

# Exclusive semileptonic $b \rightarrow c$ decays at Belle

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Measurement of the decay  $B^0 \rightarrow D^{*-} l^+ \nu$

We present measurements of the branching fraction and of the HQET form factors  $\rho^2$ ,  $R_1$  and  $R_2$  for the decay  $B^0 \rightarrow D^{*-} l^+ \nu$  using untagged  $\Upsilon(4S) \rightarrow B\bar{B}$  events. The Cabibbo-Kobayashi-Maskawa matrix element  $|V_{cb}|$  is extracted and a test of the form factor parametrization is presented. The results are based on a large data sample recorded by the Belle detector at the KEKB  $e^+e^-$  collider.

Measurement of the decay  $B^+ \rightarrow \bar{D}^{*0} l^+ \nu$

The measurement of the decay  $B^+ \rightarrow \bar{D}^{*0} l^+ \nu$  does not rely on charged slow pion reconstruction and thus allows us to cross-check measurements of  $B^0 \rightarrow D^{*-} l^+ \nu$ . We present measurements of the branching fraction and of the HQET form factors  $\rho^2$ ,  $R_1$  and  $R_2$  using  $\Upsilon(4S) \rightarrow B\bar{B}$  events. The Cabibbo-Kobayashi-Maskawa matrix element  $|V_{cb}|$  is extracted. The results are based on a data sample recorded by the Belle detector at the KEKB  $e^+e^-$  collider.

Measurement of  $B \rightarrow D^{(*)} \tau \nu$  using hadronic tag

We present a measurement of  $B \rightarrow D^* \tau \nu$  and  $B \rightarrow D \tau \nu$  decays using a large data sample collected near the  $\Upsilon(4S)$  resonance with the Belle detector at the KEKB asymmetric energy  $e^+e^-$  collider. Events are tagged by fully reconstructing one of the  $B$  mesons in hadronic modes. Constraints on theoretical models with a charged Higgs boson are discussed.

Studies of  $B^+ \rightarrow \bar{D}^{(*)0} \tau^+ \nu$  with inclusive reconstruction of the accompanying  $B$  meson

We present studies of  $B^+ \rightarrow \bar{D}^{*0} \tau^+ \nu$  and  $B^+ \rightarrow \bar{D}^0 \tau^+ \nu$  decays using a large data sample collected with the Belle detector at the KEKB asymmetric-energy  $e^+e^-$  collider. The events are tagged by inclusively reconstructing the accompanying  $B$  meson. Measurements of branching fractions and distributions characterizing signal decays are presented.

**Primary author:** DUNGEL, Wolfgang (Institute for high energy physics, Austrian academy of Sciences)

**Presenter:** DUNGEL, Wolfgang (Institute for high energy physics, Austrian academy of Sciences)

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