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Classification of eigenstates in coupled-channel scattering amplitude with the chiral unitary method

Xi(1620) and Xi(1690) have recently been actively studied both experimentally and theoretically.
We have constructed the models which are based on the Belle and ALICE experimental results, with the chiral unitary method previously.[1]
In this study we discuss the physical origin of poles in the scattering amplitude by extrapolating different models.
We also study the near Kbar-Lambda threshold pole trajectory with different channel coupling strength in the Weinberg-Tomozawa potential.
With this analysis we aim to clarify the physical properties of the eigenstates in the constructed scattering amplitudes.

[1]T.Nisihibuchi and T.Hyodo, Phys. Rev. C 109, no1, 015203 (2024)

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