FRONTIERS OF QUANTUM MATTER

量子物质前沿讲座

Conference Hall 322
Science Building
Tsinghua University

Large N theory of critical Fermi surface
3:30PM, Jan 2 (Tue) & 4 (Thu) 2024

Haoyu Guo (Cornell)

The model of a Fermi surface coupled to gapless bosonic fluctuation (critical Fermi surface) plays a central role in modern condensed matter physics. The model appears in the descriptions of various quantum phases of matter, such as quantum spin liquid, half-filled Landau level, fermionic quantum criticality and strange metal. In this lecture series, I will discuss recent progress in this subject based on the Yukawa-SYK formulation of the critical Fermi surface problem.

Bio: Haoyu Guo(郭浩宇) is a Bethe postdoctoral fellow at Cornell University. He received his PhD from Harvard University in 2023 under Prof. Subir Sachdev and BS from MIT in 2018 under Prof. Leonid Levitov. He is interested in various novel transport phenomena in strongly correlated systems, such as strange metallicity, thermal Hall effect and electron hydrodynamics.