Analysis and Applied Mathematics Seminar

Global existence of solutions for a fractional damped Schrödinger equation

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Abstract: We consider the initial value problem for the fractional nonlinear Schrödinger equation with a damping term. We study the global existence and the scattering of solutions. Noticeably, for the focusing nonlinearity, it is shown that for a large enough damping, the size of the solution depends only on the initial data, and the solution exists for all times in a space of regular enough functions.