

Publications Rainer BLATT

2023

Article

- L. O. Conlon, Tobias Vogl, C. Marciniak, Ivan Pogorelov, Simun K. Yung, Falk Eilenberger, D. W. Berry, F. S. Santana, Rainer Blatt, Thomas Monz, Ping Koy Lam, S. M. Assad *Approaching optimal entangling collective measurements on quantum computing platforms*, Nature Phys. 1-7 (2023-01-12), <http://dx.doi.org/10.1038/s41567-022-01875-7> [doi:10.1038/s41567-022-01875-7](https://doi.org/10.1038/s41567-022-01875-7) (ID: 721010) [Toggle Abstract](#)

Colloquium

- Rainer Blatt *The Quantum Way of Doing Computations, Simulations and Measurements*, Kolloquium Max-Planck-Institut for the Science of Light (Max-Planck-Institut for the Science of Light, Erlangen, 2023-01-20) (2023-01-20), (ID: 721012)

Talks

- Rainer Blatt *Quantencomputer-Rechenkunst mit Quantenphysik*, Presentation MQV (Siemens Konzern, 2023-02-16) (2023-02-16), (ID: 721055)
- Rainer Blatt *Vorstellung Nobelpreis für Physik 2022*, Lindauer Matinee 2023 (Lindau Inselhalle, 2023-01-22) (2023-01-22), (ID: 721011)

2022

Articles

- R. Stricker, M. Meth, L. Postler, C. Edmunds, Christopher Ferrie, Rainer Blatt, Philipp Schindler, Thomas Monz, R. Kueng, M. Ringbauer *Experimental single-setting quantum state tomography*, Phys. Rev. X Quantum 3 40310 (2022-12-10), <http://dx.doi.org/10.1103/PRXQuantum.3.040310> [doi:10.1103/PRXQuantum.3.040310](https://doi.org/10.1103/PRXQuantum.3.040310) (ID: 720910)
- R. Stricker, D. Vodola, A. Erhardt, L. Postler, M. Meth, M. Ringbauer, Philipp Schindler, Rainer Blatt, Markus Müller, Thomas Monz *Characterizing Quantum Instruments: From Nondemolition Measurements to Quantum Error Correction*, Phys. Rev. X Quantum 3 30318 (2022-12-10), <http://dx.doi.org/10.1103/PRXQuantum.3.030318> [doi:10.1103/PRXQuantum.3.030318](https://doi.org/10.1103/PRXQuantum.3.030318) (ID: 720911)
- M. Ringbauer, M. Meth, L. Postler, R. Stricker, Rainer Blatt, Philipp Schindler, Thomas Monz *A universal qudit quantum processor with trapped ions*, Nature Phys. 18 1053 (2022-12-10), <http://dx.doi.org/10.1038/s41567-022-01658-0> [doi:10.1038/s41567-022-01658-0](https://doi.org/10.1038/s41567-022-01658-0) (ID: 720912)
- Lukas Gerster, F. Martinez-Garcia, P. Hrmo, Martin van Mourik, Benjamin Wilhelm, D. Vodola, Markus Müller, Rainer Blatt, Philipp Schindler, Thomas Monz *Experimental Bayesian calibration of trapped ion entangling operations*, Phys. Rev. X Quantum 3 20350 (2022-12-10), <http://dx.doi.org/10.1103/PRXQuantum.3.020350> [doi:10.1103/PRXQuantum.3.020350](https://doi.org/10.1103/PRXQuantum.3.020350) (ID: 720913)
- L. Postler, S. Heußen, I. Pogorelov, M. Rispler, T. Feldker, M. Meth, C. Marciniak, M. Ringbauer, R. Stricker, Rainer Blatt, Philipp Schindler, Markus Müller, Thomas Monz *Demonstration of fault-tolerant universal quantum gate operations*, Nature 605 675 (2022-12-10), <http://dx.doi.org/10.1038/s41586-022-04721-1> [doi:10.1038/s41586-022-04721-1](https://doi.org/10.1038/s41586-022-04721-1) (ID: 720914)

- M. van Mourik, P. Hrmo, Lukas Gerster, Benjamin Wilhelm, Rainer Blatt, Philipp Schindler, Thomas Monz *rf-induced heating dynamics of noncrystallized trapped ions*, Phys. Rev. A 105 33101 (2022-12-10), <http://dx.doi.org/10.1103/PhysRevA.105.033101> [doi:10.1103/PhysRevA.105.033101](https://doi.org/10.1103/PhysRevA.105.033101) (ID: 720915)
- Amit K. Pal, Philipp Schindler, A. Erhardt, A. Rivas, M. A. Martin-Delgado, Rainer Blatt, Thomas Monz, Markus Müller *Relaxation times do not capture logical qubit dynamics*, Quantum 6 632 (2022-12-10), <http://dx.doi.org/10.22331/q-2022-01-24-632> [doi:10.22331/q-2022-01-24-632](https://doi.org/10.22331/q-2022-01-24-632) (ID: 720916)
- F. Kranzl, M. K. Joshi, C. Maier, T. Brydges, J. Franke, R. Blatt, C. F. Roos *Controlling long ion strings for quantum simulation and precision measurements*, Phys. Rev. A 105 52426 (2022-05-18), <http://dx.doi.org/10.1103/PhysRevA.105.052426> [doi:10.1103/PhysRevA.105.052426](https://doi.org/10.1103/PhysRevA.105.052426) (ID: 720726) [Toggle Abstract](#)
- M. K. Joshi, F. Kranzl, A. Schuckert, I. Lovas, C. Maier, R. Blatt, M. Knap, C. F. Roos *Observing emergent hydrodynamics in a long-range quantum magnet*, Science 376 720 (2022-05-02), <http://dx.doi.org/10.1126/science.abk2400> [doi:10.1126/science.abk2400](https://doi.org/10.1126/science.abk2400) (ID: 720666) [Toggle Abstract](#)
- M. Meth, V. Kuzmin, Rick van Bijnen, L. Postler, R. Stricker, Rainer Blatt, M. Ringbauer, Thomas Monz, Pietro Silvi, Philipp Schindler *Probing phases of quantum matter with an ion-trap tensor-network quantum eigensolver*, Phys. Rev. X 12 41035 (2022-03-28), <http://dx.doi.org/10.1103/PhysRevX.12.041035> [doi:10.1103/PhysRevX.12.041035](https://doi.org/10.1103/PhysRevX.12.041035) (ID: 720826) [Toggle Abstract](#)
- C. Marciniak, T. Feldker, I. Pogorelov, C. R. Kaubrügger, D. Vasilyev, R. van Bijnen, P. Schindler, P. Zoller, R. Blatt, T. Monz *Optimal metrology with variational quantum circuits on trapped ions*, Nature 603 604 (2022-03-23), <http://dx.doi.org/10.1038/s41586-022-04435-4> [doi:10.1038/s41586-022-04435-4](https://doi.org/10.1038/s41586-022-04435-4) (ID: 720667) [Toggle Abstract](#)
- S. Auchter, C. Axline, C. Decaroli, M. Valentini, L. Purwin, R. Oswald, R. Matt, Elmar Aschauer, Y. Colombe, Philip Holz, Thomas Monz, Rainer Blatt, Philipp Schindler, C. Rössler, J. Home *Industrially Microfabricated Ion Trap with 1 eV Trap Depth*, Quantum Sci. Technol. 7 35015 (2022-02-17), <http://dx.doi.org/10.1088/2058-9565/ac7072> [doi:10.1088/2058-9565/ac7072](https://doi.org/10.1088/2058-9565/ac7072) (ID: 720813) [Toggle Abstract](#)

Colloquia

- Rainer Blatt *The Quantum Way of Doing Computations, Simulations and Measurements*, Colloquium École Normale Supérieure, Paris (Laboratoire Kastler-Brossel, ENS Paris, École Normale Supérieure, 2022-10-26) (2022-10-26), (ID: 720936)
- Rainer Blatt *The Quantum Way of Doing Computations*, Gutenberg Prize Award Prize Talk (Johannes Gutenberg Universität Mainz, 2022-04-12) (2022-04-12), (ID: 721041)

Invited Talks

- Rainer Blatt *Quantum simulations with trapped-ion spin chains*, Gordon Godfrey workshop on Spins, Topology and Strong Electron Correlations (University of New South Wales, Sydney, 2022-11-23) (2022-11-23), (ID: 720939)
- Rainer Blatt *Developing the Innsbruck Trapped-Ion Quantum computer with Ferdinand*, Workshop Versatile Applications of Trapped Ions (University of Mainz, 2022-11-17) (2022-11-17), (ID: 720938)
- Rainer Blatt *Quantum Simulation and Quantum Sensing with Trapped Ca⁺ Ions*, Workshop on Quantum Simulation and Quantum Sensing (Seattle, Washington, USA, 2022-11-07) (2022-11-07), (ID: 720937)
- Rainer Blatt *Mit Quanten muss man rechnen-Einblicke in die Computerwelt von morgen*, 29. Jahrestagung der ÖGNR, Österreichische Gesellschaft für Neuroradiologie (Congress Innsbruck, 2022-11-04) (2022-11-04), (ID: 720905)
- Rainer Blatt *The Quantum Way of Doing Computations, Simulations and Measurements*, TAQO-

- PAM Konsortialtreffen (Digital Campus München , 2022-10-24) (2022-10-24), (ID: 720906)
- Rainer Blatt *The Quantum Way of Doing Computations, Simulations and Measurements*, DocShop workshop of the Technical Electronics Group Universität Erlangen (Alphotel Innsbruck, 2022-10-14) (2022-10-14), (ID: 720935)
 - Rainer Blatt *Quantum technologies-on the road to industrialization*, "Futuras in res" conference by Fraunhofer Gesellschaft (Berlin, Hotel Hilton, 2022-09-28) (2022-09-28), (ID: 721042)
 - Rainer Blatt *Quantum Computations and Quantum Simulation with Trapped Ca+ Ions*, SFB BeyondC conference on "Frontiers of QI Science" (University of Vienna, 2022-09-05) (2022-09-05), (ID: 720875)
 - Rainer Blatt *MQV-Introduction to the work of Munich Quantum Valley*, Visit of Director Georgette Macdonald (NRC Canada) (online talk, Munich , 2022-08-31) (2022-08-31), (ID: 720873)
 - Rainer Blatt *Quantum Computations and Quantum Simulation with Trapped Ca+Ions*, Workshop on "Measurement Based Quantum Computation" (Universitätszentrum Obergurgl , 2022-08-29) (2022-08-31), (ID: 720874)
 - Rainer Blatt *Quantum Computation and Quantum Simulation with Trapped Ca+ Ions*, Nobel Symposium on Emerging quantum technologies (High Court Malmö, 2022-08-25) (2022-08-28), (ID: 720861)
 - Rainer Blatt *Quantum Computation and Quantum Simulation with Trapped Ca+ Ions*, Gordon Conference on Quantum Information (Stonehill College, MA, 2022-07-24) (2022-07-26), (ID: 720856)
 - Rainer Blatt *Thinking the future of quantum computing* , Digital leaders meeting in Innsbruck (ICT, University Innsbruck , 2022-07-08) (2022-07-08), (ID: 720870)
 - Rainer Blatt *IQOQI and M.r. Knabl- a short review*, Verabschiedung von M. Knabl in den Ruhestand (IQOQI Innsbruck, 2022-07-07) (2022-07-07), (ID: 720869)
 - Rainer Blatt *Quantum computation and quantum simulations with trapped Ca+ ions*, New trends in complex quantum systems dynamics (Carlos Santamaria Zentroa San Sebastian, 2022-06-21) (2022-06-21), (ID: 720855)
 - Rainer Blatt *ÖAW- Tag der Akademie*, IQOQI-Quantenoptik und Quanteninformatik in Innsbruck (Haus der Musik, Innsbruck, 2022-06-16) (2022-06-16), (ID: 720934)
 - Rainer Blatt *Quantum Computer - A New Technology for the Information Age*, Verleihung des Gutenberg Research Award 2022 (Johannes Gutenberg Universität Mainz, 2022-05-23) (2022-05-23), (ID: 720843)
 - Rainer Blatt *The Trapped-Ion Platform for Quantum Information Processing*, (*rapporteur*), Solvay Conference on Quantum Information (Brussels, 2022-05-18) (2022-05-21), (ID: 720867)
 - Rainer Blatt *Quantum Computations and Quantum Simulation with Trapped Ca+Ions*, Workshop on Trapped Atomic Ions (Tamions) (online presentation, ICTS, Bangalore, 2022-05-10) (2022-05-10), (ID: 720866)
 - Rainer Blatt *The QuantumWay of doing Computations, Simulations and Metrology*, QuEST National Symposium on QuantumEnabling Technologies (online presentation, Hyderabad, Telangana, India, 2022-04-12) (2022-04-12), (ID: 720832)
 - Rainer Blatt *Quantum Computation with Trapped Ca+ Ions*, Inauguration meeting of the Duke Quantum Center (Duke University, Durham, NC , 2022-04-07) (2022-04-08), (ID: 720841)
 - Rainer Blatt *Wer wir sind und was wir tun* , MathNat Klassensitzung der ÖAW (Österreichische Akademie der Wissenschaften, ÖAW, 2022-03-18) (2022-03-18), (ID: 720864)
 - Rainer Blatt *Quantum Simulations with Strings of Trapped Ca+ Ions*, APS March Meeting 2022 (Chicago, Il, online presentation , 2022-03-15) (2022-03-15), (ID: 720820)
 - Rainer Blatt *Quantum computing hardware:Race to 1 million qubits* , Quantum Australia Conference + Careers Faier (Doltone House, Jones Bay Wharf, Pyrmont NSW, Australia, online , 2022-02-23) (2022-02-23), (ID: 720817)
 - Rainer Blatt *Munich Quantum Valley-Gründungsversammlung*, MQV Gründungsversammlung (Bayrische Akademie der Wissenschaften ,München , 2022-01-27) (2022-01-27), (ID: 720863)
 - Rainer Blatt *Nobelpreise Physik 2021-Komplexe Systeme* , Matinee der Lindauer Nobelpreisträgertagungen , online presentation (Lindau, Bayern, Deutschland , 2022-01-23)

(2022-01-23), (ID: 720853)

Preprints

- F. Kranzl, Stefan Birnkammer, Manoj K. Joshi, Alvis Bastianello, Rainer Blatt, Michael Knap, C. F. Roos *Observation of magnon bound states in the long-range, anisotropic Heisenberg model*, (2022-12-09), [arXiv:2212.03899](https://arxiv.org/abs/2212.03899) [arXiv:2212.03899](https://arxiv.org/abs/2212.03899) (ID: 720909) [Toggle Abstract](#)
- H. Hainzer, D. Kiesenhofer, T. Ollikainen, Matthias Bock, F. Kranzl, Manoj K. Joshi, Goni Yoeli, Rainer Blatt, Tuvia Gefen, C. F. Roos *Correlation spectroscopy with multi-qubit-enhanced phase estimation*, (2022-03-25), [arXiv:2203.12656](https://arxiv.org/abs/2203.12656) [arXiv:2203.12656](https://arxiv.org/abs/2203.12656) (ID: 720825) [Toggle Abstract](#)
- R. Stricker, J. Carrasco, M. Ringbauer, L. Postler, M. Meth, C. Edmunds, Philipp Schindler, Rainer Blatt, Peter Zoller, Barbara Kraus, Thomas Monz *Towards experimental classical verification of quantum computation*, (2022-03-14), [arXiv:2203.07395](https://arxiv.org/abs/2203.07395) [arXiv:2203.07395](https://arxiv.org/abs/2203.07395) (ID: 720821) [Toggle Abstract](#)
- F. Kranzl, Aleksander Lasek, Manoj K. Joshi, A. Kalev, Rainer Blatt, C. F. Roos, Nicole Yunger Halpern *Experimental observation of thermalisation with noncommuting charges*, (2022-02-11), [arXiv:2202.04652](https://arxiv.org/abs/2202.04652) [arXiv:2202.04652](https://arxiv.org/abs/2202.04652) (ID: 720810) [Toggle Abstract](#)

Public Lectures

- Rainer Blatt *Mit Quanten muss man rechnen*, Förderkreis der Universität Innsbruck, public (online) talk (Innsbruck, 2022-09-12) (2022-09-12), (ID: 720930)
- Rainer Blatt *The Quantum Way of Doing Computations*, World Quantum Day and Hamburg Quantum Initiative (Hamburg, (hybrid meeting), 2022-04-13) (2022-04-13), (ID: 720854)

Reports

- Rainer Blatt *MQV Scientific Report 2022*, Mitgliederversammlung von Munich Quantum Valley e.V., (2022-07-13), (ID: 720871)
- Rainer Blatt *Third Meeting of the Dioscuri Committee in the 4th Call for DCs in PL*, (2022-01-19), (ID: 720852)

Seminar Talks

- Rainer Blatt *The Quantum Optics and Spectroscopy Group 2022*, Retreat of the QOS group in Obergurgl (Universitätszentrum Obergurgl, 2022-08-23) (2022-08-23), (ID: 720872)
- Rainer Blatt *Quanteninformaton in Innsbruck*, Visit of representatives of Bosch Germany (IQOQI Innsbruck, 2022-05-13) (2022-05-13), (ID: 720865)

Talk

- Rainer Blatt *The Munich Quantum Valley*, Opening talk, Review meeting of the Munich Quantum Valley e.V. (Eichstätt, Germany, 2022-10-04) (2022-10-04), (ID: 721043)

2021

Articles

- G. Cerchiari, L. Dania, D. Bykov, R. Blatt, T. E. Northup *Position measurement of a dipolar scatterer via self-homodyne detection*, Phys. Rev. A 104 53523 (2021-11-19), <http://dx.doi.org/10.1103/PhysRevA.104.053523> [doi:10.1103/PhysRevA.104.053523](https://doi.org/10.1103/PhysRevA.104.053523) (ID: 720734) [Toggle Abstract](#)
- C. Greganti, T. F. Demarie, M. Ringbauer, J. A. Jones, V. Saggio, I. A. Calafell, L. A. Rozema, A.

