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The Effects of Solution Transformations to the System with Color Parameters

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Abstract: The effects of solution transformations to the six- and eight-vertex systems are discussed. There are four kinds of effects, the Hamiltonian of the system is invariant, its coupling coefficients change, some additional terms appear in the Hamiltonian, and the spin of the system is rotated by some angle about z axis under these transformations. In all the cases, the systems are still integrable if they are so before the transformation.

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Key words: Hamiltonian, solution transformation, integrability, vertex model

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