

T_cSAM Bi-Weekly Brown Bag Seminar

Texas Center for Superconductivity and Advanced Materials

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“High-Energy Atomic Beam Nanolithography”

Friday, December 6, 2002

Room 102, Houston Science Center
12:00 p.m. – 1:00 p.m.

Abstract

Ion beam proximity (IBP) lithography is “stencil printing” where helium ions are the “paint” and the stencils are thin silicon membranes with etched open windows. Diffraction, penumbral blur, and ion scattering in the resist are all consistent with 1 nm printing. However, the scattering of the lithography ions by electrostatic charge in the mask and substrate limit the practical resolution to the 50-100 nm regime. This seminar describes the discovery of a remarkable source of energetic helium atoms that eliminates this last obstacle to sub-10 nm printing. Applications to nanomagnetism and nanoelectronics will be discussed.

Persons with disabilities who require special accommodations in attending this lecture should call (713) 743-8210 as soon as possible.

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