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## Exclusive rare semileptonic decays of B and $B_c$ mesons

We investigate the exclusive rare semileptonic decays:  $B(B_c) \to K(D_{(s)})l\bar{l}/\Sigma\nu_l\bar{\nu}_l$   $(l = \mu, \tau)$  in the framework of relativistic independent quark (RIQ) model based on an average flavor independent confining potential in equally mixed scalar-vector harmonic form. The invariant weak form factors, parametrising the matrix elements between participating meson states are calculated in the parent meson rest frame. The momentum transfer dependence of the form factors is reliably determined in the accessible kinematical range:  $q_{min}^2 \leq$  $0 \leq q_{max}^2$ . Our predicted branching fractions for  $B \to K\mu^+\mu^-/\tau^+\tau^-(\Sigma\nu_l\bar{\nu}_l)$ ,  $B_c \to D(D_s)\mu^+\mu^-$ ,  $B_c \to D(D_s)\tau^+\tau^-$  and  $B_c \to D(D_s)\Sigma\nu_l\bar{\nu}_l$ , obtained in order of  $10^{-7}(10^{-6})$ ,  $10^{-9}(10^{-7})$ ,  $10^{-9}(10^{-8})$ and  $10^{-8}(10^{-7})$ , respectively are in reasonable agreement with other Standard Model predictions and Lattice QCD results, and available experimental data. The averaged values of the lepton polarization asymmetries for decay modes are obtained. Upcoming future experiments could measure the unmeasured branching fractions.

## Field of contribution

Phenomenology

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