# Klemens Hammerer

List of Publications by Year
in descending order



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|---|---|---|---|
| 107 papers | 7,514 citations | 61984 43 h-index | 53230 85 g-index |
| 107 all docs | 107 docs citations | 107 times ranked | 4991 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Numerical optimization of amplitude-modulated pulses in microwave-driven entanglement generation. Quantum Science and Technology, 2022, 7, 045005. | 5.8 | 0 |
| 2 | Inertial sensing with quantum gases: a comparative performance study of condensed versus thermal sources for atom interferometry. European Physical Journal D, 2021, 75, 1. | 1.3 | 18 |
| 3 | Twin-lattice atom interferometry. Nature Communications, 2021, 12, 2544. | 12.8 | 37 |
| 4 | Correlating Photons Using the Collective Nonlinear Response of Atoms Weakly Coupled to an Optical Mode. , 2021, , . | | 0 |
| 5 | Quantum logic inspired techniques for spacetime-symmetry tests with (anti-)protons. New Journal of Physics, 2021, 23, 073045. | 2.9 | 7 |
| 6 | Unraveling Two-Photon Entanglement via the Squeezing Spectrum of Light Traveling through Nanofiber-Coupled Atoms. Physical Review Letters, 2021, 127, 123602. | 7.8 | 14 |
| 7 | Quantum Variational Optimization of Ramsey Interferometry and Atomic Clocks. Physical Review X, 2021, 11, . | 8.9 | 30 |
| 8 | Dynamics of Many-Body Photon Bound States in Chiral Waveguide QED. Physical Review X, 2020, 10, . | 8.9 | 71 |
| 9 | Elementary Laserâ€Less Quantum Logic Operations with (Antiâ€)Protons in Penning Traps. Advanced Quantum Technologies, 2020, 3, 1900133. | 3.9 | 3 |
| 10 | Prospects and challenges for squeezing-enhanced optical atomic clocks. Nature Communications, 2020, 11, 5955. | 12.8 | 30 |
| 11 | Correlating photons using the collective nonlinear response of atoms weakly coupled to an optical mode. Nature Photonics, 2020, 14, 719-722. | 31.4 | 64 |
| 12 | Analytic theory for Bragg atom interferometry based on the adiabatic theorem. Physical Review A, 2020, 102, . | 2.5 | 13 |
| 13 | Universal atom interferometer simulation of elastic scattering processes. Scientific Reports, 2020, 10, 22120. | 3.3 | 8 |
| 14 | Light-mediated strong coupling between a mechanical oscillator and atomic spins 1 meter apart. Science, 2020, 369, 174-179. | 12.6 | 48 |
| 15 | ELGARâ€"a European Laboratory for Gravitation and Atom-interferometric Research. Classical and Quantum Gravity, 2020, 37, 225017. | 4.0 | 63 |
| 16 | Stationary optomechanical entanglement between a mechanical oscillator and its measurement apparatus. Physical Review Research, 2020, 2, . | 3.6 | 21 |
| 17 | Remote Hamiltonian interactions mediated by light. Physical Review A, 2019, 99, . | 2.5 | 19 |
| 18 | Motional Fock states for quantum-enhanced amplitude and phase measurements with trapped ions. Nature Communications, 2019, 10, 2929. | 12.8 | 58 |

