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Sensitivity to the X(3872) total width at the Belle II experiment

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The Belle II experiment at the SuperKEKB energy-asymmetric e^+e^- collider is a substantial upgrade of the B factory facility at the Japanese KEK laboratory. The design luminosity of the machine is 8×10^{35} cm^{-2}s^{-1} and the Belle II experiment aims to record 50 ab^{-1} of data, a factor of 50 more than its predecessor. From February to July 2018, the machine has completed a commissioning run and main operation of SuperKEKB has started in March 2019. The X(3872) is an exotic hadron candidate and studying the X(3872) partial widths is a good probe for the internal structure of this hadronic state. However, in order to derive partial widths, a measurement of its total width is needed. The large Belle II data set will provide an ideal environment to measure the X(3872) total width since it will be possible to use the $X(3872) \to D^0\bar{D}^0\pi^0$ decay, $whichhasabettermassresolutionthan$X(3872)\to J/\psi\pi^+\pi^-$ used in earlier work. In this presentation, we will give an overview of the analysis and the expected sensitivity to the X(3872) total width.

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