



## **1996 - 2006: 10 years of GPS monitoring of the volcanic complexes of the Aeolian Island: new data for the characterization of relationships between structural patterns and volcanic activity for Stromboli and Vulcano islands (Sicily, Italy)**

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The Aeolian Islands represent one of the most important volcanic complexes in Italy. In the context of the monitoring activities finalised to Public Defense, the ground deformation studies carried out, are one of the most important source of data aimed to the knowledge of the relationships between volcanic and tectonic activity. In this work, we present the results from the GPS data collected both by permanent stations and field surveys on Lipari, Vulcano and Stromboli islands since 1996. In particular, are here showed the main results of the strain parameters analyses performed by the inversion of the geodetic data. In this way, we are able to characterize the response of the medium both to tectonic and volcanic inputs. Moreover, the re-analysis of these data allows us to obtain the strain and velocity fields both in the context of the Europe-Africa convergence. Finally, some models of the dynamics acting in this area are showed and a perspective of monitoring activities aimed to the reduction of the volcanic hazard are proposed.