Nested Bethe Ansatz for Spin Ladder Model with Open Boundary Conditions

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Abstract: The nested Bethe ansatz (BA) method is applied to find the eigenvalues and the eigenvectors of the transfer matrix for spin-ladder model with open boundary conditions. Based on the reflection equation, we find the general diagonal solution, which determines the general boundary interaction in the Hamiltonian. We introduce the spin-ladder model with open boundary conditions. By finding the solution $K^{\pm}$ of the reflection equation which determines the nontrivial boundary terms in the Hamiltonian, we diagonalize the transfer matrix of the spin-ladder model with open boundary conditions in the framework of nested BA.

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