Stanford



Hideo Mabuchi

Professor of Applied Physics

Curriculum Vitae available Online Resume available Online

Bio

ACADEMIC APPOINTMENTS

- Professor, Applied Physics
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Denning Family Director, Stanford Arts Institute, (2023-2026)
- Chair, Breadth Governance Board, (2023-2025)
- Chair, Department of Applied Physics, (2010-2016)

HONORS AND AWARDS

- PQI Distinguished Lectureship (inaugural), Pittsburgh Quantum Institute (2020)
- INSPIRE award (Architectural Principles of Coherent Quantum Networks and Circuits), National Science Foundation (2016)
- Institute for Systems Research Distinguished Lectureship, University of Maryland (2012)
- Institute of Optical Sciences Distinguished Visiting Scientist, University of Toronto (2006)
- Mohammed Dahleh Distinguished Lectureship, UCSB (2002)
- Young Investigator Award, Office of Naval Research (2000 – 2003)
- MacArthur Fellowship, John D. and Catherine T. MacArthur Foundation (2000 - 2005)
- Twenty Scientists to Watch in the Next Twenty Years, Discovery Magazine (2000)
- Fellowship, A. P. Sloan (1999 – 2001)
- Top 100 young innovators, Technology Review Magazine (1999)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Editorial Board, Quantum Science and Technology (IOP) (2016 - present)
- General Co-Chair, CLEO, The Optical Society of America (2012 - 2012)
- Program Co-Chair, QELS, The Optical Society of America (2010 - 2010)
- External Review Committee, Humanities Core Curriculum, Scripps College (2007 - 2008)
- Inaugural Chair, Quantum Information, Concepts and Computation, APS Topical Group (2005 - 2006)

PROGRAM AFFILIATIONS

- Modern Thought and Literature

PROFESSIONAL EDUCATION

- A.B., Princeton University , Physics (1992)
- Ph.D., California Institute of Technology , Physics (1998)

LINKS

- Research group website: https://mabuchilab.org
- Personal overview: https://hideo.world
- Personal site links: https://hideomabuchi.sites.stanford.edu/

Teaching

COURSES

2026-27

- Making Art History: Black Mountain College: AMSTUD 257A, ARTHIST 257, ARTHIST 457A, ARTSINST 257 (Win)
- Weaving and Printmaking: Tangling the Digital: ARTSTUDI 260 (Spr)

2025-26

- Interdisciplinary Arts Practicum: 1000 Ways to Hold: ARTSINST 310 (Aut)
- Interdisciplinary Axes of Art: ARTSINST 101 (Win)
- Pattern Mechanics: Reanimating Archival Weaving Diagrams: ARTSINST 450 (Win)
- Weaving and Printmaking: Tangling the Digital: ARTSTUDI 260 (Spr)

2024-25

- Introduction to the Arts: Interdisciplinary Axes of Art: ARTHIST 157, ARTSINST 101 (Win)
- Japanese Functional Objects: JAPAN 126, JAPAN 226 (Aut)

2023-24

- MFA Project: Tutorial: ARTSTUDI 342 (Win)
- Modern Physics and Literature: APPPHYS 363, ENGLISH 363 (Spr)
- Physical Analysis of Artworks: APPPHYS 189, APPPHYS 389, ARCHLGY 189 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Kelsey Chen, Erik Szakiel

Orals Chair

Kelly Fu

Doctoral Dissertation Advisor (AC)

Niharika Gunturu, Areeq Hasan, Heesoo Kim, Evan Laksono, Andrew Land, Cesar Lema, Huiting Liu, Jean Wang, Laura Zhou

Doctoral Dissertation Co-Advisor (AC)

Enrico Piperno

Doctoral (Program)

Vinay Baid, Jiaxuan Guo, Julia Lee, ChingEn Lin, Pragyan Pandey, Vikram Singh, Jonginn Yun

