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Regional and site-specific GMPEs for Italian territory

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The increasing number of records in the last years allows us a detailed statistical analysis of the strong motion data. In this study we would like to present a Regional and site-specific approach thanks to a huge and high quality accelerometric dataset for all the Italian territory of more of 120000 waveforms up to 150 km for more than 2300 events occurred in a time-span 2009-2017. This huge dataset allows us to regionalize the GMPEs, dividing the Italian territory in three parts, estimating for each part a different GMPE, for an expanded range of ground motion parameters such as: peak ground parameters (displacement, velocity and acceleration), the pseudo spectral accelerations at different periods (0.3, 1.0 and 3.0 seconds) and Arias and Housner intensities. In particular we study the 2016-2017 Central Italy sequence, in which many records for single stations are collected and site-specific GMPEs estimated. The resultant GMPEs are tested using an independent testing database and used as setup of the configuration of a near real-time ShakeMap system.