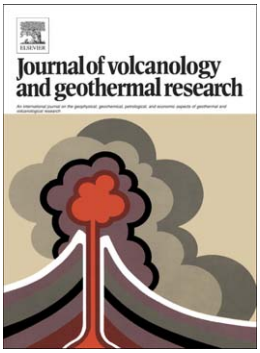

Possible coupling of Campi Flegrei and Vesuvius as revealed by InSAR time series, correlation analysis and time dependent modelling

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PII: S0377-0273(14)00141-3
DOI: doi: 10.1016/j.jvolgeores.2014.05.006
Reference: VOLGEO 5323

To appear in: *Journal of Volcanology and Geothermal Research*

Received date: 15 November 2013
Accepted date: 2 May 2014

Please cite this article as: Walter, T.R., Shirzaei, M., Manconi, A., Solaro, G., Pepe, A., Manzo, M., Sansosti, E., Possible coupling of Campi Flegrei and Vesuvius as revealed by InSAR time series, correlation analysis and time dependent modelling, *Journal of Volcanology and Geothermal Research* (2014), doi: 10.1016/j.jvolgeores.2014.05.006

Possible coupling of Campi Flegrei and Vesuvius as revealed by InSAR time series, correlation analysis and time dependent modelling

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Abstract.

Volcanoes are often considered as isolated systems, however, evidences increase that adjacent volcanoes are directly coupled or may be closely related to remote triggers. At the dormant but dangerous Italian volcanoes Campi Flegrei and Vesuvius, as well as adjacent volcano-tectonic systems, all located in the Campania Volcanic Province with ~2 million inhabitants, a new analysis of satellite radar data reveals allied deformation activity. Here we show that during the 16-year records from 1992-2008, identified episodes of deformation occur in correlation. Albeit differences in the quantity of deformation, the sign, frequency and rate of pressure changes at reservoirs beneath Campi Flegrei and Vesuvius