Publications

PUBLICATIONS

- **Engineering a cubic quantum nondemolition gate with mesoscopic optical parametric interactions** *OPTICA QUANTUM*
  Yanagimoto, R., Nehra, R., Ng, E., Marandi, A., Mabuchi, H.
  2026; 4 (5): 478-485
- **Geometry and dynamics of annealed optimization in the coherent Ising machine with hidden and planted solutions** *PHYSICAL REVIEW E*
  Ghimenti, F., Sriram, A., Yamamura, A., Mabuchi, H., Ganguli, S.
  2026; 113 (5)
- **Geometry and dynamics of annealed optimization in the coherent Ising machine with hidden and planted solutions.** *Physical review. E*
  Ghimenti, F., Sriram, A., Yamamura, A., Mabuchi, H., Ganguli, S.
  2026; 113 (5-1): 054123
- **Effective field theories in broadband quantum optics: modeling phase modulation and two-photon loss from cascaded quadratic nonlinearities** *QUANTUM SCIENCE AND TECHNOLOGY*
  Gustin, C., Yanagimoto, R., Ng, E., Onodera, T., Mabuchi, H.
  2025; 10 (2)
- **Hybrid amplitude-and frequency-modulated mode locking of singly resonant optical parametric oscillators** *PHYSICAL REVIEW A*
  Hamerly, R., Laksono, E., Jankowski, M., Ng, E., Flemens, N., Suh, M., Mabuchi, H.
  2025; 111 (3)
- **Geometric Landscape Annealing as an Optimization Principle Underlying the Coherent Ising Machine** *PHYSICAL REVIEW X*
  Yamamura, A., Mabuchi, H., Ganguli, S.
  2024; 14 (3)
- **Mesoscopic ultrafast nonlinear optics-the emergence of multimode quantum non-Gaussian physics** *OPTICA*
  Yanagimoto, R., Ng, E., Jankowski, M., Nehra, R., McKenna, T., Onodera, T., Wright, L., Hamerly, R., Marandi, A., Fejer, M. M., Mabuchi, H.
  2024; 11 (7): 896-918
- **Ultrafast second-order nonlinear photonics-from classical physics to non-Gaussian quantum dynamics: a tutorial** *ADVANCES IN OPTICS AND PHOTONICS*
  Jankowski, M., Yanagimoto, R., Ng, E., Hamerly, R., Mckenna, T., Mabuchi, H., Fejer, M. M.
  2024; 16 (2): 347-538
- **Feedback and constraints in physical optimizers**
  Gunturu, N., Mabuchi, H., Ng, E., Wennberg, D., Yanagimoto, R.
  edited by Kitayama, K. I., Sorger, V. J.
  SPIE-INT SOC OPTICAL ENGINEERING.2024
- **Degenerate optical parametric amplification in CMOS silicon** *OPTICA*
  Heydari, D., Catuneanu, M., Ng, E., Gray Jr, D. J., Hamerly, R., Mishra, J., Jankowski, M., Fejer, M. M., Jamshidi, K., Mabuchi, H.
  2023; 10 (4): 430-437
- **Quantum Nondemolition Measurements with Optical Parametric Amplifiers for Ultrafast Universal Quantum Information Processing** *PRX QUANTUM*
  Yanagimoto, R., Nehra, R., Hamerly, R., Ng, E., Marandi, A., Mabuchi, H.
  2023; 4 (1)
- **Temporal trapping: a route to strong coupling and deterministic optical quantum computation** *OPTICA*
  Yanagimoto, R., Ng, E., Jankowski, M., Mabuchi, H., Hamerly, R.
  2022; 9 (11): 1289-1296

