35th General Assembly of the
European Seismological Commission

4-10 September
2016   Trieste

Analysis of the seismicity in the Balkan Peninsula by the records of Virtual Seismological Network of Sofia University

Reneta Raykova (1), Liliya Dimitrova (2), Milen Tsekov (1), Lyuba Dimova (1), Valentina Protopopova (2), Maria Filipova (1), Desislava Latkovska (1), Antonella Peresan (3), and Milena Milanova (1)

(1) Department of Meteorology and Geophysics, Faculty of Physics, Sofia University "St. Kl. Ohridski", Sofia, Bulgaria (rraykova@yahoo.com), (2) Department of Seismology, National Institute of Geophysics, Geodesy and Geography of Bulgarian Academy of Sciences, Sofia, Bulgaria (valia.pr@gmail.com), (3) Istituto Nazionale di Oceanografia e di Geofisica Sperimentale, Trieste, Italy (aperesan@ogs.trieste.it)

Virtual Seismological Network of Sofia University (VSNSU) was launched in 2015 in the frame of a research project, funded by Sofia University. VSNSU was established by the section of geophysics at the Faculty of Physics of Sofia University with main scope to exercise the students. Sixteen seismic stations from different national and international networks in South-East Europe with open access in real time to the seismic records were selected. In the first stage of the project were used several tools for analysis of the data: mseed2ascii, seisgram2K, SAC, taup, FOCMEC. A number of earthquakes were studied and the arrival time of different wave phases were obtained. The project was funded also in 2016 as the continuation of previous one. SeisComp3 software package was implemented to collect the data. Regional seismicity in the region of Balkan Peninsula was analyzed. The distribution of the earthquakes in time, space, by magnitude and depth were obtained. Different magnitudes (ml, mb, MS, Md, Mw) were determined for the records of the stations from VSNSU. The origin mechanism were defined for the significant earthquakes in the region. Firs unified relation of the magnitude scale in the Balkan Peninsula is developed.