PROF. DR FERDINAND SCHMIDT-KALER

Personal Information

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Date and Place of birth:	17 November 1962 Bonn, Germany

Scientific Career and International Experience

1983-1984:	Study of Physics, Ruhr University of Bochum
1985-1986:	Study of Physics, Friedrich Wilhelm University of Bonn
1986:	Study of Physics, Technical University of Munich
1989:	Diploma of Physics at the Technical University of Munich and Max Planck Institute for Quantum Optics (MPQ) in Garching with G. Rempe, H. Walther
1989-1992:	PhD student with T. Hänsch, MPQ Garching
1992:	Research Assistent, MPQ Garching
1992-1995:	Postdoctoral Research Assistant with S. Haroche, Lab. Kastler Brossel, Ecole Normale Supperieure Paris
1995-1996:	Research Assistent with R. Blatt, University of Innsbruck
2001:	Habilitation and University Dozent, Universtity of Innsbruck
2005-2010:	Full Professor of Experimental Physics, Institute for Quantum Information Processing at the University of Ulm
since 2010:	Full Professor of Experimental Quantum Optics and Atomic Physics at the University of Mainz
since 2012:	PI in the cluster of excellence PRISMA at the Univ. Mainz

Service to the Community

2009 - 2011:	head of the section quantum optics and photonics of the German Physical Society
since 2011:	Vice-head of the quantum optics section of the German Physical Society
2009/2010/2011:	Spring Meeting Organization for the German Physical Society
since 1997:	Referee for several international journals
1999/2005:	organization of international conferences ICOLS99, ICAP2000
2005 - 2010:	Ulm Spokesperson of the TRR21
2009 to 2013:	Coordinator of the European Integrated Project AQUTE
2006–8/9 -10:	Prodekan of the faculty
2008 – 2009:	Studiendekan of the physics, organization of the physics colloquium
2010 to 2013:	Panel member in BMBF quantum repeater network
since 2013:	Organization of the European Integrated Project SIQS
2013:	Organization of QION 2013 in Benasque
2014:	Organization of ECTI conference

Editorial work for PRL, EPJD, J. Mod. Phys. and Appl. Phys. B Special Issues

Scholarships, Awards and Honours

1993:	Helmholtz Award for high precision measurements of fundamental constants by the Deutsche Physikalische Bundesanstalt Braunschweig
1997:	Innovation Award by the Tyroler Sparkasse
2003:	Rudolf Kaiser Award

I acknowledge funding by the German Science Foundation in individual research projects, Forschergruppen, German-French project, German-Israel projects, Sonderforschungsbereiche, and cluster of excellence PRISMA, the Bundesministerium für

Wissenschaft und Forschung, the Volkswagen Foundation, the European commission in several FET open and proactive initiatives, and the US intelligence advanced research projects activity.

Main Research Fields

Laser cooling and trapping of atoms and ions, high resolution spectroscopy, quantum information technologies with atoms, ions, electrons and solids, more than 10900 citation in total, 860/Y and h=50

5 most cited publications

Quantum Rabi oscillation: A direct test of field quantization in a cavity, M. Brune, F. Schmidt-Kaler, A. Maali, J. Dreyer, E. Hagley, J. Raimond, S. Haroche, PRL76 (11), 1800 # = 951

Realization of the Cirac–Zoller controlled-NOT quantum gate, F. Schmidt-Kaler, H. Häffner, M. Riebe, S. Gulde, G. Lancaster, T. Deuschle, C. Becher, C. Roos, J. Eschner, R. Blatt, Nature 422 (6930), 408 # = 917

Deterministic quantum teleportation with atoms, M. Riebe, H. Häffner, C. Roos, W. Hänsel, J. Benhelm, G. Lancaster, T. Körber, C. Becher, F. Schmidt-Kaler, D. James, R. Blatt, Nature 429 (6993), 734 # = 881

Observation of sub-Poissonian photon statistics in a micromaser, G. Rempe, F. Schmidt-Kaler, H. Walther, PRL 64 (23), 2783 # = 606

