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CPV and CPT in B decays at Belle

jeudi 21 juillet 2011 12:15 (15 minutes)

Using the large data sample collected at the $\Upsilon(4S)$
resonance with the Belle detector
at the KEKB asymmetric-energy e^+e^- collider,
we present an improved measurement of time-dependent CP violation
in the neutral B decays into charmonium and K^0.

CPT is expected to be a fundamental symmetry with no significant
deviations.
Nonetheless we can introduce an artificial perturbation parameter to
the $B^0 - \bar{B}^0$ mixing system that violates CPT symmetry. The CPT
violating parameter, which is a complex number but expected to be zero,
can be probed through proper time difference distributions in correlated
B meson pair decays. We present a measurement of the CPT violating
parameter.

We report measurements of branching fractions and CP violation
parameters
in the neutral B meson decays into D^+D^- and $D^{*+}D^{*-}$.

We report the first observation of the radiative decay
$B^0 \to \phi K^0 \gamma$
and measurements of time-dependent CP-violation.
These measurements are sensitive to new physics from right-handed
currents.
We also report an updated measurement
of the branching fraction in $B^+ \to \phi K^+ \gamma$
as well as measurements of a new radiative penguin decay
$B \to \omega K^+ (K^0) \gamma$.

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Classification de Session: Flavour Physics and Fundamental Symmetries

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