

## Search for B decays to final states with the eta\_c meson

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We report a search for B decays to selected final states with the eta\_c meson:  $B \rightarrow K \eta_c \pi^+ \pi^-$ ,  $B \rightarrow K \eta_c \omega$ ,  $B \rightarrow K \eta_c \eta$  and  $B \rightarrow K \eta_c \pi^0$ . The analysis is based on 772 millions of BB pairs collected at the Upsilon (4S) resonance with the Belle detector at the KEKB asymmetric-energy e+e- collider. We set 90% confidence level upper limits on the branching fractions of the studied B decay modes, independent of intermediate resonances, in the range  $(0.6 - 5.3) \cdot 10^{-4}$ . *We also search for molecular-state candidates for the  $D(0)$  combinations, neutral partners of the  $Z(3900)^{+-}$  and  $Z(4020)^{+-}$ , and a poorly understood state  $X(3915)$  as possible intermediate states in the decay chain, and set 90% confidence level upper limits on the product of branching fractions to X and decay branching fractions of X in the range  $(0.6 - 0.9) \cdot 10^{-5}$ .*

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