



Contribution ID: 9

Type: **not specified**

Form factors for semi-leptonic $B_{(s)} \rightarrow D_{(s)}^* \ell \nu_\ell$ decays

Wednesday 2 October 2024 15:30 (20 minutes)

Semileptonic $B_{(s)}$ decays are of great phenomenological interest because they allow to extract CKM matrix elements or test lepton flavor universality. Taking advantage of existing data, we explore extracting form factors for vector final states using the narrow width approximation. Based on RBC-UKQCD's set of 2+1 flavor gauge field ensembles with Shamir domain-wall fermion and Iwasaki gauge field action, we study semileptonic $B_{(s)}$ decays using unitary light and strange quarks, Möbius domain wall fermions for charm quarks, and bottom quarks simulated with the relativistic heavy quark (RHQ) action. Exploratory results for $B_s \rightarrow D_s^* \ell \nu_\ell$ are presented.

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Session Classification: Afternoon 1