

# Precision measurement of the $D_0$ mass and of the natural line width of the $D^{*+}$

*Friday, 16 August 2013 11:30 (20 minutes)*

We present the measurement of the mass of the  $D_0$  meson, the  $D(2010)^+$  natural line width, and the mass difference between the  $D(2010)^+$  and the  $D_0$  mesons using pure samples of  $D^{*+}(2010)^+ \rightarrow D_0 \pi^+$  decays. The measurements are based on a data sample corresponding to an integrated luminosity of about  $477 \text{ fb}^{-1}$ , collected with the BaBar detector. Large improvements with respect to the existing measurements have been obtained for all the measured quantities.

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

**Track Classification:** Quark and Lepton Flavor Physics