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# Generalized dNLS models as normal forms for KG lattices and applications

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## Abstract

Generalized dNLS models emerge as resonant normal forms for Klein-Gordon lattices in the small energy regime and anticontinuum limit. In the case of an arbitrary large but finite 1D lattice, the use of discrete symmetries allow to get a sharp dependence of the estimates on the size of the lattice. Results available on the generalized dNLS lattices, like long time stability of breathers, approximation of the Cauchy problem and non existence of vortex-like multibreathers can be transferred to the original Klein-Gordon lattice.

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