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Search for $B^0 \rightarrow l^+l^-$ at Belle

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The decay modes $B^0 \rightarrow \ell^+\ell^-$ where $\ell = e$ or μ are a group of very rare particle decays with vanishingly small branching fractions. To date, no experimental verification of the branching fractions has been found. Observation of such decays could show clear evidence of new physics such as the Higgs doublets (for $B \rightarrow e^+e^-$ or $B \rightarrow \mu^+\mu^-$) or lepton-nonconserving interactions (for $B \rightarrow e^+\mu^+$). Using the full set of Belle experimental data with over 700 fb^{-1} collected at the $\Upsilon(4S)$ resonance, we present a study of the rare decay $B^0 \rightarrow \ell^+\ell^-$.

Oral or Poster Presentation

Oral

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