Computation of Some Geometric Properties for New Nonlinear PDE Models

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Abstract:

The purpose of the present work is to construct new geometrical models for motion of plane curve by Darboux transformations. We get nonlinear partial differential equations (PDE). We have obtained the exact solutions of the resulting equations using symmetry groups method. Also, the Gaussian and mean curvatures of Monge form of the soliton surfaces have been calculated and discussed.

Keywords:

Motion of Curve, Darboux Transformations, Gaussian and Mean Curvatures, Symmetry Groups

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