XQCD 2018



Contribution ID: 53

Type: Talk

An estimate for the thermal photon rate from lattice QCD

Wednesday, 23 May 2018 16:30 (30 minutes)

We estimate the production rate of photons by the quark-gluon plasma in lat- tice QCD. We propose a new correlation function which provides better control over the systematic uncertainty in estimating the photon production rate at photon momenta in the range $\pi T/2$ to $2\pi T$. The relevant Euclidean vector current correlation functions are computed with Nf = 2 Wilson clover fermions in the chirally-symmetric phase. In order to estimate the photon rate, an ill-posed problem for the vector-channel spectral function must be regularized. We use both a direct model for the spectral function and a model- independent estimate from the Backus-Gilbert method to give an estimate for the photon rate.

Primary authors: STEINBERG, Aman (Uni Mainz); Dr HARRIS, Tim (INFN Milano); Prof. MEYER, harvey (u mainz)

Co-authors: FRANCIS, Anthony (GSI, Darmstadt); Dr BRANDT, Bastian (Institut für Theoretisch Physik, Goethe-Universität Frankfurt)

Presenter: STEINBERG, Aman (Uni Mainz)

Session Classification: Contributed Talks