
Strongly Interacting Alkali-Earth Atomic Gases

Hui Zhai*¹

¹Tsinghua University [Beijing] – Beijing,100084,P.R., China

Abstract

In this talk I will describe how to reach strongly interacting many-body physics with alkali-earth atoms. I will first describe the orbital Feshbach resonance we proposed, and the two-gap BEC-BCS crossover physics across this orbital Feshbach resonance. I will also discuss Kondo physics with alkali-earth atoms, and I will emphasize how to enhance Kondo temperature by utilizing confinement induced resonance. Finally, I will discuss the magnetic impurity in a strongly interacting Tonk gas, which will turn the system into ferromagnetism. All these theoretical predications can be verified by on-going alkali-earth experimental activities.

*Speaker