

Marcus Huber

List of Publications by Year in descending order

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Version: 2024-02-01

125
papers

6,952
citations

66234

42
h-index

66788

78
g-index

128
all docs

128
docs citations

128
times ranked

3813
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 1 | The role of quantum information in thermodynamics—a topical review. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2016, 49, 143001. | 0.7 | 640 |
| 2 | Multi-photon entanglement in high dimensions. <i>Nature Photonics</i> , 2016, 10, 248-252. | 15.6 | 253 |
| 3 | Generation and confirmation of a (100 Å— 100)-dimensional entangled quantum system. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 6243-6247. | 3.3 | 252 |
| 4 | Entanglement Generation is Not Necessary for Optimal Work Extraction. <i>Physical Review Letters</i> , 2013, 111, 240401. | 2.9 | 191 |
| 5 | Entanglement certification from theory to experiment. <i>Nature Reviews Physics</i> , 2019, 1, 72-87. | 11.9 | 186 |
| 6 | Detection of High-Dimensional Genuine Multipartite Entanglement of Mixed States. <i>Physical Review Letters</i> , 2010, 104, 210501. | 2.9 | 184 |
| 7 | Observation of Entangled States of a Fully Controlled 20-Qubit System. <i>Physical Review X</i> , 2018, 8, . | 2.8 | 183 |
| 8 | Measure of genuine multipartite entanglement with computable lower bounds. <i>Physical Review A</i> , 2011, 83, . | 1.0 | 170 |
| 9 | Chip-to-chip quantum teleportation and multi-photon entanglement in silicon. <i>Nature Physics</i> , 2020, 16, 148-153. | 6.5 | 163 |
| 10 | Entanglement enhances cooling in microscopic quantum refrigerators. <i>Physical Review E</i> , 2014, 89, 032115. | 0.8 | 160 |
| 11 | Interface between path and orbital angular momentum entanglement for high-dimensional photonic quantum information. <i>Nature Communications</i> , 2014, 5, 4502. | 5.8 | 148 |
| 12 | Entanglement detection via mutually unbiased bases. <i>Physical Review A</i> , 2012, 86, . | 1.0 | 143 |
| 13 | Extractable Work from Correlations. <i>Physical Review X</i> , 2015, 5, . | 2.8 | 143 |
| 14 | Measurements in two bases are sufficient for certifying high-dimensional entanglement. <i>Nature Physics</i> , 2018, 14, 1032-1037. | 6.5 | 129 |
| 15 | No-Go Theorem for the Characterization of Work Fluctuations in Coherent Quantum Systems. <i>Physical Review Letters</i> , 2017, 118, 070601. | 2.9 | 126 |
| 16 | Distribution of high-dimensional entanglement via an intra-city free-space link. <i>Nature Communications</i> , 2017, 8, 15971. | 5.8 | 123 |
| 17 | Coherence-assisted single-shot cooling by quantum absorption refrigerators. <i>New Journal of Physics</i> , 2015, 17, 115013. | 1.2 | 122 |
| 18 | Quantum hypergraph states. <i>New Journal of Physics</i> , 2013, 15, 113022. | 1.2 | 118 |

