

Chez Pierre

Presents ...

Monday, December 4th, 2023

12:00 pm -1:00 pm

Duboc Room – 4-331



Chez Pierre Seminar

Leo Radzihovsky, University of Colorado at Boulder

“Coulomb Universality”

Motivated by a number of realizations of long-range interacting systems, I will discuss recent work on a neutral plasma with power-law interactions longer-ranged than Coulomb. I will show that beyond a crossover scale, such interactions are universally screened down to a standard Coulomb form in all spatial dimensions. This implies, somewhat counter-intuitively, that in two dimensions, such a “super-Coulomb” gas nevertheless undergoes the same Kosterlitz-Thouless transition as a conventional Coulomb gas at an elevated temperature that we calculate. I will also show that above two dimensions, despite the fact that naively, the bare potential is confining, there is no confined phase of the plasma at any nonzero temperature.