

Talk 13, 11:10–

Factorization and exponential form of correlation functions for the XXZ spin chain at finite temperature and magnetic field

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I am going to discuss our recent joint work with Frank Goehmann, Andreas Kluemper and Junji Suzuki. We consider the phenomenon of factorization of correlation functions for the XXZ model at finite temperature and magnetic field. We use the results obtained by Jimbo, Miwa, Smirnov, Takeyama and myself for the case $T = h = 0$ but with 'disordered field'. The most important result here was the so-called exponential form of the correlation functions. Now we use the disorder parameter, α , also but only at the intermediate stage as the regularization. We suggest a conjecture that in the limit $\alpha \rightarrow 0$ the exponential form works as well. Also I show some special examples. We have checked the validity of the exponential formula in these cases either through the direct factorization of multiple integrals or via the high-temperature expansion.