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|----|---|-----|-----------|
| 19 | Overcoming Noise in Entanglement Distribution. Physical Review X, 2019, 9, . | 2.8 | 114 |
| 20 | Structure of Multidimensional Entanglement in Multipartite Systems. Physical Review Letters, 2013, 110, 030501. | 2.9 | 113 |
| 21 | Genuinely multipartite concurrence of N -qubit X matrices. Physical Review A, 2012, 86, . | 1.0 | 111 |
| 22 | Autonomous quantum refrigerator in a circuit QED architecture based on a Josephson junction. Physical Review B, 2016, 94, . | 1.1 | 95 |
| 23 | Relativistic entanglement of two massive particles. Physical Review A, 2010, 81, . | 1.0 | 93 |
| 24 | Quantifying Photonic High-Dimensional Entanglement. Physical Review Letters, 2017, 118, 110501. | 2.9 | 90 |
| 25 | High-dimensional quantum gates using full-field spatial modes of photons. Optica, 2020, 7, 98. | 4.8 | 90 |
| 26 | Autonomous quantum thermal machine for generating steady-state entanglement. New Journal of Physics, 2015, 17, 113029. | 1.2 | 88 |
| 27 | Multipartite entanglement detection from correlation tensors. Physical Review A, 2011, 84, . | 1.0 | 86 |
| 28 | Autonomous Quantum Clocks: Does Thermodynamics Limit Our Ability to Measure Time?. Physical Review X, 2017, 7, . | 2.8 | 78 |
| 29 | Measuring azimuthal and radial modes of photons. Optics Express, 2018, 26, 31925. | 1.7 | 78 |
| 30 | Weak randomness in device-independent quantum key distribution and the advantage of using high-dimensional entanglement. Physical Review A, 2013, 88, . | 1.0 | 74 |
| 31 | Entangled singularity patterns of photons in Ince-Gauss modes. Physical Review A, 2013, 87, . | 1.0 | 70 |
| 32 | Steering Bound Entangled States: A Counterexample to the Stronger Peres Conjecture. Physical Review Letters, 2014, 113, 050404. | 2.9 | 68 |
| 33 | Thermodynamic cost of creating correlations. New Journal of Physics, 2015, 17, 065008. | 1.2 | 68 |
| 34 | Precision and Work Fluctuations in Gaussian Battery Charging. Quantum - the Open Journal for Quantum Science, 0, 2, 61. | 0.0 | 66 |
| 35 | Experimental access to higher-dimensional entangled quantum systems using integrated optics. Optica, 2015, 2, 523. | 4.8 | 63 |
| 36 | Realising a quantum absorption refrigerator with an atom-cavity system. Quantum Science and Technology, 2016, 1, 015001. | 2.6 | 63 |

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|----|--|-----|-----------|
| 37 | Should Entanglement Measures be Monogamous or Faithful?. Physical Review Letters, 2016, 117, 060501. | 2.9 | 62 |
| 38 | Witnessing Genuine Multipartite Entanglement with Positive Maps. Physical Review Letters, 2014, 113, 100501. | 2.9 | 55 |
| 39 | Ideal Projective Measurements Have Infinite Resource Costs. Quantum - the Open Journal for Quantum Science, 0, 4, 222. | 0.0 | 54 |
| 40 | Entropy vector formalism and the structure of multidimensional entanglement in multipartite systems. Physical Review A, 2013, 88, . | 1.0 | 52 |
| 41 | Efficient Generation of High-Dimensional Entanglement through Multipath Down-Conversion. Physical Review Letters, 2020, 125, 090503. | 2.9 | 49 |
| 42 | Thermodynamics of creating correlations: Limitations and optimal protocols. Physical Review E, 2015, 91, 032118. | 0.8 | 48 |
| 43 | Concepts of work in autonomous quantum heat engines. Quantum - the Open Journal for Quantum Science, 0, 3, 195. | 0.0 | 47 |
| 44 | High-Dimensional Pixel Entanglement: Efficient Generation and Certification. Quantum - the Open Journal for Quantum Science, 0, 4, 376. | 0.0 | 46 |
| 45 | Experimental Single-Copy Entanglement Distillation. Physical Review Letters, 2021, 127, 040506. | 2.9 | 44 |
| 46 | Experimentally feasible security check for n -qubit quantum secret sharing. Physical Review A, 2010, 82, . | 1.0 | 43 |
| 47 | Criterion for k -separability in mixed multipartite states. Quantum Information and Computation, 2010, 10, 829-836. | 0.1 | 43 |
| 48 | Determining lower bounds on a measure of multipartite entanglement from few local observables. Physical Review A, 2012, 86, . | 1.0 | 41 |
| 49 | Experimentally feasible set of criteria detecting genuine multipartite entanglement in n -qubit Dicke states and in higher-dimensional systems. Physical Review A, 2011, 83, . | 1.0 | 40 |
| 50 | Passivity and practical work extraction using Gaussian operations. New Journal of Physics, 2016, 18, 113028. | 1.2 | 40 |
| 51 | Characterizing Genuine Multilevel Entanglement. Physical Review Letters, 2018, 120, 060502. | 2.9 | 40 |
| 52 | Revealing Bell's nonlocality for unstable systems in high energy physics. European Physical Journal C, 2012, 72, 1. | 1.4 | 39 |
| 53 | Most energetic passive states. Physical Review E, 2015, 92, 042147. | 0.8 | 38 |
| 54 | Characterizing multipartite entanglement without shared reference frames. Physical Review A, 2015, 91, . | 1.0 | 38 |

