

Mark G. Raizen
Curriculum Vita

Education

Ph.D., Physics, The University of Texas at Austin, May 1989.

Supervisors: H.J. Kimble (now at Caltech), Steven Weinberg.

Graduate studies in Mathematics, The Weizmann Institute of Science, Rehovot, Israel, 1980-1982.

B.Sc., Mathematics with honors, Tel-Aviv University, Ramat Aviv, Israel, 1980.

Work and Professional Experience

Sid W. Richardson Foundation Regents Chair in Physics and
Professor of Physics, The University of Texas at Austin (Sept. 1, 2000-)

Associate Professor of Physics, The University of Texas at Austin (September 1, 1996-August 31, 2000).

Assistant Professor of Physics, The University of Texas at Austin (September 1, 1991-August 31, 1996).

Postdoctoral Research, in the group of Dr. D. J. Wineland, Time and Frequency Division, NIST, Boulder, June 1989-July 1991.

Graduate Research Assistant in Physics, The University of Texas at Austin, 1986-1988.

Graduate Research Assistant in Mathematics, The Weizmann Institute of Science, Rehovot, Israel, 1980-1981.

Professional Societies and Service

Member American Physical Society, Optical Society of America, and American Association for the Advancement of Science.

Member, Technical Program Committee, International Quantum Electronics Conference (IQEC), 1994.

Member, 1998 Max Born Prize Committee, Optical Society of America.

Member, 1998 A. L. Schawlow Prize Committee, American Physical Society.

Member, Book Committee, Optical Society of America.

Participant, Leadership Conference, Optical Society of America, Feb. 1998, Feb. 1999.

Member, Technical Program Committee, Quantum Electronics and Lasers Conference (QELS), 1999.

Organizer, Applied Physics Symposium, UT Austin, Oct. 1998.

Editorial Board Member, Institute of Physics, 1999-2002.

Chairman, 1999 Max Born Prize Committee, Optical Society of America.

Chairman, 1999 A. L. Schawlow Prize Committee, American Physical Society.

Member Executive Committee, Division of Laser Science, American Physical Society, 1999-2002.

Member, Committee on Atomic, Molecular, and Optical Sciences, National Research Council, Jan. 1, 2000-June 30, 2002.

Member, 2001 Rabi Prize Committee.

Member Executive Committee, Division of AMO Physics of APS, 2001-2004.

Divisional Associate Editor, Physical Review Letters, 2000-2003.

Member, Advisory Board for journal Chaos (2002-2005).

Organizer, New Laser Scientists Conference, Fall 2002.

Chair, Division of Laser Science of the American Physical Society (2004-2005).

Awards and Honors

Willis E. Lamb Award for Laser Science and Quantum Optics (2008)

Max Planck Award, The Max Planck Society and The Alexander von Humboldt Foundation (2002).

Outstanding Doctoral Thesis Supervisor Award, John and Fannie Hertz Foundation, 2003.

29th Hanan Rosenthal Memorial Lecture, Yale Univ., Nov. 2002.

Weston Visiting Professor, Weizmann Institute of Science, Summer 2001.

Sid W. Richardson Foundation Regents Chair in Physics (Sept. 1, 2000-).

1999 I. I. Rabi Prize in Atomic, Molecular, and Optical Physics, American Physical Society.

Fellow, American Physical Society (1997-).

Fellow, Optical Society of America (2001-).

Sid W. Richardson Foundation Regents Chair Fellow 1998-2000.

National Science Foundation Young Investigator 1993-1998.

Office of Naval Research Young Investigator 1992-1995.

Alfred P. Sloan Foundation Research Fellow 1992-1994.

Sid W. Richardson Foundation Regents Chair Fellow 1991-1993.

National Research Council Postdoctoral Fellowship 1989-1991.

IBM Graduate Fellowship 1987-1988.

University of Texas Graduate Fellowship, 1986-1987.

Patent

"Device and Method for Squeezed State Generation by a Coupled System", H.J. Kimble, M.G. Raizen, and L.A. Orozco. Patent # 87-P-1929.