- **Ultra-broadband mid-infrared generation in dispersion-engineered thin-film lithium niobate** *OPTICS EXPRESS*
  Mishra, J., Jankowski, M., Hwang, A. Y., Stokowski, H. S., McKenna, T. P., Langrock, C., Ng, E., Heydari, D., Mabuchi, H., Safavi-Naeini, A. H., Fejer, M. M.
  2022; 30 (18): 32752-32760
- **Onset of non-Gaussian quantum physics in pulsed squeezing with mesoscopic fields** *OPTICA*
  Yanagimoto, R., Ng, E., Yamamura, A., Onodera, T., Wright, L. G., Jankowski, M., Fejer, M. M., McMahon, P. L., Mabuchi, H.
  2022; 9 (4): 379-390
- **Laser-induced patterning for a diffraction grating using the phase change material of Ge2Sb2Te5 (GST) as a spatial light modulator in X-ray optics: a proof of concept** *OPTICAL MATERIALS EXPRESS*
  Park, J., Zalden, P., Ng, E., Johnston, S., Fong, S. W., Chang, C., Tassone, C. J., Van Campen, D., Mok, W., Mabuchi, H., Wong, H., Shen, Z., Lindenberg, et al
  2022; 12 (4): 1408-1416
- **Nonlinear quantum behavior of ultrashort-pulse optical parametric oscillators** *PHYSICAL REVIEW A*
  Onodera, T., Ng, E., Gustin, C., Lorch, N., Yamamura, A., Hamerly, R., McMahon, P. L., Marandi, A., Mabuchi, H.
  2022; 105 (3)
- **Efficient sampling of ground and low-energy Ising spin configurations with a coherent Ising machine** *PHYSICAL REVIEW RESEARCH*
  Ng, E., Onodera, T., Kako, S., McMahon, P. L., Mabuchi, H., Yamamoto, Y.
  2022; 4 (1)
- **Efficient simulation of ultrafast quantum nonlinear optics with matrix product states** *OPTICA*
  Yanagimoto, R., Ng, E., Wright, L. G., Onodera, T., Mabuchi, H.
  2021; 8 (10): 1306-1315
- **Mid-infrared nonlinear optics in thin-film lithium niobate on sapphire** *OPTICA*
  Mishra, J., McKenna, T. P., Ng, E., Stokowski, H. S., Jankowski, M., Langrock, C., Heydari, D., Mabuchi, H., Fejer, M. M., Safavi-Naeini, A. H.
  2021; 8 (6): 921-924
- **Fano discrete-continuum interactions in broadband parametric downconversion**
  Yanagimoto, R., Ng, E., Jankowski, M., Onodera, T., Fejer, M. M., Mabuchi, H., IEEE
  IEEE.2021
- **Mid-infrared nonlinear optics in thin-film lithium niobate on sapphire**
  Mishra, J., McKenna, T. P., Ng, E., Stokowski, H. S., Jankowski, M., Langrock, C., Heydari, D., Mabuchi, H., Safavi-Naeini, A. H., Fejer, M. M., IEEE
  IEEE.2021
- **Thermo-Optic Multistability and Relaxation in Silicon Microring Resonators with Lateral Diodes** *PHYSICAL REVIEW APPLIED*
  Gray, D., Hamerly, R., Namdari, M., Catuneanu, M., Jamshidi, K., Bogdanowicz, N., Mabuchi, H.
  2020; 14 (2)
- **Engineering a Kerr-Based Deterministic Cubic Phase Gate via Gaussian Operations.** *Physical review letters*
  Yanagimoto, R., Onodera, T., Ng, E., Wright, L. G., McMahon, P. L., Mabuchi, H.
  2020; 124 (24): 240503
- **Coherent feedback control of two-dimensional excitons** *PHYSICAL REVIEW RESEARCH*
  Rogers, C., Gray, D., Bogdanowicz, N., Taniguchi, T., Watanabe, K., Mabuchi, H.
  2020; 2 (1)
- **Integrated Coherent Ising Machines Based on Self-Phase Modulation in Microring Resonators** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Tezak, N., Van Vaerenbergh, T., Pelc, J. S., Mendoza, G. J., Kielpinski, D., Mabuchi, H., Beausoleil, R. G.
  2020; 26 (1)
- **Measurement-free Kerr-based cubic phase gate with Gaussian operations**
  Yanagimoto, R., Onodera, T., Ng, E., Wright, L. G., McMahon, P. L., Mabuchi, H., IEEE
  IEEE.2020