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|----|--|-----|-----------|
| 55 | Unifying Paradigms of Quantum Refrigeration: A Universal and Attainable Bound on Cooling. <i>Physical Review Letters</i> , 2019, 123, 170605. | 2.9 | 38 |
| 56 | A composite parameterization of unitary groups, density matrices and subspaces. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2010, 43, 385306. | 0.7 | 37 |
| 57 | Layered quantum key distribution. <i>Physical Review A</i> , 2018, 97, . | 1.0 | 37 |
| 58 | Multipartite entanglement measure for all discrete systems. <i>Physical Review A</i> , 2008, 78, . | 1.0 | 35 |
| 59 | Steering Maps and Their Application to Dimension-Bounded Steering. <i>Physical Review Letters</i> , 2016, 116, 090403. | 2.9 | 35 |
| 60 | Composite parameterization and Haar measure for all unitary and special unitary groups. <i>Journal of Mathematical Physics</i> , 2012, 53, . | 0.5 | 34 |
| 61 | Quantifying high dimensional entanglement with two mutually unbiased bases. <i>Quantum - the Open Journal for Quantum Science</i> , 0, 1, 22. | 0.0 | 34 |
| 62 | Heisenberg-Weyl Observables: Bloch vectors in phase space. <i>Physical Review A</i> , 2016, 94, . | 1.0 | 32 |
| 63 | Quantification of multidimensional entanglement stored in a crystal. <i>Physical Review A</i> , 2017, 96, . | 1.0 | 32 |
| 64 | Quantum gates and multipartite entanglement resonances realized by nonuniform cavity motion. <i>Physical Review D</i> , 2012, 86, . | 1.6 | 31 |
| 65 | Temporal Multimode Storage of Entangled Photon Pairs. <i>Physical Review Letters</i> , 2016, 117, 240506. | 2.9 | 30 |
| 66 | Quantum Key Distribution Overcoming Extreme Noise: Simultaneous Subspace Coding Using High-Dimensional Entanglement. <i>Physical Review Applied</i> , 2021, 15, . | 1.5 | 30 |
| 67 | Quantum Field Thermal Machines. <i>PRX Quantum</i> , 2021, 2, . | 3.5 | 29 |
| 68 | Relaxations of separability in multipartite systems: Semidefinite programs, witnesses and volumes. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2015, 48, 505302. | 0.7 | 28 |
| 69 | Pathways for Entanglement-Based Quantum Communication in the Face of High Noise. <i>Physical Review Letters</i> , 2021, 127, 110505. | 2.9 | 27 |
| 70 | Heralded generation of maximal entanglement in any dimension via incoherent coupling to thermal baths. <i>Quantum - the Open Journal for Quantum Science</i> , 0, 2, 73. | 0.0 | 27 |
| 71 | Energetics of correlations in interacting systems. <i>Physical Review E</i> , 2016, 93, 042135. | 0.8 | 26 |
| 72 | Measuring the Thermodynamic Cost of Timekeeping. <i>Physical Review X</i> , 2021, 11, . | 2.8 | 26 |

