量子物理

变系数（2+1）维Burgers系统的精确解及特殊孤波结构

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摘要：

采用映射方法研究变系数（2+1）维Burgers系统，首次得到了该系统带有任意函数的一系列显式精确解。用图形分析方法对这变系数（2+1）维Burgers系统的部分孤波结构进行分析，揭示了该系统所具有的一种特殊孤波结构-平衡位置随时间变化的扭结孤立波。

关键词：　非线性物理　精确解　孤波结构　映射方法　变系数（2+1）维Burgers系统

Exact solutions and special solitary wave structures for variable coefficients (2+1)-dimensional Burgers system

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Abstract:

A series of explicit exact solutions with arbitrary functions for variable coefficients (2+1)-dimensional Burgers system are obtained for the first time by using mapping method. Partial solitary wave structure of the variable coefficients (2+1)-dimensional Burgers system is analyzed by using graphic analysis method, and a kind of special solitary wave structure namely kink solitary wave which equilibrium position is varying with time is revealed.

Keywords: nonlinear physics　exact solution　solitary wave structure　mapping method　variable coefficients (2+1)-dimensional Burgers system

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