

## Postdoctoral Position

### *Quantum Transport of Half-Heusler Topological Superconductor*

We have an opening for a postdoc position for research on the quantum transport of the exotic superconductor YPtBi. The research project aims to explore p-pairing superconductivity in this material as well as its interplay to the topological properties of this half-Heusler compound. Recently, we have successfully synthesized the material into highly ordered thin films using molecular beam epitaxy. Preliminary transport on macroscopic samples reveals the superconductivity but cannot make any statements on the type of pairing. That will require patterned nanodevices which incorporate both superconducting and non-superconducting regions, such as tunneling heterostructures or Josephson junctions. We are looking for early-career physicists or material scientists to lead the exploration effort into the transport properties of the material, and more importantly of nanostructure devices made from this material.

The main tasks of this project thus involve the fabrication of micro/nanodevices using optical and E-beam lithography techniques in a clean room environment, and transport characterization in dilution refrigerators. The candidate will both participate in these experiments and help coordinate the activities of the graduate students on the project.

This position is offered from the collaborative project between Experimental Physics III, the University of Würzburg, and the Max Planck Institute for Chemical Physics of Solids, with the candidate stationed in Würzburg, where the appropriate cryostat and cleanroom facilities are located. The position is initially for 2 years. A recent Ph.D. in physics, material science, or a related field is required. Experiences in lithography and/or transport measurements are a plus.

To apply, please submit a CV, list of publications, letter of motivation and letters of recommendation, by e-mail, to Prof. Dr. Laurens W. Molenkamp ([Laurens.Molenkamp@physik.uni-wuerzburg.de](mailto:Laurens.Molenkamp@physik.uni-wuerzburg.de)).

Our website: <https://www.physik.uni-wuerzburg.de/ep3>

