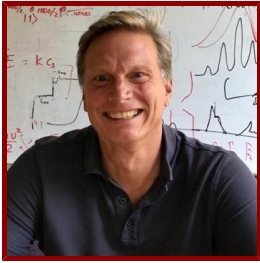


# Stanford

---



## Mark Kasevich

William R. Kenan Jr. Professor, Professor of Physics and of Applied Physics

### CONTACT INFORMATION

- **Administrative Contact**

Ping Feng

**Email** pfeng@stanford.edu

### Bio

---

### ACADEMIC APPOINTMENTS

- Professor, Physics
- Professor, Applied Physics
- Member, Bio-X

### HONORS AND AWARDS

- Member, National Academy of Sciences

### Teaching

---

### COURSES

#### 2024-25

- Quantum and Thermal Physics: PHYSICS 71 (Win)

#### 2023-24

- Electricity and Magnetism: PHYSICS 43 (Spr)

#### 2022-23

- Electricity and Magnetism: PHYSICS 43 (Spr)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Mahiro Abe, Eric Cooper, Ben Safvati

#### Postdoctoral Faculty Sponsor

Ashley Beguin, Shaun Burd, Prashant Kumar

#### Doctoral Dissertation Advisor (AC)

Joseph Curti, Minjeong Kim, Guglielmo Panelli, Erik Porter, Jerry Yen

#### Doctoral Dissertation Co-Advisor (AC)

Yijun Jiang, Megan Nantel

**Postdoctoral Research Mentor**

Shaun Burd

**Doctoral (Program)**

Ian Gabalski, Chris Gustin

**Publications**

---

**PUBLICATIONS**

- **Matter waves and clocks do not observe uniform gravitational fields** *PHYSICA SCRIPTA*  
Asenbaum, P., Overstreet, C., Kasevich, M. A.  
2024; 99 (4)
- **Inference of gravitational field superposition from quantum measurements** *PHYSICAL REVIEW D*  
Overstreet, C., Curti, J., Kim, M., Asenbaum, P., Kasevich, M. A., Giacomini, F.  
2023; 108 (8)
- **Multi-pass Imaging Flow Cytometry.** *Microscopy and microanalysis : the official journal of Microscopy Society of America, Microbeam Analysis Society, Microscopical Society of Canada*  
Reynolds, J. L., Israel, Y., Kasevich, M. A.  
2023; 29 (Supplement\_1): 1064-1065
- **Wide-field fluorescence lifetime imaging of neuron spiking and subthreshold activity in vivo.** *Science (New York, N.Y.)*  
Bowman, A. J., Huang, C., Schnitzer, M. J., Kasevich, M. A.  
2023; 380 (6651): 1270-1275
- **Continuous wave multi-pass imaging flow cytometry** *OPTICA*  
Israel, Y., Reynolds, J. L., Klopfer, B. B., Kasevich, M. A.  
2023; 10 (4): 491-496
- **Robust Optimized Pulse Schemes for Atomic Fountain Interferometry** *ATOMS*  
Goerz, M. H., Kasevich, M. A., Malinovsky, V. S.  
2023; 11 (2)
- **Nanosecond Photoemission near the Potential Barrier of a Schottky Emitter** *PHYSICAL REVIEW APPLIED*  
Reynolds, J. L., Israel, Y., Bowman, A. J., Klopfer, B. B., Kasevich, M. A.  
2023; 19 (1)
- **Distributed quantum sensing with mode-entangled spin-squeezed atomic states.** *Nature*  
Malia, B. K., Wu, Y., Martinez-Rincon, J., Kasevich, M. A.  
2022
- **Utilizing machine learning to improve the precision of fluorescence imaging of cavity-generated spin squeezed states** *PHYSICAL REVIEW A*  
Malia, B. K., Wu, Y., Martinez-Rincon, J., Kasevich, M. A.  
2022; 105 (1)
- **Observation of a gravitational Aharonov-Bohm effect.** *Science (New York, N.Y.)*  
Overstreet, C., Asenbaum, P., Curti, J., Kim, M., Kasevich, M. A.  
1800; 375 (6577): 226-229
- **Matter-wave Atomic Gradiometer Interferometric Sensor (MAGIS-100)** *QUANTUM SCIENCE AND TECHNOLOGY*  
Abe, M., Adamson, P., Borcean, M., Bortoletto, D., Bridges, K., Carman, S. P., Chattopadhyay, S., Coleman, J., Curfman, N. M., DeRose, K., Deshpande, T., Dimopoulos, S., Foot, et al  
2021; 6 (4)
- **Resonant Electro-Optic Imaging for Microscopy at Nanosecond Resolution.** *ACS nano*

