



## **Deciphering the nature of a complex seismic sequence: the case of Central Italy in 2016**

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During the second half of 2016 the area of Central Apennines, Italy, was hit by a series of strong earthquakes: 24 August (M6.0), 26 October (M5.9), 30 October (M6.5), while thousands of smaller shocks were recorded at the same period, all within a circle with radius of no more than about 50 km from the epicenter of the last strong event. We examined this complex seismic sequence with the purpose to understand the possible inter-dependence of the three strong shocks. Seismicity patterns were investigated in three domains: space, time and size. The metrics used are distances between epicenters, event count and b-value, respectively. Significance levels of seismicity changes were tested by the z-test (space, time) and Utsu-test (size). Significant seismicity changes preceding and following each one of the three strong shocks were examined and interpreted as for their foreshock-aftershock nature. This is a contribution to the research project EARTHWARN of the National Observatory of Athens.