UNINA (Federico II)

general presentation
of
SPICE related personnel and material

Ivolved scientists

Directly involved in SPICE

- Lapo Boschi
- Gaetano Festa
- Antonio Emolo
- Aldo Zollo
- Stefan Nielsen

Other personnel

- 3 PhD students
- 4 laurea students
- Two Full professors
- One first researcher
- ...

Domain of expertise

ACQUIRED:

- Seismic tomography (global and local)
- Waveform modeling
- Seismic source dynamic modeling
- Seismic migration and active seismics
- Strong motion modeling and prediction

UNDER DEVELOPMENT::

- Operation and Management of a dense multi-component seismic array in/around a composite fault system (Irpinia)
- Experimental fracture mechanics
- Sea-bottom seismic observation, acoustic link data transmission, electro-acoustic antennas

Wave propagation methods used

- Finite differences
- Spectral finite elements

Others...

- Ray methods

Ongoing projects

- FRATSIS. A dense multi-component array to study the earthquake fracture process on the Irpinia composite fault system (CRdC-AMRA- Regional Fundings)
- Laboratory Fracture experiments (CRdC-AMRA)
- Source modeling (FIRB)
- SISMA. Sea-bottom seismic observation (with INGV-OV and Alenia WASS)
- TECSAS. Remote control and monitoring of infrastructures (with OV-INGV, Consorzio ISIDE, other 3 SMEs)
- SERAPIS: High resolution Seismic Imaging of the Campi Flegrei Caldera by active seismic exploration

CrdC-AMRA=Regional Center of Competence “Analisi e Monitoraggio dei Rischi Ambientali”, project financed by the Regione Campania and the European Community

Examples of ongoing projects

- IRPINIA
- tomography
- Source dynamics

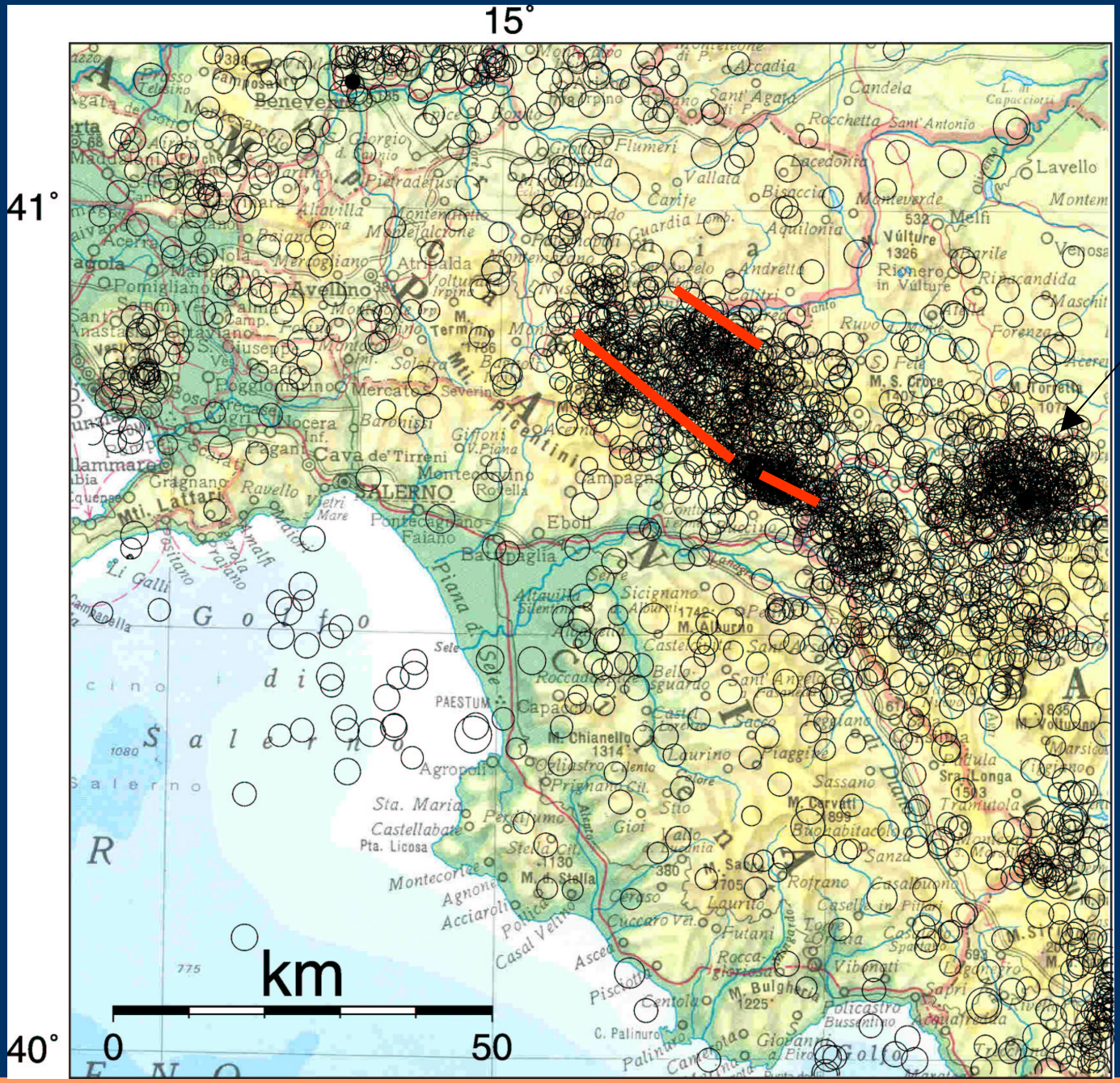
– Illustrations follow....

