



The seismicity in the L'Aquila area (Italy) with particular regard to 1985 earthquake

fabrizio Bernardi, maria grazia Ciaccio, and Barbara Palombo
Istituto Nazionale di Geofisica e Vulcanologia, Rome, Italy

We study moderate-magnitude earthquakes ($M_I \geq 3.5$) occurred in the Aquila region recorded by the Istituto Nazionale di Geofisica e Vulcanologia from 1981 to 2009 (CSI, Castello et al., 2006 - <http://www.ingv.it/CSI/> ; and ISIDE, <http://iside.rm.ingv.it/iside/standard/index.jsp>) as well as local temporary seismic networks. We identify three major sequences (1985, 1994, 1996) occurring before the 6.th April 2009 $M_w=6.3$ earthquake. The 1985 earthquake ($M_I=4.2$) is the larger earthquake occurred in the investigated region till April 2009. The 1994 ($M_I=3.9$) and 1996 ($M_I=4.1$) occurred in the Campotosto area (NE to L'Aquila). We computed the source moment tensor using surface waves (Giardini et al., 1993) for the main shocks of the 1985 ($M_w=4.7$) and 1996 ($M_w=4.4$) sequences. The solutions show normal fault ruptures. We do not find a reliable solution for the major 1994 sequence earthquake. This suggests, that the magnitude of this event is probably below $M_w \approx 4.2$, which is the minimum magnitude threshold for this method.