



## **Study of historical and early instrumental earthquakes in Georgia**

Sopio Nachkebia, Zurab Javakhishvili, and Lasha Sukhishvili

Ilia State University, Institute of Earth Sciences, Geography and GIS Technology, Georgia  
(sopio.nachkebia.1@iliauni.edu.ge)

The Caucasus and therefore territory of Georgia is situated in seismically active region. The analysis of historical and instrumental seismic data indicates that it is the region of moderate seismicity (on global seismicity scale). Strong earthquakes with magnitude up to  $M=7\pm0.5$  and intensity  $9\pm1$  (on MSK scale) occurred here. Seismicity study and hazard analysis of such regions have big importance from both scientific and practical point of view. Investigation of historical earthquakes and seismicity is crucial part of these studies. Several events with  $M>5.0$  of late historical and early instrumental periods (1896-1920) have been studied. Intensity data was revised and updated. The maps of Caucasus for that period have been digitized using GIS technology. A dataset of about 10 earthquakes was compiled. 3 events among them has instrumental magnitude determination. Isoseismals of studied earthquakes we have compiled using Kriging technique. Besides that, modern algorithms for re-assessment earthquake parameters (epicenter location and magnitude) was used (Gasperini et al. 1999; 2010 or Boxer, Musson et al. 2008). The uncertainties of the parameters have been estimated.