Alex Retzker

Publications

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JOURNAL ARTICLES

2026

J125 **A Single-Molecule Spin–Photon Interface**
S. Roggors, T. Unden, A. Aubele, P. Mentzel, G. Bayer, A. Salhov, J. Scharpf, M. B. Plenio, **A. Retzker**, F. Jelezko, T. R. Eichhorn, T. A. Schaub, M. Pfender, P. Neumann and I. Schwartz
Nature **658**, 1153–1159 (2026) doi.org/10.1038/s41586-026-11147-6 arxiv.org/abs/2605.10077

J124 **Readout-Induced Degradation of Transmon Lifetimes: Interplay of TLSs and Qubit Spectral Reshaping**
Z. Huang, J. S.-C. Hung, M. Raha, M.-H. Chou, H. Levine, **A. Retzker**, C. T. Hann, D. Hover, F. G. S. L. Brandão, A. A. Clerk, A. Haim and O. Painter
PRX Quantum **7**, 033059 (2026) doi.org/10.1103/y5ty-bd4y

J123 **Robust Gigahertz-Range ac Magnetometry with an Ensemble of NV^- Centers in Diamond Using Concatenated Continuous Dynamical Decoupling**
T. Kitamura, G. T. Genov, A. Salhov, Y. Kobayashi, S. Onoda, J. Isoya, **A. Retzker** and F. Jelezko
Physical Review Applied **26**, 024018 (2026) doi.org/10.1103/8zf5-1zyj arxiv.org/abs/2510.20401

J122 **Fast, High-Fidelity Erasure Detection of Dual-Rail Qubits with Symmetrically Coupled Readout**
J. S.-C. Hung, A. Haim, M. Raha, G. Kim, Z. Huang, M.-H. Chou, M. D'Ewart, E. Davis, A. Mishra, P. A. Arriola, A. Khalajhedayati, D. Hover, F. G. S. L. Brandão, A. A. Clerk, **A. Retzker**, H. Levine and O. Painter
Physical Review X (2026) doi.org/10.1103/54jp-hwdd arxiv.org/abs/2604.16292

J121 **High Rate Magic State Cultivation on the Surface Code**
Y. Vaknin, S. Jacoby, A. L. Grimsmo and **A. Retzker**
PRX Quantum **7**, 010353 (2026) doi.org/10.1103/p8tw-6kq9 arxiv.org/abs/2502.01743

J120 **Cavity-Mediated Cross-Cross-Resonance Gate**
A. V. Gorshkov, O. Golan, D. Cohen, A. Haim, A. Rotem, G. Kim, A. Butler, C. T. Hann, O. Painter, F. G. S. L. Brandão and **A. Retzker**
PRX Quantum **7**, 043034 (2026) doi.org/10.1103/1nt2-f7gl arxiv.org/abs/2506.03239

2025

J119 **Overcoming Frequency Resolution Limits Using a Solid-State Spin Quantum Sensor**
Q. Cao, G. T. Genov, Y. Chu, J. Cai, Y. Liu, **A. Retzker** and F. Jelezko
Physical Review Letters **135**, 250806 (2025) doi.org/10.1103/llfg-s4rr

J118 **Optimizing Quantum Error-Correction Protocols with Erasure Qubits**
S. Gu, Y. Vaknin, **A. Retzker** and A. Kubica
PRX Quantum **6**, 040354 (2025) doi.org/10.1103/985g-58gd arxiv.org/abs/2408.00829

J117 **Magic State Injection with Erasure Qubits**
S. Jacoby, Y. Vaknin, **A. Retzker** and A. L. Grimsmo
PRX Quantum **6**, 040323 (2025) doi.org/10.1103/5q1v-ry3y

J116 **Optically Detected Magnetic Resonance on Carbene Molecular Qubits**
S. Roggors, N. Striegler, T. Unden, O. Khavryuchenko, A. Salhov, J. Scharpf, M. B. Plenio, **A. Retzker**, F. Jelezko, M. Pfender, P. Neumann, T. R. Eichhorn, T. A. Schaub and I. Schwartz
Journal of the American Chemical Society **147**, 36383–36392 (2025) doi.org/10.1021/jacs.5c10272