Bowman, A. J., Kasevich, M. A.  
2021

- **Information transfer as a framework for optimized phase imaging** *OPTICA*  
Koppell, S., Kasevich, M.  
2021; 8 (4): 493-501
- **Fast pulse shaping for a novel gated electron mirror** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Klopfer, B. B., Koppell, S. A., Bowman, A. J., Israel, Y., Kasevich, M. A.  
2021; 92 (4)
- **Fast pulse shaping for a novel gated electron mirror.** *The Review of scientific instruments*  
Klopfer, B. B., Koppell, S. A., Bowman, A. J., Israel, Y., Kasevich, M. A.  
2021; 92 (4): 043705
- **Physically significant phase shifts in matter-wave interferometry** *AMERICAN JOURNAL OF PHYSICS*  
Overstreet, C., Asenbaum, P., Kasevich, M. A.  
2021; 89 (3): 324–32
- **40 W, 780 nm laser system with compensated dual beam splitters for atom interferometry** *OPTICS LETTERS*  
Kim, M., Notermans, R., Overstreet, C., Curti, J., Asenbaum, P., Kasevich, M. A.  
2020; 45 (23): 6555–58
- **High-extinction electron pulses by laser-triggered emission from a Schottky emitter** *APPLIED PHYSICS LETTERS*  
Israel, Y., Bowman, A. J., Klopfer, B. B., Koppell, S. A., Kasevich, M. A.  
2020; 117 (19)
- **Retrieval of cavity-generated atomic spin squeezing after free-space release** *PHYSICAL REVIEW A*  
Wu, Y., Krishnakumar, R., Martinez-Rincon, J., Malia, B. K., Hosten, O., Kasevich, M. A.  
2020; 102 (1)
- **Free Space Ramsey Spectroscopy in Rubidium with Noise below the Quantum Projection Limit.** *Physical review letters*  
Malia, B. K., Martínez-Rincón, J., Wu, Y., Hosten, O., Kasevich, M. A.  
2020; 125 (4): 043202
- **Free Space Ramsey Spectroscopy in Rubidium with Noise below the Quantum Projection Limit** *PHYSICAL REVIEW LETTERS*  
Malia, B. K., Martinez-Rincon, J., Wu, Y., Hosten, O., Kasevich, M. A.  
2020; 125 (4)
- **AEDGE: Atomic Experiment for Dark Matter and Gravity Exploration in Space** *EPJ QUANTUM TECHNOLOGY*  
El-Neaj, Y., Alpigiani, C., Amairi-Pyka, S., Araujo, H., Balaz, A., Bassi, A., Bathe-Peters, L., Battelier, B., Belic, A., Bentine, E., Bernabeu, J., Bertoldi, A., Bingham, et al  
2020; 7 (1)
- **Atom-Interferometric Test of the Equivalence Principle at the  $10^{-12}$  Level.** *Physical review letters*  
Asenbaum, P. n., Overstreet, C. n., Kim, M. n., Curti, J. n., Kasevich, M. A.  
2020; 125 (19): 191101
- **SAGE: A proposal for a space atomic gravity explorer** *EUROPEAN PHYSICAL JOURNAL D*  
Tino, G. M., Bassi, A., Bianco, G., Bongs, K., Bouyer, P., Cacciapuoti, L., Capozziello, S., Chen, X., Chiofalo, M. L., Derevianko, A., Ertmer, W., Gaaloul, N., Gill, et al  
2019; 73 (11)
- **Design for a 10keV multi-pass transmission electron microscope.** *Ultramicroscopy*  
Koppell, S. A., Mankos, M., Bowman, A. J., Israel, Y., Juffmann, T., Klopfer, B. B., Kasevich, M. A.  
2019; 207: 112834
- **Electro-optic imaging enables efficient wide-field fluorescence lifetime microscopy.** *Nature communications*  
Bowman, A. J., Klopfer, B. B., Juffmann, T. n., Kasevich, M. A.  
2019; 10 (1): 4561

