

Program 21/May/2009 (Thu)

Time	Title	Author(s)	Affiliation(s)
9:30	Opening remarks		
9:40 - 10:40	Session 1 Chairperson: Hayato Nakano (NTT Basic Research Laboratories)		
9:40	Designing superconducting qubit circuits that exhibit atomic-physics-like phenomena on a chip < tutorial talk >	Franco Nori	University of Michigan/RIKEN
10:40 - 11:00	Coffee break		
11:00 - 12:20	Session 2 Chairperson: Akio Hosoya (Tokyo Institute of Technology)		
11:00	Channel coding with finite average photon number	Masahito Hayashi	Graduate School of Information Sciences , Tohoku University
11:20	Tight bound on coherent-state-based entanglement generation over lossy channels	Koji Azuma , Naoya Sota , Masato Koashi , Nobuyuki Imoto	a: Osaka Univ. , b: JST-CREST
11:40	Precision limits of arbitrary single-qubit gates induced by conservation laws	Tokishiro Karasawa[a] , Masanao Ozawa[b] , Julio Gea-Banacloche[c] , Kae Nemoto[d]	a , d:National Institute of Informatics , b:Nagoya University , c:University of Arkansas
12:00	Complexity and time complexity in quantum computation	Tatsuhiko Koike	Keio University
12:20 - 13:30	Lunch		
13:30 - 15:30	Poster session		
15:30 - 17:10	Session 3 Chairperson: Kazuki Koshino (Tokyo Medical and Dental University)		
15:30	Quantum information processing by the single NV center in diamond <invited talk >	Norikazu Mizuochi	Tsukuba University/JST PRESTO
16:10	Hamiltonian tomography for spin chains by accessing a single spin	Koji Maruyama[a] , Daniel Burgarth[b] , Franco Nori[a , c]	a: RIKEN , b:Imperial College London , c:Univ. of Michigan
16:30	Comparison of Superconducting Qubit Readout Methods	Hayato Nakano	NTT BRL
16:50	Stability of the ordered state of a system of q-bits with electromagnetic interaction	Tetsuo Matsui	Kinki University
18:00 - 20:00	Banquet		

Program 22/May/2009 (Fri)

Time	Title	Author(s)	Affiliation(s)
9:00 - 10:20 Session 4 Chairperson: Keiichi Edamatsu (Tohoku University)			
9:00	Quantum information science with photons on a chip < invited talk >	Jeremy L. O'Brien	University of Bristol
9:40	Experimental realization of an entanglement filter	Ryo Okamoto[a, b], Jeremy L. O'Brien[c], Holger F. Hofmann[d], Tomohisa Nagata[a, b], Keiji Sasaki[a], Shigeki Takeuchi[a, b]	a:Hokkaido Univ. , b:Osaka Univ. , c:Univ. of Bristol , d:Hiroshima Univ.
10:00	Reconstruction of Spatial Qutrit States Based on Realistic Measurement Operators	Gen Taguchi, Tatsuo Dougakiuchi, Masataka Inuma, Holger F. Hofmann, Yutaka Kadoya	Graduated school of Advanced Sciences of Matter, Hiroshima University
10:20 - 10:40 Coffee break			
10:40 - 12:20 Session 5 Chairperson: Yasuhito Kawano (NTT Communication Science Laboratories)			
10:40	Designing Quantum Game Strategies from Quantum Communication Protocols	Kazuo Iwama [a], Harumichi Nishimura [b], Rudy Raymond [c]	a: Kyoto Univ. , b: Osaka Pref. Univ. , c: IBM Japan
11:00	General Scheme for Perfect Quantum Network Coding with Free Classical Communication	Hirotsada Kobayashi [a, b], Francois Le Gall [b], Harumichi Nishimura [c], Martin Roetteler [d]	a: NII, b: ERATO-SORST, c: Osaka Pref. Univ. , d: NEC Lab. America
11:20	Optimal trading of classical communication, quantum communication, and entanglement in quantum Shannon theory	Min-Hsiu Hsieh [a], Mark M. Wilde [b]	a: ERATO-SORST, b: SAIC
11:40	Statistically hiding quantum bit commitment from approximable-preimage-size quantum one-way functions	Takanori Odaira, Takeshi Koshihara	Saitama University
12:00	Active decoherence suppression in Bacon-Shor subsystem	Keisuke Fujii, Katsuji Yamamoto	Kyoto University
12:20 - 13:30 Lunch			
13:30 - 15:10 Session 6 Chairperson: Takuya Hirano (Gakushuin University)			
13:30	Standard quantum limit in an interferometric gravitational-wave detector < invited talk >	Seiji Kawamura	NAOJ
14:10	Unruh Effect on Quantum Teleportation	Kazutomo Shiokawa	Academia Sinica
14:30	Direct observation of Hardy's paradox by joint weak measurement	Kazuhiro Yokota, Takashi Yamamoto, Masato Koashi, Nobuyuki Imoto	Osaka University
14:50	Weak Values with Decoherence	Yutaka Shikano and Akio Hosoya	Tokyo Institute of Technology
15:10 - 15:30 Coffee break			
15:30 - 16:50 Session 7 Chairperson: Shigeki Takeuchi (Hokkaido University / Osaka University)			
15:30	Theory of nonlinear sign flip by two photons	Kazuki Koshino	Tokyo M&D Univ, PRESTO-JST
15:50	Local transformation of two EPR photon pairs into a three-photon W state	Toshiyuki Tashima [a, c], Tetsuroh Wakatsuki [a, c], Sahin Kaya Ozdemir[b, c], Takashi Yamamoto[a, c], Masato Koashi[a, c], Nobuyuki Imoto[a, c]	a: Univ. of Osaka, b: Univ. of Washington, c:CREST
16:10	Analysis of the effects of losses on the phase sensitivity of multi-photon states	Takafumi Ono[a], Holger F. Hofmann [b]	Univ. of Hiroshima
16:30	Study for quantum receiver performance of quantum DPSK signal	Tetsuya Shimizu[a]	a:Tamagawa Univ.
16:50	Closing remarks		