Invited Presentations and Seminars

1. M.G. Raizen, Min Xiao, L.A. Orozco, Ling-An Wu, R.J. Brecha, and H.J. Kimble, "Squeezed States of Light: Generation and Application." Invited talk at Gordon Research Conference on Nonlinear Optics & Lasers. Wolfeboro, N.H., 1987.

2. M.G. Raizen, R.J. Thompson, R.J. Brecha, H.J. Kimble, and H.J. Carmichael. "Modulation Spectroscopy and Cavity QED," Invited talk at Fifth International Symposium on Quantum Optics, Rotorua, New Zealand, 1989.
3. Physics department seminar, The University of Texas at Austin, Oct. 1990.
4. Physics department seminar, The University of California at Berkeley, Nov. 1990.
5. Applied Physics seminar, Stanford University, Nov. 1990.
6. Chemistry colloquium, The Weizmann Institute of Science, Israel, Nov. 1990.
7. Chemical Physics seminar, The Weizmann Institute of Science, Israel, Nov. 1990.
8. Physics department seminar, Ben Gurion University, Israel, Nov. 1990.
9. Physics department seminar, University of Rochester, Dec. 1990.
10. Chemical Physics colloquium, The University of Oregon at Eugene, Feb. 1991.
11. Physics department seminar, The University of Texas at Austin, Feb. 1991.
12. Physics department seminar, University of Colorado , Denver, Feb. 1991.
13. Physics Department colloquium, Colorado School of Mines, Golden, Mar. 1991.
14. JILA seminar, University of Colorado, Boulder, Mar. 1991.
15. Physics department seminar, The University of Texas at Austin, Jun. 1991.
16. Invited panelist, Workshop on Photonic Bandgap Structures, Park City Utah, Jan. 1992.
17. Seminar, Honeywell Corporation, Minneapolis, Feb. 1992.
18. Nonlinear Dynamics Seminar, The University of Texas at Austin, May 1992.
19. Seminar, Naval Research Laboratory, Washington, D.C., July 1992
20. Seminar, Trinity University, San Antonio, Sept. 1992.
21. Seminar, Texas Tech University, Lubbock, April 1993.
22. Seminar, Texas A&M, College Station, April 1993.
23. Nonlinear Dynamics Seminar, The University of Texas at Austin, Jan. 1994
24. Condensed Matter Seminar, The University of Texas at Austin, April 1994.
25. Condensed Matter Seminar, Technion, Israel, July 1995.
26. Chemical Physics Dept. Seminar, Weizmann Institute, Israel, July 1995.

27. Physics Dept. Seminar, Ben Gurion University, Israel, July 1995.
28. "Quantum Suppression of Atomic Motion in a Classically Chaotic System," Invited talk at Crested Butte 1994 Conference on Coherence and Interference.
29. "Atom Optics as a New Testing Ground for Quantum Chaos," Invited talk at Snowbird Conference on Quantum Electronics, Jan. 1995.
30. "Quantum Suppression of Atomic Motion in a Classically Chaotic System," Invited talk at Dynamics Days, Houston, TX, Jan. 1995.
31. Physics Dept. Colloquium, Stanford University, Feb. 1995.
32. "Atom Optics as a New Testing Ground for Quantum Chaos," Invited speaker at Kolloquium des DFG-Schwerpunktprogramms, Bonn, May 1995. One of three invited speakers from outside Germany.
33. "Atom Optics in the Transition from Classical Stability to Chaos," Invited talk at Quantum Electronics and Laser Science Conference, Baltimore, 1995.
34. "Atom Optics as a New Testing Ground for Quantum Chaos," Invited talk at Gordon Research Conference on Atomic Physics, Wolfboro, NH, July 1995.
35. "Atom Optics as a New Testing Ground for Quantum Chaos," Invited talk at the Adriatico Research Conference on Chaos in Atomic and Molecular Systems, Trieste, July 1995.
36. Physics Colloquium, Max Planck Institut für Quantenoptik, Munich, July 1995.
37. Physics Dept. Seminar, Universität Ulm, Ulm, July 1995.
38. Physics Dept. Seminar, Universität Konstanz, Konstanz, August 1995.
39. "Nonlinear Atom Optics," Invited talk ONR/HARC Workshop on Quantum Optics in Fundamental and Applied Physics, Alta WY, Aug. 1995.
40. Physics Dept. Seminar, Yale University, New Haven, Sept. 1995.
41. Physics Dept. Colloquium, Univ. of California at San Diego, Oct. 1995.
42. Physics Dept. Colloquium, McMaster Univ., Hamilton, Ontario, Nov. 1995.
43. Physics Dept. Seminar, Univ. of Toronto, Nov. 1995.
44. Physics Dept. Colloquium, First Joe Ford Memorial Lecture, Georgia Institute of Technology, Atlanta, Nov. 1995.
45. Invited talk at Workshop on Chaos in Atoms and Molecules, Centre Emile Borel, Paris, Dec. 1995.

