Title:	Study of Leptonic Ds+ Decays Using Belle II Detector
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Abstract:	Of the processes involving charm quarks, many measurements can be normalized by knowing the branching fractions of Ds± meson decays. In some New Physics (NP) scenarios, the leptonic decay rate of Ds+ could be modified. Also, measurement of leptonic Ds+ decay enables the precision test of LQCD calculation of decay constants and provides additional constraints on NP. The aim of this study was to perform the sensitivity study of Ds+ → `+ν` decays at Belle II detector situated at SuperKEKB asymmetric electron-positron collider. Due to the neutrino (which will miss our detection) and our constraint to only do a partial reconstruction we first attempted to show a proof of concept for its detection and signal identification. For this purpose, we performed signal Monte Carlo study for e+eκ → cc¯ → D0Ds+KK π+π− decay. We simulated the decays and attempt to create signal. Investigated the recoil mass of Ds+. The final aim was to perform sensitivity of Ds+ to test lepton flavour universality (LFU). However, due to COVID-19, we were not able to accomplish this.
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