



Use of Double Difference techniques to reveal seismicity and crustal structure patterns in the Galati region (SE part of Romania)

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A large seismic swarm occurred between 15 August and 5 November 2013 in the outer side of the SE Carpathians at about 30 km north-west of Galati city. The National Institute for Earth Physics installed in the epicentral area 4 temporary stations to enhance the seismic monitoring and location capability. Although the magnitude of the events did not exceed 4.0 (according to seismic bulletins computed by the Romanian National Data Centre), their effects were unusually high, being felt by the population and creating panic throughout the duration of the swarm. Taking into account the large number of seismic events occurred during the swarm and the events sporadically produced in the same region after the swarm cessation until the present time, as well as the relatively dense seismic network monitoring the area, we applied Double Difference techniques to reveal the regional seismicity and crustal structure patterns. The results show alignments of the seismic events along the crustal faults orientated between Sf. Gheorghe and Peceneaga-Camena Faults and significant seismic velocity inhomogeneity from east to west for the upper part of the crust.