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## Lattice QCD calculation of thermal photon rate

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Thermal photons from the QGP provide important information about the interaction among the plasma constituents. The thermal photon production rate from a thermally equilibrated plasma is proportional to the transverse spectral function  $\rho_T(k_0 = |\vec{k}|, \vec{k})$ . One can calculate the photon production rate also from the difference between  $\rho_T$  and  $\rho_L$  (longitudinal) correlator as  $\rho_L$  vanishes on the photon point. The UV part of  $\rho_T - \rho_L$  is not dominant and therefore the corresponding Euclidean correlator gets most of the contribution from the IR part of  $\rho_T - \rho_L$ . We calculate the continuum extrapolated T-L correlator non-perturbatively on the lattice at  $1.1T_c$  and  $1.5T_c$  for a gluonic medium. We will present the extraction of spectral function from this Euclidean correlator using a hydrodynamic inspired model in combination with the Backus-Gilbert method, which allows us to estimate the photon production rate at these temperatures.

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