

Abstract

Motive of this thesis is to search for $B \rightarrow XK$ decay mode, where X may be $X(3872)$ and $X(3915)$ and goes to $J/\psi\omega$, using the data sample of 772×10^6 $B\bar{B}$ pair. We performed signal Monte Carlo (MC) study for $B \rightarrow J/\psi\omega K$ decay mode and estimated the reconstruction efficiency for $B \rightarrow X(3872) K$ to be is about $9 \pm 0.1\%$ and for $B \rightarrow X(3915) K$ is about $8.6 \pm 0.1\%$. Based on $B \rightarrow J/\psi X$ Inclusive MC study we expect 51 ± 3 and 209 ± 12 events for $B \rightarrow X(3872)K$ and $B \rightarrow X(3915)K$ decay mode and the corresponding branching fraction is $7.02 \pm 0.4(\text{stat}) \times 10^{-6}$ and $3.02 \pm 0.2(\text{stat}) \times 10^{-5}$, respectively. The used data is collected by belle detector at KEK-B asymmetric e^+e^- collider.