



Contribution ID: 389

Type: **Poster**

Smeared R -ratio in isoQCD with Low Mode Averaging

Tuesday, 30 July 2024 17:15 (1 hour)

Low Mode Average (LMA) is a technique to improve the quality of the signal-to-noise ratio in the long time separation of Euclidean correlation functions. We report on its beneficial impact in computing the vector-vector light connected two-point correlation functions $V_{kk}(t)$ and derived physical quantities in the mixed action lattice setup adopted by ETMC. We focus on preliminary results of the computation within isospin symmetric QCD of the R -ratio smeared with Gaussian kernels of widths down to $\sigma \sim 200$ MeV, which is enough to appreciate the ρ resonance around 770 MeV, using the Hansen-Lupo-Tantalo spectral-density reconstruction method.

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Session Classification: Poster session and reception

Track Classification: Quark and Lepton Flavour Physics