The Background Seismicity of the Fault System

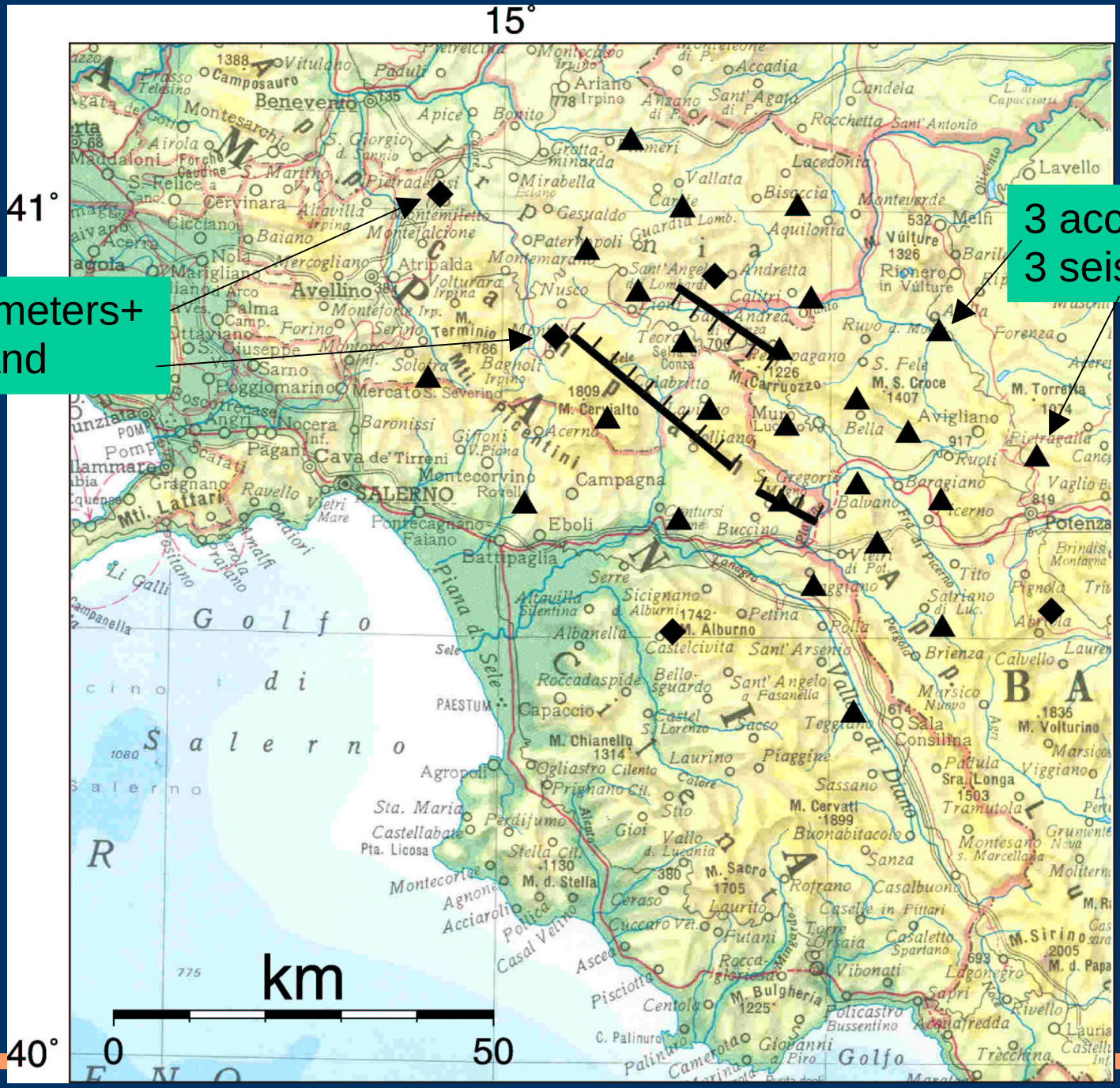
INGV-Catalogue

1983-2002

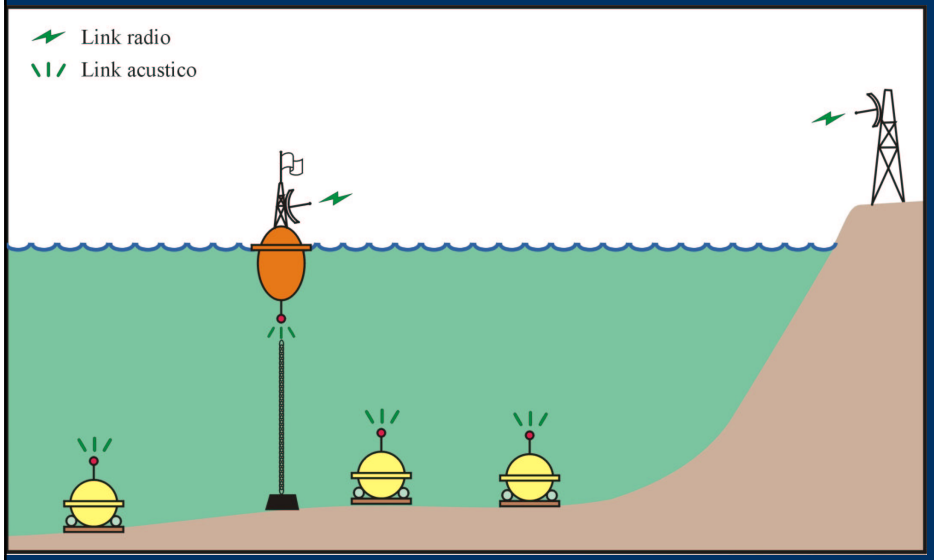
M>2.5-3

