

平成 20 年 2 月 8 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：Laser-generated surface acoustic waves in copper interconnect structures on silicon wafers

講師：Alexei Maznev 氏

(Advanced Metrology Systems, Ph.D)

日時：平成 20 年 2 月 19 日 (火) 15:00 ~ 16:00

場所：北海道大学工学部 C12 教室

主催：応用物理学会北海道支部

講演の要旨

Copper wires connecting devices on integrated circuits constitute one of the critical components of the state-of-the-art silicon technology. Today, measurement systems utilizing laser-generated acoustic waves are widely used by semiconductor industry to control various stages of copper interconnect fabrication. In this talk, I will review surface acoustic wave (SAW) measurements of simplest structures, i.e. periodic arrays of copper lines embedded in a dielectric film, performed using laser-induced transient grating technique. We will see that apart from their practical importance these measurements contain some interesting physics. Three main classes of wave propagation phenomena will be considered: (i) SAWs in periodic structures with period much smaller than the acoustic wavelength, with a discussion of the effective medium approach and its limitations. (ii) Phononic bandgaps and other spectacular phenomena observed on structures with period comparable to the acoustic wavelength. (ii) Waveguide modes in individual copper lines.

世話人 松田 理

北海道大学大学院工学研究科応用物理学専攻

電話：011-706-7190 omatsuda@eng.hokudai.ac.jp