EINLADUNG
ZUM LASER- UND QUANTENOPTIKSEMINAR

Am Freitag, 06.07.2012, um 10:00 Uhr
Raum 46/387-388

Es spricht:  Dr. Simon Fölling
             LMU München

Thema:

“Ultracold atoms with extra spice: Alkaline earth atoms for quantum many-body physics”

Modern experiments with ultracold atoms demonstrate an ever increasing control over the dynamics of, and interactions between particles, allowing for a very close modeling of quantum many body systems which are often motivated by condensed matter physics. With better experimental techniques and novel approaches it is becoming more feasible to also investigate such systems with internal degrees of freedom added - often generating a parallel to the spin in the case of electrons in condensed matter physics. Interactions between particles carrying different spins can then for example lead to magnetic states, with complex spin correlations depending on the nature of the underlying interactions. I will discuss current work on how to create and detect many-body states with effective and real internal degrees of freedom using ultracold atoms in optical lattice systems, and describe our approach based on alkaline-earth atoms rather than the more common alkali gases.

Der Gast wird betreut von Prof. A. Widera

GÄSTE SIND HERZLICH WILLKOMMEN!