- Erhard, M. Meth, L. Postler, R. Stricker, P. Schindler, R. Blatt, T. Monz, P. Walther, J. F. Fitzsimons *Verification of independent quantum devices*, Phys. Rev. X 11 31049 (2021-09-01), <http://dx.doi.org/10.1103/PhysRevX.11.031049> [doi:10.1103/PhysRevX.11.031049](https://doi.org/10.1103/PhysRevX.11.031049) (ID: 720502) [Toggle Abstract](#)
- G. cerchiari, G. Araneda, L. Podhora, L. Slodicka, Y. Colombe, R. Blatt *Measuring ion oscillations at the quantum level with fluorescence light*, Phys. Rev. Lett. 127 63603 (2021-08-04), <http://dx.doi.org/10.1103/PhysRevLett.127.063603> [doi:10.1103/PhysRevLett.127.063603](https://doi.org/10.1103/PhysRevLett.127.063603) (ID: 720535) [Toggle Abstract](#)
 - I. Pogorelov, T. Feldker, C. Marciniak, G. Jacob, V. Podlesnic, M. Meth, V. Negnevitsky, M. Stadler, K. Lakhmanskii, R. Blatt, P. Schindler, T. Monz *A compact ion-trap quantum computing demonstrator*, PRX Quantum 2 20342 (2021-06-17), <http://dx.doi.org/10.1103/PRXQuantum.2.020343> [doi:10.1103/PRXQuantum.2.020343](https://doi.org/10.1103/PRXQuantum.2.020343) (ID: 720642) [Toggle Abstract](#)
 - M. Teller, D. Fioretto, P. Holz, P. Schindler, V. Messerer, K. Schüppert, Y. Zou, R. Blatt, J. Chiaverini, J. Sage, T. E. Northup *Heating of a Trapped Ion Induced by Dielectric Materials*, 126 230505 (2021-06-14), <http://dx.doi.org/10.1103/PhysRevLett.126.230505> [doi:10.1103/PhysRevLett.126.230505](https://doi.org/10.1103/PhysRevLett.126.230505) (ID: 720661) [Toggle Abstract](#)
 - P. Holz, K. Lakhmanskii, D. Rathje, P. Schindler, Y. Colombe, R. Blatt *Electric field noise in a high-temperature superconducting surface ion trap*, Phys. Rev. B 104 64513 (2021-06-09), <http://dx.doi.org/10.1103/PhysRevB.104.064513> [doi:10.1103/PhysRevB.104.064513](https://doi.org/10.1103/PhysRevB.104.064513) (ID: 720658) [Toggle Abstract](#)
 - G. cerchiari, G. Araneda, L. Podhora, L. Slodicka, Y. Colombe, R. Blatt *Motion analysis of a trapped ion chain by single photon self-interference*, Appl. Phys. Lett. 119 24003 (2021-04-16), <http://dx.doi.org/10.1063/5.0052099> [doi:10.1063/5.0052099](https://doi.org/10.1063/5.0052099) (ID: 720641) [Toggle Abstract](#)
 - M. I. Hussain, D. Heinrich, M. Guevara-Bertsch, E. Torrontegui, J. J. Garcia-Ripoll, C. F. Roos, R. Blatt *Ultraviolet Laser Pulses with Multigigahertz Repetition Rate and Multiwatt Average Power for Fast Trapped-Ion Entanglement Operations*, Phys. Rev. Applied 15 24054 (2021-02-23), <http://dx.doi.org/10.1103/PhysRevApplied.15.024054> [doi:10.1103/PhysRevApplied.15.024054](https://doi.org/10.1103/PhysRevApplied.15.024054) (ID: 720517) [Toggle Abstract](#)
 - A. Erhard, H. Poulsen Nautrup, M. Meth, L. Postler, R. Stricker, M. Ringbauer, P. Schindler, H. J. Briegel, R. Blatt, N. Friis, T. Monz *Entangling logical qubits with lattice surgery*, Nature 589 224 (2021-01-13), <http://dx.doi.org/10.1038/s41586-020-03079-6> [doi:10.1038/s41586-020-03079-6](https://doi.org/10.1038/s41586-020-03079-6) (ID: 720515) [Toggle Abstract](#)

Colloquium

- R. Blatt *The Quantum Way of Doing Computation - Simulations and Measurements*, Physikalisches Kolloquium- Atomphysik und Quantencomputer (Johannes Gutenberg Universität Mainz, 2021-11-23) (2021-11-23), (ID: 720702)

Invited Talks

- Rainer Blatt *Munich Quantum Valley-Gründungsversammlung*, MQV Gründungsversammlung (Bayrische Akademie der Wissenschaften München, 2022-01-27) (2021-12-27), (ID: 720932)
- R. Blatt *Quantum Computing- Wie ein Quantenvorteil entsteht*, DIGICON (ISH Flughafen München, online, 2021-11-17) (2021-11-17), (ID: 720701)
- R. Blatt *From Quantum Information to Quantum Computer*, Trends of Quantum Computing , Challenges of a Revolutionary Technology for Europe, Zoom Conference Salzburg (European Academy of Sciences and Arts Salzburg, 2021-06-18) (2021-06-18), (ID: 720663)
- R. Blatt *From Quantum Information to Quantum Computers*, Trends in Quantum computing - Challenges of a Revolutionary Technology for Europe (EASA Salzburg, 2021-06-18) (2021-06-18), (ID: 720674)
- R. Blatt *IARPA LogiQ Program Technical Exchange Meeting* , 2021 IARPA LogiQ Program Technical Exchange Meeting (virtual meeting , 2021-03-03) (2021-03-04), (ID: 720634)
- R. Blatt *Quantum Computation and Quantum Simulation with Strings of Trapped Ca+ Ions*,

Meeting of "Matter and Light for Quantum Computing" cluster of excellence ML4Q (Bonn , 2021-02-26) (2021-02-26), (ID: 720631)

- R. Blatt *Quantum Computation and Quantum Simulation with Trapped Ca⁺ Ions*, 737. WE-Heraeus-Seminar on Advances in Scalable Hardware Platforms for Quantum Computing (Bad Honeff online presentation, 2021-01-11) (2021-01-11), (ID: 720576)

Preprints

- A. Seshadri, M. Ringbauer, R. Blatt, T. Monz, S. Becker *Versatile fidelity estimation with confidence*, (2021-12-15), [arXiv:2112.07925](#) [arXiv:2112.07925](#) (ID: 720738) [Toggle Abstract](#)
- L. Gerster, F. Martínez-García, P. Hrmo, M. van Mourik, B. Wilhelm, D. Vodola, M. Mueller, R. Blatt, P. Schindler, T. Monz *Experimental Bayesian calibration of trapped ion entangling operations*, (2021-12-02), [arXiv:2112.01411](#) [arXiv:2112.01411](#) (ID: 720735) [Toggle Abstract](#)
- L. Postler, S. Heußen, I. Pogorelov, M. Rispler, T. Feldker, M. Meth, C. Marciniak, R. Stricker, M. Ringbauer, R. Blatt, P. Schindler, M. Mueller, T. Monz *Demonstration of fault-tolerant universal quantum gate operations*, (2021-11-24), [arXiv:2111.12654](#) [arXiv:2111.12654](#) (ID: 720736) [Toggle Abstract](#)
- M. Ringbauer, M. Meth, L. Postler, R. Stricker, R. Blatt, P. Schindler, T. Monz *A universal qudit quantum processor with trapped ions*, (2021-09-14), [arXiv:2109.06903](#) [arXiv:2109.06903](#) (ID: 720737) [Toggle Abstract](#)
- M. van Mourik, P. Hrmo, L. Gerster, B. Wilhelm, R. Blatt, P. Schindler, T. Monz *RF-induced heating dynamics of non-crystallized trapped ions* , (2021-04-22), [arXiv:2104.10623](#) [arXiv:2104.10623](#) (ID: 720645) [Toggle Abstract](#)

Public Lectures

- R. Blatt *Falling Walls Science Summit, Round Table discussion "Future of Quantum Computing"*, Falling Walls Science Summit, Science Reunites Us (Berlin Radial System V, 2021-11-07) (2021-11-08), (ID: 720696)
- R. Blatt *Quantencomputer-Rechenkunst mit Quantenphysik*, VHS Wien -Webinare (Volkshochschule Wien, 2021-01-20) (2021-01-20), (ID: 720618)

Seminar Talks

- R. Blatt *Munich Quantum Valley - Ziele, Aufgaben und Struktur*, Closed seminar talk, Staatskanzlei und Staatsministerien München (Online presentation, 2021-05-14) (2021-05-14), (ID: 720673)
- R. Blatt *Quantencomputer - Rechenkunst mit Quantenphysik*, Rotary Club Graz (Online Presentation , 2021-03-23) (2021-03-23), (ID: 720672)
- R. Blatt *Quantum Computation and Quantum Simulation of the Lattice Schwinger Model*, Quantum Computation And High-Energy Physics Seminar (IT& IST, University of Lisbon, 2021-03-03) (2021-03-03), (ID: 720633)
- R. Blatt *Munich Quantum Valley - Organisation und Struktur*, MQV consortium , closed seminar talk (MQV München, 2021-02-18) (2021-02-18), (ID: 720670)
- R. Blatt *Munich Quantum Valley - Ziele*, MQV consortium, closed seminar talk, online presentation (MQV München, 2021-02-12) (2021-02-12), (ID: 720669)
- R. Blatt *Munich Quantum Valley-Organisation und Koordination*, Closed seminar talk, MCQST München (Organisation und Koordination, 2021-02-12) (2021-02-08), (ID: 720668)

Talk

- R. Blatt *Panel Talk online "Aiming for the Future: Quantum Computing in 2020"*, IEEE Quantum Week 2021 (online, 2021-10-18) (2021-10-18), (ID: 720695)

2020

Articles

- M. C. Bañuls, R. Blatt, J. Catani, A. Celi, J. I. Cirac, M. Dalmonte, L. Fallani, K. Jansen, M. Lewenstein, S. Montangero, C. A. Muschik, B. Reznik, E. Rico Ortega, L. Tagliacozzo, K. Van Acoleyen, F. Verstraete, U. Wiese, M. Wingate, J. Zakrzewski, P. Zo *Simulating Lattice Gauge Theories within Quantum Technologies*, The European Physical Journal D 74 165 (2020-08-04), <http://dx.doi.org/10.1140/epjd/e2020-100571-8> [doi:10.1140/epjd/e2020-100571-8](https://doi.org/10.1140/epjd/e2020-100571-8) (ID: 720395) [Toggle Abstract](#)
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Colloquia

- R. Blatt *The Quantum Way of Doing Computations*, LOEWE-Scalable Molecular Quantum Bits (SMolBits) (University of Kassel, 2020-11-12) (2020-11-12), (ID: 720545)
- R. Blatt *Quantum Computation and Quantum Simulation with Trapped Ca+Ions*, Colloquium (Universidad de Buenos Aires, 2020-02-17) (2020-02-17), (ID: 720555)
- R. Blatt *The Quantum Way of Doing Computations*, Hablemos de Física "Let's talk about Physics" (Facultad CC. Fisicas UCM, 2020-01-30) (2020-01-30), (ID: 720475)
- R. Blatt *The Quantum Way of Doing Computations*, Physikalisches Kolloquium (University of

Hannover, 2020-01-23) (2020-01-23), (ID: 720476)

Invited Talks

- R. Blatt *IARPA Logical Qubits (LogiQ) Program Principal Investigators' Meeting*, 4th Principal Investigator's meeting (virtual meeting, 2020-09-17) (2020-09-17), (ID: 720534)
- R. Blatt *Quantum Computation and Quantum Simulation with Trapped Ca⁺ Ions*, International Conference on Quantum Computing , ICQC (Seoul, online, 2020-08-26) (2020-08-26), (ID: 720599)
- R. Blatt *Quantum Optics, Spectroscopy, and Quantum Information Processing with Trapped Ions*, Inauguration as an International member of the National Adademy of Sciences (US) 157th Annual Meeting, online , Innsbruck/Washington <http://www.nasonline.org/about-nas/events/annual-meeting/nas157/> (Washington, 2020-04-23) (2020-04-23), (ID: 720556)
- R. Blatt *Quantum information processing with trapped ions*, Summer school on Quantum Information Processing (Federal University of Paraná, Curitiba, Brazil, 2020-02-10) (2020-02-13), (ID: 720551)
- R. Blatt *Quantum Information Processing*, Inauguration zur Verleihung der Ehrendoktorwürde (Universidad Complutense Madrid, 2020-01-31) (2020-01-31), (ID: 720554)

Preprint

- A. K. Pal, P. Schindler, A. Erhardt, A. Rivas, M. A. Martin-Delgado, R. Blatt, T. Monz, M. Müller *Relaxation times do not capture logical qubit dynamics*, (2020-12-01), [arXiv:2012.07911](https://arxiv.org/abs/2012.07911) (ID: 720759) [Toggle Abstract](#)

Public Lecture

- R. Blatt *Der Physik-Nobelpreis 2019*, Matinée zur Vorstellung der Nobelpreisträger 2019 (Lindau, 2020-01-19) (2020-01-19), (ID: 720553)

Seminar Talks

- R. Blatt *Quantum Computation with Trapped Ca⁺Ions*, Seminar on Precision Physics and Fundamental Symmetries (Hannover/Braunschweig, <https://indico.cern.ch/event/972032/>, 2020-11-26) (2020-11-26), (ID: 720548)
- R. Blatt *The Quantum Way of Doing Computations*, Seventh Annual Homi Bhabha Memorial Public Lecture (Indian Institute of Science Education and Research (IISER), Pune, 2020-11-06) (2020-11-06), (ID: 720541)
- R. Blatt *Quantum Computation and Quantum Simulation with Strings of Trapped Ca⁺ Ions*, iQuISE Seminar MIT, <https://www.iqoise.mit.edu/presentation/191/> (Massachusetts Institute of Technology, 2020-10-22) (2020-10-22), (ID: 720547)

Talks

- R. Blatt *Quantum Technologies-Chances and Challenges*, Webinar "Quantum Technologies" Journal Advances in Quantum Technologies, Wiley Interscience (online, Berlin, <https://present.workcast.com/Login.aspx?eid=103772>, 2020-11-03) (2020-11-03), (ID: 720560)
- R. Blatt „*Berliner Gesprächskreis*" - *Quanten-Technologien – Computer, Kommunikation, Sensoren*, Quanten Technologien-Computer, Kommunikation , Sensoren (Bank of America Merrill Lynch, Berlin, Zoom Meeting, 2020-09-23) (2020-09-23), (ID: 720528)
- R. Blatt *A new measure: The revolutionary reform of the metric system*, Lindau Nobel Laureate meetings (Lindau, online/<https://www.mediatheque.lindau-nobel.org/videos/38705/william-d-phillips>, 2020-06-29) (2020-06-30), (ID: 720558)

- R. Blatt *Quantum Computation and Quantum Simulation with Trapped Ca+ Ions*, MPG-FHG stakeholder meeting in preparation of the Quantum Initiative Germany (online Innsbruck/Munich, 2020-06-08) (2020-06-08), (ID: 720557)
- R. Blatt *Quantentechnologien und Quantencomputer - weltweite Investitionstätigkeit -*, Rotary Club Alpin Vortragsreihe (Hotel Marriott Innsbruck, 2020-03-09) (2020-03-09), (ID: 720550)

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- A. Erhard, J. J. Wallman, L. Postler, M. Meth, R. Stricker, E. A. Martínez, P. Schindler, T. Monz, J. Emerson, R. Blatt *Characterizing large-scale quantum computers via cycle benchmarking*, Nat. Commun. 10 5347 (2019-11-25), (ID: 720497) [Toggle Abstract](#)
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Colloquia

- R. Blatt *The Quantum Way of Doing Computations* , Colloquia (University of Göttingen, 2019-11-11) (2019-11-11), (ID: 720404)
- R. Blatt *The Quantum Way of Doing Computations*, Colloquia (University of Birmingham, School of Physics & Astronomy , 2019-11-06) (2019-11-06), (ID: 720403)
- R. Blatt *Quantum computations and quantum simulations with strings of trapped Ca⁺ ions*, (Tsinghua University of Beijing, 2019-09-23) (2019-09-23), (ID: 720367)
- R. Blatt *Quantum computations and quantum simulations with trapped Ca⁺ ions*, Colloquium (University of Berkeley , 2019-06-10) (2019-06-10), (ID: 720324)
- R. Blatt *The Quantum Way of Doing Computations*, Quantum Talks (University of Sussex, 2019-05-15) (2019-05-15), (ID: 720280)

Conferences

- R. Blatt *Overview Talk on Quantum Networks*, Workshop Quantum Science and Technology (Max Planck Institute of Quantum Optics Munich, 2019-05-06) (2019-05-06), (ID: 720361)
- R. Blatt *Quantum Computing -From Algorithms to Applications*, Workshop on Quantum Computing - From Algorithms to Applications (Universitätszentrum Obergurgl , 2019-04-15) (2019-04-15), (ID: 720362)
- R. Blatt *Lindau Nobel Laureate Council Meeting* , Meeting of the Council (Pöllath & Partners , München , 2019-03-15) (2019-03-15), (ID: 720363)
- R. Blatt *Quantum Computation and Entanglement with Ion Strings*, SFB Abschlusskonferenz des SFBs FoQuS (Innsbruck , 2019-02-04) (2019-02-04), (ID: 720421)

Invited Talks

- R. Blatt *Quantum Technologies with Trapped Ions* , Australian Diamond Sensing Meeting (Melbourne, 2019-11-21) (2019-11-22), (ID: 720427)
- R. Blatt *Quantum Information Processing with Trapped Ca⁺ Ions*, International Conference on Emerging Quantum Technology ;Micius Prize Talk (Hefei , 2019-09-15) (2019-09-16), (ID: 720368)
- R. Blatt *Quantum Information Processing with Trapped Ca⁺Ions*, Prize Talk International Conference on Emerging Quantum Technologies (ICEQT) (Hefei, 2019-09-16) (2019-09-16), (ID: 720428)
- R. Blatt *Quantum Computation and Quantum Simulation with Strings of Trapped Ca⁺Ions*, Workshop Time Crystals and Related Phenomena (Collegium Medicum of Jagiellonian University Krakow, 2019-09-04) (2019-09-05), (ID: 720365)
- R. Blatt *The Quantum Way of doing Computations-New Technologies for the Information Age*, Gemeinsame Jahrestagung in Zürich SPS und ÖPG (University of Zürich , 2019-08-26) (2019-08-27), (ID: 720346)
- R. Blatt *QCVV Trapped Ion Qubits* , QCPR 2019 (Hotel Annapolis MD , 2019-07-29) (2019-08-01), (ID: 720339)
- R. Blatt *Quantum Computation and Quantum Simulation with Strings of Trapped Ca⁺Ions*, NACTI2019 (Edward St John Learning and Teaching Center, University of Maryland, 2019-07-22) (2019-07-23), (ID: 720340)
- R. Blatt *Quantum Computation and Quantum Simulation with Strings of Trapped Ca⁺ Ions* , ICQT2019 (The Radisson Collection Hotel Moskow, 2019-07-15) (2019-07-16), (ID: 720338)
- R. Blatt *Quantum computation and quantum simulation with strings of trapped Ca⁺ ions*, MCQST Munich conference on Quantum Science & Technology (Deutsches Museum München, 2019-07-08) (2019-07-08), (ID: 720322)
- R. Blatt *Quantum Technologies-Chances and Challenges*, Lindau Innovaton Forum at the 69th Lindau Nobel Laureate meeting in Physics (Lindau, 2019-06-29) (2019-06-29), (ID: 720422)

