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Deconfinement in dense (two-color) matter

Thursday, 12 March 2015 17:00 (25 minutes)

I will review our current understanding of the phase diagram of two-color quark matter with emphasis on the comparison of model and lattice results. Reproducing even *qualitatively* the thermodynamic observables measured on the lattice requires augmenting the standard Polyakov loop Nambu-Jona-Lasinio model with two new elements: renormalization of the Polyakov loop, and explicit chiral symmetry breaking in the contact interaction. Finally, I will argue how the lattice data for the Polyakov loop expectation value in cold and dense two-color matter may be used to improve existing models of the real, three-color world.

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