

Abstract Submitted
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Propagating the nonlinear Schroedinger equation FREDERICK STRAUCH, Gettysburg College — We derive an exact propagation scheme for nonlinear Schroedinger equations. This scheme, analogous to the propagation of linear Schroedinger equations, results from a special operator whose properties ensure the correct propagation. Using this scheme we prove the correctness of higher-order integrators for the Gross-Pitaevskii equation and its multi-component generalizations.

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