46. Physics Colloquium, College de France, Paris, Dec. 1995.
47. Physics Dept. Seminar, Institut d'Optique, Orsay, Dec. 1995.
48. Physics Dept. Seminar, University of New Mexico, Albuquerque, Feb. 1996.
49. Physics Dept. Seminar, SUNY Stony Brook, April 1996.
50. Physics Colloquium, Los Alamos National Laboratory, April 1996.
51. Modern Optics and Spectroscopy Seminar, MIT, April 1996.
52. "Atom Optics in Nonlinear Potentials," Invited talk at the Quantum Electronics and Laser Science Conference, Anaheim, June, 1996.
53. "Experimental Realization of the Kicked Rotor," Invited talk at the workshop "Optics and Interferometry with Atoms," Elba, Italy, 1996.
54. "Atom Optics as a Testing Ground for Quantum Chaos," Invited talk at the Fifteenth International Conference on Atomic Physics, Amsterdam, August, 1996.
55. "Quantum Transport in Optical Lattices," Invited talk at the 16th Annual Chemical Physics Institute Retreat, Univ. of Oregon at Eugene, Sept. 1996.
56. Physics Colloquium, Harvard University, Nov. 1996.
57. "Atomic Motion in Time-Dependent Optical Lattices: Quantum Chaos, Tunneling, and Non-exponential Decay," Invited talk at Workshop on Atoms and Electrons in Periodic and Quasi- Periodic Potentials, Les Houches, France, Jan. 1997.
58. Atomic Physics Seminar, University of Virginia, Charlottesville, Feb. 1997.
59. Physics Colloquium, College of William and Mary, Williamsburg, Feb. 1997.
60. "Quantum Transport in Optical Lattices," Invited talk at Workshop on Quantum Control of Atomic Motion, Albuquerque, Mar. 1997.
61. "Quantum Transport of Ultra-Cold Atoms in Optical Lattices," Invited talk at the Annual Meeting of the German Physical Society, Mainz, Germany, Mar. 1997.
62. Physics Dept. Seminar, Universität Ulm, Mar. 1997.
63. Physics Colloquium, Vanderbilt University, April 1997.
64. "Coherent Atom-Light Interactions as a New Testing Ground for Particle Transport in the Quantum Regime," Invited talk at the Capasso Wetherill Medalist Symposium, Franklin Institute, Philadelphia, May 1997.

