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The thermal photon emissivity at the QCD chiral crossover from imaginary momentum correlators

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The thermal photon emissivity at the QCD chiral crossover is investigated using imaginary momentum correlators. These have been measured on a newly generated 20×96^3 lattice-QCD ensemble with $\mathrm{O}(a)$-improved Wilson quarks and physical up, down and strange quark masses at a temperature $T = 154$ MeV near the pseudo-critical temperature. In order to realize the photon on-shell condition, the spatially transverse Euclidean correlators have to be evaluated at imaginary spatial momenta.
Employing a bounding method, we present a preliminary result on the quantity $H_E(\omega_1)$, which corresponds to an energy-moment of the photon spectral function $\sigma(\omega)$.

Topical area

QCD at Non-zero Temperature

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