

FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

MLL-KOLLOQUIUM

Donnerstag, 22.12.2016, 16¹⁵ Uhr

Hörsaal der LMU in Garching, Am Coulombwall 1
Treffen zum gemeinsamen Kaffee 16 Uhr

Dr. Sungmin Hwang

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Long-distance heavy-quark potentials in the effective string theory

We use nonlinear transformations for non-relativistic fields to implement Poincare symmetry in Non-Relativistic QCD (NRQCD) and potential Non-Relativistic QCD (pNRQCD), and show how the Poincare algebra is satisfied for these transformations, which thereby gives complementary information on the Wilson coefficients. Upon the established constraints on the Wilson coefficients, which are potential-terms especially in pNRQCD, we explore their analytic behaviors at large separations between the static heavy quark and heavy antiquark, using the framework of the effective string theory (EST). Finally, we discuss how the (dimensionful) parameters that arise from the EST can be reduced/simplified by the realization of Poincare symmetry in QCD.

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