65. "Atom Optics as a New Experimental Testing Ground for Quantum Chaos," Invited talk at the 4th Experimental Chaos Conference, Boca Raton, FL, Aug. 1997.
66. Physics Colloquium, Rice University, Oct. 1997.
67. Physics Colloquium, Univ. of Florida, Gainesville, Oct. 1997.
68. Physics Colloquium, Weizmann Institute, Rehovot, Israel, Dec. 1997.
69. Nonlinear Dynamics Seminar, Hebrew University, Jerusalem, Israel, Dec. 1997.
70. Physics Colloquium, Technion, Haifa, Israel, Dec. 1997.
71. "Atom Optics as a New Experimental Testing Ground for Quantum Chaos," Invited talk at Symposium on Quantum Chaos, Technion, Haifa, Israel, Dec. 1997.
72. Lecture series at the Jorge André Swieca Summer School, Saõ Carlos, Brazil, Jan. 1998.
73. Physics Colloquium, Trinity University, Feb. 1998.
74. "Experiments on Dynamical Localization with Ultra-Cold Atoms," Invited talk at the 1998 Condensed Matter March Meeting of the American Physical Society, March 1998.
75. Atomic Physics Seminar, UT Austin, March 1998.
76. Mathematical Physics Seminar, UT Austin, April 1998.
77. JILA Seminar, University of Colorado, Boulder, April 1998.
78. "Experimental Study of Decoherence in Quantum Chaos," Invited talk at the ITAMP workshop on "Quantum Nonintegrability: Molecular Systems and General Theory," Cambridge, MA, May 1998.
79. "Stochastic Cooling of Atoms using Lasers," Invited talk at the Workshop for Quantum Control of Atomic Motion," Albuquerque, NM, June 1998.
80. Institute Seminar, University of Innsbruck, June 1998.
81. Lecture Series at the University of Innsbruck, June 1998.
82. "Quantum Chaos with Cold Atoms," Invited talk at Laser Physics '98, Berlin, Germany, July 1998.
83. Institute Seminar, University of Hannover, Germany, July 1998.

84. "Experimental Study of Decoherence in Quantum Chaos," Invited talk at "Classical Chaos and its Quantum Manifestations," Toulouse, France, July 1998.
85. Atomic Physics Seminar, University of Texas at Austin, Oct. 1998.
86. Nonlinear Dynamics Seminar, University of Texas at Austin, Oct. 1998.
87. Physics Colloquium, Univ. of Wisconsin at Madison, Nov. 1998.
88. Lecture Series at the Twelfth Physics Summer School: Quantum and Classical Chaos, Canberra, Australia, Jan. 1999.
89. Physics Dept. Seminar, Australian National University, Canberra, Australia, Jan. 1999.
90. Physics Dept. Seminar, Univ. of Queensland, Brisbane, Australia, Jan. 1999.
91. Invited Talk at the Winter School and Workshop on Resonance Phenomena in Chemical Physics, Technion, Israel, Feb. 1999.
92. Physics Dept. Colloquium, Technion, Israel, Feb. 1999.
93. Rabi Prize Lecture, Centennial Meeting of the American Physical Society, Atlanta, GA, Mar. 1999.
94. Green Honors Chair Endowed Lecture, Texas Christian University, Apr. 1999.
95. Physics Dept. Colloquium, Univ. of Rochester, Rochester, NY, Apr. 1999.
96. Rochester Theory Center Seminar, Univ. of Rochester, Rochester, NY, Apr. 1999.
97. Institute of Optics Seminar, Univ. of Rochester, Rochester, NY, Apr. 1999
98. "Experimental Study of Noise and Dissipation Effects on Dynamical Localization," Invited Talk at the Quantum Electronics and Lasers Conference, Baltimore, MD, May, 1999.
99. "The Quantum World of Ultra-Cold Atoms; Fundamental Physics and Emerging Applications," Special University Colloquium, Universität Ulm, June 1999.
100. "Experimental Study of Decoherence in Quantum Chaos," Invited talk at the Festschrift for Prof. Marlan Scully, Max Planck Institute for Quantum Optics, Garching, Germany, June 1999.
101. Lecture Series at the 1999 Varenna Summer School on Quantum Chaos, Como, Italy, July 1999.

