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Extracting $B_s \to D_s^* \ell \nu_\ell$ form factors

Friday 7 November 2025 15:10 (20 minutes)

Semileptonic $B_{(s)}$ decays are of great phenomenological interest because they allow to determine e.g. CKM matrix elements or test lepton flavour universality.
Taking advantage of already existing lattice data, we demonstrate the analysis steps to extract the four form factors describing exclusive semileptonic
$B_s \to D_s^* \ell \nu_\ell$
decays using the narrow width approximation. Our data are based on RBC/UKQCD's set of 2+1 flavour gauge field ensembles with Shamir domain-wall fermion and Iwasaki gauge field action featuring inverse lattice spacings of a^{-1} =1.785, 2.383, and 2.785 GeV as well as pion masses between 268 and 433 MeV. Light, strange and charm quarks are simulated using domain-wall fermions, whereas bottom quarks are generated with the relativistic heavy quark (RHQ) action.

Parallel Session (for talks only)

Quark and lepton flavor physics

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