- R. Blatt *Quantum Computation and Quantum Simulation with Trapped Ca+ Ions*, CEWQO2019 (Paderborn University, 2019-06-02) (2019-06-03), (ID: 720287)
- R. Blatt *Quantum Computation and Quantum simulation with trapped ions*, 2nd Quantum Symposium by PicoQuant, 2019 Berlin (Dorint Adlershof Berlin, 2019-05-22) (2019-05-22), (ID: 720285)
- R. Blatt *Quantum Computation and Quantum simulation with trapped Ca+ ions*, Quantum for ever, A Symposium to honor H.Rauch's 80th birthday and the Designation of the Atominstitut as an EPS Historic site (TU Wien, Atominstitut, 2019-05-21) (2019-05-21), (ID: 720286)
- R. Blatt *Quantum simulation with trapped Ca+Ions*, Solvay Workshop on Quantum Simulation (Brussels, 2019-02-17) (2019-02-18), (ID: 720201)
- R. Blatt *Quantum Information Using Trapped Ions-Status and Perspectives*, Scalable Hardware Platforms for Quantum computing (Bad Honnef, 2019-01-13) (2019-01-14), (ID: 720154)

Lecture

- R. Blatt *Executive learning: Quantum computing*, T30 Disruption2.0: When to play, and how to win (Solage Resort, Napa Valley, 2019-06-13) (2019-06-13), (ID: 720325)

Public Lecture

- R. Blatt *Nobelpreis für Physik 2018*, Lindau Matinee " Die Nobelpreise des Jahres 2018" (Sparkassensaal auf dem Lindauer Festland, 2019-01-20) (2019-01-20), (ID: 720142)

Report

- R. Blatt *Excellence Strategy University of Heidelberg*, (2019-03-17), (ID: 720364)

Seminar Talks

- R. Blatt *The Quantum Optics and Spectroscopy Group in Innsbruck-Quo Vadis?*, Joint meeting of the ion trap groups of Innsbruck, Zurich and Mainz (Obergurgl, 2019-09-08) (2019-09-11), (ID: 720424)
- R. Blatt *Quantum Technologies for the Information Age I - What is quantum physics?*, Quantum Technologies - A New ERA for Innovations (Europäisches Forum Alpbach, 2019-08-16) (2019-08-16), (ID: 720345)
- R. Blatt *Quantum Technologies for the Information Age II-Quantum Information Processing*, European Forum Alpbach Seminar (Alpbach, 2019-08-16) (2019-08-16), (ID: 720423)
- R. Blatt *Quantum Computations and Quantum simulations with strings of trapped ions*, CUA Seminar (Harvard University, 2019-03-05) (2019-03-05), (ID: 720202)

Talks

- R. Blatt *The Quantum Way of Doing Computations - Quantum Physics in Innsbruck*, Visit of Dr. Gerhard Mayr (Innsbruck, 2019-10-17) (2019-10-17), (ID: 720426)
- R. Blatt *The Quantum Optics and Spectroscopy Group at IQOQI*, IQOQI evaluation meeting (Innsbruck, 2019-10-14) (2019-10-14), (ID: 720425)

2018

Articles

- L. Postler, A. Rivas, P. Schindler, A. Erhardt, R. Stricker, D. Nigg, T. Monz, R. Blatt, M. Müller

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- C. Hempel, C. Maier, J. Romero, J. McClean, T. Monz, H. Shen, P. Jurcevic, B. P. Lanyon, P. Love, R. Babbush, A. Aspuru-Guzik, R. Blatt, C. F. Roos *Quantum chemistry calculations on a trapped-ion quantum simulator*, Phys. Rev. X 8 31022 (2018-07-24), <http://dx.doi.org/10.1103/PhysRevX.8.031022> [doi:10.1103/PhysRevX.8.031022](https://doi.org/10.1103/PhysRevX.8.031022) (ID: 720003) [Toggle Abstract](#)
- G. Araneda, D. Higginbottom, L. Slodicka, Y. Colombe, R. Blatt *Interference of Single Photons Emitted by Entangled Atoms in Free Space*, Phys. Rev. Lett. 120 193603 (2018-05-11), <http://dx.doi.org/10.1103/PhysRevLett.120.193603> [doi:10.1103/PhysRevLett.120.193603](https://doi.org/10.1103/PhysRevLett.120.193603) (ID: 720162) [Toggle Abstract](#)
- N. Friis, O. Marty, C. Maier, C. Hempel, M. Holzzapfel, P. Jurcevic, M. Plenio, M. Huber, C. F. Roos, R. Blatt, B. P. Lanyon *Observation of Entangled States of a Fully Controlled 20-Qubit System*, Phys. Rev. X 8 21012 (2018-04-10), <http://dx.doi.org/10.1103/PhysRevX.8.021012> [doi:10.1103/PhysRevX.8.021012](https://doi.org/10.1103/PhysRevX.8.021012) (ID: 720009) [Toggle Abstract](#)

Colloquia

- R. Blatt *The Quantum Way of doing computations*, Alba Nova and Nordita Colloquium (University of Stockholm, 2018-03-15) (2018-03-15), (ID: 720001)
- R. Blatt *The Quantum Way of Doing Computations*, physikalisches Kolloquium (Dresden, Max Planck Institut für Physik komplexer Systeme, 2018-03-05) (2018-03-05), (ID: 719987)
- R. Blatt *The Quantum Way of Doing Computations*, DPG Spring Meeting (Friedrich-Alexander-Universität Erlangen-Nürnberg, 2018-03-04) (2018-03-04), (ID: 719989)
- R. Blatt *The Quantum Way of Doing Computations*, Physikalisches Kolloquium (TU Dortmund, 2018-02-20) (2018-02-20), (ID: 719986)

Conference

- R. Blatt *68th Lindau Nobel Laureate Meetings*, 68th Lindau Nobel Laureate Meetings (Inselhalle Lindau, 2018-06-23) (2018-06-23), (ID: 720360)

Invited Talks

- R. Blatt *Quantencomputer Rechenkunst mit Quantenphysik*, 43 Forum Akademie, TU Graz (TU Graz, 2018-11-29) (2018-11-29), (ID: 720102)
- R. Blatt *Quantum Information with trapped Ions: Verification and Validation*, ECTI 2018 (The David Lopatie Conference Centre, Weizmann Institute of Science, 2018-11-17) (2018-11-18), (ID: 720095)
- R. Blatt *Quantum computations and quantum Simulations with Trapped Ca+ Ions*, Opportunities for Quantum Technologies 2018: A Dialog (Vancouver Convention Center, 2018-10-03) (2018-10-03), (ID: 720082)
- R. Blatt *The Quantum Way of Doing Computations*, Public Talk (University of British Columbia, PITP, 2018-10-02) (2018-10-02), (ID: 720081)
- R. Blatt *Quantum Information using trapped ions-status and perspectives*, TCP 2018 (Park Place Hotel Traverse City, 2018-09-29) (2018-10-01), (ID: 720083)
- R. Blatt *Quantencomputer -Rechenkunst mit Quantenphysik*, 130.GDNÄ Versammlung (Universität Saarland Saarbrücken, 2018-09-14) (2018-09-15), (ID: 720074)
- R. Blatt *Quantum Computer-a New Technology for the Information AG*, Eurosensor 2018 (Universität Graz, 2018-09-10) (2018-09-11), (ID: 720075)
- R. Blatt *Quantencomputer-Rechenkunst mit Quantenphysik*, Hector Fellow Academy, "Die zweite Quantenrevolution" (Literaturhaus München, 2018-07-19) (2018-07-19), (ID: 720046)
- R. Blatt *Quantum Tehnologies made in Tyrol*, WIRE2018 (Innsbruck, 2018-07-04) (2018-07-06),

(ID: 720039)

- R. Blatt *Quantum simulations with cold trapped ions*, Quantum Technology Workshop (The Hebrew University of Jerusalem, 2018-06-05) (2018-06-05), (ID: 720036)
- R. Blatt *The Quantum Way of doing Computations - New Technologies for the Information Age*, Racah Lecture (University of Jerusalem, 2018-06-04) (2018-06-04), (ID: 720035)
- R. Blatt *Quantum computations and quantum simulations with trapped ions*, SPIE Photonics Europe (Strasbourg, 2018-04-22) (2018-04-26), (ID: 720032)
- R. Blatt *Quantum Computations and Quantum simulations with trapped ions*, Beyond Digital Computing (Heidelberg University, 2018-03-19) (2018-03-20), (ID: 720000)
- R. Blatt *Quantum Computations and quantum simulations with trapped ions*, Quantum Optics Obergurgl 2018 (Universitätszentrum Obergurgl, 2018-02-25) (2018-02-25), (ID: 719988)
- R. Blatt *Opportunities of Excellence Strategies*, RESOLV Neujahrsempfang "Exzellenzinitiative -Chance für die Hochschule" (TU Dortmund, 2018-02-19) (2018-02-19), (ID: 719985)
- R. Blatt *Quantum computation and quantum simulation with trapped ca+ ions*, Workshop Quantum Simulation & Computation (University of the Basque Country, Paraninfo, Science and Tech Faculty Bilbao, 2018-02-11) (2018-02-12), (ID: 719984)
- R. Blatt *Quantum Computations and Quantum Simulations with Trapped Ions*, Inauguration Ceremony MPHQ (Munich, 2018-01-11) (2018-01-12), (ID: 719970)

Public Lecture

- R. Blatt *Nobelpreis für Physik-Vorstellung*, Lindau Matinee "Die Nobelpreise des Jahres 2017" (Sparkassensaal auf dem Lindauer Festland, 2018-01-21) (2018-01-21), (ID: 719974)

Talks

- R. Blatt *eQual Site Visit, overview & status*, eQual Site visit (Mainz, 2018-07-09) (2018-07-09), (ID: 720041)
- R. Blatt *IARPA Logical QUBITS*, 2nd Principal Investigators' Meeting (Washington Marriott Georgetown, 2018-01-24) (2018-01-24), (ID: 719976)

2017

Articles

- A. Bermudez, X. Xu, R. Nigmatullin, J. O’Gorman, V. Negnevitsky, P. Schindler, T. Monz, U. Poschinger, C. Hempel, J. Home, F. Schmidt-Kaler, M. Biercuk, R. Blatt, S. Benjamin, M. Müller *Assessing the Progress of Trapped-Ion Processors Towards Fault-Tolerant Quantum Computation*, Phys. Rev. X 7 41061 (2017-12-17), <http://dx.doi.org/10.1103/PhysRevX.7.041061> [doi:10.1103/PhysRevX.7.041061](https://doi.org/10.1103/PhysRevX.7.041061) (ID: 719935) [Toggle Abstract](#)
- B. P. Lanyon, C. Maier, M. Holzappel, T. Baumgratz, C. Hempel, P. Jurcevic, I. Dhand, A. S. Buyskik, A. J. Daley, M. Cramer, M. Plenio, R. Blatt, C. F. Roos *Efficient tomography of a quantum many-body system*, Nature Phys. 13 1158 (2017-12-05), <http://dx.doi.org/10.1038/nphys4244> [doi:10.1038/nphys4244](https://doi.org/10.1038/nphys4244) (ID: 719716) [Toggle Abstract](#)
- A. Bermudez, P. Schindler, T. Monz, R. Blatt, M. Müller *Micromotion-enabled improvement of quantum logic gates with trapped ions*, New J. Phys. 19 113038 (2017-11-24), <http://dx.doi.org/10.1088/1367-2630/aa86eb> [doi:10.1088/1367-2630/aa86eb](https://doi.org/10.1088/1367-2630/aa86eb) (ID: 719937) [Toggle Abstract](#)
- C. A. Muschik, M. Heyl, E. A. Martínez, T. Monz, P. Schindler, B. Vogell, M. Dalmonte, P. Hauke, R. Blatt, P. Zoller *U(1) Wilson lattice gauge theories in digital quantum simulators*, New J. Phys. 19 103020 (2017-10-20), <http://dx.doi.org/10.1088/1367-2630/aa89ab> [doi:10.1088/1367-2630/aa89ab](https://doi.org/10.1088/1367-2630/aa89ab) (ID: 719936) [Toggle Abstract](#)
- P. Jurcevic, H. Shen, P. Hauke, C. Maier, T. Brydges, C. Hempel, B. P. Lanyon, M. Heyl, R. Blatt, C. F. Roos *Direct observation of dynamical quantum phase transitions in an interacting many-body*

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- C. A. Riofrío, D. Gross, S. Flammia, T. Monz, D. Nigg, R. Blatt, J. Eisert *Experimental quantum compressed sensing for a seven-qubit system*, Nat. Commun. 8 15305 (2017-05-17), <http://dx.doi.org/10.1038/ncomms1530> [doi:10.1038/ncomms1530](https://doi.org/10.1038/ncomms1530) (ID: 719934) [Toggle Abstract](#)

Colloquia

- R. Blatt *The Quantum Way of Doing Computations*, Physics Colloquium (Departamento de Física Matemática-Instituto de Física, Universidade Federal do Rio de Janeiro, 2017-11-29) (2017-11-29), (ID: 719922)
- R. Blatt *The Quantum Way of Doing Computations*, Physical Colloquium (Faculty of Applied Sciences Delft, 2017-11-14) (2017-11-15), (ID: 719914)
- R. Blatt *The Quantum Way of Doing Computations*, IUPAP XXIX Conference on Computational Physics (Paris, 2017-07-09) (2017-07-10), (ID: 719854)
- R. Blatt *The Quantum Way of Doing Computations*, Colloquium on Invitation (IST Klosterneuburg, 2017-05-17) (2017-05-17), (ID: 719808)
- R. Blatt *Quantum Information Processing with Trapped Ions*, Physical Colloquium Talks (University of Jerusalem, 2017-03-23) (2017-03-23), (ID: 719777)
- R. Blatt *The Quantum Way of Doing Computations*, Physical Colloquium Talks (BGU Beer Sheva, 2017-03-21) (2017-03-21), (ID: 719775)
- R. Blatt *The Quantum Way of Doing Computations*, Physical Colloquium Talks (Technion Haifa, 2017-03-20) (2017-03-20), (ID: 719774)
- R. Blatt *The Quantum Way of Doing Computations*, V Encontro de Física e Astronomia da UFSC (Florianópolis, Brasilien, 2017-02-20) (2017-02-22), (ID: 719773)
- R. Blatt *The Quantum Way of Doing Computations*, Physikalisches Kolloquium (University of Stuttgart, 2017-01-31) (2017-01-31), (ID: 719756)

Conference

- R. Blatt *Engineered Quantum Systems Annual Workshop 2017*, Engineered Quantum Systems Annual Workshop 2017 (Crowne Plaza Hunter Valley, 2017-09-25) (2017-09-25), (ID: 719904)

Invited Talks

- R. Blatt *Quantum Simulations with Trapped Ions: Engineering long-range interactions*, Long-Range Interactions Workshop (Sao Carlos, Brazil, 2017-12-04) (2017-12-04), (ID: 719940)
- R. Blatt *Quantum simulations with trapped ions*, Physics Colloquium (Departamento de Física Matemática-Instituto de Física, Universidade Federal do Rio de Janeiro, 2017-11-30) (2017-11-30), (ID: 719923)
- R. Blatt *Quantum simulations with trapped ions*, ICQSIM (Ecole Normale Paris, 2017-11-13) (2017-11-13), (ID: 719915)
- R. Blatt *The Quantum Way of Doing Computations*, The Quantum Way of Doing Computations (Lau Ming Wai Academic Building City University of Hong Kong, 2017-11-08) (2017-11-08), (ID: 719913)
- R. Blatt *The Quantum Way of Doing Computations*, Workshop on Quantum Science (Institute for Advanced Studies (IAS), City University Hongkong, 2017-11-08) (2017-11-08), (ID: 719943)
- R. Blatt *The Quantum Way of Doing Computations*, GridKa School (FTU Karlsruhe, 2017-08-30) (2017-08-30), (ID: 719873)
- R. Blatt *Quantum Computations and Quantum Simulations with Trapped Ca⁺Ions*, XXXVI Biental RSEF (Santiago de Compostela, 2017-07-17) (2017-07-18), (ID: 719852)
- R. Blatt *Quantum Information Processing with Trapped Ions*, Quantum Optics to Quantum

- Technologies (London, 2017-07-10) (2017-07-13), (ID: 719855)
- R. Blatt *Quantum Computation and Quantum Simulation With Trapped Ca+Ions*, ICOLS2017 (Arcachon , 2017-07-02) (2017-07-03), (ID: 719853)
- R. Blatt *Quantum Information Processing and Quantum Simulations with Trapped Ca+Ions*, Workshop "From Static to Dynamic Gauge Fields with ultracold Atoms" (GGI Galileo Galilei Institute for Theoretical Physics, Florence, 2017-05-29) (2017-05-30), (ID: 719810)
- R. Blatt *Genera Gender pn Physics-Panel Discussion*, Genera Gender in Physics Day Austria (TU The Sky Vienna, 2017-05-24) (2017-05-24), (ID: 719809)
- R. Blatt *Plenarytalk Quantum Computations and Quantum Simulations with trapped Ca+Ions* , Quantum Information and Measurement (QIM) - IV: Quantum Technologies (Université Pierre et Marie Curie Paris, 2017-04-05) (2017-04-05), (ID: 719789)
- R. Blatt *Quantum Simulations with Cold Trapped Ions*, DPG Frühjahrstagung (Mainz, Johannes Gutenberg Universität, 2017-03-10) (2017-03-10), (ID: 719781)
- R. Blatt *Digital quantum simulations with trapped Ca+ ions Invited talk, workshop on Quantum Information Processing*, workshop on Quantum Information Processing (Florianopolis, Brazil, 2017-02-22) (2017-02-23), (ID: 719952)
- R. Blatt *Analog quantum simulations with trapped ions*, workshop on Quantum Information Processing (Florianopolis, Brazil, 2017-02-22) (2017-02-23), (ID: 719953)
- R. Blatt *The RF Paul trap – basics and operation*, workshop on Quantum Information Processing (Florianopolis, Brazil, 2017-02-22) (2017-02-22), (ID: 719954)
- R. Blatt *Quantum simulations with cold trapped ions – application to lattice gauge theories*, Workshop on “Quantum methods for lattice gauge theory calculations” (Mainz, Schloß Waldthausen, 2017-02-06) (2017-02-10), (ID: 719955)
- R. Blatt *Logical QUBITS (LogiQ) Program*, IARPA Logical Qubits (LogiQ) Program Principal Investigators’ Meeting (Chicago Marriot Downtown Magnificent Mile , 2017-02-08) (2017-02-08), (ID: 719761)
- R. Blatt *Neue Forschungsperspektiven der Quantenphysik* , Interdisziplinäre Tagung Quantenphysik und Philosophie (Europäische Akademie der Wissenschaften und Künste Salzburg , 2017-01-21) (2017-01-21), (ID: 719748)
- R. Blatt *Aktivitäten, Erfahrungen und Ergebnisse des "Quantum " Flagship High Level Steering Commitee*, Shaping the Future Quantum Technology Flagship-Workshop (FFG Wien, 2017-01-18) (2017-01-18), (ID: 719747)