102. "Experiments on Decoherence with Cold Atoms," Invited talk at the 1999 Gordon Conference on Quantum Control of Atomic and Molecular Motion, Plymouth, NH, Aug. 1999.
103. Invited talk at a workshop on quantum transport in optical lattices, Univ. of New Mexico, Albuquerque, NM, August 1999.
104. Physics Colloquium, Univ. of Texas at Austin, Sept. 1999.
105. Physics Colloquium, National Research Council of Canada, Ottawa, Canada, Sept. 1999.
106. Physics Colloquium, Univ. of Houston, Nov. 1999.
107. Physics Colloquium, Univ. of British Columbia, March 2000.
108. Physics Colloquium, Univ. of Alberta in Edmonton, March 2000.
109. Physics Colloquium, York University, Toronto, April 2000.
110. Physics Colloquium, Univ. of Toronto, April 2000.
111. "Controlling Atomic Motion with Optical Dipole Potentials," Invited talk at the Quantum Electronics and Laser Science Conference, San Francisco, May 2000.
112. Physics Colloquium, Weizmann Institute, Rehovot Israel, June 2000.
113. Chemistry seminar, Ben Gurion University, Beer Sheva Israel, June 2000.
114. "Controlling atomic motion with optical dipole potentials," Invited talk at Laser Physics 2000, Bordeaux, France, July 2000.
115. Invited talk at Quest Workshop, Santa Fe, NM July 2000.
116. Physics seminar, Los Alamos National Laboratory, August, 2000.
117. "Controlling atomic motion with optical dipole potentials," Invited talk at the International Conference on Quantum Electronics, Nice France, Sept. 2000.
118. "Controlling atomic motion with optical dipole potentials," Invited talk at the Heraeus Workshop on Driven Quantum Systems, Tutzing, Germany, Sept. 2000.
119. Physics Colloquium, Univ. of Nebraska, Lincoln, Oct. 2000.
120. Lecture series, Pan American Advanced Study Institute on Decoherence, Chaos, and Quantum Entanglement, Ushuaia, Argentina, Oct. 2000.
121. Physics Dept. seminar, Saõ Carlos, Brazil, Oct. 2000.
122. Physics colloquium, Rice Univ., Houston, Nov. 2000.
123. Physics colloquium, Univ. of Arizona at Tucson, Nov. 2000.
124. Physics colloquium, Univ. of Texas at Austin, Feb. 2001.

125. Invited talk at the Quantum Electronics and Laser Science Conference, Baltimore, May 2001.
126. Invited Lecture Series in “Coherent Evolution in Noisy Environments,” Dresden, May 2001.
127. Invited talk at the 8th Rochester Conference on Quantum Optics, June 2001.
128. Physics Colloquium, Weizmann Institute, June 2001.
129. Physics Dept. seminar, Technion, June 2001.
130. Physics Dept. seminar, Bar-Ilan Univ., June 2001.
131. Invited talk, International Quantum Chaos Conference, Cocoyoc Mexico, July 2001.
131. Invited talk at QUEST workshop, Santa Fe, Aug. 2001.
132. Invited talk, Texas Optical Society, Aug. 2001.
134. Physics Dept. Seminar, Univ. of Michigan at Ann Arbor, Sept. 2001.
135. Center for Ultra-Cold Atoms Seminar, MIT, Oct. 2001.
136. Physics Colloquium, Auburn Univ. Oct. 2001.
137. Invited Talk, Solvay Conference, Delphi Greece, Nov. 2001.
138. Invited talk at Conference on Quantum Information, ITP Santa Barbara, Dec. 2001.
139. Colloquium, ITP Santa Barbara, Dec. 2001.
140. Invited talk, Dynamic Days 2002, Baltimore, Jan. 2002.
141. Physics Colloquium, Duke University, Jan. 2002.
142. Invited talk at the Condensed Matter March meeting, Indianapolis, March 2002.
143. Physics Colloquium, Northwestern University, April 2002.
144. Physics Colloquium, California Institute of Technology, April 2002.
145. Physics Seminar, Ecole Normale Supérieure, Paris, June 2002.
146. Invited talk at “Laser Cooling 2002”, Visby, Sweden, June 2002.
147. Physics Seminar, Beijing, China, Aug. 2002.
149. Invited talk, Dynamics Days Asia Pacific, Hangzhou, China, Aug. 2002.
150. Physics Colloquium, Univ. of California Santa Barbara, Oct. 2002.
151. Physics Colloquium, Univ. of California, Berkeley, Oct. 2002.

