AQIS'07 PROGRAM

Reception desk will be open for registration at 8:30 on September 3.

September 2, 2007 (Sunday) 19:00 - 21:00 [Welcome Reception at Shirankaikan (Conference Venue)]

September 3, 2007 (Monday)

8:50 - 9:00 [Opening]

9:00 - 10:30 [Invited Talks]

9:00 - 9:45 *Complementarity, distillable key, and distillable entanglement*
Masato Koashi (Osaka University)

9:45 - 10:30 *Quantum algorithms for formula evaluation*
Ben W. Reichardt (Caltech)

11:00 - 12:30 [Long Talks] NONLOCALITY

11:00 - 11:30 *All bipartite entangled states display some hidden nonlocality*
Lluis Masanes (University of Bristol), Yeong-Cherng Liang (University of Queensland), and Andrew C. Doherty (University of Queensland)

11:30 - 12:00 *Detection loophole in asymmetric Bell experiments*
Nicolas Brunner (Group of Applied physics / Uni. of Geneva), Nicolas Gisin (Group of Applied physics / Uni. of Geneva), Christoph Simon (Group of Applied physics / Uni. of Geneva), and Valerio Scarani (Department of Physics, Faculty of Science, National University of Singapore)

12:00 - 12:30 *No nonlocal box is universal*
Frédéric Dupuis (Université de Montréal), Nicolas Gisin (Université de Genève), Avinatan Hasidim (Hebrew University), André Allan Méthot (Université de Genève), and Haran Pilpel (Hebrew University)

14:30 - 16:10 [Parallel session A] QUANTUM CIRCUITS & QUANTUM ALGS

14:30 - 14:50 *The Quantum Fourier Transform on a Linear Nearest Neighbor Architecture*
Yasuhiro Takahashi (NTT Communication Science Laboratories), Noboru Kunihiro (The University of Electro-Communications), and Kazuo Ohta (The University of Electro-Communications)

14:50 - 15:10 *Shor's algorithm on a nearest-neighbor machine*
Samuel A. Kutin (Center for Communications Research)

15:10 - 15:30 *Quantum Circuit Placement*
Dmitri Maslov (Institute for Quantum Computing, University of Waterloo), Sean M. Falconer (Department of Computer Science, University of Victoria), and Michele Mosca (Institute for Quantum Computing, University of Waterloo)

15:30 - 15:50 *Quantum search of partially ordered sets*
Ashley Montanaro (University of Bristol)

15:50 - 16:10 *Quantum Estimation of Real Extrema*
Man Hon Chan (The University of British Columbia) and David G. Kirkpatrick (The University of British Columbia)

14:30 - 16:10 [Parallel session B] ENTANGLEMENT & NONLOCALITY

14:30 - 14:50 *Hypergraph-theoretic characterizations for LOCC incomparable ensembles of multipartite CAT states.*

Arijit Ghosh (Department of Computer Science and Engineering, Indian Institute of Technology, Kharagpur), Sudebkumar Prasant Pal (Department of Computer Science and Engineering, Indian Institute of Technology, Kharagpur), Anupam Prakash (Department of Computer Science and Engineering, Indian Institute of Technology, Kharagpur), and Virendra Singh Shekhawat (Department of Computer Science and Engineering, Indian Institute of Technology, Kharagpur)

14:50 - 15:10 *Thermal enhancement of entanglement sensitivity to the phase diagram in the XY model*
Yoshifumi Nakata (Department of Physics, Graduate School of Science, University of Tokyo, Japan), Damian Markham (Department of Physics, Graduate School of Science, University of Tokyo, Japan), and Mio Murao (Department of Physics, Graduate School of Science, University of Tokyo, Japan)

15:10 - 15:30 *Entanglement and group symmetries: stabilizer, symmetric and anti-symmetric states*
Masahito Hayashi (ERATO-SORST Quantum computation and information project, JST, Japan, and Graduate School of Information Sciences, Tohoku University, Japan), Damian Markham (Department of Physics, Graduate School of Science, University of Tokyo, Japan), Mio Murao (Department of Physics, Graduate School of Science, University of Tokyo, Japan, and PRESTO, JST, Japan), Masaki Owari (Collaborative Institute for Nano Quantum Information Electronics, The University of Tokyo, Japan), and Shashank Virmani (Optics Section, Blackett Laboratory & Institute for Mathematical Sciences, Imperial College, United Kingdom, and Dept. of Physics, Astronomy & Mathematics, University of Hertfordshire, United Kingdom.)

