Passive THz Metamaterials and Optical Modulators

Andrei Lavrinenko

Technical University of Denmark

13 Nov 2012 (Tue), 3:00 - 4:00 pm, Room 5583 (5/F via Lifts 29-30)

Abstract:

In the lecture the speaker will present the activities of his research group with THz metamaterials and modulation waveguiding devices covering three research steps - modelling, fabrication and characterization. Their interest lies in metamaterials for a broad spectrum of linear properties in operations with THz waves, such as linear and circular polarizers, absorbers and devices with enhanced transmittance, single layer dichroic and chiral systems. The new scheme of optical waveguides modulation with the THz radiation will be discussed. Finally the speaker will report on finite metal-semiconductor-metal modulators for efficient switching of plasmonic waves.

About the speaker:

Prof Andrei V. Lavrinenko received his PhD and Doctor of Science degrees from the Belarusian State University in Minsk, Belarus in 1989, and 2004, respectively. Since 2004, he has been an Associate Professor with the Department of Photonics Engineering, Technical University of Denmark (Kgs. Lyngby, Denmark). Since 2008, he has been leading the Metamaterials Group of the Department of Photonics Engineering. He is the author or co-author of more than 350 publications, including 10 textbooks and book chapters and more than 100 papers in peer reviewed journals. He has given more than 25 invited talks at international conferences.

Prof Lavrinenko's main current research interests are in metamaterials, plasmonics, photonic crystals and quasicrystals, slow light, numerical methods (in particular FDTD and FDFD) in electromagnetism and photonics.

Academic Building Directory

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