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Study of B -> X(3872) K pi at Belle

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We report the first observation of $B^0 \to X(3872)(K^+\pi^-)$ and evidence for $B^+ \to X(3872)(K^0\pi^+)$. We measure the product of branching fractions for the former to be $calB(B^0 \to X(3872)(K^+\pi^-)) \times calB(X(3872) \to J/\psi\pi^+\pi^-) = (7.9\pm1.3(\text{stat.})\pm0.4(\text{syst.}))\times10^{-6}$ and find that $B^0 \to X(3872)K^*(892)^0$ does not dominate the $B^0 \to X(3872)K^+\pi^-$ decay mode in contrast to other charmonium states like ψ'. We also measure $calB(B^+ \to X(3872)(K^0\pi^+)) \times calB(X(3872) \to J/\psi\pi^+\pi^-) = (10.6 \pm 3.0(\text{stat.}) \pm 0.9(\text{syst.})) \times 10^{-6}$. This study is based on the full data sample of 711~fb^{-1} ($772 \times 10^6 B\bar{B}$ pairs) collected at the $\Upsilon(4S)$ resonance with the Belle detector at the KEKB collider.

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