Lecture

- R. Blatt *Quantencomputer – Rechenkunst mit Quantenphysik*, Public Lecture, 10 years ERC celebration (Aula, Universität Innsbruck, Austria) (2017-03-16), (ID: 719950)

Public Lectures

- R. Blatt *The second quantum revolution?*, European Forum Alpbach, Conflict & Cooperation (Alpbach in Tirol, 2017-08-24) (2017-08-26), (ID: 719872)
- R. Blatt *Die Nobelpreise für Physik 2016* , Lindau Matinee " Die Nobelpreise des Jahres 2016" (Lindau, 2017-01-29) (2017-01-29), (ID: 719760)

Seminar Talk

- R. Blatt *Quantum information processing with trapped ions and photons*, Solid State Seminar (Technion Haifa, 2017-03-22) (2017-03-22), (ID: 719776)

Talks

- R. Blatt, R. Blatt *Quantencomputer – Rechnen mit Quantenphysik*, Allgemeiner Vortrag für

- Besucher aus Industrie und Politik (IQOQI Innsbruck, 2017-12-22) (2017-12-22), (ID: 719941)
- R. Blatt *Modules for Quantum Computation*, ATOS Scientific Advisory Board Meeting (talk via Skype, Paris, France) (2017-11-23), (ID: 719942)
- R. Blatt *Das Institut für Quantenoptik und Quanteninformation*, Vortrag zum Besuch der Vorstandsvorsitzenden der Fa. Swarovski Optik, Absam, Frau Carina Schiestl-Swarovski und Kollegen (IQOQI Innsbruck) (2017-10-30), (ID: 719945)
- R. Blatt *Quantenoptik und Quanteninformation in Innsbruck*, Vortrag zum Besuch des Präsidenten der IV Tirol, Christoph Guerin-Swarowski (IQOQI Innsbruck) (2017-09-07), (ID: 719946)
- R. Blatt *Quantum Physics in Innsbruck*, Talk for the visit of Sergei Gorkov (VEB) and colleagues from the Russian Quantum Center (RQC) (IQOQI Innsbruck) (2017-08-24), (ID: 719947)
- R. Blatt *Quantum Characterization Verification & Validation (QCVV) Presentations*, ARO/LPS Quantum Computing Program Review (Annapolis, MD, 2017-07-24) (2017-07-24), (ID: 719871)
- R. Blatt *Das Institut für Quantenoptik und Quanteninformation (IQOQI)*, Vortrag zum Besuch des IT-Ausschusses der Wirtschaftskammer Österreichs (IQOQI Innsbruck) (2017-05-03), (ID: 719948)
- R. Blatt *Quantentechnologie – Weltweite Investitionstätigkeit*, Rotary Vortrag, Rotary Club Innsbruck (Innsbruck, Austria) (2017-04-18), (ID: 719949)
- R. Blatt *Quantum Physics in Innsbruck*, Talk for QIP stakeholders (bmbwf, UIBK, IV etc.) (IQOQI Innsbruck) (2017-03-03), (ID: 719951)
- R. Blatt *Quantum Information Research at IQOQI Innsbruck*, Vortrag vor Vertretern der Fa. M Squared Lasers und Wandisco (IQOQI Innsbruck) (2017-01-08), (ID: 719956)

2016

Articles

- E. A. Martínez, C. A. Muschik, P. Schindler, D. Nigg, A. Erhard, M. Heyl, P. Hauke, M. Dalmonte, T. Monz, P. Zoller, R. Blatt *Real-time dynamics of lattice gauge theories with a few-qubit quantum computer*, Nature 534 519 (2016-06-22), <http://dx.doi.org/10.1038/nature18318> [doi:10.1038/nature18318](https://doi.org/10.1038/nature18318) (ID: 719563) [Toggle Abstract](#)
- M. F. Brandl, M. 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. Poschinger, F. Schmidt-Kaler, P. Schindler, T. Monz, R. Blatt *Cryogenic setup for trapped ion quantum computing*, Review of Scientific Instruments (Online) 87 113103 (2016-06-21), <http://dx.doi.org/10.1063/1.4966970> [doi:10.1063/1.4966970](https://doi.org/10.1063/1.4966970) (ID: 720506)
- D. Higginbottom, L. Slodicka, G. Araneda, L. Lachman, S. N. Filippov, M. Hennrich, R. Blatt *Pure single photons from a trapped atom source*, New J. Phys. 18 93038 (2016-06-21), <http://dx.doi.org/10.1088/1367-2630/18/9/093038> [doi:10.1088/1367-2630/18/9/093038](https://doi.org/10.1088/1367-2630/18/9/093038) (ID: 720507)
- E. A. Martínez, T. Monz, D. Nigg, P. Schindler, R. Blatt *Compiling quantum algorithms for architectures with multi-qubit gates*, New J. Phys. 18 63029 (2016-06-21), <http://dx.doi.org/10.1088/1367-2630/18/6/063029> [doi:10.1088/1367-2630/18/6/063029](https://doi.org/10.1088/1367-2630/18/6/063029) (ID: 720509)
- M. F. Brandl, P. Schindler, T. Monz, R. Blatt *Cryogenic resonator design for trapped ion experiments in Paul traps*, Appl. Phys. B Las. Opt. 122 157 (2016-06-21), <http://dx.doi.org/10.1007/s00340-016-6430-z> [doi:10.1007/s00340-016-6430-z](https://doi.org/10.1007/s00340-016-6430-z) (ID: 720510)
- M. Müller, A. Rivas, E. A. Martínez, D. Nigg, P. Schindler, T. Monz, R. Blatt, M. A. Martin-Delgado *Iterative phase optimization of elementary quantum error correcting codes*, Phys. Rev. X 6 31030 (2016-06-16), (ID: 720508)
- R. Lechner, C. Maier, C. Hempel, P. Jurcevic, B. P. Lanyon, T. Monz, M. Brownnutt, R. Blatt, C. F. Roos *Electromagnetically-induced-transparency ground-state cooling of long ion strings*, Phys. Rev. A 93 53401 (2016-03-18), <http://dx.doi.org/10.1103/PhysRevA.93.053401> [doi:10.1103/PhysRevA.93.053401](https://doi.org/10.1103/PhysRevA.93.053401) (ID: 719536) [Toggle Abstract](#)
- D. Nigg, T. Monz, P. Schindler, E. A. Martínez, M. Hennrich, R. Blatt, M. F. Pusey, T. Rudolph, J. Barrett *Can different quantum state vectors correspond to the same physical state? An experimental test*, New J. Phys. 18 13007 (2016-03-04), <http://dx.doi.org/10.1088/1367-2630/18/1/013007>

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- M. Kumph, c. Henkel, P. Rabl, M. Brownnutt, R. Blatt *Electric-field noise above a thin dielectric layer on metal electrodes*, New J. Phys. 18 23020 (2016-03-04), <http://dx.doi.org/10.1088/1367-2630/18/2/023020> [doi:10.1088/1367-2630/18/2/023020](https://doi.org/10.1088/1367-2630/18/2/023020) (ID: 719519) [Toggle Abstract](#)
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- T. Monz, D. Nigg, E. A. Martínez, M. F. Brandl, P. Schindler, R. Rines, S. Wang, I. L. Chuang, R. Blatt *Realization of a scalable Shor algorithm*, Science 351 1070 (2016-03-04), <http://dx.doi.org/10.1126/science.aad9480> [doi:10.1126/science.aad9480](https://doi.org/10.1126/science.aad9480) (ID: 719521) [Toggle Abstract](#)

Colloquia

- R. Blatt *Perspectives of Quantum Technologies in Europe*, Perspectives of Quantum Technologies in Europe (Centro Espanol Metrologia Madrid, 2016-11-03) (2016-11-03), (ID: 719707)
- R. Blatt *The Quantum Way of Doing Computations*, Colloquium (Universidad Granada, 2016-06-07) (2016-06-07), (ID: 719586)
- R. Blatt *The Quantum Way of Doing Computations*, Physical Colloquium (Weizmann Institute, Rehovot, Israel, 2016-05-05) (2016-05-05), (ID: 719560)
- R. Blatt *The Quantum Way of Doing Computations*, (Tsinghua University, Beijing, 2016-02-26) (2016-02-26), (ID: 719627)

Invited Talks

- R. Blatt *Quantum Simulations with Trapped Ca+ Ions*, AIP Meeting (Australian Institute of Physics (AIP), Brisbane, 2016-12-04) (2016-12-06), (ID: 719709)
- R. Blatt *Kenotes: "Two Thriving Innovation Hubs-Similarities and Differences"*, 2nd Austrian-Singaporean Science and Business Day (Grand Hotel Vienna, 2016-09-29) (2016-09-30), (ID: 719660)
- R. Blatt *The Jaynes-Cummings Hamiltonian in Trapped-Ion Physics*, European Conference on Trapped Ions, ECTI (Arosa, Switzerland, 2016-08-29) (2016-08-31), (ID: 719661)
- R. Blatt *Quantum Error Correction and Quantum Simulation*, Gordon Research Conference (GRC) on Quantum Science (Stonehill College, Easton, MA, USA, 2016-08-02) (2016-08-02), (ID: 719724)
- R. Blatt *Quantum Computations and Quantum Simulations with Trapped Ca+ Ions*, ICAP 2016 (Intercontinental Seoul, Coex, 2016-07-24) (2016-07-25), (ID: 719637)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Seoul Conference on Frontiers in Quantum Information Science, A Satellite Meeting of ICAP 2016 (KIAS, Korea Institute for Advanced Study, 2016-07-21) (2016-07-22), (ID: 719636)
- R. Blatt *Quantum Characterization Verification & Validation*, ARO/LPS Quantum computing Program Review (Alexandria Virginia, 2016-07-18) (2016-07-18), (ID: 719638)
- R. Blatt *Quantum Information Processing with Trapped Ions and Photons*, QCMC2016 (National University of Singapore, 2016-07-04) (2016-07-08), (ID: 719608)
- R. Blatt *Quantumness for Computations and Simulations*, Quantumness a Celebration of Luiz Davidovich's Research Career on his 70th Birthday (UFRJ Ilha do Fundao, Rio de Janeiro, 2016-06-19) (2016-06-22), (ID: 719609)
- R. Blatt *Quantum simulations with cold trapped ions*, DAMOP 47th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (Providence Rhode Island, 2016-05-22) (2016-05-24), (ID: 719574)
- R. Blatt *Quantum Computation with Trapped Ions*, Quantum Europe 2016: A New Era of Technology (Europe Building Amsterdam, 2016-05-17) (2016-05-17), (ID: 719572)
- R. Blatt *The Quantum Way of Doing Computations*, Launch of the Australian Institute for

- Nanoscale Science and Technology (University of Sydney, 2016-04-19) (2016-04-21), (ID: 719552)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions* , EMN Meeting, Implementations of Quantum Computation and Quantum Simulation (Holidia Inn Resort Phuket, 2016-04-08) (2016-04-08), (ID: 719562)
- R. Blatt *Quantum Information Processing with Trapped Ions in Innsbruck*, Site Visit HUAWAI (HUAWAI Shenzhen, 2016-03-01) (2016-03-01), (ID: 719630)
- R. Blatt *An encoded Qubit alive (eQual)*, Kick-off meeting of the LogiQ program (IARPA), Kickoff Meeting Logical Qubits LogiQ (Hotel La Posada Santa Fe, New Mexico, 2016-02-22) (2016-02-22), (ID: 719532)
- R. Blatt *Quantum simulation with cold trapped ions*, Solvay Workshop on "Quantum simulation with cold matter and photons" (Brussels, 2016-02-08) (2016-02-08), (ID: 719506)
- R. Blatt *Multi-Qubit Coherent Operations* , (Double Tree by Hilton, Silver Spring, Washington, USA, 2016-01-27) (2016-01-27), (ID: 719498)
- R. Blatt *Die Nobelpreise des Jahres 2015*, (2016-01-17), (ID: 719475)

Public Lecture

- R. Blatt *Quantencomputer-Rechenkunst mit Quantenphysik, Quantentechnologien für das Informationszeitalter* , (Gymnasium Paulinum , Schwaz , 2016-10-18) (2016-10-18), (ID: 719705)

Seminar Talks

- R. Blatt *Quantum Computation and Quantum Simulation with Trapped Ca+ Ions*, Seminar (University of New South Wales (UNSW) Sydney, Australia, 2016-11-30) (2016-11-30), (ID: 719708)
- R. Blatt *Quantum information processing and quantum error correction with trapped Ca+ions*, (Weizmann Institute, Rehovot , 2016-05-03) (2016-05-03), (ID: 719559)
- R. Blatt *The Quantum Way of Doing Computations*, (University of Shanghai, 2016-03-04) (2016-03-04), (ID: 719535)

Talks

- R. Blatt *Quantum Optics and Quantum Information at the Austrian Academy of Sciences in Innsbruck* , (IQOQI Innsbruck , 2016-10-22) (2016-10-22), (ID: 719706)
- R. Blatt *Talk for startup companies from Japan, Korea and Singapore*, (IQOQI Innsbruck, 2016-10-22) (2016-10-22), (ID: 719725)
- R. Blatt *Quantum Optics and Spectroscopy Group-Results and Outlook*, Workshop of the quantum optics and spectroscopy group (Obergurgl, Austria, 2016-09-12) (2016-09-12), (ID: 719704)
- R. Blatt *Impulsreferat: Zwischen Autonomie und gesellschaftlicher Mission: Die Verantwortung der Wissenschaft gegenüber Grand Challenges* , Club Research (Vienna, Reitersaal der OeKB , 2016-04-27) (2016-04-27), (ID: 719565)
- R. Blatt *Vortrag zum Besuch von H. Hauser und I.E.C.T.*, (IQOQI Innsbruck, 2016-03-15) (2016-03-15), (ID: 719703)
- R. Blatt *Physik-Nobel-Preis 2015* , Matinee des Kuratoriums für Tagungen der Nobelpreisträger in Lindau (Lindau, Bodensee, 2016-01-17) (2016-01-17), (ID: 719628)

2015

Articles

- M. Brownnutt, M. Kumph, P. Rabl, R. Blatt *Ion-trap measurements of electric-field noise near surfaces*, Rev. Mod. Phys. 87 1419 (2015-12-22), <http://dx.doi.org/10.1103/RevModPhys.87.1419>

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- B. Casabone, K. Friebe, B. Brandstätter, K. Schüppert, R. Blatt, T. E. Northup *Enhanced Quantum Interface with Collective Ion-Cavity Coupling*, Phys. Rev. Lett. 114 023602 (2015-10-01), <http://dx.doi.org/10.1103/PhysRevLett.114.023602> [doi:10.1103/PhysRevLett.114.023602](https://doi.org/10.1103/PhysRevLett.114.023602) (ID: 719349) [Toggle Abstract](#)
- M. Guggemos, D. Heinrich, Ó. A. Herrera, R. Blatt, C. F. Roos *Sympathetic cooling and detection of a hot trapped ion by a cold one*, New J. Phys. 17 103001 (2015-07-29), <http://dx.doi.org/10.1088/1367-2630/17/10/103001> [doi:10.1088/1367-2630/17/10/103001](https://doi.org/10.1088/1367-2630/17/10/103001) (ID: 719305) [Toggle Abstract](#)
- P. Jurcevic, P. Hauke, C. Maier, C. Hempel, B. P. Lanyon, R. Blatt, C. F. Roos *Spectroscopy of interacting quasiparticles in trapped ions*, Phys. Rev. Lett. 115 100501 (2015-05-11), <http://dx.doi.org/10.1103/PhysRevLett.115.100501> [doi:10.1103/PhysRevLett.115.100501](https://doi.org/10.1103/PhysRevLett.115.100501) (ID: 719241) [Toggle Abstract](#)

Colloquia

- R. Blatt *The Quantum Way of Doing Computations*, Colloquia (Riken, Quantum Metrology Laboratory, 2015-10-08) (2015-10-08), (ID: 719359)
- R. Blatt *The Quantum Way of Doing Computations*, Colloquia (Graduate School of Engineering Science Osaka University, 2015-10-05) (2015-10-05), (ID: 719358)
- R. Blatt *The Quantum Way of Doing Computations*, ETH Kolloquium (ETH Zuerich, 2015-04-22) (2015-04-22), (ID: 719236)

Invited Talks

- R. Blatt *Quantum Information Processing with Trapped Ions*, Asia-Pacific Conference and Workshop on Quantum Information Science 2015 (Auckland, 2015-11-30) (2015-12-02), (ID: 719458)
- R. Blatt *Quantum simulations with trapped ions*, Workshop on Cold Atoms (Kingscote, Kangaroo Island, 2015-11-26) (2015-11-27), (ID: 719457)
- R. Blatt *Quantum Information Science with Trapped Ca+Ions*, 12th US-Japan Seminar Many body quantum systems from quantum gases to metrology and information processing (Monona Terrace Convention Center Madison, 2015-09-20) (2015-09-23), (ID: 719360)
- R. Blatt *Dynamics of magneton excitations with trapped ions*, Workshop on Synthetic Quantum Magnetism (Max Plank Institut Dresden, 2015-09-01) (2015-09-02), (ID: 719336)
- R. Blatt *Dynamics of magneton excitations with trapped ca+ions*, Workshop " Synthetic Quantum Magnetism" (MPI Dresden, 2015-08-31) (2015-09-02), (ID: 719439)
- R. Blatt *Quantum Computations Science with trapped Ca+Ions*, Bell Prize Session, Conference on Quantum Information & Quantum Control (Toronto, 2015-08-17) (2015-08-20), (ID: 719332)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Frontiers of quantum and Mesoscopic Thermodynamics FQMT15 (Prague, 2015-07-26) (2015-07-27), (ID: 719316)
- R. Blatt *Quantum information and a passion for ions and light*, Workshop Light: Life & Science (Instituto de Fisica de Sao Carlos, Universidade de Sao Paulo, Brazil, 2015-07-14) (2015-07-14), (ID: 719308)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Quantum Physics of Nature 2015 (QuPoN2015) (Vienna, 2015-05-18) (2015-05-19), (ID: 719265)
- R. Blatt *Ion Traps for Quantum Networks*, Ion Traps for Quantum Networks (Asilomar, Monterey, CA, 2015-05-16) (2015-05-17), (ID: 719436)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, YAO 2015 (ETH Zuerich, 2015-04-19) (2015-04-23), (ID: 719237)
- R. Blatt *Quantum Information Science with Trapped Ions*, QION Conference (Tel Aviv, 2015-03-15) (2015-03-15), (ID: 719434)
- R. Blatt *Exploring the Quantum with Ion Traps*, Cinquante ans de révolutions en physique atomique et en optique quantique, Serge Haroche (Collège de France, 2015-03-10) (2015-03-10), (ID: 719434)

