



Yoshihisa Yamamoto

Professor of Electrical Engineering and of Applied Physics, Emeritus

CONTACT INFORMATION

- **Administrator**

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Bio

BIO

Yamamoto's current research interests are in the areas of quantum information, quantum optics, and mesoscopic physics such as squeezed states, quantum nondemolition measurements, cavity quantum electrodynamics, quantum computers, and mesoscopic electron transport and tunneling.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Electrical Engineering

ADMINISTRATIVE APPOINTMENTS

- Program Manager, Impulsing Paradigm Change through Disruptive Technologies (ImPACT) Program, Japan, (2014- present)
- Principal Investigator, Funding Program for World-Leading Innovative R&D on Science and Technology (First Program), (2011-2014)
- Professor, University of Tokyo, Japan, (2003-2014)
- Professor, National Institute of Informatics, (2003-2014)
- Honorary Professor, Chiao Tung University, Taiwan, (2001- present)
- Fellow, NTT R & D, (1999- present)
- Executive Research Scientist, NTT Basic Research Laboratories, Japan, (1997-1999)
- Distinguished Technical Member, NTT Basic Research Laboratories, Japan, (1994-1997)
- Professor, Applied Physics and Electrical Engineering Stanford University, USA, (1992- present)
- Senior Research Scientist, Supervisor, NTT Basic Research Laboratories, Japan, (1992-1994)
- Guest Professor, Tianjin and Fudan Universities, China, (1992-1992)
- Professor, Stanford University, USA, (1991-1991)
- Visiting Scientist, AT&T Bell Laboratories, USA, (1989-1989)
- Leader, Yamamoto Research Group, NTT Basic Research Laboratories, Japan, (1987-1992)
- Visiting Scientist, Royal Institute of Technology, Sweden, (1985-1985)
- Visiting Scientist, Massachusetts Institute of Technology, USA, (1982-1983)

- Scientist, NTT Basic Research Laboratories, Japan, (1978-1987)

HONORS AND AWARDS

- The Okawa Prize, The Okawa Foundation for Information and Telecommunications (2011)
- Hermann Anton Haus Lecturer, MIT (2010)
- Fellowship, American Physical Society (2007)
- Fellowship, Japan Society of Applied Physics (2007)
- Shida Rinzaburo Prize, Japan's Ministry of Internal Affairs and Communications (2006)
- Commentary Paper Award, Japan Society of Applied Physics (2005)
- Medal with Purple Ribbon, Emperor of Japan (2005)
- The Fourth Electronics Society Award, Institute of Electronics, Communications and Information Engineers of Japan (2001)
- IEEE/LEOS Quantum Electronics Award, IEEE (2000)
- Matsuo Science Prize, Matsuo Academic Promotion Foundation (2000)
- Fellowship, Optical Society of America (1995)
- Research Commendation, Minister of Science and Technology Agency of Japan (1995)
- Carl Zeiss Research Award, Carl Zeiss Foundation (1992)
- NTT Basic Research Laboratories Director Award, NTT (1992)
- NTT Research and Development Award, NTT (1992)
- Nishina Memorial Prize, Physical Society of Japan (1992)
- NTT Basic Research Laboratories Director Award, NTT (1991)
- NTT Research and Development Award, NTT (1987)
- The Achievement Award of the IECE of Japan, IECE (1985)
- The Young Engineer Award of the IECE of Japan, IECE (1982)

PROFESSIONAL EDUCATION

- PhD, University of Tokyo , Electrical Engineering (1978)
- MS, Tokyo Institute of Technology , Electrical Engineering (1975)
- BE, Tokyo Institute of Technology , Electrical engineering (1973)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Experimental Quantum Optics, Semiconductor Physics, Quantum Information

Publications

PUBLICATIONS

- **Universal logic gates for quantum-dot electron-spin qubits using trapped quantum-well exciton polaritons** *PHYSICAL REVIEW B*
Puri, S., McMahon, P. L., Yamamoto, Y.
2017; 95 (12)
- **Combinatorial optimization using dynamical phase transitions in driven-dissipative systems** *PHYSICAL REVIEW E*
Leleu, T., Yamamoto, Y., Utsunomiya, S., Aihara, K.
2017; 95 (2)

- **Exciton-polariton trapping and potential landscape engineering** *REPORTS ON PROGRESS IN PHYSICS*
Schneider, C., Winkler, K., Fraser, M. D., Kamp, M., Yamamoto, Y., Ostrovskaya, E. A., Hoefling, S.
2017; 80 (1)
- **Ultrafast coherent manipulation of trions in site-controlled nanowire quantum dots** *OPTICA*
Lagoudakis, K. G., McMahon, P. L., Dory, C., Fischer, K. A., Mueller, K., Borish, V., Dalacu, D., Poole, P. J., Reimer, M. E., Zwiller, V., Yamamoto, Y., Vuckovic, J.
2016; 3 (12): 1430-1435
- **Reduced models and design principles for half-harmonic generation in synchronously pumped optical parametric oscillators** *PHYSICAL REVIEW A*
Hamerly, R., Marandi, A., Jankowski, M., Fejer, M. M., Yamamoto, Y., Mabuchi, H.
2016; 94 (6)
- **A fully programmable 100-spin coherent Ising machine with all-to-all connections.** *Science*
McMahon, P. L., Marandi, A., Haribara, Y., Hamerly, R., Langrock, C., Tamate, S., Inagaki, T., Takesue, H., Utsunomiya, S., Aihara, K., Byer, R. L., Fejer, M. M., Mabuchi, et al
2016; 354 (6312): 614-617
- **Topological defect formation in 1D and 2D spin chains realized by network of optical parametric oscillators** *INTERNATIONAL JOURNAL OF MODERN PHYSICS B*
Hamerly, R., Inaba, K., Inagaki, T., Takesue, H., Yamamoto, Y., Mabuchi, H.
2016; 30 (25)
- **Boltzmann Sampling by Degenerate Optical Parametric Oscillator Network for Structure-Based Virtual Screening** *ENTROPY*
Sakaguchi, H., Ogata, K., Isomura, T., Utsunomiya, S., Yamamoto, Y., Aihara, K.
2016; 18 (10)
- **Physics and applications of exciton-polariton lasers** *NATURE MATERIALS*
Fraser, M. D., Hoefling, S., Yamamoto, Y.
2016; 15 (10): 1049-1052
- **A 16-bit Coherent Ising Machine for One-Dimensional Ring and Cubic Graph Problems** *SCIENTIFIC REPORTS*
Takata, K., Marandi, A., Hamerly, R., Haribara, Y., Maruo, D., Tamate, S., Sakaguchi, H., Utsunomiya, S., Yamamoto, Y.
2016; 6
- **Truncated Wigner theory of coherent Ising machines based on degenerate optical parametric oscillator network** *PHYSICA SCRIPTA*
Maruo, D., Utsunomiya, S., Yamamoto, Y.
2016; 91 (8)
- **Large-scale Ising spin network based on degenerate optical parametric oscillators** *NATURE PHOTONICS*
Inagaki, T., Inaba, K., Hamerly, R., Inoue, K., Yamamoto, Y., Takesue, H.
2016; 10 (6): 415-?
- **Initialization of a spin qubit in a site-controlled nanowire quantum dot** *NEW JOURNAL OF PHYSICS*
Lagoudakis, K. G., McMahon, P. L., Fischer, K. A., Puri, S., Mueller, K., Dalacu, D., Poole, P. J., Reimer, M. E., Zwiller, V., Yamamoto, Y., Vuckovic, J.
2016; 18
- **Spatial correlation of two-dimensional bosonic multimode condensates** *PHYSICAL REVIEW A*
Nitsche, W. H., Kim, N. Y., Roumpos, G., Schneider, C., Hoefling, S., Forchel, A., Yamamoto, Y.
2016; 93 (5)
- **High-energy side-peak emission of exciton-polariton condensates in high density regime** *SCIENTIFIC REPORTS*
Horikiri, T., Yamaguchi, M., Kamide, K., Matsuo, Y., Byrnes, T., Ishida, N., Loeffler, A., Hoefling, S., Shikano, Y., Ogawa, T., Forchel, A., Yamamoto, Y.
2016; 6
- **Computational Principle and Performance Evaluation of Coherent Ising Machine Based on Degenerate Optical Parametric Oscillator Network** *ENTROPY*
Haribara, Y., Utsunomiya, S., Yamamoto, Y.
2016; 18 (4)
- **Crossover from polariton lasing to exciton lasing in a strongly coupled ZnO microcavity.** *Scientific reports*

