



## **Ground deformations in Pantelleria Island (Italy): insights into the dynamic of the current inter-eruptive period**

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The Island of Pantelleria, located between the coasts of Sicily (Italy) and Tunisia, is deforming due to volcanic and tectonic activity. Here we use EDM (Electro-optical Distance Meter), levelling, GPS and DInSAR (Differential Interferometry Synthetic Aperture Radar) data to constrain the inter-eruptive deformation pattern. We observe subsidence affecting the main caldera of Pantelleria, in the central-southern sector of the island. Subsidence is mainly related to hydrothermal cooling and/or fluid withdrawal from a shallow (4 Km. b.s.l.) magma chamber located beneath the caldera. The relationships between the caldera area and the remnant part of the island are also investigated through a review of petrographic, geochemical and structural data.