

Paleoseismological data from a new trench across the El Camp Fault (Catalan Coastal Ranges, NE Iberian Peninsula)

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Abstract

The El Camp Fault (Catalan Coastal Ranges, NE Iberian Peninsula) is a slow slipping normal fault whose seismic potential has only recently been recognised. New geomorphic and trench investigations were carried out during a training course across the El Camp Fault at the La Porquerola alluvial fan site. A new trench (trench 8) was dug close to a trench made previously at this site (trench 4). With the aid of two long topographic profiles across the fault scarp we obtained a vertical slip rate ranging between 0.05 and 0.08 mm/yr. At the trench site, two main faults, which can be correlated between trenches 8 and 4, make up the fault zone. Using trench analysis three paleoseismic events were identified, two between 34 000 and 125 000 years BP (events 3 and 2) and another event younger than 13 500 years BP (event 1), which can be correlated, respectively, with events X (50 000-125 000 years BP), Y (35 000-50 000 years BP) and Z (3000-25 000 years BP). The last seismic event at the La Porquerola alluvial fan site is described for the first time, but with some uncertainties.