Condensed Matter Seminar

"Seeing the Invisible": Electron Microscopy of Nanostructures

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Thursday, February 28 ❖ 4:00 P.M. ❖ 184 NSH

Due to the recent emergence of devices with dramatically reduced dimensions (nanostructures) in contemporary electronics, electron microscopy (EM) is rapidly becoming the preeminent method for structural analysis in materials sciences and in nanotechnology. Recent developments in EM instrumentation have not only enabled the imaging of nanoscale objects at atomic-scale resolution, but have made it so simple that even very inexperienced researchers and students can operate state-of-the-art EM equipment and obtain excellent images in a short time. The interpretation of EM data, on the other hand – particularly data obtained in transmission microscopy (TEM) – often requires considerable knowledge of physics and of materials science, along with access to computer simulation and modeling capabilities. In this talk Prof. Rouvimov will provide an overview of recent progress in TEM of nanostructures, as well as of the current status and future prospects of the TEM Program at Notre Dame.

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