



Laboratório de Instrumentação e
Física Experimental de Partículas

L I P

Seminário LIP

Quinta Feira, 31 de Outubro 2019 – 11:30

Meson resonances and S matrix unitarity from lattice QCD potentials

Pedro Bicudo

(IST & CFTP)

We discuss how to study $I = 0$ quarkonium resonances decaying into pairs of heavy-light mesons using static potentials from lattice QCD. These static potentials can be obtained from a set of correlation functions containing both static and light quarks. As a proof of concept we focus on bottomonium with relative orbital angular momentum $L = 0$ of the $b\bar{b}$ pair corresponding to $JPC = 0^{-+}$ and $JPC = 1^{-}$. We use static potentials from an existing lattice QCD string breaking study and compute phase shifts and T matrix poles for the lightest heavy-light meson-meson decay channel. We discuss our results in the context of corresponding experimental results, in particular for $Y(10860)$ and $Y(11020)$.

Work done with Marco Cardoso, Nuno Cardoso, Marc Wagner

Local: Sala de Seminários (311)

LIP, Av. Prof. Gama Pinto, N° 2, 1649-003 Lisboa

<https://indico.lip.pt/event/635/>

(Café e bolinhos 30 min antes)

O evento terá transmissão por streaming:

URL: <https://videocast.fccn.pt/live/lip/seminarios>

PIN: LIP-seminario-2019-10-31