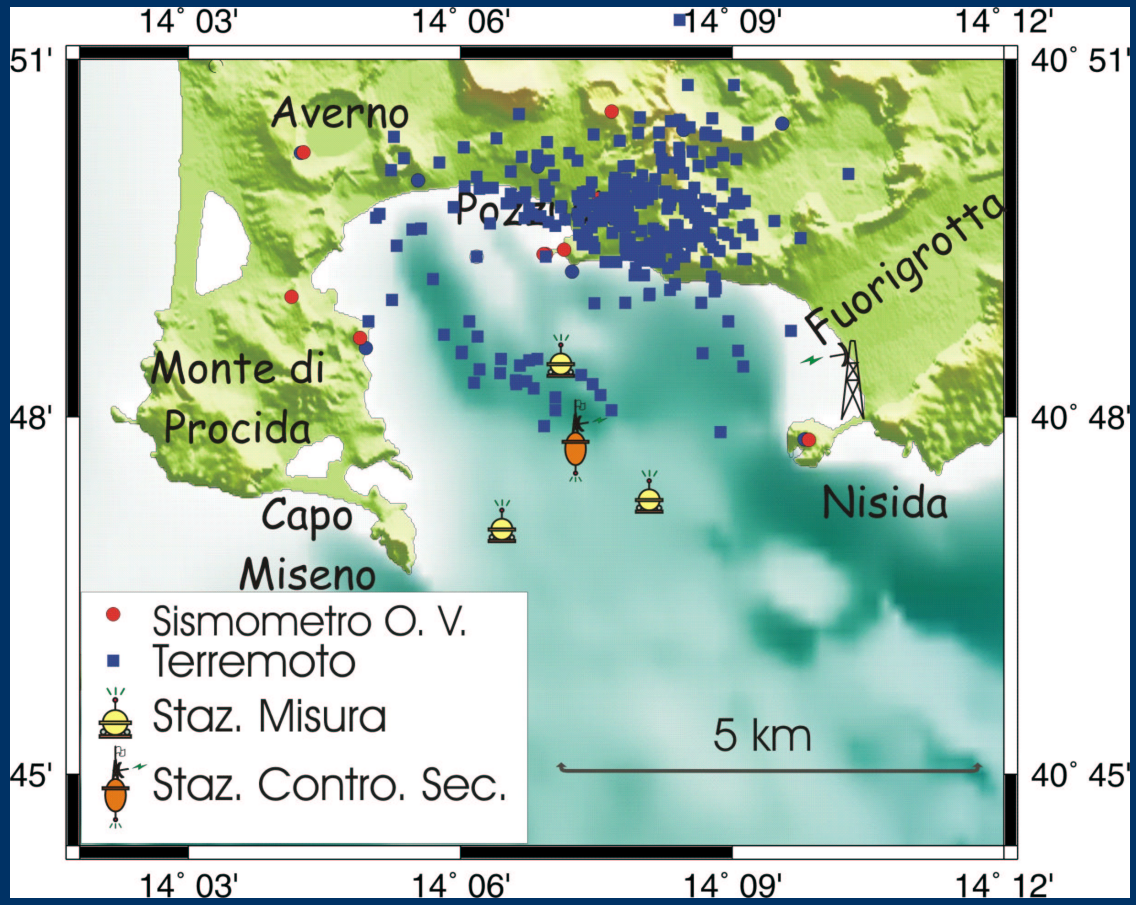


A Dense Multi-Component Seismic Array



SISMA: Sea-bottom seismic data acquisition and transmission

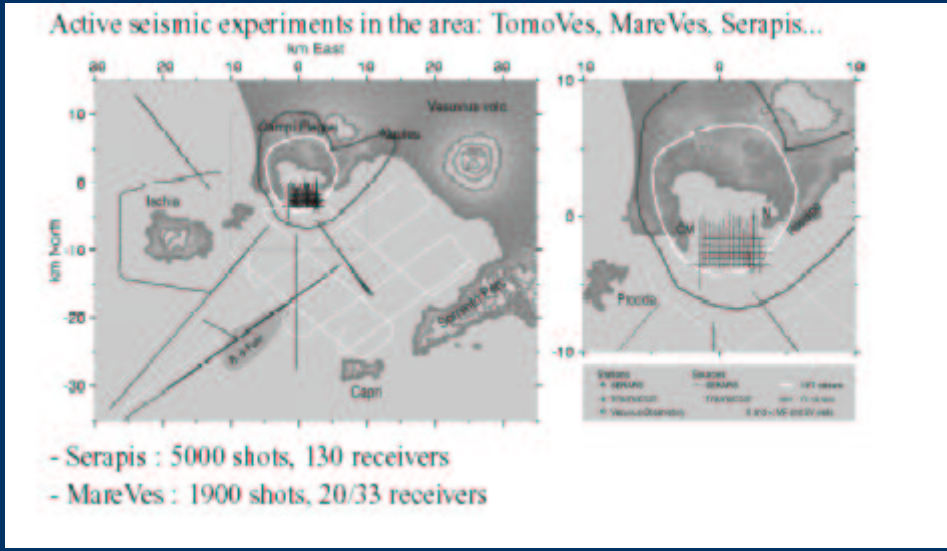




