

## Precision measurements of the Cabbibo-Kobayashi-Maskawa angle $\gamma$ at LHCb

*Donal Hill*

*University of Oxford, UK*

The Cabbibo-Kobayashi-Maskawa (CKM) angle  $\gamma$  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  $\gamma$  are obtained from the analysis of  $B^{pm}$  to  $D^0 K^{pm}$  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  $B^{pm}$  to  $D^0 K^{pm}$  decays using a novel partial reconstruction method is also presented, where both  $D^0$  to  $D^0 \pi^0$  and  $D^0$  to  $D^0 \gamma$  decays are considered. These world's best results contribute to the ultimate goal of reaching degree-level precision on  $\gamma$ , via the exploitation of all possible decay modes and techniques.