



## **Densification of the Central Europe velocity field using velocities from local and regional geokinematical projects**

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The region of Central Europe was subject of geo-kinematical monitoring in various regional and national projects performed since 1992. Independent GPS epoch-wise observing campaigns took place in several countries and the whole territory is now covered by tens of permanent stations. The long-term observational series from permanent stations yield reliable site velocities, however with not sufficiently dense distribution for the detailed geokinematic investigations. The epoch-wise campaigns provide much denser velocity fields than the permanent ones, however the repeated epoch observations are not very frequent and their referencing is not unique. The combination of epoch and permanent data at the SINEX level is generally not always possible due to lack of information, especially from the older projects. We are investigated the suitability of horizontal regional velocity fields available from various GPS geokinematics projects in Central Europe and an attempt to homogenize the heterogeneous velocity fields is presented. The method of combination of horizontal velocities is based on evaluation of parameters of mutual rotation of velocity fields on the spherical surface. Special emphasis is given to stochastic modelling of individual input data sets to be able correctly combine the velocities obtained under different observation and processing strategies. The intraplate GPS velocities in Central and South-East Europe and their reliability are discussed, mainly focusing on Adria and East Balkan region where the geo-kinematics is mostly variable and complicated.