

On Witten - Kontsevich tau-function and its generalisations

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We will address the problem of computation of tau-functions for the Korteweg - de Vries and other integrable hierarchies for solutions specified by their initial conditions. For the particular solutions involved in the computation of topological characteristics of moduli spaces of algebraic curves the logarithmic expansion of the tau-functions can be expressed in terms of a new class of special functions defined as solutions to certain systems of ordinary linear differential equations with polynomial coefficients called topological ODEs.

The talk is based on a series of joint papers with M. Bertola and D. Yang.

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