Gruppo Nazionale di Geofisica della Terra Solida

TEMA 3: GEOFISICA APPLICATA

Sessione 3.2: Geofisica applicata per le strutture superficiali e i rischi ambientali

Microseismic monitoring of an unstable rock face: Preliminary event location

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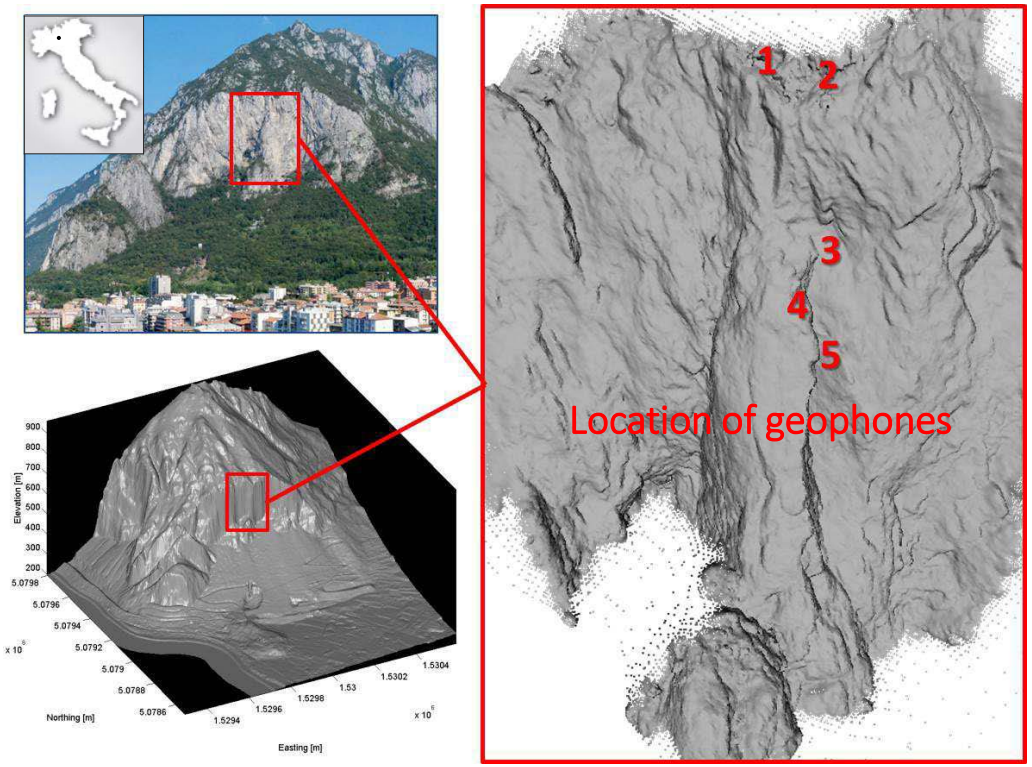
Introduction

Microseismic monitoring has been increasingly used in rockfall studies in the last two decades. Event location is one of the basic processes in microseismic monitoring. In this work, we present the preliminary results on event location related to trigger tests performed before a tomographic survey and an event location exercise with a uniform velocity model.

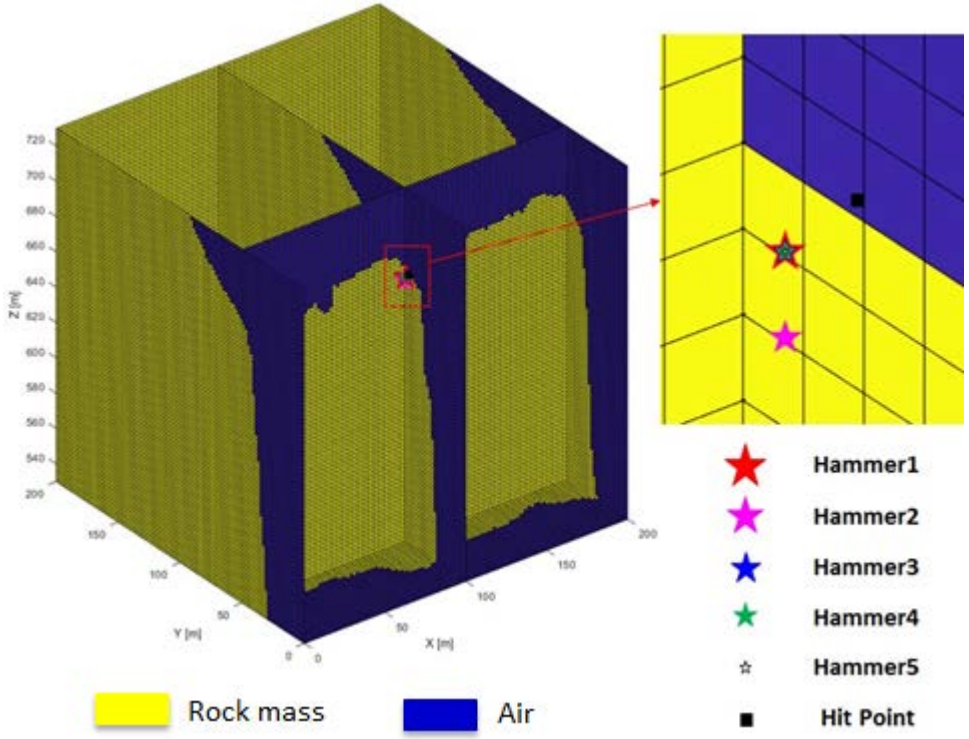
- **Limestone rock face: 330 m high.**
- **Rockfall in 1969 led to the death of 7 people and injured 3 people.**
- **Microseismic monitoring system has been installed since 2013.**
- **An automatic classification scheme is now working on this system to select microseismic events.**



Mount San Martino (Northern Italy)

Trigger tests for a tomographic survey

- **Detailed velocity information can be obtained from tomographic survey. Tomographic survey necessitates a suitable source to be employed.**

Event location with a uniform velocity model

- **Preliminary test on the accuracy of the selected localization algorithm: Probabilistic, non-linear, global-search earthquake location**