

AMO Seminar



Thursday, October 18, 2007

4:00 pm

Physics conference room (Small Hall 123)

Cold Atoms for Magnetometry

Frank A. Narducci

Naval Air Systems Command

Many current state-of-the-art sensors are based on atom interferometers. These sensors include gravimeters, gravity gradiometers, gyroscopes and clocks. Notably absent from this list are magnetometers. In this talk, I explore the issues surrounding high sensitivity magnetometry for Naval applications and discuss the possibility of utilizing cold atoms for magnetometry purposes. Our analysis shows that cold atom interferometers hold the promise of being useful sensors for certain applications. I present some of the results of measurements performed in my laboratory as well as our progress towards an atom interferometer magnetometer.