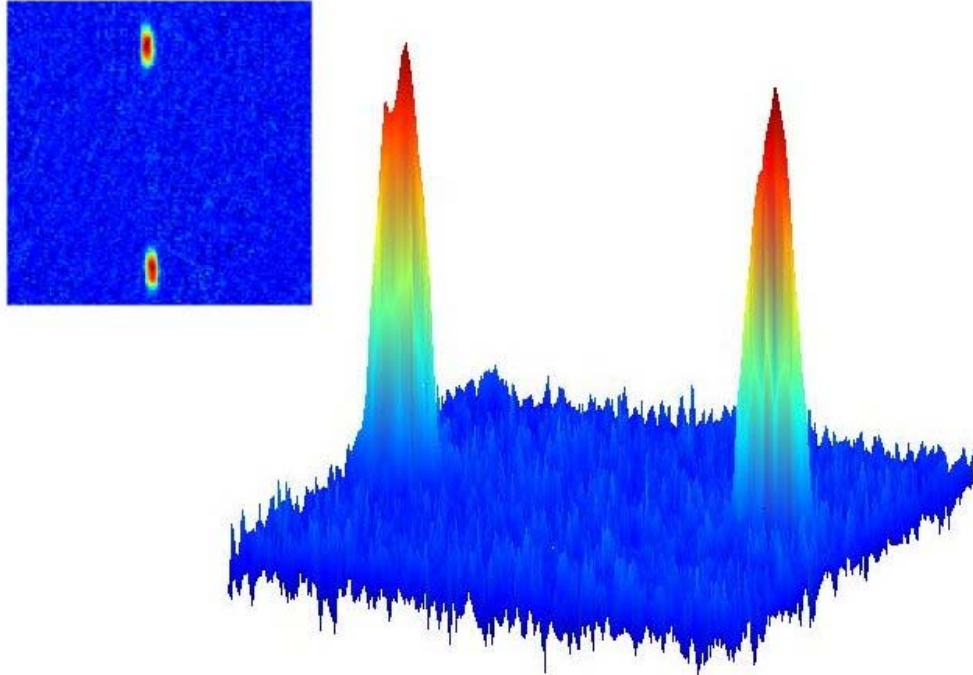


AMO Seminar



Friday, November 21, 2008

2:00 pm

Conference Room (123), Small Hall Physics Building

Experiments with a BEC interferometer

John H. T. Burke

Dept. of Physics, University of Virginia

Recent improvements to the interferometer at the University of Virginia have allowed for a series of experiments that demonstrate its utility. There will be a discussion of the improvements made to the two essential components of the interferometer: the magnetic wave guide that supports the atoms against gravity and the pulsed optical lattice that generates the momentum manipulations needed to create the separate paths of the interferometer. There will be a discussion of the series of experiments that followed including measurements of the AC polarizability of ^{87}Rb and gravity. Also, there will be a discussion of near-future measurements of rotations and the DC polarizability of ^{87}Rb , which has important application for atomic clocks. Finally, a mystery has unfolded involving an apparent number dependent broadening of the resonant absorption linewidth that may have implications for future measurements.