平成 30 年 2 月 22 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：OPTO-ACOUSTO-OPTICAL IMAGING AT NANOSCALE
講師：Vitalyi Gusev 氏
（Le Mans Université, France・教授）
日時：平成 30 年 3 月 7 日（水） 13:00～14:30
場所：北海道大学工学部応用物理学専攻会議室 （A3-62）
主催：応用物理学会北海道支部

講演の要旨

Picosecond acoustic interferometry is an all-optical experimental technique based on ultrafast high repetition rate lasers applied for generation and detection of nanometers in length and picoseconds in duration coherent acoustic pulses. In transparent materials Brillouin scattering of the probe light permits imaging of sample inhomogeneities traversed by a laser-generated acoustic pulse with nanometers spatial resolution along its complete propagation path. The detected transient optical reflectivity signal contains information on acoustical, optical and acousto-optical parameters of the material. The spatial resolution of the technique can be controlled either by the characteristic spatial scale of the linear laser-generated picosecond acoustic pulse or the spatial width of the weak shock front in the nonlinear acoustic pulse. The emerging applications of picosecond acoustic interferometry include depth-profiling of low-k nanoporous films, ion-implanted semiconductors/dielectrics and temperature distributions, imaging of texture in polycrystalline materials and inside vegetal/animal cells, and monitoring the transformation of nanosound caused by nonlinearity and focusing.

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