Lie symmetries, qualitative analysis and exact solutions of nonlinear Schrödinger equations with spatially inhomogeneous nonlinearities.

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Using Lie group theory and canonical transformations, we construct explicit solutions of nonlinear Schrödinger equations with spatially inhomogeneous nonlinearities. We present the general theory, use it to study different examples and use the qualitative theory of dynamical systems to obtain some properties of these solutions.

References

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