15:30 - 15:50 *Bound entangled states with nonzero distillable key rate*
Dong Pyo Chi (Seoul National University), Jeong Woon Choi (Seoul National University), Jeong San Kim (Seoul National University), Taewan Kim (Seoul National University), and Soojoon Lee (Kyung Hee University)

15:50 - 16:10 *Classical Winning Strategies for the Matching Game*
Ivan Fialík (Faculty of Informatics, Masaryk University, Czech Republic)

16:30 - 18:10 [Poster Session A]

September 4, 2007 (Tuesday)

9:00 - 10:30 [Invited Talks]

9:00 - 9:45 *Coherent control of single electron and nuclear spins in diamond: recent developments and new ideas*
Jacob Taylor (MIT) and Mikhail Lukin (Harvard University)

9:45 - 10:30 *Some recent applications of Fourier analysis in quantum computing*
Ronald de Wolf (CWI Amsterdam)

11:00 - 12:30 [Long Talks] CTYPTOGRAPHY & EXPERIMENTS

11:00 - 11:30 *Security of Quantum Cryptography based on the Violation of Bell's Inequalities*
Valerio Scarani (National University of Singapore)

11:30 - 12:00 *Quantum hacking: experimental demonstration of time-shift attack against practical quantum key distribution systems*
Yi Zhao (University of Toronto), Chi-Hang Fred Fung (University of Toronto), Bing Qi (University of Toronto), Christine Chen (University of Toronto), and Hoi-Kwong Lo (University of Toronto)

12:00 - 12:30 *Implementation of Molecular Spin Quantum Computing by Pulsed Electron Magnetic Resonance Technique: Coherent ENDOR/Dual ELDOR-Based QC*
Kazunobu Sato (Osaka City University; CREST, JST), Robabeh Rahimi (Kinki University), Shigeaki Nakazawa (Osaka City University; CREST, JST), Nobuyuki Mori (Osaka City University; CREST, JST), Shinsuke Nishida (Osaka City University), Kazuo Toyota (Osaka City University; CREST, JST), Daisuke Shiomi (Osaka City University; CREST, JST), Yasushi Morita (Osaka University; CREST, JST), Akira Ueda (Osaka University), Shuichi Suzuki (Osaka City University), Ko Furukawa (Institute for Molecular Science), Toshikazu Nakamura (Institute for Molecular Science), Masahiro Kitagawa (Osaka University; CREST, JST), Kazuhiro Nakasuji (Osaka University), Mikio Nakahara (Kinki University), Hideyuki Hara (Bruker Biospin K.K.), Patrick Carl (Bruker Biospin GmbH), Peter Hoefer (Bruker Biospin GmbH), and Takeji Takui (Osaka City University; CREST, JST)

14:30 - 16:10 [Parallel session A] INFORMATION THEORY I

14:30 - 14:50 *Prior entanglement between senders enables perfect quantum network coding*
Masahito Hayashi (ERATO-SORST QCI Project)

14:50 - 15:10 *A general entropic approach to the information-disturbance tradeoff problem in quantum measurements*
Francesco Buscemi (JST), Masahito Hayashi (JST), and Michal Horodecki (Gdansk University)

15:10 - 15:30 *Quantum cloning with nonlocal assistance: Complement of Jozsa's stronger no-cloning theorem*
Koji Azuma (Osaka University), Masato Koashi (Osaka University, JST-CREST), Hosho Katsura (University of Tokyo), and Nobuyuki Imoto (Osaka University, JST-CREST)

