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# Seminar Announcement

Tuesday 11th September 2018, 10:30 a.m.
SALA GRANDE Palazzina C via alla Cascata 56/C

## Brillouin light scattering for the characterization of bulk and surface elastic waves

***Patrice Salzenstein***
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*Brillouin scattering reveals acoustic or spin-wave frequencies in the microwave frequency domain. Brillouin light scattering (BLS) setup deals with the detection and analysis of laser light scattered by fluctuations of refracting index in a medium. It consists in analysis of the refracted light emitted by a material. Tandem Fabry–Perot interferometer produces peaks shifted from the frequency of the laser to characteristic frequencies depending on the material. As a way of calibration, we can characterized different bulk materials such as for example glass, PMMA, nylon, polypropylene, Lithium-aluminosilicate glass ceramic or thin layers. From BLS we can deduce parameters of the material like phase velocity of transverse and longitudinal waves*

***Keywords**: Brillouin light scattering; Brillouin scattering stimulation*

*Biography Patrice Salzenstein (Paris 1970) obtained his Master degree and material science engineering diploma at Eudil in Lille, France, 1993, and his PhD Doctorate in Electronics at the University of Sciences and Technologies of Lille, 1996. Between 1996 and 2001 he worked successively at Thomson CSF LCR (now Thales-TRT), Alcatel Alsthom Recherche and LCIE research laboratories near Paris. He has been working since 2001 at FEMTO-ST institute in Besancon for CNRS, a government-funded research organization under administrative authority of Franc's Ministry of research. He managed a calibration laboratory on phase noise and short term stability of frequency between 2002 and the beginning of 2012. In 2010, one of his articles was featured in Electronics Letters for his participation with Czech and Swiss colleagues to the best frequency stability ever measured on a quartz crystal oscillator: 2.5×10-14 at 5 MHz. Between 2010 and 2017, his field of interest in research was for optoelectronic resonators and oscillators for microwaves photonics applications. He is now on Brillouin light scattering and instrumentation with the Micro nano Science & Systems department of FEMTO-ST.*