

Equivalence of three-particle quantization conditions

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We show that a recently derived alternative form of the relativistic three-particle quantization condition for identical particles can be rewritten in terms of the R matrix introduced to give a unitary representation of the infinite-volume three-particle scattering amplitude. Combined with earlier work, this shows the equivalence of the relativistic effective field theory approach of Refs. [1, 2] and the “finite-volume unitarity” approach of Refs. [3, 32]. It also provides a generalization of the latter approach to arbitrary angular momentum of two-particle subsystems.

Primary author: SHARPE, Stephen (University of Washington)

Co-author: BLANTON, Tyler D.

Presenter: SHARPE, Stephen (University of Washington)

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