15:30 - 15:50 *On the dimension of subspaces with bounded Schmidt rank*
Toby Cubitt (Department of Mathematics, University of Bristol), Ashley Montanaro (Department of Computer Science, University of Bristol), and Andreas Winter (Department of Mathematics, University of Bristol; Quantum Information Technology Lab, National University of Singapore)

15:50 - 16:10 *Quantum reference frames and the classification of rotationally-invariant maps*
J.-C. Boileau (Perimeter Institute and IQC, University of Waterloo), L. Sheridan (IQC, University of Waterloo), M. Laforest (IQC, University of Waterloo), and S. Bartlett (The University of Sydney)

14:30 - 16:10 [Parallel session B] EXPERIMENTS I

14:30 - 14:50 *Realization of a Persistent Supercurrent Atom Chip*
Tetsuya Mukai (NTT Basic Research Laboratories), Christoph Hufnagel (NTT Basic Research Laboratories), and Fujio Shimizu (NTT Basic Research Laboratories)

14:50 - 15:10 *Self-cooling of a Micro-mechanical Resonator by Lorentz Force*
Ying-Dan Wang (NTT Basic Research Laboratories), Kouichi Semba (NTT Basic Research Laboratories), and Hiroshi Yamaguchi (NTT Basic Research Laboratories)

15:10 - 15:30 *Generation of high-fidelity four-photon cluster state and quantum-domain demonstration of one-way quantum computing*
Yuuki Tokunaga (Osaka Univ., NTT, CREST), Shin Kuwashiro (Osaka Univ., CREST), Takashi Yamamoto (Osaka Univ., CREST), Masato Koashi (Osaka Univ., CREST), and Nobuyuki Imoto (Osaka Univ., CREST)

15:30 - 15:50 *Theory of Quantum State Transfer, Correlation Measurement and Quantum Dynamics in a Quantum Dot*
T. Takagahara (Kyoto Institute of Technology) and Ozgur Cakir (Kyoto Institute of Technology)

15:50 - 16:10 *Entanglement and Decoherence in Electron Spin Bus Systems for Quantum Computing*
Robabeh Rahimi (Department of Physics, Kinki University), Akira SaiToh (Graduate School of Engineering Science, Osaka University), and Mikio Nakahara (Department of Physics, Kinki University)

16:30 - 18:10 [Poster Session B]

19:00 - [Banquet]

September 5, 2007 (Wednesday)

9:00 - 10:30 [Invited Talks]

9:00 - 9:45 *Recent Progress in Quantum Algorithms*
Dave Bacon (University of Washington)

9:45 - 10:30 *The Power of Unentangled Proofs*
Peter W. Shor (MIT)

11:00 - 12:30 [Long Talks] ENTANGLEMENT

11:00 - 11:30 *Entanglement and separability of quantum harmonic oscillator systems at finite temperature*
Janet Anders (National University of Singapore) and Andreas Winter (University of Bristol)

11:30 - 12:00 *On the Role of Shared Entanglement*
Dmitry Gavinsky (University of Waterloo)

12:00 - 12:30 *Entanglement-Resistant Two-Prover Interactive Proof Systems and Non-Adaptive Private Information Retrieval Systems*
Richard Cleve (University of Waterloo and Perimeter Institute), Dmitry Gavinsky (University of Waterloo), and Rahul Jain (University of Waterloo)

[Excursion]

September 6, 2007 (Thursday)

9:00 - 9:45 [Invited Talk]

9:00 - 9:45 *Quantum information processing and quantum optics with superconducting circuits*
A. Blais (Universite de Sherbrooke), M. Boissonneault (Universite de Sherbrooke), J. Majer (Yale University), J. M. Chow (Yale University), J. M. Gambetta (Yale University), Jens Koch (Yale University), B. R. Johnson (Yale University), J. A. Schreier (Yale University), L. Frunzio (Yale University), D. I. Schuster (Yale University), A. A. Houck (Yale University), A. Wallraff (ETH Zurich), M. H. Devoret (Yale University), S. M. Girvin (Yale University), and R. J. Schoelkopf (Yale University)

