

Abstract Submitted
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Origins of bright soliton transparency to Bogoliubov quasi-particles¹ ZAIJONG HWANG, University of Massachusetts Boston, ANDREW KOLLER, University of Massachusetts Boston, University of Colorado Boulder, MAXIM OLSHANII, University of Massachusetts Boston — Bogoliubov quasi-particles can pass through a one-dimensional bright soliton without reflection at all energies.² Reflectionless properties of this kind usually originate from a supersymmetric structure of the corresponding Hamiltonian.^{3,4} However, we give a strong indication that in this case¹, the mathematical mechanism enabling full spectrum transparency of a scattering object does not fall into any of the conventional paradigms.

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