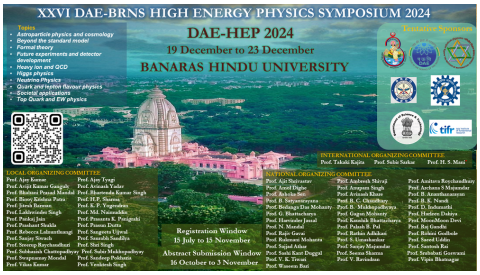

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Study of the strong decay of Ξ_cˆ’ baryon.

We present an analysis of the strong decay of the $\Xi_c^{'}$ baryon in the 1P state within the framework of Heavy Hadron Chiral Perturbation Theory (HHChPT), which effectively combines chiral and heavy quark symmetries. This theoretical approach well describes the strong decays of S-wave charmed baryons. Our calculations of the decay width of $\Xi_c^{'}$ demonstrate the validity of HHChPT, as our results show good agreement with empirically measured decay widths. Furthermore, the mass and decay width of the $\Xi_c(2923)$ provide the evidence for its spin-parity assignment of $\frac{3}{2}^-$. This work contributes to the ongoing understanding of charmed baryon states and their decay mechanisms.

Field of contribution

Phenomenology

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