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D to K semi-leptonic form factors from HISQ light and charm quarks

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We investigate D to K $\ell\nu$ semi-leptonic decays using HISQ light and charm quarks on the MILC coarse and fine lattices.

Using PCVC allows us to extract the form factors with no need for operator renormalization.

We employ random-wall sources and simultaneous multi-T fits, in order to reduce the statistical errors.

By carrying out consistency checks, we successfully re-produce all meson spectrum and decay constants related to this process.

Chiral and continuum extrapolations are done using partially quenched ChPT, and systematic errors are carefully estimated.

We present preliminary results for $f_{+}(q^2=0)$, $f_{0}(q^2)$, $f_{+}(0)/f_{D_s}$ and $|V_{cs}|$.

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talk

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