719208)

- R. Blatt *The Quantum Way of Doing Computations*, The future of science and the science of the future (Brüssel, 2015-03-04) (2015-03-04), (ID: 719209)
- R. Blatt *The Quantum Way of Doing Computations*, Future of Science Conference of the Academia Europaea (Brussels, Belgium, 2015-03-04) (2015-03-04), (ID: 719433)

Lectures

- R. Blatt *Advanced quantum Information processing procedures and scaling the ion-trap QC*, Australian and New Zealand School in Ultracold Physics 2015 (University of Otago, 2015-12-08) (2015-12-08), (ID: 719440)
- R. Blatt *Multi-qubit operations, logical qubits and spin chains of trapped ions*, Australian and New Zealand School in Ultracold Physics 2015 (Dunedin, 2015-11-30) (2015-12-08), (ID: 719461)
- R. Blatt *Multi-qubit operations, logical qubits and spin chains of trapped ions*, Australian and New Zealand School in Ultracold Physics 2015 (University of Otago, 2015-12-07) (2015-12-07), (ID: 719441)
- R. Blatt *Implementation concepts of quantum information processing with trapped ions*, Australian and New Zealand School in Ultracold Physics 2015 (Dunedin, 2015-11-30) (2015-12-07), (ID: 719459)
- R. Blatt *Quantum gate operations and entanglement with trapped ions*, Australian and New Zealand School in Ultracold Physics 2015 (Dunedin, 2015-11-30) (2015-12-07), (ID: 719460)
- R. Blatt *Advanced Quantum information Processing Procedures and Scalling the Ion-Trap QC*, Okinawa School in Physics: coherent quantum Dynamics, OIST (Onn Village, Okinawa, 2015-09-29) (2015-10-03), (ID: 719453)
- R. Blatt *Quantum Gate operations and Entanglement with Trapped Ions*, Okinawa School in Physics: Coherent Quantum Dynamics (Onn Village Okinawa, 2015-09-29) (2015-10-02), (ID: 719452)
- R. Blatt *Quantum Information Science-Experimental Implementation with Trapped Ions*, Okinawa School in Physics: Coherent Quantum Dynamics 2015 (CQD) (Okinawa Institute of Science and Technology Graduate University, 2015-10-01) (2015-10-01), (ID: 719357)

Seminar Talks

- R. Blatt *Quantum Optics-and Spectroscopy Group 2015*, Klausur der AG Quantenoptik und Spektroskopie (Seefeld, Austria, 2015-09-07) (2015-09-07), (ID: 719450)
- R. Blatt *Quantum Information Processing with Trapped Ions*, (Univesity of Sao Paulo at Sao Carlos, 2015-07-15) (2015-07-15), (ID: 719437)

Talks

- R. Blatt *FoQuS-Foundations and Applications of Quantum Science*, General Report and Proposal for 3rd period of the SFB FoQuS (FWF, Vienna, 2015-10-29) (2015-10-29), (ID: 719454)
- R. Blatt *Quantum Computation and Entanglement with Ion Strings*, Project Report and Proposal for 3rd period of the SFB FoQuS (FWF, Vienn, 2015-10-29) (2015-10-29), (ID: 719456)
- R. Blatt *Quantum Computation and Entanglement with Ion Strings*, Special Research Programme (SFB) F40-N23 Foundations and Applications of quantum Science (FWF, Haus der Forschung, Vienna, 2015-10-28) (2015-10-28), (ID: 719377)
- R. Blatt *"Quantencomputer-Rechenkunst nach Heisenberg"*, Mitgliederversammlung der Heisenberg Gesellschaft (MPI Physik, Munich, 2015-10-16) (2015-10-16), (ID: 719364)
- R. Blatt *Certified Topological Quantum Computation with Trapped Ions*, ARO/LPS Quantum Computing Program Review (Ritz Carlton Pentagon City, Arlington, Virginia, 2015-07-20) (2015-07-21), (ID: 719309)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Special AMO Seminar (University

of Stanford, 2015-05-14) (2015-05-14), (ID: 719263)

- R. Blatt *Quantencomputer - Fakten und Fiktionen*, Vortrag Rotary Club Innsbruck (Hotel Europa Innsbruck, 2015-04-28) (2015-04-28), (ID: 719435)

2014

Articles

- T. E. Northup, R. Blatt *Quantum information transfer using photons*, Nature Photon. 8 363 (2014-11-07), <http://dx.doi.org/10.1038/nphoton.2014.53> [doi:10.1038/nphoton.2014.53](https://doi.org/10.1038/nphoton.2014.53) (ID: 719036)
- D. Nigg, M. Müller, E. A. Martínez, P. Schindler, M. Hennrich, T. Monz, M. A. Martin-Delgado, R. Blatt *Quantum computations on a topologically encoded qubit*, Science 345 305 (2014-11-07), <http://dx.doi.org/10.1126/science.1253742> [doi:10.1126/science.1253742](https://doi.org/10.1126/science.1253742) (ID: 719037)
- P. Jurcevic, B. P. Lanyon, P. Hauke, C. Hempel, P. Zoller, R. Blatt, C. F. Roos *Quasiparticle engineering and entanglement propagation in a quantum many-body system*, Nature 511 202 (2014-07-10), <http://dx.doi.org/10.1038/nature13461> [doi:10.1038/nature13461](https://doi.org/10.1038/nature13461) (ID: 718717) [Toggle Abstract \(local copy\)](#)
- B. P. Lanyon, M. Zwerger, P. Jurcevic, C. Hempel, W. Dür, H. J. Briegel, R. Blatt, C. F. Roos *Experimental Violation of Multipartite Bell Inequalities with Trapped Ions*, Phys. Rev. Lett. 112 100403 (2014-03-13), <http://dx.doi.org/10.1103/PhysRevLett.112.100403> [doi:10.1103/PhysRevLett.112.100403](https://doi.org/10.1103/PhysRevLett.112.100403) (ID: 718697) [Toggle Abstract](#)

Colloquia

- R. Blatt *The Quantum Way of Doing Computations*, CQT Annual Symposium 2014 (National University of Singapore, 2014-12-08) (2014-12-08), (ID: 719096)
- R. Blatt *The Quantum Way of Doing Computations*, Symposium "The famous, the bit and the quantum" (National University of Singapore, 2014-12-08) (2014-12-08), (ID: 719112)
- R. Blatt *The Quantum Way of Doing Computations*, Physics Lectures (University of Rio de Janeiro, Physics Department, 2014-11-06) (2014-11-06), (ID: 719042)
- R. Blatt *The Quantum Way of Doing Computations*, Doctoral Programme in the Physics and Mathematics of Information (IST, University of Lisbon, 2014-10-01) (2014-10-01), (ID: 719013)
- R. Blatt *Quantencomputer-Rechenkunst mit Quantenphysik*, Physikalisches Kolloquium (Friedrich Schiller Universität Jena, 2014-05-12) (2014-05-12), (ID: 718912)
- R. Blatt *The Quantum Way of Doing Computations*, Physikalisches Kolloquium (Universität Bielefeld, 2014-02-03) (2014-02-03), (ID: 718829)
- R. Blatt *The Quantum Way of Doing Computations*, Physikalisches Kolloquium (Universität Kaiserslautern, 2014-01-20) (2014-01-20), (ID: 718727)
- R. Blatt *The Quantum Way of Doing Computations*, Physikalisches Kolloquium (Fachhochschule Vorarlberg, Dornbirn, 2014-01-15) (2014-01-15), (ID: 718728)

Invited Talks

- R. Blatt *Quantum Information Processing with Trapped Ca⁺ Ions*, The Art of Physics (Australian National University, 2014-12-08) (2014-12-11), (ID: 719097)
- R. Blatt *Quantum Information Science with Trapped Ca⁺ Ions*, The Art of Physics, AIP 2014 Congress (Australian National University, Canberra, 2014-12-07) (2014-12-11), (ID: 719115)
- R. Blatt *Quantum computations on a topologically encoded quantum bit*, Annual workshop of the ARC center on Engineered Quantum Systems (Coogee Bay, Sydney,, 2014-12-04) (2014-12-05), (ID: 719095)
- R. Blatt *Quantum Computations on a Topologically Encoded Qubit*, EQuS Workshop (Hotel Crown

- Plaza, Sydney, 2014-12-04) (2014-12-05), (ID: 719114)
- R. Blatt *Quantencomputer-Rechenkunst mit Quantentricks*, VDI Wissensforum, Simulation und Erprobung in der Fahrzeugentwicklung (Baden Baden, 2014-11-18) (2014-11-18), (ID: 719071)
 - R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Quantum Optics VII (Mar del Plata, Argentina, 2014-10-27) (2014-10-27), (ID: 719041)
 - R. Blatt *Quantum Information Processing and Quantum Simulations with Trapped Ions*, Workshop on Many-body Dynamics and Open Quantum Systems, DOQS2014 (Grand Central Hotel Glasgow, 2014-10-20) (2014-10-21), (ID: 719032)
 - R. Blatt *Quantencomputer - Rechenkunst mit Quantentricks*, Highlights der Physik (Saarlandhalle Saarbrücken, 2014-09-28) (2014-09-29), (ID: 719012)
 - R. Blatt *Quantum information science with trapped ions*, European conference on ion trapping ECTI (Schloss Waldthausen Mainz, 2014-09-14) (2014-09-15), (ID: 719005)
 - R. Blatt *Quantum Simulations with strings of trapped Ca+Ions*, Gordon Research Conference on Quantum Science (Stonehill College in Easton MA, United States, 2014-07-27) (2014-07-28), (ID: 718978)
 - R. Blatt *Quantum Simulations with Strings of Trapped Ca+ Ions"*, Gordon Research Conference on Quantum Science (Stonehill College, Boston, USA, 2014-07-27) (2014-07-28), (ID: 718989)
 - R. Blatt *Quantum Physics with Trapped Ions*, UIBK-Infineon workshop (Infineon GmbH, Villach, Austria, 2014-07-17) (2014-07-17), (ID: 718972)
 - R. Blatt *Quantum Information Processing and Quantum Simulations with Trapped Ions*, 21st Central European Workshop on Quantum Optics (CEWQO2014) (Brussels, 2014-06-23) (2014-06-26), (ID: 718958)
 - R. Blatt *The Kimble factor in our work with ion traps*, Symposium "The Quantum Optics Frontier" (California Institute of Technology CALTECH, 2014-04-24) (2014-04-26), (ID: 718913)
 - R. Blatt *Quantum simulations with trapped ions*, APS March Meeting 2014 (Colorado Convention Center Denver, Colorado, 2014-03-03) (2014-03-03), (ID: 718865)

Lecture

- R. Blatt *QIT pedagogic lecture*, Doctoral Programme in the Physics and Mathematics of Information (IST, Instituto de Telecomunicacoes, University of Lisbon, 2014-10-03) (2014-10-03), (ID: 719014)

Preprints

- M. Niedermayr, K. Lakhmanskiy, M. Kumph, S. Partel, J. Edlinger, M. Brownnutt, R. Blatt *Cryogenic silicon surface ion trap*, (2014-11-15), [arXiv:1403.5208](#) [arXiv:1403.5208](#) (ID: 719049) [Toggle Abstract](#)
- M. Kumph, P. Holz, K. Langer, M. Niedermayr, M. Brownnutt, R. Blatt *Operation of a planar-electrode ion trap array with adjustable RF electrodes*, (2014-02-04), [arXiv:1402.0791](#) [arXiv:1402.0791](#) (ID: 719047) [Toggle Abstract](#)

Public Lecture

- R. Blatt *Heinrich Schütz und Galileo Galilei - große Männer ihrer Zeit*, Impulsreferat zur Aufführung der Mattheus-Passion von Heinrich Schütz im Rahmen der Tiroler Barocktage (Tiroler Barocktage, Götzens, Österreich, 2014-04-06) (2014-04-09), (ID: 718971)

Seminar Talks

- R. Blatt *Entanglement distribution in a Quantum-Many-Body-System*, eQus Optomechanics Incubator workshop (Coogee Bay Hotel Sydney, 2014-12-03) (2014-12-03), (ID: 719113)
- R. Blatt *Quantum Simulations with Trapped Ions*, 553.Heraeus Seminar on "Discrete and Analogue

Quantum Simulators" (Physikzentrum Bad Honnef, 2014-02-10) (2014-02-11), (ID: 718843)

Talks

- R. Blatt *Quantum Computing Program Review (QCPR)*, Quantum Computing Program Review, QCPR (Arlington, Washington, USA, 2014-08-10) (2014-08-12), (ID: 718988)
- R. Blatt *Algorithm Demonstrations*, IARPA MQCO PI Meeting (Laboratory of Physical Sciences Washington, 2014-05-27) (2014-05-29), (ID: 718959)
- R. Blatt *Quantenphysik - Was ist das überhaupt?*, Vortrag Rotary Telfs-Seefeld (IQOQI Innsbruck, Austria, 2014-02-06) (2014-02-06), (ID: 718970)

2013

Articles

- B. Brandstätter, A. McClung, K. Schüppert, B. Casabone, K. Friebe, A. Stute, P. O. Schmidt, C. Deutsch, J. Reichel, R. Blatt, T. E. Northup *Integrated fiber-mirror ion trap for strong ion-cavity coupling*, Review of Scientific Instruments (Print) 84 123104 (2013-12-17), <http://dx.doi.org/10.1063/1.4838696> [doi:10.1063/1.4838696](https://doi.org/10.1063/1.4838696) (ID: 718695) [Toggle Abstract](#)
- P. Schindler, D. Nigg, T. Monz, J. T. Barreiro, E. A. Martínez, S. Wang, S. Quint, M. F. Brandl, V. Nebendahl, C. F. Roos, M. Chwalla, M. Hennrich, R. Blatt *A quantum information processor with trapped ions*, New J. Phys. 15 123012 (2013-12-06), <http://dx.doi.org/10.1088/1367-2630/15/12/123012> [doi:10.1088/1367-2630/15/12/123012](https://doi.org/10.1088/1367-2630/15/12/123012) (ID: 718676) [Toggle Abstract](#)
- B. P. Lanyon, P. Jurcevic, M. Zwerger, C. Hempel, E. A. Martínez, W. Dür, H. J. Briegel, R. Blatt, C. F. Roos *Measurement-based quantum computation with trapped ions*, Phys. Rev. Lett. 111 210501 (2013-11-19), <http://dx.doi.org/10.1103/PhysRevLett.111.210501> [doi:10.1103/PhysRevLett.111.210501](https://doi.org/10.1103/PhysRevLett.111.210501) (ID: 718582) [Toggle Abstract](#)
- G. Hétet, L. Slodicka, N. Röck, R. Blatt *Free-space read-out and control of single-ion dispersion using quantum interference*, Phys. Rev. A 88 041804(R) (2013-10-24), <http://dx.doi.org/10.1103/PhysRevA.88.041804> [doi:10.1103/PhysRevA.88.041804](https://doi.org/10.1103/PhysRevA.88.041804) (ID: 718623) [Toggle Abstract](#)
- B. P. Lanyon, P. Jurcevic, C. Hempel, M. Gessner, V. Vedral, R. Blatt, C. F. Roos *Experimental generation of quantum discord via noisy processes*, Phys. Rev. Lett. 111 100504 (2013-09-06), <http://dx.doi.org/10.1103/PhysRevLett.111.100504> [doi:10.1103/PhysRevLett.111.100504](https://doi.org/10.1103/PhysRevLett.111.100504) (ID: 718585) [Toggle Abstract](#)
- J. T. Barreiro, J. Bancal, P. Schindler, D. Nigg, M. Hennrich, T. Monz, N. Gisin, R. Blatt *Demonstration of genuine multipartite entanglement with device-independent witnesses*, Nature Phys. 9 562 (2013-08-04), <http://dx.doi.org/10.1038/nphys2705> [doi:10.1038/nphys2705](https://doi.org/10.1038/nphys2705) (ID: 718862) [Toggle Abstract](#)
- C. Hempel, B. P. Lanyon, P. Jurcevic, R. Gerritsma, R. Blatt, C. F. Roos *Entanglement-enhanced detection of single-photon scattering events*, Nature Photon. 7 633 (2013-07-30), <http://dx.doi.org/10.1038/nphoton.2013.172> [doi:10.1038/nphoton.2013.172](https://doi.org/10.1038/nphoton.2013.172) (ID: 718575) [Toggle Abstract](#)
- P. Schindler, M. Müller, D. Nigg, J. T. Barreiro, E. A. Martínez, M. Hennrich, T. Monz, S. Diehl, P. Zoller, R. Blatt *Quantum simulation of open-system dynamical maps with trapped ions*, Nature Phys. 9 367 (2013-05-19), <http://dx.doi.org/10.1038/nphys2630> [doi:10.1038/nphys2630](https://doi.org/10.1038/nphys2630) (ID: 718325) [Toggle Abstract \(local copy\)](#)
- P. Bushev, G. Hétet, L. Slodicka, D. Rotter, M. A. Wilson, F. Schmidt-Kaler, J. Eschner, R. Blatt *Shot-noise-limited monitoring and phase locking of the motion of a single trapped ion*, Phys. Rev. Lett. 110 133602 (2013-03-27), <http://dx.doi.org/10.1103/PhysRevLett.110.133602> [doi:10.1103/PhysRevLett.110.133602](https://doi.org/10.1103/PhysRevLett.110.133602) (ID: 718471) [Toggle Abstract](#)
- A. Stute, B. Casabone, B. Brandstätter, K. Friebe, T. E. Northup, R. Blatt *Quantum-state transfer from an ion to a photon*, Nature Photon. 7 222 (2013-02-27), <http://dx.doi.org/10.1038/nphoton.2012.358> [doi:10.1038/nphoton.2012.358](https://doi.org/10.1038/nphoton.2012.358) (ID: 718446)
- L. Slodicka, G. Hétet, N. Röck, P. Schindler, M. Hennrich, R. Blatt *Atom-atom entanglement by*

single-photon detection, Phys. Rev. Lett. 110 083603 (2013-02-22), <http://dx.doi.org/10.1103/PhysRevLett.110.083603> [doi:10.1103/PhysRevLett.110.083603](https://doi.org/10.1103/PhysRevLett.110.083603) (ID: 718441)

