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Measurement of the Strong Phase of $D^0 \rightarrow K^-\pi^+$ Relative to $\bar{D}^0 \rightarrow K^-\pi^+$ with CLEO-c Data ALEXANDER SCOTT, University of Minnesota, CLEO COLLABORATION — Quantum correlations in $\psi(3770) \rightarrow D^0\bar{D}^0$ decays introduce sensitivity to charm mixing, doubly-Cabibbo-suppressed decay amplitudes, and strong phases into time-integrated D^0 and \bar{D}^0 decay rates. In this talk we describe the selection of CP-eigenstate D^0 and \bar{D}^0 tags in a sample of $\sim 300 \text{ pb}^{-1}$ of e^+e^- annihilation data collected with the CLEO-c detector at the Cornell Electron Storage Ring. We use these tags and the quantum coherence of the $D^0\bar{D}^0$ pair to measure the rates for $D^0 \rightarrow K^-\pi^+$ decays separately for CP-even and CP-odd states. We use the asymmetry between these rates to obtain a measurement of the relative strong phase δ , which is an important ingredient for the interpretation of charm-mixing and CKM measurements at higher energies. Projections of the ultimate sensitivity for this determination with the full CLEO-c data sample are given.

David Kreinick
Cornell University

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