Abstract.

The Soliton Resolution Conjecture predicts that, generically, solutions of non-linear dispersive equations decompose asymptotically into a superposition of a finite number $n$ of solitons and a linear radiation term. In the case of absence of the radiation term, such a solution is called a pure multi-soliton or a pure $n$-soliton. Motivated by the recent progress on this conjecture for energy-critical equations, I consider the problem of existence of pure radial two-solitons for the energy critical wave equation and the energy-critical Schrödinger equation with a focusing power nonlinearity.