

Multi-epoch re-measurements of the EUREF densification network in Estonia

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The measurements of the EUREF (Regional Reference Frame Sub-Commission for Europe) densification in Estonia were conducted in the summer of 1997. This I-order geodetic network has since been remeasured twice (in 2008 and 2017), including also available national GNSS reference stations. The present study recomputes all three campaigns in the latest International Terrestrial Reference Frame ITRF2014. As a result the coordinates of the I-order geodetic points were specified. The RMS errors of individual coordinate components with respect to the average of the three campaigns were 1.9 mm, 2.9 mm and 2.8 mm for north, east and up components, respectively. Also the velocity estimates for the points were estimated and compared to corresponding regional velocity models. The discrepancies (in terms of standard deviation) with land uplift model NKG2005LU were in average 0.2 mm/yr only. The resulting horizontal velocities however are a subject to further research.