- P. Schindler, T. Monz, D. Nigg, J. T. Barreiro, E. A. Martínez, M. F. Brandl, M. Chwalla, M. Hennrich, R. Blatt *Undoing a quantum measurement*, Phys. Rev. Lett. 110 070403 (2013-02-14), <http://dx.doi.org/10.1103/PhysRevLett.110.070403> [doi:10.1103/PhysRevLett.110.070403](https://doi.org/10.1103/PhysRevLett.110.070403) (ID: 718428)
- D. Nigg, J. T. Barreiro, P. Schindler, M. Mohseni, T. Monz, M. Chwalla, M. Hennrich, R. Blatt *Experimental Characterization of Quantum Dynamics Through Many-Body Interactions*, Phys. Rev. Lett. 110 040603 (2013-02-06), <http://dx.doi.org/10.1103/PhysRevLett.110.060403> [doi:10.1103/PhysRevLett.110.060403](https://doi.org/10.1103/PhysRevLett.110.060403) (ID: 718422)

Colloquia

- R. Blatt *The Quantum Way of Doing Computations*, Frew Fellow Talk (Swineburne University, Australia, 2013-12-20) (2013-12-20), (ID: 718715)
- R. Blatt *Quantum Information Science with Trapped Ions*, Frew Fellow talk (ANU Canberra, Australia, 2013-12-16) (2013-12-16), (ID: 718714)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Frew Fellow talk (colloquium) (University of Queensland, Brisbane, QLD, Australia, 2013-12-05) (2013-12-05), (ID: 718712)
- R. Blatt *The Quantum Way of doing Computation*, Physikalisches Kolloquium (Paul Scherrer Institut, 2013-11-21) (2013-11-21), (ID: 718674)
- R. Blatt *The Quantum Way of Doing Computations*, Topical Group Discussion (ITAMP, Cambridge MA, USA, 2013-09-19) (2013-09-23), (ID: 718609)
- R. Blatt *The Quantum Way of doing Computations*, Physikalisches Kolloquium Universität Stuttgart (Universität Stuttgart, 2013-04-23) (2013-04-23), (ID: 718502)
- R. Blatt *The Quantum Way of Doing Computations*, Colloquium (University of Aarhus, 2013-04-08) (2013-04-08), (ID: 718490)
- R. Blatt *Quantum error correction and quantum simulations with trapped ions*, Colloquium (University of Sao Carlos, Brazil, 2013-02-26) (2013-02-26), (ID: 718449)
- R. Blatt *The Quantum Way of Doing Computations*, Colloquium (University of Sao Paulo, Brazil, 2013-02-25) (2013-02-25), (ID: 718448)
- R. Blatt *The Quantum Way of Doing Computations*, Physikalisches Kolloquium Universität Ulm (Universität Ulm, 2013-01-21) (2013-01-21), (ID: 718372)
- R. Blatt *Quantum error correction and quantum simulations with trapped ions*, Physical Colloquium (University of Bilbao, 2013-01-10) (2013-01-10), (ID: 718719)

Conferences

- R. Blatt *Milestone and Test Plan Progress Innsbruck*, IARPA Multi Qubit Coherent Operations Program Review MQCO (Indianapolis, 2013-05-29) (2013-05-29), (ID: 718530)
- R. Blatt *IARPA Multi-Qubit Coherent Operations Supporting Government Labs Workshop*, IARPA Multi-Qubit coherent Operations Supporting Government Labs Workshop (San Diego, CA, 2013-01-28) (2013-01-28), (ID: 718434)
- R. Blatt *MQCO PI Meeting*, MQCO PI Meeting (San Diego, CA, 2013-01-28) (2013-01-28), (ID: 718435)

Invited Talks

- R. Blatt *Quantum Information Science with Trapped Ions*, Australian-New Zealand Conference on Optics and Photonics (ANZCOP), Frew Fellow Plenary Talk (Freemantle, WA Australia, 2013-12-08) (2013-12-09), (ID: 718713)
- R. Blatt *The Quantum Way of Doing Computation*, QCCC Closing Symposium Garching (Institute of Advanced Study IAS, Garching, 2013-10-17) (2013-10-18), (ID: 718620)

- R. Blatt *Bohr's Quantum Jumps: Doing and Undoing*, The Quantum Century: 100 Years of Bohr Atom (Copenhagen University, 2013-10-03) (2013-10-03), (ID: 718613)
- R. Blatt *Quantum Information Processing with Trapped Ca+ Ions: error correction and ion photon entanglement*, Workshop on Quantum Applications with Trapped Ions (ITAMP, Cambridge, MA, USA, 2013-09-16) (2013-09-18), (ID: 718608)
- R. Blatt *The Quantum Way of Doing Computations*, Plenarvortrag, Gemeinsame Jahrestagung ÖPG und SPS 2013 (Linz, Austria, 2013-09-03) (2013-09-04), (ID: 718603)
- R. Blatt *Quantum Information Science with Trapped Ions*, RQC Summer School (Moscow School of Management Skolkovo, 2013-07-15) (2013-07-18), (ID: 718580)
- R. Blatt *Quantum Information Processing - Where do we stand where do we go?*, Science Breakfast, Lindau Nobel laureate meeting (Lindau, Germany, 2013-06-30) (2013-07-03), (ID: 718721)
- R. Blatt *Quantum Information Processing with Trapped Ions*, CQO/QIM (University of Rochester, 2013-06-15) (2013-06-20), (ID: 718547)
- R. Blatt *Scalable quantum information processing*, IARPA meeting (Indianapolis, USA, 2013-05-29) (2013-05-29), (ID: 718720)
- R. Blatt *In pursuit of the single cold atom: From single ion spectroscopy to quantum information processing*, Otto Stern Symposium In Pursuit of the Single Cold Atom (University of Hamburg, 2013-05-24) (2013-05-24), (ID: 718524)
- R. Blatt *Quantum simulations with trapped ions*, Workshop on Quantum Simulations (Technion Haifa, 2013-05-02) (2013-05-02), (ID: 718521)
- R. Blatt *Industrial Equipment Sector Scientific Support to KETs and Innovative SMEs*, Scientific Support to Key Enabling Technologies and innovative SMES, KETs (European Commission Brussels, 2013-04-25) (2013-04-25), (ID: 718503)
- R. Blatt *Open systems quantum simulations*, Quantum Many-Body Dynamics in Open Systems (Physikzentrum Bad Honnef, 2013-04-02) (2013-04-03), (ID: 718483)
- R. Blatt *Quantum computers and processing*, Scientific support to policy-making: new applications of quantum technologies for computing, communication, metrology and sensing (European Commission, Brussels, 2013-03-07) (2013-03-07), (ID: 718470)
- R. Blatt *What I learned from Dan Kleppner: Cavity QED and a Passion for Atoms and Precision*, Symposium Honoring Prof. D. Kleppner (University of Sao Carlos, Brazil, 2013-02-28) (2013-02-28), (ID: 718450)

Issue

- R. Blatt, I. Bloch, I. J. Cirac, P. Zoller *Quantum simulation - an exciting adventure*, Ann. Phys. 525 (2013-11-04), <http://dx.doi.org/10.1002/andp.201370100> [doi:10.1002/andp.201370100](https://doi.org/10.1002/andp.201370100) (ID: 718616)

Lectures

- R. Blatt *Advanced QIP procedures, scaling the ion-trap quantum computer*, Lecture at the Enrico Fermi summer school on "Ion Traps for Tomorrow's Applications", Villa Monastero (Varenna, Lake Como, Italy, 2013-07-22) (2013-07-26), (ID: 718606)
- R. Blatt *Quantum Information Processing with Trapped Ions*, Varenna summer school on trapped ions (Varenna, Lake Como, Italy, 2013-07-23) (2013-07-24), (ID: 718604)
- R. Blatt *Quantum gate operations and entanglement with trapped ions*, Lecture at the Enrico Fermi summer school on "Ion Traps for Tomorrow's Applications", Villa Monastero (Varenna, Lake Como, Italy, 2013-07-23) (2013-07-24), (ID: 718605)

Talk

- R. Blatt *Scalable Quantum Information Processing*, Site Review Meeting (MIT, Cambridge USA, 2013-09-20) (2013-09-20), (ID: 718722)

2012

Articles

- E. A. Hinds, R. Blatt *NOBEL 2012 Physics: Manipulating individual quantum systems*, Nature 492 55 (2012-12-05), <http://dx.doi.org/10.1038/492055a> [doi:10.1038/492055a](https://doi.org/10.1038/492055a) (ID: 718370)
- D. Gandolfi, M. Niedermayr, M. Kumph, M. Brownnutt, R. Blatt *Compact radio-frequency resonator for cryogenic ion traps*, Review of Scientific Instruments (Print) 83 084705 (2012-11-01), <http://dx.doi.org/10.1063/1.4737889> [doi:10.1063/1.4737889](https://doi.org/10.1063/1.4737889) (ID: 718262) [Toggle Abstract](#)
- M. Brownnutt, M. Harlander, W. Hänsel, R. Blatt *Spatially-resolved potential measurement with ion crystals*, Appl. Phys. B Las. Opt. 107 1125 (2012-06-27), <http://dx.doi.org/10.1007/s00340-012-5032-7> [doi:10.1007/s00340-012-5032-7](https://doi.org/10.1007/s00340-012-5032-7) (ID: 718115)
- A. Stute, B. Casabone, B. Brandstätter, D. Habicher, H. Barros, P. O. Schmidt, T. E. Northup, R. Blatt *Toward an ion-photon quantum interface in an optical cavity*, Appl. Phys. B Las. Opt. 107 1145 (2012-06-27), <http://dx.doi.org/10.1007/s00340-011-4861-0> [doi:10.1007/s00340-011-4861-0](https://doi.org/10.1007/s00340-011-4861-0) (ID: 718116)
- A. Stute, B. Casabone, P. Schindler, T. Monz, P. O. Schmidt, B. Brandstätter, T. E. Northup, R. Blatt *Tunable ion-photon entanglement in an optical cavity*, Nature 485 482 (2012-05-24), <http://dx.doi.org/10.1038/nature11120> [doi:10.1038/nature11120](https://doi.org/10.1038/nature11120) (ID: 718088)
- L. Slodicka, G. Hétet, N. Röck, S. Gerber, P. Schindler, M. Kumph, M. Hennrich, R. Blatt *Interferometric Thermometry of a single sub-Doppler-cooled atom*, Phys. Rev. A 85 043401 (2012-04-05), <http://dx.doi.org/10.1103/PhysRevA.85.043401> [doi:10.1103/PhysRevA.85.043401](https://doi.org/10.1103/PhysRevA.85.043401) (ID: 718043) [Toggle Abstract](#)
- R. Blatt, C. F. Roos *Quantum simulations with trapped ions*, Nature Phys. 8 277 (2012-04-03), <http://dx.doi.org/10.1038/NPHYS2252> [doi:10.1038/NPHYS2252](https://doi.org/10.1038/NPHYS2252) (ID: 718042)

Colloquia

- R. Blatt *The Quantum Way of Doing Computations*, Physikalisches Kolloquium (University of Göttingen, 2012-11-26) (2012-11-26), (ID: 718439)
- R. Blatt *The Quantum Way of Doing Computations*, Colloquium (University of Buenos Aires, 2012-11-08) (2012-11-08), (ID: 718284)
- R. Blatt *The Quantum Way of Doing Computations*, Colloquium University of Siegen (Universität Siegen, 2012-05-10) (2012-05-10), (ID: 718098)
- R. Blatt *The Quantum Way of Doing Computations*, Physics Colloquia (Simon Fraser University, Vancouver, 2012-03-09) (2012-03-09), (ID: 718023)
- R. Blatt *The Quantum Way of Doing Computations*, Physics Colloquia (University of British Columbia, Vancouver, 2012-03-08) (2012-03-08), (ID: 718022)
- R. Blatt *The Quantum Way of Doing Computations*, Physics Colloquia (University of Victoria, BC, 2012-03-07) (2012-03-07), (ID: 718021)
- R. Blatt *The Quantum Way of Doing Computations*, Physics Colloquia (University of Sydney, 2012-02-06) (2012-02-06), (ID: 718016)
- R. Blatt *The Quantum Way of Doing Computations*, Physics Colloquia (Australian National University Canberra, 2012-02-02) (2012-02-02), (ID: 718015)
- R. Blatt *The Quantum Way of Doing Computations*, Physics Colloquium (University of Otago, Dunedin, New Zealand, 2012-01-30) (2012-01-30), (ID: 718014)

Conferences

- R. Blatt *Quantum computation and entanglement with ion strings*, Interim Review Hearing Foundations and Applications of Quantum Science (Haus der Forschung FWF, Vienna, 2012-10-10) (2012-10-10), (ID: 718255)

- R. Blatt *Entanglement in a cavity QED system*, Interim Review Hearing, Foundations and Applications of Quantum Science (Haus der Forschung, FWF, Vienna, 2012-10-10) (2012-10-10), (ID: 718256)

Invited Talks

- R. Blatt *Quantum Information Processing with Trapped Ca⁺ Ions*, Quantum Optics VI (Hotel Argentino, Piriapolis, 2012-11-12) (2012-11-13), (ID: 718285)
- R. Blatt *Quantum Information Processing with Trapped Ca⁺ Ions*, Quantum Information meets Statistical Mechanics (Hotel Grauer Bär Innsbruck, 2012-09-22) (2012-09-24), (ID: 718243)
- R. Blatt *Quantum Information Processing with Trapped Ca⁺ Ions*, ICQFT 2012 (Dunhuang, 2012-08-26) (2012-08-26), (ID: 718212)
- R. Blatt *Quantum Simulations with Trapped Ions*, Gordon Research Conference Stonehill College Easton (Stonehill College Easton, Brockton, USA, 2012-08-12) (2012-08-12), (ID: 718183)
- R. Blatt *Quantum entanglement and information processing with trapped ions*, Quantum Meets Gravity and Metrology (Physikzentrum Bad Honnef, 2012-06-04) (2012-06-05), (ID: 718111)
- R. Blatt *Quantum Control and Error Correction with Trapped Ca⁺ ions*, QCS workshop (Minneapolis, MN, USA, 2012-05-21) (2012-05-22), (ID: 718099)
- R. Blatt *Quantum Gate Operations with Trapped Ions*, Quantum Gate Operations with Trapped Ions (Universität Siegen, 2012-05-07) (2012-05-09), (ID: 718097)
- R. Blatt *QIP with trapped Ca⁺ ions- Quantum Error Correction*, Workshop on Quantum Characterization, Verification and Validation (QCVV) (Bethesda, Washington, 2012-04-29) (2012-05-01), (ID: 718096)
- R. Blatt *Quantum information processing with trapped Ca⁺ ions operations and verification*, Workshop on Quantum Characterization, Verification and Validation (QCVV) (Bethesda, Washington, 2012-04-29) (2012-04-29), (ID: 718095)
- R. Blatt *The quantum way of doing computations Plenary Talk*, 76. Annual Conference of the DPG and DPG Spring Meeting of the Condensed Matter Section (SKM) (Technische Universität Berlin, 2012-03-25) (2012-03-27), (ID: 718041)
- R. Blatt *Quantum Information Processing and Quantum Simulations with Trapped Ca⁺ Ions*, OSA Conference "Quantum Information and Measurement" (Messe Berlin, 2012-03-19) (2012-03-19), (ID: 718025)
- R. Blatt *Plenary Talk -The quantum way of doing computations*, DPG Spring Meeting 2012 (University of Stuttgart, 2012-03-12) (2012-03-14), (ID: 718031)
- G. Hétet, L. Slodicka, N. Röck, M. Hennrich, R. Blatt *Single-photon interference experiments with single ions*, (University of Stuttgart, 2012-03-12) (2012-03-12), (ID: 718037)
- R. Blatt *Quantum Information Processing with Trapped Ca⁺ Ions*, Invited Talk at D-wave Systems (D-wave systems, Vancouver, BC, 2012-03-06) (2012-03-06), (ID: 718020)
- R. Blatt *Digital Quantum Simulation*, Ramsey Memorial Symposium (Harvard University Cambridge, MA., 2012-03-03) (2012-03-03), (ID: 718019)
- R. Blatt *Quantum Simulations with Trapped Ions*, APS March Meeting (Boston Convention Center, 2012-02-27) (2012-02-29), (ID: 718018)
- R. Blatt *Quantum Information Processing with trapped Ca⁺ Ions*, International Conference on Quantum Optics (Universitätszentrum Obergurgl, Tirol, 2012-02-12) (2012-02-15), (ID: 718006)
- R. Blatt *Quantum simulations with trapped ions*, Workshop on Engineered Quantum Systems (University of Brisbane, 2012-01-23) (2012-01-23), (ID: 718008)

Lectures

- R. Blatt *Advanced procedures, scaling the ion-trap quantum computer*, Quantum Summer School 2012 Tsinghua University (Tsinghua University Peking, 2012-08-20) (2012-08-23), (ID: 718211)
- R. Blatt *Quantum gate operations and entanglement with ions*, Quantum Summer School 2012 Tsinghua University (Tsinghua University Peking, 2012-08-20) (2012-08-21), (ID: 718210)

- R. Blatt *Experimental Implementation with Trapped Ions*, Quantum Summer School 2012 Tsinghua University (Tsinghua University Peking, 2012-08-19) (2012-08-20), (ID: 718208)
- R. Blatt *Advanced Techniques and Prototools for QIP with Trapped Ions*, AQUTE Winter School (Universitätszentrum Obergurgl, 2012-02-06) (2012-02-10), (ID: 718017)
- R. Blatt *Implementation of Quantum Information Processing (QIP) with Trapped Ions*, AQUTE Winterschool (Universitätszentrum Obergurgl, 2012-02-06) (2012-02-10), (ID: 718026)

Posters

- B. Casabone, A. Stute, T. E. Northup, R. Blatt *Cavity QED quantum interface*, DPG Spring Meeting of the Section AMOP (University of Stuttgart, 2012-03-12) (2012-03-15), (ID: 718033)
- M. Kumph, M. Brownnutt, R. Blatt *Progress in Operating 2 Dimensional Arrays of Adressable Ion Traps*, DPG Spring Meeting of the Section AMOP (University of Stuttgart, 2012-03-12) (2012-03-14), (ID: 718035)
- B. Ames, M. Brownnutt, J. Petersen, A. Rauschenbeutel, R. Blatt *Interfacing Ions with Nanofibres*, DPG Spring Meeting of the Section AMOP (University of Stuttgart, 2012-03-12) (2012-03-14), (ID: 718036)

