



Broadband seismology for monitoring and exploring hydrothermal systems

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Surveying and monitoring of hydrothermal systems

- better understanding of mechanical behaviour of rocks under fluid pressure
- efficient and safe implementation of geothermal wells

Characteristics of hydrothermal systems

- Location and orientation of fractures source mechanism of broadband signals associated with hydrothermal fluid activity

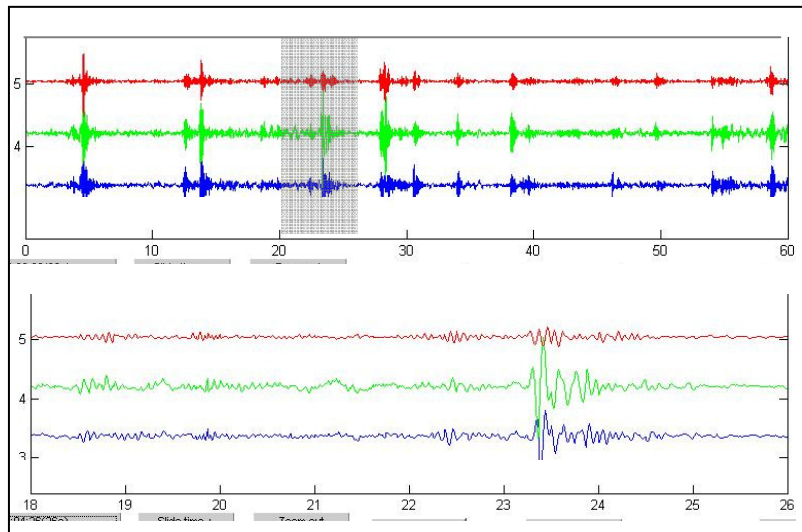
Tool: wave-form inversion

- Data: earthquake signals
- Model: 3D wave propagation modelling for Green functions

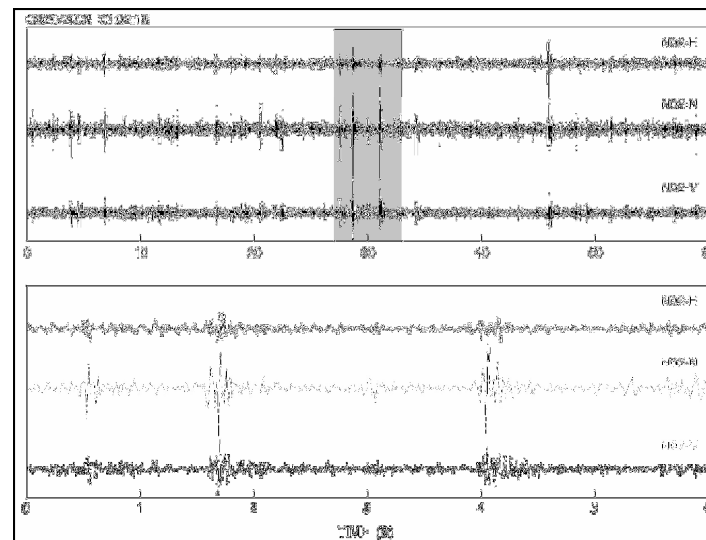
ENGINE workshop, Potsdam, 6-8 November 2006



