# Jonathan Baugh

List of Publications by Year
in descending order



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|---|---|---|---|
| 74 papers | 1,983 citations | 236912 25 h-index | 265191 42 g-index |
| 77 all docs | 77 docs citations | 77 times ranked | 2364 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Symmetrized Characterization of Noisy Quantum Processes. Science, 2007, 317, 1893-1896. | 12.6 | 181 |
| 2 | Nuclear spins in nanostructures. Physica Status Solidi (B): Basic Research, 2009, 246, 2203-2215. | 1.5 | 133 |
| 3 | Experimental implementation of heat-bath algorithmic cooling using solid-state nuclear magnetic resonance. Nature, 2005, 438, 470-473. | 27.8 | 112 |
| 4 | Large Nuclear Overhauser Fields Detected in Vertically Coupled Double Quantum Dots. Physical Review Letters, 2007, 99, 096804. | 7.8 | 99 |
| 5 | Direct Evidence of Solution-Mediated Superoxide Transport and Organic Radical Formation in Sodium-Oxygen Batteries. Journal of the American Chemical Society, 2016, 138, 11219-11226. | 13.7 | 90 |
| 6 | Confinement Effect on Dipole-Dipole Interactions in Nanofluids. Science, 2001, 294, 1505-1507. | 12.6 | 82 |
| 7 | Enhancing quantum control by bootstrapping a quantum processor of 12 qubits. Npj Quantum Information, 2017, 3, . | 6.7 | 68 |
| 8 | Multispin dynamics of the solid-state NMR free induction decay. Physical Review B, 2005, 72, . | 3.2 | 59 |
| 9 | Spin Based Heat Engine: Demonstration of Multiple Rounds of Algorithmic Cooling. Physical Review Letters, 2008, 100, 140501. | 7.8 | 57 |
| 10 | Coherent Control of Two Nuclear Spins Using the Anisotropic Hyperfine Interaction. Physical Review Letters, 2011, 107, 170503. | 7.8 | 56 |
| 11 | Understanding resonant charge transport through weakly coupled single-molecule junctions. Nature Communications, 2019, 10, 4628. | 12.8 | 51 |
| 12 | Digital quantum simulation of the statistical mechanics of a frustrated magnet. Nature Communications, 2012, 3, 880. | 12.8 | 50 |
| 13 | Experimental Estimation of Average Fidelity of a Clifford Gate on a 7-Qubit Quantum Processor. Physical Review Letters, 2015, 114, 140505. | 7.8 | 50 |
| 14 | Roadmap on quantum nanotechnologies. Nanotechnology, 2021, 32, 162003. | 2.6 | 45 |
| 15 | Demonstration of Sufficient Control for Two Rounds of Quantum Error Correction in a Solid State Ensemble Quantum Information Processor. Physical Review Letters, 2011, 107, 160501. | 7.8 | 38 |
| 16 | Chiral quantum walks. Physical Review A, 2016, 93, . | 2.5 | 36 |
| 17 | Tomography is Necessary for Universal Entanglement Detection with Single-Copy Observables. Physical Review Letters, 2016, 116, 230501. | 7.8 | 36 |
| 18 | Solid-state NMR three-qubit homonuclear system for quantum-information processing: Control and characterization. Physical Review A, 2006, 73, . | 2.5 | 35 |

