



SPEAKER: Donal Hill

TITLE: **Precision measurements of the Cabibbo-Kobayashi-Maskawa angle γ at LHCb**

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PLACE: 500-1-001 - Main Auditorium

ABSTRACT

The Cabibbo-Kobayashi-Maskawa (CKM) angle γ is still the least known angle of the Unitarity Triangle, and is the only one that can be accessed exclusively through tree-level B -meson decays. Its precise determination is of crucial importance to identify possible effects beyond the Standard Model in global CKM fits. Powerful constraints on γ are obtained from the analysis of $B^{\pm} \rightarrow D^0 K^{\pm}$ decays, where the D^0 meson is reconstructed in the K^+K^- and $\pi^+\pi^-$ final states; the latest results using the Run-1 (2011 and 2012) and Run-2 (2015 and 2016) LHCb datasets are presented. The measurement of $B^{\pm} \rightarrow D^{*-} K^{\pm}$ decays using a novel partial reconstruction method is also presented, where both $D^{*0} \rightarrow D^0\pi^0$ and $D^{*0} \rightarrow D^0\gamma$ decays are considered. These world's best results contribute to the ultimate goal of reaching degree-level precision on γ , via the exploitation of all possible decay modes and techniques.