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The production rate of dilepton from magnetized hot hadronic matter

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The rate of dilepton production is calculated from a hot magnetized hadronic medium in the framework of real time formalism of finite temperature field theory. The principal component in dilepton production is the thermo-magnetic spectral function of ρ^0 obtained by solving the Dyson-Schwinger equation. This is followed by evaluating the one loop self-energy of ρ^0 containing thermo-magnetic propagators of charged pion in the loop. The study of analytic structure of thermo-magnetic spectral function shows that there is a non-trivial yield in dileption production in low invariant mass region due to the fact that charged pions occupy different Landau levels before and after scattering of ρ^0 in addition to the usual contribution coming from Unitary cut beyond two pions threshold. This is purely magnetic field effect.

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