ICHEP 2016 Chicago

38th INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS

AUGUST 3 - 10, 2016
CHICAGO

Contribution ID: **1491** Type: **Poster**

Measurement of the B_s^0 lifetime in the CP-odd decay channel $B_s^0 \to J/\psi f_0(980)$ in the D0 experiment

Monday, 8 August 2016 18:30 (2 hours)

The lifetime of the B_s^0 meson is measured in the decay channel $B_s^0 \to J/\psi\pi^+\pi^-$ with $|M_{\pi^+\pi^-} - 980| < 100$ MeV, which is mainly CP-odd and dominated by the $f_0(980)$ resonance. Usnig $10.4\,\mathrm{fb}^{-1}$ of data collected with the D0 detector in Run II of the Tevatron, the lifetime of the B_s^0 meson is measured to be $\tau(B_s^0) = (1.696 \pm 0.141\,(\mathrm{stat}) \pm 0.049\,(\mathrm{syst}))$ ps. Neglecting CP violation in $B_s^0/\bar{B}_s^0$ mixing, the measurement can be translated into the width of the heavy mass eigenstate of the B_s^0, $\Gamma_H = (0.590 \pm 0.049\,(\mathrm{stat}) \pm 0.017\,(\mathrm{syst}))\,\mathrm{ps}^{-1}$.

Primary authors: DZERO.PHYSICS.COORDINATOR, Bob.hirosky (DZero Experiment, Fermilab); DZERO.PHYSICS.COORDINATOR, Boris.tuchming (DZero Experiment, Fermilab)

Presenter: HERNANDEZ VILLANUEVA, Michel (Cinvestav)

Session Classification: Poster Session

Track Classification: Quark and Lepton Flavor Physics