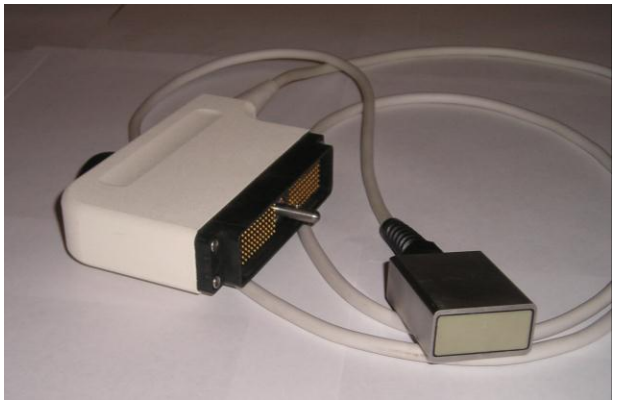
Tank for Ultrasonic Experiments

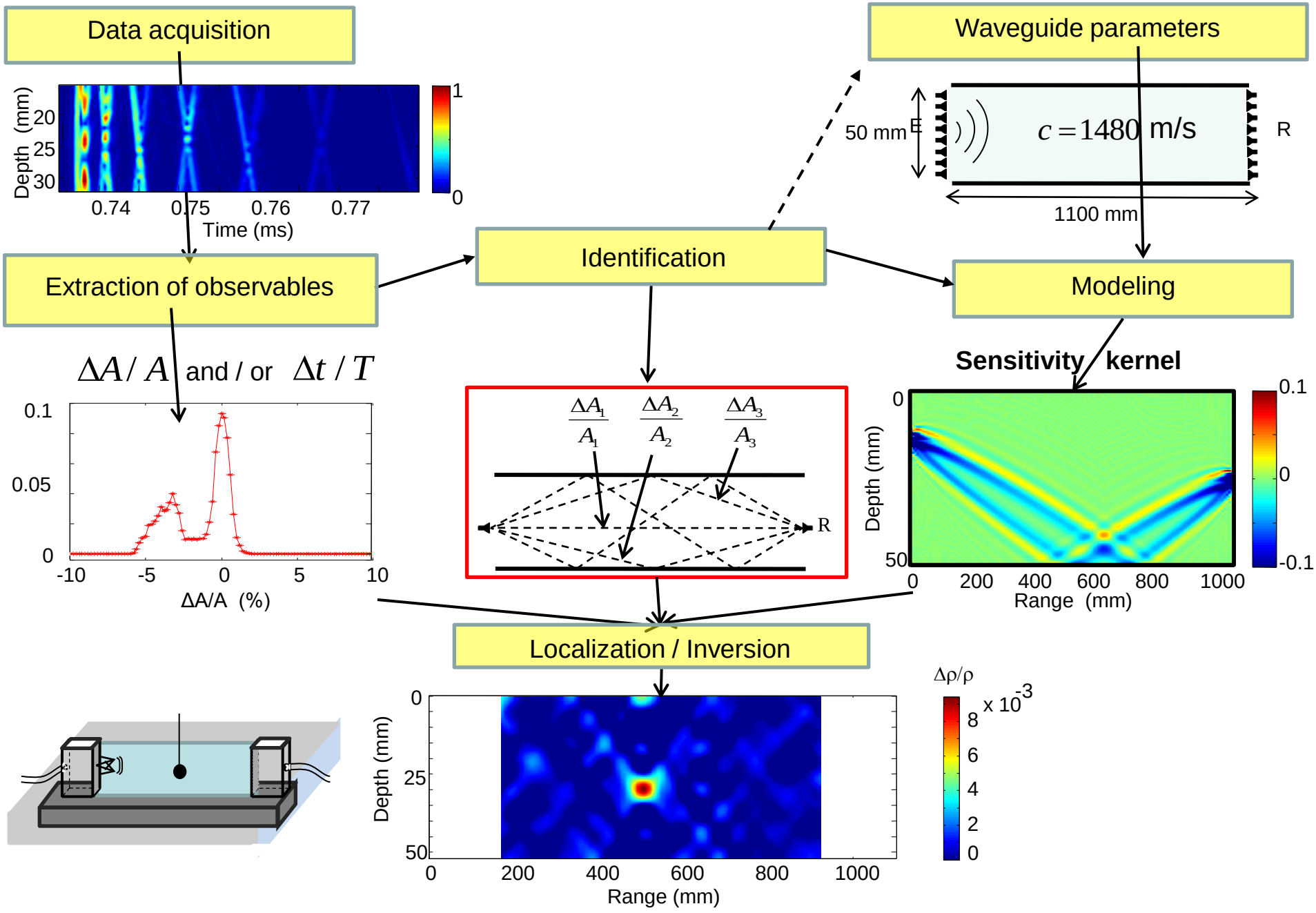
Oceanic propagation at the 1/10000 scale