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|----|--|-----|-----------|
| 73 | Two computable sets of multipartite entanglement measures. <i>Physical Review A</i> , 2009, 79, . | 1.0 | 25 |
| 74 | Superactivation of quantum steering. <i>Physical Review A</i> , 2016, 94, . | 1.0 | 25 |
| 75 | Eigenstate Thermalization for Degenerate Observables. <i>Physical Review Letters</i> , 2018, 120, 150603. | 2.9 | 25 |
| 76 | Quantum entanglement in the triangle network. <i>Physical Review A</i> , 2021, 103, . | 1.0 | 25 |
| 77 | Verification of high-dimensional entanglement generated in quantum interference. <i>Physical Review A</i> , 2020, 101, . | 1.0 | 24 |
| 78 | Inequalities for the ranks of multipartite quantum states. <i>Linear Algebra and Its Applications</i> , 2014, 452, 153-171. | 0.4 | 23 |
| 79 | Work estimation and work fluctuations in the presence of non-ideal measurements. <i>New Journal of Physics</i> , 2019, 21, 113002. | 1.2 | 23 |
| 80 | Experimentally implementable criteria revealing substructures of genuine multipartite entanglement. <i>Physical Review A</i> , 2011, 83, . | 1.0 | 22 |
| 81 | Heisenberg's Uncertainty Relation and Bell Inequalities in High Energy Physics. <i>Foundations of Physics</i> , 2012, 42, 778-802. | 0.6 | 22 |
| 82 | Bipartite depolarizing maps. <i>Journal of Mathematical Physics</i> , 2016, 57, . | 0.5 | 21 |
| 83 | High-Dimensional Entanglement in States with Positive Partial Transposition. <i>Physical Review Letters</i> , 2018, 121, 200503. | 2.9 | 21 |
| 84 | Lorentz invariance of entanglement classes in multipartite systems. <i>Europhysics Letters</i> , 2011, 95, 20002. | 0.7 | 19 |
| 85 | Quantifying Entanglement of Maximal Dimension in Bipartite Mixed States. <i>Physical Review Letters</i> , 2016, 117, 190502. | 2.9 | 19 |
| 86 | Unifying paradigms of quantum refrigeration: Fundamental limits of cooling and associated work costs. <i>Physical Review E</i> , 2019, 100, 042130. | 0.8 | 19 |
| 87 | A generalized multipath delayed-choice experiment on a large-scale quantum nanophotonic chip. <i>Nature Communications</i> , 2021, 12, 2712. | 5.8 | 19 |
| 88 | Genuine-multipartite entanglement criteria based on positive maps. <i>Journal of Mathematical Physics</i> , 2017, 58, 082201. | 0.5 | 18 |
| 89 | Temporal distinguishability in Hong-Ou-Mandel interference for harnessing high-dimensional frequency entanglement. <i>Npj Quantum Information</i> , 2021, 7, . | 2.8 | 18 |
| 90 | Proving the generation of genuine multipartite entanglement in a single-neutron interferometer experiment. <i>New Journal of Physics</i> , 2013, 15, 023033. | 1.2 | 17 |

