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Twisted $GL_n$ loop group orbit and solutions of the WDVV equations. (English)

Zbl 0991.37042

The author considers a twisted $GL_n$ loop group and its homogeneous space $gr^{(2)}$ related to the infinite-dimensional Sato Grassmannian. It is shown that $\tau$-functions $\tau_W$ associated to points $W \in gr^{(2)}$ lead to solutions of the Darboux-Egoroff system as well as WDVV equations.

Reviewer: Igor Potemine (Toulouse)

MSC:

37K10 Completely integrable infinite-dimensional Hamiltonian and Lagrangian systems, integration methods, integrability tests, integrable hierarchies (KdV, KP, Toda, etc.)

81T45 Topological field theories in quantum mechanics

53D45 Gromov-Witten invariants, quantum cohomology, Frobenius manifolds

Keywords:

Darboux-Egoroff system; multicomponent KP hierarchy; twisted loop group orbits; WDVV equations

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