- Lai, Y., Chou, Y., Lan, Y., Lu, T., Wang, S., Yamamoto, Y.
2016; 6: 20581-?
- **Two-photon interference at telecom wavelengths for time-bin-encoded single photons from quantum-dot spin qubits** *NATURE COMMUNICATIONS*
Yu, L., Natarajan, C. M., Horikiri, T., Langrock, C., Pelc, J. S., Tanner, M. G., Abe, E., Maier, S., Schneider, C., Hoefling, S., Kamp, M., Hadfield, R. H., Fejer, et al
2015; 6
 - **Observation of non-Hermitian degeneracies in a chaotic exciton-polariton billiard** *NATURE*
Gao, T., Estrecho, E., Bliokh, K. Y., Liew, T. C., Fraser, M. D., Brodbeck, S., Kamp, M., Schneider, C., Hoefling, S., Yamamoto, Y., Nori, F., Kivshar, Y. S., Truscott, et al
2015; 526 (7574): 554-U203
 - **Quantum correlation in degenerate optical parametric oscillators with mutual injections** *PHYSICAL REVIEW A*
Takata, K., Marandi, A., Yamamoto, Y.
2015; 92 (4)
 - **Spatial and temporal dynamics of the crossover from exciton-polariton condensation to photon lasing** *JAPANESE JOURNAL OF APPLIED PHYSICS*
Matsuo, Y., Fraser, M. D., Kusudo, K., Loeffler, A., Hoefling, S., Forchel, A., Yamamoto, Y.
2015; 54 (9)
 - **Radiative properties of multicarrier bound excitons in GaAs** *PHYSICAL REVIEW B*
Karin, T., Barbour, R. J., Santori, C., Yamamoto, Y., Hirayama, Y., Fu, K. C.
2015; 91 (16)
 - **Generating functional approach for spontaneous coherence in semiconductor electron-hole-photon systems** *PHYSICAL REVIEW B*
Yamaguchi, M., Nii, R., Kamide, K., Ogawa, T., Yamamoto, Y.
2015; 91 (11)
 - **Binary phase oscillation of two mutually coupled semiconductor lasers** *OPTICS EXPRESS*
Utsunomiya, S., Namekata, N., Takata, K., Akamatsu, D., Inoue, S., Yamamoto, Y.
2015; 23 (5): 6029-6040
 - **Verification of very strong coupling in a semiconductor optical microcavity** *NEW JOURNAL OF PHYSICS*
Yang, M., Kim, N. Y., Yamamoto, Y., Na, N.
2015; 17
 - **Photoluminescence of high-density exciton-polariton condensates** *PHYSICAL REVIEW B*
Ishida, N., Byrnes, T., Horikiri, T., Nori, F., Yamamoto, Y.
2014; 90 (24)
 - **Network of time-multiplexed optical parametric oscillators as a coherent Ising machine** *NATURE PHOTONICS*
Marandi, A., Wang, Z., Takata, K., Byer, R. L., Yamamoto, Y.
2014; 8 (12): 937-942
 - **Algebraic order and the Berezinskii-Kosterlitz-Thouless transition in an exciton-polariton gas** *PHYSICAL REVIEW B*
Nitsche, W. H., Kim, N. Y., Roumpos, G., Schneider, C., Kamp, M., Hofling, S., Forchel, A., Yamamoto, Y.
2014; 90 (20)
 - **Exciton-polariton condensates** *NATURE PHYSICS*
Byrnes, T., Kim, N. Y., Yamamoto, Y.
2014; 10 (11): 803-813
 - **Single-shot quantum nondemolition measurement of a quantum-dot electron spin using cavity exciton-polaritons** *PHYSICAL REVIEW B*
Puri, S., McMahon, P. L., Yamamoto, Y.
2014; 90 (15)
 - **Effective interaction and condensation of dipolaritons in coupled quantum wells** *PHYSICAL REVIEW B*
Byrnes, T., Kolmakov, G. V., Kezerashvili, R. Y., Yamamoto, Y.
2014; 90 (12)

- **Fermionic Physics in Dipolariton Condensates** *PHYSICAL REVIEW LETTERS*
Su, J., Kim, N. Y., Yamamoto, Y., MacDonald, A. H.
2014; 112 (11)
- **Data search by a coherent Ising machine based on an injection-locked laser network with gradual pumping or coupling** *PHYSICAL REVIEW A*
Takata, K., Yamamoto, Y.
2014; 89 (3)
- **BioHackathon series in 2011 and 2012: penetration of ontology and linked data in life science domains** *JOURNAL OF BIOMEDICAL SEMANTICS*
Katayama, T., Wilkinson, M. D., Aoki-Kinoshita, K. F., Kawashima, S., Yamamoto, Y., Yamaguchi, A., Okamoto, S., Kawano, S., Kim, J., Wang, Y., Wu, H., Kano, Y., Ono, et al
2014; 5
- **Exciton-polariton laser diodes** *Conference on Nanophotonics and Micro/Nano Optics II*
Amthor, M., Fischer, J., Savenko, I. G., Shelykh, I. A., Chernenko, A., Rahimi-Iman, A., Kulakovskii, V. D., Reitzenstein, S., Kim, N. Y., Durnev, M., Kavokin, A. V., Yamamoto, Y., Forchel, et al
SPIE-INT SOC OPTICAL ENGINEERING.2014
- **Co-variation of Depressive Mood and Spontaneous Physical Activity Evaluated by Ecological Momentary Assessment in Major Depressive Disorder** *36th Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society (EMBC)*
Kim, J., Nakamura, T., Kikuchi, H., Yoshiuchi, K., Yamamoto, Y.
IEEE.2014: 6635–6638
- **Coherent Ising machine based on degenerate optical parametric oscillators** *PHYSICAL REVIEW A*
Wang, Z., Marandi, A., Wen, K., Byer, R. L., Yamamoto, Y.
2013; 88 (6)
- **Ultrafast optical control of individual quantum dot spin qubits.** *Reports on progress in physics. Physical Society (Great Britain)*
Greve, K. D., Press, D., McMahon, P. L., Yamamoto, Y.
2013; 76 (9): 092501-?
- **Neural networks using two-component Bose-Einstein condensates** *SCIENTIFIC REPORTS*
Byrnes, T., Koyama, S., Yan, K., Yamamoto, Y.
2013; 3
- **Temperature Dependence of Highly Excited Exciton Polaritons in Semiconductor Microcavities** *JOURNAL OF THE PHYSICAL SOCIETY OF JAPAN*
Horikiri, T., Matsuo, Y., Shikano, Y., Loeffler, A., Hoefling, S., Forchel, A., Yamamoto, Y.
2013; 82 (8)
- **Complete tomography of a high-fidelity solid-state entangled spin-photon qubit pair.** *Nature communications*
De Greve, K., McMahon, P. L., Yu, L., Pelc, J. S., Jones, C., Natarajan, C. M., Kim, N. Y., Abe, E., Maier, S., Schneider, C., Kamp, M., Höfling, S., Hadfield, et al
2013; 4: 2228-?
- **Second Thresholds in BEC-BCS-Laser Crossover of Exciton-Polariton Systems** *PHYSICAL REVIEW LETTERS*
Yamaguchi, M., Kamide, K., Nii, R., Ogawa, T., Yamamoto, Y.
2013; 111 (2)
- **Faster quantum chemistry simulation on fault-tolerant quantum computers** *NEW JOURNAL OF PHYSICS*
Jones, N. C., Whitfield, J. D., McMahon, P. L., Yung, M., Van Meter, R., Aspuru-Guzik, A., Yamamoto, Y.
2012; 14
- **Quantum-dot spin-photon entanglement via frequency downconversion to telecom wavelength** *NATURE*
De Greve, K., Yu, L., McMahon, P. L., Pelc, J. S., Natarajan, C. M., Kim, N. Y., Abe, E., Maier, S., Schneider, C., Kamp, M., Hoefling, S., Hadfield, R. H., Forchel, et al
2012; 491 (7424): 421-?
- **Quantum Computing vs. Coherent Computing** *NEW GENERATION COMPUTING*
Yamamoto, Y., Takata, K., Utsunomiya, S.
2012; 30 (4): 327-355

