

<<拓扑向量空间>>

图书基本信息

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## 前言

The present book is intended to be a systematic text on topological vector spaces and presupposes familiarity with the elements of general topology and linear algebra. The author has found it unnecessary to rederive these results, since they are equally basic for many other areas of mathematics, and every beginning graduate student is likely to have made their acquaintance. Similarly, the elementary facts on Hilbert and Banach spaces are widely known and are not discussed in detail in this book, which is mainly addressed to those readers who have attained and wish to get beyond the introductory level. The book has its origin in courses given by the author at Washington State University, the University of Michigan, and the University of Tübingen in the years 1958—1963. At that time there existed no reasonably complete text on topological vector spaces in English, and there seemed to be a genuine need for a book on this subject. This situation changed in 1963 with the appearance of the book by Kelley, Namioka et al. [1] which, through its many elegant proofs, has had some influence on the final draft of this manuscript. Yet the two books appear to be sufficiently different in spirit and subject matter to justify the publication of this manuscript; in particular, the present book includes a discussion of topological tensor products, nuclear spaces, ordered topological vector spaces, and an appendix on positive operators. The author is also glad to acknowledge the strong influence of Bourbaki, whose monograph [7], [8] was (before the publication of the [5]) the only modern treatment of topological vector spaces in printed form. A few words should be said about the organization of the book. There is a preliminary chapter called “Prerequisites,” which is a survey aimed at clarifying the terminology to be used and at recalling basic definitions and facts to the reader’s mind. Each of the five following chapters, as well as the Appendix, is divided into sections. In each section, propositions are marked U.V, where U is the section number.

## 内容概要

As the first edition of this book has been well received through five printings over a period of more than thirty years , we have decided to leave the material of the first edition essentially unchanged - barfing a few necessary updates. On the other hand , it appeared worthwhile to extend the existing text by adding a reasonably informative introduction to  $C^*$ -and  $W^*$ -algebras. The theory of these algebras seems to be of increasing importance in mathematics and theoretical physics , while being intimately related to topological vector spaces and their orderings—the prime concern of this text. The authors wish to thank J. Schweizer for a careful reading of ChapterVI , and the publisher for their care and assistance.

## &lt;&lt;拓扑向量空间&gt;&gt;

## 书籍目录

Preface to the Second Edition Preface Prerequisites A. Sets and Order B. General Topology C. Linear Algebra .  
 TOPOLOGICAL VECTOR SPACES Introduction 1 Vector Space Topologies 2 Product  
 Spaces, Subspaces, Direct Sums, Quotient Spaces 3 Topological Vector Spaces of Finite Dimension 4 Linear  
 Manifolds and Hyperplanes 5 Bounded Sets 6 Metrizable Spaces 7 Complexification Exercises . LOCALLY  
 CONVEX TOPOLOGICAL VECTOR SPACES Introduction 1 Convex Sets and Semi-Norms 2 Normed and  
 Normable Spaces 3 The Hahn-Banach Theorem 4 Locally Convex Spaces 5 Projective Topologies 6 Inductive  
 Topologies 7 Barreled Spaces 8 Bornological Spaces 9 Separation of Convex Sets 10 Compact Convex Sets  
 Exercises . LINEAR MAPPINGS Introduction 1 Continuous linear Maps and Topological Homomorphisms  
 2 Banach's Homomorphism Theorem 3 Spaces of Linear Mappings 4 Equicontinuity. The Principle of Uniform  
 Boundedness and the Banach-Steinhaus Theorem 5 Bilinear Mappings 6 Topological Tensor Products 7  
 Nuclear Mappings and Spaces 8 Examples of Nuclear Spaces 9 The Approximation Property. Compact Maps  
 Exercises . DUALITY Introduction 1 Dual Systems and Weak Topologies 2 Elementary Properties of  
 Adjoint Maps 3 Locally Convex Topologies Consistent with a Given Duality. The Mackey-Arens Theorem 4  
 Duality of Projective and Inductive Topologies 5 Strong Dual of a Locally Convex Space. Bidual. Reflexive Spaces 6  
 Dual Characterization of Completeness, Metrizable Spaces. Theorems of Grothendieck, Banach-Dieudonné, and  
 Krein-Smulian ..... . ORDER STRUCTURES . C- AND W-ALGEBRAS Appendix. SPECTRAL  
 PROPERTIES OF POSITIVE OPERATORS

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