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Lifetime Difference and CP Asymmetry in the Bs0 -> J/Psi phi Mode

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We report on the progress of the analysis of $B0_s \to J/\psi\phi$
decays to extract the parameters $\Delta\Gamma_s/\Gamma_s$ and $\sin 2\beta_s$ with the CDF\,II detector. The
use of a time-dependent angular analysis can separate the CP~eigenstates
of the $B0_s$~meson to determine their separate lifetimes. Further
tagging of the $B0_s$ meson at time $t = 0$ as $B0_s$ or $\bar{B}^0_s$,
allows for the analysis of the CP asymmetry, which then yields the $\sin 2\beta_s$ parameter. The $\Delta\Gamma_s$ measurement is an improved
analysis using additional data, neural network selection for better
signal/background, and reduced systematic errors.

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