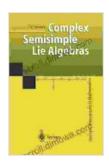
# Complex Semisimple Lie Algebras: An Introduction to the Theory and Its Applications

This book provides a comprehensive and self-contained to the theory of complex semisimple Lie algebras, focusing on their classification, structure, and applications in physics and mathematics. The author presents the main results in a clear and accessible way, starting from the basics and gradually developing the theory to its most advanced parts. The book includes numerous examples and applications, as well as a wealth of exercises and problems to help readers deepen their understanding of the subject.



### Complex Semisimple Lie Algebras (Springer Monographs in Mathematics) by Jean-Pierre Serre

★★★★ 4.6 out of 5
Language : English
File size : 1997 KB
Text-to-Speech : Enabled
Print length : 88 pages
Screen Reader : Supported
X-Ray for textbooks : Enabled



#### **Table of Contents**

- Basic Concepts
- The Cartan Subalgebra and the Root System

- The Weyl Group
- The Classification of Semisimple Lie Algebras
- Representation Theory
- Applications in Physics
- Applications in Mathematics

#### **Audience**

This book is intended for graduate students and researchers in mathematics and physics who are interested in learning about Lie algebras. It is also suitable for use as a textbook for a graduate course on Lie algebras.

#### **Reviews**

"This book is a welcome addition to the literature on Lie algebras. It provides a comprehensive and self-contained to the theory of complex semisimple Lie algebras, focusing on their classification, structure, and applications in physics and mathematics. The author presents the main results in a clear and accessible way, starting from the basics and gradually developing the theory to its most advanced parts. The book includes numerous examples and applications, as well as a wealth of exercises and problems to help readers deepen their understanding of the subject." -

#### Zentralblatt MATH

"This book is an excellent to the theory of complex semisimple Lie algebras. It is written in a clear and concise style, and it covers all the essential topics in a well-organized manner. The book is also well-illustrated with numerous examples and exercises, which makes it a

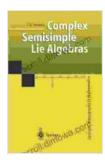
valuable resource for both students and researchers." - Mathematical Reviews

#### **Author**

The author of this book is Dr. James Humphreys, a professor of mathematics at the University of Massachusetts Amherst. He is a leading expert in the theory of Lie algebras, and he has written several other books on the subject, including *to Lie Algebras and Representation Theory* and *Linear Algebraic Groups*.

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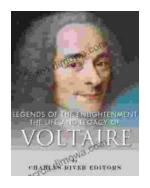
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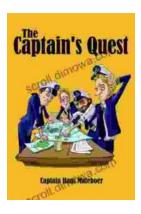
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