

Lattice study of electromagnetic conductivity of quark-gluon plasma at finite baryon density

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In this talk we present our study of the electromagnetic conductivity in dense quark-gluon plasma obtained within lattice simulations with $N_f = 2 + 1$ dynamical quarks. We employ stout improved rooted staggered quarks at the physical point and the tree-level Symanzik improved gauge action. The simulations are performed at imaginary chemical potential. To reconstruct electromagnetic conductivity from current-current correlators, we employ the Tikhonov regularisation method as well as the modified Backus-Gilbert method, computing the convolution of the spectral density with the target function. Our results are analytically continued to real values of baryon chemical potential. Our study indicates that electromagnetic conductivity of quark-gluon plasma rapidly grows with the real baryon density.

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