- **Full-field cavity enhanced microscopy techniques** *JOURNAL OF PHYSICS-PHOTONICS*  
Nimmrichter, S., Chen, C., Klopfer, B. B., Kasevich, M. A., Juffmann, T.  
2019; 1 (1)
- **Effective Inertial Frame in an Atom Interferometric Test of the Equivalence Principle** *PHYSICAL REVIEW LETTERS*  
Overstreet, C., Asenbaum, P., Kovachy, T., Notermans, R., Hogan, J. M., Kasevich, M. A.  
2018; 120 (18): 183604
- **Multi-pass transmission electron microscopy** *SCIENTIFIC REPORTS*  
Juffmann, T., Koppell, S. A., Klopfer, B. B., Ophus, C., Glaeser, R. M., Kasevich, M. A.  
2017; 7
- **Phase Shift in an Atom Interferometer due to Spacetime Curvature across its Wave Function** *PHYSICAL REVIEW LETTERS*  
Asenbaum, P., Overstreet, C., Kovachy, T., Brown, D. D., Hogan, J. M., Kasevich, M. A.  
2017; 118 (18)
- **Bell Correlations in Spin-Squeezed States of 500 000 Atoms** *PHYSICAL REVIEW LETTERS*  
Engelsen, N. J., Krishnakumar, R., Hosten, O., Kasevich, M. A.  
2017; 118 (14)
- **Sub-shot noise measurement strategies for precision atomic sensors**  
Kasevich, M., IEEE  
IEEE.2017
- **Iterative creation and sensing of twisted light** *OPTICS LETTERS*  
Klopfer, B. B., Juffmann, T., Kasevich, M. A.  
2016; 41 (24): 5744-5747
- **Resonant mode for gravitational wave detectors based on atom interferometry** *PHYSICAL REVIEW D*  
Graham, P. W., Hogan, J. M., Kasevich, M. A., Rajendran, S.  
2016; 94 (10)
- **Atom-interferometric gravitational-wave detection using heterodyne laser links** *PHYSICAL REVIEW A*  
Hogan, J. M., Kasevich, M. A.  
2016; 94 (3)
- **Multi-pass microscopy** *NATURE COMMUNICATIONS*  
Juffmann, T., Klopfer, B. B., Frankort, T. L., Haslinger, P., Kasevich, M. A.  
2016; 7
- **Quantum phase magnification** *SCIENCE*  
Hosten, O., Krishnakumar, R., Engelsen, N. J., Kasevich, M. A.  
2016; 352 (6293): 1552-1555
- **Designs for a quantum electron microscope** *ULTRAMICROSCOPY*  
Kruit, P., Hobbs, R. G., Kim, C., Yang, Y., Manfrinato, V. R., Hammer, J., Thomas, S., Weber, P., KLOPFER, B., Kohstall, C., Juffmann, T., Kasevich, M. A., Hommelhoff, et al  
2016; 164: 31-45
- **Single-shot simulations of dynamic quantum many-body systems** *NATURE PHYSICS*  
Sakmann, K., Kasevich, M.  
2016; 12 (5): 451-?
- **Measurement noise 100 times lower than the quantum-projection limit using entangled atoms** *NATURE*  
Hosten, O., Engelsen, N. J., Krishnakumar, R., Kasevich, M. A.  
2016; 529 (7587): 505-?
- **Measurement noise 100 times lower than the quantum-projection limit using entangled atoms.** *Nature*  
Hosten, O., Engelsen, N. J., Krishnakumar, R., Kasevich, M. A.  
2016; 529 (7587): 505-8

