

A primer for chiral perturbation theory

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Abstrak

Chiral perturbation theory, as effective field theory, is a commonly accepted and well established working tool, approximating quantum chromodynamics at energies well below typical hadron masses. This volume, based on a number of lectures and supplemented with additional material, provides a pedagogical introduction for graduate students and newcomers entering the field from related areas of nuclear and particle physics. Starting with the the Lagrangian of the strong interactions and general symmetry principles, the basic concepts of Chiral Perturbation Theory in the mesonic and baryonic sectors are developed. The application of these concepts is then illustrated with a number of examples. A large number of exercises (81, with complete solutions) are included to familiarize the reader with helpful calculational techniques.