

Consistency of the molecular picture of $\Omega(2012)$ with the latest Belle results

We study the $\Omega(2012)$ which was measured in the Belle experiment. We conduct a study of the interaction of the $\bar{K}\Xi^*$, $\eta\Omega$ (s -wave) and $\bar{K}\Xi$ (d -wave) channels within a coupled channel unitary approach. We also present a mechanism for $\Omega_c \rightarrow \pi^+ \Omega(2012)$ production through an external emission Cabibbo favored weak decay mode, where the $\Omega(2012)$ is dynamically generated from the above interaction. The picture has as a consequence that one can evaluate the direct decay $\Omega_c^0 \rightarrow \pi^+ K^- \Xi^0$ and the decay $\Omega_c^0 \rightarrow \pi^+ \bar{K}\Xi^*$, $\pi^+ \eta \Omega$ with direct coupling of $\bar{K}\Xi^*$ and $\eta\Omega$ to $K^- \Xi^0$. We find that all data including the Belle experiment on $\Gamma_{\Omega^* \rightarrow \pi \bar{K}\Xi} / \Gamma_{\Omega^* \rightarrow \bar{K}\Xi}$, are compatible with the molecular picture stemming from meson baryon interaction of these channels. I will give a presentation based on Refs. [1]-[3].

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- [2] N. Ikeno, G. Toledo, and E. Oset, Phys. Rev. D 101, 094016 (2020).
- [3] N. Ikeno, W. H. Liang, G. Toledo, and E. Oset, Phys.Rev.D 106, 034022 (2022).

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