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Elementary Example of Exact Effective-Hamiltonian Computation

Monday 29 November 2021 14:30 (30 minutes)

An exact computation of effective Hamiltonians in an elementary model akin to quantum field theory is carried out by solving equations of the renormalization group procedure for effective particles (RGPEP) [1]. The computation exhibits the mechanism by which the weak-coupling expansion and Tamm-Dancoff approximation increase in accuracy along the RGPEP evolution. The model computational pattern can be followed in perturbative computations of effective Hamiltonians in realistic theories.

[1] S. D. Glazek, Phys. Rev. D 103, 014021 (2021).

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