- **Entangling Single Photons from Independently Tuned Semiconductor Nanoemitters** *NANO LETTERS*
Sanaka, K., Pawlis, A., Ladd, T. D., Sleiter, L. J., Lischka, K., Yamamoto, Y.
2012; 12 (9): 4611-4616
- **Layered Architecture for Quantum Computing** *PHYSICAL REVIEW X*
Jones, N. C., Van Meter, R., Fowler, A. G., McMahon, P. L., Kim, J., Ladd, T. D., Yamamoto, Y.
2012; 2 (3)
- **Two-qubit geometric phase gate for quantum dot spins using cavity polariton resonance** *PHYSICAL REVIEW B*
Puri, S., Kim, N. Y., Yamamoto, Y.
2012; 85 (24)
- **Exciton-polariton condensates with flat bands in a two-dimensional kagome lattice** *NEW JOURNAL OF PHYSICS*
Masumoto, N., Kim, N. Y., Byrnes, T., Kusudo, K., Loeffler, A., Hoefling, S., Forchel, A., Yamamoto, Y.
2012; 14
- **BEC-BCS-laser crossover in Coulomb-correlated electron-hole-photon systems** *NEW JOURNAL OF PHYSICS*
Yamaguchi, M., Kamide, K., Ogawa, T., Yamamoto, Y.
2012; 14
- **Macroscopic quantum computation using Bose-Einstein condensates** *PHYSICAL REVIEW A*
Byrnes, T., Wen, K., Yamamoto, Y.
2012; 85 (4)
- **Power-law decay of the spatial correlation function in exciton-polariton condensates** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Roumpos, G., Lohse, M., Nitsche, W. H., Keeling, J., Szymanska, M. H., Littlewood, P. B., Loeffler, A., Hoefling, S., Worschech, L., Forchel, A., Yamamoto, Y.
2012; 109 (17): 6467-6472
- **Spin dephasing of fluorine-bound electrons in ZnSe** *PHYSICAL REVIEW B*
Greulich, A., Pawlis, A., Liu, F., Yugov, O. A., Yakovlev, D. R., Lischka, K., Yamamoto, Y., Bayer, M.
2012; 85 (12)
- **Negative Bogoliubov dispersion in exciton-polariton condensates** *PHYSICAL REVIEW B*
Byrnes, T., Horikiri, T., Ishida, N., Fraser, M., Yamamoto, Y.
2012; 85 (7)
- **Cascaded frequency upconversion for high-speed single-photon detection at 1550 nm** *OPTICS LETTERS*
Pelc, J. S., Zhang, Q., Phillips, C. R., Yu, L., Yamamoto, Y., Fejer, M. M.
2012; 37 (4): 476-478
- **Semiconductor qubits based on fluorine implanted ZnMgSe/ZnSe quantum-well nanostructures** *PHYSICAL REVIEW B*
Kim, Y. M., Sleiter, D., Sanaka, K., Yamamoto, Y., Meijer, J., Lischka, K., Pawlis, A.
2012; 85 (8)
- **Transient time of an Ising machine based on injection-locked laser network** *NEW JOURNAL OF PHYSICS*
Takata, K., Utsunomiya, S., Yamamoto, Y.
2012; 14
- **Phase-coherent high-orbital microcavity exciton-polaritons in a lattice** *Conference on Lasers and Electro-Optics (CLEO)*
Kim, N. Y., Kusudo, K., Hoefling, S., Forchel, A., Yamamoto, Y.
IEEE.2012
- **GaN-based microcavity polariton light emitting diodes** *Conference on Light-Emitting Diodes - Materials, Devices, and Applications for Solid State Lighting XVI*
Lu, T., Lai, Y., Huang, S., Chen, J., Wu, Y., Lin, S., Wang, S., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2012
- **REMOVAL PROPERTIES OF REACTION SINTERED SIC IN ATMOSPHERIC PRESSURE PLASMA FABRICATION PROCESS** *10th International Conference on Progress of Machining Technology (ICPMT2012)*
Yamamura, K., Yamamoto, Y., Hata, Y., Deng, H.

JAPAN SOC PRECISION ENGINEERING-JSPE.2012: 203–206

- **Fault-tolerant quantum repeaters for long-distance quantum communication based on quantum dots** *Conference on Lasers and Electro-Optics (CLEO)*
Jones, N. C., De Greve, K., Yamamoto, Y.
IEEE.2012
- **Preliminary Study on Chemical Figuring and Finishing of Sintered SiC Substrate Using Atmospheric Pressure Plasma** *45th CIRP Conference on Manufacturing Systems (CIRP CMS)*
Yamamura, K., Yamamoto, Y., Deng, H.
ELSEVIER SCIENCE BV.2012: 335–339
- **High-Speed Single-Photon Detection at 1550 nm via Cascaded Frequency Upconversion** *Conference on Lasers and Electro-Optics (CLEO)*
Pelc, J. S., Zhang, Q., Phillips, C. R., Yu, L., Yamamoto, Y., Fejer, M. M.
IEEE.2012
- **Direct photoluminescence observation of the negative Bogoliubov branch in an exciton-polariton condensate** *Conference on Lasers and Electro-Optics (CLEO)*
Horikiri, T., Byrnes, T., Ishida, N., Loeffler, A., Hoefling, S., Forchel, A., Yamamoto, Y.
IEEE.2012
- **Optical properties of fluorine implanted ZnMgSe/ZnSe quantum-well nanostructures** *Conference on Advances in Photonics of Quantum Computing, Memory, and Communication V*
Kim, Y. M., Sleiter, D., Sanaka, K., Yamamoto, Y., Meijer, J., Lischka, K., Pawlis, A.
SPIE-INT SOC OPTICAL ENGINEERING.2012
- **Simple quantum logic gate with quantum dot cavity QED systems** *PHYSICAL REVIEW B*
Ladd, T. D., Yamamoto, Y.
2011; 84 (23)
- **Accelerated optimization problem search using Bose-Einstein condensation** *NEW JOURNAL OF PHYSICS*
Byrnes, T., Yan, K., Yamamoto, Y.
2011; 13
- **Ultrafast coherent control and suppressed nuclear feedback of a single quantum dot hole qubit** *NATURE PHYSICS*
De Greve, K., McMahon, P. L., Press, D., Ladd, T. D., Bisping, D., Schneider, C., Kamp, M., Worschech, L., Hoefling, S., Forchel, A., Yamamoto, Y.
2011; 7 (11): 872-878
- **Present Status and Future Prospects of Quantum Information Processing: With Special Focus on Optically Controlled Semiconductor Spins and Single-Photon Technologies** *JAPANESE JOURNAL OF APPLIED PHYSICS*
Yamamoto, Y.
2011; 50 (10)
- **Mapping of Ising models onto injection-locked laser systems** *OPTICS EXPRESS*
Utsunomiya, S., Takata, K., Yamamoto, Y.
2011; 19 (19): 18091-18108
- **Dynamical d-wave condensation of exciton-polaritons in a two-dimensional square-lattice potential** *NATURE PHYSICS*
Kim, N. Y., Kusudo, K., Wu, C., Masumoto, N., Loeffler, A., Hoefling, S., Kumada, N., Worschech, L., Forchel, A., Yamamoto, Y.
2011; 7 (9): 681-686
- **Possible origin of the nonmonotonic doping dependence of the in-plane resistivity anisotropy of Ba(Fe(1-x)T(x))(2)As-2 (T = Co, Ni and Cu)** *PHYSICAL REVIEW B*
Kuo, H., Chu, J., Riggs, S. C., Yu, L., McMahon, P. L., De Greve, K., Yamamoto, Y., Analytis, J. G., Fisher, I. R.
2011; 84 (5)
- **Room Temperature Current Injection Polariton Light Emitting Diode with a Hybrid Microcavity** *NANO LETTERS*
Lu, T., Chen, J., Lin, S., Huang, S., Wang, S., Yamamoto, Y.
2011; 11 (7): 2791-2795
- **Resource analysis for quantum simulation on a fault-tolerant quantum computer** *241st National Meeting and Exposition of the American-Chemical-Society (ACS)*

-
- Jones, N. C., McMahon, P. L., Whitfield, J., Yung, M., Aspuru-Guzik, A., Yamamoto, Y.
AMER CHEMICAL SOC.2011
- **Single vortex-antivortex pair in an exciton-polariton condensate** *NATURE PHYSICS*
Roumpos, G., Fraser, M. D., Loeffler, A., Hoefling, S., Forchel, A., Yamamoto, Y.
2011; 7 (2): 129-133
 - **Inhibition of Allergic Bronchial Asthma by Thrombomodulin Is Mediated by Dendritic Cells** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE*
Takagi, T., Taguchi, O., Toda, M., Ruiz, D. B., Bernabe, P. G., D'Alessandro-Gabazza, C. N., Miyake, Y., Kobayashi, T., Aoki, S., Chiba, F., Yano, Y., Conway, E. M., Munesue, et al
2011; 183 (1): 31-42
 - **Nuclear Feedback in a Single Electron-Charged Quantum Dot under Pulsed Optical Control** *Conference on Advances in Photonics of Quantum Computing, Memory, and Communication IV*
Ladd, T. D., Press, D., De Greve, K., McMahon, P. L., Friess, B., Schneider, C., Kamp, M., Hoefling, S., Forchel, A., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2011
 - **Photon antibunching and magnetospectroscopy of a single fluorine donor in ZnSe** *APPLIED PHYSICS LETTERS*
De Greve, K., Clark, S. M., Sleiter, D., Sanaka, K., Ladd, T. D., Panfilova, M., Pawlis, A., Lischka, K., Yamamoto, Y.
2010; 97 (24)
 - **Massive parallel generation of indistinguishable single photons via the polaritonic superfluid to Mott-insulator quantum phase transition** *NEW JOURNAL OF PHYSICS*
Na, N., Yamamoto, Y.
2010; 12
 - **BCS Wave-Function Approach to the BEC-BCS Crossover of Exciton-Polariton Condensates** *PHYSICAL REVIEW LETTERS*
Byrnes, T., Horikiri, T., Ishida, N., Yamamoto, Y.
2010; 105 (18)
 - **Quantum Hall charge sensor for single-donor nuclear spin detection in silicon** *NEW JOURNAL OF PHYSICS*
Sleiter, D., Kim, N. Y., Nozawa, K., Ladd, T. D., Thewalt, M. L., Yamamoto, Y.
2010; 12
 - **Pulsed Nuclear Pumping and Spin Diffusion in a Single Charged Quantum Dot** *PHYSICAL REVIEW LETTERS*
Ladd, T. D., Press, D., De Greve, K., McMahon, P. L., Friess, B., Schneider, C., Kamp, M., Hoefling, S., Forchel, A., Yamamoto, Y.
2010; 105 (10)
 - **In-Plane Resistivity Anisotropy in an Underdoped Iron Arsenide Superconductor** *SCIENCE*
Chu, J., Analytis, J. G., De Greve, K., McMahon, P. L., Islam, Z., Yamamoto, Y., Fisher, I. R.
2010; 329 (5993): 824-826
 - **In-plane electronic anisotropy in underdoped Ba(Fe_{1-x}Cox)₂As₂ revealed by partial detwinning in a magnetic field** *PHYSICAL REVIEW B*
Chu, J., Analytis, J. G., Press, D., De Greve, K., Ladd, T. D., Yamamoto, Y., Fisher, I. R.
2010; 81 (21)
 - **Ultrafast optical spin echo in a single quantum dot** *NATURE PHOTONICS*
Press, D., De Greve, K., McMahon, P. L., Ladd, T. D., Friess, B., Schneider, C., Kamp, M., Hoefling, S., Forchel, A., Yamamoto, Y.
2010; 4 (6): 367-370
 - **Fluorine-doped ZnSe for applications in quantum information processing** *PHYSICA STATUS SOLIDI B-BASIC SOLID STATE PHYSICS*
Ladd, T. D., Sanaka, K., Yamamoto, Y., Pawlis, A., Lischka, K.
2010; 247 (6): 1543-1546
 - **Hong-Ou-Mandel Dip Using Degenerate Photon Pairs from a Single Periodically Poled Lithium Niobate Waveguide with Integrated Mode Demultiplexer** *JAPANESE JOURNAL OF APPLIED PHYSICS*
Zhang, Q., Takesue, H., Langrock, C., Xie, X., Fejer, M. M., Yamamoto, Y.
2010; 49 (6)
 - **Mott transitions of exciton polaritons and indirect excitons in a periodic potential** *PHYSICAL REVIEW B*
-

