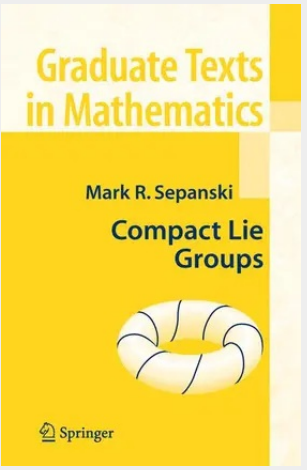
Sepanski

Compact Lie Groups



Blending algebra, analysis, and topology, the study of compact Lie groups is one of the most beautiful areas of mathematics and a key stepping stone to the theory of general Lie groups. Assuming no prior knowledge of Lie groups, this book covers the structure and representation theory of compact Lie groups. Included is the construction of the Spin groups, Schur Orthogonality, the Peter-Weyl Theorem, the Plancherel Theorem, the Maximal Torus Theorem, the Commutator Theorem, the Weyl Integration and Character Formulas, the Highest Weight Classification, and the Borel-Weil Theorem. The necessary Lie algebra theory is also developed in the text with a streamlined approach focusing on linear Lie groups.

Key Features are: - Provides an approach that minimizes advanced prerequisites; - Self-contained and systematic exposition requiring no previous exposure to Lie theory; - Advances quickly to the Peter-Weyl Theorem and its corresponding Fourier theory; - Streamlined Lie algebra discussion reduces the differential geometry prerequisite and allows a more rapid transition to the classification and construction of representations - Exercises sprinkled throughout.

This beginning graduate level text, aimed primarily at Lie Groups courses and related topics, assumes familiarity with elementary concepts from group theory, analysis, and manifold theory. Students, research mathematicians, and physicists interested in Lie theory will find this text very useful.

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