



Precise Point Positioning method in the EPN re-processing

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EPN (EUREF Permanent Network) is a science-driven network of continuously operating GNSS reference stations with precisely known coordinates. At the end of November 2009 the EPN Local Analysis Centre in CAG (Centre of Applied Geomatics, Warsaw Military University of Technology), one of the 17 acting presently in Europe, was established. EPN Re-processing project is the venture for computing consistent precise coordinates, velocities and by-products (e.g. troposphere parameters) based on the EPN in support of the ETRS89 (European Terrestrial Reference System) using identical standards for the entire period of time. In 2008 CAG has successfully completed the test re-processing of the full EPN, consisting of the historical observation series for the period between 1996-2007 for almost 200 stations. CAG was one of two European research centres (at the same time another test reprocessing with a different strategy was performed at the Royal Observatory of Belgium) which were able to carry out this task. The test reprocessing is a starting point for the elaboration of an optimal processing strategy for the final, official EPN reprocessing. Besides standard (differential) approach, which will be the CAG MUT's contribution into the official reprocessing, the authors will perform the processing of the entire EPN network using PPP approach. In the tests, which were made for the data from 2007 for more than 200 sites, Bernese 5.0 software was used. The precise ephemerides and satellite clock's information were taken from IGS reprocessing ('repro1'), satellite differential code biases and ionosphere model from CODE (Centre for Orbit Determination in Europe) database. This presentation shows the results of the test processing, comparison to the differential approach and conclusions for the further processing.