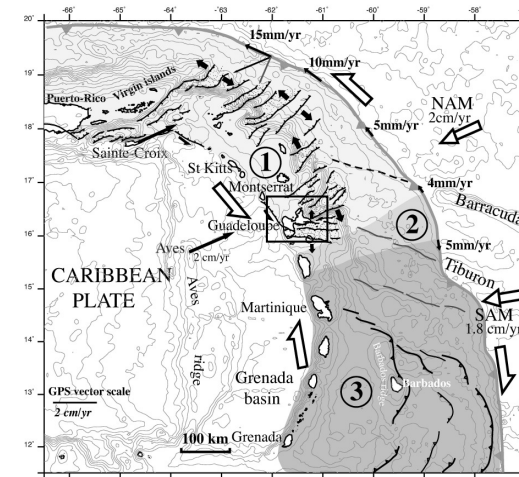
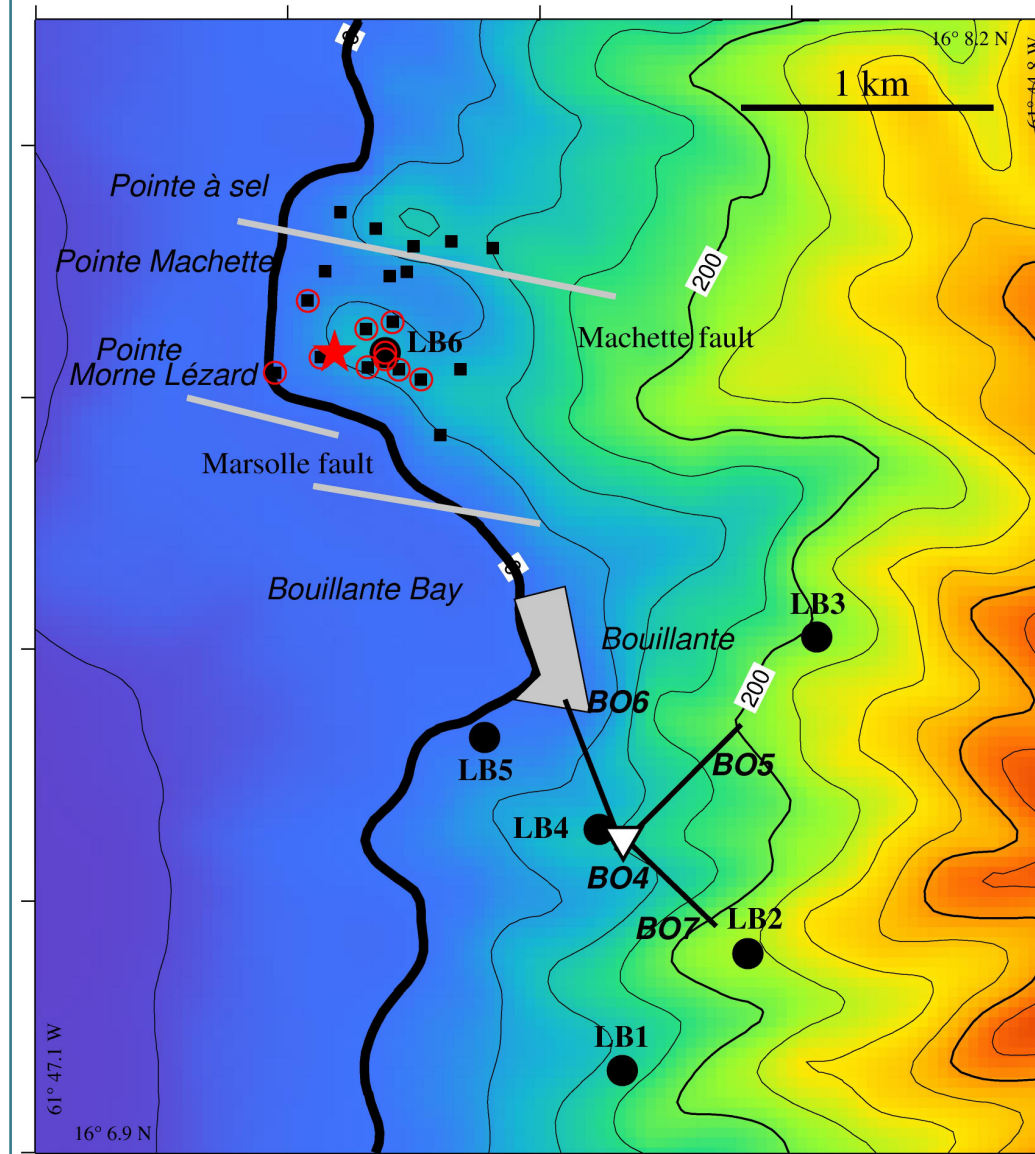
BOUILLANTE, FRENCH ANTILLES