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| 19 | Integrated 9Be+ multi-qubit gate device for the ion-trap quantum computer. Npj Quantum Information, 2019, 5, . | 6.7 | 22 |
| 20 | Robust and Resource-Efficient Microwave Near-Field Entangling <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:msup><mml:mrow><mml:mi>Be</mml:mi></mml:mrow><mml:n /><mml:none /><mml:mrow><mml:mn>9</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math> Gate. Physical Review Letters, 2019, 123, 260503. | 7.8 | 59 |
| 21 | Light-Mediated Collective Atomic Motion in an Optical Lattice Coupled to a Membrane. Physical Review Letters, 2018, 120, 073602. | 7.8 | 22 |
| 22 | Photon-recoil spectroscopy: Systematic shifts and nonclassical enhancements. Physical Review A, 2018, 98, . | 2.5 | 2 |
| 23 | Strongly Correlated Photon Transport in Waveguide Quantum Electrodynamics with Weakly Coupled Emitters. Physical Review Letters, 2018, 121, 143601. | 7.8 | 67 |
| 24 | Unconditional Steady-State Entanglement in Macroscopic Hybrid Systems by Coherent Noise Cancellation. Physical Review Letters, 2018, 121, 103602. | 7.8 | 19 |
| 25 | Spatially Adiabatic Frequency Conversion in Optoelectromechanical Arrays. Physical Review Letters, 2018, 121, 110506. | 7.8 | 17 |
| 26 | Quantum Nonlinear Optics in Optomechanical Nanoscale Waveguides. Physical Review Letters, 2017, 119, 123602. | 7.8 | 16 |
| 27 | Quantum back-action-evading measurement of motion in a negative mass reference frame. Nature, 2017, 547, 191-195. | 27.8 | 153 |
| 28 | Quantum Control of Optomechanical Systems. Advances in Atomic, Molecular and Optical Physics, 2017, 66, 263-374. | 2.3 | 5 |
| 29 | Quantum Back Action Evading Measurements in a Spin-Mechanics Hybrid System. , 2017, , . | | 0 |
| 30 | Quantum feedback cooling of a mechanical oscillator using variational measurements: tweaking Heisenbergâ€™s microscope. Journal of Optics (United Kingdom), 2016, 18, 084004. | 2.2 | 13 |
| 31 | Open-system many-body dynamics through interferometric measurements and feedback. Physical Review A, 2016, 94, . | 2.5 | 10 |
| 32 | Measurement-induced long-distance entanglement of superconducting qubits using optomechanical transducers. Physical Review A, 2016, 94, . | 2.5 | 26 |
| 33 | Generalized analysis of quantum noise and dynamic backaction in signal-recycled Michelson-type laser interferometers. Physical Review A, 2016, 94, . | 2.5 | 8 |
| 34 | Quantum Algorithmic Readout in Multi-Ion Clocks. Physical Review Letters, 2016, 116, 013002. | 7.8 | 23 |
| 35 | Proposal to Test Bellâ€™s Inequality in Electromechanics. Physical Review Letters, 2016, 116, 070406. | 7.8 | 18 |
| 36 | Optomechanical multimode Hamiltonian for nanophotonic waveguides. Physical Review A, 2016, 94, . | 2.5 | 20 |

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| 37 | Synchronization of active atomic clocks via quantum and classical channels. Physical Review A, 2016, 94, . | 2.5 | 9 |
| 38 | Satisfying the Einstein-Podolsky-Rosen criterion with massive particles. Proceedings of SPIE, 2016, , . | 0.8 | 1 |
| 39 | Optimal State Estimation for Cavity Optomechanical Systems. Physical Review Letters, 2015, 114, 223601. | 7.8 | 75 |
| 40 | Sub-Poissonian phonon lasing in three-mode optomechanics. Physical Review A, 2015, 91, . | 2.5 | 24 |
| 41 | Adiabatic elimination of Gaussian subsystems from quantum dynamics under continuous measurement. Physical Review A, 2015, 92, . | 2.5 | 15 |
| 42 | Exploring Interacting Quantum Many-Body Systems by Experimentally Creating Continuous Matrix Product States in Superconducting Circuits. Physical Review X, 2015, 5, . | 8.9 | 32 |
| 43 | KÃ¼hlen von groÃŸen Objekten mit Laserlicht. Physik in Unserer Zeit, 2015, 46, 162-163. | 0.0 | 0 |
| 44 | Satisfying the Einsteinâ€“Podolskyâ€“Rosen criterion with massive particles. Nature Communications, 2015, 6, 8984. | 12.8 | 85 |
| 45 | Observation of Generalized Optomechanical Coupling and Cooling on Cavity Resonance. Physical Review Letters, 2015, 114, 043601. | 7.8 | 89 |
| 46 | Long distance coupling of a quantum mechanical oscillator to the internal states of an atomic ensemble. New Journal of Physics, 2015, 17, 043044. | 2.9 | 26 |
| 47 | Entanglement-enhanced time-continuous quantum control in optomechanics. Physical Review A, 2015, 91, . | 2.5 | 44 |
| 48 | Diamonds take off. Nature Photonics, 2015, 9, 633-634. | 31.4 | 3 |
| 49 | Trajectories without quantum uncertainties. Annalen Der Physik, 2015, 527, A15. | 2.4 | 41 |
| 50 | Hybrid Mechanical Systems. , 2014, , 327-351. | | 53 |
| 51 | Nonclassical States of Light and Mechanics. , 2014, , 25-56. | | 8 |
| 52 | Laser Theory for Optomechanics: Limit Cycles in the Quantum Regime. Physical Review X, 2014, 4, . | 8.9 | 51 |
| 53 | Publisherâ€™s Note: Laser Theory for Optomechanics: Limit Cycles in the Quantum Regime [Phys. Rev. X 4, 011015 (2014)]. Physical Review X, 2014, 4, . | 8.9 | 1 |
| 54 | Precision spectroscopy by photon-recoil signal amplification. Nature Communications, 2014, 5, 3096. | 12.8 | 47 |