Implementation of the Deutsch–Jozsa algorithm on an ion-trap quantum computer, S. Gulde, M. Riebe, G. Lancaster, C. Becher, J. Eschner, H. Häffner, F. Schmidt-Kaler, I. Chuang, R. Blatt, Nature 421 (6918), 48 # = 499

List of publications (full list with downloads http://www.quantenbit.de/#/publications/)

163) M.F. Brandl, M.W. van Mourik, L. Postler, A. Nolf, K. Lakhmanskiy, R.R. Paiva, S. Möller, N. Daniilidis, H. Häffner, V. Kaushal, T. Ruster, C. Warschburger, H. Kaufmann, U.G. Poschinger, F. Schmidt-Kaler, P. Schindler, T. Monz, R. Blatt, "Cryogenic setup for trapped ion quantum computing", arXiv:1607.04980

162) Henning Kaufmann, Thomas Ruster, Christian T. Schmiegelow, Marcelo A. Luda, Vidyut Kaushal, Jonas Schulz, David von Lindenfels, Ferdinand Schmidt-Kaler, Ulrich G. Poschinger, "Fast ion swapping for quantum information processing" arXiv:1607.03734

161) Thomas Ruster, Christian T. Schmiegelow, Henning Kaufmann, Claudia Warschburger, Ferdinand Schmidt-Kaler, Ulrich G. Poschinger, "A long-lived Zeeman trapped-ion qubit" arXiv:1606.07220

160) “Microscopy with a Deterministic Single Ion Source”, G. Jacob, K. Groot-Berning, S. Wolf, S. Ulm, L. Couturier, S. T. Dawkins, U. G. Poschinger, F. Schmidt-Kaler, K. Singer, Phys. Rev. Lett. 117, 043001 (2016), featured synopsis in PRL “Taking Pictures with Single Ions”

159) P. Bachor, T. Feldker, J. Walz, F. Schmidt-Kaler, "Towards Rydberg quantum logic with trapped ions", J. Phys. B: At. Mol. Opt. Phys. 49 (2016) 154004

158) Georg Jacob, Karin Groot-Berning, Ulrich G. Poschinger, Ferdinand Schmidt-Kaler, Kilian Singer, "Maximizing the information gain of a single ion microscope using bayes experimental design", SPIE Proceedings 9900, Quantum Optics (2016), article doi, arXiv:1605.05071

157) Nathan Leefer, Kai Krimmel, William Bertsche, Dmitry Budker, Joel Fajans, Ron Folman, Hartmut Häffner, and Ferdinand Schmidt-Kaler, "Investigation of two-frequency Paul traps for antihydrogen production" arXiv:1603.09444

156) J. Roßnagel, S. Dawkins, N. Tolazzi, O. Abah, E. Lutz, F. Schmidt-Kaler, K. Singer "A single-atom heat engine", Science 352, 325 (2016)

155) F. Schmidt-Kaler, E. Lutz, "Carnot im Nanomasstab",
Physik Journal, p. 18, März (2016)

154) “Visibility of Young's interference fringes: Scattered light from small ion crystals”, S. Wolf, J. Wechs, J. von Zanthier, F. Schmidt-Kaler, Phys. Rev. Lett. 116, 183002 (2016)

153) “Excitation of an Atomic Transition with a Vortex Laser Beam”, C. T. Schmiegelow, J. Schulz, H. Kaufmann, T. Ruster, U. G. Poschinger, F. Schmidt-Kaler, arXiv:1511.07206

152) “A Quantum Repeater Node with Trapped Ions: A Realistic Case Example” A. Pfister, M. Salz, M. Hettrich, U. Poschinger, F. Schmidt-Kaler", Appl. Phys. B 122:89 (2016)

151) “Phase-stable free-space optical lattices for trapped ions”, C. T. Schmiegelow, H. Kaufmann, T. Ruster, J. Schulz, V. Kaushal, M. Hettrich, F. Schmidt-Kaler, U. Poschinger, Phys. Rev. Lett. 116, 033002 (2016)

150) "Rydberg excitation of a single trapped ion", T. Feldker, P. Bachor, M. Stappel, D. Kolbe, R. Gerritsma, J. Walz, F. Schmidt-Kaler, Phys. Rev. Lett. 115, 173001 (2015)

149) "Measurement of dipole matrix elements with a single trapped ion", M. Hettrich, T. Ruster, H. Kaufmann, C. F. Roos, C. T. Schmiegelow, F. Schmidt-Kaler, U. G. Poschinger, Phys. Rev. Lett. 115, 143003 (2015).

