

Stability analysis of topological solitons and applications of the distorted Fourier transform

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Abstract. We will review some orbital and asymptotic stability results in Hamiltonian equations. A common tool in asymptotic stability proofs is given by the distorted Fourier transform. We will briefly review how this tool is derived and describe some of its applications. A particular challenge is to develop this tool for non-selfadjoint matrix operators which commonly arise when linearizing a nonlinear Schrödinger equation around a soliton. Much of the talk will deal with a particular instance of this problem in the setting of Ginzburg–Landau vortices.