- Byrnes, T., Recher, P., Yamamoto, Y.
2010; 81 (20)
- **Exciton-polariton Bose-Einstein condensation** *REVIEWS OF MODERN PHYSICS*
Deng, H., Haug, H., Yamamoto, Y.
2010; 82 (2): 1489-1537
 - **Gain-Induced Trapping of Microcavity Exciton Polariton Condensates** *PHYSICAL REVIEW LETTERS*
Roumpos, G., Nitsche, W. H., Hoefling, S., Forchel, A., Yamamoto, Y.
2010; 104 (12)
 - **DISTRIBUTED QUANTUM COMPUTATION ARCHITECTURE USING SEMICONDUCTOR NANOPHOTONICS** *INTERNATIONAL JOURNAL OF QUANTUM INFORMATION*
Van Meter, R., Ladd, T. D., Fowler, A. G., Yamamoto, Y.
2010; 8 (1-2): 295-323
 - **Higher order coherence of exciton-polariton condensates** *PHYSICAL REVIEW B*
Horikiri, T., Schwendimann, P., Quattropani, A., Hoefling, S., Forchel, A., Yamamoto, Y.
2010; 81 (3)
 - **Spin echo of electron spins in semiconductors using ultrafast, small-angle, optical pulses** *Conference on Advances in Photonics of Quantum Computing, Memory, and Communication III*
Clark, S. M., Fu, K. C., Zhang, Q., Ladd, T. D., Stanley, C., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2010
 - **Spin transition induced by crystal - liquid crystal transition** *International Conference on Magnetism (ICM 2009)*
Hayami, S., Yamamoto, Y., Kojima, Y., Inoue, K.
IOP PUBLISHING LTD.2010
 - **Electrically Pumped Photonic Crystal Nanocavities Using a Laterally Doped p-i-n Junction** *Conference on Lasers and Electro-Optics (CLEO)/Quantum Electronics and Laser Science Conference (QELS)*
Ellis, B., Sarmiento, T., Mayer, M., Stone, P., Beeman, J., Zhang, B., Dubon, O., Haller, E., Yamamoto, Y., Harris, J., Vuckovic, J.
IEEE.2010
 - **Experimental approach to ultrafast optical spin echo of a single quantum dot electron spin** *Conference on Advances in Photonics of Quantum Computing, Memory, and Communication III*
De Greve, K., Press, D., Ladd, T. D., Friess, B., McMahon, P. L., Schneider, C., Kamp, M., Hoefling, S., Forchel, A., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2010
 - **Exciton-Polariton Laser Diodes** *22nd IEEE International Semiconductor Laser Conference*
Schneider, C., Kim, N. Y., Rahimi-Iman, A., Nitsche, W. H., Lermer, M., Kamp, M., Reitzenstein, S., Worschech, L., Hoefling, S., Yamamoto, Y., Forchel, A.
IEEE.2010: 201-202
 - **Bose-Einstein condensation of exciton-polaritons** *RIVISTA DEL NUOVO CIMENTO*
Yamamoto, Y., Deng, H., Haug, H.
2010; 33 (10): 591-631
 - **Optically controlled semiconductor spin qubits for quantum information processing** *141st Nobel Symposium on Qubits for Future Quantum Information*
Yamamoto, Y., Ladd, T. D., Press, D., Clark, S., Sanaka, K., Santori, C., Fattal, D., Fu, K. M., Hoefling, S., Reitzenstein, S., Forchel, A.
IOP PUBLISHING LTD.2009
 - **Vortex-antivortex pair dynamics in an exciton-polariton condensate** *NEW JOURNAL OF PHYSICS*
Fraser, M. D., Roumpos, G., Yamamoto, Y.
2009; 11
 - **Unconditional Security of Single-Photon Differential Phase Shift Quantum Key Distribution** *PHYSICAL REVIEW LETTERS*
Wen, K., Tamaki, K., Yamamoto, Y.
2009; 103 (17)
 - **Indistinguishable Photons from Independent Semiconductor Nanostructures** *PHYSICAL REVIEW LETTERS*
Sanaka, K., Pawlis, A., Ladd, T. D., Lischka, K., Yamamoto, Y.

2009; 103 (5)

- **Ultrafast Optical Spin Echo for Electron Spins in Semiconductors** *PHYSICAL REVIEW LETTERS*
Clark, S. M., Fu, K. C., Zhang, Q., Ladd, T. D., Stanley, C., Yamamoto, Y.
2009; 102 (24)
- **Signature of the microcavity exciton-polariton relaxation mechanism in the polarization of emitted light** *PHYSICAL REVIEW B*
Roumpos, G., Lai, C., Liew, T. C., Rubo, Y. G., Kavokin, A. V., Yamamoto, Y.
2009; 79 (19)
- **Megabits secure key rate quantum key distribution** *NEW JOURNAL OF PHYSICS*
Zhang, Q., Takesue, H., Honjo, T., Wen, K., Hirohata, T., Suyama, M., Takiguchi, Y., Kamada, H., Tokura, Y., Tadanaga, O., Nishida, Y., Asobe, M., Yamamoto, et al
2009; 11
- **Generation and application of multi-path cat states of light** *NEW JOURNAL OF PHYSICS*
Ishida, N., Ota, Y., Yamamoto, Y.
2009; 11
- **Driven to perfection** *NATURE PHYSICS*
Santori, C., Yamamoto, Y.
2009; 5 (3): 173-174
- **Monolithic integration of quantum dot containing microdisk microcavities coupled to air-suspended waveguides** *APPLIED PHYSICS LETTERS*
Koseki, S., Zhang, B., De Greve, K., Yamamoto, Y.
2009; 94 (5)
- **Low-threshold ZnSe microdisk laser based on fluorine impurity bound-exciton transitions** *Symposium on Wide Band Gap Semiconductor Nanostructures for Optoelectronic Applications held at the 2008 E-MRS Conference*
Pawlis, A., Panfilova, M., Sanaka, K., Ladd, T. D., As, D. J., Lischka, K., Yamamoto, Y.
ELSEVIER SCI LTD.2009: 256-58
- **Quantum interference between photons emitted by independent semiconductor single-photon devices** *Conference on Advanced Optical Concepts in Quantum Computing, Memory, and Communication II*
Sanaka, K., Pawlis, A., Ladd, T. D., Lischka, K., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2009
- **Complete coherent control of a single electron spin in a quantum dot using ultrafast optical pulses** *Conference on Advanced Optical Concepts in Quantum Computing, Memory, and Communication II*
Press, D., Ladd, T. D., Zhang, B., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2009
- **Megabits secure key rate quantum key distribution** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2009)*
Zhang, Q., Takesue, H., Honjo, T., Wen, K., Hirohata, T., Suyama, M., Takiguchi, Y., Kamada, H., Tokura, Y., Tadanaga, O., Nishida, Y., Asobe, M., Yamamoto, et al
IEEE.2009: 2301-2302
- **Waveguide-based single-pixel up-conversion infrared spectrometer** *OPTICS EXPRESS*
Zhang, Q., Langrock, C., Fejer, M. M., Yamamoto, Y.
2008; 16 (24): 19557-19561
- **Complete quantum control of a single quantum dot spin using ultrafast optical pulses** *NATURE*
Press, D., Ladd, T. D., Zhang, B., Yamamoto, Y.
2008; 456 (7219): 218-221
- **Long-distance entanglement-based quantum key distribution over optical fiber** *OPTICS EXPRESS*
Honjo, T., Nam, S. W., Takesue, H., Zhang, Q., Kamada, H., Nishida, Y., Tadanaga, O., Asobe, M., Baek, B., Hadfield, R. H., Miki, S., Fujiwara, M., Sasaki, et al
2008; 16 (23): 19118-19126
- **Ultrafast control of donor-bound electron spins with single detuned optical pulses** *NATURE PHYSICS*