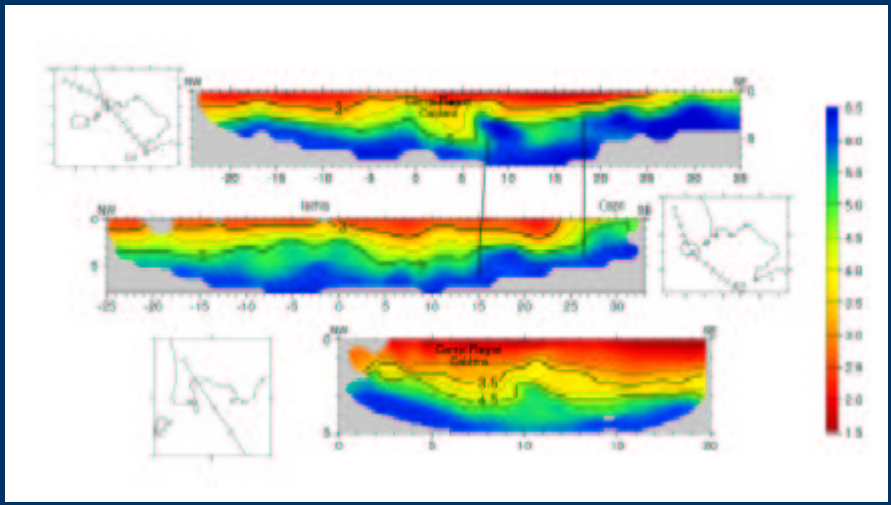
Develop a prototype of sea-bottom wire-less system of seismic data acquisition and transmission using acoustic link and electro-acoustic sensor technology