Poster session 21/May/2009 (Thu) 13:30 - 15:30

Number	Title	Author(s)	Affiliation(s)
1	Measurement schemes for the spin quadratures on an ensemble of atoms	Ryo Namiki [a], Tetsushi Takano [a], Shin-Ichi-Ro Tanaka [a], Masaomi Muramatsu [a], Yoshiro Takahashi [a, b]	a: Kyoto Univ. b: JST-CREST
2	Economical Measure of Nonclassical Correlation	Akira Saioh, Robabeh Rahimi, Mikio Nakahara	Kinki University
3	Identification of experimental errors in the measurement data of spatial qubits	Nobuaki Yoshimoto, Holger F. Hofmann	Graduate School of Advanced Sciences of Matter, Hiroshima University
4	Geometrical Aspects of Weak Measurements and Quantum Erasers	Shuhei Tamate [a], Hirokazu Kobayashi [a], Toshihiro Nakanishi [a, b], Kazuhiko Sugiyama [a, b], Masao Kitano [a, b]	a:Univ. of Kyoto, b:JST CREST
5	Comparison of maximum-likelihood and linear reconstruction schemes in quantum measurement tomography	Takanori Sugiyama[a], Peter S. Turner[a], Mio Murao[a, b]	a:Univ. of Tokyo, b:INQIE
6	A Magnetic Field Cycling System for Solid State NMR Quantum Computing with Hyperpolarization Attained by Dynamic Nuclear Polarization using Triplet Electron Spins	Makoto Negoro [a], Akinori Kagawa [a], Kazuyuki Takeda [b], Masahiro Kitagawa [a]	a:Osaka University, b:Kyoto University
7	Optimization of ^1H spin density for dynamic nuclear polarization using photo-excited triplet electron spins	Akinori Kagawa [a, b], Yu Murokawa [a, b], Kazuyuki Takeda [c], Masahiro Kitagawa [a, b]	a: Osaka Univ, b:CREST, c:Kyoto Univ.
8	Entanglement Generation for two Qubits by a two-Dimensional Qubit Scattering	Atsushi Ogasahara[a], Hiromichi Nakazato[b], Kazuya Yuasa[c]	a:Waseda Univ. b:Waseda Univ. c:Waseda Institute for Advanced Study
9	Automatic factorization of $\text{SU}(2^n)$ matrix	Hiroyuki Tomita, Vahideh Ebrahimi, Mikio Nakahara	Kinki Univ.
10	Measurement of Continuous Variable Entanglement Using Pulse Light in Time-domain	Junichi Sakurai[a], Ryuhi Okubo[a], Mayumi Hirano[a], Yun Zhang[b], Takuya Hirano[a]	a:Gakushuin Univ. , b:Univ. of Electro-Communications
11	A Calculation of Non-Markovian Error Rates Induced by Pulse Irradiation in An All-Silicon Quantum Computer	Daisuke Aratsu	Graduate School of Engineering Science, Osaka University
12	Thermal-noise-limited, gated InGaAs/InP Avalanche photodiode	Naoto Namekata[a], Shunsuke Adachi[a], Shuichiro Inoue[a].	a: Nihon Univ.
13	Generation of high-purity polarization entangled photon pair using a Type-II PPLN waveguide	Naoto Namekata [a], Kono [a], Keisuke Hasegawa [a], Sunao Kurimura [b], Shuichiro Inoue [a].	a: Nihon Univ., b: NIMS
14	Optimal Measurement on Noisy Quantum Systems	Yu Watanabe[a], Takahiro Sagawa[a], Masahito Ueda[a, b]	a:Univ. of Tokyo, b:JST-ERATO
15	A gate for parallel processing with phase modulation	Kouichi Nitta [a], Osamu Matoba [a]	Kobe Univ.
16	Optical-fiber cross-Kerr nonlinearity at the single-photon level	Nobuyuki Matsuda [a], Ryosuke Shimizu [b], Yasuyoshi Mitsumori [a], Hideo Kosaka [a], Keiichi Edamatsu [a]	a:Tohoku University, b:JST-PRESTO
17	Weak measurements using two-mode-interference of light	Masataka Iinuma, Gen Taguchi, Holger F. Hofmann, Yutaka Kadoya	Hiroshima University, ADSM