QIT21 Program

Nov 4th (Wed), 2009

Time	Title	Speaker	Affiliation
9:15- 9:20	Opening		
9:20- 10:20	**Session I**	**Chair Nobuyuki Imoto (Osaka University)**	
9:20- 9:40	Non-Gaussian entangled states	Ryo Namiki	Kyoto University
9:40- 10:00	Multi-party quantum non-local boxes can be used to build contract signing protocol	Josef Sprojcar	ERATO-SORST
10:00- 10:20	Quantum non-locality in the state |01>+|10> in the number basis	Sahel Ashhab [a], Koji Maruyama [a], C. Brukner[b], Franco Nori[a,c]	a:RIKEN, b:University of Wien, c:University of Michigan
10:20- 10:40	Coffee break		
10:40- 12:20	**Session II**	**Chair Takashi Yamamoto (Osaka University)**	
10:40- 11:20	Dynamical decoupling schemes in an ion trap<Invited Talk>	Nobuyasu Shiga	PRESTO-JST, NICT
11:20- 11:40	Quantum Energy Teleportation Using Cold Trapped Ions	Masahiro Hotta	Tohoku University
11:40- 12:00	Quantum Zeno effect and others in switching current distributions of dc-biased Josephson junctions	Hayato Nakano	NTT BRL
12:00- 12:20	On the resolution of quantum paradoxes by weak measurements	Holger F. Hofmann	Hiroshima University
12:20- 13:30	Lunch		
13:30- 14:50	**Session III**	**Chair Satoshi Ishizaka (NEC)**	
13:30- 14:10	On a mathematical "water vein" streaming under quantum information theory <Invited Talk>	Hiroshi Nagaoka	The University of Electro-Communications
14:10- 14:30	Performance of Entanglement-assisted Quantum LDPC Codes Constructed From Finite Geometries	Min-Hsiu Hsieh [a], Wen-Tai Yen [b], Li-Yi Hsu [b]	a: ERATO-SORST, b: Chung Yuan Christian University
14:30- 14:50	Information reconciliation for QKD with non-binary LDPC codes	Kenta Kasai, Takayuki Tsujimoto, Ryutaroh Matsumoto, Kohichi Sakaniwa	Tokyo Institute of Technology
14:50- 16:50	**Poster Session**		
16:50- 17:50	**Session IV**	**Chair Hayato Nakano (NTT Basic Research Laboratories)**	
16:50- 17:10	Relations between entanglement and interference visibility from atom-photon interaction	Jun Suzuki, Kae Nemoto	National Institute of Informatics
17:10- 17:30	Multipartite entanglement measures based on intermediate separabilities for mixed states	Tsubasa Ichikawa[a], Marcus Huber[b], Philipp Krammer[b], Beatrix C. Hiesmayr[b]	a:Kinki University, b: University of Vienna
17:30- 17:50	Tensor rank problem in statistical high-dimensional data analysis and quantum information theory:their comparisons on the methods and the results	Toshio Sakata[a],Lin Chen[b],Toshio Sumi[a], Mitsuhiro Miyazaki[c]	a:Kyushu University,b:National University of Singapore,CQT,c:Kyoto University of Education
18:00- 20:00	Banquet		

