baseline Interferometry (VLBI) observations. For modelling stochastic processes (troposphere and clock parameters) we use piecewise linear offsets at integer hours (or at integer fractions of integer hours). In this presentation, we compare troposphere and clock parameters and their formal errors for continuous VLBI campaigns with various time intervals (from 10 minutes to 24 hours) when applying various loose constraints on the differences between the piecewise linear offsets. Furthermore, we investigate the influence of the choice of the reference clock station, and whether it is important to estimate quadratic instead of linear clock functions in addition to the piecewise linear offsets for the clocks. We also explore the possibility to apply a 'no-net-translation' condition on the clock parameters instead of deleting the clock parameters of the reference station, and we investigate the influence on the correlations with the troposphere parameters and the estimated station coordinates.