Measurement of the lifetime of the $B_c$ meson using fully reconstructed $B_c \to J/\psi \pi$ decays at CDF

HAO SONG, University of Pittsburgh, CDF COLLABORATION — The CDF collaboration reports the first measurement of the $B_c$ meson lifetime obtained using a fully reconstructed final state. The $B_c$ meson is unique in being composed of two relatively heavy and distinct quarks which can both decay weakly contributing to its lifetime. Decays into a $J/\psi$ meson and a charged pion are reconstructed with sufficient statistics and purity to provide a $B_c$ lifetime measurement of comparable precision to previous determinations.