J115 **Fast, Robust, and Laser-Free Universal Entangling Gates for Trapped-Ion Quantum Computing**
M. Nünnerich, D. Cohen, P. Barthel, P. H. Huber, D. Niroomand, **A. Retzker** and C. Wunderlich
Physical Review X **15**, 021079 (2025) doi.org/10.1103/physrevx.15.021079

J114 **Robust Noise Suppression and Quantum Sensing by Continuous Phased Dynamical Decoupling**
D. Louzon, G. T. Genov, N. Staudenmaier, F. Frank, J. Lang, M. L. Markham, **A. Retzker** and F. Jelezko
Physical Review Letters **134**, 120802 (2025) doi.org/10.1103/physrevlett.134.120802

J113 **Spectrum Analysis with Parametrically Modulated Transmon Qubits**
N. Gavrielov, S. Oviedo-Casado and **A. Retzker**
Physical Review Research **7**, L012056 (2025) doi.org/10.1103/physrevresearch.7.l012056

J112 **Fault-Tolerant Quantum Architectures Based on Erasure Qubits**
S. Gu, **A. Retzker** and A. Kubica
Physical Review Research **7**, 013249 (2025) doi.org/10.1103/physrevresearch.7.013249

J111 **Hardware-Efficient Quantum Error Correction via Concatenated Bosonic Qubits**
H. Putterman et al.
Nature **638**, 927–934 (2025) doi.org/10.1038/s41586-025-08642-7

2024

J110 **Protecting Quantum Information via Destructive Interference of Correlated Noise**
A. Salhov, Q. Cao, J. Cai, **A. Retzker**, F. Jelezko and G. T. Genov
Physical Review Letters **132**, 223601 (2024) doi.org/10.1103/physrevlett.132.223601

J109 **Robust Gates with Spin-Locked Superconducting Qubits**
I. Zuk, D. Cohen, A. V. Gorshkov and **A. Retzker**
Physical Review Research **6**, 013217 (2024) doi.org/10.1103/physrevresearch.6.013217

J108 **Demonstrating a Long-Coherence Dual-Rail Erasure Qubit Using Tunable Transmons**
H. Levine et al.
Physical Review X **14**, 011051 (2024) doi.org/10.1103/physrevx.14.011051 arxiv.org/abs/2307.08737

2023

J107 **Coherent Manipulation of Nuclear Spins in the Strong Driving Regime**
D. Yudilevich, A. Salhov, I. Schaefer, K. Herb, **A. Retzker** and A. Finkler
New Journal of Physics **25**, 113042 (2023) doi.org/10.1088/1367-2630/ad0c0b

J106 **Optimal Sensing Protocol for Statistically Polarized Nano-NMR with NV Centers**
N. Staudenmaier, A. Vijayakumar-Sreeja, G. T. Genov, D. Cohen, C. Findler, J. Lang, **A. Retzker**, F. Jelezko and S. Oviedo-Casado
Physical Review Letters **131**, 150801 (2023) doi.org/10.1103/physrevlett.131.150801

J105 **Erasure Qubits: Overcoming the T_1 Limit in Superconducting Circuits**
A. Kubica, A. Haim, Y. Vaknin, H. Levine, F. G. S. L. Brandão and **A. Retzker**
Physical Review X **13**, 041022 (2023) doi.org/10.1103/physrevx.13.041022 arxiv.org/abs/2208.05461

J104 **Radio-Frequency Sweeps at Microtesla Fields for Parahydrogen-Induced Polarization of Biomolecules**
A. Marshall, A. Salhov, M. Gierse, C. Müller, M. Keim, S. Lucas, A. Parker, J. Scheuer, C. Vassiliou, P. Neumann, F. Jelezko, **A. Retzker**, J. W. Blanchard, I. Schwartz and S. Knecht
The Journal of Physical Chemistry Letters **14**, 2125–2132 (2023) doi.org/10.1021/acs.jpclett.2c03785 arxiv.org/abs/2205.15709