-
- Fu, K. C., Clark, S. M., Santori, C., Stanley, C. R., Holland, M. C., Yamamoto, Y.
2008; 4 (10): 780-784
- **Observation of Bogoliubov excitations in exciton-polariton condensates** *NATURE PHYSICS*
Utsunomiya, S., Tian, L., Roumpos, G., Lai, C. W., Kumada, N., Fujisawa, T., Kuwata-Gonokami, M., Loeffler, A., Hoefling, S., Forchel, A., Yamamoto, Y.
2008; 4 (9): 700-705
 - **Quantum simulation of Fermi-Hubbard models in semiconductor quantum-dot arrays** *PHYSICAL REVIEW B*
Byrnes, T., Kim, N. Y., Kusudo, K., Yamamoto, Y.
2008; 78 (7)
 - **GaAs microcavity exciton-polaritons in a trap** *PHYSICA STATUS SOLIDI B-BASIC SOLID STATE PHYSICS*
Kim, N. Y., Lai, C., Utsunomiya, S., Roumpos, G., Fraser, M., Deng, H., Byrnes, T., Recher, P., Kumada, N., Fujisawa, T., Yamamoto, Y.
2008; 245 (6): 1076-1080
 - **Distribution of Time-Energy Entanglement over 100 km fiber using superconducting single-photon detectors** *OPTICS EXPRESS*
Zhang, Q., Takesue, H., Nam, S. W., Langrock, C., Xie, X., Baek, B., Fejer, M. M., Yamamoto, Y.
2008; 16 (8): 5776-5781
 - **Lasing of donor-bound excitons in ZnSe microdisks** *PHYSICAL REVIEW B*
Pawlis, A., Panfilova, M., As, D. J., Lischka, K., Sanaka, K., Ladd, T. D., Yamamoto, Y.
2008; 77 (15)
 - **Generation of 10-GHz clock sequential time-bin entanglement** *OPTICS EXPRESS*
Zhang, Q., Langrock, C., Takesue, H., Xie, X., Fejer, M., Yamamoto, Y.
2008; 16 (5): 3293-3298
 - **Strongly correlated polaritons in a two-dimensional array of photonic crystal microcavities** *PHYSICAL REVIEW A*
Na, N., Utsunomiya, S., Tian, L., Yamamoto, Y.
2008; 77 (3)
 - **First and second order coherence of exciton-polariton condensates** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2008)*
Lai, C. W., Roumpos, G., Forchel, A., Yamamoto, Y.
IEEE.2008: 2966-2967
 - **Estimation of Possible Reaction States in Metabolic Pathways using Inductive Logic Programming** *22nd International Workshops on Advanced Information Networking and Applications*
Yamamoto, Y., Inoue, K., Doncescu, A.
IEEE.2008: 808-813
 - **Effects of direct haemoperfusion through fibres immobilizing polymyxin b and nafamostat mesilate on endotoxaemia in conscious guinea-pigs** *CLINICAL AND EXPERIMENTAL PHARMACOLOGY AND PHYSIOLOGY*
Nakanowatari, Y., Nemoto, K., Hara, S., Ninomiya, N., Yamamoto, Y.
2008; 35 (1): 17-22
 - **Coherent zero-state and pi-state in an array of excitonpolariton condensates** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2008)*
Lai, C. W., Kim, N. Y., Utsunomiya, S., Roumpos, G., Yamamoto, Y.
IEEE.2008: 2964-2965
 - **Entanglement-based BBM92 QKD experiment using superconducting single photon detectors** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2008)*
Honjo, T., Nam, S. W., Takesue, H., Zhang, Q., Kamada, H., Nishida, Y., Tadanaga, O., Asobe, M., Baek, B., Hadfield, R., Miki, S., Fujiwara, M., Sasaki, et al
IEEE.2008: 3577-3578
 - **Hong-Ou-Mandel dip using photon pairs from a PPLN waveguide** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2008)*
Zhang, Q., Takesue, H., Langrock, C., Xie, X., Fejer, M. M., Yamamoto, Y.
IEEE.2008: 2984-2985
-

- **Coherent zero-state and p-state in an exciton-polariton condensate array** *NATURE*
Lai, C. W., Kim, N. Y., Utsunomiya, S., Roumpos, G., Deng, H., Fraser, M. D., Byrnes, T., Recher, P., Kumada, N., Fujisawa, T., Yamamoto, Y.
2007; 450 (7169): 529-U8
- **Spatial coherence of a polariton condensate** *PHYSICAL REVIEW LETTERS*
Deng, H., Solomon, G. S., Hey, R., Ploog, K. H., Yamamoto, Y.
2007; 99 (12)
- **Correlated photon-pair generation in reverse-proton-exchange PPLN waveguides with integrated mode demultiplexer at 10 GHz clock** *OPTICS EXPRESS*
Zhang, Q., Xie, X., Takesue, H., Nam, S. W., Langrock, C., Fejer, M. M., Yamamoto, Y.
2007; 15 (16): 10288-10293
- **Microcavity modified spontaneous emission of single quantum dots** *PHYSICA STATUS SOLIDI B-BASIC SOLID STATE PHYSICS*
Solomon, G. S., Pelton, M., Yamamoto, Y.
2007; 244 (8): 2792-2802
- **Quantum computers based on electron spins controlled by ultrafast off-resonant single optical pulses** *PHYSICAL REVIEW LETTERS*
Clark, S. M., Fu, K. C., Ladd, T. D., Yamamoto, Y.
2007; 99 (4)
- **Tomonaga-luttinger liquid features in ballistic single-walled carbon nanotubes: Conductance and shot noise** *PHYSICAL REVIEW LETTERS*
Kim, N. Y., Recher, P., Oliver, W. D., Yamamoto, Y., Kong, J., Dai, H.
2007; 99 (3)
- **Quantum simulator for the Hubbard model with long-range Coulomb interactions using surface acoustic waves** *PHYSICAL REVIEW LETTERS*
Byrnes, T., Recher, P., Kim, N. Y., Utsunomiya, S., Yamamoto, Y.
2007; 99 (1)
- **Quantum key distribution over a 40-dB channel loss using superconducting single-photon detectors** *NATURE PHOTONICS*
Takesue, H., Nam, S. W., Zhang, Q., Hadfield, R. H., Honjo, T., Tamaki, K., Yamamoto, Y.
2007; 1 (6): 343-348
- **Generation and transfer of single photons on a photonic crystal chip** *OPTICS EXPRESS*
Englund, D., Faraon, A., Zhang, B., Yamamoto, Y., Vuckovic, J.
2007; 15 (9): 5550-5558
- **Dynamics of quantum dot photonic crystal lasers** *APPLIED PHYSICS LETTERS*
Ellis, B., Fushman, I., Englund, D., Zhang, B., Yamamoto, Y., Vuckovic, J.
2007; 90 (15)
- **Photon antibunching from a single quantum-dot-microcavity system in the strong coupling regime** *PHYSICAL REVIEW LETTERS*
Press, D., Goetzinger, S., Reitzenstein, S., Hofmann, C., Loeffler, A., Kamp, M., Forchel, A., Yamamoto, Y.
2007; 98 (11)
- **Quantum simulation of spin ordering with nuclear spins in a solid-state lattice** *PHYSICAL REVIEW B*
Roumpos, G., Master, C. P., Yamamoto, Y.
2007; 75 (9)
- **Algorithm-based analysis of collective decoherence in quantum computation** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
Utsunomiya, S., Master, C. P., Yamamoto, Y.
2007; 24 (2): 198-208
- **Optical quantum information science - Introduction** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
Sanders, B., Yamamoto, Y., Zeilinger, A.
2007; 24 (2)
- **Strong coupling of single quantum dots to micropillars** *Conference on Photonic Materials, Devices and Applications II*
Goetzinger, S., Press, D., Reitzenstein, S., Hofmann, K., Loeffler, A., Kamp, M., Forchel, A., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2007

