

# Study of $B \rightarrow D^* l \nu$ and $B \rightarrow D l \nu$ decays with a full angular analysis at BABAR

Wednesday, July 29, 2020 4:15 PM (15 minutes)

We present results on the first full 4-dimensional angular analysis of the  $B^- \rightarrow D^* l \nu$  and  $B^- \rightarrow D l \nu$  decays, using the  $e^+e^-$  collision dataset collected by the *BABAR* experiment at the  $\Upsilon(4S)$  resonance. One  $B$  meson from the  $\Upsilon(4S) \rightarrow B\bar{B}$  decay is fully reconstructed in a hadronic decay mode which constrains the kinematics and provides a precise determination of the neutrino momentum vector. We extract the underlying hadronic form-factors employing the model-independent BGL approach and a value for the *CKM* matrix element  $|V_{cb}|$ . Last, employing our measured BGL form-factors, we provide new predictions within the Standard Model, for observables related to the semi-tauonic decay  $B^- \rightarrow D^* \tau \nu$ .

## I read the instructions

## Secondary track (number)

**Author:** SIMONETTO, Franco (Universita' & INFN Padova)

**Presenters:** SIMONETTO, Franco (Universita' & INFN Padova); SIMONETTO, Franco (Universita e INFN, Padova (IT))

**Session Classification:** Quark and Lepton Flavour Physics

**Track Classification:** 05. Quark and Lepton Flavour Physics