

# The 8th Asian Triangle Heavy-Ion Conference (ATHIC2021)



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## Quarkonium spectral functions in a bulk viscous QGP medium

*Sunday, 7 November 2021 14:04 (17 minutes)*

In this talk, we will discuss how sensitive is the heavy quarkonia to the bulk viscous nature of the QGP medium. We will discuss the effects of bulk viscous correction on the properties of quarkonium states. The non-equilibrium bulk viscous correction is incorporated in the distribution functions of thermal quarks and gluons, with which we compute the dielectric permittivity within the hard thermal loop approximation at one-loop. The modified dielectric permittivity is used to calculate the in-medium heavy quark potential, that includes both Coulombic as well as string-like terms. Based on the modified heavy quark complex potential, we compute the quarkonium spectral functions by solving the Schrödinger equation. From the spectral functions, we compute the physical properties such as in-medium masses, binding energies and decay widths of quarkonium states. Finally, we will discuss the effects of bulk viscous correction on the physical observable, such as relative production yield of  $\psi'$  to  $J/\psi$  ratio.

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