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Near-linear evolution for 1D periodic NLS

In a joint work with V. Zharnitsky, we prove that the evolution of 1D cubic NLS on the torus is close to a linear Schrodinger evolution if the Fourier sequence of the initial data has small ℓ^∞ norm and not very large ℓ^1 norm. This result was suggested by the numerical experiments performed by engineers working on fiber optic telecommunication systems.