QIT21 Program

Nov 5th (Thu), 2009

Time	Title	Speaker	Affiliation
9:00- 10:00	**Session V**	**Chair Shigeru Yamashita (Ritsumeikan University)**	
9:00- 10:00	GPGPU simulations of quantum computations -- from basics towards applications <Tutorial>	Takuro Iizuka	Fixstars Corporation
10:00- 10:20	Coffee break		
10:20- 12:00	**Session VI**	**Chair Yasuhito Kawano (NTT Communication Science Laboratories)**	
10:20- 10:40	An efficient simulation of one dimentional quantum cellular automata by using GPGPU	Yuuki Nakajima, Tetsuro Nishino	The University of Electro-Communications
10:40- 11:00	On the Simulation of Grover's Algorithm by using GPGPU	Hiroshi Shibata[a,b], Tomoya Suzuki[a], Seiya Okubo[c], Tetsuro Nishino[a]	a: The University of Electro-Communications, b: Hiroshima National College of Maritime Technology, c: The University of Shizuoka
11:00- 11:20	Development of High-Speed Simulation Platform for Grover's Algorithm by GPGPU	Tomoya Suzuki, Tetsuro Nishino	The University of Electro-Communications
11:20- 11:40	Adiabatic quantum search along Cheon's exotic holonomies	Atushi Tanaka[a], Kae Nemoto[b]	a: TMU, b: NII
11:40- 12:00	Composite pulses in NMR as non-adiabatic geometric quantum gates	Yukihiro Ota [a], Yasusi Kondo [b]	a:CCSE, Japan Atomic Energy Agency, b: Kinki University
12:00- 13:10	Lunch		
13:10- 14:50	**Session VII**	**Chair Takuya Hirano (Gakushuin University)**	
13:10- 13:50	Classical and Quantum communication complexities<Invited Talk>	Harumichi Nishimura	Osaka Prefecture University
13:50- 14:10	Demonstration of quadratic phase gate for one-way quantum computation	Yoshichika Miwa [a], Jun-ichi Yoshikawa [a], Peter van Loock [b], Akira Furusawa [a]	a:University of Tokyo, b:Univ. Erlangen-Nürnberg
14:10- 14:30	Realization of squeezing operation using a 4-mode linear cluster state	Ryuji Ukai [a], Noriaki Iwata [a], Jun-ichi Yoshikawa [a], Peter van Loock [b], Akira Furusawa [a]	a:University of Tokyo, b:Univ. Erlangen-Nürnberg
14:30- 14:50	Quantum teleportation of non Gaussian wavepackets of light	Hugo Bemichi, Noriyuki Lee, Akira Furusawa	University of Tokyo
14:50- 15:10	Coffee break		
15:10- 16:30	**Session VIII**	**Chair Shigeki Takeuchi (Hokkaido University/Osaka University)**	
15:10- 15:30	Security of QKD based on three bases with threshold detectors	Yuya Kobayashi, Yoritoshi Adachi, Takashi Yamamoto, Masato Koashi, and Nobuyuki Imoto	Osaka University
15:30- 15:50	Boosting up quantum key distribution by learning statistics of practical single photon sources	Yoritoshi Adachi, Takashi Yamamoto, Masato Koashi, Nobuyuki Imoto	Osaka University
15:50- 16:10	Experimental Demonstration of Intercept-Resend Attack against Quantum Key Distribution with Time Fluctuation of Quantum Devices	Jun Hasegawa [a], Akihiro Tanaka [b], Akihisa Tomita [c]	a:The University of Tokyo, b:System Platforms Research Laboratories, NEC Corporation, c:ERATO-SORST
16:10- 16:30	Quantum Distinguishing Algorithm for the 3-Round Feistel Cipher with Internal Permutations	Hidenori Kuwakado, Masakatu Morii	Kobe University
16:30- 16:35	Closing		

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14:50- 16:50

Poster Session (1F Foyer)

