

## Shining a Light on the Planckian Behavior of Cuprate Superconductors

Antoine Georges  
Collège de France, Paris  
CCQ-Flatiron Institute, New York

I will discuss the remarkable implications of a 'Planckian' T-linear scattering rate for several physical properties of the cuprate superconductors in the strange metal regime, with a particular focus on infra-red optical spectroscopy. I will also discuss implications for the unusual sign and temperature dependence of the thermoelectric power. Finally, I will briefly review recent works which support the existence of a quantum phase transition at a critical doping between two metallic phases in a random t-J model related to Sachdev-Ye-Kitaev models. At this quantum critical point, the Fermi surface undergoes a volume change and 'Planckian' behaviour is found.