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Comparison of GNSS processing techniques for estimation of tropospheric products over Bulgaria for 2013

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The GNSS meteorology is a new method for sensing the atmosphere, which has been developed over the last two decades. European projects, such as the EUMETNET E-GVAP, have contributed in establishing the method into high-accuracy, high-resolution near real time product for operational use in the national meteorological services in Europe. Two different GNSS processing methods are going to be compared in this study – Precise Point Positioning solution, performed using the NAPEOS software, developed by the European Space Agency (ESA) and a Network Solution, performed with the Bernese Software, Developed by the Astronomy Institute of the University of Bern (AIUB). The scope of this study are 7 stations in Bulgaria, analyzed for December 2013. The tropospheric products will be derived with pressure and temperature estimates from the WRF numerical weather prediction model. Future work will be the establishment of autonomous near real-time processing of the regional ground-based GNSS network in Southeast Europe in support of E-GVAP and COST ES1206 ”Advanced Global Navigation Satellite Systems for Severe Weather Events and Climate” projects.