148) "Fast thermometry for trapped ions using dark resonances", J. Roßnagel, K. N. Tolazzi, F. Schmidt-Kaler, K. Singer, New Journal of Physics 17, 045004 (2015).

147) "Optimal Phonon-to-Spin Mapping in a system of a trapped ion", M. Müller, U. Poschinger, T. Calarco, S. Montangero, F. Schmidt-Kaler, Phys. Rev. A. 92, 053423 (2015).

146) "Hexagonal Plaquette Spin-spin Interactions and Quantum Magnetism in a Two-dimensional Ion Crystal", R. Nath, M. Dalmonte, A. Glaetzle, P. Zoller, F. Schmidt-Kaler, R. Gerritsma, New J. Phys. 17 065018, (2015).

145) "Two-Dimensional Spectroscopy for the Study of Ion Coulomb Crystals", A. Lemmer, C. Cormick, C. T. Schmiegelow, F. Schmidt-Kaler, M. B. Plenio, Phys. Rev. Lett. 114, 073001 (2015).

144) "Experimental realization of fast ion separation in segmented Paul traps",
T. Ruster, C. Warschburger, H. Kaufmann, C. T. Schmiegelow, A. Walther, M. Hettrich, A. Pfister, V. Kaushal, F. Schmidt-Kaler, U. G. Poschinger, Phys. Rev. A 90, 033410 (2014).

143) "Generalised Kronig-Penney model for ultracold atomic quantum systems",
A. Negretti, R. Gerritsma, Z. Idziaszek, F. Schmidt-Kaler, T. Calarco, Phys. Rev. B 90, 155426 (2014).

142) "Dynamics and control of fast ion crystal splitting in segmented Paul traps", H. Kaufmann, T. Ruster, C. T. Schmiegelow, F. Schmidt-Kaler, U. G. Poschinger, New Journal of Physics 16, 073012 (2014).

141) "Controlling the transport of an ion: Classical and quantum mechanical solutions",

H. Goerz, U. G. Poschinger, M. Murphy, S. Montangero, T. Calarco, F. Schmidt-Kaler, K. Singer, C. P. Koch, New Journal of Physics 16, 075007 (2014).

140) "Quantum physics: Feel the force", F. Schmidt-Kaler, Nature 510, 349 (2014). Nature news and views of: S. Kotler, et al. Measurement of the magnetic interaction between two bound electrons of two separate ions

139) "Single particle microscopy with nanometer resolution", G. Jacob, K. Groot-Berning, S. Wolf, S. Ulm, L. Couturier, U. G. Poschinger, F. Schmidt-Kaler, K. Singer, arxiv.org:1405.6480 , (2014).

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137) "The Gbar project, or how does antimatter fall?"
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136) "Topical issue Frontiers of ion trap and atomic physics: Wolfgang Paul 100 - Editorial", G. Werth, F. Schmidt-Kaler, R. Blatt, Applied Physics B 114, 1 (2014).Part of Applied Physics B Topical Issue

135) "Mode shaping in mixed ion crystals of 40Ca2+ and 40Ca+", T. Feldker, L. Pelzer, M. Stappel, P. Bachor, D. Kolbe, J. Walz, F. Schmidt-Kaler, Appl. Phys. B 114, 11 (2014). Part of Topical Issue

134) "A nano heat engine beyond the Carnot limit", J. Roßnagel, O. Abah, F. Schmidt-Kaler, K. Singer, E. Lutz,Phys. Rev. Lett. 112, 030602 (2014), marked as an Editors' Suggestion letter

