

Lorentz invariant 3-body quantization condition in Lattice QCD

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The three-particle quantization condition on the lattice is written down in a manifestly relativistic-invariant form by using a generalization of the non-relativistic effective field theory (NREFT) approach. A partial diagonalization of the quantization condition into the various irreducible representations of the (little groups of the) octahedral group has been carried out both in the center-of-mass frame and in moving frames. Furthermore, producing synthetic data in a toy model, the relativistic invariance is explicitly demonstrated for the three-body bound state spectrum.

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