



PHYSICS AND ASTRONOMY COLLOQUIUM

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“3-D Atom-By-Atom Dissection of Materials”

Abstract

After a long gestation period, atom-probe tomography (APT) is finally coming of age. The availability of reliable and well-engineered commercial instruments and data analysis software has meant that APT is now being applied to a broad range of materials, including oxides, organic/inorganic interfaces, and biological materials, as well as metals and semiconductors. In this presentation, I will describe the underlying physics of laser-assisted field evaporation which is the cornerstone of APT analysis. I will discuss the science and practice of its use to achieve 3-D atom-by-atom maps of many materials including my own research area of nanoscale metal-semiconductor interfaces and isotopically-engineered quantum materials.

Wednesday, October 7, 2015

3:00 p.m.

Elliott Building

Room 167