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Complex potential at finite temperature in 2+1 flavor QCD

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We present calculations of the complex potential at non-zero temperature in 2+1 flavor QCD. The complex potential is obtained from spectral reconstruction of the Wilson line correlators at non-zero temperature calculated on the lattice. The calculations are performed using the HISQ action at three lattice spacings, $a=0.028$ fm, $a=0.04$ fm and $a=0.049$ fm for temperatures in the range 130 MeV - 352 MeV. Quite surprisingly, we find that the real part of the potential is not screened and is approximately equal to the zero temperature potential, while the imaginary part of the potential increases with the temperature and distance between the static quarks.

Topical area

QCD at Non-zero Temperature

Primary authors: ROTHKOPF, Alexander (University of Stavanger); BAZAVOV, Alexei (Michigan State University); PETRECZKY, Peter (Brookhaven National Lab); WEBER, Johannes Heinrich (Humboldt University of Berlin); KACZMAREK, Olaf (Bielefeld University); LARSEN, Rasmus (University of Stavanger); MUKHERJEE, Swagato (BNL)

Presenter: PETRECZKY, Peter (Brookhaven National Lab)

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