QIT24 Program

May 12 (Thu.), 2011 Multi-purpose Digital Hall at Tokyo Tech

Time	Title	Speaker	Affiliation
10:35- 10:40	Opening		
10:40- 12:00	**Session I**		
	Dissipation-induced pure Gaussian state	Naoki Yamamoto [a], Kei Koga [a]	a: Keio University
	Indirect hamiltonian tomography of spin networks in the presence of degeneracy	Koji Maruyama [a, b], Daniel Burgarth [c], Franco Nori [a, d]	a:RIKEN, b:Osaka City Univ., c:Imperial College London, d:Univ. of Michigan
	Coherent-state-based entanglement generation via separable operations, local operations and classical communication, and an experimentally-oriented protocol	Koji Azuma [a], Hitoshi Takeda, Masato Koashi [b], Nobuyuki Imoto [b]	a: NTT BRL, b: Osaka Univ.
	Experimental studies on violation of Leggett-Garg inequality by quantum measurement of a photon polarizaiton	Masataka Iinuma, Yutaro Suzuki, Tomonori Okazaki, Gen Taguchi, Yutaka Kadoya, and Holger F. Hofmann	Hiroshima University
12:00- 13:20	Lunch		
13:20- 14:50	**ポスター**		
14:50- 16:10	**Session II**		
	Quantum Measurement in the Real World <Invited Talk>	Aephraim M. Steinberg	CQIQC
	Back-action based realization of a quantum optical weak measurement	Yutaro Suzuki, Masataka Iinuma, Tomonori Okazaki, Gen Taguchi, Yutaka Kadoya, Holger F. Hofmann	Univ. of Hiroshima
	On the relation between transformation dynamics and quantum statistics in weak measurements	Holger F. Hofmann	Hiroshima University
16:10- 16:30	Break		
16:30- 17:50	**Session III**		
	Quantum computational geodesics and two-body curves	Kosuke Shizume[a], Takao Nakajima[b], Ryou Nakayama[c]	a:Univ. of Tsukuba, b:Toshiba solutions, c:Univ. of Tsukuba
	Designing Robust Quantum Gates	Masamitsu Bando, Tsubasa Ichikawa, Yasushi Kondo, Mikio Nakahara	Kinki Univ.
	Fault-Tolerant Topological One-Way Quantum Computation with Probabilistic Two-Qubit Gates	Keisuke Fujii [a], Yuuki Tokunaga[b]	a: Osaka Univ., b:NTT
	A Functional Programming Language for Quantum Computation and Its Semantics	Ichiro Hasuo [a], Naohiko Hoshino [b]	a: Univ. of Tokyo, b: Kyoto Univ.
18:00- 20:00	Banquet		

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May 13 (Fri.), 2011 Multi-purpose Digital Hall at Tokyo Tech

Time	Title	Speaker	Affiliation
9:20- 10:40	**Session IV**		
	Classification of pure tripartite states by reduced bipartite densities	Masahito Hayashi[a, b] Lin Chen[b]	a: Tohoku University b:National University of Singapore
	Multi-copy and stochastic transformation of multipartite pure states	Lin Chen[a], Masahito Hayashi[b, a]	a:National University of Singapore b:Tohoku University
	Dual Universality of Hash Functions and Its Application to Quantum Cryptography	T. Tsurumaru[a], M. Hayashi[b]	a: Mitsubishi Electric Corporation, b: Tohoku University
	Unitary Quantum Error Correction without Error Syndrome Measurement	Mikio Nakahara [a], Chi-Kwong Li [b], Yiu-Rung Poon [c], Nung-Sing Sze [d], Hiroyuki Tomita [a]	a: Kinki Univ., b: College of William and Mary, c: Iowa State Univ., d: Hong Kong Poly. Univ.
10:40- 11:00	Break		
11:00- 12:20	**Session V**		
	Recent progresses in superconducting quantum information experiments <Invited Talk>	Jaw-Shen Tsai	RIKEN/NEC
	Nuclear-Spin Observation of Low-Frequency Noise Spectra in Solids --- Origin of 1/f Noise	Susumu Sasaki [a], Tatsuro Yuge [b], Masashi Nishimori [a], Takashi Kawanago [a], Yoshiro Hirayama [b, c]	a: Niigata University, b: Tohoku University, c: JST-ERATO
	Qubits using cuprate superconductors	Hiroyasu Koizumi	Univ. of Tsukuba
12:20- 13:40	Lunch		
13:40- 15:00	**Session VI**		
	Quantum Information in the History of Quantum Mechanics <Invited Talk>	Fumitaka Sato	Konan Univ.
	An application of the quantum optics like measurement to the astrophysics	Gen Nakamura	Hiroshima University
	Collective Dynamics of Spins Weakly Interacting with a Quantum Resonator	Hayato Nakano	NTT BRL
15:00- 15:20	Break		
15:20- 16:40	**Session VII**		
	Realization of a Knill-Laflamme-Milburn C-NOT operataion	Ryo Okamoto[a, b], Jeremy L. O'Brien[c], Holger F. Hofmann[d], Shigeki Takeuchi[a, b]	a:Hokkaido Univ. , b:Osaka Univ., c:Univ. of Bristol, d:Hiroshima Univ.
	Radiation from accelerated impurities in a Bose-Einstein condensate	Jun Suzuki	National Institute of Informatics
	Time-optimal quantum gate between indirectly coupled spins	Alberto Carlini [a, b], Akio Hosoya [c], Tatsuhiko Koike [d], Yosuke Okudaira [c]	a:Universita' del Piemonte Orientale, b:Instituto Nazionale di Fisica Nucleare, c:Tokyo Institute of Technology, d:Keio University
	Low-dose electron microscopy as a possible application of the Cooper pair box	Hiroshi Okamoto [a]	a:Akita Prefectural University
16:40- 16:45	Closing		

