

<<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 conjunction 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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