

Molecular Ω_{cc} , Ω_{bb} and Ω_{bc} states

We study the interaction of meson-baryon coupled channels carrying quantum numbers of Ω_{cc} , Ω_{bb} and Ω_{bc} presently under investigation by the LHCb collaboration. The interaction is obtained from one extension of the local hidden gauge approach to the heavy quark sector that has proved to provide accurate results compared to experiment in the case of Ω_c , Ξ_c states and pentaquarks, P_c and P_{cs} . We obtain many bound states, with small decay widths within the energy range containing the chosen coupled channels. The spin-parity of the states are $J^P = \frac{1}{2}^-$ for coupled channels of pseudoscalar-baryon ($\frac{1}{2}^+$), $J^P = \frac{3}{2}^-$ for the case of pseudoscalar-baryon ($\frac{3}{2}^+$), $J^P = \frac{1}{2}^-, \frac{3}{2}^-$ for the case of vector-baryon ($\frac{1}{2}^+$) and $J^P = \frac{1}{2}^-, \frac{3}{2}^-, \frac{5}{2}^-$ for the vector-baryon ($\frac{3}{2}^+$) channels.

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Track Classification: Structure of hadrons