

Fundamental period elongation of a RC building during the Pollino seismic swarm sequence

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A primary school in Rotonda was monitored during an on-going seismic sequence in the Pollino area, Southern Italy. The Reinforced Concrete (RC) building is a typical three story building with a concrete frame, bearing pre-cast slab flooring, concrete block internal walls and pre-cast external infill slabs. The monitoring began in September 2011 with a single station on top of the building, and after the $ML=5$ mainshock occurred in October 2012 a network was completed with accelerometers on each floor and real-time streaming data was transmitted to the Istituto Nazionale di Oceanografia e Geofisica Sperimentale (Udine-Northern Italy). The school suffered no visible damage during the sequence. The real-time monitoring of the Rotonda school proved to be important for two reasons: (1) the large range of magnitudes and recorded peak accelerations allowed the study of the non-stationary frequency response; (2) the results also shows how a simple, real-time monitoring system using cost-effective accelerometers could be used as a tool to provide information on the damage state and usability of the school.