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Recent BABAR results on mixing and CP violation in the charm sector. (10' + 5')

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Based on the full data set recorded with the BABAR detector at center-of-mass energies at
and near the Upsilon(4S) resonance, and corresponding to an integrated luminosity of approximately 468 fb-1, we measure the D0-D0bar mixing parameters using a time-dependent amplitude analysis of the decay D0 -> pi+pi-pi0. The neutral D-meson candidates are selected from D*(2010)+ -> D0 pi+ decays where the flavour at the production is identified by the charge of the low-momentum pion.
With the same data set we perform an analysis of CP-asymmetries in the singly Cabibbo-suppressed decay process D+ -> pi+ pi0. We discuss the sensitivity to CP-violating phases, and the correspondening New Physics constraints.

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Session Classification: Quark and Lepton Flavor Physics

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