- **Engineering Spin-Squeezed States for Quantum-Enhanced Atom Interferometry**  
Engelsen, N. J., Hosten, O., Krishnakumar, R., Kasevich, M. A., IEEE  
IEEE.2016
- **Ultrafast Time-Resolved Photoelectric Emission** *PHYSICAL REVIEW LETTERS*  
Juffmann, T., Klopfer, B. B., Skulason, G. E., Kealhofer, C., Xiao, F., Foreman, S. M., Kasevich, M. A.  
2015; 115 (26)
- **Ultrafast Time-Resolved Photoelectric Emission.** *Physical review letters*  
Juffmann, T., Klopfer, B. B., Skulason, G. E., Kealhofer, C., Xiao, F., Foreman, S. M., Kasevich, M. A.  
2015; 115 (26): 264803
- **Quantum superposition at the half-metre scale** *NATURE*  
Kovachy, T., Asenbaum, P., Overstreet, C., Donnelly, C. A., Dickerson, S. M., Sugarbaker, A., Hogan, J. M., Kasevich, M. A.  
2015; 528 (7583): 530-?
- **Matter wave lensing to picokelvin temperatures.** *Physical review letters*  
Kovachy, T., Hogan, J. M., Sugarbaker, A., Dickerson, S. M., Donnelly, C. A., Overstreet, C., Kasevich, M. A.  
2015; 114 (14): 143004-?
- **Matter Wave Lensing to Picokelvin Temperatures** *PHYSICAL REVIEW LETTERS*  
Kovachy, T., Hogan, J. M., Sugarbaker, A., Dickerson, S. M., Donnelly, C. A., Overstreet, C., Kasevich, M. A.  
2015; 114 (14)
- **Testing gravity with cold-atom interferometers** *PHYSICAL REVIEW A*  
Biedermann, G. W., Wu, X., Deslauriers, L., Roy, S., Mahadeswaraswamy, C., Kasevich, M. A.  
2015; 91 (3)
- **Ultrafast oscilloscope based on laser-triggered field emitters** *OPTICS LETTERS*  
Kealhofer, C., Klopfer, B. B., Skulason, G. E., Juffmann, T., Foreman, S. M., Kasevich, M. A.  
2015; 40 (2): 260-263
- **Single-shot three-dimensional imaging of dilute atomic clouds** *OPTICS LETTERS*  
Sakmann, K., Kasevich, M.  
2014; 39 (18): 5317-5320
- **Many-atom-cavity QED system with homogeneous atom-cavity coupling** *OPTICS LETTERS*  
Lee, J., Vrijsen, G., Teper, I., Hosten, O., Kasevich, M. A.  
2014; 39 (13): 4005-4008
- **Evaporative production of bright atomic solitons.** *Physical review letters*  
Medley, P., Minar, M. A., Cizek, N. C., Berryrieser, D., Kasevich, M. A.  
2014; 112 (6): 060401-?
- **Evaporative Production of Bright Atomic Solitons** *PHYSICAL REVIEW LETTERS*  
Medley, P., Minar, M. A., Cizek, N. C., Berryrieser, D., Kasevich, M. A.  
2014; 112 (6)
- **Ground-state fragmentation phase transition for attractive bosons in anisotropic traps** *PHYSICAL REVIEW A*  
Cizek, N. C., Kasevich, M. A.  
2013; 88 (6)
- **Zero-Dead-Time Operation of Interleaved Atomic Clocks** *PHYSICAL REVIEW LETTERS*  
Biedermann, G. W., Takase, K., Wu, X., Deslauriers, L., Roy, S., Kasevich, M. A.  
2013; 111 (17)
- **Enhanced atom interferometer readout through the application of phase shear.** *Physical review letters*  
Sugarbaker, A., Dickerson, S. M., Hogan, J. M., Johnson, D. M., Kasevich, M. A.  
2013; 111 (11): 113002-?

