

Séminaire des doctorants du LPTHE

Wednesday, May 22nd, 2:00pm
Library of LPTHE

Holography and condensed matter physics

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Some condensed matter systems as high-temperature superconductors or systems at a quantum critical point cannot be described by the standard tools of field theory because their low energy excitations are strongly coupled. For a few years, systems at finite density have been studied using the AdS/CFT correspondence and its extensions. This correspondence provides a more manageable dual weakly-coupled theory of gravity. I shall present Landau's Fermi liquid theory and its limitations and motivate the application of the correspondence. Then I will introduce the basic ingredients of the duality. After that I will present the electron star model.

This talk will be given in a pedagogical way and is intended to a non-specialist audience.