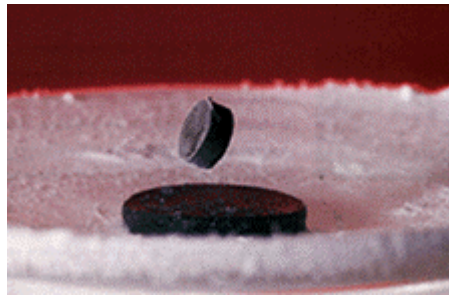
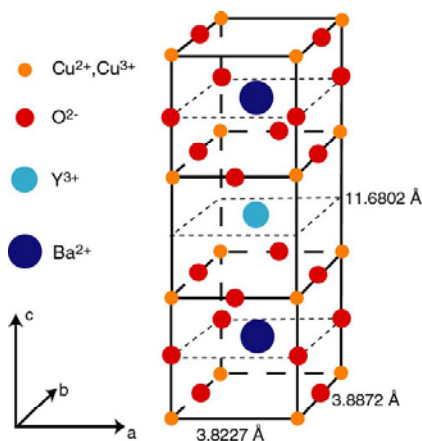


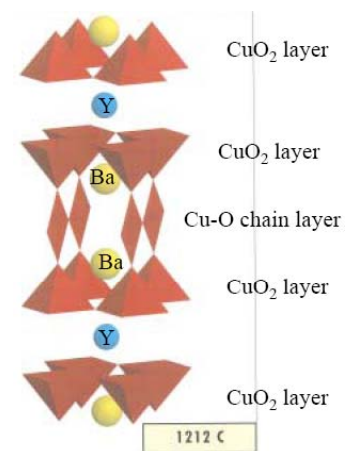
Physics Seminar

Wednesday 1/17/2007, 4:30pm
Willet Science Center 101

Study of Nonlinearities in High-Temperature Superconductors



John Lee
Department of Physics
Mercer University



Nonlinearities in superconductivity have been of great concern because of both industrial applications and the need to elucidate the fundamental physics of high- T_c superconductors. There have been great efforts devoted from the industrial side in making passive microwave devices, for instance, microwave filters and resonators, with high- T_c superconductors. For modest power levels (< 1 W circulating power), the performance of such devices is much better than that of conventional devices made from ordinary metals. In particular, superconducting filters have extremely sharp filtering bands, excellent frequency selectivity, and much lower loss and greater Q . However, as the power is increased, nonlinear behavior becomes a serious issue, and restricts the microwave applications of superconductors. In this seminar, a discussion of the origins of the nonlinear behaviors and an experimental study of such behaviors will be presented.

Please join us for light refreshments at 4:15pm outside WSC 109.