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|---|---|---|---|
| 19 | Light-induced structural changes and their correlation to metastable defect creation in intrinsic hydrogenated amorphous silicon films. Physical Review B, 2000, 62, 7169-7178. | 3.2 | 33 |
| 20 | Using error correction to determine the noise model. Physical Review A, 2007, 75, . | 2.5 | 31 |
| 21 | Estimating the Coherence of Noise in Quantum Control of a Solid-State Qubit. Physical Review Letters, 2016, 117, 260501. | 7.8 | 31 |
| 22 | Critical shell thickness for InAs-AlxIn1â^'xAs(P) core-shell nanowires. Journal of Applied Physics, 2012, 112, . | 2.5 | 29 |
| 23 | Readout of Majorana parity states using a quantum dot. Physical Review B, 2016, 94, . | 3.2 | 28 |
| 24 | Temperature-dependent electron mobility in InAs nanowires. Nanotechnology, 2013, 24, 225202. | 2.6 | 26 |
| 25 | Magnetic susceptibility and microstructure of hydrogenated amorphous silicon measured by nuclear magnetic resonance on a single thin film. Applied Physics Letters, 2001, 78, 466-468. | 3.3 | 25 |
| 26 | Time-reversal formalism applied to maximal bipartite entanglement: Theoretical and experimental exploration. Physical Review A, 2006, 73, . | 2.5 | 21 |
| 27 | Gradient-based closed-loop quantum optimal control in a solid-state two-qubit system. Physical Review A, 2018, 98, . | 2.5 | 21 |
| 28 | Network architecture for a topological quantum computer in silicon. Quantum Science and Technology, 2019, 4, 025003. | 5.8 | 21 |
| 29 | Supercurrent interference in semiconductor nanowire Josephson junctions. Physical Review B, 2019, 100, . | 3.2 | 20 |
| 30 | Low temperature probe for dynamic nuclear polarization and multiple-pulse solid-state NMR. Journal of Magnetic Resonance, 2007, 187, 242-250. | 2.1 | 19 |
| 31 | Hyperfine spin qubits in irradiated malonic acid: heat-bath algorithmic cooling. Quantum Information Processing, 2015, 14, 2435-2461. | 2.2 | 19 |
| 32 | Electron transport in InAs-InAlAs core-shell nanowires. Applied Physics Letters, 2013, 102, 043115. | 3.3 | 18 |
| 33 | Trapped charge dynamics in InAs nanowires. Journal of Applied Physics, 2013, 113, . | 2.5 | 18 |
| 34 | Simulated coherent electron shuttling in silicon quantum dots. Physical Review B, 2020, 102, . | 3.2 | 18 |
| 35 | Nb/InAs nanowire proximity junctions from Josephson to quantum dot regimes. Nanotechnology, 2017, 28, 085202. | 2.6 | 17 |
| 36 | Quantum data bus in dipolar coupled nuclear spin qubits. Physical Review A, 2009, 80, . | 2.5 | 16 |

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|---|---|---|---|
| 37 | Two-domain model of light-induced structural changes in hydrogenated amorphous silicon. Physical Review B, 2002, 66, . | 3.2 | 15 |
| 38 | Electrical characterization of chemical and dielectric passivation of InAs nanowires. Semiconductor Science and Technology, 2016, 31, 114004. | 2.0 | 15 |
| 39 | Double quantum dot memristor. Physical Review B, 2017, 96, . | 3.2 | 15 |
| 40 | Charge-state assignment of nanoscale single-electron transistors from their currentâ€“voltage characteristics. Nanoscale, 2019, 11, 14820-14827. | 5.6 | 15 |
| 41 | Selective coherence transfers in homonuclear dipolar coupled spin systems. Physical Review A, 2005, 71, . | 2.5 | 14 |
| 42 | Facilitating growth of InAsâ€“InP coreâ€“shell nanowires through the introduction of Al. Journal of Crystal Growth, 2012, 345, 11-15. | 1.5 | 14 |
| 43 | Magnetoconductance signatures of subband structure in semiconductor nanowires. Physical Review B, 2015, 91, . | 3.2 | 14 |
| 44 | Randomized benchmarking of quantum gates implemented by electron spin resonance. Journal of Magnetic Resonance, 2016, 267, 68-78. | 2.1 | 14 |
| 45 | Nonequilibrium Green's function study of magnetoconductance features and oscillations in clean and disordered nanowires. Physical Review B, 2018, 98, . | 3.2 | 14 |
| 46 | Dynamic nuclear polarization in a double quantum dot device: electrical induction and detection. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 302-305. | 0.8 | 12 |
| 47 | Nanovoid-related large redshift of photoluminescence peak energy in hydrogenated amorphous silicon. Applied Physics Letters, 2002, 80, 40-42. | 3.3 | 11 |
| 48 | Heat Bath Algorithmic Cooling with Spins: Review and Prospects. Biological Magnetic Resonance, 2016, , 227-255. | 0.4 | 11 |
| 49 | Efficient continuous-wave noise spectroscopy beyond weak coupling. Physical Review A, 2018, 98, . | 2.5 | 10 |
| 50 | Building a spin quantum bit register using semiconductor nanowires. Nanotechnology, 2010, 21, 134018. | 2.6 | 9 |
| 51 | Orbital Josephson interference in a nanowire proximity-effect junction. Physical Review B, 2015, 91, . | 3.2 | 9 |
| 52 | Probing the non-linear transient response of a carbon nanotube mechanical oscillator. Applied Physics Letters, 2017, 111, . | 3.3 | 9 |
| 53 | Role of dephasing on the conductance signatures of Majorana zero modes. Journal of Physics Condensed Matter, 2021, 33, 365301. | 1.8 | 9 |
| 54 | Optimization of metamorphic buffers for MBE growth of high quality AlInSb/InSb quantum structures: Suppression of hillock formation. Journal of Crystal Growth, 2017, 477, 7-11. | 1.5 | 8 |