- **Low-temperature annihilation rate for quasilocalized excitons in monolayer MoS2** *PHYSICAL REVIEW B*
  Chatterjee, E., Soh, D. B. S., Rogers, C., Gray, D. J., Mabuchi, H.
  2019; 100 (15)
- **Adiabatic Fock-state-generation scheme using Kerr nonlinearity** *PHYSICAL REVIEW A*
  Yanagimoto, R., Ng, E., Onodera, T., Mabuchi, H.
  2019; 100 (3)
- **Experimental investigation of performance differences between coherent Ising machines and a quantum annealer.** *Science advances*
  Hamerly, R., Inagaki, T., McMahon, P. L., Venturelli, D., Marandi, A., Onodera, T., Ng, E., Langrock, C., Inaba, K., Honjo, T., Enbutsu, K., Umeki, T., Kasahara, et al
  2019; 5 (5): eaau0823
- **Scanning microwave imaging of optically patterned Ge2Sb2Te5** *APPLIED PHYSICS LETTERS*
  Johnston, S. R., Ng, E., Fong, S. W., Mok, W. Y., Park, J., Zalden, P., Sakdinawat, A., Wong, H., Mabuchi, H., Shen, Z.
  2019; 114 (9)
- **Self-oscillation in the Maxwell-Bloch equations** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
  Wu, J., Armen, M. A., Mabuchi, H.
  2018; 35 (10): 2382–86
- **Laser annealing for radiatively broadened MoSe2 grown by chemical vapor deposition** *PHYSICAL REVIEW MATERIALS*
  Rogers, C., Gray, D., Bogdanowicz, N., Mabuchi, H.
  2018; 2 (9)
- **Mechanism of stochastic switching in single-atom absorptive bistability** *PHYSICAL REVIEW A*
  Wu, J., Mabuchi, H.
  2018; 98 (1)
- **Measurement of Mesoscale Conformational Dynamics of Freely Diffusing Molecules with Tracking FCS** *BIOPHYSICAL JOURNAL*
  Limouse, C., Bell, J. C., Fuller, C. J., Straight, A. F., Mabuchi, H.
  2018; 114 (7): 1539–50
- **Optical nonlinearities of excitons in monolayer MoS2** *PHYSICAL REVIEW B*
  Soh, D. B. S., Rogers, C., Gray, D. J., Chatterjee, E., Mabuchi, H.
  2018; 97 (16)
- **Single-Molecule Fluorescence Reveals Commonalities and Distinctions among Natural and in Vitro-Selected RNA Tertiary Motifs in a Multistep Folding Pathway.** *Journal of the American Chemical Society*
  Bonilla, S., Limouse, C., Bisaria, N., Gebala, M., Mabuchi, H., Herschlag, D.
  2017; 139 (51): 18576-18589
- **Low-dimensional manifolds for exact representation of open quantum systems** *PHYSICAL REVIEW A*
  Tezak, N., Amini, N. H., Mabuchi, H.
  2017; 96 (6)
- **Quantitative tests of a reconstitution model for RNA folding thermodynamics and kinetics** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Bisaria, N., Greenfeld, M., Limouse, C., Mabuchi, H., Herschlag, D.
  2017; 114 (37): E7688–E7696
- **Single-Molecule Fluorescence Reveals Commonalities and Distinctions among Natural and in Vitro-Selected RNA Tertiary Motifs in a Multistep Folding Pathway** *Journal of the American Chemical Society*
  Bonilla, S., Limouse, C., Bisaria, N., Gebala, M., Mabuchi, H., Herschlag, D.
  2017: 18576-18589
- **Orientation-resolved domain mapping in tetragonal SrTiO3 using polarized Raman spectroscopy** *PHYSICAL REVIEW B*
  Gray, D. J., Merz, T. A., Hikita, Y., Hwang, H. Y., Mabuchi, H.
  2016; 94 (21)

- **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
- **Comprehensive analysis of the optical Kerr coefficient of graphene** *PHYSICAL REVIEW A*
  Soh, D. B., Hamerly, R., Mabuchi, H.
  2016; 94 (2)
- **Kinetic and thermodynamic framework for P4-P6 RNA reveals tertiary motif modularity and modulation of the folding preferred pathway.** *Proceedings of the National Academy of Sciences of the United States of America*
  Bisaria, N., Greenfeld, M., Limouse, C., Pavlichin, D. S., Mabuchi, H., Herschlag, D.
  2016; 113 (34): E4956-65
- **All-mechanical quantum noise cancellation for accelerometry: broadband with momentum measurements, narrow band without** *JOURNAL OF OPTICS*
  Jacobs, K., Tezak, N., Mabuchi, H., Balu, R.
  2016; 18 (3)
- **Optical Devices Based on Limit Cycles and Amplification in Semiconductor Optical Cavities** *PHYSICAL REVIEW APPLIED*
  Hamerly, R., Mabuchi, H.
  2015; 4 (2)
- **Single-molecule dataset (SMD): a generalized storage format for raw and processed single-molecule data.** *BMC bioinformatics*
  Greenfeld, M., van de Meent, J., Pavlichin, D. S., Mabuchi, H., Wiggins, C. H., Gonzalez, R. L., Herschlag, D.
  2015; 16: 3-?
- **Protein flexibility is required for vesicle tethering at the Golgi.** *eLife*
  Cheung, P. P., Limouse, C., Mabuchi, H., Pfeffer, S. R.
  2015; 4
- **Photonic circuits for iterative decoding of a class of low-density parity-check codes** *NEW JOURNAL OF PHYSICS*
  Pavlichin, D. S., Mabuchi, H.
  2014; 16
- **Quantum Noise in Large-Scale Coherent Nonlinear Photonic Circuits** *PHYSICAL REVIEW APPLIED*
  Santori, C., Pelc, J. S., Beausoleil, R. G., Tezak, N., Hamerly, R., Mabuchi, H.
  2014; 1 (5)
- **Calculation of divergent photon absorption in ultrathin films of a topological insulator** *PHYSICAL REVIEW B*
  Wang, J., Mabuchi, H., Qi, X.
  2013; 88 (19)
- **Femtojoule-Scale All-Optical Latching and Modulation via Cavity Nonlinear Optics** *PHYSICAL REVIEW LETTERS*
  Kwon, Y., Armen, M. A., Mabuchi, H.
  2013; 111 (20)
- **Squeezed light in an optical parametric oscillator network with coherent feedback quantum control** *OPTICS EXPRESS*
  Crisafulli, O., Tezak, N., Soh, D. B., Armen, M. A., Mabuchi, H.
  2013; 21 (15): 18371-18386
- **Gauge subsystems, separability and robustness in autonomous quantum memories** *NEW JOURNAL OF PHYSICS*
  Sarma, G., Mabuchi, H.
  2013; 15