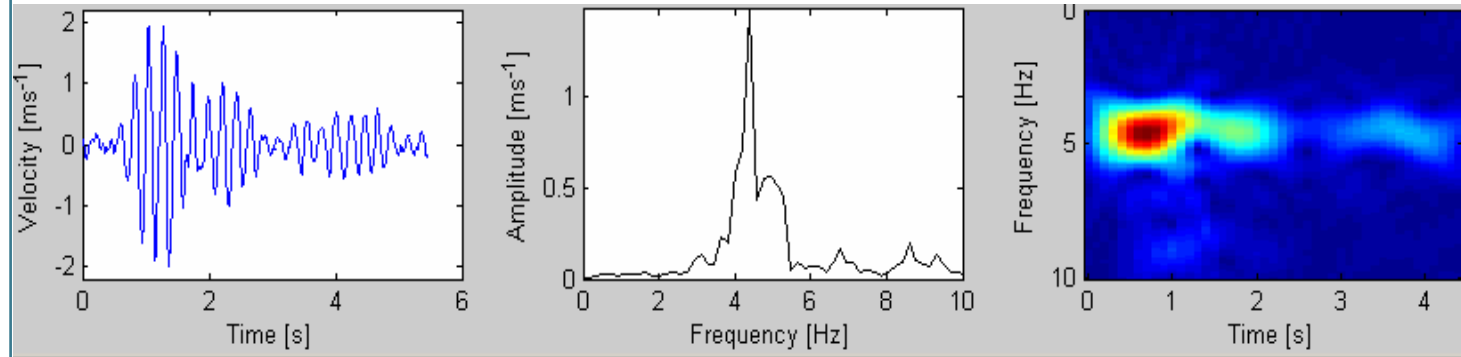
PORKSHOP, YELLOWSTONE, USA



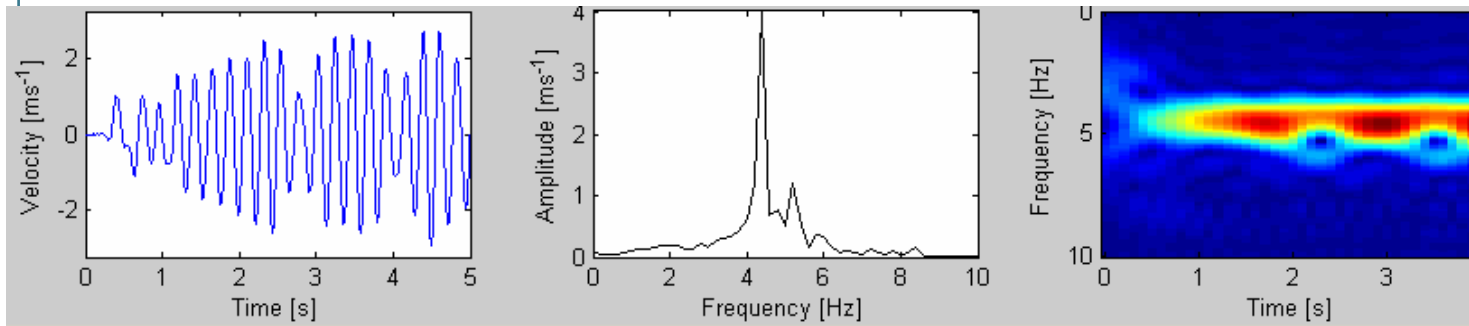
Example: Bouillante geothermal system



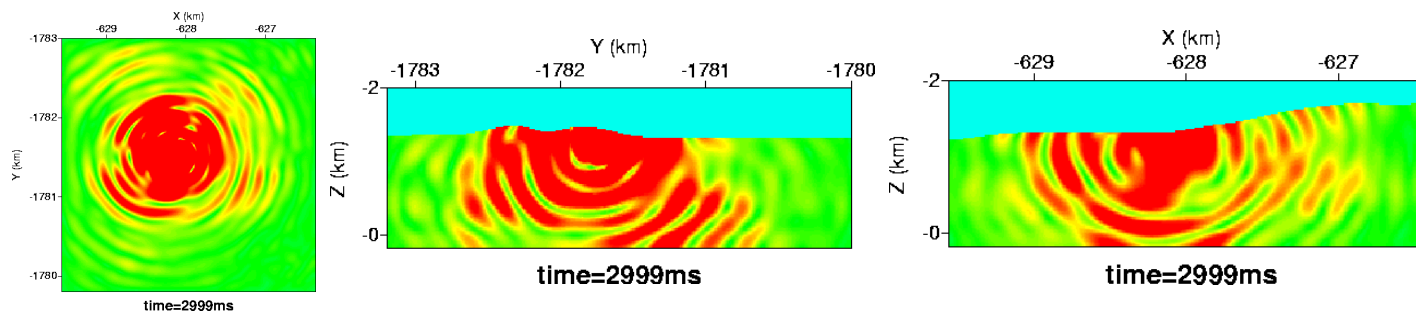
Example of LP monochromatic earthquake



DATA



SYNTHETIC
(Elastic)



3D wave
propagation