

3-body quantization condition in unitary isobar formalism

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In the isobar parametrization the three-particle states are populated via an interacting two-particle system (resonant or non-resonant), and a spectator. Using this formulation, we derive the isobar-spectator amplitude such that the three-body Unitarity is ensured exactly (arXiv:1706.06118).

Unitarity constrains the imaginary parts of such an amplitude, which determine the power-law finite-volume effects to ensure the correct 3-body quantization condition. The derivation of the latter in the present formalism (arXiv:1709.08222) as well as its subsequent application for the determination of the finite-volume energy spectrum in realistic systems will be presented in this talk.

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