

Department of Physics & Astronomy

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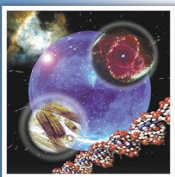
Friday, February 21, 2014

3:15p.m. -4:15p.m.

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Nanoparticle Analysis by Analytical Ultracentrifugation

Analytical ultracentrifugation (AUC) has been solidly established as the gold standard for solution based particle characterization. Unlike other chromatography methods, AUC is based on first principles, and does not require any standards. Molecules as small as salt ions and as large as entire virus particles can be characterized, and solution conditions can be modulated to a great extent in terms of ionic strength, pH, additives, temperature, solute concentration and buffer conditions. In this talk I will focus on recently developed analysis methods able to extract high resolution hydrodynamic information about nanoparticle composition, providing particle size, molecular mass, density or anisotropy distributions. I will present nanoparticle examples for a range of applications of interest to material science, and discuss some of the results and new capabilities achievable with novel detector technology.



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