



Accuracy evaluation and velocity derivation of CEGRN sites performed at GOP AC

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One of tasks performed at Geodetic Observatory Pecny is also to serve as the analytic center for CEGRN Consortium. The center processes individual CEGRN campaigns and contribute by this way to common coordinate solution used for common velocity field derivation. However, besides this main task, separate own accuracy evaluation and velocity field derivation have been also performed. It's well known that accuracy evaluation of coordinates streaming from LSM adjustment of huge number of GNSS observaions disagree with variation of daily solutions. Therefore accuracy assessment have been based on daily solutions of coordinates. Adjustment of indirect observations with regularization conditions have been used. Obtained RMS errors of final campaign coordinates derived from adjustment of daily solutions are approximately one order bigger then those coming from combination on normal equation level in the ADDNEQ Bernese module. Velocity estimation and its accuracy evaluation have been computed simply by means of the expression for weighted arithmetic mean and its RMS error. Two groups of points with similar horizontal movement have been detected. The first one in wide region of Apennin peninsula and coastline of the Balkans reaching up to horizontal velocity of 5 mm/yr in NE direction with respect to Bohemian massif. The second group situated in Romania and Bulgaria region detects SE movement reaching 2 - 3 mm/yr. Movement probably shows deformation caused by straint of the African tectonic plate to the Eurasian one.