



PROPERTIES OF AFTERSHOCK SEQUENCE FOLLOWING THE 29th MARCH 2007 EARTHQUAKE IN SOUTHWEST CRETE (GREECE)

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We study the properties of spatio-temporal microseismicity following the 29th March 2007 earthquake of magnitude $M_L = 4.3$ to 30 km depth in southwest Crete. The aftershock sequence of 286 earthquakes has been recorded by a local temporal network operating for 45 days comprised by short period seismological stations installed in the small scale Paleohora Basin in the southernmost part of western Crete. The recorded earthquake events are processed manually by picking both P and S arrival time using Hypo 71 location software (Lee and Lahr, 1972). Two distinguished microearthquake clusters are extracted. One of the clusters comprises sparse earthquakes along to the Hellenic arc. The second cluster comprises the majority of microearthquakes and delineates an E-W structure extending at about 50 km along the coastline of Paleohora Basin from Grammeno peninsula to Lissos Basin. Segments of the E-W fault structure in Paleohora Basin and Grammeno peninsula have been revealed by geophysical survey (Moisidi et al. 2013). The V_p/V_s value is extracted from travel time P and S arrivals for the recorded dataset using Wadati-Benioff plots and calculated equal to 1.99 while the Poisson ratio equals to $\sigma=0.333$. An integrated study including the modified Omori law (Utsu, 1961) and the analysis of inter-event time distribution (e.g Abe and Suzuki, 2005; Hainzl et al 2006; Vallianatos et al 2012) is discussed.

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