

平成 19 年 11 月 1 日

応用物理学会北海道支部
会員各位

応用物理学会北海道支部

講演会のお知らせ

下記講演会を開催いたしますので、多数ご参加下さいますようご案内申し上げます。

演題：Picosecond Laser Ultrasonics: classical directions for continuous progress

講師：Vitalyi Gusev 氏

(Université du Maine, Le Mans, France, professor)

日時：平成 19 年 11 月 16 日 (金) 10:30 ~ 11:30

場所：北海道大学大学院工学研究科 C17 教室

主催：応用物理学会北海道支部

講演の要旨

The basic directions in the development of picoseconds laser ultrasonics, a research field related to all-optical generation and detection of picosecond acoustic pulses) are reviewed. They include the studies of physical mechanisms of acoustical phonons generation by laser radiation (thermoelasticity, deformation potential, inverse piezoelectrical effect, electrostriction, etc.), development of a variety of optical methods for acoustic wave detection (reflectometry, picosecond interferometry, beam deflection technique, picosecond ellipsometry, etc.) and the extension of the domain of possible applications. Some fruitful results of our long-term collaboration with Hokkaido University are presented. In parallel the research activities in the University of Maine on the mechanisms sound generation in the vicinity of a metal/dielectric phase transition and in semiconductors, on the generation of picoseconds shear acoustic pulses, and on the detection of vibrations of thin films will be described.

Recent publications:

T. Pezeril, P. Ruello, S. Gougeon, N. Chigarev, D. Mounier, J.-M. Breteau, P. Picart, V. Gusev, Generation and detection of plane coherent shear picosecond acoustic pulses by lasers: Experiments and theory, Phys. Rev. B, 2007, vol. 75, 174307(1-18).

P. Ruello, S. Zhang, P. Laffez, B. Perrin, V. Gusev, Ultrafast electronic dynamics in the metal-insulator transition, Phys. Rev. B 2007, v. 76, p. 165107 (1-5).

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