

Title: Putting bounds on transport: the case of the electron-doped cuprates

Abstract: Bounds on transport coefficients have come to the fore in the discussion of strange metals as an attempt to organize and unify the phenomenology of a wide variety of metallic systems. In this talk, we will focus on the electron-doped cuprates and discuss their “strange metallic” transport behavior [1] in comparison to two of the most prominent transport bounds. First, we compare the temperature-dependent resistivity to the recently proposed Planckian limit on the scattering rate, which appears to be exceeded at high temperatures in these materials. Second, we discuss the Mott-Ioffe-Regel limit and show that, at least for lightly doped samples, this bound appears to be obeyed and the resistivity is observed to saturate at high temperatures.

[1] R.L. Greene, et al., *Annu. Rev. Condens. Matter Phys.* 11, 213 (2020).

[2] N.R. Poniatowski, et al., *Phys. Rev. B* 104, 235138 (2021).

[3] N.R. Poniatowski, et al., *Phys. Rev. B* 103, L020501 (2021).