PATTERN OF ACTIVE CRUSTAL EXTENSION IN THE MONTI DELLA MADDALENA (VAL D’AGRI, LUCANIA APENNINES) PROVIDED BY INTEGRATED STRUCTURAL, PALEOSEISMOLOGICAL, ELECTRIC AND SEISMIC INVESTIGATIONS

The active extensional belt in the axial portion of the Southern Apennines hosts tectonic structures whose location, geometry, and kinematic are in many cases still a matter of debate (Valensise and Pantosti, 2001). Patterns of co-seismic surface rupture during large earthquakes together with the current implementation of paleoseismologic, geomorphologic and geophysical studies reveals that seismogenic sources in the region do not exhibit a clear geomorphic and structural expression (e. g. Pantosti and Valensise, 1990; Pantosti et al., 1993; Improta et al., 2003). A growing body of evidence provided by different research methods substantiate the contention that active faults are a young feature in the tectonic frame of the Southern Apennines. Coupled with the structural complexity and lithological heterogeneity of the orogen, the hidden pattern of active faults hinders straightforward definition of their parameters. Toward this aim, we integrated different approaches to detect the pattern of active deformation on the Monte Aquila Fault (MAF), a strand of the recently recognized Monti della Maddalena Fault System (MMFS). The MMFS is a NE-dipping fault array and represents an embryonic tectonic feature which appears to have controlled the recent geologic evolution of the seismically active Val d’Agri (Maschio et al., submitted). Paleoseismological trenching, resistivity and seismic profiling together with regional fault kinematic and available seismicity allow to constrain the geometry of the MAF and its role in the kinematics of crustal extension accommodated by the MMFS.

REFERENCES

Maschio, L., Ferranti, L. & Burrato, P., Active tectonics along the western side of the Agri River Valley. Implications for the geometry of the seismogenic belt in the Southern Apennines, Italy. Submitted to Geophys. J. Int.