Geophysical Research Abstracts,
Vol. 11, EGU2009-5630-1, 2009
EGU General Assembly 2009

New insights on banded tremor: Mt. Etna volcano, August-October 2008

A. Cannata (1), G. Di Grazia (1), F. Ferrari (1), P. Montalto (1,2), G. Nunnari (2), D. Patanè (1), E. Privitera (1), and L. Zuccarello (1)

(1) Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Catania, Piazza Roma 2, 95123 Catania, Italy (cannata@ct.ingv.it), (2) Dipartimento di Ingegneria Elettrica, Elettronica e dei Sistemi, Università di Catania, Viale Andrea Doria 6, 95125 Catania, Italy

In August-October 2008 banded tremor was recorded at Mt. Etna volcano. It was composed by episodes with duration of 25-30 minutes and time interval between the end of an episode and the onset of the following one of about 25 minutes. Spectral and polarization analyses showed that the banded tremor was characterised by different spectral content and wavefield than the volcanic tremor that was recorded during the same time period at Mt. Etna. Moreover, also the source locations of the banded tremor and the ordinary volcanic tremor, constrained by using two different methods based on the envelope of the seismic signals at different stations and on the amplitude decay of the tremor, were different. In particular, the banded tremor source was located close to the South East crater, the most active crater of Mt. Etna during the last years, at very shallow depth. Finally, non-linear analyses were performed on surrogates of the seismic signal in order to shed a light on the possible non-linear behaviour of the investigated phenomenon.