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Title:

AC susceptibility of Sr<sub>2</sub>RuO<sub>4</sub> under various field-thermal treatments

Abstract:

Sr<sub>2</sub>RuO<sub>4</sub> is a leading candidate of a chiral p-wave spin-triplet superconductor. Spin-triplet, with the cooper pairs with the total spin  $S=1$ , has spin and orbital degrees of freedom. Reflecting the multiple degrees of freedom, multiple superconducting phases appear under magnetic field. We investigated the ac susceptibility of Sr<sub>2</sub>RuO<sub>4</sub> in oriented magnetic field. In this work, we compare results with different thermal treatments. We found that ac susceptibility substantially changes when we thermally destroy superconductivity each time after changing the field and before correcting the data. I will talk about the result and discuss the interpretation on the observed substantial thermal treatment effect.