- **Enhanced Atom Interferometer Readout through the Application of Phase Shear** *PHYSICAL REVIEW LETTERS*  
Sugarbaker, A., Dickerson, S. M., Hogan, J. M., Johnson, D. M., Kasevich, M. A.  
2013; 111 (11)
- **Multiaxis inertial sensing with long-time point source atom interferometry.** *Physical review letters*  
Dickerson, S. M., Hogan, J. M., Sugarbaker, A., Johnson, D. M., Kasevich, M. A.  
2013; 111 (8): 083001-?
- **Multiaxis Inertial Sensing with Long-Time Point Source Atom Interferometry** *PHYSICAL REVIEW LETTERS*  
Dickerson, S. M., Hogan, J. M., Sugarbaker, A., Johnson, D. M., Kasevich, M. A.  
2013; 111 (8)
- **New method for gravitational wave detection with atomic sensors.** *Physical review letters*  
Graham, P. W., Hogan, J. M., Kasevich, M. A., Rajendran, S.  
2013; 110 (17): 171102-?
- **New method for gravitational wave detection with atomic sensors.** *Physical review letters*  
Graham, P. W., Hogan, J. M., Kasevich, M. A., Rajendran, S.  
2013; 110 (17): 171102-?
- **Ultrafast microfocus x-ray source based on a femtosecond laser-triggered tip** *ANNALEN DER PHYSIK*  
Foreman, S. M., Kealhofer, C., Skulason, G. E., Klopfer, B. B., Kasevich, M. A.  
2013; 525 (1-2): L19-L22
- **Generation of 43 W of quasi-continuous 780 nm laser light via high-efficiency, single-pass frequency doubling in periodically poled lithium niobate crystals** *OPTICS LETTERS*  
Chiu, S., Kovachy, T., Hogan, J. M., Kasevich, M. A.  
2012; 37 (18): 3861-3863
- **Adiabatic-rapid-passage multiphoton Bragg atom optics** *PHYSICAL REVIEW A*  
Kovachy, T., Chiu, S., Kasevich, M. A.  
2012; 86 (1)
- **Ultrafast laser-triggered emission from hafnium carbide tips** *PHYSICAL REVIEW B*  
Kealhofer, C., Foreman, S. M., Gerlich, S., Kasevich, M. A.  
2012; 86 (3)
- **A high-performance magnetic shield with large length-to-diameter ratio** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Dickerson, S., Hogan, J. M., Johnson, D. M., Kovachy, T., Sugarbaker, A., Chiu, S., Kasevich, M. A.  
2012; 83 (6)
- **Atom Interferometric Gravity Sensor System** *IEEE/ION Position Location and Navigation Symposium (PLANS)*  
Brown, D., Mauser, L., Young, B., Kasevich, M., Rice, H. F., Benischek, V.  
IEEE.2012: 30-37
- **Absolute Geodetic Rotation Measurement Using Atom Interferometry** *PHYSICAL REVIEW LETTERS*  
Stockton, J. K., Takase, K., Kasevich, M. A.  
2011; 107 (13)
- **102(h)over-bark Large Area Atom Interferometers** *PHYSICAL REVIEW LETTERS*  
Chiu, S., Kovachy, T., Chien, H., Kasevich, M. A.  
2011; 107 (13)
- **Raman Lasing with a Cold Atom Gain Medium in a High-Finesse Optical Cavity** *PHYSICAL REVIEW LETTERS*  
Vrijsen, G., Hosten, O., Lee, J., Bernon, S., Kasevich, M. A.  
2011; 107 (6)
- **Reply to "Comment on 'Atomic gravitational wave interferometric sensor'"** *PHYSICAL REVIEW D*  
Dimopoulos, S., Graham, P. W., Hogan, J. M., Kasevich, M. A., Rajendran, S.  
2011; 84 (2)

- **An atomic gravitational wave interferometric sensor in low earth orbit (AGIS-LEO)** *GENERAL RELATIVITY AND GRAVITATION*  
Hogan, J. M., Johnson, D. M., Dickerson, S., Kovachy, T., Sugarbaker, A., Chiow, S., Graham, P. W., Kasevich, M. A., Saif, B., Rajendran, S., Bouyer, P., Seery, B. D., Feinberg, et al  
2011; 43 (7): 1953-2009
- **Microwave Guiding of Electrons on a Chip** *PHYSICAL REVIEW LETTERS*  
Hoffrogge, J., Froehlich, R., Kasevich, M. A., Hommelhoff, P.  
2011; 106 (19)
- **Precision angle sensor using an optical lever inside a Sagnac interferometer** *OPTICS LETTERS*  
Hogan, J. M., Hammer, J., Chiow, S., Dickerson, S., Johnson, D. M., Kovachy, T., Sugarbaker, A., Kasevich, M. A.  
2011; 36 (9): 1698-1700
- **Picosecond Optical Switching Using RF Nonlinear Transmission Lines** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Johnson, D. M., Hogan, J. M., Chiow, S., Kasevich, M. A.  
2011; 29 (5): 666-669
- **Optical lattices as waveguides and beam splitters for atom interferometry: An analytical treatment and proposal of applications** *PHYSICAL REVIEW A*  
Kovachy, T., Hogan, J. M., Johnson, D. M., Kasevich, M. A.  
2010; 82 (1)
- **Broadband optical serrodyne frequency shifting** *OPTICS LETTERS*  
Johnson, D. M., Hogan, J. M., Chiow, S., Kasevich, M. A.  
2010; 35 (5): 745-747
- **Atom Interferometric Navigation Sensors** *2010 IEEE Sensors Conference*  
Kasevich, M.  
IEEE.2010: 15-16
- **Phase-Slip Interferometry for Precision Force Measurements** *PHYSICAL REVIEW LETTERS*  
Tuchman, A. K., Kasevich, M. A.  
2009; 103 (13)
- **Gravitational wave detection with atom interferometry** *PHYSICS LETTERS B*  
Dimopoulos, S., Graham, P. W., Hogan, J. M., Kasevich, M. A., Rajendran, S.  
2009; 678 (1): 37-40
- **Extreme localization of electrons in space and time** *51st International Field Emission Symposium*  
Hommelhoff, P., Kealhofer, C., Aghajani-Talesh, A., Sortais, Y. R., Foreman, S. M., Kasevich, M. A.  
ELSEVIER SCIENCE BV.2009: 423-29
- **Reaching the resolved tunnel regime for a femtosecond oscillator driven field emission electron source** *LASER PHYSICS*  
Hommelhoff, P., Kealhofer, C., Kasevich, M. A.  
2009; 19 (4): 736-738
- **Low-noise simultaneous fluorescence detection of two atomic states** *OPTICS LETTERS*  
Biedermann, G. W., Wu, X., Deslauriers, L., Takase, K., Kasevich, M. A.  
2009; 34 (3): 347-349
- **Ultrafast Laser-Induced Electron Emission from Field Emission Tips** *16th International Conference on Ultrafast Phenomena*  
Kealhofer, C., Foreman, S. M., Hommelhoff, P., Kasevich, M. A.  
SPRINGER-VERLAG BERLIN.2009: 702-704
- **PRECISION NAVIGATION SENSORS BASED ON COLD ATOMS** *AAS/AIAA 19th Space Flight Mechanics Meeting*  
Kasevich, M. A.  
UNIVELT INC.2009: 1179-1188
- **Atomic gravitational wave interferometric sensor** *PHYSICAL REVIEW D*  
Dimopoulos, S., Graham, P. W., Hogan, J. M., Kasevich, M. A., Rajendran, S.  
2008; 78 (12)

