

借助Lie群研究Burgers-KdV方程行波解的可积性

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The Lie Group Method in the Study of Integrability of the Travelling Wave of Burgers-KdV Equation

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摘要

运用经典Lie群方法证明 Burgers-KdV 方程行波解所满足的二阶非线性常微分方程当且仅当参数满足特殊情况下,恰好接受一个两参数Lie群,并用不同的方法求出方程的两个相互独立首次积分.

关键词: [Burgers-KdV行波解方程](#) [Lie群](#) [首次积分](#)

Abstract:

For Burgers-KdV travelling wave equation, which satisfies secons nonlinear order ordinary differntial equation, We will apply the classical Lie group theory to show that the corresponding travelling wave equation admits a double parameter Lie group if and only if parameter is satisfied in particular case. Under this condition, based on a method different to the traditional one, its two independent first integrals are given.

Key words: [Burgers-KdV travelling wave equation](#) [Lie group](#) [first integral](#)

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