



Coherent, Nonlinear, and Ultrafast Nanoplasmonics

**Wednesday February 28, 2006
Babbio Bldg, Room 122, Time 11am**

Professor Mark I. Stockman
Department of Physics and Astronomy
Georgia State University

This talk introduces and reviews recent new ideas and progress in coherent, nonlinear and ultrafast nanoplasmonics. It includes a brief introduction to the topic and forefront, focus areas based partially on original contributions, including ultrafast, coherent, nonlinear, and stimulated phenomena. Spaser will be one of the focus points of the talk along with nanofocusing of optical energy in a cascade nanolens, and in adiabatic plasmonic waveguides. Among the latest results, we describe the negative refraction, total external reflection, and anomalous absorption in plasmon-polaritonic nano-waveguide. We also consider dynamic, controllable, ultrafast localization of optical energy on the nanoscale and nonlinear photoelectron emission coherently controlled by the phase of the ultrashort excitation pulses.

Dr. Mark I. Stockman was born in Kharkov (Ukraine) and is a US citizen. Dr. Stockman has an MS (Honors) in Theoretical Physics from Novosibirsk State University (Russia) in 1970 and a Ph.D. in Theoretical Physics from the Institute of Nuclear Physics (Novosibirsk), Russian Academy of Sciences, in 1975. Professor Stockman earned a D.Sc. in Theoretical and Optical Physics from Institute of Automation and Electrometry (Novosibirsk), Russian Academy of Sciences, in 1989. Professor Stockman has been a Professor in the Department of Physics and Astronomy at Georgia State University in Atlanta, GA since 1996. His recent research efforts focus on electronic and optical properties of nanostructures with special emphasis on ultrafast nanoplasmonics. Professor Stockman has published over 130 major research papers.

Light refreshments will be served prior to seminar



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