



Analysis of soil strain inducted by the seismic event of 6 October 2018 on Etna mount

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Fiber optic devices, like Fiber Bragg Grating (FBG) sensors, have attained a very large diffusion in the last years as cost-effective monitoring and diagnostic tools. Recently, this kind of technology has found several applications also in the geophysics field. In order to study earthquakes and volcanoes, the measurement of crustal deformation is of crucial importance. Stress and strain behaviour are the main indicators of changes in the activity of volcanoes. To this purpose, we have realized a tri-axial FBG strain sensor and installed it in a borehole near the Serra La Nave astrophysical observatory on the Etna mount. This instrument has been designed to long term monitoring, but it is also performant in observing co-seismic and post-seismic events. We will present the study of the soil strain induced by a near seismic event of magnitude 4.6 and a comparison with the data of the co-located seismometer.