



Introduction to Quantum Communication

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Product Description

Explore the unbreakable Future of Communication Welcome to a new era where communication is no longer limited by classical boundaries. "Introduction to quantum communication" is your definitive guide to understanding the intricate and revolutionary field that merges quantum physics with information technology. From the foundations of quantum mechanics to the cutting-edge protocols and technologies that power secure quantum networks, this book offers a clear, structured, and comprehensive journey through the quantum realm, whether you're a student, researcher, or tech enthusiast, you'll discover how photons, entanglement, and no-cloning theorems are reshaping the way we think about privacy, data transfer, and global connectivity. **What you'll learn inside:**

- The fundamental difference between classical and quantum communication systems
- The secrets behind quantum key distribution (BB84, E91, B92, DI-QKD)
- Practical implementations like quantum teleportation and quantum internet
- The role of entanglement, dense coding, secret sharing, and quantum bit commitment
- Security threats such as eavesdropping and their quantum countermeasures
- Future directions: satellite-based QKD, post-quantum cryptography, and ethical implications

Each Chapter Includes:

- Numerical problems with solutions
- Short questions & Answers
- Multiple choice questions
- Project ideas for deeper exploration

Bridging physics and information science, this book equips you with the knowledge to understand and participate in the communication revolution of tomorrow.

Table of Contents

Foreword Preface Acknowledgements CHAPTER 1: BASICS OF QUANTUM COMMUNICATION CHAPTER 2: FOUNDATIONS OF QUANTUMS COMMUNICATION CHAPTER 3: QUANTUM KEY DISTRIBUTION CHAPTER 4: QUANTUM CRYPTOGRAPHY BEYOND QKD CHAPTER 5: QUANTUM TELEPORTATION CHAPTER 6: QUANTUM NETWORKS CHAPTER 7: PROTOCOLS IN QUANTUM COMMUNICATION CHAPTER 8: PRACTICAL IMPLEMENTATIONS AND TECHNOLOGIES CHAPTER 9: SECURITY ASPECTS OF QUANTUM COMMUNICATION CHAPTER 10: FUTURE DIRECTIONS AND APPLICATIONS



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