

KIDS TALK

“Quantum string and edge chiral fractional charge excitation in the Kagome lattice”

Speaker: Xuefeng Zhang, AG Eggert

Abstract: Fractional charges (such as Quark) and strings are reminiscent of the particle physics, but we now also found them in frustrated many body system. In this talk, we analyze the repulsive hard core bosons in the optical Kagome lattice with cylindrical boundary condition. By using quantum Monte Carlo simulations and an effective single string excitation model, we found that fractional charges can be excited in this system. Depending on their chiralities, they exist on different edges to form an edge liquid phase. Meanwhile, the strings between them fluctuate in the bulk. These results not only show a possible proposal to find the fractional charge and string excitations in optical lattice systems, but also shed a light on understanding the spin liquid phase in condensed matter physics.

When: Friday, Jan. 24th 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

