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The molecular nature of some exotic hadrons

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The exciting discovery by LHCb of the $P_c(4380)$ and $P_c(4450)$ pentaquarks, or the suggestion of a tetraquark nature for the $Z_c(3900)$ state seen at BESIII and Belle, have triggered a lot of activity in the hadron physics field, with new experiments planned for searching other exotic mesons and baryons, and many theoretical developments trying to disentangle the true multiquark nature from their possible molecular origin. After a brief review of the present status of these searches, in this talk I will present a theoretical model that points towards the possible interpretation of some of the Ω_c states recently seen at LHCb as being hadron molecules. The model also predicts the existence of quasibound meson-baryon Ξ_{cc} states, which would be excited states of the recently observed ground-state double-charmed baryon, with a mass of 3261 MeV, by LHCb. Predictions of the model for the bottom sector will also be discussed.

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