10:15 - 11:45 [Long Talks] INFORMATION THEORY

10:15 - 10:45 *On the capacity of erasure channel assisted by back classical communication*
Debbie Leung (University of Waterloo), Joungkeun Lim (MIT), and Peter Shor (MIT)

10:45 - 11:15 *Distinguishability of Quantum States by Separable Operations*
Runyao Duan (Tsinghua University), Yuan Feng (Tsinghua University), Yu Xin (Tsinghua University), and Mingsheng Ying (Tsinghua University)

11:15 - 11:45 *The private classical capacity with a symmetric side channel*
Graeme Smith (IBM Research)

13:50 - 15:10 [Parallel session A] CRYPTOGRAPHY

13:50 - 14:10 *General theory for decoy-state QKD with arbitrary number of intensities*
Masahito Hayashi (ERATO-SORST QCI Project)

14:10 - 14:30 *Security analysis and experiment of decoy state quantum key distribution incorporating finite statistics*
Jun Hasegawa (ERATO-SORST, JST, the Univ. of Tokyo), Masahito Hayashi (ERATO-SORST, JST), Tohya Hiroshima (ERATO-SORST, JST, Nanoelectronics Res. Labs., NEC), and Akihisa Tomita (ERATO-SORST, JST, Nanoelectronics Res. Labs., NEC)

14:30 - 14:50 *Anonymous Transmission of Quantum Information*
Jan Bouda (Faculty of Informatics, Masaryk University) and Josef Sprojcar (Faculty of Informatics, Masaryk University)

14:50 - 15:10 *Long distance fiber quantum key distribution with superconducting nanowire detectors*
Jim Harrington (Los Alamos National Laboratory), Danna Rosenberg (Los Alamos National Laboratory), Glenn Peterson (Los Alamos National Laboratory), Patrick Rice (Los Alamos National Laboratory), Sae Woo Nam (NIST Boulder), Robert Hadfield (NIST Boulder), Richard Hughes (Los Alamos National Laboratory), and Beth Nordholt (Los Alamos National Laboratory)

13:50 - 15:10 [Parallel session B] INFORMATION THEORY II

13:50 - 14:10 *Simulating Quantum Circuits using Real Valued Unitaries*
Matthew McKague (Institute for Quantum Computing and University of Waterloo, Waterloo, Canada) and Michele Mosca (Institute for Quantum Computing, University of Waterloo, and Perimeter Institute for Theoretical Physics, Waterloo, Canada.)

14:10 - 14:30 *An exponential separation between the entanglement and communication capacities for bipartite unitary interaction*
Aram Harrow (University of Bristol) and Debbie Leung (University of Waterloo)

14:30 - 14:50 *Minimum Error Probabilities for Single Qubit Gates Constrained by Conservation Laws*
Tokishiro Karasawa (National Institute of Informatics), Masanao Ozawa (Graduate School of Information Sciences, Tohoku University), Julio Gea-Banacloche (Department of Physics, University of Arkansas), and Kae Nemoto (National Institute of Informatics)

14:50 - 15:10 *The maximum output p-norm of quantum channels is not multiplicative for any $p > 2$ (actually $p > 1$...)*
Andreas Winter (University of Bristol)

15:40 - 17:00 [Parallel session A] EXPERIMENTS II

15:40 - 16:00 *Domain Nucleation as a Failure Mode of Adiabatic Quantum Computation*
William M. Kaminsky (Department of Physics, Massachusetts Institute of Technology) and Seth Lloyd (Department of Mechanical Engineering, Massachusetts Institute of Technology)

16:00 - 16:20 *Quantum behaviors in Josephson Bifurcation Amplifier Readout of flux qubits*
Hayato Nakano (NTT Basic Research Laboratories), Shiro Saito (NTT Basic Research Laboratories), Kouichi Semba (NTT Basic Research Laboratories), and Hideaki Takayanagi (Tokyo University of Science)

