Renormalizable chiral EFT for NN scattering

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We consider the renormalizable chiral effective field theoretical approach to nucleon-nucleon scattering problem of Ref. [1]. This new framework is based on the Lorentz invariant chiral effective Lagrangian and the time ordered perturbation theory. Leading order nucleon-nucleon scattering amplitude is obtained by solving a renormalizable integral equation and corrections are taken into account perturbatively. We discuss some conceptual issues and present numerical results.

[1] E. Epelbaum and J. Gegelia, Phys. Lett. B **716**, 338 (2012).

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