- **Transformation of Quantum Photonic Circuit Models by Term Rewriting** *IEEE PHOTONICS JOURNAL*
  Sarma, G., Hamerly, R., Tezak, N., Pavlichin, D. S., Mabuchi, H.
  2013; 5 (1)
- **Coherent controllers for optical-feedback cooling of quantum oscillators** *PHYSICAL REVIEW A*
  Hamerly, R., Mabuchi, H.
  2013; 87 (1)
- **Specification of photonic circuits using quantum hardware description language** *Theo Murphy Discussion Meeting on Principles and Applications of Quantum Control Engineering*
  Tezak, N., Niederberger, A., Pavlichin, D. S., Sarma, G., Mabuchi, H.
  ROYAL SOC.2012: 5270–90
- **Advantages of Coherent Feedback for Cooling Quantum Oscillators** *PHYSICAL REVIEW LETTERS*
  Hamerly, R., Mabuchi, H.
  2012; 109 (17)
- **Single Molecule Analysis Research Tool (SMART): An Integrated Approach for Analyzing Single Molecule Data** *PLOS ONE*
  Greenfeld, M., Pavlichin, D. S., Mabuchi, H., Herschlag, D.
  2012; 7 (2)
- **Qubit limit of cavity nonlinear optics** *PHYSICAL REVIEW A*
  Mabuchi, H.
  2012; 85 (1)
- **Remnants of semiclassical bistability in the few-photon regime of cavity QED** *OPTICS EXPRESS*
  Kerckhoff, J., Armen, M. A., Mabuchi, H.
  2011; 19 (24): 24468-24482
- **Nonlinear interferometry approach to photonic sequential logic** *APPLIED PHYSICS LETTERS*
  Mabuchi, H.
  2011; 99 (15)
- **Design of nanophotonic circuits for autonomous subsystem quantum error correction** *NEW JOURNAL OF PHYSICS*
  Kerckhoff, J., Pavlichin, D. S., Chalabi, H., Mabuchi, H.
  2011; 13
- **Coherent-feedback control strategy to suppress spontaneous switching in ultralow power optical bistability** *APPLIED PHYSICS LETTERS*
  Mabuchi, H.
  2011; 98 (19)
- **The dressed atom as binary phase modulator: towards attojoule/edge optical phase-shift keying.** *Optics express*
  Kerckhoff, J., Armen, M. A., Pavlichin, D. S., Mabuchi, H.
  2011; 19 (7): 6478-6486
- **Designing Quantum Memories with Embedded Control: Photonic Circuits for Autonomous Quantum Error Correction** *PHYSICAL REVIEW LETTERS*
  Kerckhoff, J., Nurdin, H. I., Pavlichin, D. S., Mabuchi, H.
  2010; 105 (4)
- **Intramolecular Fluorescence Correlation Spectroscopy in a Feedback Tracking Microscope** *BIOPHYSICAL JOURNAL*
  McHale, K., Mabuchi, H.
  2010; 99 (1): 313-322
- **Precise Characterization of the Conformation Fluctuations of Freely Diffusing DNA: Beyond Rouse and Zimm** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  McHale, K., Mabuchi, H.
  2009; 131 (49): 17901-17907
- **Continuous quantum error correction as classical hybrid control** *NEW JOURNAL OF PHYSICS*

