



## **2016 Central Italy Earthquakes Recorded by Low-Cost MEMS-Distributed Arrays**

Jacopo Boaga, Filippo Casarin, Giancarlo De Marchi, Maria Rosa Valluzzi, Nicola Cenni, and Giorgio Cassiani  
University of Padova, Department of Geoscience, Department of Geoscience, Padova, Italy (jacopo.boaga@unipd.it)

Modern seismic ground-motion sensors have nowadays excellent response quality in terms of dynamic and bandwidth resolution. The weakest point in the recording of the seismic events is the spatial sampling and resolution, due to the limited number of installed sensors, often at large distances. A significant improvement in spatial resolution can be achieved by the use of low-cost distributed sensors arrays, capable of recording seismic events with a dense sensors network. In this perspective, micro-electro mechanical system (MEMS) sensors were adopted to integrate the use of standard accelerometers for moderate-to-strong seismic events. In this poster, we present the data from the 2016 Central Italy earthquakes as recorded by a spatially dense prototype MEMS array installed in the neighborhood of the epicentral area. MEMS records were compared against the national strong-motion network data and the GPS 1s signals. MEMS network Limits and promising results are here discussed, suggesting that these very low-cost sensors could be an effective choice for integrate the spatial density of stations to provide strong-motion peak parameters.