2022

J103 **Quantum Metrology with Imperfect Measurements**
Y. L. Len, T. Gefen, **A. Retzker** and J. Kołodyński
Nature Communications **13**, 6971 (2022) doi.org/10.1038/s41467-022-33563-8

J102 **Power-Law Scaling of Correlations in Statistically Polarised Nano-NMR**
N. Staudenmaier, A. Vijayakumar-Sreeja, S. Oviedo-Casado, G. T. Genov, D. Cohen, D. Dulog, T. Unden, N. Striegler, A. Marshall, J. Scheuer, C. Findler, J. Lang, I. Schwartz, P. Neumann, **A. Retzker** and F. Jelezko
npj Quantum Information **8**, 120 (2022) doi.org/10.1038/s41534-022-00632-1

2021

J101 **Tailored Optical Clock Transition in $^{40}Ca^{+}$**
L. Pelzer, K. Dietze, J. Kramer, F. Dawel, L. Krinner, N. Spethmann, V. Martinez, N. Aharon, **A. Retzker**, K. Hammerer and P. O. Schmidt
Measurement: Sensors **18**, 100326 (2021) doi.org/10.1016/j.measen.2021.100326

J100 **Optimal Frequency Measurements with Quantum Probes**
S. Schmitt, T. Gefen, D. Louzon, C. Osterkamp, N. Staudenmaier, J. Lang, M. L. Markham, **A. Retzker**, L. P. McGuinness and F. Jelezko
npj Quantum Information **7**, 55 (2021) doi.org/10.1038/s41534-021-00391-5

J99 **Precise Spectroscopy of High-Frequency Oscillating Fields with a Single-Qubit Sensor**
Y. Chu, P. Yang, M. Gong, M. Yu, B. Yu, M. B. Plenio, **A. Retzker** and J. Cai
Physical Review Applied **15**, 014031 (2021) doi.org/10.1103/physrevapplied.15.014031

2020

J98 **Correlated Noise in Brownian Motion Allows for Super Resolution**
S. Oviedo-Casado, A. Rotem, R. Nigmatullin, J. Prior and **A. Retzker**
Scientific Reports **10**, 19691 (2020) doi.org/10.1038/s41598-020-76745-4

J97 **Confined Nano-NMR Spectroscopy Using NV Centers**
D. Cohen, R. Nigmatullin, M. Eldar and **A. Retzker**
Advanced Quantum Technologies **3**, 2000019 (2020) doi.org/10.1002/qute.202000019

J96 **Achieving the Ultimate Precision Limit with a Weakly Interacting Quantum Probe**
D. Cohen, T. Gefen, L. Ortiz and **A. Retzker**
npj Quantum Information **6**, 83 (2020) doi.org/10.1038/s41534-020-00313-x arxiv.org/abs/1912.09062

J95 **Efficient and Robust Signal Sensing by Sequences of Adiabatic Chirped Pulses**
G. T. Genov, Y. Ben-Shalom, F. Jelezko, **A. Retzker** and N. Bar-Gill
Physical Review Research **2**, 033216 (2020) doi.org/10.1103/physrevresearch.2.033216

J94 **Utilising NV Based Quantum Sensing for Velocimetry at the Nanoscale**
D. Cohen, R. Nigmatullin, O. Kenneth, F. Jelezko, M. Khodas and **A. Retzker**
Scientific Reports **10**, 5298 (2020) doi.org/10.1038/s41598-020-61095-y arxiv.org/abs/1903.02348

J93 **Robustness of the NV-NMR Spectrometer Setup to Magnetic Field Inhomogeneities**
Y. Vaknin, B. Tratzmiller, T. Gefen, I. Schwartz, M. B. Plenio and **A. Retzker**
Physical Review Letters **125**, 110502 (2020) doi.org/10.1103/physrevlett.125.110502 arxiv.org/abs/2002.10852

