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Heavy flavored tetraquarks in a diquark-antidiquark configuration

Friday 16 December 2022 14:00 (1 hour)

We systematically calculate the mass-spectra of tetraquarks $[cc\bar{b}\bar{b}]$ and $[cb\bar{c}\bar{b}]$ in a non-relativistic diquark-antidiquark model [1,2]. The spin-dependent terms have been incorporated to describe the splitting structure for orbital and radial excitations. We have successfully obtained the experimentally observed $B_c^{\pm}$ mesons to fit the model's parameters which are used to obtain the masses of tetraquarks. The masses of these tetraquarks are found to be in the range of 12.5 GeV- 13.5 GeV, and are compared with the two-meson threshold. The details of the study will be presented in the conference.

References:
[1] Rohit Tiwari, D. P. Rathaud, Ajay Kumar Rai Eur. Phys. J. A 57, 289 (2021).
[2] Rohit Tiwari, D. P. Rathaud and A. K.Rai, Indian J. Phys. 96, 1-22 (2022).

Session

Heavy Ions and QCD

Primary author: TIWARI, Rohit

Co-author: Dr RAI, Ajay Kumar (Sardar vallabhbhai National Institute of Technology-Surat)

Presenter: TIWARI, Rohit

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