Partnership: INGV-OV, UNINA-FEDII, WASS-Alenia

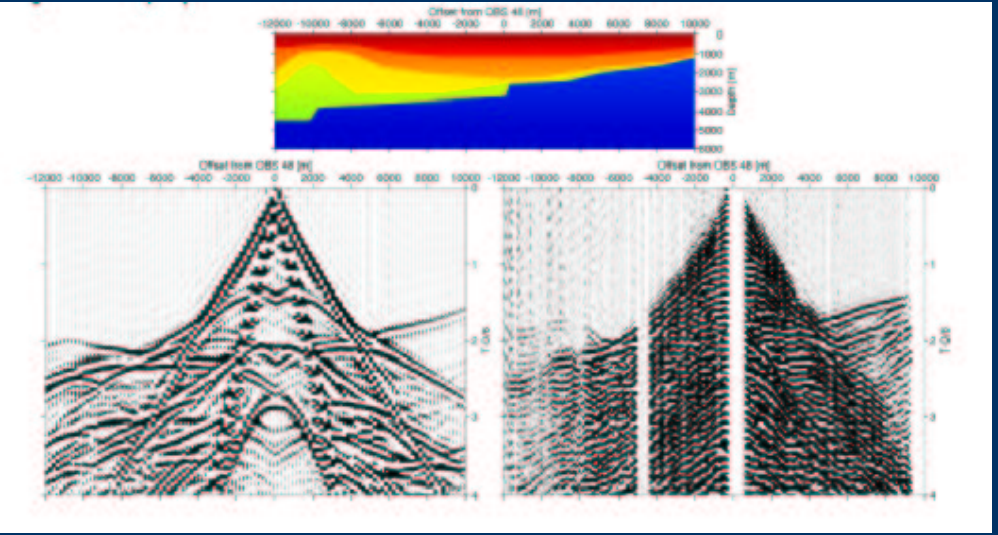
SERAPIS project



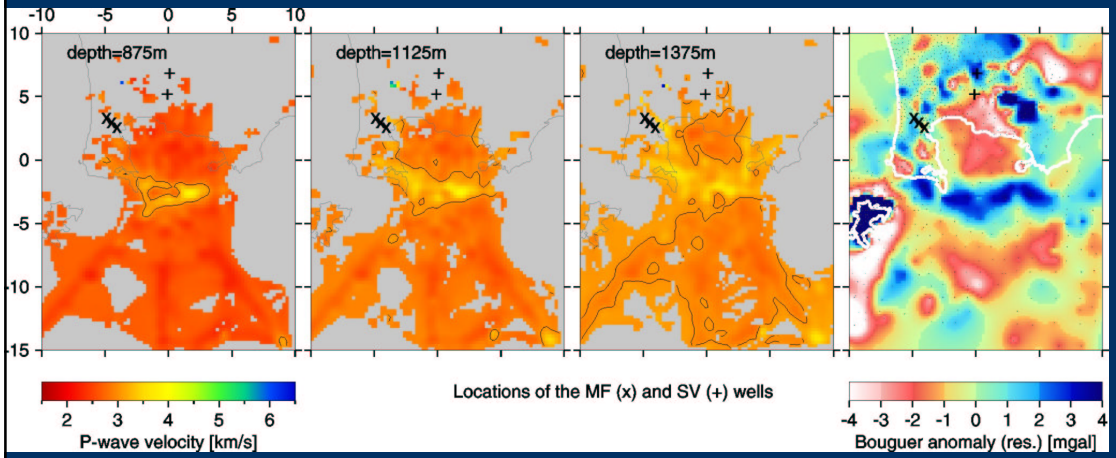
3-D Tomographic models



Finite differences simulation

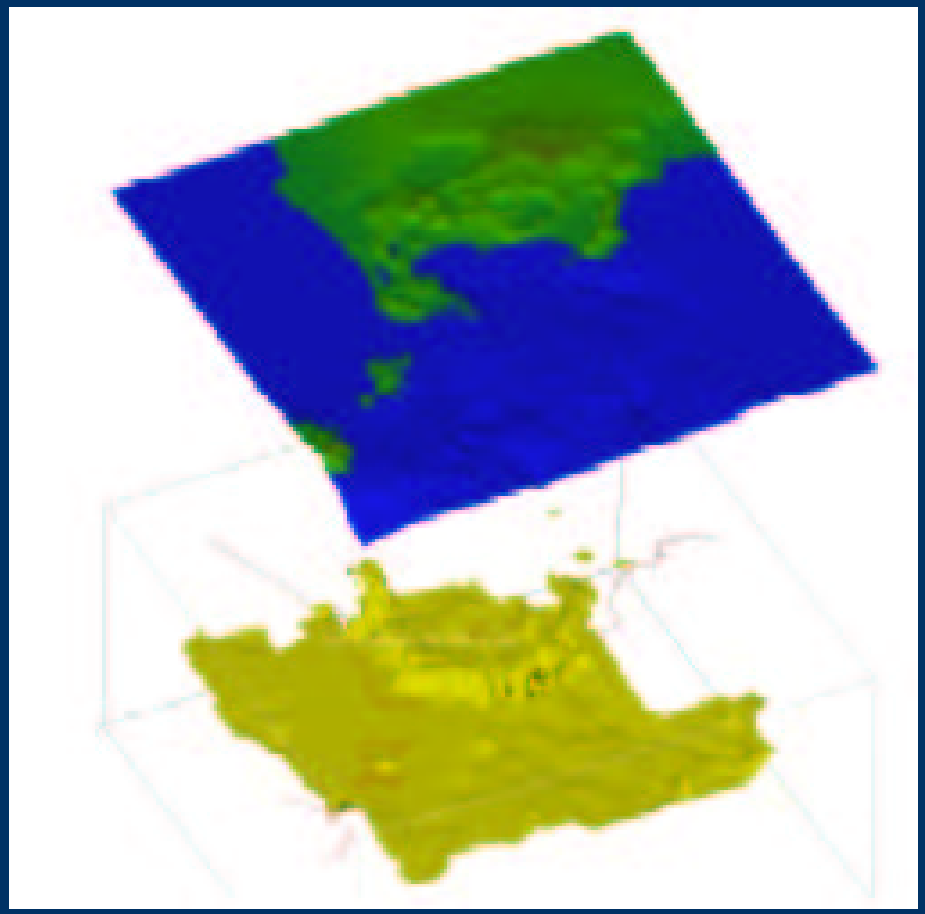


SERAPIS project – Very high resolution imaging of the Campi Flegrei caldera rim



