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Measurement of $B^- \rightarrow D^{(*)} \tau \nu$, using semileptonic tag and leptonic τ decays with the *BABAR* detector.

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Semileptonic decays of B mesons involving the high-mass τ lepton are sensitive probes for physics beyond the Standard Model. The relative rates of branching fractions $R(D) = \mathcal{B}(B \rightarrow D\tau\nu)/\mathcal{B}(B \rightarrow D\ell\nu)$ and $R(D^*) = \mathcal{B}(B \rightarrow D^*\tau\nu)/\mathcal{B}(B \rightarrow D^*\ell\nu)$ ($\ell = e, \mu$) are independent of the CKM element $|V_{cb}|$ and of other theoretical uncertainties. Based on the 433 fb^{-1} data collected at the $\Upsilon(4S)$ resonance by the *BABAR* detector at the PEP-II collider located at the SLAC National Accelerator Laboratory, we report a measurement of $R(D)$ and $R(D^*)$ using semileptonic B -tagging and leptonic τ decays.

In-person participation

No

Presenter: LI, Yunxuan**Session Classification:** Quark and Lepton Flavour Physics**Track Classification:** Quark and Lepton Flavour Physics