Job posting

Type of position
- scientific
- administrative

Target group
- graduates
- post docs
- other

Title
Experimental PhD position on Er Rydberg Tweezers

Institution
University of Innsbruck

About Us
Our group, led by Prof. Francesca Ferlaino, is jointly located at the University of Innsbruck (UIBK) and at the Institute for Quantum Optics and Quantum Information (IQOQI) of the Austrian Academy of Science. We work with the exotic and highly magnetic Erbium and Dysprosium atoms, either in the ground- or in highly excited Rydberg states. The group comprises four research teams, three experimental and one theoretical. Our three Labs works on Erbium and Dysprosium dipolar quantum gases, Er-Dy mixtures, and Er Rydberg Tweezers. Learn more about our research take a look at our website www.erbium.at

Joining Us
It is now an exciting time to work with ultracold highly-magnetic quantum gases, thrived by the rapid developments of quantum science based on lanthanide species. Working with us will provide a unique opportunity to perform exciting experiments at the frontier of quantum physics in an exceptional international environment, as well as to collaborate with a large network of researchers worldwide, and to develop valuable high-tech skills in electronics, photonics, programming, and data analysis, among others. Join us if you want to contribute in unveiling the unique opportunities of ultracold lanthanide atoms for quantum physics!

Responsibilities
In this project you will excite singly trapped Erbium atoms into their Rydberg states. We will explore the uncharted territory of Rydberg physics with lanthanides, which promises novel manipulation and detection tools as well as fundamentally new excitation schemes. Combined with the exceptional single particle control provided by Tweezer arrays we will investigate novel quantum many-body states of matter via quantum simulation using the strong and long-range Rydberg-Rydberg
interactions. You will work in a team of two PhD students and one post-doc, co-PI Manfred Mark, PI Francesca Ferlaino. The Lab, located at the University of Innsbruck, is currently in the buildup phase.

Requirements

The candidate must have already proven expertise in experimental techniques, especially electronics, programming and laser optics. A master degree or equivalent, including a research project (master Thesis or Internship) in experimental AMO group is required to start a PhD with us.

Application procedure (deadline etc.)

We are looking forward to your application! If you are interested, send an email to francesca-ferlaino-group@uibk.ac.at, including a C.V., a letter of motivation, transcript of exams (Bachelor and Master), and names of at least one reference person. The application will be considered upon reception and until filling of the available positions.

Our group is strongly committed to ameliorate the gender balance in Physics at all level of the scientific career, we therefore particularly encourage applications from women. We offer a gross salary for these positions following the salaries schemes of the Austrian Founding Agency (FWF).

Contact

francesca-ferlaino-group@uibk.ac.at