The Strauss Conjecture on Black Holes

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Abstract

The Strauss conjecture for the Minkowski spacetime in three dimensions states that the semilinear equation

$$\Box u = |u|^p, \quad u(0) = \epsilon f, \quad \partial_t u(0) = \epsilon g$$

has a global solution for all $f$ and $g$ smooth, compactly supported and $\epsilon$ small enough if $p > 1 + \sqrt{2}$. We prove a similar result in the context on Schwarzschild and Kerr with small angular momentum spacetimes. This is joint work with H. Lindblad, J. Metcalfe, C. Sogge, and C. Wang