

<<算术教程>>

图书基本信息

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前言

This book is divided into two parts. The first one is purely algebraic. Its objective is the classification of quadratic forms over the field of rational numbers (Hasse-Minkowski theorem). It is achieved in Chapter IV. The first three chapters contain some preliminaries : quadratic reciprocity law , p -adic fields , Hilbert symbols. Chapter V applies the preceding results to integral quadratic forms of discriminant $+1$. These forms occur in various questions : modular functions , differential topology , finite groups. The second part (Chapters VI and VII) uses "analytic" methods (holomorphic functions) . Chapter VI gives the proof of the "theorem on arithmetic progressions" due to Dirichlet; this theorem is used at a critical point in the first part (Chapter III , no. 2.2) . Chapter VII deals with modular forms , and in particular , with theta functions. Some of the quadratic forms of Chapter V reappear here. The two parts correspond to lectures given in 1962 and 1964 to second year students at the Ecole Normale Supérieure. A redaction of these lectures in the form of duplicated notes , was made by J.-J. Saïas (Chapters I-IV) and J.-P. Ramis and G. Ruget (Chapters VI-VII) . They were very useful to me; I extend here my gratitude to their authors.

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内容概要

The first one is purely algebraic. Its objective is the classification of quadratic forms over the field of rational numbers (Hasse-Minkowski theorem). It is achieved in Chapter IV. The first three chapters contain some preliminaries : quadratic reciprocity law , p -adic fields , Hilbert symbols. Chapter V applies the preceding results to integral quadratic forms of discriminant $+ 1$. These forms occur in various questions : modular functions , differential topology , finite groups. The second part (Chapters VI and VII) uses "analytic" methods (holomorphic functions) . Chapter VI gives the proof of the "theorem on arithmetic progressions" due to Dirichlet; this theorem is used at a critical point in the first part (Chapter 111 , no. 2.2) . Chapter VII deals with modular forms , and in particular , with theta functions. Some of the quadratic forms of Chapter V reappear here.

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