

High-Dimensional Integrable Models with Infinitely Dimensional Virasoro-Type Symmetry Algebra

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(Received: 2000-1-28; Revised:)

Abstract: Using every realization of the Virasoro-type symmetry algebra $[\sigma(f_1), \sigma(f_2)] = \sigma(\dot{f}_1 f_2 - \dot{f}_2 f_1)$, we can obtain various high-dimensional integrable models under the meaning that they possess infinitely many symmetries. By means of a concrete realization, many (3+1)-dimensional equations which possess Kac-Moody-Virasoro-type infinite dimensional symmetry algebras are obtained.

PACS: 03.40.Kf, 02.30.Jr

Key words: symmetry algebra, high-dimensional model, invariant equation

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