16:20 - 16:40 *Experimental realization of spatial entanglement for bright optical beams*
J. Janousek (The Australian National University, Canberra, Australia), V. Delaubert (The Australian National University, Canberra, Australia), K. Wagner (The Australian National University, Canberra, Australia), H. Zou (The Australian National University, Canberra, Australia), C. C. Harb (The University of NSW, Canberra, Australia), P. K. Lam (The Australian National University, Canberra, Australia), and H-A. Bachor (The Australian National University, Canberra, Australia)

16:40 - 17:00 *Multi-level, multi-party singlets as ground states and their role in entanglement distribution*
Christopher Hadley (University College London) and Sougato Bose (University College London)

15:40 - 16:40 [Parallel session B] INFORMATION THEORY III

15:40 - 16:00 *Experimental identification of noiseless encodings via channel twirling*
Marcus Silva (University of Waterloo & Institute for Quantum Computing), Easwar Magesan (University of Waterloo & Institute for Quantum Computing), David W. Kribs (University of Guelph), and Joseph Emerson (University of Waterloo & Institute for Quantum Computing)

16:00 - 16:20 *Quantum Quasi-Cyclic Low-Density Parity-Check Codes*
Min-Hsiu Hsieh (University of Southern California), Todd A. Brun (University of Southern California), and Igor Devetak (University of Southern California)

16:20 - 16:40 *The no-squashing theorem: On the impossibility of superposing the known and unknown*
Scott Aaronson (MIT) and Lawrence Ioannou (University of Cambridge)

17:00 - 17:10 [Closing]

Posters

September 3, 2007 (Monday) [Poster Session A]

Simple scheme for Preparing W states and Cloning via adiabatic passage in ion-trap systems
Rongcan Yang (Fuzhou), Hongcai Li (Fuzhou), and Xiu Lin (Fuzhou)

Layer Model of Quantum Key Distribution Networks
Hao Wen (Quantum Information Key Lab, University of Science and Technology of China), Zheng-fu Han (Quantum Information Key Lab, University of Science and Technology of China), and Guang-can Guo (Quantum Information Key Lab, University of Science and Technology of China)

Quantum computation in semiconductor quantum dots of electron-spin asymmetric anisotropic exchange
Xiang Hao (School of Physical Science and Technology, Suzhou) and Shiqun Zhu (School of Physical Science and Technology, Suzhou)

Engineering and manipulating environment for the implementation of holonomic quantum computation
Fu-li Li (Department of Applied Physics, Xi'an Jiaotong University, China) and Zhang-qi Yin (Department of Applied Physics, Xi'an Jiaotong University, China)

One-dimensional quantum random walks on orbital angular momentum space of photons
Pei Zhang (Key Laboratory of Quantum Information, USTC), Xi-Feng Ren (Key Laboratory of Quantum Information, USTC), Xu-Bo Zou (Key Laboratory of Quantum Information, USTC), Bi-Heng Liu (Key Laboratory of Quantum Information, USTC), Yun-Feng Huang (Key Laboratory of Quantum Information, USTC), and Guang-Can Guo (Key Laboratory of Quantum Information, USTC)

Generalized Quantum Turing Machine and Language Classes
Satoshi Iriyama (Tokyo University of Science) and Masanori Ohya (Tokyo University of Science)

Closing the security loophole of single qubit quantum secret sharing
Guang Ping He (School of Physics & Engineering and Advanced Research Center, Sun Yat-sen University, China) and Z. D. Wang (Department of Physics and Center of Theoretical and Computational Physics, The University of Hong Kong, China)

Quantum Computation for Double-dot Molecules
Hui Zhang (Key Laboratory of Quantum Information, USTC), Guo-Ping Guo (Key Laboratory of Quantum Information, USTC), Tao Tu (Key Laboratory of Quantum Information, USTC), and Guang-Can Guo (Key Laboratory of Quantum Information, USTC)

Decoherence of a charge qubit embedded inside a suspended phonon cavity
y.y.liao (National Chiao-Tung University), Y. N. Chen (National Cheng-Kung University), and D. S. Chuu (National Chiao-Tung University)