- **Dynamics of Quantum Dot Photonic Crystal Lasers** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference*
Ellis, B., Fushman, I., Englund, D., Zhang, B., Yamamoto, Y., Vuckovic, J.
IEEE.2007: 145–146
- **1.5- μ m single photon counting using polarization-independent up-conversion detector** *OPTICS EXPRESS*
Takesue, H., Diamanti, E., Langrock, C., Fejer, M. M., Yamamoto, Y.
2006; 14 (26): 13067-13072
- **100 km differential phase shift quantum key distribution experiment with low jitter up-conversion detectors** *OPTICS EXPRESS*
Diamanti, E., Takesue, H., Langrock, C., Fejer, M. M., Yamamoto, Y.
2006; 14 (26): 13073-13082
- **Tomonaga-Luttinger liquid correlations and Fabry-Perot interference in conductance and finite-frequency shot noise in a single-walled carbon nanotube** *PHYSICAL REVIEW B*
Recher, P., Kim, N. Y., Yamamoto, Y.
2006; 74 (23)
- **A gallium-nitride single-photon source operating at 200K** *NATURE MATERIALS*
Kako, S., Santori, C., Hoshino, K., Goetzinger, S., Yamamoto, Y., Arakawa, Y.
2006; 5 (11): 887-892
- **Quantum degenerate exciton-polaritons in thermal equilibrium** *PHYSICAL REVIEW LETTERS*
Deng, H., Press, D., Goetzinger, S., Solomon, G. S., Hey, R., Ploog, K. H., Yamamoto, Y.
2006; 97 (14)
- **10-GHz clock differential phase shift quantum key distribution experiment** *OPTICS EXPRESS*
Takesue, H., Diamanti, E., Langrock, C., Fejer, M. M., Yamamoto, Y.
2006; 14 (20): 9522-9530
- **Quantum communication and information processing with quantum dots** *International Conference on Quantum Physics of Nature/6th European Workshop on Quantum Information Processing and Communication*
Yamamoto, Y.
SPRINGER.2006: 299–311
- **Solid state ion trap: Lateral confinement of quantum well excitons by oscillating piezoelectric field** *SOLID STATE COMMUNICATIONS*
Na, Y. C., Yamamoto, Y.
2006; 140 (1): 28-32
- **Investigation of excitons bound to fluorine donors in ZnSe** *SEMICONDUCTOR SCIENCE AND TECHNOLOGY*
Pawlis, A., Sanaka, K., Goetzinger, S., Yamamoto, Y., Lischka, K.
2006; 21 (10): 1412-1415
- **Hybrid quantum repeater based on dispersive CQED interactions between matter qubits and bright coherent light** *NEW JOURNAL OF PHYSICS*
Ladd, T. D., van Loock, P., Nemoto, K., Munro, W. J., Yamamoto, Y.
2006; 8
- **Millisecond spin-flip times of donor-bound electrons in GaAs** *PHYSICAL REVIEW B*
Fu, K. C., Yeo, W., Clark, S., Santori, C., Stanley, C., Holland, M. C., Yamamoto, Y.
2006; 74 (12)
- **Time-domain simulation of Schrodinger equation to determine the effective potential induced by an oscillating standing wave** *JOURNAL OF APPLIED PHYSICS*
Na, Y. C., Yamamoto, Y.
2006; 100 (4)
- **Hybrid quantum repeater using bright coherent light** *PHYSICAL REVIEW LETTERS*
van Loock, P., Ladd, T. D., Sanaka, K., Yamaguchi, F., Nemoto, K., Munro, W. J., Yamamoto, Y.
2006; 96 (24)
- **Generation and manipulation of nonclassical light using photonic crystals** *12th International Conference on Modulated Semiconductor Structures (MSS12)*

- Vuckovic, J., Englund, D., Fattal, D., Waks, E., Yamamoto, Y.
ELSEVIER SCIENCE BV.2006: 466-70
- **1.5 μm photon-counting optical time-domain reflectometry with a single-photon detector based on upconversion in a periodically poled lithium niobate waveguide** *OPTICS LETTERS*
Diamanti, E., Langrock, C., Fejer, M. M., Yamamoto, Y., Takesue, H.
2006; 31 (6): 727-729
 - **Highly nonclassical photon statistics in parametric down-conversion** *PHYSICAL REVIEW A*
Waks, E., Sanders, B. C., Diamanti, E., Yamamoto, Y.
2006; 73 (3)
 - **Simulating lattice gauge theories on a quantum computer** *PHYSICAL REVIEW A*
Byrnes, T., Yamamoto, Y.
2006; 73 (2)
 - **Generation of photon number states** *NEW JOURNAL OF PHYSICS*
Waks, E., Diamanti, E., Yamamoto, Y.
2006; 8
 - **Security of differential-phase-shift quantum key distribution against individual attacks** *PHYSICAL REVIEW A*
Waks, E., Takesue, H., Yamamoto, Y.
2006; 73 (1)
 - **Differential phase shift quantum key distribution experiment over 105km fibre** *NEW JOURNAL OF PHYSICS*
Takesue, H., Diamanti, E., Honjo, T., Langrock, C., Fejer, M. M., Inoue, K., Yamamoto, Y.
2005; 7
 - **Performance of various quantum-key-distribution systems using 1.55- μm up-conversion single-photon detectors** *PHYSICAL REVIEW A*
Diamanti, E., Takesue, H., Honjo, T., Inoue, K., Yamamoto, Y.
2005; 72 (5)
 - **Coherent population trapping of electron spins in a high-purity n-type GaAs semiconductor** *PHYSICAL REVIEW LETTERS*
Fu, K. M., Santori, C., Stanley, C., Holland, M. C., Yamamoto, Y.
2005; 95 (18)
 - **HIV-1 infection initiates changes in the expression of a wide array of genes in U937 promonocytes and HUT78 T cells** *VIRUS RESEARCH*
Wen, W. R., Chen, S. T., Cao, Y., Zhu, Y. H., Yamamoto, Y.
2005; 113 (1): 26-35
 - **Photon correlation studies of single GaN quantum dots** *APPLIED PHYSICS LETTERS*
Santori, C., Gotzinger, S., Yamamoto, Y., Kako, S., Hoshino, K., Arakawa, Y.
2005; 87 (5)
 - **Controlling the spontaneous emission rate of single quantum dots in a two-dimensional photonic crystal** *PHYSICAL REVIEW LETTERS*
Englund, D., Fattal, D., Waks, E., Solomon, G., Zhang, B., Nakaoka, T., Arakawa, Y., Yamamoto, Y., Vuckovic, J.
2005; 95 (1)
 - **Highly efficient single-photon detection at communication wavelengths by use of upconversion in reverse-proton-exchanged periodically poled LiNbO₃ waveguides** *OPTICS LETTERS*
Langrock, C., Diamanti, E., Roussev, R. V., Yamamoto, Y., Fejer, M. M., Takesue, H.
2005; 30 (13): 1725-1727
 - **Magnetic mesa structures fabricated by reactive ion etching with CO/NH₃/Xe plasma chemistry for an all-silicon quantum computer** *NANOTECHNOLOGY*
Wang, D. F., Takahashi, A., Matsumoto, Y., Itoh, K. M., Yamamoto, Y., Ono, T., Esashi, M.
2005; 16 (6): 990-994
 - **Optical pumping of Si-29 nuclear spins in bulk silicon at high magnetic field and liquid helium temperature** *PHYSICAL REVIEW B*
Verhulst, A. S., Rau, I. G., Yamamoto, Y., Itoh, K. M.
2005; 71 (23)