Seminar Talks

- R. Blatt *Quantum information processing with trapped Ca⁺ ions*, CUA Seminar (Harvard University, 2012-04-24) (2012-04-24), (ID: 718436)
- R. Blatt *Quantum Information Processing with Trapped Ca⁺ Ions*, Physics Seminar (University of Yale, 2012-04-23) (2012-04-23), (ID: 718071)

Talks

- R. Blatt *Foundations and Applications of Quantum Science*, FWF FoQuS Hearing (Vienna, 2012-10-10) (2012-10-10), (ID: 718438)
- R. Blatt *Scalable quantum information processing with trapped ions*, IARPA site visit (University of Innsbruck, 2012-09-17) (2012-09-17), (ID: 718437)
- R. Blatt *Scalable Quantum Information Processing with Trapped Ions*, MQCO Review Meeting (Minneapolis, MN USA, 2012-05-23) (2012-05-24), (ID: 718100)
- A. Stute, B. Casabone, P. O. Schmidt, T. E. Northup, R. Blatt *An ion-photon quantum interface*, DPG Spring Meeting of the Section AMOP (University of Stuttgart, 2012-03-12) (2012-03-15), (ID: 718034)
- C. Hempel, B. P. Lanyon, R. Gerritsma, P. Jurcevic, F. Zähringer, R. Blatt, C. F. Roos *Detecting the single photon recoil of a single ion*, DPG Spring Meeting of the Section AMOP (University of Stuttgart, 2012-03-12) (2012-03-12), (ID: 718038)
- M. Kleinmann, T. Moroder, T. Monz, P. Schindler, O. Gühne, R. Blatt *Statistical tests for quantum state reconstruction I: Theory*, DPG Spring Meeting of the Section AMOP (University of Stuttgart, 2012-03-12) (2012-03-12), (ID: 718039)
- P. Schindler, T. Monz, M. Kleinmann, T. Moroder, O. Gühne, R. Blatt *Statistical tests for quantum state reconstruction II: Experiment*, DPG Spring Meeting of the Section AMOP (University of Stuttgart, 2012-03-12) (2012-03-12), (ID: 718040)

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- G. Hétet, L. Slodicka, M. Hennrich, R. Blatt *Single atom as a mirror of an optical cavity*, Phys. Rev. Lett. 107 133002 (2011-09-20), <http://dx.doi.org/10.1103/PhysRevLett.107.133002>

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- B. P. Lanyon, C. Hempel, D. Nigg, M. Müller, R. Gerritsma, F. Zähringer, P. Schindler, J. T. Barreiro, M. Rambach, G. Kirchmair, M. Hennrich, P. Zoller, R. Blatt, C. F. Roos *Universal Digital Quantum Simulation with Trapped Ions*, Science 334 57 (2011-09-01), <http://dx.doi.org/10.1126/science.1208001> [doi:10.1126/science.1208001](https://doi.org/10.1126/science.1208001) (ID: 717768) [Toggle Abstract](#) ([local copy](#))
- M. Kumph, M. Brownnutt, R. Blatt *Two-dimensional arrays of radio-frequency ion traps with addressable interactions*, New J. Phys. 13 073043 (2011-08-25), <http://dx.doi.org/10.1088/1367-2630/13/7/073043> [doi:10.1088/1367-2630/13/7/073043](https://doi.org/10.1088/1367-2630/13/7/073043) (ID: 717756) [Toggle Abstract](#)
- R. Blatt *Spin flips of a single proton*, Nature 475 298 (2011-07-31), <http://dx.doi.org/10.1038/475298a> [doi:10.1038/475298a](https://doi.org/10.1038/475298a) (ID: 717908)
- P. Schindler, J. T. Barreiro, T. Monz, V. Nebendahl, D. Nigg, M. Chwalla, M. Hennrich, R. Blatt *Experimental repetitive quantum error correction*, Science 332 1059 (2011-05-27), <http://dx.doi.org/10.1126/science.1203329> [doi:10.1126/science.1203329](https://doi.org/10.1126/science.1203329) (ID: 717685)
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- T. Monz, P. Schindler, J. T. Barreiro, M. Chwalla, D. Nigg, B. Coish, M. Harlander, W. Hänsel, M. Hennrich, R. Blatt *14-qubit entanglement: creation and coherence*, Phys. Rev. Lett. 106 130506 (2011-04-05), <http://dx.doi.org/10.1103/PhysRevLett.106.130506> [doi:10.1103/PhysRevLett.106.130506](https://doi.org/10.1103/PhysRevLett.106.130506) (ID: 717660) [Toggle Abstract](#)
- J. T. Barreiro, M. Müller, P. Schindler, D. Nigg, T. Monz, M. Chwalla, M. Hennrich, C. F. Roos, P. Zoller, R. Blatt *An open-system quantum simulator with trapped ions*, Nature 470 491 (2011-02-24), <http://dx.doi.org/10.1038/nature09801> [doi:10.1038/nature09801](https://doi.org/10.1038/nature09801) (ID: 717617) [Toggle Abstract](#) ([local copy](#))
- R. Gerritsma, B. P. Lanyon, G. Kirchmair, F. Zähringer, C. Hempel, J. Casanova, J. J. García-Ripoll, E. Solano, R. Blatt, C. F. Roos *Quantum simulation of the Klein paradox with trapped ions*, Phys. Rev. Lett. 106 060503 (2011-02-11), <http://dx.doi.org/10.1103/PhysRevLett.106.060503> [doi:10.1103/PhysRevLett.106.060503](https://doi.org/10.1103/PhysRevLett.106.060503) (ID: 717611) [Toggle Abstract](#)

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- R. Blatt *The Quantum Way of Doing Computations*, Physikalisches Kolloquium Mainz (University of Mainz, 2011-11-15) (2011-11-15), (ID: 717821)
- R. Blatt *The Quantum Way of Doing Computations*, Greifswalder physikalisches Kolloquium (Ernst Moritz Arndt Universität Greifswald, 2011-11-03) (2011-11-03), (ID: 717818)
- R. Blatt *The Quantum Way of Doing Computations*, (Center for Optical Quantum Technologies ZOQ Hamburg, 2011-10-26) (2011-10-26), (ID: 717814)
- R. Blatt *The Quantum Way of Doing Computations*, Distinguished Lectures, Center for Advanced Security Research (Darmstadt, 2011-05-19) (2011-05-19), (ID: 717684)
- R. Blatt *Quantum Computer - Dream and Realization*, Colloquium at Universidade Sao Paulo (Sao Carlos, Universidade Sao Paulo (USP), 2011-04-08) (2011-04-08), (ID: 717899)

Invited Talks

- R. Blatt *Quantum Information Processing and Quantum Error Correction with trapped Ca+Ions*, QEC11 Conference on Quantum Error Correction (Los Angeles, Davidson Center, University of Southern California, 2011-12-05) (2011-12-08), (ID: 717864)
- R. Blatt *Quantum Information Processing with Trapped Ions*, Quantum Information, Computing & Communication (QICC) (Cambridge, MA, USA, 2011-09-26) (2011-09-27), (ID: 717801)
- R. Blatt *Quantum Information Processing and Quantum Simulations with Trapped Ca+ Ions*, QIPC 2011 (ETH Zürich, 2011-09-05) (2011-09-05), (ID: 717764)
- R. Blatt *Quantum Simulations with Trapped Ions*, International Conference on Quantum Information (ICQI) (University of Ottawa, 2011-06-08) (2011-06-08), (ID: 717701)

- R. Blatt *50 Jahre Laser - von der exotischen Lichtquelle zur industriellen Anwendung*, Forum Technik (Management Center Innsbruck, 2011-05-27) (2011-05-27), (ID: 717688)
- R. Blatt *Quantum information science with trapped ions*, Workshop on Quantum Information and Quantum Dynamics in Ion Traps (Madrid, Spain, 2011-04-26) (2011-04-27), (ID: 717680)
- R. Blatt *Quantum Simulations with Trapped Ions*, Quantum Simulations (Centro De Ciencias De Benasque, Spain, 2011-02-28) (2011-03-01), (ID: 717650)
- R. Blatt *Status of Trapped-Ion Physics in Europe*, Workshop on Ion Trap Technology (NIST, Denver, Boulder, 2011-02-16) (2011-02-16), (ID: 717662)

Lectures

- R. Blatt *The Jaynes-Cummings Hamiltonian in Trapped Ion Physics*, (Center for Quantum Technologies CQT, NUS Singapore) (2011-11-06), (ID: 719944)
- R. Blatt *Physics of the Quantum Optics and Spectroscopy Group*, Arbeitsgruppen-Klausur (Universitätszentrum Obergurgl, 2011-09-12) (2011-09-12), (ID: 717905)
- R. Blatt *Quantum Information with Trapped Ions: 3. Advanced procedures, scaling the quantum computer*, Les Houches summer school on "Quantum Machines" (Les Houches, 2011-07-25) (2011-07-29), (ID: 717903)
- R. Blatt *Quantum Information with Trapped Ions: 3. Advanced procedures, scaling the quantum Computer*, Les Houches summer school on "Quantum Machines" (Les Houches Ecole de Physic, 2011-07-04) (2011-07-29), (ID: 717904)
- R. Blatt *Quantum Information with Trapped Ions: 2. Quantum gate operations and entanglement with ions*, Les Houches summer school on "Quantum Machines" (Les Houches Ecole de Physique, 2011-07-04) (2011-07-27), (ID: 717748)
- R. Blatt *Quantum Information with Trapped Ions: 3. Advanced procedures, scaling the quantum computer*, Sao Paulo school of advanced science (Sao Carlos, Brazil, 2011-04-04) (2011-04-07), (ID: 717898)
- R. Blatt *New Trends in Quantum Matter with Cold Atoms and Molecules*, Summer School Sao Carlos (Sao Carlos, 2011-04-05) (2011-04-05), (ID: 717699)

Poster

- M. Chwalla, J. T. Barreiro, M. Hennrich, T. Monz, D. Nigg, C. F. Roos, R. Blatt *Precision spectroscopy with entangled states*, ESA Workshop on Optical Clocks (Trani, Italy, 2011-10-24) (2011-10-27), (ID: 717912)

Proceeding

- C. F. Roos, R. Gerritsma, G. Kirchmair, F. Zähringer, E. Solano, R. Blatt *Quantum simulation of relativistic quantum physics with trapped ions*, 22nd International Conference on Atomic Physics (Cairns, Australia, 2010-07-25) J. Phys. Conf. Ser. 264 012020 (2011-01-27), <http://dx.doi.org/10.1088/1742-6596/264/1/012020> [doi:10.1088/1742-6596/264/1/012020](https://doi.org/10.1088/1742-6596/264/1/012020) (ID: 717471)

Talks

- R. Blatt *Quantenphysik am IQOQI*, Vortrag anlässlich der Gesamtsitzung der ÖAW in Innsbruck (IQOQI Innsbruck, 2011-10-14) (2011-10-14), (ID: 717907)
- R. Blatt *Quanteninformation - Informationstechnologie der Zukunft*, Woche der Physik (Universität Innsbruck, 2011-10-04) (2011-10-05), (ID: 717906)
- R. Blatt *Quantum Physics at IQOQI*, visit of "Les jeudistes Genève" (IQOQI Innsbruck, 2011-06-29) (2011-06-29), (ID: 718004)
- R. Blatt *Quantum Physics in Innsbruck*, Talk at the visit of HRH Princess Chirindhorn of Thailand (IQOQI Innsbruck, 2011-06-28) (2011-06-28), (ID: 717900)

- A. Stute, B. Casabone, B. Brandstätter, D. Habicher, A. McClung, J. Ghetta, T. E. Northup, R. Blatt *Towards an ion-photon quantum interface*, ÖPG/SPS Tagung (Lausanne, 2011-06-14) (2011-06-15), (ID: 717734)
- R. Blatt *Multi-Qubit Coherent Operations*, Multi-Qubit Coherent Operations Program Review (Austin, Texas, 2011-06-06) (2011-06-06), (ID: 717700)
- R. Blatt *Quantenphysik – Was ist das überhaupt?*, Quantenphysik – Was ist das überhaupt? (Rotary Club Bad Nenndorf, 2011-05-30) (2011-05-30), (ID: 718003)
- R. Blatt *Quantenphysik am IQOQI*, Vortrag beim Besuch der BIG/BOE Vorstände (IQOQI Innsbruck, 2011-02-01) (2011-02-01), (ID: 717897)
- R. Blatt *Quantenphysik und Wirtschaft - Wa(h)re Forschung*, Öffentlicher Vortrag SoWi Club Innsbruck (Aula der Universität Innsbruck, 2011-01-27) (2011-01-27), (ID: 717896)
- R. Blatt *Quantenphysik am IQOQI*, Vortrag beim Besuch des Rotary Clubs Innsbruck Alpin (IQOQI Innsbruck, 2011-01-24) (2011-01-24), (ID: 717894)
- R. Blatt *Quantenphysik in Innsbruck-Wer, Wo, Was und überhaupt...?*, Vortrag beim Rotary Club Hall (Rotary Club Hall, Reschenhof Hall, 2011-01-19) (2011-01-19), (ID: 717892)

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- G. Hétet, L. Slodicka, A. Glätzle, M. Hennrich, R. Blatt *QED with a spherical mirror*, Phys. Rev. A 82 063812 (2010-12-09), <http://dx.doi.org/10.1103/PhysRevA.82.063812>
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- J. T. Barreiro, P. Schindler, O. Gühne, T. Monz, M. Chwalla, C. F. Roos, M. Hennrich, R. Blatt *Experimental multiparticle entanglement dynamics induced by decoherence*, Nature Phys. 6 943 (2010-12-02), <http://dx.doi.org/10.1038/nphys1781> [doi:10.1038/nphys1781](https://doi.org/10.1038/nphys1781) (ID: 717355) [Toggle Abstract](#)
- M. Harlander, M. Brownnutt, R. Blatt *Trapped-ion probing of light-induced charging effects on dielectrics*, 12 093035 (2010-10-06), <http://dx.doi.org/10.1088/1367-2630/12/9/093035>
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- T. Monz, P. Schindler, J. T. Barreiro, M. Chwalla, D. Nigg, B. Coish, M. Harlander, W. Hänsel, M. Hennrich, R. Blatt *Electromagnetically Induced Transparency from a Single Atom in Free Space*, Phys. Rev. Lett. 105 153604 (2010-10-06), <http://dx.doi.org/10.1103/PhysRevLett.105.153604>
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- F. Dubin, C. Russo, H. Barros, A. Stute, C. Becher, P. O. Schmidt, R. Blatt *Quantum to classical transition in a single-ion laser*, Nature Phys. 6 350 (2010-03-29), <http://dx.doi.org/10.1038/NPHYS1627> [doi:10.1038/NPHYS1627](https://doi.org/10.1038/NPHYS1627) (ID: 717177)
- A. Glätzle, K. Hammerer, A. J. Daley, R. Blatt, P. Zoller *A single trapped atom in front of an oscillating mirror*, Opt. Com. 283 765 (2010-03-15), <http://dx.doi.org/10.1016/j.optcom.2009.10.063>
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- F. Zähringer, G. Kirchmair, R. Gerritsma, E. Solano, R. Blatt, C. F. Roos *Realization of a Quantum Walk with One and Two Trapped Ions*, Phys. Rev. Lett. 104 100503 (2010-03-09), <http://dx.doi.org/10.1103/PhysRevLett.104.100503>
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- R. Gerritsma, G. Kirchmair, F. Zähringer, E. Solano, R. Blatt, C. F. Roos *Quantum simulation of the Dirac equation*, Nature 463 71 (2010-01-07), <http://dx.doi.org/10.1038/nature08688>
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Colloquia

- R. Blatt *Quantum Computer - Dream and Realization*, Physikalisches Kolloquium Fakultät für Physik der LMU München (LMU Munich, Germany, 2010-12-13) (2010-12-13), (ID: 717379)
- R. Blatt *Quantum Computer - Dream and Realization*, Physikalisches Kolloquium Albert-Ludwigs-

Universität Freiburg (Albert-Ludwigs-Universität Freiburg, Germany, 2010-12-06) (2010-12-06), (ID: 717378)

- R. Blatt *The Quantum Way of Doing Computations*, 14th Wright's Colloquium for the Science (Geneve, Switzerland, 2010-11-15) (2010-11-19), (ID: 717364)
- R. Blatt *Quantencomputer-Traum und Realisierung*, Physikalisches Kolloquium Universität Erlangen (Erlangen, Germany, 2010-06-28) (2010-06-28), (ID: 717268)
- R. Blatt *Quantum Computer-Dream and Realization*, (CNRS Universite de Provence, Marseille, France, 2010-06-23) (2010-06-23), (ID: 717255)
- R. Blatt *Quantencomputer- Traum und Realisierung*, Physikalisches Kolloquium PTB Braunschweig (Braunschweig, Germany, 2010-06-10) (2010-06-10), (ID: 717245)
- R. Blatt *Quantum Computer: Dream and Realization*, Physics Department Colloquium (University of Wisconsin, Madison USA, 2010-03-18) (2010-03-19), (ID: 717184)

Invited Talks

- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Minerva Weizmann Workshop on Entanglement in Atomic Systems (Rehovot Israel, 2010-11-21) (2010-11-22), (ID: 717377)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, International Conference on Quantum Information and Computation (Stockholm Sweden, 2010-10-03) (2010-10-04), (ID: 717324)
- R. Blatt *50 years of ion traps and 20 years after Pauls Nobel prize - A quantum optics and spectroscopy success story-*, 1st European Conference on Trapped Ions (ECTI) (Redworth Hall, County Durham, England, 2010-09-19) (2010-09-21), (ID: 717381)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, European Conference on Trapped Ions ECTI 2010 (Redworth Hall County Durham, Great Britain, 2010-09-19) (2010-09-20), (ID: 717315)
- R. Blatt *Quanteninformation - Informationstechnologie der Zukunft*, ACP Forum Tirol (Kongresshaus Innsbruck, Tirol, Austria, 2010-09-16) (2010-09-16), (ID: 717380)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Quantum Engineering of States and Devices: Theory and Experiments (Oberurgl, Austria, 2010-06-05) (2010-06-07), (ID: 717267)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, 2010 International Symposium on Physics of Quantum Technology (Tokio Japan, 2010-04-06) (2010-04-07), (ID: 717199)
- R. Blatt *Fighting Decoherence: Quantum Information Science with Trapped Ca+ Ions*, DPG Spring Meeting DPG (VI) vol. 45,3/2010 (Hannover Germany, 2010-03-08) (2010-03-09), (ID: 717179)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Twelfth Annual Meeting on Southwest Quantum Information and Technology (Santa Fe New Mexico USA, 2010-02-18) (2010-02-19), (ID: 717147)
- R. Blatt *Mixed and Entangled States of Light and Trapped Ions*, 450. WE-Heraeus-Seminar on Mixed States of Light and Matter (Bad Honnef Germany, 2010-02-08) (2010-02-08), (ID: 717121)
- R. Blatt *Quantum Information Science with Trapped Ca+Ions*, International Conference on Cold Ions and Atoms 2010 (ICCIA10) (Sankarpur India, 2010-01-18) (2010-01-19), (ID: 717119)

