SOME APPLICATIONS OF THE BETHE ANSATZ

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Abstract. The Bethe ansatz is a method of computation that allows to derive closed-form expressions for the eigenvalues and eigenvectors of particular quantum many-body interaction systems whose hamiltonians share certain integrability properties. Recently, this method of resolution was applied to probabilistic models such as ASEP to derive determinantal formulas for probabilities.

The goal of this talk is to give a historical introduction to the Bethe ansatz. We will thus present the original form used by Bethe, nowadays known under the denomination of "coordinate Bethe ansatz". We will then illustrate the relevance of the method to the case of the ASEP.

References

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