- **Backaction noise produced via cavity-aided nondemolition measurement of an atomic clock state** *PHYSICAL REVIEW A*  
Teper, I., Vrijsen, G., Lee, J., Kasevich, M. A.  
2008; 78 (5)
- **General relativistic effects in atom interferometry** *PHYSICAL REVIEW D*  
Dimopoulos, S., Graham, P. W., Hogan, J. M., Kasevich, M. A.  
2008; 78 (4)
- **How to test atom and neutron neutrality with atom interferometry** *PHYSICAL REVIEW LETTERS*  
Arvanitaki, A., Dimopoulos, S., Geraci, A. A., Hogan, J., Kasevich, M.  
2008; 100 (12)
- **Space-based research in fundamental physics and quantum technologies** *International Workshop From Quantum to Cosmos - Fundamental Physics Research in Space*  
Turyshv, S. G., Israelsson, U. E., Shao, M., Yu, N., Kusenko, A., Wright, E. L., Everitt, C. W., Kasevich, M., Lipa, J. A., Mester, J. C., Reasenberg, R. D., Walsworth, R. L., Ashby, et al  
WORLD SCIENTIFIC PUBL CO PTE LTD.2007: 1879–1925
- **DETECTING LORENTZ INVARIANCE VIOLATIONS IN THE 10(-20) RANGE** *INTERNATIONAL JOURNAL OF MODERN PHYSICS D*  
Lipa, J. A., Wang, S., NISSEN, J., Kasevich, M., Mester, J.  
2007; 16 (12B): 2393-2398
- **High-power pulsed-current-mode operation of an overdriven tapered amplifier** *OPTICS LETTERS*  
Takase, K., Stockton, J. K., Kasevich, M. A.  
2007; 32 (17): 2617-2619
- **Bayesian estimation of differential interferometer phase** *PHYSICAL REVIEW A*  
Stockton, J. K., Wu, X., Kasevich, M. A.  
2007; 76 (3)
- **Multiple frequency modulation for low-light atom measurements in an optical cavity** *OPTICS LETTERS*  
Long, R., Tuchman, A. K., Kasevich, M. A.  
2007; 32 (17): 2502-2504
- **Testing general relativity with atom interferometry** *PHYSICAL REVIEW LETTERS*  
Dimopoulos, S., Graham, P. W., Hogan, J. M., Kasevich, M. A.  
2007; 98 (11)
- **Extended coherence time with atom-number squeezed states** *PHYSICAL REVIEW LETTERS*  
Li, W., Tuchman, A. K., Chien, H., Kasevich, M. A.  
2007; 98 (4)
- **Atom interferometer measurement of the newtonian constant of gravity** *SCIENCE*  
Fixler, J. B., Foster, G. T., McGuirk, J. M., Kasevich, M. A.  
2007; 315 (5808): 74-77
- **A spatially and temporally localized sub-laser cycle electron source** *15th International Conference on Ultrafast Phenomena*  
Hommelhoff, P., Kealhofer, C., Kasevich, M. A.  
SPRINGER-VERLAG BERLIN.2007: 746–748
- **Reaching Li-7 quantum degeneracy with a minitrap** *PHYSICAL REVIEW A*  
Wang, R., Liu, M., Minardi, F., Kasevich, M.  
2007; 75 (1)
- **Long-term stability of an area-reversible atom-interferometer sagnac gyroscope** *PHYSICAL REVIEW LETTERS*  
Durfee, D. S., Shaham, Y. K., Kasevich, M. A.  
2006; 97 (24)
- **Ultrafast electron pulses from a tungsten tip triggered by low-power femtosecond laser pulses** *PHYSICAL REVIEW LETTERS*  
Hommelhoff, P., Kealhofer, C., Kasevich, M. A.