Number	Title	Author(s)	Affiliation(s)
1	Limit distribution of time-dependent two-period quantum walks	Takuya Machida, Norio Konno	Yokohama National University
2	On analysis of continuous time quantum walks on the threshold network model	Yusuke Ide [a], Norio Konno [b]	a : Kanagawa University, b : Yokohama National University
3	Study on Discrete Adiabatic Quantum Computation in 3-SAT Problems	Mohamed El- ky, Satoshi Ono, Shigeru Nakayama	Kagoshima University
4	On the Simulation of Grover's Algorithm by using OpenMP	Seiya Okubo[a], Tomoya Suzuki[b], Tetsuro Nishino[b]	a: The University of Shizuoka, b: The University of Electro-Communications
5	Matrix Decomposition and Its Application to Finding Complex Hadamard Matrices	Yasuhito Kawano, Hiroshi Sekigawa	NTT Communication Science Labs.
6	Distinguishability Measures and Entropies for General Probabilistic Theories	Gen Kimura [a], Koji Nuida [a], Hideki Imai [a,b]	a: AIST, b: Chuo University
7	Excess Noise in Continuous-Variable Quantum Key Distribution using a Single-Path Interferometer	Satoshi Miyano, Takako Ido, Kazuhiro Murayama, Takuya Hirano	Gakushuin University
8	Secret Key Distribution Using a Seed Key and Phase Fluctuations	Tatsuya Tomaru	Hitachi
9	Hong-Ou-Mandel dip measurement by polarization-entangled photon pairs at 1550 nm	Yinghong Xue [a,b], Akio Yoshizawa [a,b], Hidemi Tsuchida [a,b]	a: AIST, b: JST
10	Quantum Anti-Zeno Effect and Enhancement of Energy Transfer in Disordered Systems	Keisuke Fujii, Katsuji Yamamoto	Kyoto University
11	Interference between independent bosonic fields under U(1) superselection rule	Toru Kawakubo, Katsuji Yamamoto	Kyoto University
12	Uncertainty limits in the quantum filtering	Kohsuke Sugiyama [a], Kentaro Ohki [b], Naoki Yamamoto [a]	a:Keio University, b:University of Tokyo
13	Coherent control and transfer/retrieval of optical coherence using an ensemble of inhomogeneous quantum dots	Junko Ishi-Hayase[a,b,c], Mamiko Kujiraoka[c,d], Satoshi Mitsutake[c,d], Kouichi Akahane[c], Naokatsu Yamamoto[c], Kazuhiro Ema[d], Masahide Sasaki[c]	The University of Electro-Commun.[a], PRESTO-JST[b], NICT[c], Sophia University[d]
14	Toward the realization of strong coupling cavity QED with microsphere-tapered-fiber coupled system	Masazumi Fujiwara[a,b], Hideaki Takashima[a,b], Kiyota Toubaru[a,b], Hong-Quan Zhao[a,b], Keiji Sasaki[a], Shigeki Takeuchi[a,b]	a:RIES, Hokkaido University, b:ISIR, Osaka University
15	Time-bin entanglement generated by cascaded second order nonlinearity in a single periodically-poled lithium niobate waveguide	Myrtille Hunault [a,b,c], Hiroki Takesue [a,c]	a:NTT Baisic Research Laboratories, b: ESPCI Paris France, c:CREST Japan Science and Technology Agency
16	Parametric down conversion through cascaded $\chi(2)$ process in a PPLN ridge waveguide	Shin Arahira, Tadashi Kishimoto	Network Technology Laboratories, Oki Electric Industry Co. Ltd.
17	On the effect of initialization time in quantum repeaters with atomic ensemble memories	Toshiyuki Yamagata, Koji Azuma, Toshiyuki Tashima, Takashi Yamamoto, Masato Koashi, Nobuyuki Imoto	Osaka University
18	Optimal local expansion of W states using linear optics and Fock states	Rikizo Ikuta, Toshiyuki Tashima, Takashi Yamamoto, Masato Koashi, Nobuyuki Imoto	Osaka University
19	Transmission of Polarization Entangled photon pairs over a 10.5km optical fiber	Taichi Kono [a], Naoto Namekata [a], Sunao Kurimura [b], Shuichiro Inoue [a]	a:Institute of Quantum Science Nihon University, b:National Institute for Materials Science
20	Non-Gaussian Operation Based on Photon-Subtraction by a Photon-Number-Resolving Detector at a telecommunication wavelength	Naoto Namekata [a], Yuta Takahashi [a,b], Go Fujii [a,c], Daiji Fukuda [c], Sunao Kurimura [d], Suichiro Inoue [a]	a: Nihon University, b: Waseda University, c: AIST, d: NIMS
21	Positive operator valued measure for practical On/Off detector	Kenji Tsujino , Akihisa Tomita	JST ERATO-SORST
22	Detection of orbital angular momentum entangled photon state in parametric downconversion	Yusuke Ozaki [a], Daisuke Kawase [b], Syunsuke Aoki [a], Yoko Miyamoto [a], Shigeki Takeuchi [b,c], Mitsuo Takeda [a], Keji Sasaki [b]	a: The University of Electro-Communications, b: RIES Hokkaido University, c: ISIR Osaka University