133) "Preparing antihydrogen in the motional ground state for the free-fall experiment GBAR", L. Hilico, J. P. Karr, A. Doulillet, P. Indelcato,S. Wolf, F. Schmidt-Kaler, Int. J. Mod. Phys. Conf. Ser. 30, 1460269 (2014)

132) "Emulating solid-state physics with a hybrid system of ultracold ions and atoms",
U. Bissbort, D. Cocks, A. Negretti, Z. Idziaszek, T. Calarco, F. Schmidt-Kaler, W. Hofstetter, R. Gerritsma,
Physical Review Letters 111, 080501 (2013), chosen for spotlight article on physics.org

131) "Observation of the Kibble-Zurek scaling law for defect formation in ion crystals",
S. Ulm, J. Roßnagel, G. Jacob, C. Degünther, S. T. Dawkins, U. G. Poschinger, R. Nigmatullin, A. Retzker, M. B. Plenio, F. Schmidt-Kaler, K. Singer, Nature Communications 4, 2290 (2013)

130) "Wolfang Paul", G. Werth, F. Schmidt-Kaler, R. Blatt, "Topical issue Frontiers of ion trap and atomic physics: Wolfgang Paul 100 - Editorial", Applied Physics B 114, 1 (2014).

129) "Mode shaping in mixed ion crystals of 40Ca2+ and 40Ca+ ",

T. Feldker, L. Pelzer, M. Stappel, P. Bachor, R. Steinborn, D. Kolbe, J. Waltz, F. Schmidt-Kaler,
Applied Physics B 114, 11 (2014), in special issue at the occasion of W. Paul 100 anniversary (2014),

128) "Experimental creation and analysis of displaced number states", F. Ziesel, T. Ruster, A. Walther, H. Kaufmann, K. Singer, F. Schmidt-Kaler, U. G. Poschinger, Journal of Physics B 46, 104008 (2013), appearing in special issue "The 20th anniversary of quantum state engineering"

127) "Simulation of the Jahn–Teller–Dicke magnetic structural phase transition with trapped ions", P. A. Ivanov, D. Porras, S. S. Ivanov, F. Schmidt-Kaler, Journal of Physics B 46, 104003 (2013) appearing in special issue "The 20th anniversary of quantum state engineering"

126) "Shot-Noise-Limitet Monitoring and Phase Locking of the Motion of a Single Trapped Ion", P. Bushev, G. Hétet, L. Slodicka, D. Rotter, M. A. Wilson, F. Schmidt-Kaler, J. Eschner, R. Blatt, Physical Review Letters 110, 133602 (2013)

125) "Zauberer im Quantenreich", F. Schmidt-Kaler, D. Leibfried, Physik Journal , (2012)

124) "Precise experimental investigation of eigenmodes in a planar ion crystal",
H. Kaufmann, S. Ulm, G. Jacob, U. G. Poschinger, H. Landa, A. Retzker, M.B. Plenio, F. Schmidt-Kaler, Physical Review Letters 109, 263003 (2012)

123) "Single-Ion Heat Engine at Maximum Power",
O. Abah, J. Roßnagel, G. Jacob, S. Deffner, F. Schmidt-Kaler, K. Singer, E. Lutz,
Physical Review Letters 109, 203006 (2012), news article on phys.org

122) "Quantum Magnetism of Spin-Ladder Compounds with Trapped-Ion Crystals",
A. Bermudez, J. Almeida, K. Ott, H. Kaufmann, S. Ulm, U. G. Poschinger, F. Schmidt-Kaler, A. Retzker, M. B. Plenio, New Journal of Physics 14, 093042 (2012), chosen for the NJP Highlights 2012

121) "Entangled states of trapped ions allow measuring the magnetic field gradient of a single atomic spin", F. Schmidt-Kaler, R. Gerritsma, Europhysics Letters 99, 53001 (2012)

