



Joint EP/PP Seminar

SPEAKER: Michael J. Morello (FERMILAB)

TITLE: **Measurement of CP violation in the $D^0 \rightarrow \pi^+ \pi^-$ at CDF**

DATE: Tue 30/11/2010 11:00

PLACE: Filtration Plant

ABSTRACT

I present a measurement of the CP violating asymmetry in $D^0 \rightarrow \pi^+ \pi^-$ decays using approximately 215,000 decays reconstructed in about 5.94fb^{-1} of CDF data. We use the strong $D^+ \rightarrow D^0 \pi^+$ decay ("D tag") to identify the flavor of the charmed meson at production time and exploit CP-conserving strong $c \bar{c}$ pair-production in $p \bar{p}$ collisions. Higher statistic samples of Cabibbo-favored $D^0 \rightarrow K^- \pi^+$ decays with and without D tag are used to highly suppress systematic uncertainties due to detector effects. The result, at the per mil level, is the worlds most precise measurement to date.