Dim = 1.5 m x 1 m x 0.6 m
Vol ~ 250 - 400 l



64-channel electronics at 80 MHz

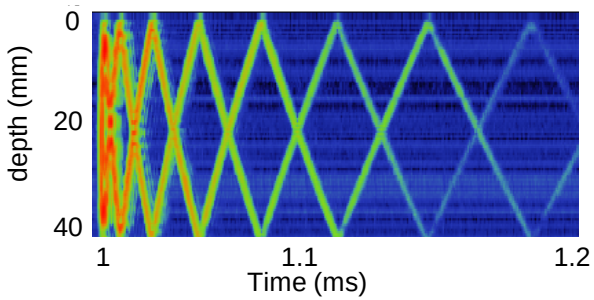
Tomography and Inversion in Acoustic Waveguides



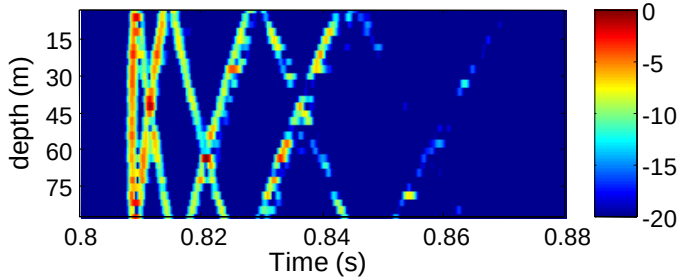
Shallow water acoustics : Methodological approach

