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Title:

Thermoelectric transport in cuprate superconductors – Study of superconducting fluctuations

Abstract:

I will give an intuitive understanding of thermo-electric transport in metals and superconductors, followed by an introduction on superconducting Nernst fluctuations. The purpose of the talk is to familiarize students with the current challenges in understanding the organizing principles of the phase diagram of cuprates both at low temperatures where ordered phases exist and at higher temperatures where fluctuations of those ordered states prevail. We start by giving two main pictures: phase fluctuations versus phase competition. We argue the pros and cons of each viewpoint and study the experimental findings that support each scenario. Throughout the class, we will alternate between derivations on the board and powerpoint slides to flash the data.