1. Seismotectonic Framework

2. The Pernicana Fault System

3. The fault model in Piano Pernicana sector

4. The brittle deformation observed in the field

5. DISCUSSION & CONCLUSIONS: Ground motion polarization in each fault sector reflects the brittle deformation pattern.

Fig. 5. DEM of Mt. Etna with the left-lateral Pernicana fault system. Numbers indicate measurement site. At both sides two examples of EW-trending left-lateral fault segments are shown, in a right-step, sinistral en-echelon configuration. Compasses

Key issues:

- The Eastern flank is characterized by a deep-seated gravitational slope deformation,
- In this work we focus on and sectors, to study the brittle deformation fault-associated, ruling out an near-orthogonal relation between the most probable and diffuse fracture fields and the polarization orientation.

Main goals:

- The differences between ground motion polarization in the fault hangingwall and in the footwall follow the different distribution and orientation of fractures.
- Both fracture distribution and orientation are reproduced by the fault model in the Piano Pernicana and in the Piano Provenzana sectors.
- Fractures observations and measurements confirmed the orientations predicted by the fault model.

REFERENCES

POLARIZATION ON FAULT HANGINGWALL

POLARIZATION ON FAULT FOOTWALL

ORIENTATION OF THE MODELED SYNTHETIC CLEAVAGE (the most probable to be produced in the hangingwall)

ORIENTATION OF THE MODELED EXTENSIONAL FRACTURES (the most probable to be produced in the footwall)

NEAR-ORTHOGONAL RELATION BETWEEN GROUND MOTION POLARIZATION AND FRACTURES

TREMOR DATA ANALYSIS AT PIANO PERNICANA

POLARIZATION ON FAULT HANGINGWALL

POLARIZATION ON FAULT FOOTWALL

ORIENTATION OF THE MODELED SYNTHETIC CLEAVAGE (the most probable to be produced in the hangingwall)

ORIENTATION OF THE MODELED EXTENSIONAL FRACTURES (the most probable to be produced in the footwall)

NEAR-ORTHOGONAL RELATION BETWEEN GROUND MOTION POLARIZATION AND FRACTURES

Most probable deformation type is SYNTHETIC CLEAVAGE ORIENTED N74°

EXTENSIONAL FRACTURES ORIENTED N42° are the most probable deformation type near the surface observed in the field.