Experimental detection and measurement of entanglement via optical interference
Wang Zhi-Wei (Key Laboratory of Quantum Information,University of Science and Technology of China), Li Jian (Key Laboratory of Quantum Information,University of Science and Technology of China), Huang Yun-Feng (Key Laboratory of Quantum Information,University of Science and Technology of China), Zhang Yong-Sheng (Key Laboratory of Quantum Information,University of Science and Technology of China), and Guo Cuang-Can (Key Laboratory of Quantum Information,University of Science and Technology of China)

A New Kind of Scalable Architecture of Universal Quantum Computer with Fault-tolerance and High Performance
Nan Wu (State Key Laboratory for Novel Software Technology, Nanjing University, China) and Fangmin Song (State Key Laboratory for Novel Software Technology, Nanjing University, China)

A Novel Construction Method of Quantum Low Density Parity Check Code
Sheng-mei ZHAO (Nanjing University of Posts &Telecommunications, Nanjing, China), Zhen CAI (Nanjing University of Posts &Telecommunications, Nanjing, China), and Bao-yu ZHENG (Nanjing University of Posts &Telecommunications, Nanjing, China)

Quantum Detection on Multi-user Detection
Sheng-mei ZHAO (Nanjing University of Posts &Telecommunications, Nanjing, China) and Bao-yu ZHENG (Nanjing University of Posts &Telecommunications, Nanjing, China)

Communication with continuous-variable EPR correlations

Azeddine Messikh (Faculty of ICT, Department of Computer Science,UIAM, Malaysia), Ahmed Bouketir (Faculty of Engineering, Department of Science, UIAM, Malaysia), and Ahmed Becir (Faculty of Science, Department of Computational and Theoretical Sciences, UIAM, Malaysia)

Non-classical excitation of an LC resonator coupled to a superconducting flux qubit
K. Kakuyanagi (NTT Basic Research Laboratories, NTT Corporation), S. Kagei (Tokyo university of science), S. Saito (NTT Basic Research Laboratories, NTT Corporation), H. Nakano (NTT Basic Research Laboratories, NTT Corporation), K. Semba (NTT Basic Research Laboratories, NTT Corporation), and H. Takayanagi (Tokyo university of science)

Verification of quantum-domain process using two non-orthogonal states
Ryo Namiki (CREST, Osaka University), Masato koashi (CREST, Osaka University), and Nobuyuki Imoto (CREST, Osaka University)

Synthesis of quantum circuits for d-level systems
Yumi Nakajima (NTT), Yasuhito Kawano (NTT), and Hiroshi Sekigawa (NTT)

Quantum Minimum Search outperforms Classical Minimum Search
Phaneendra H.D. (National Institute of Engineering) and M.S. Shivakumar (National Institute of Engineering)

Entanglement sudden death and entanglement conservation
Isabel Sainz (Royal Institute of Technology, Sweden) and Gunnar Bjork (Royal Institute of Technology, Sweden)

Simulated Quantum Computation of Simple Physical Systems
Péter Varga (Budapest University of Technology and Economics) and Barnabás Apagyi (Budapest University of Technology and Economics)

Entanglement Distillation By Quantum Low Density Parity Codes — A Preliminary Study
K. H. Ho (University of Hong Kong) and H. F. Chau (University of Hong Kong)

Quantum circuit construction on phase functions
Yasuhito Kawano (NTT Communication Science Laboratories)

Quantum nondemolition measurement of photon-arrival for Bell state measurement
Kunihiro Kojima (JST ERATO-SORST) and Akihisa Tomita (JST ERATO-SORST)

Quantum detection of binary symmetric mixed-state signals
Tomohiro Sawada (Aichi Prefectural University) and Tsuyoshi Usuda (Aichi Prefectural University)

Coincidence of Voronoi Diagrams in a Quantum State Space
Kimikazu Kato (Department of Computer Science, University of Tokyo), Mayumi Oto (Toshiba Corporation), Hiroshi Imai (Department of Computer Science, University of Tokyo), and Keiko Imai (System Engineering, Chuo University)

