

Dense QCD matter tackled by experiments, observations, and theory

Wednesday, December 16, 2020 9:00 AM (1 hour)

Dense QCD matter appears in compact astrophysical phenomena and heavy-ion collisions. Phenomenological EOS (equation of state) needs extrapolation or interpolation and has large uncertainty. Thus we need first-principles or model-independent theoretical studies, or experiments where dense QCD matter is directly probed. In this talk, I first review physics of finite density QCD from the viewpoints of experiments, astronomical observations, and phenomenology. Next I will discuss several theoretical developments in approaches toward solving the sign problem, topological order arguments, and transport model approaches, which may reduce the EOS uncertainty and elucidate the neutron star interior.

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Session Classification: Invited talks