ERRATA

Direct Measurement of the J/ψ Leptonic Branching Fraction [Phys. Rev. Lett. 68, 282 (1992)]

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There has been some confusion generated due to a misstatement in a paragraph in our paper. The paragraph that begins on page 283, "The J/ψ leptonic branching fraction is . . .," does not accurately describe how we calculated the angular distributions. The Monte Carlo calculations that were done for this paper are correct and the results stand as given therein. Here the paragraph describing these calculations is rewritten to explain more clearly what was done.

The J/ψ leptonic branching fraction is $(n_1/\epsilon_1)/(n_2/\epsilon_2)$, where ϵ_1 and ϵ_2 are the detection efficiencies for each process. To obtain ϵ_1, we assume that process (1) occurs via the sequential two-body decays: $\psi(2S)\to X+J/\psi$, $X\to\pi^+\pi^-$ and $J/\psi\to l^+l^-$. We generate Monte Carlo samples using the X mass distribution [7]:

$$\frac{dN}{dm_X}\propto(m_X^2-4m_\pi^2)^2(m_X^2-4m_\pi^2)^{1/2}[(m_{\psi(2S)}^2-m_{J/\psi}^2-m_X^2)^2-4m_{J/\psi}^2m_X^2]^{1/2}.$$

To calculate the angular distributions, we follow the prescription given by Cahn [8]. We use an isotropic angular distribution for the production of the J/ψ and a $1+\cos^2\theta$ distribution for the lepton, where all angles are defined in the rest frame of the decaying particle with the z axis defined by the incident e^+e^- direction. We assume that the angular distribution of the pions in the $\pi\pi$ rest frame is isotropic. We also include the effects of final-state radiation [9], energy loss, and decays of the charged pions. The calculated lepton angular distribution agrees with the data. The $\pi^+\pi^-$ invariant mass distributions for the data and the Monte Carlo samples are shown in Fig. 3.