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Search for the decay Bs –> pi0 pi0 at Belle

Tuesday 13 December 2022 12:00 (15 minutes)

The Belle experiment at KEK, Japan has at present one of the largest dataset accumulated at $\Upsilon(5S)$ resonance. This dataset produced at e^+e^- centre-of-mass (CM) energy of approximately 10.86 GeVs correspond to an integrated luminosity of 121.4 fb^{-1}. We have searched for the rare decay for the first time using this accumulated dataset.
The decay is a neutral, charmless, non-leptonic, charged current mediated and strangeness non-conserving rare decay which proceeds via W-exchange and W-annihilation Feynman diagrams within the Standard Model (SM). The theoretical branching fraction (BF) predicted using various methods such as the Flavor Diagram Approach, perturbative QCD, and QCD factorization are, $(0.40 \pm 0.27) \times 10^{-6}$, $(0.28 \pm 0.09) \times 10^{-6}$, and $(0.13 \pm 0.05) \times 10^{-6}$, respectively.

We have analyzed the real data sets for this analysis and the results will be presented at the symposium.

Session

Beyond the Standard Model

Primary author: BORAH, Jyotirmoi

Presenter: BORAH, Jyotirmoi

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