- **Fabrication of InAs quantum dots in AlAs/GaAs DBR pillar microcavities for single photon sources** *JOURNAL OF APPLIED PHYSICS*
Zhang, B. Y., Solomon, G. S., Pelton, M., Plant, J., Santori, C., Vuckovic, J., Yamamoto, Y.
2005; 97 (7)
- **Electrostatic force spectroscopy of near surface localized states** *7th International Conference on Non-contact Atomic Force Microscopy*
Dana, A., Yamamoto, Y.
IOP PUBLISHING LTD.2005: S125-S133
- **Coherence time of decoupled nuclear spins in silicon** *PHYSICAL REVIEW B*
Ladd, T. D., Maryenko, D., Yamamoto, Y., Abe, E., Itoh, K. M.
2005; 71 (1)
- **Cavity-enhanced single photons from a quantum dot** *Conference on Physics and Simulation of Optoelectronic Devices XIII*
Vuckovic, J., Fattal, D., Englund, D., Waks, E., Santori, C., Solomon, G., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2005: 19-29
- **1.5 μ m photon-counting optical time domain reflectometry with a single-photon detector using up-conversion in a PPLN waveguide** *Conference on Lasers and Electro-Optics (CLEO)*
Diamanti, E., Langrock, C., Fejer, M. M., Yamamoto, Y., Takesue, H.
OPTICAL SOC AMERICA.2005: 1079-1081
- **Generation of single photons and correlated photon pairs using InAs quantum dots** *Workshop on Quantum Optics for Quantum Informational Processing*
Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
WILEY-VCH VERLAG GMBH.2004: 1180-88
- **Fluctuations and noise in photonics and quantum optics: a special issue in memory of Hermann Haus** *JOURNAL OF OPTICS B-QUANTUM AND SEMICLASSICAL OPTICS*
Abbott, D., Shapiro, J. H., Yamamoto, Y.
2004; 6 (8): S621-S622
- **Single-photon generation with InAs quantum dots** *NEW JOURNAL OF PHYSICS*
Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
2004; 6
- **Semiconductor microcavity as a spin-dependent optoelectronic device** *PHYSICAL REVIEW B*
Shelykh, I., Kavokin, K. V., Kavokin, A. V., Malpuech, G., Bigenwald, P., Deng, H., Weihs, G., Yamamoto, Y.
2004; 70 (3)
- **Submicrosecond correlations in photoluminescence from InAs quantum dots** *PHYSICAL REVIEW B*
Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Waks, E., Yamamoto, Y.
2004; 69 (20)
- **Direct observation of nonclassical photon statistics in parametric down-conversion** *PHYSICAL REVIEW LETTERS*
Waks, E., Diamanti, E., Sanders, B. C., Bartlett, S. D., Yamamoto, Y.
2004; 92 (11)
- **Optical detection of the spin state of a single nucleus in silicon** *PHYSICAL REVIEW B*
Fu, K. M., Ladd, T. D., Santori, C., Yamamoto, Y.
2004; 69 (12)
- **Polariton lasing in a microcavity** *PHYSICA STATUS SOLIDI A-APPLICATIONS AND MATERIALS SCIENCE*
Weihs, G., Deng, H., Snoke, D., Yamamoto, Y.
2004; 201 (4): 625-632
- **Entanglement formation and violation of Bell's inequality with a semiconductor single photon source** *PHYSICAL REVIEW LETTERS*
Fattal, D., Inoue, K., Vuckovic, J., Santori, C., Solomon, G. S., Yamamoto, Y.
2004; 92 (3)
- **Quantum teleportation with a quantum dot single photon source** *PHYSICAL REVIEW LETTERS*
Fattal, D., Diamanti, E., Inoue, K., Yamamoto, Y.

2004; 92 (3)

- **Photon number generation with the visible light photon counter** *Conference on Quantum Communications and Quantum Imaging II*
Waks, E., Diamanti, E., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2004: 73–86
- **Quantum cryptography with a single photon source** *Conference on Quantum Communications and Quantum Imaging*
Waks, E., Inoue, K., Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2004: 76–86
- **Polariton lasing vs. photon lasing in a semiconductor microcavity** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Deng, H., Weihs, G., Snoke, D., Bloch, J., Yamamoto, Y.
2003; 100 (26): 15318-15323
- **High-efficiency photon-number detection for quantum information processing** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
Waks, E., Inoue, K., Oliver, W. D., Diamanti, E., Yamamoto, Y.
2003; 9 (6): 1502-1511
- **Noise in amplifiers** *JOURNAL OF LIGHTWAVE TECHNOLOGY*
Yamamoto, Y., Inoue, K.
2003; 21 (11): 2895-2915
- **Exciton-polariton lasing in a microcavity** *SEMICONDUCTOR SCIENCE AND TECHNOLOGY*
Weihs, G., Deng, H., Huang, R., Sugita, M., Tassone, F., Yamamoto, Y.
2003; 18 (10): S386-S394
- **Double and single peaks in nuclear magnetic resonance spectra of natural and Si-29-enriched single-crystal silicon** *PHYSICAL REVIEW B*
Verhulst, A. S., Maryenko, D., Yamamoto, Y., Itoh, K. M.
2003; 68 (5)
- **The Rashba effect within the coherent scattering formalism with applications to electron quantum optics** *JOURNAL OF SUPERCONDUCTIVITY*
Oliver, W. D., Feve, G., Yamamoto, Y.
2003; 16 (4): 719-733
- **Differential-phase-shift quantum key distribution using coherent light** *PHYSICAL REVIEW A*
Inoue, K., Waks, E., Yamamoto, Y.
2003; 68 (2)
- **Indistinguishable single photons from a quantum dot** *2nd International Conference on Semiconductor Quantum Dots*
Fattal, D., Santori, C., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
WILEY-BLACKWELL.2003: 305–8
- **Comment on "Single-mode spontaneous emission from a single quantum dot in a three-dimensional microcavity" - Solomon, Pelton, and Yamamoto reply** *PHYSICAL REVIEW LETTERS*
Solomon, G. S., Pelton, M., Yamamoto, Y.
2003; 90 (22)
- **Entanglement-based quantum key distribution without an entangled-photon source** *PHYSICAL REVIEW A*
Inoue, K., Santori, C., Waks, E., Yamamoto, Y.
2003; 67 (6)
- **Photonic crystal microcavities for cavity quantum electrodynamics with a single quantum dot** *APPLIED PHYSICS LETTERS*
Vuckovic, J., Yamamoto, Y.
2003; 82 (15): 2374-2376
- **An efficient source of single photons: a single quantum dot in a micropost microcavity** *International Conference on Superlattices Nano-Structures and Nano-Devices (ICSNN-02)*
Pelton, M., Vuckovic, J., Solomon, G., Santori, C., Zhang, B. Y., Plant, J., Yamamoto, Y.
ELSEVIER SCIENCE BV.2003: 564–67

- **Experimental extract and empirical formulas of refractive indices of GaAs and AlAs at high temperature by HRXRD and optical reflectivity measurement** *12th International Conference on Molecular Beam Epitaxy (MBE-XII)*
Zhang, B. Y., Solomon, G., Weihs, G., Yamamoto, Y.
ELSEVIER SCIENCE BV.2003: 777–81
- **Tuning the single optical mode spontaneous emission coupling of a quantum dot in a micropost cavity** *12th International Conference on Molecular Beam Epitaxy (MBE-XII)*
Solomon, G. S., Pelton, M., Yamamoto, Y.
ELSEVIER SCIENCE BV.2003: 737–41
- **Efficiency of free-energy calculations of spin lattices by spectral quantum algorithms** *PHYSICAL REVIEW A*
Master, C. P., Yamaguchi, F., Yamamoto, Y.
2003; 67 (3)
- **Solid-state silicon NMR quantum computer** *PASPS Conference 2002*
Abe, E., Itoh, K. M., Ladd, T. D., Goldman, J. R., Yamaguchi, F., Yamamoto, Y.
SPRINGER/PLENUM PUBLISHERS.2003: 175–78
- **Indistinguishable single photons from a single-quantum-dot microcavity** *Conference on Laser Resonators and Beam Control VI*
Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2003: 156–166
- **High-efficiency triggered photons using single cavity mode coupling of single quantum dot emission** *Conference on Semiconductor Optoelectronic Devices for Lightwave Communication*
Solomon, G. S., Pelton, M., Santori, C., Fattal, D., Vuckovic, J., Waks, E., Inoue, K., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2003: 1–14
- **Indistinguishable single photons for quantum information systems** *6th International Conference on Quantum Communication, Measurement and Computing (QCMC 02)*
Santori, C., Waks, E., Inoue, K., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
RINTON PRESS, INC.2003: 511–515
- **Secure communication: Quantum cryptography with a photon turnstile** *NATURE*
Waks, E., Inoue, K., Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
2002; 420 (6917): 762-762
- **Efficient source of single photons: A single quantum dot in a micropost microcavity** *PHYSICAL REVIEW LETTERS*
Pelton, M., Santori, C., Vuckovic, J., Zhang, B. Y., Solomon, G. S., Plant, J., Yamamoto, Y.
2002; 89 (23)
- **Rashba effect within the coherent scattering formalism** *PHYSICAL REVIEW B*
Feve, G., Oliver, W. D., Aranzana, M., Yamamoto, Y.
2002; 66 (15)
- **Indistinguishable photons from a single-photon device** *NATURE*
Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
2002; 419 (6907): 594-597
- **Condensation of semiconductor microcavity exciton polaritons** *SCIENCE*
Deng, H., Weihs, G., Santori, C., Bloch, J., Yamamoto, Y.
2002; 298 (5591): 199-202
- **Quantum simulation of the t-J model** *8th International Symposium of Advanced Physical Fields on Advanced Materials for Quantum Computing (APF8)*
Yamaguchi, F., Yamamoto, Y.
ACADEMIC PRESS LTD- ELSEVIER SCIENCE LTD.2002: 343–45
- **Security aspects of quantum key distribution with sub-Poisson light** *PHYSICAL REVIEW A*
Waks, E., Santori, C., Yamamoto, Y.
2002; 66 (4)