Data analysis

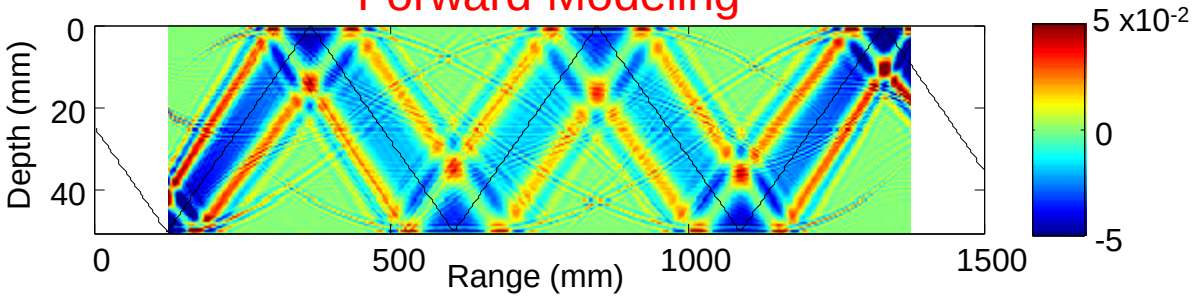
Lab



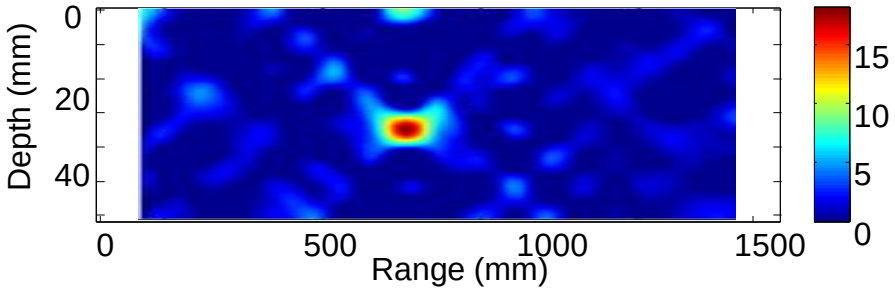
At sea



Forward Modeling



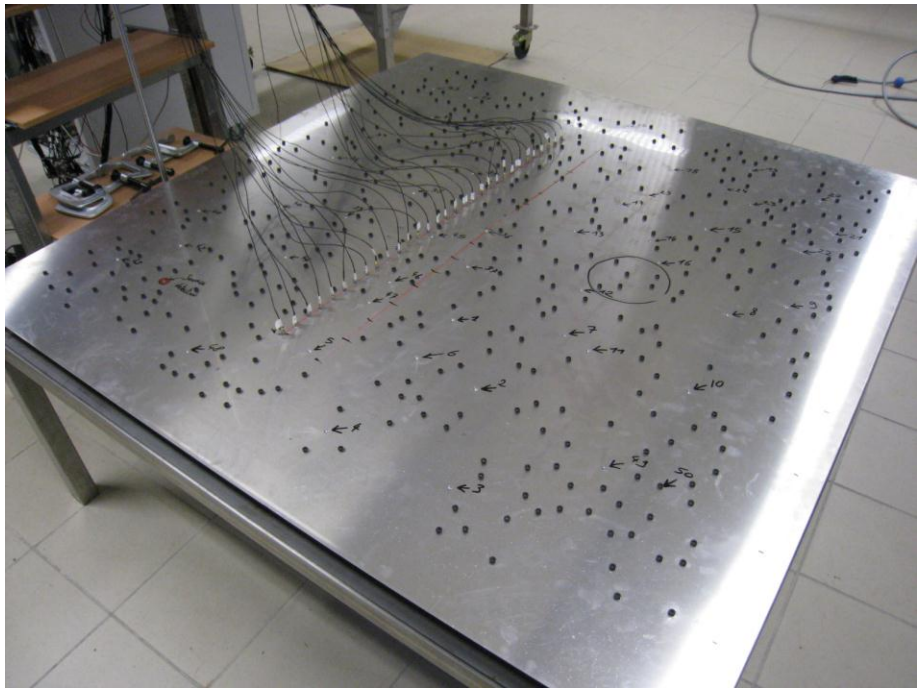
Inversion result

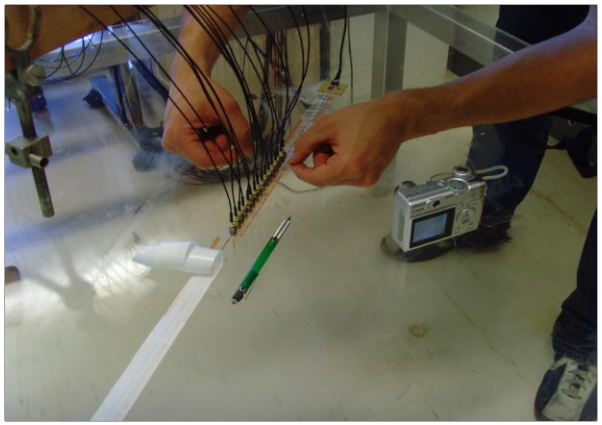


Network of 32 mini-accelerometers

Broadband : ~ 1 Hz – 100 kHz

Electronic acquisition: 32 channels with sampling at 500 kHz / channel

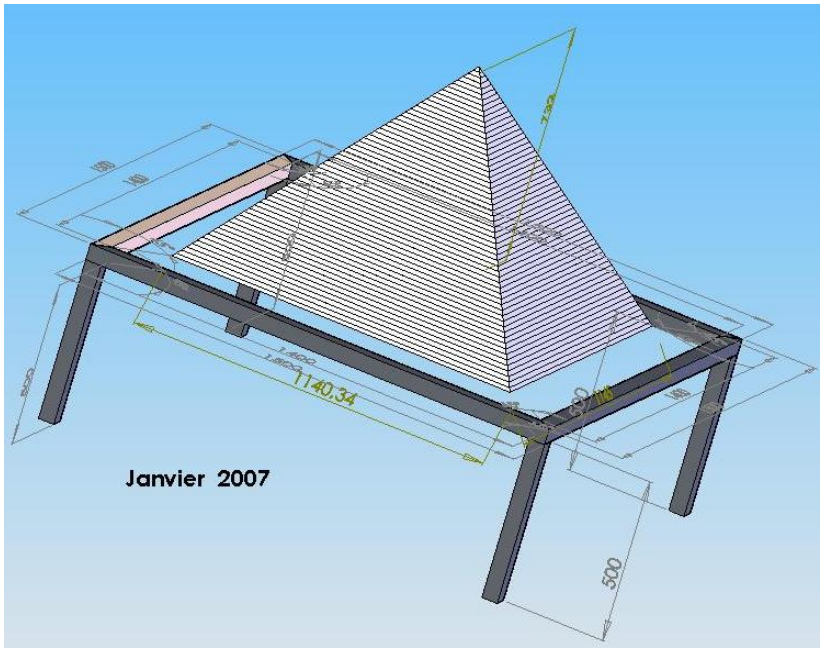




Multiple scattering in heterogeneous media
Analog of seismic propagation in the Earth crust

