

## Molecular $\Omega_{cc}$ , $\Omega_{bb}$ and $\Omega_{bc}$ states.

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We study the interaction of meson-baryon coupled channels carrying quantum numbers of  $\Omega_{cc}$ ,  $\Omega_{bb}$  and  $\Omega_{bc}$  presently under investigation by the LHCb collaboration. The interaction is obtained from an 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  $\Omega_c$ ,  $\Xi_c$  states and pentaquarks,  $P_c$  and  $P_{cs}$ . We obtain many bound states, with small decay widths within the space of 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. We look for poles of the states and evaluate the couplings to the different channels. The couplings obtained for the open channels can serve as a guide to see in which reaction the obtained states are more likely to be observed.

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