152. Atomic Physics seminar, Univ. of California, Berkeley, Oct. 2002.
153. 29th Hanan Rosenthal Memorial Lecture, Yale Univ., Nov. 2002.
154. Atomic physics seminar, Yale Univ., Nov. 2002.
155. Quantum Optics seminar, Ulm Univ., Dec. 2002.
156. Seminar, Leipzig Univ., Dec. 2002.
157. Seminar, Neurobiology Dept., Univ. of Texas at Austin, Feb. 2003.
158. Invited talk, NAALT, Bethesda MD, April 2003.
159. Colloquium, Niels Bohr Institute, May 2003.
160. Invited talk, Classical and Quantum Barrier Transport in Complex Systems, Dresden, May 2003.
161. Invited talk, Gordon Research Conference in Atomic Physics, June 2003.
162. Invited talk, Gordon Research Conference in Nonlinear Dynamics, Aug. 2003
163. Invited talk, QUEST workshop, Santa Fe, Aug. 2003.
164. Physics Colloquium, Stanford University, Oct. 2003.
165. Seminar, Center for Ultra-Cold Atoms, MIT, Nov. 2003.
166. Seminar, Mission Connect, University of Texas at Houston Medical School, Dec. 2003.
167. Physics Colloquium, Princeton Plasma Laboratory, Feb. 2004.
168. Physics Colloquium, Univ. of Rochester, March 2004.
169. Physics Colloquium, Uniformed Services University, Bethesda, April 2004.
170. Nonlinear Dynamics Seminar, Univ. of Maryland, April 2004.
171. Invited talk at Workshop on Coherent Control, Univ. of Michigan, June 2004.
172. Invited talk at QUEST Workshop, Santa Fe, New Mexico, Aug. 2004.
173. Invited talk at Quantum Chaos Symposium, Cuernavaca, Mexico, Aug. 2004.
174. Invited talk at UKCAN Annual Meeting, St. Andrews, Scotland, Aug. 2004.
175. Invited talk at Heraeus Symposium on Quantum Theory and Measurement, Schloss Reisenburg, Germany, Aug. 2004.
176. Invited talk at LS-XX, Rochester New York, Oct. 2004.
177. Joint Atomic Physics Seminar, Harvard University, Nov. 2004.

178. Plenary Talk, Physics of Quantum Electronics, Snowbird, Utah, Jan. 2005.
179. Physics Colloquium, Univ. of Oregon at Eugene, Mar. 2005.
180. Physics Colloquium, Oklahoma State University, Mar. 2005.
181. Physics Colloquium, Old Dominion University, April 2005.
182. Physics Colloquium, City College of New York, April 2005.
183. Invited talk at the 2005 DAMOP meeting, Lincoln, NE, May 2005.
184. Invited talk at QELS, Baltimore, MD, May 2005.
185. LKB Seminar, Ecole Normale Superieure, Paris, June 2005.
186. Seminar, Institut d'Optique, Orsay, June 2005.
187. Seminar, Univ. of Bilbao, Spain, June 2005.
188. Seminar, Univ. of Barcelona, Spain, June 2005.
189. Invited Talk, Gordon Conference on Quantum Control, Maine, Aug. 2005.
190. Invited Talk, Workshop on Low Dimensional Quantum Systems, Cuernavaca, Mexico, Sept. 2005.
191. Invited talk, Princeton BEC symposium, Princeton, Oct. 2005.
192. Plenary Talk, Fall Meeting of the Texas Section of the APS, Houston, Oct. 2005.
193. Physics Colloquium, Washington Univ., Nov. 2005.
194. Lecture Series on Atom Optics, Univ. of Bilbao, Dec. 2005.
195. Invited talk, Physics of Quantum Electronics, Snowbird, Utah, Jan. 2006.
196. Invited talk, Banff Workshop on UltraCold Matter, Feb. 2006.
197. Invited talk, APS March meeting, March 2006.
198. Seminar, Univ. of Texas at San Antonio, March 2006.
199. Invited talk, Quantum Institute, Los Alamos National Laboratory, April 2006.
200. Invited talk, Tamura Symposium, Tokyo, May 2006.
201. Seminar, Waseda University, Tokyo, May 2006.
202. Invited talk, CCFP 2006, Nizhny Novgorod, Russia, June 2006.
203. Invited talk, Feynman Festival, College Park, MD, Aug. 2006.
204. Invited talk ARO workshop, Arlington, VA, Aug. 2006.
205. Physics Colloquium, Univ. of Houston, Oct. 2006.
206. Physics Colloquium, Colorado State Univ., Nov. 2006.
207. Physics Colloquium, Colorado School of Mines, Nov. 2006.

