Uniaxial strain as a probe of unconventional superconductivity in Sr2RuO4

Andy Mackenzie*[1,2], Clifford Hicks†[1,2], Daniel Brodsky[2], Mark Barber[2], Stephen Edkins[2], and Keigo Nishimura[3]

[1]Max Planck Institute for Chemical Physics of Solids – Germany
[2]University of St. Andrews – United Kingdom
[3]Kyoto University – Japan

Abstract

Sr2RuO4 has a strongly two-dimensional electronic structure, and is postulated to be a spin triplet superconductor with a px+ipy order parameter, making it a candidate topological material. However, the proposed order parameter symmetry remains controversial, since some of its classic signatures have not been observed in experiment. We will report our on-going experiments to probe this issue by studying its response to uniaxial strain, using novel apparatus developed in our group.

*Speaker
†Corresponding author: cwh10@st-and.ac.uk