



## The CEGRN 2011 Campaign and the densification of ETRF2000 in Central Europe

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The CEGRN 2011 Campaign took place from 20 to 25 June 2011. It was a coordinated effort of 14 Central European Countries: Austria, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Italy, Poland, Rumania, Serbia, Slovakia, Slovenia and Ukraine, with the involvement of some 85 stations. Data processing with state of the art software, and IGS08 orbits and antenna models according to the EPN standards is being completed by independent Analysis Centers in Austria, Hungary, Italy and Slovakia, with the Center in Graz acting as a Combination Center. The paper presents the results of the analysis and of the multiyear combination, with time series spanning a timeline of up to 17 years (1994-2011). Since all data up to and including the 2009 Campaign have been re-analysed with the reprocessed orbits and IGS05 antenna models, the derived velocity field represents a particularly valid example of evolution of the ITRF reference frame in Central Europe. The addition of the 2011 data set, based on IGS08, is not obvious. In a first step the solution, inclusive of the 2011 campaign, can be aligned to the EPN (European Permanent Network of EUREF) cumulative solution in ITRF2005 and can be transformed into the ETRF2000 frame. In a second step, the CEGRN campaigns are planned to be reprocessed with the IGS08 antenna models, provided the IGS and EPN reprocessing solutions (REPRO<sub>2</sub>) are available for the orbits. Once completed, a densification of the European regional velocity field will become available for both geodynamic studies and widespread dissemination of the ETRS89 standard of coordinates, in compliance with the EU Directive INSPIRE.