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Refinement of velocity field in Central Europe based on reprocessed permanent and epoch-wise GPS observations

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The history of regular GPS monitoring aimed to investigation of geokinematics in Central Europe started in early ninetieth of the 20th century. In 1994 the first campaign of epoch-wise Central Europe Geodynamics Project (CERGOP) was organized and several permanent GPS stations in region became operational; relevant data from about 30 sites are available for that period. Since that time the number of permanent and epoch stations with accessible data suitable for geokinematical research increased for about 150. Although the GPS observations were continuously analyzed and also several re-analyses were performed, the complex combination of all data still suffer from inhomogeneities of various kind, e.g. no unique GPS antennae models, effects of reference frame evolution, troposphere models improvements, identification and modelling of discontinuities in observing series, etc. We will demonstrate a new complex solutions for 3-dimensional site velocities which is based on GPS permanent and epoch data reprocessed by unified procedures and models related to homogeneous reference frame. The subsequent velocity field analyses are focused on modelling of regional geokinamatical trends and identification of local anomalies where the significant disagreement of the actual site velocity with the regional pattern is observed.