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Measurement of CP Violation in $B_s^0 \to J/\psi \overline{K}^*(892)^0$ Decays and Constraints on Penguin Contributions

Saturday, 1 November 2025 17:00 (20 minutes)

This talk presents a new, high-precision angular analysis of the decay $B_s^0 \to J/\psi \overline{K}^*(892)^0$ using the full 13 TeV dataset from the LHCb experiment's Run 2. We have extracted the decay ' s polarization fractions and CP asymmetries, yielding the most precise determination of these observables to date. These measurements serve as a crucial input for constraining the impact of "penguin pollution" on the measurement of the CP-violating phase ϕ_s from the benchmark $B_s^0 \to J/\psi\phi$ analysis.
To provide a comprehensive set of constraints, which is our final goal, the presentation will also cover new, unblinded results from the $B^0 \to J/\psi\rho^0(770)$ channel and published findings from the $B^+ \to J/\psi\pi^+$ analysis.

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