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Holographic analysis of Quasinormal modes at large density in QCD

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The difficulty of describing the phase diagram of QCD at low temperatures and high-density regime has been tackled by the AdS/CFT correspondence by several models. Here we propose a study of the phase diagram based in the non-perturbative V-QCD model, in which the agreement at low density is made by taking input from lattice field theory results. We calculate the fluctuation equations for the helicity 0 ,1 and 2 sectors and locate the quasinormal modes to see whether an instability related with the bulk AdS 2 geometry dual to the very low temperature regime is present. We are motivated for the fact that it is known that such AdS 2 solutions are highly unstable as AdS 2 has a rather restrictive BF bound.

Presenter: CRUZ, Jesus (APCTP)

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