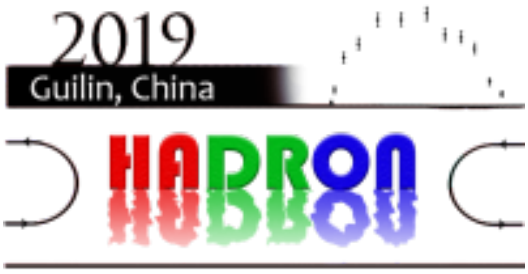

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Strong decays of cJ (3P) in the 3P0 model

Recently, LHCb collaboration has confirmed the state X(4100), with mass M = 4146.5±4.5 MeV, and much larger width = 83±21 MeV, comparing with the previous experimental measurements, which has confused the understanding of its nature. We will investigate the possible c1(3P) c¯c explanation of the X(4140), considering the mass spectra predicted in the quark model, and the strong decay properties within the 3P0 model, and we also predict the strong properties of the c0(3P) and c2(3P) charmonium states. Our results shows that the X(4140) state with the small width given in PDG can be explained as the c1(3P) charmonium state in the 3P0 model, and the more precise measurement of the X(4140) width is crucial to understand the nature of the X(4140).

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