208. Physics Colloquium, Univ. of Colorado Boulder, Nov. 2006.
209. Physics seminar, NIST Boulder, Nov. 2006.
210. Physics seminar, Univ. of Bilbao, Spain, Dec. 2006.
211. Invited talk, Pokrovsky symposium, Texas A&M Univ., Jan. 2007.
212. Physics Colloquium, Columbia Univ., NY, Feb. 2007.
213. Invited talk, Quantum Dynamics of Ultracold Few-Body Systems, Cuernavaca, March 2007.
214. Invited seminar, Harvard/MIT Center for Ultra-cold atoms, April 2007.
215. Invited seminar, Max Planck Institute for Quantum Optics , May 2007.
216. Invited seminar, Univ. Innsbruck, May 2007.
217. Optics Colloquium, ETH Zurich, May 2007.
218. Invited seminar, Univ. of Geneva, May 2007.
219. Invited seminar, NIST Gaithersburg, June 2007.
220. Invited talk, Gordon Conference on Atomic Physics, July 2007.
221. Invited talk, Coherent Control of Molecular Processes, Vancouver, Aug. 2007.
222. Invited talk, Laser Science meeting and FIO 2007, San Jose, Sept. 2007.
223. Invited talk, Workshop on Quantum Reflection, ITAMP, Boston, Oct. 2007.
224. Physics Colloquium, Univ. of Mass. Boston, Oct. 2007.
225. Physics Dept. Colloquium, The Univ. of Texas at Austin, Nov. 2007.
226. Physics Dept. seminar, Univ. of Geneva, Dec. 2007.
227. Physics seminar, CERN, Dec. 2007.
228. Invited seminar, Workshop on Systems Out of Equilibrium, Institut Henri Poincare, Paris, Dec. 2007.
229. Plenary Talk, Physics of Quantum Electronics, Snowbird, Utah, Jan. 2008.
230. Physics Colloquium, Univ. of California, Berkeley, March 2008.
231. Physics Colloquium, Arizona State University, Tempe, March 2008.
232. QIBEC seminar, NIST, Gaithersburg, April 2008.
233. Hascoe Colloquium, Univ. of Connecticut, Storrs, April 2008.
234. Physics seminar, Univ. of Connecticut, Storrs, April 2008.

Publications

Note: publications marked by * are refereed.

1. "Dynamic Instabilities in Optical Bistability," M. G. Raizen, L. A. Orozco, A. T. Rosenberger and H. J. Kimble, in Proceedings of the International Optical Computing Conference, Jerusalem, Israel, edited by J. Shamir, 1986. Published by SPIE Vol. 700, pgs. 104-107.
2. "Optical Bistability with Two-State Atoms: Steady States and Dynamical Instabilities," L. A. Orozco, M. G. Raizen, A. T. Rosenberger, H. J. Kimble in Optical Bistability III, edited by H. Gibbs, P. Mandel, N. Peyghambarian and S. D. Smith; Springer Proceedings in Physics 8, pgs. 307-310, Springer-Verlag, Berlin (1986).
- *3. "Squeezed State Generation by the Normal Modes of a Coupled System," M. G. Raizen, L. A. Orozco, Min Xiao, T. L. Boyd, and H. J. Kimble, Phys. Rev. Lett. **59**, pgs. 198-201 (1987).
- *4. "Squeezed State Generation in Optical Bistability," L. A. Orozco, M. G. Raizen, Min Xiao, R. J. Brecha and H. J. Kimble, J. Opt. Soc. Am. **B4**, pgs. 1490-1500 (1987).
5. "Squeezed State Generation by the Normal Mode Splitting of Two-Level Atoms in an Optical Cavity," H. J. Kimble, M. G. Raizen, L. A. Orozco, Min Xiao and T. L. Boyd. Fundamentals of Quantum Optics II, pgs. 49-60, edited by F. Ehlotzky; Springer Lecture Notes in Physics (1987).
6. "Generation and Application of Squeezed States of Light," H. J. Kimble, R. J. Brecha, L. A. Orozco, M. G. Raizen, Ling-An Wu, and Min Xiao in Proceedings of Eighth International Conference on Laser Spectroscopy, pgs. 143-145, Are, Sweden, published by Springer-Verlag, Berlin (1987).
- *7. "Normal-Mode Splitting and Linewidth Averaging for Two-State Atoms in an Optical Cavity," M. G. Raizen, R. J. Thompson, R. J. Brecha, H. J. Kimble and H. J. Carmichael, Phys. Rev. Lett. **63**, pgs. 240-243 (1989).
- *8. "Subnatural linewidth averaging for coupled atomic and cavity-mode oscillators," H. J. Carmichael, R. J. Brecha, M. G. Raizen and H. J. Kimble, and P. R. Rice, Phys. Rev. A **40**, pgs. 5516-5519, (1989).

