Measurement of Branching Fractions of Rare Charmless Hadronic B Decays to $\pi^+\pi^0K_S^0$

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Abstract

In this report branching fraction limits at 90% CL are presented for the three body final state $B^+ \to K^0_S \pi^+ \pi^0$, through the resonances:

$B(B \to K^{*0}\pi^+, K^{*0} \to K^0_S\pi^0) \ < 3 \times 10^{-6}$ 90%CL
$B(B \to K^{*+}\pi^0, K^{*+} \to K^0_S\pi^+) \ < 1 \times 10^{-7}$ 90%CL
$B(B \to K^0_S\rho^+, \rho^+ \to \pi^0\pi^+) \ < 8 \times 10^{-7}$ 90%CL

Charge conjugate states are also included in the results. No effort is made to separate these conjugate states. The data used for these analyses was 22.1×10^6 B^+B^- pairs produced by the PEP-II collider at SLAC and detected by the BaBar detector in 1999-2001.