Abelian Lie symmetry algebras of two-dimensional quasilinear evolution equations

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Abstract

We carry out the classification of abelian Lie symmetry algebras of two-dimensional second-order nondegenerate quasilinear evolution equations. It is shown that such an equation is linearizable if it admits an abelian Lie symmetry algebra that is of dimension greater than or equal to five or of dimension greater than or equal to three with rank one.

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