

# NIST Technical Note 1524

## **Trapped Ions and Laser Cooling, VI** Selected publications of the Ion Storage Group NIST Time and Frequency Division

Edited by

James C. Bergquist  
John J. Bollinger  
Wayne M. Itano  
David J. Wineland

*Time and Frequency Division  
Physics Laboratory  
National Institute of Standards and Technology  
325 Broadway  
Boulder, Colorado 80305*

February 2002



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National Institute of Standards and Technology Technical Note 1524  
Natl. Inst. Stand. Technol. Tech. Note 1524, 208 pages (February 2002)  
CODEN: NTNOEF

U.S. GOVERNMENT PRINTING OFFICE  
WASHINGTON: 2002

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The following publications were published during the period between January 1999 and October 2001 but are not included in this Technical Note.

1. “ $^{199}\text{Hg}^+$  optical frequency standard: Progress report,” J.J. Rafac B.C. Young, F.C. Cruz, J.A. Beall, J.C. Bergquist, W.M. Itano, and D.J. Wineland, Proc., 1999 IEEE Int. Frequency Control Symp. IEEE catalog number 99CH36313, Piscataway, NJ: IEEE (1999), pp. 676-681.
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13. “Quantum logic with a few trapped ions,” C. Monroe, W.M. Itano, D. Kielpinski, B.E. King, D. Leibfried, C.J. Myatt, Q.A. Turchette, D.J. Wineland, and C.S. Wood, Trapped Charged Particles and Fundamental Physics, D.H.E. Dubin and D. Schneider, eds., Proc., AIP Conf. 457, Woodbury, NY: AIP Press (1999), pp.

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14. "Searches for anomalous interactions using trapped ions," D.J. Wineland, J.J. Bollinger, W.M. Itano, J.C. Bergquist, C. Monroe, *CPT and Lorentz Symmetry*, V. Alan Kostelecký, ed., Singapore: World Scientific (1999), pp. 87-93.
15. "Decay of quantum superpositions into engineered reservoirs," C.J. Myatt, B.E. King, Q.A. Turchette, C.A. Sackett, D. Kielpinski, W.M. Itano, C. Monroe, and D.J. Wineland, *Laser Spectroscopy, XIV International Conf.*, R. Blatt, J. Eschner, D. Leibfried, and F. Schmidt-Kaler, eds., Singapore: World Scientific (1999), pp. 237-245.
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19. "Sub-systems for optical frequency measurements: application to the 282 nm  $^{199}\text{Hg}^+$  transition and the 657 nm Ca line," B. Frech, J.S. Wells, C.W. Oates, J. Mitchell, Y.-P. Lan, T. Kurosu, L. Zink, L. Hollberg, T. Zibrova, B.C. Young, and J.C. Bergquist, *IEEE Trans. Ultrason. Ferroelectr. Freq. Control* **47**, 513-517 (2000).
20. "Atom cooling, trapping, and quantum manipulation," C.E. Wieman, D.E. Pritchard, and D.J. Wineland, *Rev. Mod. Phys. Centenary* **71**, S253-S262 (1999); in *More things in heaven and earth: A celebration of physics at the millennium*, Ben Bederson, ed., Springer, NY (1999), pp. 426-441.

## PREFACE

This collection of papers represents the work of the Ion Storage Group, Time and Frequency Division, National Institute of Standards and Technology, from January 1999 to October 2001. It follows the similar collections of papers contained in the previous Tech Notes:

NBS Technical Note 1086, *Trapped Ions and Laser Cooling I* (June 1985)  
NIST Technical Note 1324, *Trapped Ions and Laser Cooling II* (September 1988)  
NIST Technical Note 1353, *Trapped Ions and Laser Cooling III* (April 1992)  
NIST Technical Note 1380, *Trapped Ions and Laser Cooling IV* (February 1996)  
NIST Technical Note 1523, *Trapped Ions and Laser Cooling V* (January 2001)

Papers listed on page vi were published during the period from January 1999 to October 2001, but are not included here. Copies can be obtained on request. We hope this collection of papers will be useful to our colleagues in this and related fields.

We acknowledge our ion-trap/laser-cooling colleagues whose contributions made this work possible. These include Jim Beall, Dana Berkeland, Flavio Cruz, Ann Curtis, Scott Diddams, Bob Drullinger, Dan Dubin, Rich Fox, Leo Hollberg, Pei Huang, Steve Jefferts, Brana Jelenković, David Kielpinski, Brad King, Brian King, Chris Langer, David Lee, Didi Leibfried, Dawn Meekhof, Volker Meyer, John Miller, Travis Mitchell, Chris Myatt, Amy Newbury, Chris Oates, Rob Rafac, Mary Rowe, Cass Sackett, Joseph Tan, Quentin Turchette, Thomas Udem, Kurt Vogel, Joe Wells, Chris Wood, Brent Young, and in particular, Chris Monroe (now at University of Michigan). We gratefully acknowledge the support of the U.S. Office of Naval Research (ONR), the U.S. Army Research Office (ARO), the U.S. National Security Agency (NSA), the U.S. Advanced Research and Development Activity (ARDA), the U.S. National Reconnaissance Organization (NRO), and Timing Solutions, Inc. We thank Eyvon Petty and Edie DeWeese for assembling this collection.

James C. Bergquist  
John J. Bollinger  
Wayne M. Itano  
David J. Wineland

Boulder, Colorado  
December 2001