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13:20- 14:50

Poster (Multi-purpose Digital Hall at Tokyo Tech)

1	Unambiguous discrimination of three pure states –Case of complex inner products–	Sugimoto Hiroyuki[a], Hashimoto Takaaki[a], Horibe Minoru[a], Hayashi Akihisa	a:Univ. of Fukui
2	Application of entangled photon to the differential interference contrast microscope	Takafumi Ono[a, b], Ryo Okamoto[a, b], Shigeki Takeuchi[a, b]	a:Univ. of Hokkaido, b:Univ. of Osaka
3	Application of broadband parametric fluorescence to quantum optical coherence tomography	Masayuki Okano [a, b], Ryo Okamoto [a, b], Akira Tanaka [a, b], Shanthi Subashchandran [a, b], Shutaro Ishida [c], Norihiko Nishizawa [c], Shigeki Takeuchi [a, b]	a:RIES, Hokkaido University, b:ISIR, Osaka University, c:Nagoya University
4	Experimental implementation of continuous-variable quantum key distribution over an optical fiber using a single-path interferometer	Ryosuke kawasoe[a], Kazuhiro Murayama[a], Takako Ido[a], Takuya Hirano[a]	a:Gakushuin University
5	Adaptive Measurement for Quantum Phase Estimation	Minako Iefuji [a, b], Ryo Okamoto [a, b], Koichi Yamagata [c], Hiroshi Imai [d], Akio Fujiwara [c], Shigeki Takeuchi [a,	a: Univ. of Hokkaido, b: Univ. of Osaka, c: Univ. of Osaka, d:Univ. of Pavia
6	Spectral properties of ultra-broadband parametric fluorescence from Chirped-Quasi-Phase-Matched device	Akira Tanaka*‡, Ryo Okamoto*‡, Hwan Hong Lim†, Masayuki Okano*‡, Shanthi Subashchandran*‡, Sunao Kurimura†, Shigeki Takeuchi*‡	*Research Institute for Electronic Science, Hokkaido University †National Institute for Materials Science, Tsukuba ‡The Institute of Scientific and Industrial Research, Osaka University
7	Geometric Phases in Three-state Quantum Systems	Kazuhisa Ogawa [a], Shuhei Tamate [a], Hirokazu Kobayasi [a], Masao Kitano [a]	a:Kyoto University
8	Interaction of quantum states of light with an atom using a time domain model of light field propagation	Akihiro Yamaguchi[a], Holger F. Hofmann[a]	a:Graduate School of Advanced Sciences of Matter, Hiroshima University
9	Frequency down-conversion of non-classical light from visible wavelength to telecom wavelength	Yoshiaki Kusaka [a], Rikizo Ikuta [a], Tuyoshi Kitano [a], Hiroshi Kato [a], Takashi Yamamoto [a], Masato Koashi [a], Nobuyuki Imoto[a]	a:Osaka University
10	Entanglement of the primordial universe	Yuji Ohsumi, Yasusada Nambu	Nagoya Univ.
11	Estimation of noise spectrum by multiple pulse sequence	Tatsuro Yuge [a], Susumu Sasaki [b], Yoshiro Hirayama [a, c]	a:Tohoku Univ., b:Niigata Univ., c:JST-ERATO
12	Evaluation of telecom-band polarization entanglement by superconducting transition-edge sensors	Yinghong Xue [a], Akio Yoshizawa [a], Go Fujii [a, b], Daiji Fukuda [a], Hidemi Tsuchida [a]	a:AIST, b:Nihon Univ.
13	Observation of Picosecond Pulsed Squeezed Light Using a Temporally Shaped Local Oscillator Pulse	Akane Koshio[a], Yujiro Eto[b], Junichi Sakurai[a], Keiko Hoirie[a], Takuya Hirano[a]	a:Gakushuin Univ, b:NICT
14	Temperature dependences of the resonant frequency of microspheres with different materials	Tetsuya Noda[a, b], Masazumi Fujiwara[a, b], Hong-Quan Zhao[a, b], Hideaki Takashima[a, b], Shigeki Takeuchi[a, b]	a:Univ of Osaka, b:Univ of Hokkaido
15	Toward the realization of Quantum Controlled-SWAP operation using Optical quantum circuit	Masato Tanida[a, b], Ryo Okamoto[a, b], Shigeki Takeuchi[a, b]	a. ISIR, Osaka Univ, b. RIES, Hokkaido Univ