



The 2012 swarm in Cretan Sea

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Two moderate magnitude earthquakes (M5.2 and M5.3) occurred in January 2012, in a temporal and spatial distance of less than a day and a few kilometers, respectively. They located in Cretan Sea, south Aegean area, and along with their recorded tens of aftershocks, occupy the southwestern part of an elongated NE–SW trending structure demonstrating frequent microseismicity of more than one year before. Although this microseismicity was persistent mainly near Santorini Island area, to the NE of the 2012 swarm, migration of activity was observed before the swarm appearance. A detailed investigation of the spatial and temporal pattern of the swarm activity and the associated active structure is presented. For this purpose relocation is performed since accurate location is especially required when dealing with very complex areas, where several faulting systems or relatively small seismogenic structures exist. Seismotectonic properties and the spatial and temporal behavior are sought, and therefore the better the distribution of earthquakes in space, time, size are known, the most correct the association of any seismic event with the faulting structure that caused it will result. In addition the spatio–temporal pattern of seismicity is discussed using modern techniques of statistical physics.

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