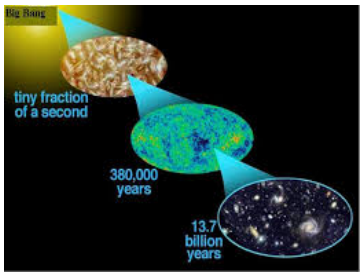

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Bulk viscosity near QCD phase transition and spontaneous symmetry breaking effect

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Bulk viscosity near QCD phase transition and spontaneous
symmetry breaking effect
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Abstract
We evaluate the effect of spontaneous symmetry breaking on the transport properties of strongly interacting fermionic matter near QCD phase transition. We develop a field theoretical model using dynamic quasi-particle description for fermions which are allowed to interact with Nambu-Goldstone modes via Yukawa type coupling. We solve this model at Wilson-Fisher fixed point and evaluate perturbative expression for bulk and shear viscosity of this medium. To analyze the behaviour of these transport coefficients near QCD phase transition region we use scaling analysis. It is found that Nambu-Goldstone modes can result in singular behaviour of bulk viscosity to entropy ratio ζ/s in the Z(2) universality class.

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