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Pion Pion –Scattering with IAM in the Finite Volume

Wednesday, 10 July 2024 17:30 (20 minutes)

We study the effect of a finite volume for pion-pion scattering over energy levels and physical observables such as the phase-shift or pion mass. The method to determine the energy levels is done using a finite set of cubic harmonics or the matrices which represents the Irreps properly, which expands our Inverse Amplitude Method, (as well we apply the method already in the known Bether-Salpeter equations - BSE) over a set of irreducible groups of rotations from the octahedral group, giving us a forward classification of energy levels, independently of whether we are including uand t-loops. On the other hand, the study of finite corrections of pion mass and phase-shift is already done, looking a dependence with the size of the box (L). We expect that our results will help to optimize the process of determination of energy levels and phase-shifts with higher accuracy, including multiple loops.

session

E. Hadron and Nuclear Interactions

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