

# Mesonic string of diquark-quark configuration at finite temperature

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Using Polyakov loop correlators, we calculate the quark potential and energy density profile in pure SU(3) Yang-Mills theory. We investigate the limiting case where the string in baryonic quark configuration approaches the behavior of mesonic strings. We compare the potential and the energy density width profile of diquark-quark and mesonic strings. For isosceles triangular quark configurations of base length 0.2 fm, we found the potential to give rise to the same slope as that of the mesonic configuration only for string length  $R > 0.5$  fm. The string tension in the Baryon  ${}_3Q$  is found to be the same as the string tension in the meson  $Q\bar{Q}$  at this distance scale. However, near the deconfinement point, differences in the slope of the potential and energy density profile between both configurations manifest in the intermediate distances. The mesonic limit for the diquark-quark configuration is approached for larger source separation  $R > 0.9$  fm. We consider larger base length of diquark-quark configuration and establish the mesonic limit.

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