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|-----|---|-----|-----------|
| 91 | Experimental creation of multi-photon high-dimensional layered quantum states. Npj Quantum Information, 2020, 6, . | 2.8 | 16 |
| 92 | Bohr's complementarity relation and the violation of CP symmetry in the neutral kaon system. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 3608-3615. | 0.9 | 15 |
| 93 | Purification of genuine multipartite entanglement. Physical Review A, 2011, 83, . | 1.0 | 15 |
| 94 | Examining the dimensionality of genuine multipartite entanglement. Quantum Information Processing, 2013, 12, 269-278. | 1.0 | 15 |
| 95 | A geometric comparison of entanglement and quantum nonlocality in discrete systems. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 065304. | 0.7 | 14 |
| 96 | Fifty years of Bell's theorem. Journal of Physics A: Mathematical and Theoretical, 2014, 47, 420301. | 0.7 | 14 |
| 97 | Entanglement Quantification in Atomic Ensembles. Physical Review Letters, 2021, 127, 010401. | 2.9 | 14 |
| 98 | Proposal for practical multidimensional quantum networks. Physical Review A, 2021, 104, . | 1.0 | 14 |
| 99 | Exponential Improvement for Quantum Cooling through Finite-Memory Effects. Physical Review Applied, 2020, 14, . | 1.5 | 12 |
| 100 | Autonomous Temporal Probability Concentration: Clockworks and the Second Law of Thermodynamics. Physical Review X, 2021, 11, . | 2.8 | 12 |
| 101 | Unified approach to entanglement criteria using the Cauchy-Schwarz and Hölder inequalities. Physical Review A, 2014, 90, . | 1.0 | 11 |
| 102 | Simplex of bound entangled multipartite qubit states. Physical Review A, 2008, 78, . | 1.0 | 9 |
| 103 | Thermodynamically optimal creation of correlations. Journal of Physics A: Mathematical and Theoretical, 2019, 52, 465303. | 0.7 | 9 |
| 104 | Entanglement Detection with Imprecise Measurements. Physical Review Letters, 2022, 128, . | 2.9 | 8 |
| 105 | Trade-Off Between Work and Correlations in Quantum Thermodynamics. Fundamental Theories of Physics, 2018, , 731-750. | 0.1 | 7 |
| 106 | The shape of higher-dimensional state space: Bloch-ball analog for a qutrit. Quantum - the Open Journal for Quantum Science, 0, 5, 485. | 0.0 | 7 |
| 107 | Activation of genuine multipartite entanglement: Beyond the single-copy paradigm of entanglement characterisation. Quantum - the Open Journal for Quantum Science, 0, 6, 695. | 0.0 | 6 |
| 108 | Computable criterion for partial entanglement in continuous-variable quantum systems. Physical Review A, 2011, 83, . | 1.0 | 5 |

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|-----|---|-----|-----------|
| 109 | Witnessing entanglement by proxy. <i>New Journal of Physics</i> , 2016, 18, 015002. | 1.2 | 5 |
| 110 | One-Shot Hybrid State Redistribution. <i>Quantum - the Open Journal for Quantum Science</i> , 0, 6, 724. | 0.0 | 4 |
| 111 | Dimensionally sharp inequalities for the linear entropy. <i>Linear Algebra and Its Applications</i> , 2020, 584, 294-325. | 0.4 | 3 |
| 112 | Monogamy of correlations and entropy inequalities in the Bloch picture. <i>Journal of Physics Communications</i> , 2020, 4, 025009. | 0.5 | 3 |
| 113 | Multi-Photon Entanglement in High Dimensions. , 2016, , . | | 3 |
| 114 | Simplifying the design of multilevel thermal machines using virtual qubits. <i>Physical Review A</i> , 2021, 104, . | 1.0 | 3 |
| 115 | Demonstration of chip-to-chip quantum teleportation. , 2019, , . | | 2 |
| 116 | MIXED STATE ENTANGLEMENT MEASURES FOR INTERMEDIATE SEPARABILITY. <i>International Journal of Quantum Information</i> , 2010, 08, 677-685. | 0.6 | 1 |
| 117 | Tripartite entanglement in single-neutron interferometer experiments. , 2014, , . | | 0 |
| 118 | New Entry in the Thermodynamic Rulebook for Quantum Systems. <i>Physics Magazine</i> , 2015, 8, . | 0.1 | 0 |
| 119 | Unraveling multipartite entanglement for an important family of mixed states. <i>Annalen Der Physik</i> , 2016, 528, 238-240. | 0.9 | 0 |
| 120 | Demonstration of Generalized Multi-path Wave-particle Duality on a Quantum Nanophotonic Chip. , 2021, , . | | 0 |
| 121 | Increasing the Quantum Number, Dimensionality and Complexity of Entanglement. , 2015, , . | | 0 |
| 122 | Certification and quantification of the entanglement stored in a quantum memory using incomplete data. , 2017, , . | | 0 |
| 123 | Near-Perfect Measurement of Photonic Spatial Modes. , 2019, , . | | 0 |
| 124 | Quantifying High-Dimensional Entanglement with only Two Measurement Settings. , 2019, , . | | 0 |
| 125 | Finite-Function-Encoding Quantum States. <i>Quantum - the Open Journal for Quantum Science</i> , 0, 6, 708. | 0.0 | 0 |