Mathematics > Differential Geometry

Geometry of jet spaces and integrable systems

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An overview of some recent results on geometry of partial differential equations in application to integrable systems is given. Lagrangian and Hamiltonian formalism both in the free case (on the space of infinite jets) and with constraints (on a PDE) are discussed. Analogs of tangent and cotangent bundles to a differential equation are introduced and the variational Schouten bracket is defined. General theoretical constructions are illustrated by a series of examples.

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