

Kirillov, A. N.; Reshetikhin, N. Yu.

Bethe Ansatz and combinatorics of the Young tableaux. (Russian. English summary)

Zbl 0617.20025

Zap. Nauchn. Semin. Leningr. Otd. Mat. Inst. Steklova 155, 65-115 (1986).

The study of combinatorial aspects of the quantum inverse scattering method and Bethe's ansatz applied to the $GL(N)$ ($GL(N/M)$) invariant integrable quantum systems is continued. A bijective correspondence is built between the standard Young tableaux (bitableaux) and the rigged configurations which is a generalization of the bijection found in the preceding paper for standard tableaux without repetitions [S. V. Kerov, A. N. Kirillov and N. Yu. Reshetikhin [J. Sov. Math. 41, No. 2, 916-924 (1988; Zbl 0639.20028); translation from Zap. Nauchn. Semin. Leningr. Otd. Mat. Inst. Steklova 155, 50-64 (1986; Zbl 0617.20024)]. Some important functionals on the standard tableaux are expressed in terms of the numerical parameters of the rigged configurations. In particular, a simple combinatorial representation for Kostka's polynomial is given.

Reviewer: [A. Bogush](#)

MSC:

- [20G45](#) Applications of linear algebraic groups to the sciences
- [37K15](#) Inverse spectral and scattering methods for infinite-dimensional Hamiltonian and Lagrangian systems
- [81R12](#) Groups and algebras in quantum theory and relations with integrable systems
- [05E15](#) Combinatorial aspects of groups and algebras (MSC2010)
- [05E05](#) Symmetric functions and generalizations

Cited in **6** Reviews
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Keywords:

quantum inverse scattering; Bethe's ansatz; integrable quantum systems; standard Young tableaux; rigged configurations

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