Laboratoire LEPRINCE-RINGUET
Ecole polytechnique IN2P3/CNRS

Séminaire

Recent measurements of the CKM angle gamma with LHCb

The precise measurement of the angle γ of the Cabibbo-Kobayashi-Maskawa (CKM) Unitarity Triangle is a central topic in flavour physics experiments. Its determination at the sub-degree level in tree-level open-charm b-hadron decays is theoretically clean and provides a standard candle for measurements sensitive to new physics effects as accessible through global coherence tests of the KM mechanism, with respect to the Standard Model expectations.
In addition to the results from the B factories (i.e. BaBar and Belle), various recent measurements from the LHCb experiment at CERN allow the angle γ to be determined with an uncertainty of around 5°. However, no single measurement dominates the world average, as the most accurate measurements have an accuracy of about 10° to 20°.
We review those recent results and introduce alternative methods that are therefore important to improve the precision. Among them, an analysis of the decay B^0_s to $\overline{D}^{0(*)}\varphi$ has the potential to make a significant impact.

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Responsables séminaires

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