Imaging the internal Structure of the Cheops pyramid

Discover the « hidden » chamber through ambient noise correlation

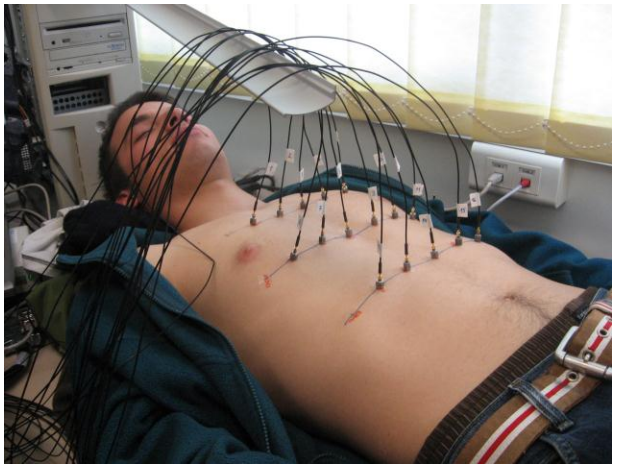


~ 10 kHz – 20 kHz

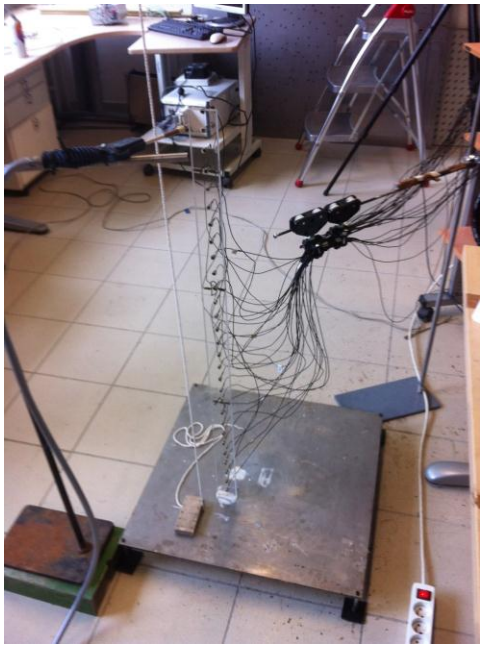
Seismic Imaging of the human body

~ 10 Hz – 100 Hz

Using the heart beats as a source of shear waves to image the elasticity of human tissue

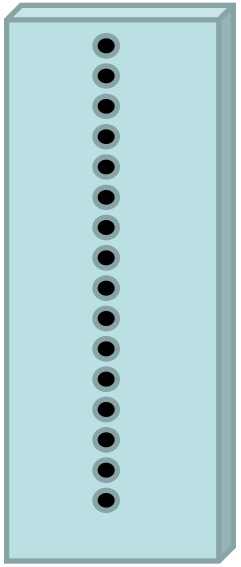


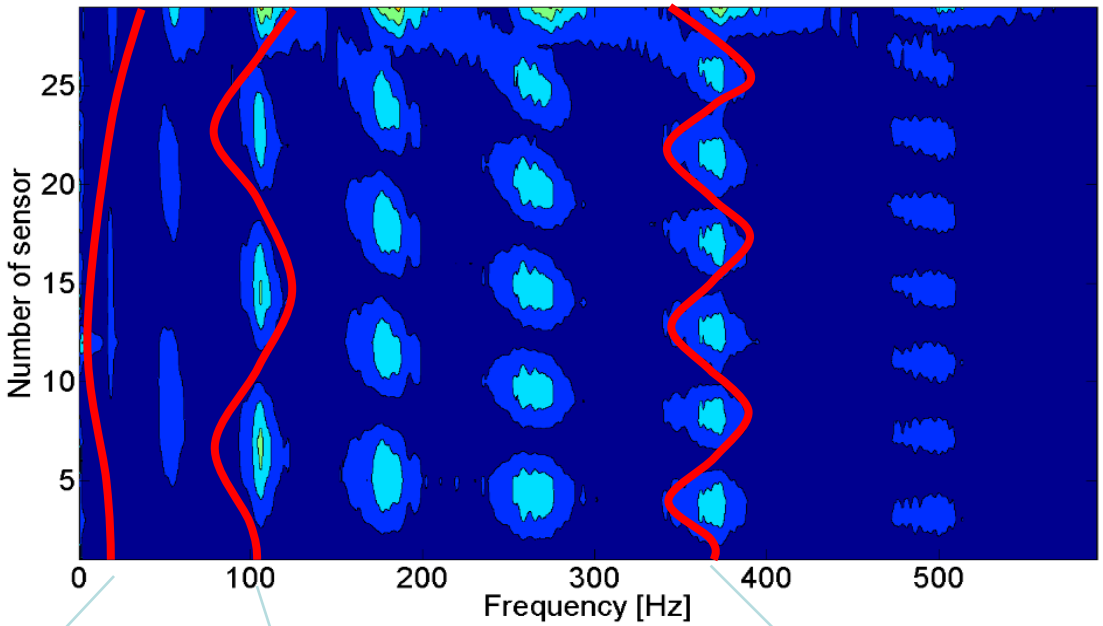
Extracting modal parameters of structures from ambient noise



A plexiglas beam fastened to a steel plate

Monitoring and localization of damage/perturbation on buildings





2nd mode 4th mode 7th mode