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| 55 | Charge transport through extended molecular wires with strongly correlated electrons. Chemical Science, 2021, 12, 11121-11129. | 7.4 | 8 |
| 56 | Graphene nanogaps for the directed assembly of single-nanoparticle devices. Nanoscale, 2021, 13, 6513-6520. | 5.6 | 8 |
| 57 | Estimation of MOSFET Channel Noise and Noise Performance of CMOS LNAs at Cryogenic Temperatures. , 2021, , . | | 8 |
| 58 | Structural Changes and Hydrogen Motion in A-SI:H Observed by Proton Nmr. Materials Research Society Symposia Proceedings, 1999, 557, 383. | 0.1 | 5 |
| 59 | Magnetic and Electrical Control of Electron-Nuclear Spin Coupling in GaAs Double Quantum Dots. Journal of the Physical Society of Japan, 2008, 77, 031011. | 1.6 | 5 |
| 60 | Hillock-free and atomically smooth InSb QWs grown on GaAs substrates by MBE. Journal of Crystal Growth, 2019, 513, 15-19. | 1.5 | 5 |
| 61 | Non-adiabatic single-electron pumps in a dopant-free GaAs/AlGaAs 2DEG. Applied Physics Letters, 2021, 119, . | 3.3 | 5 |
| 62 | Self-driven oscillation in Coulomb blockaded suspended carbon nanotubes. Physical Review Research, 2020, 2, . | 3.6 | 5 |
| 63 | Proton NMR and Magnetic Susceptibility in a-Si:H. Materials Research Society Symposia Proceedings, 2001, 664, 2741. | 0.1 | 4 |
| 64 | Model of Hydrogen-Mediated Metastable Changes in a Two-Domain Amorphous Silicon Network. Materials Research Society Symposia Proceedings, 2001, 664, 1911. | 0.1 | 3 |
| 65 | Hydrogen distribution, nanostructures and optical properties of high deposition rate hot-wire CVD a-Si:H. Thin Solid Films, 2003, 430, 95-99. | 1.8 | 3 |
| 66 | Sensitive magnetic force detection with a carbon nanotube resonator. Journal of Applied Physics, 2014, 115, 114501. | 2.5 | 3 |
| 67 | Electrical Breakdown in Thin Si Oxide Modeled by a Quantum Point Contact Network. IEEE Transactions on Electron Devices, 2016, , 1-6. | 3.0 | 3 |
| 68 | Few-electrode design for silicon MOS quantum dots. Semiconductor Science and Technology, 2020, 35, 015002. | 2.0 | 3 |
| 69 | Observation and Manipulation of a Phase Separated State in a Charge Density Wave Material. Nano Letters, 2022, 22, 1929-1936. | 9.1 | 3 |
| 70 | Effects of biased and unbiased illuminations on two-dimensional electron gases in dopant-free GaAs/AlGaAs. Physical Review B, 2022, 105, . | 3.2 | 2 |
| 71 | Light-Induced Change of Si-H Bond Absorption in Hydrogenated Amorphous Silicon. Materials Research Society Symposia Proceedings, 1998, 507, 685. | 0.1 | 0 |
| 72 | Diamagnetic Susceptibility of Micron Thick a-Si:H Films Measured via Proton NMR: A Probe of Structural Disorder. Materials Research Society Symposia Proceedings, 2000, 609, 1631. | 0.1 | 0 |

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| 73 | Electrons and nuclei get entangled. Physics World, 2003, 16, 23-23. | 0.0 | 0 |
| 74 | Special session on quantum systems: Next challenges in design, test, integration. , 2018, , . | | 0 |