

# From QCD string breaking to quarkonium spectrum

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Signal-to-noise problem and excited states contamination, inter alia, make studies of the QCD string breaking phenomenon a challenging task in lattice QCD. The static quark potentials produced for these studies can be combined with the Born Oppenheimer approximation to give an important insight into  $I=0$  quarkonium resonances. Precise determination of various lattice potentials are also needed for better understanding of the bound states and hybrid mesons recently observed at LHC and other experiments. In this talk, we present preliminary results on the Wilson loop correlators and compare smeared and unsmeared static potentials for two flavour QCD with improved Wilson fermions. The systematic errors are reduced by solving the generalised eigenvalue problem.

**Primary author:** CATILLO (\*), Marco (Ludwig Maximilian University of Munich)

**Co-authors:** MARINKOVIC, Marina; BICUDO, Pedro; CARDOSO, Nuno

**Presenter:** CATILLO (\*), Marco (Ludwig Maximilian University of Munich)

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