- **Optimization of three-dimensional micropost microcavities for cavity quantum electrodynamics** *PHYSICAL REVIEW A*
Vuckovic, J., Pelton, M., Scherer, A., Yamamoto, Y.
2002; 66 (2)
- **Polarization-correlated photon pairs from a single quantum dot** *PHYSICAL REVIEW B*
Santori, C., Fattal, D., Pelton, M., Solomon, G. S., Yamamoto, Y.
2002; 66 (4)
- **Differential phase shift quantum key distribution** *PHYSICAL REVIEW LETTERS*
Inoue, K., Waks, E., Yamamoto, Y.
2002; 89 (3)
- **All-silicon quantum computer** *PHYSICAL REVIEW LETTERS*
Ladd, T. D., Goldman, J. R., Yamaguchi, F., Yamamoto, Y., Abe, E., Itoh, K. M.
2002; 89 (1)
- **Effect of coronary stent overexpansion on lumen size and intimal hyperplasia at follow-up** *AMERICAN JOURNAL OF CARDIOLOGY*
Kuriyama, N., Kobayashi, Y., Kuroda, N., Desai, K., Yamamoto, Y., Komiyama, N., Komuro, I., Fitzgerald, P. J.
2002; 89 (11): 1297-?
- **Security of quantum key distribution with entangled photons against individual attacks** *PHYSICAL REVIEW A*
Waks, E., Zeevi, A., Yamamoto, Y.
2002; 65 (5)
- **Exciton-polariton lasing and amplification based on exciton-exciton scattering in CdTe microcavity quantum wells** *PHYSICAL REVIEW B*
Huang, R., Yamamoto, Y., Andre, R., Bleuse, J., Muller, M., Ulmer-Tuffigo, H.
2002; 65 (16)
- **Time-resolved spectroscopy of multiexcitonic decay in an InAs quantum dot** *PHYSICAL REVIEW B*
Santori, C., Solomon, G. S., Pelton, M., Yamamoto, Y.
2002; 65 (7)
- **Three-dimensionally confined modes in micropost microcavities: Quality factors and Purcell factors** *IEEE JOURNAL OF QUANTUM ELECTRONICS*
Pelton, M., Vuckovic, J., Solomon, G. S., Scherer, A., Yamamoto, Y.
2002; 38 (2): 170-177
- **Triggered single photons and entangled photons from a quantum dot microcavity** *Conference on Quantum Interference and Cryptographic Keys - Novel Physics and Advancing Technologies (QUICK)*
Pelton, M., Santori, C., Solomon, G. S., Benson, O., Yamamoto, Y.
SPRINGER.2002: 179-90
- **Electron entanglement via a quantum dot** *PHYSICAL REVIEW LETTERS*
Oliver, W. D., Yamaguchi, F., Yamamoto, Y.
2002; 88 (3)
- **Single photons and entangled photons from a quantum dot** *IEEE International Electron Devices Meeting*
Vuckovic, J., Santori, C., Fattal, D., Pelton, M., Solomon, G. S., Zhang, B. Y., Plant, J., Yamamoto, Y.
IEEE.2002: 87-90
- **Differential phase shift quantum key distribution** *Conference on Quantum Optics in Computing and Communications*
Inoue, K., Waks, E., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2002: 32-39
- **In vivo on-line intravascular ultrasound radio-frequency signal analysis for tissue characterization of coronary atherosclerosis validated by histology of coronary atherectomy tissue specimens**
Komiyama, N., Courtney, B., Toyozaki, T., Yokoyama, M., Yamamoto, Y., Komuro, I.
LIPPINCOTT WILLIAMS & WILKINS.2001: 591-91
- **Single-mode spontaneous emission from a single quantum dot in a three-dimensional microcavity** *PHYSICAL REVIEW LETTERS*
Solomon, G. S., Pelton, M., Yamamoto, Y.

2001; 86 (17): 3903-3906

- **Triggered single photons from a quantum dot** *PHYSICAL REVIEW LETTERS*
Santori, C., Pelton, M., Solomon, G., Dale, Y., Yamamoto, E.
2001; 86 (8): 1502-1505
- **Lasing and squeezing of composite bosons in a semiconductor microcavity** *PHYSICAL REVIEW A*
Tassone, F., Yamamoto, Y.
2000; 62 (6)
- **Comment on "generation of phase states by two-photon absorption" - Ezaki et al. reply** *PHYSICAL REVIEW LETTERS*
Ezaki, H., Hanamura, E., Yamamoto, Y.
2000; 85 (5): 1137-1137
- **Magnet designs for a crystal-lattice quantum computer** *APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING*
Goldman, J. R., Ladd, T. D., Yamaguchi, F., Yamamoto, Y.
2000; 71 (1): 11-17
- **Quantum point contacts in a density-tunable two-dimensional electron gas** *JAPANESE JOURNAL OF APPLIED PHYSICS PART 2-LETTERS & EXPRESS LETTERS*
Nuttinck, S., HASHIMOTO, K., Miyashita, S., Saku, T., Yamamoto, Y., Hirayama, Y.
2000; 39 (7A): L655-L657
- **Simultaneous Coulomb blockade for electrons and holes in p-n junctions: observation of Coulomb staircase and turnstile operation** *PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES*
Benson, O., Kim, J., Kan, H., Yamamoto, Y.
2000; 8 (1): 5-12
- **Decoherence in crystal lattice quantum computation** *APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING*
Ladd, T. D., Goldman, J. R., Yamaguchi, F., Yamamoto, Y.
2000; 71 (1): 27-36
- **Semiconductor physics - Half-matter, half-light amplifier** *NATURE*
Yamamoto, Y.
2000; 405 (6787): 629-630
- **Efficient implementation of coupled logic gates for quantum computation** *PHYSICAL REVIEW A*
Leung, D. W., Chuang, I. L., Yamaguchi, F., Yamamoto, Y.
2000; 61 (4)
- **Stimulated emission of excitons into polaritons in a semiconductor microcavity post** *6th International Conference on Optics of Excitons in Confined Systems (OECS-6)*
Tassone, F., Yamamoto, Y.
WILEY-BLACKWELL.2000: 119-28
- **Regulated and entangled photons from a single quantum Dot** *Physical review letters*
Benson, O. n., Santori, C. n., Pelton, M. n., Yamamoto, Y. n.
2000; 84 (11): 2513-16
- **Hanbury Brown and Twiss-type experiment with electrons** *SCIENCE*
Oliver, W. D., Kim, J., Liu, R. C., Yamamoto, Y.
1999; 284 (5412): 299-301
- **Signs of quantum statistical effects in electron collision** *12th International Conference on Electronic Properties of 2-Dimensional Systems*
Liu, R. C., Yamamoto, Y., Tarucha, S.
ELSEVIER SCIENCE BV.1998: 152-156
- **Quantum interference in electron collision** *NATURE*
Liu, R. C., Odom, B., Yamamoto, Y., Tarucha, S.
1998; 391 (6664): 263-265

- **Gravitational wave detection using dual input Michelson interferometer** *PHYSICS LETTERS A*
Inoue, S., Yamamoto, Y.
1997; 236 (3): 183-187
- **Longitudinal-mode-partition noise and amplitude squeezing in semiconductor lasers** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
Inoue, S., Lathi, S., Yamamoto, Y.
1997; 14 (11): 2761-2766
- **Inhibition of elastic and inelastic scattering by the Pauli exclusion principle: Suppression mechanism for mesoscopic partition noise** *SOLID STATE COMMUNICATIONS*
Liu, R. C., Eastman, P., Yamamoto, Y.
1997; 102 (11): 785-789
- **Longitudinal-mode-partition noise in a semiconductor-laser-based interferometer** *OPTICS LETTERS*
Inoue, S., Yamamoto, Y.
1997; 22 (5): 328-330
- **Simulations of partition noise suppression** *NATO Advanced Study Institute on Quantum Transport in Semiconductor Submicron Structures*
Liu, R. C., Eastman, P., Yamamoto, Y.
SPRINGER.1996: 365-374
- **CONDUCTANCE DEPENDENT SUPPRESSION OF CURRENT PARTITION NOISE IN MESOSCOPIC ELECTRON BRANCHING CIRCUITS** *PHYSICA B-CONDENSED MATTER*
Liu, R. C., Yamamoto, Y.
1995; 210 (1): 37-42
- **Partition noise in electron transport** *NATO Advanced Research Workshop on Submicron Quantum Dynamics*
Liu, R. C., Yamamoto, Y.
KLUWER ACADEMIC PUBL.1995: 427-442
- **SUB-SHOT-NOISE INTERFEROMETRY WITH AMPLITUDE SQUEEZED LIGHT FROM A SEMICONDUCTOR LASER** *Conference on Laser Frequency Stabilization and Noise Reduction/Photonics West 95*
Inoue, S., BJORK, G., Yamamoto, Y.
SPIE - INT SOC OPTICAL ENGINEERING.1995: 99-106
- **NYQUIST NOISE IN THE TRANSITION FROM MESOSCOPIC TO MACROSCOPIC TRANSPORT** *PHYSICAL REVIEW B*
Liu, R. C., Yamamoto, Y.
1994; 50 (23): 17411-17414
- **SUPPRESSION OF QUANTUM PARTITION NOISE IN MESOSCOPIC ELECTRON BRANCHING CIRCUITS** *PHYSICAL REVIEW B*
Liu, R. C., Yamamoto, Y.
1994; 49 (15): 10520-10532