J92 **Protecting Quantum Spin Coherence of Nanodiamonds in Living Cells**
Q. Cao, P. Yang, M. Gong, M. Yu, **A. Retzker**, M. B. Plenio, C. Müller, N. Tomek, B. Naydenov, L. P. McGuinness, F. Jelezko and J. Cai
Physical Review Applied **13**, 024021 (2020) doi.org/10.1103/physrevapplied.13.024021

2019

J91 **NV Center Based Nano-NMR Enhanced by Deep Learning**
N. Aharon, A. Rotem, L. P. McGuinness, F. Jelezko, **A. Retzker** and Z. Ringel
Scientific Reports **9**, 17802 (2019) doi.org/10.1038/s41598-019-54119-9

J90 **Overcoming Resolution Limits with Quantum Sensing**
T. Gefen, A. Rotem and **A. Retzker**
Nature Communications **10**, 4992 (2019) doi.org/10.1038/s41467-019-12817-y

J89 **Robust Optical Clock Transitions in Trapped Ions Using Dynamical Decoupling**
N. Aharon, N. Spethmann, I. D. Leroux, P. O. Schmidt and **A. Retzker**
New Journal of Physics **21**, 083040 (2019) doi.org/10.1088/1367-2630/ab3871

J88 **Mixed Dynamical Decoupling**
G. T. Genov, N. Aharon, F. Jelezko and **A. Retzker**
Quantum Science and Technology **4**, 035010 (2019) doi.org/10.1088/2058-9565/ab2afd

J87 **Quantum Control and Sensing of Nuclear Spins by Electron Spins Under Power Limitations**
N. Aharon, I. Schwartz and **A. Retzker**
Physical Review Letters **122**, 120403 (2019) doi.org/10.1103/physrevlett.122.120403

J86 **Limits on Spectral Resolution Measurements by Quantum Probes**
A. Rotem, T. Gefen, S. Oviedo-Casado, J. Prior, S. Schmitt, Y. Burak, L. P. McGuinness, F. Jelezko and **A. Retzker**
Physical Review Letters **122**, 060503 (2019) doi.org/10.1103/physrevlett.122.060503

2018

J85 **Clock Transition by Continuous Dynamical Decoupling of a Three-Level System**
A. Stark, N. Aharon, A. Huck, H. A. R. El-Ella, **A. Retzker**, F. Jelezko and U. L. Andersen
Scientific Reports **8**, 14807 (2018) doi.org/10.1038/s41598-018-31984-4

J84 **Experimental and Theoretical Investigation of a Multimode Cooling Scheme Using Multiple Electromagnetically-Induced-Transparency Resonances**
N. Scharnhorst, J. Cerrillo, J. Kramer, I. D. Leroux, J. B. Wübbena, **A. Retzker** and P. O. Schmidt
Physical Review A **98**, 023424 (2018) doi.org/10.1103/physreva.98.023424 arxiv.org/abs/1711.00732

J83 **Double-Path Dark-State Laser Cooling in a Three-Level System**
J. Cerrillo, **A. Retzker** and M. B. Plenio
Physical Review A **98**, 013423 (2018) doi.org/10.1103/physreva.98.013423 arxiv.org/abs/1112.6350

J82 **Quantum Spectroscopy of Single Spins Assisted by a Classical Clock**
T. Gefen, M. Khodas, L. P. McGuinness, F. Jelezko and **A. Retzker**
Physical Review A **98**, 013844 (2018) doi.org/10.1103/physreva.98.013844

J81 **Toward Hyperpolarization of Oil Molecules via Single Nitrogen Vacancy Centers in Diamond**
P. Fernández-Acebal, O. Rosolio, J. Scheuer, C. Müller, S. Müller, S. Schmitt, L. P. McGuinness, I. Schwartz, Q. Chen, **A. Retzker**, B. Naydenov, F. Jelezko and M. B. Plenio
Nano Letters **18**, 1882–1887 (2018) doi.org/10.1021/acs.nanolett.7b05175 arxiv.org/abs/1708.02427

