

# Finite-temperature behavior of an impurity in the spin-1/2 XXZ chain

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We study the finite temperature behavior of the integrable spin-1/2 XXZ periodic chain with an impurity by the algebraic and thermal Bethe ansatz methods. We derive the explicit form of the Hamiltonian, the impurity susceptibility at zero temperature, and the impurity entropy and specific heat at finite temperature. Two types of crossover behavior, one from the high- to low-temperature regime and another one from the  $N$ -site chain to the  $(N - 1)$ -site chain with a free impurity are observed. We also show the estimate of the Wilson ratio at low temperature, which is parametrized with the XXZ anisotropy. This talk is based on R. Yahagi, J. Sato and T. Deguchi, J. Stat. Mech. (2014) P11020.