Self-Correcting Quantum Programs
Francois Le Gall (Quantum Computation and Information Project, ERATO-SORST Japan Science and Technology Agency) and Tomoyuki Yamakami (School of Computer Science and Engineering, University of Aizu)

Computational blind quantum computation
Yu Tanaka (Sony) and Mio Murao (University of Tokyo)

Generation of a two-photon four-qubit linear cluster state based on a single Bell-state photon pair
Hee Su Park (KRISS), Jaeyoon Cho (KRISS), Jong Moon Park (KRISS), Jae Yong Lee (KRISS), Dong Hoon Lee (KRISS), and Sang-Kyung Choi (KRISS)

Entanglement purification protocol from (3,1) quantum error correcting codes for quasi-Bell states by coherent states
Hiroyuki Nanjo (Nagoya Institute of Technology), Tsuyoshi Usuda (Aichi Prefectural University), and Ichi Takumi (Nagoya Institute of Technology)

September 4, 2007 (Tuesday) [Poster Session B]

Property of reliability function for attenuated channel with discrete-valued input

Shin-ichi Hirosawa (Meijo University), Shogo Usami (Meijo University), Tsuyoshi Usuda (Aichi Prefectural University), and Akira Ogawa (Meijo University)

Bounded-Error Quantum Query Algorithm Designing Method and Algorithm for Kushilevitz's function

Viktorija Solovjova (Department of Computer Science, University of Latvia)

Purcell enhancement of single photon emitters using nanofabricated diamond.

R. Gibson (University of Bristol), Y.-L. D. Ho (University of Bristol), L. Marseglia (University of Bristol), and J. G. Rarity (University of Bristol)

Limitation of decoy state SARG04 quantum key distribution protocol with a heralded single photon source

Shengli Zhang (Key Laboratory of Quantum Information, University of Science and Technology of China (CAS); Electronic Technology Institute; Information Engineering University), XuBo Zou (Key Laboratory of Quantum Information, University of Science and Technology of China (CAS)), Ke Li (Key Laboratory of Quantum Information, University of Science and Technology of China (CAS)), Chenhui Jin (Electronic Technology Institute; Information Engineering University), and GuangCan Guo (Key Laboratory of Quantum Information, University of Science and Technology of China (CAS))

Teleportation-based bi-qubit interaction

Jian Li (Department of Physics, Southeast University)

Three party d-level quantum secret sharing

Dong Pyo Chi (Seoul National University), Jeong Woon Choi (Seoul National University), Jeong San Kim (Seoul National University), Taewan Kim (Seoul National University), and Soojoon Lee (Kyung Hee University)

Collapsing Quantum Digital Signatures

Go Kato (NTT Communication Science Laboratories, NTT Corporation) and Yasuhito Kawano (NTT Communication Science Laboratories, NTT Corporation)

Time Optimal Quantum Evolution Within a Given Fidelity Range

Alberto Carlini (Centre for Quantum Computer Technology, Department of Physics, Macquare University), Akio Hosoya (Department of Physics, Tokyo Institute of Technology), Tatsuhiko Koike (Department of Physics, Keio University), and Yosuke Okudaira (Department of Physics, Tokyo Institute of Technology)

Maximum quantum violation of Bell inequalities as 2-Prover 1-Round Game

Toshiaki Takahashi (University of Tokyo), Hiroshi Imai (University of Tokyo), and Sonoko Moriyama (University of Tokyo)

Entanglement Purification with Double Selection

Keisuke Fujii (Kyoto University) and Katsuji Yamamoto (Kyoto University)

Quantum Wipe Effect for Coherence Conservation

Akira SaiToh (Graduate School of Engineering Science, Osaka University), Robabeh Rahimi (Department of Physics, Kinki University), and Mikio Nakahara (Department of Physics, Kinki University)

Constructing quantum games from non-factorizable probabilities

Azhar Iqbal (Kochi University of Technology) and Taksu Cheon (Kochi University of Technology)

Quantum Information Processing Using Global Measurements

Akihito Soeda (Department of Physics, Graduate School of Science, University of Tokyo), Damian Markham (Department of Physics, Graduate School of Science, University of Tokyo), and Mio Murao (Department of Physics, Graduate School of Science, University of Tokyo)