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| 55 | Concepts and research for future detectors. General Relativity and Gravitation, 2014, 46, 1. | 2.0 | 2 |
| 56 | Optomechanical Sensing of Spontaneous Wave-Function Collapse. Physical Review Letters, 2014, 113, 020405. | 7.8 | 114 |
| 57 | Coherent cancellation of backaction noise in optomechanical force measurements. Physical Review A, 2014, 89, . | 2.5 | 50 |
| 58 | Time Continuous Bell Measurements. , 2014, , . | | 0 |
| 59 | Quantum Teleportation of Dynamics and Effective Interactions between Remote Systems. Physical Review Letters, 2013, 111, 020501. | 7.8 | 9 |
| 60 | Spinning oscillators. Nature Physics, 2013, 9, 462-463. | 16.7 | 0 |
| 61 | Quantum Mechanics Tackles Mechanics. Science, 2013, 342, 702-703. | 12.6 | 2 |
| 62 | Simulating Quantum Fields with Cavity QED. Physical Review Letters, 2013, 110, 090501. | 7.8 | 38 |
| 63 | Cavity-enhanced long-distance coupling of an atomic ensemble to a micromechanical membrane. Physical Review A, 2013, 87, . | 2.5 | 60 |
| 64 | Time-Continuous Bell Measurements. Physical Review Letters, 2013, 111, 170404. | 7.8 | 24 |
| 65 | Anomalous dynamic backaction in interferometers. Physical Review A, 2013, 88, . | 2.5 | 35 |
| 66 | Dissipative versus conditional generation of Gaussian entanglement and spin squeezing. Physical Review A, 2013, 87, . | 2.5 | 9 |
| 67 | Exciton-mediated photothermal cooling in GaAs membranes. New Journal of Physics, 2012, 14, 085024. | 2.9 | 10 |
| 68 | Quantum noise for Faraday lightâ€“matter interfaces. Journal of Physics B: Atomic, Molecular and Optical Physics, 2012, 45, 124007. | 1.5 | 14 |
| 69 | Quantum Signatures of the Optomechanical Instability. Physical Review Letters, 2012, 109, 253601. | 7.8 | 103 |
| 70 | Quantum Optomechanics: State Engineering, Hybrid Systems and Dissipative Coupling. , 2012, , . | | 0 |
| 71 | Pulsed quantum optomechanics. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16182-16187. | 7.1 | 231 |
| 72 | Dissipative Optomechanics in a Michelson-Sagnac Interferometer. Physical Review Letters, 2011, 107, 213604. | 7.8 | 122 |

