

Seismic evaluation of existing buildings in the northern region of Morocco using the Japanese standard

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In this work, the Japanese standard for seismic evaluation of existing reinforced concrete buildings (2001) have been adapted and applied to the constructions in the northern region of Morocco. In the past, the region had suffered from numerous earthquakes, lately the 2004 earthquake near the city of Al Hoceima (Mw of 6.4 causing more than 600 fatalities) and is constantly subject to seismic threat. The Japanese standard was selected because it provides accurate results in case the constructions are low-rise RC buildings, which is the case for the majority of the buildings in north of Morocco. Nevertheless, multiple modifications have been made to adapt the standard to the construction features of Moroccan RC buildings and have been applied to 4180 existing building in the cities of Al Hoceima and Imzouren. The results show that a significant percentage of the buildings have a high seismic vulnerability. The maps elaborated can be a potential guide to the decision making in the field of seismic risk prevention and mitigation strategy; these maps also constitute valuable information for urban planning and the development of the northern cities.