120) "Bosonic Josephson Junction Controlled by a Single Trapped Ion",
R. Gerritsma, A. Negretti, H. Deork, Z. Idziaszek, T. Calarco, F. Schmidt-Kaler,
Physical Review Letters 109, 080402 (2012)

119) "Controlling fast transport of cold trapped ions", A. Walther, F. Ziesel, T. Ruster, S. T. Dawkins, K. Ott, M. Hettrich, K. Singer, F. Schmidt-Kaler, U. G. Poschinger, Physical Review Letters 109, 080501 (2012), chosen as APS viewpoint article

118) "Quantum Simulation of the Cooperative Jahn-Teller Transition in 1D Ion Crystals",
D. Porras, P. A. Ivanov, F. Schmidt-Kaler, Physical Review Letters 108, 235701 (2012)

117) "Light with orbital angular momentum interacting with trapped ions",
C. T. Schmiegelow, F. Schmidt-Kaler, European Journal of Physics D 66, 157 (2012)

116) "Interaction of a laser with a qubit in thermal motion and its application to robust and efficient readout",
U. G. Poschinger, A. Walther, M. Hettrich, F. Ziesel, F. Schmidt-Kaler, Appl. Phys. B: Lasers and Optics 107, 1159 (2012)

115) "Precision measurements in ion traps using slowly moving standing waves",

A. Walther, U. G. Poschinger, K. Singer, F. Schmidt-Kaler, Appl. Phys. B: Lasers and Optics 107, 1061 (2012)

114) "Simulation of Quantum Magnetism in Mixed Spin Systems with Impurity Doped Ion Crystal", P. A. Ivanov, F. Schmidt-Kaler, New Journal of Physics 13, 125008 (2011)

113) "Electric field compensation and sensing with a single ion in a planar trap", S. Narayanan, N. Daniilidis, S. Möller, R. Clark, F. Ziesel, K. Singer, F. Schmidt-Kaler, H. Häffner, Journal of Applied Physics 110, 114909 (2011)

112) "Frustrated Quantum Spin Models with Cold Coulomb Crystals", A. Bermudez, J. Almeida, F. Schmidt-Kaler, A. Retzker, M. B. Plenio, Physical Review Letters 107, 207209 (2011)

111) "Designing spin-spin interactions with one and two dimensional ion crystals in planar micro traps", J. Welzel, A. Bautista-Salvador, C. Abarbanel, V. Wineman-Fisher, C. Wunderlich, R. Folman, F. Schmidt-Kaler, The European Physical Journal D 65, 285 (2011)

110) "Trapped electron coupled to superconducting devices", P. Bushev, D. Bothner, J. Nagel, M. Kemmler, K. B. Konovalenko, A. Loerincz, K. Ilin, M. Siegel, D. Koelle, R. Kleiner, F. Schmidt-Kaler, The European Physical Journal D 63, 9 (2011)

109) "Rydberg excitation of trapped cold ions: a detailed case study", F. Schmidt-Kaler, T. Feldker, D. Kolbe, J. Walz, M. Müller, P. Zoller, W. Li, I. Lesanovsky, New Journal of Physics 13, 075014 (2011)

108) "Single ion as a shot-noise-limited magnetic-field-gradient probe", A. Walther, U. G. Poschinger, F. Ziesel, M. Hettrich, A. Wiens, J. Welzel, F. Schmidt-Kaler , Physical Review A 83, 062329 (2011)

107) "Fabrication and heating rate study of microscopic surface electrode ion traps", N. Daniilidis, S. Narayanan, S. A. Möller, R. Clark, T. E. Lee, P. J. Leek, A. Wallraff, St. Schulz, F. Schmidt-Kaler, H. Häffner, New Journal of Physics 13, 013032 (2011)

106) "Transport of charged particles by adjusting rf voltage amplitudes", T. Karin, I. Le Bras, A. Kehlberger, K. Singer, N. Daniilidis, H. Häffner, Applied Physics B: Lasers and Optics 106, 117 (2011)

105) "Observing the Phase Space Trajectory of an Entangled Matter Wave Packet", U. G. Poschinger, A. Walther, K. Singer, F. Schmidt-Kaler, Physical Review Letters 105, 263602 (2010)

