

Seismotectonic characterization of active faults in the LGM plain between Udine and Pozzuolo (Friuli, NE Italy)

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The seismogenic potential of LGM Udine plain was investigated through a multidisciplinary approach, considering geophysical, geological, morphotectonic, seismological and geodetic data. The study area is located between eastern Friuli Venezia Giulia region and western Slovenia, where at present, according to GPS data and focal mechanisms of the main seismic events, two different deformational systems accommodate the N-ward indentation and the CCL rotation of Adria microplate:

the central-western Friuli compressional domain, characterized by reverse activity on WSW-ENE oriented thrusts

the NE-Friuli/western Slovenia domain, where strike-slip tectonics on high angle NW-SE oriented faults prevails.

Both domains are subjected to an about N-S oriented compression, with velocities of the order of 2-3mm/yr, causing a slip partitioning between transpressive/transcurrent structures.

Historical seismicity reveals that the study area is an active region. At least three $M_w > 6$ struck the area in 1348 (M_w 6.63), 1511 (M_w 6.32) and 1976 (M_w 6.45) (Rovida et al, 2016). Moreover, even if sparse, recent instrumental seismicity supports this issue.

With the aim to define the seismogenic potential of Friuli Plain under Udine, 2D and 3D-geometries of the Quaternary active faults was reconstructed by means of ENI seismic lines interpretation through 3D-Move software. Moreover, the integration with seismological data, compared with GPS velocities, allowed us to investigate the seismic behaviour of the detected faults that show clear evidence of Quaternary activity.

Rovida A., Locati M., Camassi R., Lolli B., Gasperini P. (2016) - CPTI15, the 2015 version of the Parametric Catalogue of Italian Earthquakes. Istituto Nazionale di Geofisica e Vulcanologia.