Applied Physics & OSA

Optics Seminar

Ultrafast, Nonlinear, and Quantum Nanoplasmonics

Professor Mark I. Stockman

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This talk introduces and reviews new ideas and recent progress in ultrafast, nonlinear, and quantum nanoplasmonics. It includes a brief introduction to the topic and forefront, focus areas based partially on original contributions. A nanoscale quantum generator of surface-plasmon fields, SPASER, is of the focus point. We will also consider dynamic, controllable, ultrafast localization of optical energy on the nanometer-femtosecond scale where the time-reversal coherent control will be a focus point. Among the fastest phenomena, we will discuss of the attosecond nanoplasmonic field microscope. This talk will present both theory and available experimental data, and discuss the numerous applications of nanoplasmonics.

Brief Biography:

Mark I. Stockman, Ph. D., D. Sc., is a Professor of Physics and Astronomy at Georgia State University in Atlanta, GA. Stockman was born in Kharkov (Ukraine), US citizen. Stockman received his MS (Honors) in Theoretical Physics from Novosibirsk State University (Russia); Ph.D. in Theoretical Physics from Institute of Nuclear Physics (Novosibirsk), Russian Academy of Sciences, 1975. Stockman received his D.Sc. in Theoretical and Optical Physics from Institute of Automation and Electrometry (Novosibirsk), Russian Academy of Sciences, 1989. Stockman's recent research focuses on electronic and optical properties of metal and metal-semiconductor nanostructures. His expertise are in theoretical condensed matter and optical physics, nanoplasmonics; theory of ultrafast, coherent, and nonlinear photoprocesses in nanosystems, and strong field nanoplasmonics. Stockman has published 150 major research papers and given numerious invited talks at major conferences. Stockman has also taught the *Nanoplasmonics* at 2005-2009 SPIE *Photonics West* Conferences.

Tuesday January 27th
4:00pm-5:00pm.
Watson 104

Refreshments will be available in the Watson Lobby at 3:45pm