

# Ultrasonic characterization of multilayered porous media

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**Oral presentation by M. Sadouki**

The ultrasonic characterization of multi-layered porous materials is considered. The multi-layered porous media consist of a slabs of homogeneous isotropic porous materials with an elastic frame. The ultrasonic propagation in multilayered porous material is modelled in time domain using Biot's theory modified by fractional operators for describing the fluid-structure interactions. The sensitivity of the modified Biot parameters with respect to the transmitted wave is studied showing the effect on each parameter on transmitted waveforms. The direct and inverse scattering problems are discussed for multilayered porous samples using experimental transmitted waves.