Geophysical Research Abstracts, Vol. 8, 09714, 2006
SRef-ID: 1607-7962/gra/EGU06-A-09714

Seismic energy distribution map of Iran

M. Ashtari Jafari
University of Tehran[muhammad@ut.ac.ir]

Iran is located between Eurasia-Arabia collisions which is one of the largest regions under convergent deformation on the earth. Seismicity of the country is an evidence of this convergent movement. There are different ways to present seismic characteristics of each region like regular seismicity and seismotectonic maps while another useful method may be seismic energy map. The method may permit estimations of some parameters like maximum magnitude, intensity, acceleration and may be a complementary help for seismotectonic interpretations. The following steps have been employed to construct this map. First the energy of each event has been calculated by energy-magnitude relation then the cumulative energy released by the events within pre-considered blocks is added up to be converted to a cumulative magnitude, as the energy indicator, later. The cumulative magnitude changes are neither too small nor too large in presenting energy released through different magnitudes. The last step was to move the blocks over the country and finalize the map. This method converts the discrete distribution of usual seismicity maps to the regional distribution of energy release and smoothes the discontinuous nature of the seismic events. Based on the above mentioned method an energy release density map is provided also. The events occurred during 1964 to 2005 have been used in this research.