P-velocities

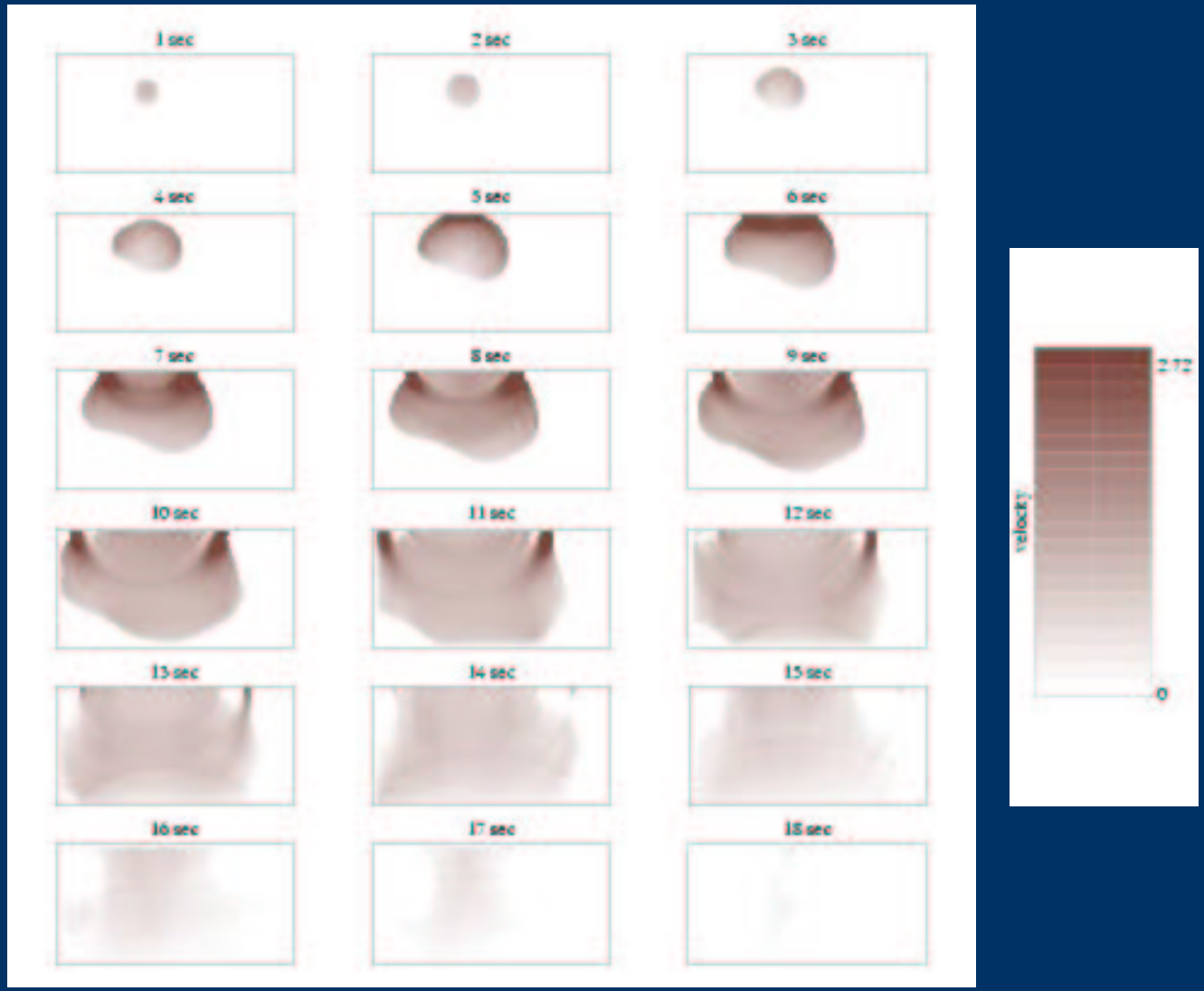
Gravity Bouguer' anomalies



Iso-velocity contour (3 km/s)

Dynamic fracture simulation

(example: sliprate snapshots of the Chi-Chi earthquake)



Available infrastructure

- PCs with Linux
- One Windows PC for the fans of Bill Gates
- Printers, scanners, Digital projector,...
- Access to Large numbercrunching machines (NEC, SGI)
- Standard unix geophysical processing freeware (SU, GMT, SAC,...)
- Network administrator team of the University (Physics Department and INFN)
- Training center associated with the CrdC with a room for calsses, meetings, conferences,....