

Describing sQGP through the Friedberg-Lee model

The FL model is studied at finite temperature and density. The soliton solutions of the FL model in deconfinement phase transition are solved and thoroughly discussed for certain boundary conditions. We indicate that the solitons before and after the deconfinement have different physical meanings: the soliton before deconfinement represents hadron, while the soliton after the deconfinement represents the bound state of quarks which leads to a sQGP phase. The corresponding phase diagram is given.

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