

KIDS TALK

“Preparing Crystals of Atoms and Photons by virtue of Rydberg states”

Speaker: Michael Höning, AG Fleischhauer

Abstract: Atoms excited to Rydberg states have remarkable properties such as very long lifetimes and an almost classical size. Unlike atoms in their electronic ground state, they furthermore feature a long range van-der-Waals interaction. I will give a brief introduction to Rydberg physics and will then discuss how we exploit their strong interaction to study out of equilibrium phenomena in the world of ultra cold atoms.

When coupling light to atoms under conditions of electromagnetically induced transparency a quasi-particle, the dark state polariton emerges. If the atom is in a Rydberg state, this Rydberg polariton inherits both the mobility of the photon and the strong interaction of the atom. Combined with the idea of slowing down a light pulse to rest, we have recently shown that the preparation of a crystal of photons is at hand in such systems.

When: Friday, Dec. 13th 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