Mabuchi, H.
2009; 11

- **Quantum filter reduction for measurement-feedback control via unsupervised manifold learning** *NEW JOURNAL OF PHYSICS*
  Nielsen, A. E., Hopkins, A. S., Mabuchi, H.
  2009; 11
- **Spontaneous Dressed-State Polarization in the Strong Driving Regime of Cavity QED** *PHYSICAL REVIEW LETTERS*
  Armen, M. A., Miller, A. E., Mabuchi, H.
  2009; 103 (17)
- **Cavity-QED models of switches for attojoule-scale nanophotonic logic** *PHYSICAL REVIEW A*
  Mabuchi, H.
  2009; 80 (4)
- **Coherent-feedback quantum control with a dynamic compensator** *PHYSICAL REVIEW A*
  Mabuchi, H.
  2008; 78 (3)
- **Derivation of Maxwell-Bloch-type equations by projection of quantum models** *PHYSICAL REVIEW A*
  Mabuchi, H.
  2008; 78 (1)
- **Quantum dot photon statistics measured by three-dimensional particle tracking** *NANO LETTERS*
  McHale, K., Berglund, A. J., Mabuchi, H.
  2007; 7 (11): 3535-3539
- **Low-lying bifurcations in cavity quantum electrodynamics** *PHYSICAL REVIEW A*
  Armen, M. A., Mabuchi, H.
  2006; 73 (6)
- **Tracking-FCS: Fluorescence correlation spectroscopy of individual particles** *OPTICS EXPRESS*
  Berglund, A. J., Mabuchi, H.
  2005; 13 (20): 8069-8082
- **Feedback control of quantum state reduction** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*
  van Handel, R., Stockton, J. K., Mabuchi, H.
  2005; 50 (6): 768-780
- **Bayesian estimation for species identification in single-molecule fluorescence microscopy** *BIOPHYSICAL JOURNAL*
  McHale, K., Berglund, A. J., Mabuchi, H.
  2004; 86 (6): 3409-3422
- **Programmable logic devices in experimental quantum optics** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
  Stockton, J., Armen, M., Mabuchi, H.
  2002; 19 (12): 3019-3027
- **Cavity quantum electrodynamics: Coherence in context** *SCIENCE*
  Mabuchi, H., Doherty, A. C.
  2002; 298 (5597): 1372-1377
- **Adaptive homodyne measurement of optical phase** *PHYSICAL REVIEW LETTERS*
  Armen, M. A., Au, J. K., Stockton, J. K., Doherty, A. C., Mabuchi, H.
  2002; 89 (13)
- **Exact performance of concatenated quantum codes** *PHYSICAL REVIEW A*
  Rahn, B., Doherty, A. C., Mabuchi, H.
  2002; 66 (3)
- **A new bound of the L-2[0, T]-induced norm and applications to model reduction** *PROCEEDINGS OF THE 2002 AMERICAN CONTROL CONFERENCE, VOLS 1-6*

Sznaier, M., Doherty, A. C., Barahona, M., Mabuchi, H., Doyle, J. C.
2002: 1180-1185

- **Sensitivity optimization in quantum parameter estimation** *PHYSICAL REVIEW A*
  Verstraete, F., Doherty, A. C., Mabuchi, H.
  2001; 64 (3)
- **Quantum state transfer and entanglement distribution among distant nodes in a quantum network** *PHYSICAL REVIEW LETTERS*
  Cirac, J. I., Zoller, P., Kimble, H. J., Mabuchi, H.
  1997; 78 (16): 3221-3224
- **Inversion of quantum jumps in quantum optical systems under continuous observation** *PHYSICAL REVIEW LETTERS*
  Mabuchi, H., Zoller, P.
  1996; 76 (17): 3108-3111
- **MEASUREMENT OF CONDITIONAL PHASE-SHIFTS FOR QUANTUM LOGIC** *PHYSICAL REVIEW LETTERS*
  Turchette, Q. A., Hood, C. J., Lange, W., Mabuchi, H., Kimble, H. J.
  1995; 75 (25): 4710-4713