



## **Effective seismic acceleration measurements for low-cost Structural Health Monitoring**

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There is increasing demand on cost effective Structural Health Monitoring systems for buildings as well as important and/or critical constructions. The front end for all these systems is the accelerometer. We present a comparative study of two low cost MEMS acceleration sensors against a very sensitive, high dynamic range strong motion accelerometer of force balance type but much more expensive. A real experiment was realized by deploying the three sensors in a reinforced concrete building of the premises of TEI of Crete at Chania Crete, an earthquake prone region. The analysis of the collected acceleration data from many seismic events indicates that all sensors are able to efficiently reveal the seismic response of the construction in terms of PSD. Furthermore, it is shown that coherence diagrams between excitation and response of the building under study, depict structural characteristics but also the seismic energy distribution.

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