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On algebraic integrability of the elliptic two-dimensional CP^n sigma model

Monday, June 28, 2021 5:00 PM (40 minutes)

Harmonic maps of two-dimensional Riemann surface Σ to a Riemann manifold M are of interest both in physics and mathematics. They are critical points of the Dirichlet functional, the sigma model action. In the talk a new approach to the study of these models will be presented. In particular we show that the Dubrovin-Krichever-Novikov hierarchy can be seen as a family of commuting symmetries of the CP^n sigma model. As a corollary we prove that the spectral curves associated with harmonic maps of two-torus to spheres are algebraic.

The talk is based on a joint work with Nikita Nekrasov

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