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Seismicity along the seismogenic zone of Algarve region (southern Portugal)

The seismicity of the Portuguese territory increases in intensity from north to south, with a spatial distribution concentrated in the south and its adjacent Atlantic margins. The present seismological study, focused around Algarve region, it was carried out through a cooperation project between the Universities of Évora (Portugal), Lisbon (Portugal), Strasbourg (France) and the IPMA (Lisbon, Portugal). To locate the seismic events and find the local velocity structure of epicentral area, the P and S arrival times at 38 stations are used (Geostar stations, telemetered network, U. Lisbon and IPMA stations). The data used in this study were obtained during the Algarve campaign, which worked, from January/2006 to July/2007. The preliminary estimate of origin times and hypocentral coordinates are determined by the Hypoinverse program. Linearized inversion procedure was applied to comprise the following two steps: 1) finding the velocity model using Velest and 2) simultaneous relocation of hypocenters and determination of local velocity structure. This work is expected to produce a more detailed knowledge of the crust structure over the region of Algarve, being able to identify seismogenic zones, potentially generators of significant seismic events and also the identification of zones of active faults.

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