

1. Record Nr.	UNINA9910974213803321
Titolo	Quantum probability communications / / Stephane Attal, J.Martin Lindsay
Pubbl/distr/stampa	Singapore ; ; London, : World Scientific, 2003
ISBN	9786611928148 9781281928146 1281928143 9789812775429 9812775420
Edizione	[1st ed.]
Descrizione fisica	1 online resource (294 p.)
Collana	QP-PQ ; ; 12
Altri autori (Persone)	LindsayJ. Martin AttalS (Stephane)
Disciplina	530.12
Soggetti	Probabilities Quantum theory Stochastic processes Markov processes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	CONTENTS; CONTENTS OF QPC XI; PREFACE for QPC Volumes XI & XII; INTEGRAL-SUM KERNEL OPERATORS; 0. INTRODUCTION; 1. FINITE POWER SETS; 1.1. Some products on $F()$; 1.2. Product functions.; 1.3. Guichardet Space.; 2. INTEGRAL-SUM CONVOLUTIONS; 2.1. Duality Transforms.; 2.2. Formal Derivation.; 2.3. Basic Estimate.; 3. QUANTUM WIENER INTEGRALS; 4. INTEGRAL-SUM KERNEL OPERATORS; 4.1. Basic Estimate.; 4.2. Uniqueness of the kernel.; 4.3. Reconstruction of kernel from operator.; 4.4. Algebras of integral-sum kernel operators.; 4.5. Four argument integral-sum kernels.; 4.6. Matrix-valued kernels. CONCLUSIONBIBLIOGRAPHICAL NOTES; REFERENCES; QUANTUM PROBABILITY APPLIED TO THE DAMPED HARMONIC OSCILLATOR; 1. THE FRAMEWORK OF QUANTUM PROBABILITY; 2. SOME QUANTUM MECHANICS; 3. CONDITIONAL EXPECTATIONS AND OPERATIONS; 4. SECOND QUANTISATION; 5. UNITARY DILATIONS OF SPIRALING MOTION; 6. THE DAMPED HARMONIC OSCILLATOR; REFERENCES;

QUANTUM PROBABILITY AND STRONG QUANTUM MARKOV PROCESSES;
0. INTRODUCTION; I. Quantum Probability; 1. A COMPARATIVE
DESCRIPTION OF CLASSICAL AND QUANTUM PROBABILITY; 2. THE ROLE
OF TENSOR PRODUCTS OF HILBERT SPACES; 3. SOME BASIC OPERATORS
ON FOCK SPACES
4. FROM URN MODEL TO CANONICAL COMMUTATION RELATIONSI.
Quantum Markov Processes; 5. STOCHASTIC OPERATORS ON C*-
ALGEBRAS; 6. STINESPRING'S THEOREM; 7. EXTREME POINTS OF THE
CONVEX SET OF STOCHASTIC OPERATORS; 8. STINESPRING'S THEOREM
IN TWO STEPS; 9. CONSTRUCTION OF A QUANTUM MARKOV PROCESS;
10. THE CENTRAL PART OF MINIMAL DILATION; 11. ONE PARAMETER
SEMIGROUPS OF STOCHASTIC MAPS ON A C*-ALGEBRA; III. Strong
Markov Processes; 12. NONCOMMUTATIVE STOP TIMES; 13. MARKOV
PROCESS AT SIMPLE STOP TIMES; 14. MINIMAL MARKOV FLOW AT
SIMPLE STOP TIMES
15. STRONG MARKOV PROPERTY OF THE MINIMAL FLOW FOR A
GENERAL STOP TIME16. STRONG MARKOV PROPERTY UNDER A
SMOOTHNESS CONDITION; 17. A QUANTUM VERSION OF DYNKIN'S
LOCALIZATION FORMULA; ACKNOWLEDGEMENTS; REFERENCES; LIMIT
PROBLEMS FOR QUANTUM DYNAMICAL SEMIGROUPS - INSPIRED BY
SCATTERING THEORY; 0. INTRODUCTION; 1. COMPARISON OF THE
LARGE TIME BEHAVIOUR OF TWO SEMIGROUPS; 2. THE CLASSIFICATION
OF STATES; 3. ERGODIC PROPERTIES OF QUANTUM DYNAMICAL
SEMIGROUPS; 4. CONVERGENCE TOWARDS THE EQUILIBRIUM;
ACKNOWLEDGEMENT; REFERENCES; A SURVEY OF OPERATOR ALGEBRAS;
0. COMPLEX BANACH ALGEBRAS
1. C*-ALGEBRAS1.1. Definition and first spectral properties.; 1.2.
Adding a unit.; 1.3. First examples: abelian C*-algebras.; 1.4.
Continuous functional calculus in C*-algebras.; 1.5. More examples: $B(H)$ and its sub-C*-algebras.; 1.6. Order Structure, states, and the GNS construction.; 1.6.1. Positive elements and order in A ; 1.6.2. Dual order structure and states.; 1.6.3. GNS construction.; 2. VON NEUMANN
ALGEBRAS; 2.1. Some topologies on $B(H)$; 2.1.1. Three natural
topologies.; 2.1.2. The ideal $L^1(H)$; 2.2. von Neuman algebras.; 2.2.1.
von Neumann bicommutant theorem.
2.2.2. Definition of von Neumann algebras.

Sommario/riassunto

Lecture notes from a Summer School on Quantum Probability held at the University of Grenoble are collected in these two volumes of the QP-PQ series. The articles have been refereed and extensively revised for publication. It is hoped that both current and future students of quantum probability will be engaged, informed and inspired by the contents of these two volumes. An extensive bibliography containing the references from all the lectures is included in Volume 12.
