THE UNIVERSITY OF DENVER  
Department of Physics & Astronomy  

Presents  

Intertwined Order Parameters in a Charge-Ordered Superconductor  

Wednesday, October 29, 2014  
4:00 PM  
F.W. Olin Hall Room 105  
2190 E. Iliiff Avenue  

Presented by  

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A spectroscopic study of low temperature state in NbSe2 is presented, exhibiting charge-density wave and superconductivity orders. Raman scattering reveals that the spectrum of quasiparticle excitations out of the condensate is characterized by an energy gap derived from both order parameters in a way that suggests intertwining between them. Supported by a calculation of NbSe2 Raman vertices, and by earlier photoemission studies, it is concluded that in NbSe2 an isotropic superconductivity interplays with a strongly anisotropic charge-density wave order on selected parts of the Fermi surface, as characterized by admixture of particle-particle and particle-hole excitations.