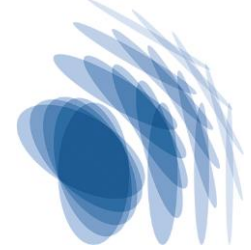


Max-Planck-Institut für Struktur und Dynamik der Materie

Max Planck Institute for the Structure and Dynamics of Matter



IMPRS UFAST Call for PhD applications 2020/2021



Dynamic controlling of topological properties via Phonon and Magnon

A.Rubio-3

Title of PhD Project	Dynamic controlling of topological properties via Phonon and Magnon
Type	Theory
Supervisor(s)	Prof. Peizhe Tang and Prof. Angel Rubio Prof. Dante Kennes
Affiliation(s):	Max Planck Institute for the Structure and Dynamics of Matter
Number of positions:	1
Abstract:	Topological materials attract lots of attentions last decades, because they host many exotic phenomena that have been predicted and observed in recent years, including QAH effect, topological superconducting, and so on. In this project, we would like to use the THz laser to excite some quasi particle modes, such as phonon and magnon, in topological materials and magnetic topological materials, to engineer the electronic topological properties and bosonic topological properties in equilibrium and non- equilibrium. We will combine the ab initio methods (Density Functional Theory and Time-dependent DFT) and analytical methods to solve the related problems.
Contact person for scientific questions about the project:	Peizhe Tang: peizhe.tang@mpsd.mpg.de / peizhet@buaa.edu.cn Angel Rubio: angel.rubio@mpsd.mpg.de Dante Kennes: dante.kennes@rwth-aachen.de

