Contribution ID: **59** Type: **not specified**

A new method for measuring CPV in charm decays and the first measurement of F+ in D –> \pi^+\pi^+\pi^-\pi^- decays

Tuesday, 19 May 2015 18:00 (20 minutes)

A first measurement of F+, the CP-even content of the decay D–> 4pi using quantum correlated psi(3770) to DDbar decays collected by the CLEO-c experiment is presented. A high value is obtained, which makes the decay mode particularly suitable for both measurements of the CKM angle \gamma and charm CP violation in a model independent way.
This novel approach to studying indirect CP violation in charm decays is based on the time-dependent inclusive analysis of multibody self-conjugate states. These final states can be used to determine the indirect CP-violating observable A_Γ and the mixing observable y_{CP}, provided that F_+, is known. This approach can yield significantly improved sensitivity compared with the conventional method that relies on decays to CP eigenstates. Extensions including direct CP violation are also presented.

Summary

This abstract is based on the work in arXiv:1502.04560 and the upcoming measurement of F+ in D–>4pi.

Primary author: Dr MALDE, Sneha (University of Oxford)

Presenter: Dr MALDE, Sneha (University of Oxford)

Session Classification: Parallel Session 2