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A quark model description of X(4260)

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It is fairly well established that X(4260) does not correspond, regarding its mass and transition properties, to a conventional $c\bar{c}$ state of the type provided for example by the Cornell [1] or the Godfrey-Isgur [2] models. This has motivated the development of other descriptions involving Fock space components (tetraquarks, meson molecules, hybrids...) different from $c\bar{c}$ (see for example [3] and references therein).

Alternatively one may think of keeping a $c\bar{c}$ description provided that the $c\bar{c}$ static potential interaction includes the effect of other Fock components. This kind of description has been developed for J^{++} charmonium (as well as bottomonium) states through the so called Generalized Screened Potential Model (GSPM) [4]. In this model the effective potential incorporates the effects of single S-wave meson-meson thresholds in the way suggested by lattice QCD calculations. This allows for a universal treatment of states below and above open flavor meson-meson thresholds.

Dealing with 1^{--} states is more complicated due to the presence of many meson-meson component thresholds. In this work we explore the application of the GSPM to X(4260) and show that a consistent description of the mass as well as the transition properties is feasible.

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Author: Prof. GONZALEZ, pedro (Universitat de Valencia (Spain))

Presenter: Prof. GONZALEZ, pedro (Universitat de Valencia (Spain))

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