104) "Quantum gate in the decoherence-free subspace of trapped-ion qubits", P. A. Ivanov, U. G. Poschinger, K. Singer, F. Schmidt-Kaler, Europhysics Letters 92, 30006 (2010)

103) "Colloquium: Trapped ions as quantum bits: Essential numerical tools", K. Singer, U. G. Poschinger, M. Murphy, P. A. Ivanov, F. Ziesel, T. Calarco, F. Schmidt-Kaler, Review of Modern Physics 82, 2609 (2010)

102) "A trapped-ion local field probe", G. Huber, F. Ziesel, U. G. Poschinger, K. Singer, F. Schmidt-Kaler, Applied Physics B: Lasers and Optics 100, 725 (2010)

101) "Focus on atom optics and its applications", F. Schmidt-Kaler, T. Pfau, P. Schmelcher, W. Schleich, New Journal of Physics 12, 0650014 (2010)

100) "Focusing a deterministic single-ion beam", W. Schnitzler, G. Jacob, R. Fickler, F. Schmidt-Kaler, K. Singer, New Journal of Physics 12, 065023 (2010)

99) "Fabrication of a segmented micro Penning trap and numerical investigations of versatile ion positioning protocols", M. Hellwig, A. Bautista-Salvador, K. Singer, G. Werth, F. Schmidt-Kaler, New Journal of Physics 12, 065019 (2010)

98) "Jonglieren mit Atomen", F. Schmidt-Kaler, Physik Journal 9, 20 (2010), discussed work: Photon-by-photon feedback control of a single-atom trajectory von A. Kubanek et al., Nature 462, 898-901 (2009)

97) "Feedback-optimized operations with linear ion crystals",
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96) "Dynamical control and novel quantum phases in impurity doped linear ion crystals",
P. A. Ivanov, N. Vitanov, K. Singer, F. Schmidt-Kaler, arXiv:1002.3033 , (2010)

95) "Two-dimensional cluster-state preparation with linear ion traps",
H. Wunderlich, C. Wunderlich, K. Singer, F. Schmidt-Kaler, Physical Review A 79, 052324 (2009)

94) "Demonstrationsexperimente mit linearen Paulfallen",
S. A. Schulz, R. Wöstenfeld, R. Kastl, F. Schmidt-Kaler, V. Nordmeier, Phydid 8, 15 (2009)

93) "Optimised focusing ion optics for an ultracold deterministic single ion source targeting nm resolution", R. Fickler, W. Schnitzler, Norbert M. Linke, F. Schmidt-Kaler, K. Singer, Journal of Mod. Opt. 56, 2061 (2009)

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W. Schnitzler, N. M. Linke, R. Fickler, J. Meijer, F. Schmidt-Kaler, K. Singer, Physical Review Letters 102, 070501 (2009), selected for the virtual magazines Virt. J. Nan. Sci. & Tech. 19, 9 (2009), and Virtual Journal for Quantum Information and press release (for non-physicists) in http://www.pro-physik.de

91) "Coherent Manipulation of a 40Ca+ Spin Qubit in a Micro Ion Trap",
U. G. Poschinger, G. Huber, F. Ziesel, M. Deiss, M. Hettrich, S. A. Schulz, G. Poulsen, M. Drewsen, R. J. Hendricks, K. Singer, F. Schmidt-Kaler, Journal of Physics B 42, 154013 (2009)

90) "Nuclear Charge Radii of 7,9,10Be and the one-neutron halo nucleus 11Be",
W. Nörtershäuser, D. Tiedemann, M. Zakova, Z. Andjelkovic, K. Blaum, M. L. Bissell, R. Cazan, G.W.F. Drake, Ch. Geppert, M. Kowalska, J. Krämer, A. Krieger, R. Neugart, R. Sanchez, F. Schmidt-Kaler, Z.-C. Yan, D. T. Yordanov, C. Zimmermann, Physical Review Letters 102, 062503 (2009)

