

Baxter's relations and spectra of quantum integrable systems.
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Abstrakt:

In his seminar work, Baxter established that the spectrum of six (and eight)-vertex model can be described in terms of polynomials and of the famous Baxter's QT-relation. Frenkel-Reshetikhin conjectured that there is an analog form for the spectrum of more general quantum integrable systems (more precisely, generalizing the XXZ model, whose spectrum is the same as that of the six-vertex model). We will present our recent proof (with E. Frenkel) of this conjecture for arbitrary untwisted affine types. Our approach is based on the study of prefundamental representations we constructed previously with M. Jimbo. We establish generalized Baxter's relations in the Grothendieck ring of a category \mathcal{O} containing the prefundamental representations.