

Abstract Submitted
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Few-nucleon systems with chiral forces EVGENY EPELBAUM, Jefferson Laboratory, WALTER GLOECKLE, Ruhr-University Bochum, ULF-G. MEISSNER, University Bonn and Forschungszentrum Juelich, Germany, ANDREAS NOGGA, Forschungszentrum Juelich, Germany, HENRYK WITALA, Jagellonian University Cracow, Poland, HIROYUKI KAMADA, Kyushu Institute of Technology, Japan — I discuss the application of chiral effective field theory to study the dynamics of few-nucleon systems in a systematic and controlled way. This method relies on the low-momentum expansion and allows to derive nuclear forces and current operators from the most general effective Lagrangian for nucleon and pion fields and external sources in harmony with (approximate) chiral symmetry of Quantum Chromodynamics, the underlying theory of the strong interaction. I present some new results for few-nucleon systems based upon the chiral forces.

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