---

2006; 97 (24)

- **Localization and anomalous transport in a 1D soft boson optical lattice** *NEW JOURNAL OF PHYSICS*  
Tuchman, A. K., Li, W., Chien, H., Dettmer, S., Kasevich, M. A.  
2006; 8
- **Normal-mode splitting with large collective cooperativity** *PHYSICAL REVIEW A*  
Tuchman, A. K., Long, R., Vrijsen, G., Boudet, J., Lee, J., Kasevich, M. A.  
2006; 74 (5)
- **Nonequilibrium coherence dynamics of a soft boson lattice** *PHYSICAL REVIEW A*  
Tuchman, A. K., Orzel, C., Polkovnikov, A., Kasevich, M. A.  
2006; 74 (5)
- **Special issue: "Quantum mechanics for space application: From quantum optics to atom optics and general relativity"** *APPLIED PHYSICS B-LASERS AND OPTICS*  
Kasevich, M., Salomon, C.  
2006; 84 (4): 543-544
- **High-order inertial phase shifts for time-domain atom interferometers** *11th Congress of the International-Association-of-Biomedical-Gerontology*  
Bongs, K., Launay, R., Kasevich, M. A.  
SPRINGER.2006: 599-602
- **Atom interferometer as a selective sensor of rotation or gravity** *PHYSICAL REVIEW A*  
Dubetsky, B., Kasevich, M. A.  
2006; 74 (2)
- **Field emission tip as a nanometer source of free electron femtosecond pulses** *PHYSICAL REVIEW LETTERS*  
Hommelhoff, P., Sortais, Y., Aghajani-Talesh, A., Kasevich, M. A.  
2006; 96 (7)
- **Femtosecond laser meets field emission tip - a sensor for the carrier envelope phase?** *IEEE International Frequency Control Symposium and Exposition*  
Hommelhoff, P., Kealhofer, C., Kasevich, M. A.  
IEEE.2006: 470-474
- **Coherence with atoms** *SCIENCE*  
Kasevich, M. A.  
2002; 298 (5597): 1363-1368
- **Heisenberg-limited spectroscopy with degenerate Bose-Einstein gases** *PHYSICAL REVIEW A*  
Bouyer, P., Kasevich, M. A.  
1997; 56 (2): R1083-R1086
- **Detector for spatial and temporal imaging of single photons** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Sinclair, A. G., Kasevich, M. A.  
1997; 68 (4): 1657-1660
- **Precision rotation measurements with an atom interferometer gyroscope** *PHYSICAL REVIEW LETTERS*  
Gustavson, T. L., Bouyer, P., Kasevich, M. A.  
1997; 78 (11): 2046-2049
- **Microwave signal generation with optical injection locking** *OPTICS LETTERS*  
Bouyer, P., Gustavson, T. L., Haritos, K. G., Kasevich, M. A.  
1996; 21 (18): 1502-1504
- **Atom trapping in nondissipative optical lattices** *PHYSICAL REVIEW A*  
Anderson, B. P., Gustavson, T. L., Kasevich, M. A.  
1996; 53 (6): R3727-R3730
- **Nonlinear-optical properties of a noninteracting Bose gas** *OPTICS LETTERS*  
Kasevich, M. A., Harris, S. E.

