

Wave equations with critical potentials

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Abstract

Many relativistic field equations look approximately like a wave equation in Minkowski space, with an additional potential term. This approximation may become exact under spherical symmetry. A few examples will be given, and then I will review recent progress in proving Strichartz estimates for such equations in cases where the potential is bad at either zero or infinity. The precise meaning of the word “bad” is determined by scaling.

This is joint work with various subsets of N. Burq, F. Planchon, and A.S. Tahvildar-Zadeh.