



PhD position in Quantum Spintronics

In the Department of Physics, University of Mainz, a PhD position is immediately available in the field of dynamics in magnonic-photonic microwave circuits. In particular we are working on novel effects that occur due to the interplay between coupled spin and photon degrees of freedom and on the dynamic properties that are governed by the nature of the magnon-photonic hybrid states.

— These magnon polaritons are very topical and highly interesting from scientific point of view (a large number of high impact publications have been published including our recent work Boventer et al. arXiv:1801.01439). Furthermore, magnetic excitations are promising for applications in data logic, conversion of energy and other classical and quantum devices.

Spectroscopy and coherence measurements on the hybrid system will be made in order to address fundamental aspects such as spin wave generation, detection, coherence, mixing and wave propagation down to ultra-low temperatures. The project connects to and extends magnetic research to open up new horizons for quantum, magnon and spin electronics. Magnetic material physics is enhanced by new research concepts such as resolved spectroscopy and time-domain measurements on intrinsic dynamic states.

While the project will be primarily carried out at Mainz, the PhD student will have the opportunity to stay part of the time at leading partner institutions, such as University of Glasgow and Karlsruhe Institute of Technology.

The physics department at the University of Mainz has been consistently ranked as one of the leading physics departments in Germany. In the recent 2017 Shanghai and CHE rankings it was selected for the excellence group in Europe and top 5 in Germany. It is particularly strong in the area of condensed matter physics / material sciences and houses the Collaborative Research Center Spin+X and the Graduate School of Excellence Materials Science in Mainz. Very good candidates will be considered for this Graduate School that provides a structured graduate education with additional tailored training.

For enquiries and applications including a full CV contact Prof. Dr. M. Kläui (Email: klaeui@uni-mainz.de, Tel. +49-6131-3924345) or Prof. Dr. M. Weides (martin.weides@glasgow.ac.uk) and see www.klaeui-lab.de