2017

J80 **Fast Dynamical Decoupling of the Mølmer-Sørensen Entangling Gate**
T. Manovitz, A. Rotem, R. Shaniv, I. Cohen, Y. Shapira, N. Akerman, **A. Retzker** and R. Ozeri
Physical Review Letters **119**, 220505 (2017) doi.org/10.1103/physrevlett.119.220505

J79 **Narrow-Bandwidth Sensing of High-Frequency Fields with Continuous Dynamical Decoupling**
A. Stark, N. Aharon, T. Unden, D. Louzon, A. Huck, **A. Retzker**, U. L. Andersen and F. Jelezko
Nature Communications **8**, 1105 (2017) doi.org/10.1038/s41467-017-01159-2

J78 **Control Methods for Improved Fisher Information with Quantum Sensing**
T. Gefen, F. Jelezko and **A. Retzker**
Physical Review A **96**, 032310 (2017) doi.org/10.1103/physreva.96.032310

J77 **Enhanced Quantum Sensing with Multi-Level Structures of Trapped Ions**
N. Aharon, M. Drewsen and **A. Retzker**
Quantum Science and Technology **2**, 034006 (2017) doi.org/10.1088/2058-9565/aa771a

J76 **Observing Chemical Shifts from Nanosamples**
N. Bar-Gill and **A. Retzker**
Science **357**, 38 (2017) doi.org/10.1126/science.aan6162

J75 **Submillihertz Magnetic Spectroscopy Performed with a Nanoscale Quantum Sensor**
S. Schmitt, T. Gefen, F. M. Stürner, T. Unden, G. Wolff, C. Müller, J. Scheuer, B. Naydenov, M. L. Markham, S. Pezzagna, J. Meijer, I. Schwartz, M. B. Plenio, **A. Retzker**, L. P. McGuinness and F. Jelezko
Science **356**, 832–837 (2017) doi.org/10.1126/science.aam5532 arxiv.org/abs/1706.02103

J74 **Continuous Dynamical Decoupling Utilizing Time-Dependent Detuning**
I. Cohen, N. Aharon and **A. Retzker**
Fortschritte der Physik **65**, 1600071 (2017) doi.org/10.1002/prop.201600071

J73 **Experimental Realization of Time-Dependent Phase-Modulated Continuous Dynamical Decoupling**
D. Farfurnik, N. Aharon, I. Cohen, Y. Hovav, **A. Retzker** and N. Bar-Gill
Physical Review A **96**, 013850 (2017) doi.org/10.1103/physreva.96.013850 arxiv.org/abs/1704.07582

J72 **Nitrogen-Terminated Diamond (111) Surface for Room-Temperature Quantum Sensing and Simulation**
J.-P. Chou, **A. Retzker** and A. Gali
Nano Letters **17**, 2294–2298 (2017) doi.org/10.1021/acs.nanolett.6b05023

J71 **Enhancing the Fidelity of Two-Qubit Gates by Measurements**
T. Gefen, D. Cohen, I. Cohen and **A. Retzker**
Physical Review A **95**, 032314 (2017) doi.org/10.1103/physreva.95.032314 arxiv.org/abs/1604.05944

J70 **Simple Source for Large Linear Cluster Photonic States**
Y. Pilnyak, N. Aharon, D. Istrati, E. Megidish, **A. Retzker** and H. S. Eisenberg
Physical Review A **95**, 022304 (2017) doi.org/10.1103/physreva.95.022304

2016

J69 **Fully Robust Qubit in Atomic and Molecular Three-Level Systems**
N. Aharon, I. Cohen, F. Jelezko and **A. Retzker**
New Journal of Physics **18**, 123012 (2016) doi.org/10.1088/1367-2630/aa4fd3

