

Global Bifurcation Picture in NLS and its Dynamical Aspects

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Abstract.

The first part of the talk will focus on locating all solitary waves and their bifurcation points for a large class of nonlinear Schrodinger equations. It has been known that the solitary waves can be organized in manifolds. I will present recent results which show how to identify all limit points of these manifolds at the boundary of the region in which the linearized operator is Fredholm and how to trace these manifolds back in the region starting from the limit points. This part is joint work with Vivek Natarajan from Tel Aviv University. The second part will focus on dynamical aspects near the bifurcation points.