



Do you want to explore quantum many-body physics with giant interactions ?

Bachelor, Master, PhD, postdoc and research assistantship (HiWi) positions available

The Rydberg team at the Physics Institute investigates nonequilibrium phenomena in many-body quantum spin systems. We can tune the nature of the interactions in a frozen gas of Rydberg atoms and study a large variety of fascinating effects with giant interaction. Among others, we have observed glassy dynamics and non-thermalizing regimes in disordered Rydberg spin systems. Recently our interest is focused on physics of spin glasses, where we want to investigate aging and a possible spin glass to paramagnet quantum phase transition. We also want to probe if the systems exhibits a many-body localized regime through measurement of the spin transport properties.

You will work in a team of physicists in order to

- contribute to the state-of-the-art research on many-body physics in Rydberg spin systems
- explore out-of-equilibrium quantum phenomena from both an experimental and theoretical point of view
- obtain scientific skills by working on atom and quantum optics, advanced laser technology, microwave driving and laser spectroscopy
- have fun with high-voltage electronics, high-frequency technology, feedback control systems, optics design, programming, process control, and data analysis
- develop tools and technical solutions for setting up a “smart lab”



Contact us for more information and for visiting our lab!

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