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Measurement of CP-violating phase φ_s in the B0_s → J/ψφ → μ+μ−K+K− channel in pp collisions at √s = 13 TeV

Monday 12 December 2022 16:00 (15 minutes)

The measurement of CP violating weak phase ϕ_s is achieved using the data collected by the CMS experiment at $\sqrt{s} = 13$ TeV in the sample of 48500 reconstructed $B_s^0 \to J/\psi\phi \to \mu^+\mu^- K^+ K^-$ events corresponding to an integrated luminosity of 96.4fb^{-1}. The parameters are extracted by performing a time-dependent and flavor-tagged angular analysis of the $\mu^+\mu^- K^+ K^-$ final state.
This talk will discuss these recent results and their combination with the previous CMS measurement at $\sqrt{s} = 8$ TeV, with particular emphasis on the adopted methodology and employed novel opposite-side muon flavor tagger based on ML techniques.

Session

Quark and Lepton Flavour Physics

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