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Strong Decay Analysis of Strange Charm Mesons

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In the last decade, charmed and bottom meson spectroscopy have seen great success in experimental sector. Experiments like LHCb, Babar etc are providing many new states which are being added to their spectroscopy. Newly predicted states like $D_s(3040)$, $D_s(2700)$, $D_s(2860)$ and many more still need to be assigned their proper place in the spectroscopy. So we studied the decay constant and the coupling constants of these states using the heavy quark effective theory as our model. We analysed the two-body strong decays of the above states to their ground state mesons with light pseudo-scalar mesons (π , η , K). We also obtained the ratios among their strong decays, which can be confronted to the experimental data for the verification of their JP states. In addition to this, we also study the strong decays of their spin and strange partners, which are still experimentally not observed, and may be useful for future experiments in searching for these heavy-light mesons.

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