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Semileptonic Inclusive Decay of the D_s Meson from Lattice QCD

Wednesday 2 October 2024 16:40 (20 minutes)

We analyse the decay of the D_s meson, focusing on the $D_s \rightarrow X \ell \nu$ channel based on Extended Twisted mass ensembles at the physical pion mass value.

On the basis of four-point correlation functions, we use the HLT reconstruction method to calculate the differential decay rate and differential first lepton energy moment.

The analysis is performed at four different lattice spacings, and three different volumes to address the associated systematic uncertainties.

We focus on the systematic errors arising from the procedure and include data for the first lepton energy moment.

Primary authors: DE SANTIS, Alessandro (University of Roma Tor Vergata and INFN); GROSS, Christiane (HISKP, Uni Bonn)

Presenter: GROSS, Christiane (HISKP, Uni Bonn)

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