Mei Symmetry and Lie Symmetry of Relativistic Hamiltonian System

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Abstract: The Mei symmetry and the Lie symmetry of the relativistic Hamiltonian system are studied. The definition and criterion of the Mei symmetry and the Lie symmetry of the relativistic Hamiltonian system are given. The relationship between them is found. The conserved quantities which the Mei symmetry and the Lie symmetry lead to are obtained. An example is given to illustrate the application of the result.

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