

Magnesium Paper

Hannover experiment

- Laser cooling and storage of free atom
 , W. Ertmer, Physica Scripta, Volume **36**, Number 2 (1987)
- Broadband laser cooling on narrow transitions
 , H. Wallis et al., Journal of the Optical Society of America B Vol. **6**, Issue 11, pp. 2211-2219 (1989)
- Manipulation of Atoms by Laser Light
 , W. Ertmer, Physica Scripta, Volume 1992, T40 (1992)
- The Magnesium Ramsey Interferometer: Applications and Prospects
 U. Sterr et al., Applied Physics B, Volume **54**, Issue 5, pp 341-346 (1992)
- High-resolution isotope shift measurement of the MgI 1S0 - 3P1 intercombination transition
 , U. Sterr et al., Applied Physics B, Volume **56**, Issue 2, pp 62-64 (1993)
- Optical Ramsey interferences on laser cooled and trapped atoms, detected by electron shelving
 , K. Senkstock et al., Optics Communications **103**, 73-78 (1993)
- Atom-interferometric determination of the dc-Stark shift of the Mg-intercombination line
 , V. Rieger et al., Optics Communications **99**, 172-176 North-Holland (1993)
- Scheme for measuring a Berry phase in an atom interferometer
 , M. Reich et al., Phys. Rev. A **47**, 2518 (1993)
- Optical Ramsey spectroscopy on laser-trapped and thermal Mg atoms
 , K. Senkstock et al., Applied Physics B, Volume **59**, Issue 2, pp 99-115 (1994)
- Three-beam atom interferometer
 H. Hinderthür et al., Phys. Rev. A **56**, 2085 (1997)
- Atom interferometry with polarizing beam splitters
 , H. Hinderthür et al., Phys. Rev. A **57**, 4730 (1998)
- Sub-Kilohertz Optical Spectroscopy with a Time Domain Atom Interferometer
 , F. Ruschewitz et al., Phys. Rev. Lett. **80**, 3173 (1998)
- Sub-kilohertz optical spectroscopy by time domain atom interferometry
 , K. Senkstock et al., Precision Electromagnetic Measurements Digest, Conference (1998)
- Doppler Cooling and Trapping on Forbidden Transitions
 , T. Binnewies et al., PRL **87**, 123002 (2001)
- Improved high resolution spectroscopy with cold magnesium atoms
 , A. Douillet et al., Frequency Control Symposium and PDA Exhibition Jointly with the 17th European Frequency and Time Forum, 2003. Proceedings of the 2003 IEEE International
- Modelling three-dimensional-quench cooling for alkaline-earth atoms
 , T. E. Mehlstäubler et al., Journal of Optics B: Quantum and Semiclassical Optics, Volume **5**, Number 2 (2003)
- A high-resolution Ramsey-Bordé spectrometer for optical clocks based on cold Mg atoms
 , J. Keupp et al., The European Physical Journal D - Atomic, Molecular, Optical and Plasma Physics, Volume **36**, Issue 3, pp 289-294 (2005)
- Optical quenching of metastable magnesium
 , N. Rehbein et al., PR A **76**, 043406 (2007)

- Frequency-stabilized Nd:YVO4 thin-disk laser
, H. Stoehr et al., Applied Physics B, Volume **91**, Issue 1, pp 29–33 (2008)
 - Absolute frequency measurement of the magnesium intercombination transition $S01 \rightarrow P13$
, J. Friebe et al., PR A **78**, 033830 (2008)
 - Observation of sub-Doppler temperatures in bosonic magnesium
, T. E. Mehlstäubler et al., PR A **77**, 021402(R) (2008)
- Telecommunication fiber link for the remote characterization of a magnesium optical frequency standard
, O. Terra et al., Proc. SPIE 7431, Time and Frequency Metrology II, 74310B (2009)
- Phase-Coherent Frequency Comparison of Optical Clocks Using a Telecommunication Fiber Link
, H. Schnatz et al., IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control (Volume: **57**, Issue: 1 (2010)
 - Long-distance remote comparison of ultrastable optical frequencies with 10–15 instability in fractions of a second
, A. Pape et al., Optics Express Vol. **18**, Issue 20, pp. 21477–21483 (2010)
 - Remote frequency measurement of the $1S0 \rightarrow 3P1$ transition in laser-cooled ^{24}Mg
J. Friebe et al., New Journal of Physics, Volume **13** (2011)
- Beating the density limit by continuously loading a dipole trap from millikelvin-hot magnesium atoms
, M. Riedmann et al., PR A **86**, 043416 (2012)
- Time transfer through optical fibres over a distance of 73 km 15 with an uncertainty below 100 ps
, M. Rost et al., Metrologia, **49**(6), 772–778 (2012)
 - An ultraviolet laser system for laser cooling and trapping of metastable magnesium
, A.P. Kulosa et al., Arxiv-Version (2012)
 - The $X1\Sigma+g$ ground state of Mg_2 studied by Fourier-transform spectroscopy
, H. Knöckel et al., J. Chem. Phys. **138**, 094303 (2013)
 - Erratum: “The $X1\Sigma+g$ ground state of Mg_2 studied by Fourier-transform spectroscopy”
[J. Chem. Phys. **138**, 094303 (2013)]
 - The $A1\Sigma_u+$ system of Mg_2
, H. Knöckel et al., Eur. Phys. J. D **68**: 293. (2014)
- Towards a Mg Lattice Clock: Observation of the $S01-P03$ Transition and Determination of the Magic Wavelength
, A. P. Kulosa et al., PRL **115**, 240801 (2015)

