



## **Isoseismal map drawing by kriging default option**

V. Schenk (1), R. Pichl (1), Z. Schenková (1) and I. Kalogeras (2)

1. Department of Geodynamics, Institute of Rock Structure and Mechanics, Academy of Sciences, Prague, Czech Republic (schenk@irms.cas.cz / Phone: +420-266-009-338)
2. National Observatory of Athens, Geodynamic Institute, Greece

Macroseismic intensity is still applied in a wide range of seismological tasks and applications like seismic hazard assessments, attenuation relationships, etc. Isoseismals represent the spatial distribution of macroseismic intensities observed and their shapes depend on source properties, lithosphere structures, tectonic element orientations, site geology, topography, etc. Even if these dependences, it is high need to find an available procedure for their easier and standard creation. Among various approaches the kriging, as a geostatistical gridding method, seemed to be suitable tool for automated isoseismal map drawing. An application of the point kriging gridding method for a computer drawing of isoseismal maps is delivered. A reliability of this drawing approach was systematically investigated with respect to different gridding parameters. Kriging default option, its smoothing rates and numerical parameters, was optimized on macroseismic data of the Kozani 1995 earthquake, Greece. Then the kriging default option recommended for most intensity data sets having 200 to 750 observations was proved and tested on sets of macroseismic data of several Greek earthquakes representing different geomorphological and tectonic regimes. Finally, the option was compared with one of the latest kriging applications to macroseismic data of the Molise 2002, Italy, delivered by De Rubeis et al. (2005). The optimum default kriging values are defined for a common practice in macroseismology.