New Trends in High-Energy Physics



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Hadronic and semileptonic decays of B_c meson

In the wake of the recent measurements of the decays $B_c \to J/\psi \, \pi(K)$ and $B_c \to J/\psi \, \ell \nu_\ell$ reported by the LHCb Collaboration we calculate the form factors for the $B_c \to J/\psi$ and $B_c \to \eta_c$ transitions in full kinematical region within covariant confined quark model. Then we use the calculated form factors to evaluate the partial decay widths of the above-mentioned semileptonic and nonleptonic decays of the B_c meson. We find that the theoretical predictions on the ratios of \mathcal{R}_{K^+/π^+} and $\mathcal{R}_{\pi^+/\mu^+\nu}$ are in good agreement with last LHCb-data. However, the prediction for the $\mathcal{R}_{J/\psi}$ is found to be underestimated.

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