Other Groups

- Spectroscopy of the Mg $1S0-3P1$ intercombination transition in a luminescent cell with walls at room temperature
, V. I. Baraulya et al., Quantum Electronics, Volume **37**, Number 12 (2007)
 - Measurement of the $3s3p\ 3P1$ lifetime in magnesium using a magneto-optical trap
, P. L. Hansen et al., PHYSICAL REVIEW A **77**, 062502 (2008)
 - Isotope shifts of the $(3s3p)\ 3P0,1,2-(3s4s)\ 3S1$ Mg I transitions
, M. He et al., PHYSICAL REVIEW A **80**, 024501 (2009)
- Metastable Magnesium fluorescence spectroscopy using a frequency-stabilized 517 nm laser

- , M. He et al., Optics Express Vol. **17**, Issue 9, pp. 7682-7687 (2009)
 - Measurement of the spin-forbidden decay rate $(3s3d)1D2 \rightarrow (3s3p)3P2,1$ in 24Mg
- , K. T. Therkildsen et al., PHYSICAL REVIEW A **79**, 034501 (2009)
 - Measurement of the $(3s3p)1P - (3s3d)1D$ isotope shift in Mg I
- , M. P. Steenstrup et al., PHYSICAL REVIEW A **82**, 054501 (2010)
 - Experimental Determination of the 24Mg I $\delta 3s3p \rightarrow 3P2$ Lifetime
- , B. B. Jensen et al., PRL **107**, 113001 (2011)
 - Precision spectroscopy of Mg atoms in a magneto-optical trap
- , A. N. Goncharov et al., Quantum Electronics, Volume **44**, Number 6 (2014)
 - Deep laser cooling of magnesium atoms using a $3P2 \rightarrow 3D3$ dipole transition
- , D. V. Brazhnikov et al., Laser Physics, Volume **24**, Number 7 (2014)
 - Hyperfine structure of the $(3s3d)3D_J$ manifold of 25Mg I
- , N. K. Kj  ller et al., PHYSICAL REVIEW A **91**, 032515 (2015)
 - Absolute frequency and isotope shift of the magnesium $(3s2)1S0 \rightarrow (3s3d)1D2$ two-photon transition by direct frequency-comb spectroscopy
- , E. Peters et al., Phys. Rev. A **92**, 063403 (2015)
 - Quantum treatment of two-stage sub-Doppler laser cooling of magnesium atoms
- , O. N. Prudnikov et al., PR A **92**, 063413 (2015)
- Magneto-optical trap formed by elliptically polarised light waves for Mg atoms I (<http://iopscience.iop.org/article/10.1070/QEL15995/meta>), O. Prudnikov et al., Quantum Electronics, Volume **46**, Number 7 (2016)
 - New Approaches in Deep Laser Cooling of Magnesium Atoms for Quantum Metrology
- , O. Prudnikov et al., European Frequency and Time Forum (EFTF) (2016)
 - An optical frequency standard based on ultracold magnesium atoms
- , A. Goncharov et al., Journal of Physics: Conference Series, Volume **793**, Number 1 (2017)
 - Higher-order effects on uncertainties of clocks of Mg atoms in an optical lattice
- , V. Ovsianikov et al., Journal of Physics: Conference Series, Volume **793**, Number 1 (2017)
 - Deep sub-Doppler cooling of Mg in MOT formed by light waves with elliptical polarization
- , O. Prudnikov et al., Journal of Physics: Conference Series, Volume **793**, Number 1 (2017)
- Quench <https://arxiv.org/pdf/1706.01593.pdf> (2017)
- Danish Group
 - Publications: <http://ultracold-atoms.nbi.ku.dk/research/publications/>
 - Theses&Conferences: http://ultracold-atoms.nbi.ku.dk/research/theses_conference/
- <hi #ffc90e>ToDo: Paper with theoretical values for Mg</hi>

From:

<https://iqwiki.iqo.uni-hannover.de/> - IQwiki

Permanent link:

<https://iqwiki.iqo.uni-hannover.de/doku.php?id=groups:mg:mgpaperpaper&rev=1497959693>

Last update: **2017/06/20 11:54**

