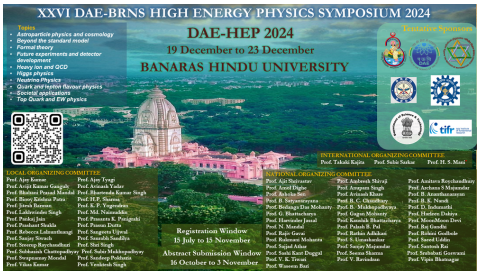

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Heavy Baryons in Hypercentral Constituent Quark Model: A comprehensive review

We have witnessed several experimental identifications of the heavy hadrons in the past few years. Several experimental facilities have observed many excited states of singly, doubly, and triply heavy baryons. The incredible experimental progress sparked theoretical investigations into the physics of heavy baryons. Theoretical research primarily focuses on understanding heavy baryons' mass, electromagnetic characteristics, and weak decay. Understanding the flavor structure and dynamics of these baryons depends on these investigations. We can establish baryon spectroscopy and provide a solid foundation for further research on the heavy quark symmetry by comprehending the nature of heavy baryons and looking for the missing heavy resonances. We give an overview of heavy baryon resonances found to date in this article. We employ the Hypercentral Constituent Quark Model (hCQM) to demonstrate an interaction between constituent quarks, and screening potential has been considered as confining potential with color-coulomb potential. The whole mass spectra of heavy baryons have been generated in our previous work.

Field of contribution

Phenomenology

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