89) "Experimental and theoretical challenges for the trapped electron quantum computer",
I. Marzoli, P. Tombesi, G. Ciaramicoli, G. Werth, P. Bushev, S. Stahl, F. Schmidt-Kaler, M. Hellwig, C. Henkel, G. Marx, I. Jex, E. Stachowska, G. Szawiola, A. Walaszyk, Journal of Physics B 42, 154010 (2009)

88) "Quantum physics exploring gravity in the outer solar system: the SAGAS project",
P. Wolf, Ch. J. Bordé, A. Clairon, L. Duchayne, A. Landragin, P. Lemonde, G. Santarelli, W. Ertmer, E. Rasel, F. S. Cataliotti, M. Inguscio, G. M. Tino, P. Gill, H. Klein, S. Reynaud, C. Salomon E. Peik, O. Bertolami, P. Gil, J. Páramos, C. Jentsch, U. Johann and A. Rathke, P. Bouyer, L. Cacciapuoti, D. Izzo, P. De Natale and B. Christophe, P. Touboul, S. G. Turyshev, J. Anderson, M. E. Tobar and F. Schmidt-Kaler, J. Vigué, A. A. Madej, L. Marmet, M.-C. Angonin and P. Delva, P. Tourrenc, G. Metris, H. Müller, R. Walsworth, Z. H. Lu and L. J. Wang, K. Bongs, A. Toncelli, M. Tonelli, H. Dittus, C. Lämmerzahl and G. Galzerano, P.

Laporta, J. Laskar, A. Fienga, F. Roques, K. Sengstock, Experimental Astronomy 23, 651 (2009)

87) "Electrons in a cryogenic planar Penning trap and experimental challenges for quantum processing", P. Bushev, S. Stahl, R. Natali, G. Marx, E. Stachowska, G. Werth, M. Hellwig, F. Schmidt-Kaler, The European Physics Journal D 50, 97 (2008)

86) "Employing Trapped Cold Ions to Verify the Quantum Jarzynski Equality", G. Huber, F. Schmidt-Kaler, S. Deffner, E. Lutz, Physical Review Letters 101, 070403 (2008)

85) "Towards the implanting of ions and positioning of nanoparticles with nm spatial resolution", J. Meijer, S. Pezzagna, T. Vogel, B. Burchard, H.H. Bukow, I. W. Rangelow, Y. Sarov, H. Wiggers, I. Plümel, F. Jelezko, J. Wrachtrup, F. Schmidt-Kaler, W. Schnitzler, K. Singer, Applied Physics A: Materials Science and Processing 91, 567 (2008)

84) "Sideband cooling and coherent dynamics in a microchip multi-segmented ion trap", S. A. Schulz, U. G. Poschinger, F. Ziesel, F. Schmidt-Kaler,New Journal of Physics 10, 045007 (2008)

83) "Transport of ions in a segmented linear Paul trap in printed-circuit-board technology", G. Huber, T. Deuschle, W. Schnitzler, R. Reichle, K. Singer, F. Schmidt-Kaler, New Journal of Physics 10, 013004 (2008)

82) "Les constructeurs de qubits", F. Schmidt-Kaler, P. Grangier, Les Dossiers de la Recherche 29, (2007)

81) "Cold Ions in Space", F. Schmidt-Kaler, P. Wolf, P. Gill, "Enrico Fermi" Summer School, (Varena, Italy), Course CLXVIII - "Atom Optics and Space Physics" , (2007)

80) "Optimization of frequency modulation transfer spectroscopy on the calcium 4-1S0 to 4-1P1 transition", J.F. Eble, F. Schmidt-Kaler, Applied Physics B: Lasers and Optics 88, 563 (2007)

79) "Transfer of trapped atoms between two optical tweezer potentials", M. Schulz, H. Crepaz, F. Schmidt-Kaler, J. Eschner, R. Blatt, Journal of Modern Optics 54, 1619 (2007)

78) "Total surveillance", F. Schmidt-Kaler, Nature 446, 275 (2007)

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