GREMAN | université de TOURS | INSA | cnrs

GREMAN seminar

THURSDAY

30

JANUARY

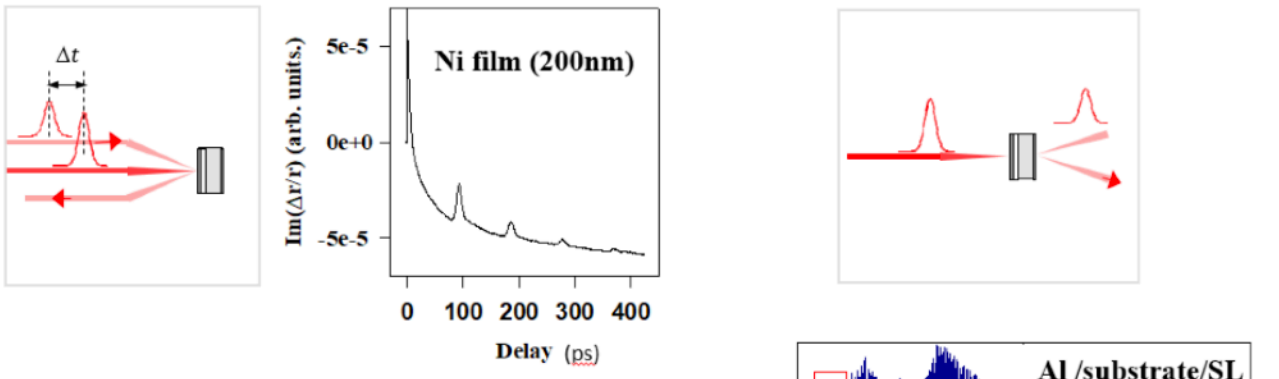

Figure 1: Echoes after propagation in an opaque or semi-transparent film (left) or in a transmission geometry through the substrate (right).

Agnès HUYNH

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Picosecond Laser Ultrasonics: a few applications

3:00pm - 4:00pm (Amphi D. Papin - INSA CVL - Blois)

Picosecond laser ultrasonics is a technique by which gigahertz to terahertz ultra- sonic waves can be generated and detected by ultrashort light pulses. This pump-probe technique can be seen as a SONAR, allowing for the characterization of materials with nanometer spatial resolution. As an illustration, a few results will be presented and discussed, for example the measurement of elastic constants of various systems. I will also describe how multilayers can be used as high frequency transducers. Finally, I will present their potential based on our recent study related to the phonons propagation in semiconductors and glasses within the challenging frequency range of 0.1 THz to 1 THz .