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THE UNIVERSITY of WISCONSIN MADISON

PHYSICS COLLOQUIUM

Experiments on Dirty Bosons

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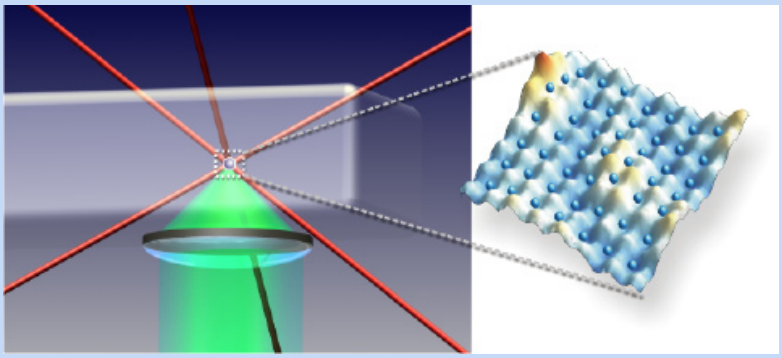
Host: Saffman



Abstract: Ultra-cold atom gases trapped in an optical lattice are now poised to make strong contributions to resolving outstanding questions in condensed matter physics. In these experiments, atom gases are cooled to temperatures below a millionth of a degree of absolute zero and confined in a crystal of light. I will talk about how we are using this system to simulate models relevant to dirty superconductors. I will report on the first experiments using optical lattices that include fine-grained disorder, including the observation of a disorder-induced superfluid-to-insulator transition.

2241 Chamberlin Hall • Friday, February 20, 2009 • 4:00 P.M.

cookies & coffee served at 3:30 p.m.