

# BNV/LNV searches in charmonium decays at BESIII

*Thursday, 30 July 2020 09:25 (15 minutes)*

The observed matter-antimatter asymmetry in the universe composes a serious challenge to our understanding of nature. BNV/LNV decay has been searched in many experiments to understand this large-scale observed fact. In the case of  $e^+e^-$  collision, few experiments are performed. Here we proposed to search BNV and LNV with the world largest  $J/\psi$  data sets in  $e^+e^-$ . The BNV and LNV channel  $J/\psi \rightarrow \Lambda_b^- e^+ c.c.$  is studied, and no signal event is observed. The upper limit of the branching fraction is set to be  $6.9 \times 10^{-8}$  at 90% C.L., which is still much higher than the estimation based on SM. For the process with  $\Delta B=2$ , a search of  $\Lambda$ - $\bar{\Lambda}$  oscillation is performed in the  $J/\psi$  decay. The results of the oscillation rate and oscillation parameter are determined, respectively.

## I read the instructions

## Secondary track (number)

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**Session Classification:** Beyond the Standard Model

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