

A study of a nonlinear derivative Schrodinger equation

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In this talk we present symmetry reductions and group-invariant solutions for the SBS derivative nonlinear Schrodinger equation. This equation is used to describe the evolution of some signal in lossless discrete nonlinear transmission line made of circuits that contains constant inductors and voltage-dependent capacitors. We then derive the conservation laws for this equation through the use of a direct method.

Keywords: Derivative nonlinear Schrodinger equation; symmetry reductions; conservation laws; direct method.