KIDS TALK

“Single neutral atoms as impurities in ultra-cold quantum gases”

Speaker: Farina Kindermann, AG Widera

Abstract: Recently hybrid systems immersing single neutral atoms in a many body system have been a subject of intense interest. Here we give an example of controlled doping of an ultra-cold Rubidium gas doped with single Cesium atoms. The experimental setup is capable of breeding an all optical BEC in few seconds and features mechanisms to independently manipulate and image both single atoms and the many body system. After an introduction in experimental methods, such as magneto-optical traps, dipole traps and evaporative cooling, we present results on thermalization of ‘hot’ Cs atoms with the ultra-cold Rb gas by elastic interaction. Possible research directions include the investigation of coherent impurity physics and the characterization of Fröhlich-type polarons in a BEC.

When: Friday, Nov. 15th 2013, **10:00 am**

Where: Room 46-387/388

All undergraduate and graduate students as well as postdocs are welcome and encouraged to join our discussion!

********** COFFEE, TEA AND COOKIES WILL BE SERVED **********

For subscription to kids mailinglist, questions, comments or suggestions: grusdt@physik.uni-kl.de

MATERIALS IN MAINZ SCIENCE

TECHNISCHE UNIVERSITÄT KAISERSLAUTERN

OPTIMAS TU Kaiserslautern