

<<霍普夫代数>>

图书基本信息

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内容概要

If for instance , we replace the finite group G in the above argument by a topological group and k by the field of real numbers or the field of complex numbers , or if we take G to be an algebraic group over an algebraically closed field k and A is replaced by the k -algebra of all continuous representative functions or of all regular functions over G , then A turns out to be a k -Hopf algebra in exactly the same manner. These algebraic systems play an important role when studying the structure of G . Similarly , a k -Hopf algebra structure can be defined naturally on the universal enveloping algebra of a k -Lie algebra. The universal enveloping algebra of the Lie algebra of a semi-simple algebraic group turns out to be (in a sense) the dual of the Hopf algebra defined above. These constitute some of the most natural examples of Hopf algebras. The general structure of such algebraic systems has recently become a focus of interest in connection with its applications to the theory of algebraic groups or the Galois theory of purely inseparable extensions , and a great deal of research is currently being conducted in this area.

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