9. "Modulation Spectroscopy and Cavity QED," M. G. Raizen, R. J. Thompson, R. J. Brecha, H. J. Kimble and H. J. Carmichael, in Quantum Optics V, pgs. 176-180, edited by J. D. Harvey and D. F. Walls; Springer Proceedings in Physics (1989).
10. "Dissipative Quantum Dynamics in Cavity Q.E.D.," H. J. Kimble, M. G. Raizen, R. J. Thompson, R. J. Brecha, H. J. Carmichael, and Y. Shevy, in Laser Spectroscopy IX, pgs. 144-148, Academic Press, 1989.
- *11. "Comment on Nonlinear Magneto Optics of Vacuum: Second Harmonic Generation," M. G. Raizen and Baruch Rosenstein, Phys. Rev. Lett. **65**, pg. 2744 (1990).
12. "Progress at NIST towards Absolute Frequency Standards Using Stored Ions," D. J. Wineland, J. C. Bergquist, J. J. Bollinger, W. M. Itano, D. J. Heinzen, S. L. Gilbert, C. H. Manney and M. G. Raizen, IEEE Trans. on Ultrasonics, Ferroelectrics, and Frequency Control **37**, pgs. 515-523 (1990).
13. "Progress at NIST on Absolute Frequency Standards Using Stored Ions," D. J. Wineland, J. C. Bergquist, J. J. Bollinger, W. M. Itano, D. J. Heinzen, S. L. Gilbert, C. H. Manney, M. G. Raizen and C. S. Weimer, Proc. 4th European Frequency and Time Forum, Neuchatel, March 1990.
- *14. "Linear Trap for High Accuracy Spectroscopy of Stored Ions," M. G. Raizen, J. C. Bergquist, J. M. Gilligan, W. M. Itano, and D. J. Wineland, Journal of Modern Optics (Special Issue on Ion Traps), **39**, pgs. 233-242 (1992).
- *15. "Search for Anomalous Spin-Dependent Forces Using Stored Ion Spectroscopy," D. J. Wineland, J. J. Bollinger, D. J. Heinzen, W. M. Itano, and M. G. Raizen. Phys. Rev. Lett. **67**, pgs. 1735-1738 (1991).
- *16. "Ionic Crystals in a Linear Paul Trap," M. G. Raizen, J. C. Bergquist, J. M. Gilligan, W. M. Itano, and D. J. Wineland, Phys. Rev. A **45**, pgs. 6493-6501 (1992).
- *17. "Quantum Projection Noise: Population Fluctuations in 2-Level Systems," W. M. Itano, J. C. Bergquist, J. J. Bollinger, J. M. Gilligan, D. J. Heinzen,

- F. L. Moore, M. G. Raizen, and D. J. Wineland, Phys. Rev. A **47**, pgs. 3554-3570 (1993).
18. "Precise Spectroscopy for Fundamental Physics," W. M. Itano, J. C. Bergquist, J. J. Bollinger, J. M. Gilligan, D. J. Heinzen, F. L. Moore, M. G. Raizen, and D. J. Wineland, Hyperfine Interactions **78**, pgs. 211-220 (1993).
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