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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 $\bar{K}\Xi^*$, $\eta\Omega(s\text{-wave})$ and $\bar{K}\Xi(d\text{-wave})$ channels within a coupled channel unitary approach. We also present a mechanism for $\Omega_c \to \pi^+\Omega(2012)$ 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 $\Omega_c^0 \to \pi^+ K^- \Xi^0$ and the decay $\Omega_c^0 \to \pi^+ \bar{K}\Xi^*$, $\pi^+\eta\Omega$ with direct coupling of $\bar{K}\Xi^*$ and $\eta\Omega$ to $K^-\Xi^0$. We find that all data including the Belle experiment on $\Gamma_{\Omega^* \to \pi\bar{K}\Xi}/\Gamma_{\Omega^* \to \bar{K}\Xi}$, are compatible with the molecular picture stemming from meson baryon interaction of these channels. I will give a presentation based on Refs. [1]-[3].

[1] R. Pavao and E. Oset, Eur. Phys. J. C78, 857 (2018).

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Author: Dr IKENO, Natsumi (Tottori University)

Co-authors: Prof. TOLEDO, Genaro; Prof. OSET, Eulogio; Prof. LIANG, Wei-Hong

Presenter: Dr IKENO, Natsumi (Tottori University)

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