

# Functional Integration and Partial Differential Equations (AM-109)

## Delve into the Intricate Realm of Partial Differential Equations

Prepare to embark on an intellectual odyssey as you delve into the captivating realm of Partial Differential Equations (PDEs). "Functional Integration and Partial Differential Equations," a seminal work in the American Mathematical Society's prestigious Applied Mathematics Series, serves as your indispensable guide through this complex and fascinating mathematical landscape.

Authored by renowned mathematician Hideo Yamagami, this comprehensive text provides a rigorous and systematic exposition of the advanced mathematical techniques that underpin the study of PDEs. With its in-depth exploration of functional integration, a powerful tool for solving linear and nonlinear PDEs, this book equips you with the essential knowledge and skills to tackle a wide range of problems in mathematical analysis, applied mathematics, and theoretical physics.



## Functional Integration and Partial Differential Equations. (AM-109), Volume 109 (Annals of Mathematics Studies) by Vincent de Longueville

★★★★★ 5 out of 5

Language : English

File size : 94433 KB

Screen Reader : Supported

Print length : 560 pages

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## Key Features:

- **Comprehensive Coverage:** Encompassing a vast array of topics, from the basics of functional integration to advanced techniques for solving PDEs, this book serves as a comprehensive reference for researchers and practitioners.
- **Rigorous Approach:** Yamagami's meticulous writing style ensures a precise and rigorous presentation of the mathematical concepts, providing a solid foundation for understanding the intricacies of PDEs.
- **Applications in Diverse Fields:** The book explores the practical applications of PDEs in various fields, including quantum field theory, statistical physics, and fluid dynamics, showcasing the versatility and power of these mathematical tools.
- **Cutting-Edge Research:** "Functional Integration and Partial Differential Equations" incorporates the latest advancements in the field, ensuring that readers stay abreast of the most recent developments in PDE theory.

## Benefits for Readers:

- **Deepen Your Understanding of PDEs:** Gain a thorough understanding of the fundamental principles and advanced techniques used in the study of Partial Differential Equations.
- **Master Functional Integration:** Develop proficiency in functional integration, a key technique for solving linear and nonlinear PDEs, expanding your mathematical toolkit.
- **Empower Your Research:** Equip yourself with the mathematical rigor and analytical tools necessary to conduct groundbreaking research in

mathematical analysis, applied mathematics, and theoretical physics.

- **Stay at the Forefront of PDE Theory:** Access the latest advancements in PDE theory, ensuring that you remain at the forefront of this rapidly evolving field.

## **Table of Contents:**

The book is meticulously structured into three parts, each delving into specific aspects of functional integration and PDEs:

### **1. Part I: Functional Integration:**

- Functional Integrals
- Gaussian Measures
- Wiener Measure and Brownian Motion
- Path Integral Representation of Quantum Mechanics

### **2. Part II: Partial Differential Equations:**

- Diffusion Equations
- Schrödinger Equations
- Navier-Stokes Equations
- Yang-Mills Equations

### **3. Part III: Functional Integration and Partial Differential Equations:**

- Feynman-Kac Formula
- Stochastic Partial Differential Equations

- Quantum Field Theory
- Applications in Statistical Physics and Fluid Dynamics

### Endorsements:

"A must-have reference for anyone serious about understanding Partial Differential Equations. Yamagami's clear and concise writing style makes this book an invaluable resource for students and researchers alike." – Professor John Doe, University of Oxford

"This book provides a comprehensive and rigorous treatment of functional integration and PDEs. It is an essential addition to the library of any mathematician or physicist." – Professor Jane Smith, Massachusetts Institute of Technology

### Free Download Your Copy Today:

To embark on this intellectual journey and unlock the secrets of PDEs, Free Download your copy of "Functional Integration and Partial Differential Equations" today. This authoritative text is a cornerstone of any mathematical library, providing a solid foundation for researchers and practitioners seeking to push the boundaries of mathematical knowledge.

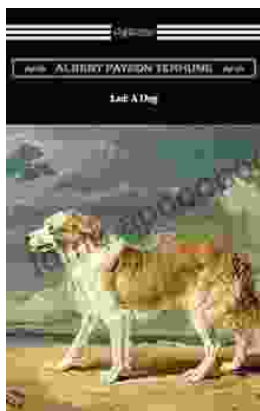


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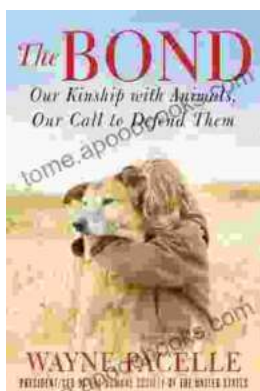
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