

<<量子群入门>>

图书基本信息

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内容概要

quantum groups first arose in the physics literature, particularly in the work of L. D. Faddeev and the Leningrad school, from the 'inverse scattering method', which had been developed to construct and solve 'integrable' quantum systems. They have excited great interest in the past few years because of their unexpected connections with such, at first sight, unrelated parts of mathematics as the construction of knot invariants and the representation theory of algebraic groups in characteristic p . In their original form, quantum groups are associative algebras whose defining relations are expressed in terms of a matrix of constants (depending on the integrable system under consideration) called a quantum R -matrix. It was realized independently by V. G. Drinfel'd and M. Jimbo around 1985 that these algebras are Hopf algebras, which, in many cases, are deformations of 'universal enveloping algebras' of Lie algebras. A little later, Yu. I. Manin and S. L. Woronowicz independently constructed non-commutative deformations of the algebra of functions on the groups $SL_2(\mathbb{C})$ and SU_2 , respectively, and showed that many of the classical results about algebraic and topological groups admit analogues in the non-commutative case.

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