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ΙΟΝΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ



Session 23

Swarm-like and earthquake sequences driven by local transients in tectonic and volcanic areas

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Earthquake swarms and complex earthquake sequences generally lack a clear mainshock, initiated by several small magnitude events with larger earthquakes that occur later in the sequence. Thus, resulting in a more complex temporal evolution compared to typical mainshock-aftershock sequences. In addition, they exhibit spatio-temporal migration patterns and extend over larger areas than expected considering the magnitude of the largest earthquake. Spatial migration and complex temporal evolution have been associated to transient forcing such as slow slip, creeping and/or pressurization of crustal fluids in tectonic environments, or due to magma migration and hydrothermal fluid redistribution in volcanic areas. However, the physical mechanisms and the rheological conditions leading to such complex seismic sequences are still largely elusive. This session aims to host studies on earthquake swarms and complex seismic sequences related to transient forcing. We invite contributions focusing on characterizing the spatio-temporal evolution of such sequences, their scaling properties, and the underlying physical processes. Microseismicity studies in volcanic regions, areas of geothermal activity as well as complex earthquake sequences in active tectonic areas, are also welcome.