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Equation of state for strongly interacting HRG phase and Quark-Hadron Phase transition

Content :

We studied the Quark-Hadron phase transition with RMFT motivated equation of state for all interacting HRG sector and Lattice motivated equation of state for weakly interacting QGP sector. The interactions in HRG sector were found to be dominated by the exchange of Scalar and vector mesons (Sigma star, Sigma, Omega, Rho ,Phi)thereby allowing this phase to be modelled by interacting Baryonic, Pionic and Kaonic fields with Pionic and Kaonic Fields inco-operated on equal footing to Baryonic field rather than including Pions and Kaons as exchange particles. The effect of interactions on Net-Baryon density , Proton density and Baryon contrast ratio was studied where role of repulsive interactions was further intensified by in co-operating the finite size volume effect.

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