Posters

- R. Blatt *Light-induced charging effects on dielectric surfaces in the vicinity of trapped ions*, DPG Spring meeting (Hannover, Germany, 2010-03-08) (2010-03-12), (ID: 717153)
- B. Brandstätter, T. Northup, M. Harlander, P. Schmidt, R. Blatt *Towards quantum networks: integrating fiber cavities and ion traps*, DPG Spring Meeting, Verhandl.DPG (VI) 45,3/(2010) (Leibniz Universität Hannover, 2010-03-08) (2010-03-11), (ID: 717212)
- R. Lechner, M. Niedermayr, M. Kumph, M. Brownnutt, R. Blatt *Towards Cryogenic Surface Ion Traps*, DPG Spring Meeting Verhandl.DPG (VI) 45,3/(2010) (Leibniz Universität Hannover, 2010-03-08) (2010-03-11), (ID: 717213)
- M. Harlander, W. Hänsel, M. Brownnutt, R. Blatt *Light-induced charging effects on dielectric*

surfaces in the vicinity of trapped ions, DPG Spring Meeting, Verhandl.DPG(VI)45,3/(2010) (Leibniz Universität Hannover Germany, 2010-03-08) (2010-03-09), (ID: 717209)

- M. Kumph, M. Niedermayr, R. Lechner, M. Brownnutt, R. Blatt *Methods in Implementing 2 Dimensional Arrays of Ion Traps*, DPG Spring Meeting Verhandl.DPG (VI)45,3/(2010) (Leibniz Universität Hannover Germany, 2010-03-08) (2010-03-09), (ID: 717210)

Public Lectures

- R. Blatt *Podiumsdiskussion Was kostet der Fortschritt*, Public Evening Lecture & Launch of the Vienna Center for Quantum Science and Technology (University of Vienna, Austria, 2010-12-15) (2010-12-15), (ID: 717387)
- R. Blatt *Forschungsschwerpunkt Physik an der Universität Innsbruck*, Tiroler Technologiebrunch 2010 (Büro der Europaregion Tirol-Südtirol-Trentino, Brüssel, 2010-10-27) (2010-10-27), (ID: 717330)
- R. Blatt *Quantencomputer-Traum und Realisierung*, Wissenschaft für jedermann (München Deutsches Museum, 2010-10-06) (2010-10-06), (ID: 717325)
- R. Blatt *Faszination Quantenphysik*, Festvortrag anlässlich Preisverleihung Physikolympiade (Bundesrealgymnasium Reutte Austria, 2010-06-09) (2010-06-09), (ID: 717236)
- R. Blatt *Quantum Computer - dream and realization*, (Poznan University of Technology Poland, 2010-05-26) (2010-05-26), (ID: 717233)

Seminar Talks

- R. Blatt *Quantum information science*, (Poznan University of Technology Poland, 2010-05-28) (2010-05-28), (ID: 717235)
- R. Blatt *Quantum information processing with trapped ion*, (Poznan University of Technology Poland, 2010-05-27) (2010-05-27), (ID: 717234)
- R. Blatt *Quantum Information Science with Trapped Ions*, The Capri Spring School on Transport in Nanostructures (Capri Italy, 2010-04-11) (2010-04-15), (ID: 717200)
- R. Blatt *Quantum Information Science with Trapped Ca⁺ Ions*, Herb Seminar (University of Wisconsin, Madison USA, 2010-03-18) (2010-03-18), (ID: 717183)
- R. Blatt *Quantum Information Science with Trapped Ca⁺ Ions*, Seminar (Sandia Laboratories Albuquerque USA, 2010-02-17) (2010-02-17), (ID: 717146)
- R. Blatt *Basic introduction to quantum information and computation using cold atoms and ions; Experimental realization of ion trap quantum teleportation, Experimental realization of C-NOT gate^{2/2}*, International School on Cold Atoms and Ions (Kolkatta India, 2010-01-14) (2010-01-16), (ID: 717120)

Talks

- R. Blatt *IQOQI und Physik in Innsbruck*, (2010-11-03), (ID: 717383)
- R. Blatt *Scalable quantum information processing with trapped ions*, IARPA site visit (IQOQI, Innsbruck, Austria, 2010-09-27) (2010-09-27), (ID: 717382)
- R. Blatt, C. F. Roos, F. Schmidt-Kaler, H. Häffner *Scalable quantum information processing (SQIP) with trapped ions*, ARO/NSA/IARPA Quantum Computing, Quantum Algorithms & Multi-Qubit Coherent Operations (MQCO) Program Review (Cincinnati, USA, 2010-08-16) (2010-08-17), (ID: 717293)
- R. Blatt *Quantum computation and algorithm review meeting*, Quantum Algorithms & Multi Qubit Coherent Operations Review (Cincinnati, Ohio USA, 2010-08-16) (2010-08-17), (ID: 717299)
- R. Blatt *Future Quantum Technologies*, STOA Scientific Technology Options Assessment (Strasbourg, France, 2010-06-17) (2010-06-17), (ID: 717244)

2009

Articles

- T. Monz, K. Kim, A. Villar, P. Schindler, M. Chwalla, M. Riebe, C. F. Roos, H. Häffner, W. Hänsel, M. Hennrich, R. Blatt *Realization of universal ion-trap quantum computation with decoherence-free qubits*, Phys. Rev. Lett. 103 200503 (2009-11-13), <http://dx.doi.org/10.1103/PhysRevLett.103.200503> [doi:10.1103/PhysRevLett.103.200503](https://doi.org/10.1103/PhysRevLett.103.200503) (ID: 716801)
- M. Chwalla, J. Benhelm, K. Kim, G. Kirchmair, T. Monz, M. Riebe, P. Schindler, A. Villar, W. Hänsel, C. Roos, R. Blatt, M. Abgrall, G. Santarelli, G. D. Rovera, P. Laurent *Absolute frequency measurement of the 40Ca^+ $4s\ 2S_{1/2} - 3d\ 2D_{5/2}$ clock transition*, Phys. Rev. Lett. 102 023002 (2009), <http://dx.doi.org/10.1103/PhysRevLett.102.023002> [doi:10.1103/PhysRevLett.102.023002](https://doi.org/10.1103/PhysRevLett.102.023002) (ID: 650530)
- S. Gerber, D. Rotter, M. Hennrich, R. Blatt, F. Rohde, C. Schuck, M. Almendros, R. Gehr, F. Dubin, J. Eschner *Quantum interference from remotely trapped ions*, 11 013032 (2009), <http://dx.doi.org/10.1088/1367-2630/11/1/013032> [doi:10.1088/1367-2630/11/1/013032](https://doi.org/10.1088/1367-2630/11/1/013032) (ID: 651475)
- T. Monz, K. Kim, W. Hänsel, M. Riebe, A. Villar, P. Schindler, M. Chwalla, M. Hennrich, R. Blatt *Realization of the quantum Toffoli gate with trapped ions*, Phys. Rev. Lett. 102 040501 (2009), <http://dx.doi.org/10.1103/PhysRevLett.102.040501> [doi:10.1103/PhysRevLett.102.040501](https://doi.org/10.1103/PhysRevLett.102.040501) (ID: 654575)
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- G. Kirchmair, J. Benhelm, F. Zähringer, R. Gerritsma, C. Roos, R. Blatt *High-fidelity entanglement of 43Ca^+ hyperfine clock states*, Phys. Rev. A 79 020304 (2009), <http://dx.doi.org/10.1103/PhysRevA.79.020304> [doi:10.1103/PhysRevA.79.020304](https://doi.org/10.1103/PhysRevA.79.020304) (ID: 657856)
- C. Russo, H. Barros, A. Stute, F. Dubin, E. S. Philips, T. Monz, T. Northup, C. Becher, T. Salzburger, H. Ritsch, P. O. Schmidt, R. Blatt *Raman spectroscopy of a single ion coupled to a high-finesse cavity*, 95 205 (2009), <http://dx.doi.org/10.1007/s00340-009-3430-2> [doi:10.1007/s00340-009-3430-2](https://doi.org/10.1007/s00340-009-3430-2) (ID: 674888)
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- R. Blatt *50 years of Paul traps and 20 years after Paul's Nobel prize - A quantum optics and spectroscopy success story*, Physikalisches Kolloquium Universität Bonn (Bonn Germany, 2009-12-18) (2009-12-18), (ID: 716969)
- R. Blatt *Quantum Computer-Dream and Realization*, Wiener Physikalische Kolloquien (Technische Universität Wien, 2009-11-16) (2009-11-16), (ID: 716805)
- R. Blatt *Quantum computer - dream and realization*, IQIS Colloquium Series (Institute for Quantum Information Science University of Calgary Canada, 2009-11-02) (2009-11-02), (ID: 716787)
- R. Blatt *Quantum information science with trapped Ca^+ ions*, Colloquium University of California Berkeley (Berkeley Ca USA, 2009-04-11) (2009-04-11), (ID: 717115)

- R. Blatt *Quantum information science with cold ions*, The Symposium of the SFB 407 (1997-2009) (Leibniz Universität Hannover, 2009-02-13) (2009), (ID: 666705)
- R. Blatt *The Quantum Way of Doing Computations*, Colloquium at the Institute of Physics of the UFRJ, Rio de Janeiro (Rio de Janeiro, Brazil, 2009-05-11) (2009), (ID: 682046)

Invited Talks

- R. Blatt *Quantum Information Science with Trapped Ca+Ions*, CIFAR Quantum Information Processing Meeting (Fairmont Banff Springs, 2009-10-27) (2009-10-28), (ID: 716786)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, QIPC International Conference (Rome, 2009-09-21) (2009-09-22), (ID: 716757)
- R. Blatt *Quantum Entanglement - Einstein's "spook" - put to work*, OIST Workshop on the "Fundamentals of Quantum Mechanics and Its Applications" (Okinawa, 2009-05-13) (2009-05-14), (ID: 666608) [Toggle Abstract](#)
- R. Blatt *Fighting Decoherence: Quantum Information Science with Trapped Ca+ Ions*, Dutch Physics@FOM Veldhoven 2009 (Veldhoven, 2009-01-20) (2009), (ID: 652657)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, SCALA Conference (Cortina, 2009-02-17) (2009), (ID: 666675)
- R. Blatt *The Quantum Way of Doing Computations*, XXXII Brazilian Meeting on Condensed Matter Physics (Aguas de Lindoia, 2009-05-14) (2009), (ID: 682048)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Nobel Symposium: Qu-bits for Quantum Information (QuQu) (Göteborg, 2009-05-26) (2009), (ID: 685605)
- R. Blatt *Spectroscopy and quantum information with trapped ions*, ICOLS 2009 (Kussharo, Hokkaido, 2009-06-09) (2009), (ID: 687135)
- R. Blatt *Quantum information science with trapped Ca+ions*, Atoms, Cavities and Photons (Paris, 2009-09-11) (2009), (ID: 712694)

Poster

- A. Glätzle, K. Hammerer, A. J. Daley, R. Blatt, P. Zoller *A single trapped atom in front of an oscillating mirror*, Summer School on Scalable Quantum Computing with Light and Atoms (Cargese, Corse, France, 2009-08-17) (2009-08-17), (ID: 716811)

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- M. Chwalla, J. Benhelm, K. Kim, G. Kirchmair, T. Monz, M. Riebe, P. Schindler, A. Villar, W. Hänsel, C. F. Roos, R. Blatt, M. Abgrall, G. Santarelli, D. Rovera, P. Laurent *Absolute frequency measurement of the 40Ca^+ $S1/2-D5/2$ clock transition*, Proceedings of the 7th symposium on frequency standards and metrology 7th symposium on frequency standards and metrology (Pacific Grove, 2008-10-05) 108 (2009-10-28), (ID: 716779)
- J. Benhelm, G. Kirchmair, R. Gerritsma, F. Zähringer, T. Monz, P. Schindler, M. Chwalla, W. Hänsel, M. Hennrich, C. F. Roos, R. Blatt *Ca+ quantum bits for quantum information processing*, Physica Scripta T137 014008 (2009-05-25), (ID: 716979)

Seminar Talks

- R. Blatt *The quantum way of doing computations*, Seminar Division of Mechatronic Devices Torun University of Poznan (Torun, 2009-11-26) (2009-11-26), (ID: 716814)
- R. Blatt *The Quantum Way of Doing Computations*, FET Seminar (Brüssel, 2009-09-17) (2009-09-17), (ID: 716756)
- R. Blatt *An atom, a photon and a mirror - simple interference experiments-*, Seminar University of Rio de Janeiro (Rio de Janeiro, 2009-05-13) (2009-05-15), (ID: 717114)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Seminar University of Rio de

Janeiro (Rio de Janeiro, 2009-05-13) (2009-05-13), (ID: 717113)

- R. Blatt *The quantum way of doing computations*, Novel Materials and superconductors (Universitätssportheim Plannersalm, 2009-02-22) (2009), (ID: 663634)

Talks

- R. Blatt *Wer, was, wo und überhaupt...?*, Vortrag beim Rotary Club Alpin (Innsbruck, 2009-11-23) (2009-11-23), (ID: 717117)
- R. Blatt *Quantencomputer - Traum und Realisierung*, Vortrag zur Verleihung des Carl-Zeiss-Preises (Oberkochen, 2009-11-11) (2009-11-11), (ID: 717116)
- R. Blatt *Plenary Talk "Outlook Session"*, QCCC Workshop 2009 (Bad Tölz, 2009-09-14) (2009-09-14), (ID: 717000)
- R. Blatt *Quantum Optics and Spectroscopy Group Report 2008/2009*, Scientific Advisory Board meeting (Vienna, 2009-05-07) (2009-05-07), (ID: 717112)
- R. Blatt *SCALA SP3 presentation*, SCALA review meeting (Göteborg, 2009-03-04) (2009-03-05), (ID: 717111)
- R. Blatt *SCALA highlights with trapped ions*, SCALA review meeting (Göteborg, 2009-03-04) (2009-03-04), (ID: 717110)
- R. Blatt *Quantum information processing with trapped $^{43}\text{Ca}^+$ ions*, Quantum computation and algorithm review meeting (Minneapolis, 2009-08-18) (2009), (ID: 707450)

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- T. Calarco, M. Aspelmeyer, D. Binosi, R. Blatt, A. Zeilinger, E. Polzik *A quantum leap in computing power*, Public Service Review: European Union 439 (2008), (ID: 574597)
- D. Rotter, M. Mukherjee, F. Dubin, R. Blatt *Monitoring a single ion's motion via second-order photon correlations*, 10 043011 (2008), (ID: 576252)
- J. Benhelm, G. Kirchmair, C. Roos, R. Blatt *Towards fault-tolerant quantum computing with trapped ions*, Nature Phys. 4 463 (2008), <http://dx.doi.org/10.1038/nphys961> [doi:10.1038/nphys961](https://doi.org/10.1038/nphys961) (ID: 578533)
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- R. Blatt *Quantum computer - dream and realization*, LENS - European Laboratory for Non-Linear Spectroscopy (Florenz, Italy, 2008-04-11) (2008), (ID: 627439)
- R. Blatt *Quantum Computer-dream and realization*, One year IMPRS-QD Symposium (Heidelberg, Germany, 2008-10-30) (2008), (ID: 628518)
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Invited Talks

- R. Blatt *Quantencomputer - Traum und Realisierung*, Physikalisches Kolloquium, Johannes Gutenberg Universität Mainz (Mainz, Germany, 2008-06-03) (2008), (ID: 620390)
- R. Blatt *Quantum information science with trapped ions*, Young Researchers Meeting - EMALI (Wien, Austria, 2008-05-21) (2008), (ID: 620391)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Workshop "Frontiers of Quantum Theory: Reality and Randomness", Die Junge Akademie Berlin (Berlin, Germany, 2008-04-28) (2008), (ID: 620392)
- R. Blatt *The QIPC Strategic Report, App. on Quantum Information Technologies*, QIPC Cluster Review Conference, Institut Henri Poincare (Paris, France, 2008-03-05) (2008), (ID: 620393)
- R. Blatt *Measurement of the absolute transition frequency of the S1/2-D5/2 transition in 40Ca+ and 43Ca+*, 7th Symposium on Frequency Standards and Metrology (Pacific Grove, California, USA, 2008-10-07) (2008), (ID: 628166)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Quantum Optics IV (Florianopolis, Brasilien, 2008-10-16) (2008), (ID: 628205)
- R. Blatt *Quantum Information Science with Trapped Ca+ Ions*, Open Quantum Systems: Decoherence and Control (Cambridge, MA, USA, 2008-11-21) (2008), (ID: 646615)
- R. Blatt *Atomic physics, quantum optics, and quantum information processing with trapped ions*, XXI International Conference on Atomic Physics, ICAP2008 (Storrs, Connecticut, USA, 2008-07-29) (2008), (ID: 665935)
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- R. Blatt, J. F. Poyatos, J. I. Cirac, P. Zoller *"Quantum motion of a trapped ion: Schrödinger cats, ion interferometry and quantum tomography"* in *Proceedings of the 5th Symposium on Frequency*

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- C. Roos, M. Chwalla, T. Monz, P. Schindler, K. Kim, M. Riebe, R. Blatt *Quantum information processing and Ramsey spectroscopy with trapped ions*, *Laser Spectroscopy: Proceedings of the XVIII International Conference (ICOLS) (Telluride, USA, 2007-06-24)* 53 (2008), (ID: 594009)
- R. Blatt *The Quantum Revolution - Towards a new generation of Supercomputers*, *Laser Spectroscopy: Proceedings of the XVIII International Conference (ICOLS) (Telluride, USA, 2007-06-24)* 207 (2008), (ID: 594010)

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- R. Blatt *Quantencomputer - Traum und Realisierung*, *Faszination Forschung (Bozen, Italien, 2008-11-28)* (2008), (ID: 651749)

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Invited Talks

- R. Blatt *Entanglement and transfer of quantum information with trapped ions*, Australasian Conference on Laser Spectroscopy (ACOLS) (Rotorua, NZ) (2005-12-09), (ID: 332526)
- R. Blatt *Quantum information processing with trapped ions*, Chinese-German workshop on quantum engineering (Beijing) (2005-11-24), (ID: 332525)
- R. Blatt *Quantum information processing with trapped Ca⁺ ions*, Conference on quantum information processing (Copenhagen) (2005-11-19), (ID: 332524)
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