The energy-critical quintic NLS on perturbations of Euclidean space.

Abstract:
Consider the defocusing quintic nonlinear Schrodinger equation on $R^3$ with initial data in the energy space. This problem is "energy-critical" in view of a certain scaling invariance, which is a main source of difficulty in the analysis of this equation. It is a nontrivial fact that all finite-energy solutions scatter to linear solutions. We show that this remains true under small compact deformations of the Euclidean metric.