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Type: **Parallel session talk**

New approaches to determine B^\pm and B^0 production fractions

Friday 25 August 2023 09:24 (18 minutes)

We propose new methods to determine the $\Upsilon(4S) \rightarrow B^+ B^-$ and $\Upsilon(4S) \rightarrow B^0 \bar{B}^0$ decay rates. These rates and their ratio are some of the limiting uncertainties in absolute branching fraction measurements, and thereby for a variety of applications, such as flavor symmetry relations. The new methods we propose are based in one case on exploiting the $\Upsilon(5S)$ data sets, in the other case on the different average number of charged tracks in B^\pm and B^0 decays. We estimate future sensitivities using these methods and discuss possible measurements of f_d/f_u at the LHC.

Collaboration / Activity

Phenomenology

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