J68 **Trapped-Ion Quantum Logic with Global Radiation Fields**
S. Weidt, J. Randall, S. C. Webster, K. Lake, A. E. Webb, I. Cohen, T. Navickas, B. Lekitsch, **A. Retzker** and W. K. Hensinger
Physical Review Letters **117**, 220501 (2016) doi.org/10.1103/physrevlett.117.220501

J67 **Demonstration of a Quantum Error Correction for Enhanced Sensitivity of Photonic Measurements**
L. Cohen, Y. Pilnyak, D. Istrati, **A. Retzker** and H. S. Eisenberg
Physical Review A **94**, 012324 (2016) doi.org/10.1103/physreva.94.012324

J66 **Ultrasensitive Magnetometer Using a Single Atom**
I. Baumgart, J. Cai, **A. Retzker**, M. B. Plenio and C. Wunderlich
Physical Review Letters **116**, 240801 (2016) doi.org/10.1103/physrevlett.116.240801

J65 **Quantum Metrology Enhanced by Repetitive Quantum Error Correction**
T. Unden, P. Balasubramanian, D. Louzon, Y. Vinkler, M. B. Plenio, M. L. Markham, D. Twitchen, A. Stacey, I. Lovchinsky, A. O. Sushkov, M. D. Lukin, **A. Retzker**, B. Naydenov, L. P. McGuinness and F. Jelezko
Physical Review Letters **116**, 230502 (2016) doi.org/10.1103/physrevlett.116.230502

J64 **Refocusing Two-Qubit-Gate Noise for Trapped Ions by Composite Pulses**
I. Cohen, A. Rotem and **A. Retzker**
Physical Review A **93**, 032340 (2016) doi.org/10.1103/physreva.93.032340

J63 **Parameter Estimation with Efficient Photodetectors**
T. Gefen, D. A. Herrera-Martí and **A. Retzker**
Physical Review A **93**, 032133 (2016) doi.org/10.1103/physreva.93.032133

J62 **Resonance-Inclined Optical Nuclear Spin Polarization of Liquids in Diamond Structures**
Q. Chen, I. Schwartz, F. Jelezko, **A. Retzker** and M. B. Plenio
Physical Review B **93**, 060408 (2016) doi.org/10.1103/physrevb.93.060408

J61 **Optically Induced Dynamic Nuclear Spin Polarisation in Diamond**
J. Scheuer, I. Schwartz, Q. Chen, D. Schulze-Sünninghausen, P. Carl, P. Höfer, **A. Retzker**, H. Sumiya, J. Isoya, B. Luy, M. B. Plenio, B. Naydenov and F. Jelezko
New Journal of Physics **18**, 013040 (2016) doi.org/10.1088/1367-2630/18/1/013040

J60 **Formation of Helical Ion Chains**
R. Nigmatullin, A. del Campo, G. De Chiara, G. Morigi, M. B. Plenio and **A. Retzker**
Physical Review B **93**, 014106 (2016) doi.org/10.1103/physrevb.93.014106

2015

J59 **Quantum Error-Correction-Enhanced Magnetometer Overcoming the Limit Imposed by Relaxation**
D. A. Herrera-Martí, T. Gefen, D. Aharonov, N. Katz and **A. Retzker**
Physical Review Letters **115**, 200501 (2015) doi.org/10.1103/physrevlett.115.200501

J58 **Optical Hyperpolarization of ^{13}C Nuclear Spins in Nanodiamond Ensembles**
Q. Chen, I. Schwartz, F. Jelezko, **A. Retzker** and M. B. Plenio
Physical Review B **92**, 184420 (2015) doi.org/10.1103/physrevb.92.184420

J57 **Proposal for High-Fidelity Quantum Simulation Using a Hybrid Dressed State**
J. Cai, I. Cohen, **A. Retzker** and M. B. Plenio
Physical Review Letters **115**, 160504 (2015) doi.org/10.1103/physrevlett.115.160504

