

ISTITUTO NAZIONALE DI RICERCA METROLOGICA Repository Istituzionale

Absolute and relative gravity observations spanning the 2008 Etna eruption

Original Absolute and relative gravity observations spanning the 2008 Etna eruption / Greco, F; Currenti, G; D'Agostino, Giancarlo; DEL NEGRO, C; DI STEFANO, A; Germak, ALESSANDRO FRANCO LIDIA; Napoli, R; Scandura, D In: GEOPHYSICAL RESEARCH ABSTRACTS ISSN 1607-7962 11:4559(2009). (Intervento presentato al convegno EGU General Assembly 2009).
Availability: This version is available at: 11696/33289 since: 2021-05-27T17:27:21Z
Publisher: Copernicus Publications
Published DOI:
Terms of use:
This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository
Publisher copyright

(Article begins on next page)

Geophysical Research Abstracts, Vol. 11, EGU2009-4559, 2009 EGU General Assembly 2009 © Author(s) 2009



Absolute and relative gravity observations spanning the 2008 Etna eruption

F. Greco (1), G. Currenti (1), G. D'Agostino (2), C. Del Negro (1), A. Di Stefano (1,3), A. Germak (2), R. Napoli (1), D. Scandura (1,4)

(1) INGV-CT, UFGM, Catania, Italy (greco@ct.ingv.it), (2) Istituto Nazionale di Ricerca Metrologica (INRiM) - Torino - Italy, (3) Dipartimento di Ingegneria Elettroica e dei Sistemi, Università di Catania - Italy, (4) Dipartimento di Matematica e Informatica, Università di Catania - Italy

We analyzed both absolute and relative gravity measurements collected at Mt Etna during a 1-yr time interval spanning the onset of the 2008 eruption. Two significant gravity changes were detected in different sectors of the volcano. In the north-eastern flank, a gravity decrease was observed during the June 2007 – July 2008 period. The computed negative mass variation of about -4.20×1010 kg could reflect opening of new voids beneath the NE-Rift, which is affected by a strong extensional tectonics. In the southern flank, a gravity increase was observed in September 2007 along an EW trending profile, where quasi-monthly measurements are carried out. The calculated positive mass change of about 1.05×1011 kg was interpreted as due to shallow and localized magma intrusion just beneath the southern sector of the volcano. We present the results obtained by comparing between relative and absolute gravity measurements and their implications on the latest Etna eruption started on 13th May 2008.