The maximally entangled state of three and more qubits in terms of the Geometric Measure

Martin Aulbach (Department of Physics, Graduate School of Science, University of Tokyo), Damian Markham (Department of Physics, Graduate School of Science, University of Tokyo), Seiji Miyashita (Department of Physics, Graduate School of Science, University of Tokyo), and Mio Murao (Department of Physics, Graduate School of Science, University of Tokyo)

A concurrence measurement scheme for a two-qubit cavity system

Sang Min Lee (Department of Physics, Korea Advanced Institute of Science and Technology, Korea), Sewan Ji (Department of Physics, Korea Advanced Institute of Science and Technology, Korea), Hai-Woong Lee (Department of Physics, Korea Advanced Institute of Science and Technology, Korea), and M. Suhail Zubairy (Institute for Quantum Studies and Department of Physics,Texas A&M University, USA)

The Role of Entanglement in Spontaneous Emission

Byung-Gyu Kim (KAIST), C.H.Raymond Ooi (KAIST), and Hai-Woong Lee (KAIST)

A Reversible Ternary Adder for Quantum Computation

Takahiko Satoh (Keio University), Shota Nagayama (Keio University), and Rodney Van Meter (Keio University)

Architecture of a Quantum Multicomputer

Rodney Van Meter (Keio University), W.J. Munro (Hewlett-Packard Laboratories), and Kae Nemoto (National Institute of Informatics)

Quantum Algorithms for some Instances of Solvable Group Isomorphism

Yoshifumi Inui (Univ. Tokyo; ERATO-SORST QCI Project, JST) and Francois Le Gall (ERATO-SORST QCI Project, JST)

Analysis of Grover's fast quantum algorithm and its applications to intractable problems

Vidya Raj C. (The National Institute of Engineering, Mysore, India) and Shivakumar M. S. (The National Institute of Engineering, Mysore, India)

New procedure for multipartite entanglement distillation

Josef Sprojcar (Faculty of Informatics, Masaryk University, Czech Republic)

Statistical Fiber Structure Of A Quantum Channel

Hiroshi Imai (Osaka university)

Protecting nuclear spin from electron relaxation

J. S. Hodges (Department of Nuclear Science and Engineering, Massachusetts Institute of Technology), C. A. Ryan (Institute for Quantum Computing and Department of Physics, University of Waterloo), M. Laforest (Institute for Quantum Computing and Department of Physics, University of Waterloo), D. G. Cory (Department of Nuclear Science and Engineering, Massachusetts Institute of Technology), and R. Laflamme (Institute for Quantum Computing and Department of Physics, University of Waterloo)

Chernoff bound for the asymptotic LOCC discrimination of data hiding states

William Matthews (University of Bristol) and Andreas Winter (University of Bristol)

Hypothesis testing for certain correlated states on a spin chain

Fumio Hiai (Graduate School of Information Sciences, Tohoku University), Milan Mosonyi (Graduate School of Information Sciences, Tohoku University), and Tomohiro Ogawa (PRESTO, Japan Science and Technology Agency)

Entanglement Purification of Any Stabilizer State

S. Glancy (Mathematical and Computational Sciences Division, National Institute of Standards and Technology, USA), E. Knill (Mathematical and Computational Sciences Division, National Institute of Standards and Technology, USA), and H. M. Vasconcelos (Universidade Federal do Ceara, Brazil)

Quantifying the role of interference in quantum information processing

Daniel Braun (University Toulouse), Bertrand Georgeot (CNRS, Toulouse), Ludovic Arnaud (University Toulouse), Andriy O. Lyakhov (University Basel), and Christoph Bruder (University Basel)

Inseparability criteria of non-Gaussian states in number state representation

Xiao-yu Chen (Zhejiang Gongshang University)

Local Unitary Quantum Cellular Automata

Donny Cheung (University of Waterloo) and Carlos A. Perez-Delgado (University of Waterloo)