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Entanglement; VII. Decoherence; VIII. Major Challenges and Opportunities; References; Back to The Future: A Roadmap for Quantum Simulation from Vintage Quantum Chemistry; I. Introduction; II. Quantum Computing; A. Phase Estimation; B. Time Evolution and the Cartan Decomposition

III. Quantum Chemistry: The CI Method A. Second Quantization: Direct Mapping; B. FCI: Compact Mapping; IV. A Selection of Historical Calculations in Quantum Chemistry; A. The 1930's and 1940's; B. The 1950's; C. The 1960's; V. Boys's 1950 Calculation for Be; VI. Conclusions; References; Introduction to Quantum Algorithms for Physics and Chemistry; I. Introduction; A. Quantum Computational Complexity and Chemistry; 1. An Exponential Wall for Many-Body Problems; 2. Computational Complexity of Quantum Simulation; B. Basic Quantum Algorithms for Digital Quantum Simulation; 1. Quantum Fourier Transform

2. Phase Estimation Algorithm II. Digital Quantum Simulation; A. Overview; B. Simulation of Time Evolution; 1. Suzuki-Trotter Formulas; 2. First-Quantized Representation; 3. Second-Quantized Representation; 4. Open-System Dynamics; C. State Preparation; 1. Preparing Ground States; 2. Preparing Thermal States Using Quantum Metropolis; 3. Preparing Thermal States with Perturbative Updates; D. Algorithmic Quantum Cooling; 1. Basic Idea of the Quantum Cooling Method; 2. Connection with Heat-Bath Algorithmic Cooling; III. Special Topics; A. Adiabatic Nondestructive Measurements

B. TDDFT and Quantum Simulation IV. Conclusion and Outlook; References; Quantum Computing Approach to Nonrelativistic and Relativistic Molecular Energy Calculations; I. Overview; II. Quantum Computing Background; A. Quantum Fourier Transform; B. Semiclassical Approach to Quantum Fourier Transform; C. Phase Estimation Algorithm; D. Iterative Phase Estimation Algorithm; III. Quantum Full Configuration Interaction Method; A. Mapping of Quantum Chemical Wave Functions onto Quantum Register; B. Initial States for the Algorithm; 1. Adiabatic State Preparation; C. Controlled "Time Propagation"

1. Decomposition of Unitary Propagator to Elementary Quantum Gates

Sommario/riassunto

Examines the intersection of quantum information and chemical physics. The Advances in Chemical Physics series is dedicated to reviewing new and emerging topics as well as the latest developments in traditional areas of study in the field of chemical physics. Each volume features detailed comprehensive analyses coupled with individual points of view that integrate the many disciplines of science that are needed for a full understanding of chemical physics. This volume of the series explores the latest research findings, applications, and new research paths from the quantum information.

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Autore	Tsukayama John
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CHAPTER 4 - MANAGING THE INVESTIGATIVE FUNCTION
THE MANAGER AS INVESTIGATIVE COUNSELOR THE MANAGER AS TRAINER; THE MANAGER AS CONTROLLER; THE MANAGER AS MOTIVATOR; THE MANAGER AS EVALUATOR; REFERENCES; Part II METHODS OF SECURITY INVESTIGATION; CHAPTER 5 - UNDERCOVER INVESTIGATIONS; TECHNIQUES AND METHODS; PROBLEM AREAS; THE ABSENCE OF PROFESSIONALISM; CONCLUSION; CHAPTER 6 - SURVEILLANCE; COVERT VERSUS OVERT SURVEILLANCE; THE STATIONARY SURVEILLANCE; THE MOVING SURVEILLANCE; MOVING AND STATIONARY SURVEILLANCE; CONCLUSION; CHAPTER 7 - BACKGROUND INVESTIGATIONS; WORKPLACE VIOLENCE; THE APPLICATION PACKAGE; POST-HIRE SCREENING; REFERENCES CHAPTER 8 - DISCOVERING COVERT CRIMES DEPLOYMENT OF UNDERCOVER AGENTS; SHOPLIFTING SURVEILLANCE; REFERENCES; Part III BUILDING A CASE; CHAPTER 9 - INTERVIEWS AND INTERROGATIONS; INTERVIEWING; INTERROGATION; PREPARING FOR THE INTERROGATION; CONCLUSION; REFERENCE; CHAPTER 10 - AN OVERVIEW OF THE INTERVIEW AND INTERROGATION PROCESS; DEMEANOR; RAPPORT; INTERVIEW AND INTERROGATION; CONDUCTING THE INTERVIEW; SELLING THE INTERVIEW; STATEMENT ANALYSIS - THE UNTAINTED STORY; FACT GATHERING; LIFESTYLE INTERVIEWS; COGNITIVE INTERVIEWING; COMMON INTERVIEWER ERRORS; BEHAVIORAL INTERVIEWING; DIAGRAMS
INTERROGATION DECISION TO CONFESS; RATIONALIZATION; DENIALS; METHODS OF INTERROGATION; DOCUMENTING THE CONFESSION OR THE INTERVIEW; CONCLUSION; SUGGESTED READING; CHAPTER 11 - EVIDENCE; DEMONSTRATIVE EVIDENCE; DOCUMENTARY EVIDENCE; SOME RULES AND DEFINITIONS OF EVIDENCE; A FINAL WORD ABOUT EVIDENCE; REFERENCE; CHAPTER 12 - WRITTEN STATEMENTS, ADMISSIONS, AND CONFESSIONS; WRITTEN STATEMENTS; ALLOWABLE USES OF STATEMENTS; HISTORICAL BACKGROUND; TYPES OF CONSTRAINTS; CONFESSIONS AND ADMISSIONS; THE WRITTEN ADMISSION; VIDEOTAPED CONFESSIONS; VALUE OF THE CONFESSION; REFERENCE
CHAPTER 13 - THE USE OF INFORMANTS

Sommario/riassunto

A practical guide for private sector investigators on how to conduct comprehensive investigations.
