2+1-DIMENSIONAL BI-HAMILTONIAN SYSTEM OBTAINED FROM SYMMETRY REDUCTION OF 3+1-DIMENSIONAL HIROTA TYPE EQUATION

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In this work, we show that the integrable (3+1)-dimensional Hirota type nonlinear differential equation reduces to the (2+1)-dimensional Hirota type equation by symmetry reduction. It is proved that starting from the Dirac constraint analysis and degenerate Lagrangian, obtained (2+1)-dimensional equation is also integrable and admit bi-Hamiltonian structure. Moreover, all the parameters defined in four dimensional system like Lagrangian, Hamiltonian operators, Hamiltonian functions and recursion operator have the same result of the three dimensional system after the reduction.

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BIANCHI V UNIVERSE MODEL FOR STRING CLOUD WITH PERFECT FLUID IN LYRA MANIFOLD

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In this study, we have investigated homogeneous and anisotropic Bianchi V universe for string cloud with perfect fluid in Lyra geometry. In order to obtain the exact solutions of the field equations in Lyra geometry, which is proposed as an alternative to the general theory of relativity, we have used the deceleration parameter. At the same time, the physical and geometrical structure of the model is examined and graphs are given.

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