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Abstract

In this research report, we present the Lie group-theoretical method of constructing exact solutions for a time dependent variable coefficients Korteweg-de Vries (KdV) equation. We obtain the Lie point symmetry generators of the underlying equation and show that the Lie point symmetry generators span a four-dimensional Lie algebra of the equation. Several exact group-invariant solutions of the equation are constructed using these Lie point symmetry generators.

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