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Comparison of troposphere delays from VLBI determined by different estimation methods

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With the current version of the Very Long Baseline Interferometry (VLBI) analysis software OCCAM 6.2 three least-squares methods are available for the determination of troposphere parameters: the Gauss-Markov model (GM), the Kalman Filter technique (KF), and the least-squares collocation method (LSC). Each of these methods contains various assumptions, different parameter constraints and models. In this study the troposphere parameters determined by the three different estimation methods are compared and the effects of the particular estimation method on the geodetic parameters are analysed using VLBI observations of the current regular R1 and R4 campaigns of the International VLBI Service for Geodesy and Astrometry (IVS).