1996; 21 (9): 677-679

- **Raman cooling of atoms in an optical dipole trap** *PHYSICAL REVIEW LETTERS*  
Lee, H. J., Adams, C. S., Kasevich, M., Chu, S.  
1996; 76 (15): 2658-2661
- **INTERACTION-FREE MEASUREMENT** *PHYSICAL REVIEW LETTERS*  
Kwiat, P., Weinfurter, H., Herzog, T., Zeilinger, A., Kasevich, M. A.  
1995; 74 (24): 4763-4766
- **EVAPORATIVE COOLING IN A CROSSED DIPOLE TRAP** *PHYSICAL REVIEW LETTERS*  
Adams, C. S., Lee, H. J., Davidson, N., Kasevich, M., Chu, S.  
1995; 74 (18): 3577-3580
- **LONG ATOMIC COHERENCE TIMES IN AN OPTICAL DIPOLE TRAP** *PHYSICAL REVIEW LETTERS*  
Davidson, N., Lee, H. J., Adams, C. S., Kasevich, M., Chu, S.  
1995; 74 (8): 1311-1314
- **DIPOLE TRAPPING, COOLING IN TRAPS, AND LONG COHERENCE TIMES** *14th International Conference on Atomic Physics (ICAP-14)*  
Lee, H. J., Adams, C., Davidson, N., Young, B., Weitz, M., Kasevich, M., Chu, S.  
AMER INST PHYSICS.1995: 258-75
- **EXPERIMENTAL REALIZATION OF INTERACTION-FREE MEASUREMENTS** *Conference on Fundamental Problems in Quantum Theory, A Conference held in Honor of Professor John A. Wheeler*  
Kwiat, P., Weinfurter, H., Herzog, T., Zeilinger, A., Kasevich, M.  
NEW YORK ACAD SCIENCES.1995: 383-393
- **ENHANCED LOADING OF A MAGNETOOPTIC TRAP FROM AN ATOMIC-BEAM** *PHYSICAL REVIEW A*  
Anderson, B. P., Kasevich, M. A.  
1994; 50 (5): R3581-R3584
- **RAMAN COOLING OF ATOMS IN 2-DIMENSIONS AND 3-DIMENSIONS** *PHYSICAL REVIEW LETTERS*  
Davidson, N., Lee, H. J., Kasevich, M., Chu, S.  
1994; 72 (20): 3158-3161
- **LASER COOLING BELOW A PHOTON RECOIL WITH 3-LEVEL ATOMS** *PHYSICAL REVIEW LETTERS*  
Kasevich, M., Chu, S.  
1992; 69 (12): 1741-1744
- **MEASUREMENT OF THE GRAVITATIONAL ACCELERATION OF AN ATOM WITH A LIGHT-PULSE ATOM INTERFEROMETER** *APPLIED PHYSICS B-PHOTOPHYSICS AND LASER CHEMISTRY*  
Kasevich, M., Chu, S.  
1992; 54 (5): 321-332
- **MEASUREMENT OF THE ACCELERATION DUE TO GRAVITY WITH AN ATOMIC INTERFEROMETER** *WORKSHOP ON THE FOUNDATIONS OF QUANTUM MECHANICS*  
Kasevich, M., Chu, S.  
WORLD SCIENTIFIC PUBL CO PTE LTD.1992: 47-54
- **THEORETICAL-ANALYSIS OF VELOCITY-SELECTIVE RAMAN TRANSITIONS** *PHYSICAL REVIEW A*  
Moler, K., Weiss, D. S., Kasevich, M., Chu, S.  
1992; 45 (1): 342-348
- **ATOMIC INTERFEROMETRY USING STIMULATED RAMAN TRANSITIONS** *PHYSICAL REVIEW LETTERS*  
Kasevich, M., Chu, S.  
1991; 67 (2): 181-184
- **ATOMIC VELOCITY SELECTION USING STIMULATED RAMAN TRANSITIONS** *PHYSICAL REVIEW LETTERS*  
Kasevich, M., Weiss, D. S., Riis, E., Moler, K., Kasapi, S., Chu, S.  
1991; 66 (18): 2297-2300

- **NORMAL-INCIDENCE REFLECTION OF SLOW ATOMS FROM AN OPTICAL EVANESCENT WAVE** *OPTICS LETTERS*  
Kasevich, M. A., Weiss, D. S., Chu, S.  
1990; 15 (11): 607-609
- **RF SPECTROSCOPY IN AN ATOMIC FOUNTAIN** *PHYSICAL REVIEW LETTERS*  
Kasevich, M. A., Riis, E., Chu, S., DeVoe, R. G.  
1989; 63 (6): 612-616