



Recent Plate Kinematics in Romania

G. Schmitt (1), A. Knoepfler (1), A. Nuckelt (2), and C. Marcu (3)

(1) (schmitt@gik.uni-karlsruhe.de) Geodetic Institute, University of Karlsruhe, Karlsruhe, Germany, (2) Astrium GmbH, Ottobrunn, Germany, (3) Faculty of Geodesy, Technical University of Bucharest, Bucharest, Romania

Recent Plate Kinematics in Romania

Knöpfler, A.1, Schmitt, G.1, Nuckelt, A.2, Marcu, C.3

1 Geodetic Institute, University of Karlsruhe, Germany

2 Astrium GmbH, Ottobrunn, Germany

3 Faculty of Geodesy, Technical University of Bucharest, Romania

The paper gives some final results of the subproject “Three Dimensional Plate Kinematics in Romania” of the CRC 461 “Strong Earthquakes”, funded by the German Research Foundation at the University of Karlsruhe in the years 1996 to 2008. The reprocessing of the data of 14 GPS campaigns performed from 1995 to 2006 in the deformation network, covering the middle and eastern part of Romania, using the Bernese Software (version 5.0) is discussed, including the analysis of multipath effects and antenna calibrations. From the daily coordinate solutions station velocities were derived using the kinematic model of deformation analysis. Based on these station velocities a three dimensional velocity field was estimated using the technique of multilevel B-spline approximation, followed by the calculation of strain components. Especially the results of the height deformations could help to support the geophysical modelling of the Vrancea earthquakes.