

Abstract Submitted  
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**Amplitude analysis of the charmed decay  $D^0$  to  $KK\pi\pi$** <sup>1</sup> NICOLA SKIDMORE, University of Bristol — An amplitude analysis of the 4-body charmed decay  $D^0 \rightarrow KK\pi\pi$  is presented using data collected from electron-positron collisions at the CLEO experiment. Both flavour tagged and CP tagged data are utilized in the analysis making it unique from amplitude analyses performed at other colliders and providing extra sensitivity to the phases of the amplitude components. The amplitude model is used to search for CP violation in the  $D^0$  decay by analysing  $D^0$  and  $\bar{D}^0$  decays separately. The model is also crucial input for a model-dependent measurement of the CP-violating phase  $\gamma$  using  $B^\pm \rightarrow D^0(\rightarrow KK\pi\pi)K^\pm$  decays, which remains one of the least constrained parameters of the Standard Model.

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