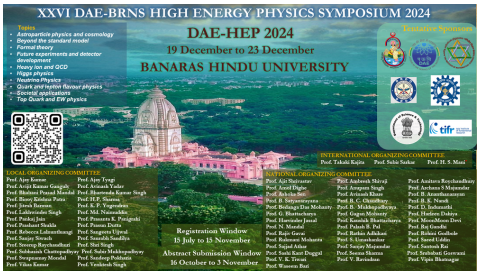

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Measurement of B -> Ds*D0 using the recoil mass method at Belle II

We present the two body decay of $B^+ \rightarrow D_s^{*+}\bar{D}^0$ that can help us improve our understanding of heavy quark dynamics, hadronic interactions. These decays also help in refining our experimental knowledge in flavor physics. The study is performed using 1ab^{-1} of Belle II simulated e^+e^- collision data at $\Upsilon(4S)$ mass resonance. Instead of reconstructing the signal B meson exclusively, we follow a missing mass approach. Using the fact that $\Upsilon(4S)$ almost every time decays to two B mesons, one of the two is reconstructed from several hadronic final states along with a D^0 meson , and we look for another charm-strange meson in the recoil. The approach allows for the investigation of less-understood, excited charm-strange mesons that become hard to reconstruct exclusively due to their unknown decay processes. Notably, as the meson is not directly reconstructed, all modes share the same reconstruction efficiency, simplifying our analysis

Field of contribution

Experiment

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Track Classification: Quark and lepton flavour physics