

Study of direct CP violation in $B^\pm \rightarrow J/\psi K^\pm(\pi^\pm)$ decays

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We present a search for direct CP violation in $B^\pm \rightarrow J/\psi K^\pm(\pi^\pm)$ decays.

The event sample is selected from 2.8 fb^{-1} of $p\bar{p}$ collisions collected by the D0 experiment in Run II of the Fermilab Tevatron Collider.

The charge asymmetry

$$A_{CP}(B^+ \rightarrow J/\psi K^+) = +0.0075 \pm 0.0061(\text{stat.}) \pm 0.0027(\text{syst.})$$

is obtained using a sample of approximately 40,000

$B^\pm \rightarrow J/\psi K^\pm$ decays.

The achieved precision is of the same level as the expected deviation predicted by some extensions of the standard model.

We also report the charge asymmetry

$$A_{CP}(B^+ \rightarrow J/\psi \pi^+) = -0.09 \pm 0.08(\text{stat.}) \pm 0.03(\text{syst.}).$$

Talk, Poster, or Talk & Poster

talk

Primary author: Mr HOLUBYEV, Kostyantyn (Lancaster University)

Presenter: Mr HOLUBYEV, Kostyantyn (Lancaster University)

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