On spectral properties for blow-up and soliton stability in dispersive equations

Svetlana Roudenko¹

 1 The George Washington University, USA

When studying the blow-up dynamics and soliton stability in dispersive equations (e.g., NLS-type and KdV-type), one can encounter spectral property questions, for example, arising from the localized virial. We discuss examples of the L^2 -critical blow-up dynamics, spectral properties and its consequences in the NLS, generalized Zakharov-Kuznetsov and Hartree equations.