

Phase Transitions in Dense Matter

Tuesday 7 February 2017 16:30 (20 minutes)

As the density of matter increases, atomic nuclei disintegrate into nucleons and, eventually, the nucleons themselves disintegrate into quarks. The phase transitions (PTs) between these phases can vary from steep first order phase transitions to smooth crossovers, depending on certain conditions. First order phase transitions with more than one globally conserved charge, so-called non-congruent PTs, have characteristic differences compared to congruent PTs (e.g., dimensionality of phase diagrams, location and properties of critical points). I investigate the non-congruence of the quark deconfinement PT at high densities and/or temperatures in Coulomb-less models, relevant for heavy ion collisions, neutron stars, proto-neutron stars, supernova explosions and compact star mergers.

Preferred Track

Baryon-Rich QCD Matter and Astrophysics

Collaboration

Not applicable

Primary authors: DEXHEIMER, Veronica (Kent State University); DEXHEIMER, Verônica (Kent State University)

Presenters: DEXHEIMER, Veronica (Kent State University); DEXHEIMER, Verônica (Kent State University)

Session Classification: Parallel Session 4.1: Baryon-Rich QCD Matter and Astrophysics (I)

Track Classification: Baryon-Rich QCD Matter and Astrophysics