Symmetric Solutions of the Dispersionless 2D Toda Hierarchy, Hurwitz Numbers and Conformal Dynamics

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Abstract

Symmetric solutions of the dispersionless 2D Toda hierarchy, Hurwitz numbers and conformal dynamics. Abstract: Integrable system dispersionless 2D Toda hierarchy first emerged in the theoretical physics in connection with models of gravity. Later it turned out that special solutions of this system are related to the two completely different classical problems: the calculation of the Hurwitz numbers, and the construction of biholomorphic functions displaying an arbitrary domain in the complex plane into the standard disc. In both cases, the desired solutions belong to a special class of important decisions of hierarchy . In report will show you how to find all solutions of this class, how to distinguish among them the solutions, related to the Hurwitz numbers and conformal maps, and with their help significantly to progress in solving these classic problems. The report is based on a joint work with A.V. Zabrodin.