

Site Effect Observations after 2016 Amatrice Earthquake, Central Italy

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Abstract : On 24th August 2016, central Italy was affected by a Mw 6.0 earthquake, representing the main shock of a long seismic sequence, which had a second shock Mw 6.6 on 26th October and lasts still nowadays. After the event, several field survey were carried out in the affected areas, which is made of historical masonry buildings. The post event reconnaissance missions were aimed at collecting information on the damage states of the buildings, the triggering of the landslides and the relationships with site effects. In this paper, the data collected after the event are analyzed considering the role of the geological and geomorphological setting and the ground motion scenario. The buildings displayed an uneven damage distribution, which was affected by both topographic and stratigraphic amplification. As pertains the landslides, which were the most recurrent among the ground failures, consisted mainly of rock falls and subordinately of translational slides. Finally, the collected knowledge showed a strong contribution of the local geological and geomorphological site condition on the resulting damage.

Keywords : Amatrice earthquake, damage states, landslides, site effects

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