J56 **Simulating the Haldane Phase in Trapped-Ion Spins Using Optical Fields**
I. Cohen, P. Richerme, Z.-X. Gong, C. Monroe and **A. Retzker**
Physical Review A **92**, 012334 (2015) doi.org/10.1103/physreva.92.012334

J55 **Universal Set of Gates for Microwave Dressed-State Quantum Computing**
G. Mikelsons, I. Cohen, **A. Retzker** and M. B. Plenio
New Journal of Physics **17**, 053032 (2015) doi.org/10.1088/1367-2630/17/5/053032

J54 **Multi-Qubit Gate with Trapped Ions for Microwave and Laser-Based Implementation**
I. Cohen, S. Weidt, W. K. Hensinger and **A. Retzker**
New Journal of Physics **17**, 043008 (2015) doi.org/10.1088/1367-2630/17/4/043008

J53 **Realization of a Quantum Integer-Spin Chain with Controllable Interactions**
C. Senko, P. Richerme, J. Smith, A. Lee, I. Cohen, **A. Retzker** and C. Monroe
Physical Review X **5**, 021026 (2015) doi.org/10.1103/physrevx.5.021026 arxiv.org/abs/1410.0937

J52 **Structural Phase Transitions and Topological Defects in Ion Coulomb Crystals**
H. L. Partner, R. Nigmatullin, T. Burgermeister, J. Keller, K. Pyka, M. B. Plenio, **A. Retzker**, W. H. Zurek, A. del Campo and T. E. Mehlstäubler
Physica B: Condensed Matter **460**, 114–118 (2015) doi.org/10.1016/j.physb.2014.11.051

J51 **Lindbladians for Controlled Stochastic Hamiltonians**
J. E. Avron, O. Kenneth, **A. Retzker** and M. Shalyt
New Journal of Physics **17**, 043009 (2015) doi.org/10.1088/1367-2630/17/4/043009 arxiv.org/abs/1412.2709

2014

J50 **Testing Quantum Gravity by Nanodiamond Interferometry with Nitrogen-Vacancy Centers**
A. Albrecht, **A. Retzker** and M. B. Plenio
Physical Review A **90**, 033834 (2014) doi.org/10.1103/physreva.90.033834

J49 **Self-Assembling Hybrid Diamond–Biological Quantum Devices**
A. Albrecht, G. Koplovitz, **A. Retzker**, F. Jelezko, S. Yochelis, D. Porath, Y. Nevo, O. Shoseyov, Y. Paltiel and M. B. Plenio
New Journal of Physics **16**, 093002 (2014) doi.org/10.1088/1367-2630/16/9/093002

J48 **Entanglement Generation Using Discrete Solitons in Coulomb Crystals**
H. Landa, **A. Retzker**, T. Schaetz and B. Reznik
Physical Review Letters **113**, 053001 (2014) doi.org/10.1103/physrevlett.113.053001

J47 **All-Optical Magnetic Resonance of High Spectral Resolution Using a Nitrogen-Vacancy Spin in Diamond**
Z.-Y. Wang, J. Cai, **A. Retzker** and M. B. Plenio
New Journal of Physics **16**, 083033 (2014) doi.org/10.1088/1367-2630/16/8/083033 arxiv.org/abs/1404.1190

J46 **Increasing Sensing Resolution with Error Correction**
G. Arrad, Y. Vinkler, D. Aharonov and **A. Retzker**
Physical Review Letters **112**, 150801 (2014) doi.org/10.1103/physrevlett.112.150801

J45 **Proposal for Verification of the Haldane Phase Using Trapped Ions**
I. Cohen and **A. Retzker**
Physical Review Letters **112**, 040503 (2014) doi.org/10.1103/physrevlett.112.040503 arxiv.org/abs/1310.3715

2013

J44 **General Scheme for the Construction of a Protected Qubit Subspace**
N. Aharon, M. Drewsen and **A. Retzker**
Physical Review Letters **111**, 230507 (2013) doi.org/10.1103/physrevlett.111.230507

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