

Phases of dense QCD and neutron stars from holography

vendredi 19 septembre 2025 10:30 (1 heure)

I will review recent progress in the Witten-Sakai-Sugimoto model to understand strongly coupled phases of matter and their application to neutron stars. I will start from pion condensation at finite isospin chemical potential, where lattice QCD results are available to test the holographic results. Baryonic matter can be added to predict the phase structure at finite baryon and isospin chemical potentials, which is poorly understood from first principles. This setup can also be used to construct neutron stars entirely from the holographic model, and I will discuss the comparison with astrophysical data. Finally, I will briefly present a very recent study on improving the holographic description of nuclear matter.

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Classification de Session: Holography & Dense Matter