

平成 18 年 5 月 29 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：1.3 μm VCSELs: their MBE growth, device performance and applications

講師：Yong-Hang Zhang 氏

(Director, Center for Nanophotonics and Professor, Department of Electrical Engineering, Arizona State University)

日時：平成 18 年 6 月 12 日 (月) 15:00 ~ 16:30

場所：量子集積エレクトロニクス研究センター 3 階セミナー室 (304 室)

共催：応用物理学会北海道支部

(共催団体：北海道大学量子集積エレクトロニクス研究センター)

講演の要旨

I will first introduce the newly established Arizona Institute of Nanoelectronics and some of the research highlights of my group in optoelectronics. Then I will present our work on long-wavelength Vertical Cavity Surface Emitting Lasers (VCSELs) based on GaAs. One of our interesting discoveries is the impact of Sb surfactant on the electrical properties of AlGaAs and its application to the MBE growth of GaAs/AlGaAs BDRs for VCSELs. At the end, the latest research on semiconductor optical refrigeration will be briefly mentioned, if time allows. Solid state optical refrigeration is a relatively new field although the idea was first proposed almost 80 years ago. It was first experimentally confirmed in doped glasses in 1995. Our effort is mainly focused on the study of the optical refrigeration using semiconductor light emitting devices, which is much more challenging than that in glasses as semiconductors have much greater refractive indexes and non-radiative recombination rate.

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