quantum systems channels information a mathematical

May 13th, 2020 - this is one of the most known and important books in this field and the other book is quantum systems channels into information a mathematical introduction written by alexander semenovich holevo so in this books you can find in details all the information about mathematical description of quantum objects that we will use

'mathematical foundations of quantum informatics

April 14th, 2020 - the subject of this book is theory of quantum system presented from information science perspective the central role is played by the concept of quantum channel and its entropic and information characteristics quantum information theory gives a key to understanding elusive phenomena of quantum world and provides a background for development of
**Experimental techniques that enable measuring and manipulation of individual quantum systems**

June 2nd, 2020 - Quantum systems channel information: a mathematical introduction. Alexander S. Holevo. Main description: The main emphasis of this work is the mathematical theory of quantum channels and their entropic and information characteristics.

'Tight uniform continuity bounds for the quantum system

May 22nd, 2020 - We start with Fannes type and Winter's type tight uniform continuity bounds for the quantum conditional mutual information and their specifications for states of special types. Then we analyze continuity of the Holevo quantity with respect to nonequivalent metrics on the set of discrete ensembles of quantum states.

'Quantum information

May 21st, 2020 - In physics and computer science, quantum information is the information of the state of a quantum system. It is the basic entity of study in quantum information theory and can be manipulated using quantum information processing techniques. Quantum information refers to both the technical definition in terms of von Neumann entropy and the general computational term.

'Fuzzy Quantum Control Semantic Scholar

April 19th, 2020 - The article presents a method of fuzzy quantum control and the structure of a fuzzy quantum controller. The authors suggest a method to represent the membership function of fuzzy variables as quantum values. A fuzzy quantum controller calculates the
PARAMETERS FOR THE OPTIMUM CONTROL OF A QUANTUM SYSTEM ON THE BASIS OF DYNAMIC PROGRAMMING THE CONTROL TASK IS THE TRANSFER OF THE SYSTEM FROM

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*a generalization of the entropy power inequality to*
April 30th, 2020 - the conjectured entropy power inequality which determines the lower bound of channel capacity is mathematically proved even in the quantum regime'

*quantum channel*
May 31st, 2020 - in quantum information theory a quantum channel is a communication channel which can transmit quantum information as well as classical information an example of quantum information is the state of a qubit an example of classical information is a text document transmitted over the internet

'Holevo Alexander Google Scholar Citations
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MAY 4TH, 2020 - LINEAR BOSONIC CHANNELS ARE CONSIDERED AND SPECIFIC EXAMPLES OF GAUSSIAN QUANTUM CHANNELS ARE GIVEN TO ILLUSTRATE THE NEW FRAMEWORK TOGETHER WITH THE PLEMENTARITY THEOREM PRIVATE ALGEBRAS IN QUANTUM INFORMATION AND INFINITE DIMENSIONAL PLEMENTARITY JOURNAL

4 / 13
information theory an overview

June 1st, 2020 - L. Martignon in International Encyclopedia of the Social & Behavioral Sciences 2001 Information theory is the mathematical treatment of the concepts, parameters, and rules governing the transmission of messages through communication systems. It was founded by Claude Shannon toward the middle of the twentieth century and has since then evolved into a vigorous branch of mathematics fostering quantum systems, channels, and information.

Quantum Gaussian Channels

May 17th, 2020 - Quantum Gaussian channels model the propagation of electromagnetic waves through optical fibers and free space in the quantum regime and provide the mathematical model to determine the maximum efficient optimization of the quantum relative entropy.

Quantum Systems, Channels, Information

June 12th, 2019 - Abstract, many quantum information measures can be written as an optimization of the quantum relative entropy between sets of states, for example, the relative entropy of entanglement of a state is the minimum relative entropy to the set of separable states. The various capacities of quantum channels can also be written in this way.

Quantum Systems, Channels, Information

February 17th, 2020 - The main emphasis of this work is the mathematical theory of quantum channels and their entropic and information characteristics. Quantum information theory is one of the key research areas since it leads the way to vastly increased computing speeds by using quantum systems to store and process information. Quantum cryptography allows for secure communication of classified information.
quantum information theory mathematical foundation

May 31st, 2020 - this graduate textbook provides a unified view of quantum information theory clearly explaining the necessary mathematical basis it merges key topics from both information theoretic and quantum mechanical viewpoints and provides lucid explanations of the basic results thanks to this persons holevo alexander semenovich

May 19th, 2020 - a s holevo mathematical problems in the theory of quantum channels international conference on mathematical problems of quantum field theory and quantum statistics part i axiomatic quantum field theory collection of talks moscow 12 17 december 1972 trudy mat inst steklov 135 1975 226 227

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April 29th, 2020 - we describe the class semigroup of quantum channels mapping states with finite entropy into states with finite entropy we show in particular that this class is naturally deposed into three convex subclasses two of them are closed under concatenations and tensor products we obtain asymptotically tight universal continuity bounds for the output entropy of two types of quantum channels

pdf on quantum channels and operations preserving
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June 2nd, 2020 - description written by one of the founding fathers of quantum information this book gives an accessible albeit mathematically rigorous self contained introduction to quantum information theory the central role is played by the concept of quantum channel and its entropic and information characteristics

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Alexander S. Holevo

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Quantum Systems Channels Information

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Bibliography quantum systems channels information a

January 19th, 2018 - citation information quantum systems channels information a mathematical introduction de gruyter 2012 pages 333 345 isbn online 9783110273403

March 27th, 2020 - we prove the conditional entropy power inequality for gaussian quantum systems this fundamental inequality determines the minimum quantum conditional von neumann entropy of the output of the beam splitter or of the squeezing among all the input states where the two inputs are conditionally independent given the memory and have given quantum conditional entropies

`QUANTUM INFORMATION THEORY AN OVERVIEW SCIENCE DIRECT`

June 1st, 2020 - Nilanjana Datta in Les Houches 2006 1 Introduction quantum information theory brings together ideas from classical information theory quantum mechanics and puter science theorems and techniques of various branches of mathematics and mathematical physics in particular group theory probability theory and quantum statistical physics find applications in this fascinating and fast