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| 73 | Dynamics of coupled multimode and hybrid optomechanical systems. Comptes Rendus Physique, 2011, 12, 837-847. | 0.9 | 17 |
| 74 | Quantum information at the interface of light with atomic ensembles and micromechanical oscillators. Quantum Information Processing, 2011, 10, 839-863. | 2.2 | 21 |
| 75 | Quantum entanglement and teleportation in pulsed cavity optomechanics. Physical Review A, 2011, 84, . | 2.5 | 199 |
| 76 | Publisherâ€™s Note: Dissipative Optomechanics in a Michelson-Sagnac Interferometer [Phys. Rev. Lett.107, 213604 (2011)]. Physical Review Letters, 2011, 107, . | 7.8 | 1 |
| 77 | Simulating open quantum systems: from many-body interactions to stabilizer pumping. New Journal of Physics, 2011, 13, 085007. | 2.9 | 89 |
| 78 | Single-atom cavity QED and optomicromechanics. Physical Review A, 2010, 81, . | 2.5 | 101 |
| 79 | A single trapped atom in front of an oscillating mirror. Optics Communications, 2010, 283, 758-765. | 2.1 | 36 |
| 80 | Optical lattices with micromechanical mirrors. Physical Review A, 2010, 82, . | 2.5 | 57 |
| 81 | Entanglement of mechanical oscillators coupled to a nonequilibrium environment. Physical Review A, 2010, 82, . | 2.5 | 85 |
| 82 | Master equation for the motion of a polarizable particle in a multimode cavity. New Journal of Physics, 2010, 12, 083003. | 2.9 | 30 |
| 83 | Quantum optomechanicsâ€"throwing a glance [Invited]. Journal of the Optical Society of America B: Optical Physics, 2010, 27, A189. | 2.1 | 247 |
| 84 | Quantum interface between light and atomic ensembles. Reviews of Modern Physics, 2010, 82, 1041-1093. | 45.6 | 969 |
| 85 | Efficient quantum repeater based on deterministic Rydberg gates. Physical Review A, 2010, 81, . | 2.5 | 71 |
| 86 | Quantum-Opto-Mechanics in the Strong Coupling Regime. , 2010, , . | | 0 |
| 87 | Strong Coupling of a Mechanical Oscillator and a Single Atom. Physical Review Letters, 2009, 103, 063005. | 7.8 | 192 |
| 88 | Ultracold atoms coupled to micro- and nanomechanical oscillators: Towards hybrid quantum systems. , 2009, , . | | 0 |
| 89 | Observation of strong coupling between a micromechanical resonator and an optical cavity field. Nature, 2009, 460, 724-727. | 27.8 | 848 |
| 90 | Establishing Einstein-Poldosky-Rosen Channels between Nanomechanics and Atomic Ensembles. Physical Review Letters, 2009, 102, 020501. | 7.8 | 155 |

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| 91 | Phase-noise induced limitations on cooling and coherent evolution in optomechanical systems. Physical Review A, 2009, 80, . | 2.5 | 84 |
| 92 | Cavity-assisted squeezing of a mechanical oscillator. Physical Review A, 2009, 79, . | 2.5 | 178 |
| 93 | Hybrid quantum devices and quantum engineering. Physica Scripta, 2009, T137, 014001. | 2.5 | 243 |
| 94 | Anyonic interferometry and protected memories in atomic spin lattices. Nature Physics, 2008, 4, 482-488. | 16.7 | 97 |
| 95 | Ground-state cooling of a nanomechanical resonator via a Cooper-pair box qubit. New Journal of Physics, 2008, 10, 095019. | 2.9 | 49 |
| 96 | Sequential generation of matrix-product states in cavity QED. Physical Review A, 2007, 75, . | 2.5 | 86 |
| 97 | Deterministic Quantum Interface between Light and Atomic Ensembles. , 2007, , 513-551. | | 4 |
| 98 | High-fidelity teleportation between light and atoms. Physical Review A, 2006, 74, . | 2.5 | 14 |
| 99 | Quantum teleportation between light and matter. Nature, 2006, 443, 557-560. | 27.8 | 644 |
| 100 | Efficient quantum memory and entanglement between light and an atomic ensemble using magnetic fields. Physical Review A, 2006, 73, . | 2.5 | 53 |
| 101 | Teleportation and spin squeezing utilizing multimode entanglement of light with atoms. Physical Review A, 2005, 72, . | 2.5 | 44 |
| 102 | Quantum Benchmark for Storage and Transmission of Coherent States. Physical Review Letters, 2005, 94, 150503. | 7.8 | 147 |
| 103 | Light-matter quantum interface. Physical Review A, 2004, 70, . | 2.5 | 95 |
| 104 | Entanglement generation and Hamiltonian simulation in continuous-variable systems. Physical Review A, 2003, 67, . | 2.5 | 54 |
| 105 | Characterization of nonlocal gates. Physical Review A, 2002, 66, . | 2.5 | 70 |
| 106 | Interaction Cost of Nonlocal Gates. Physical Review Letters, 2002, 88, 237902. | 7.8 | 75 |
| 107 | Ramsey interferometry with generalized one-axis twisting echoes. Quantum - the Open Journal for Quantum Science, 0, 4, 268. | 0.0 | 28 |