Geophysical Research Abstracts, Vol. 9, 08605, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-08605

Seismic activity in the transition zone between central and southern Apennines (Italy)

G. Milano (1), R. Di Giovambattista (2), G. Ventura (2)

(1) Osservatorio Vesuviano - Sezione di Napoli INGV, Via Diocleziano 328, 80124 Napoli (milano@ov.ingv.it); (2) Istituto Nazionale di Geofisica e Vulcanologia - Roma, Via di Vigna Murata 605, 00143 Roma (digiovam@ingv.it; ventura@ingv.it)

The area between latitude 41°20' - 42°10' is considered a transition zone between Central and Southern Apennines. The seismic activity in this area is quite similar to that of the Apennine Chain: predominant normal faulting earthquakes linked to faults striking along the NNW-SSE chain axis. Last relevant seismic crisis in the area started on 7 May 1984 with an event of moderate magnitude (MS=5.5), followed by intense seismic activity and a second shock on 11 May (MS=5.2). Large historical destructive earthquakes with intensity values up to X MSC occurred to NW (1915, Fucino earthquake) and to SE (1805 Boiano earthquake) of the 1984 epicentral area. Since 1984, the background seismicity of the area was characterized by isolated events with MD $<$ 3.0 to which are superimposed low magnitude seismic sequences (1986, 1997-98 and 2001) and temporal and spatial limited swarms type activity like those occurred in 1999 and 2000. The spatial distribution of these two swarms activity show a NE-SW alignment located to SSE (1999) and to NNW (2000) of the 1984 epicentral area. The focal mechanisms of the events of the 2000 seismicity show a prevalence of strike slip solution with ENE-WSW and NNW-SSE striking planes. The spatial distribution and the fault plane solutions of the 1999 and 2000 seismic swarms suggest that these seismic crisis developed along NE-SW active faults that border the 1984 epicentral area. These NE-SW striking faults, whose movements are consistent with NNW-SSE to NW-SE extension, could mark the tips of the main NW-SE fault segment responsible for the 1984 earthquake.