

T1.5-P22. Earthquakes Hazard Assessment in Morocco

In this paper we present and discuss the probabilistic seismic hazard analysis carried out in Morocco. This region was historically struck by strong earthquakes. It was particularly affected by several important earthquakes distributed in the territory of the country and along off-shore zones. In particular northern part has been most affected by earthquakes in the past few decades. The last relevant one is the earthquake of February 24th 2004 of magnitude $M_w = 6.3$. The probabilistic approach is used in order to take into account uncertainties in seismic hazard assessment. Seismic sources are parameterized using the most recent results obtained from seismotectonic regime, knowledge about past seismicity characteristics, the geologic and geophysic data. Sources parameters such as b-values, slip rate, the mean annual activity rate, and maximum magnitude are assessed for each seismic source. The attenuation of the seismic ground motion with distance is estimated by using attenuation relationships developed by Ambraseys (1995). Results are presented as maps of hazard for return periods of 50 years, 100 years and 250 years. The main purpose of this work is to provide engineers and decision-makers with a basic tool for seismic risk mitigation. **Keywords:** Probabilistic analysis, hazard maps, Seismic source parameters, Earthquake catalogue, Morocco.

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