Caspar H Van Der Wal

List of Publications by Year
in descending order

54 papers	4,422 citations	331538 21 h-index	206029 48 g-index
54 all docs	54 docs citations	54 times ranked	3546 citing authors

#	Article	IF	Citations
1	Josephson Persistent-Current Qubit. Science, 1999, 285, 1036-1039.	6.0	1,160
2	Quantum Superposition of Macroscopic Persistent-Current States. Science, 2000, 290, 773-777.	6.0	875
3	Superconducting persistent-current qubit. Physical Review B, 1999, 60, 15398-15413.	1.1	597
4	Atomic Memory for Correlated Photon States. Science, 2003, 301, 196-200.	6.0	428
5	Electrical Detection of Spin Pumping due to the Precessing Magnetization of a Single Ferromagnet. Physical Review Letters, 2006, 97, 216603.	2.9	262
6	Capacitive Coupling of Atomic Systems to Mesoscopic Conductors. Physical Review Letters, 2004, 92, 063601.	2.9	135
7	Electronic properties of germanane field-effect transistors. 2D Materials, 2017, 4, 021009.	2.0	97
8	Engineering decoherence in Josephson persistent-current qubits. European Physical Journal B, 2003, 31, 111-124.	0.6	95
9	Large cone angle magnetization precession of an individual nanopatterned ferromagnet with dc electrical detection. Applied Physics Letters, 2006, 89, 232115.	1.5	70
10	Spin-dependent electron transmission model for chiral molecules in mesoscopic devices. Physical Review B, 2019, 99, .	1.1	68
11	Odd and even Kondo effects from emergent localization in quantum point contacts. Nature, 2013, 501, 79-83.	13.7	65
12	Identification and tunable optical coherent control of transition-metal spins in silicon carbide. Npj Quantum Information, 2018, 4, .	2.8	53
13	Symmetry regimes for circular photocurrents in monolayer MoSe2. Nature Communications, 2018, 9, 3346.	5.8	53
14	Detecting Chirality in Two-Terminal Electronic Nanodevices. Nano Letters, 2020, 20, 6148-6154.	4.5	47
15	On-chip detection of ferromagnetic resonance of a single submicron Permalloy strip. Applied Physics Letters, 2006, 89, 192506.	1.5	28
16	Electrical detection of spin pumping: dc voltage generated by ferromagnetic resonance at ferromagnet/nonmagnet contact. Physical Review B, 2008, 78, .	1.1	28
17	All-optical coherent population trapping with defect spin ensembles in silicon carbide. Scientific Reports, 2015, 5, 10931.	1.6	28
18	Microwave spectroscopy on magnetization reversal dynamics of nanomagnets with electronic detection. Journal of Applied Physics, 2006, 100, 024316.	1.1	25

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19	The Influence of Device Geometry on Many-Body Effects inÂQuantum Point Contacts: Signatures of the 0.7 Anomaly, Exchange and Kondo. Journal of Superconductivity and Novel Magnetism, 2007, 20, 433-441.	0.8	24
20	Spin Accumulation and Spin Relaxation in a Large Open Quantum Dot. Physical Review Letters, 2008, 101, 056602.	2.9	23
21	Observation of bright and dark exciton transitions in monolayer MoSe ₂ by photocurrent spectroscopy. 2D Materials, 2018, 5, 015004.	2.0	21
22	Decoherence of Flux Qubits Coupled to Electronic Circuits. Advances in Solid State Physics, 0, , 763-780.	0.8	17
23	Suppressed spin dephasing for two-dimensional and bulk electrons in GaAs wires due to engineered cancellation of spin-orbit interaction terms. Physical Review B, 2010, 81, .	1.1	16
24	Spin-relaxation times exceeding seconds for color centers with strong spinâ€“orbit coupling in SiC. New Journal of Physics, 2020, 22, 103051.	1.2	15
25	Flux-based superconducting qubits for quantum computation. Physica C: Superconductivity and Its Applications, 2002, 372-376, 194-200.	0.6	14
26	Electromagnetically induced transparency with an ensemble of donor-bound electron spins in a semiconductor. Physical Review B, 2010, 82, .	1.1	14
27	Unified Description of Bulk and Interface-Enhanced Spin Pumping. Physical Review Letters, 2006, 96, 077201.	2.9	13
28	Spin-Dephasing Anisotropy for Electrons in a Diffusive Quasi-1D GaAs Wire. Journal of Superconductivity and Novel Magnetism, 2010, 23, 11-15.	0.8	12
29	Semiconductor channel-mediated photodoping in h-BN encapsulated monolayer MoSe ₂ phototransistors. 2D Materials, 2019, 6, 025040.	2.0	12
30	Engineering the quantum measurement process for the persistent current qubit. Physica C: Superconductivity and Its Applications, 2002, 368, 294-299.	0.6	11
31	Controlled Single-Cooper-Pair Charging Effects in a Small Josephson Junction Array. , 1999, 12, 807-812.		10
32	Reply to â€œComment on â€˜Spin-dependent electron transmission model for chiral molecules in mesoscopic devicesâ€™â€• Physical Review B, 2020, 101, .	1.1	10
33	Symmetry and control of spin-scattering processes in two-dimensional transition metal dichalcogenides. Physical Review B, 2021, 103, .	1.1	10
34	Charge and spin dynamics in a two-dimensional electron gas. Journal of Physics Condensed Matter, 2007, 19, 295206.	0.7	8
35	Polarization-preserving confocal microscope for optical experiments in a dilution refrigerator with high magnetic field. Review of Scientific Instruments, 2011, 82, 043105.	0.6	8
36	On the annealing mechanism of AuGe/Ni/Au ohmic contacts to a two-dimensional electron gas in GaAs/AlxGa1â^'xAs heterostructures. Semiconductor Science and Technology, 2013, 28, 025006.	1.0	8

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37	Split-gate quantum point contacts with tunable channel length. Journal of Applied Physics, 2013, 113, 024507.	1.1	8
38	The role of device asymmetries and Schottky barriers on the helicity-dependent photoresponse of 2D phototransistors. Npj 2D Materials and Applications, 2021, 5, .	3.9	8
39	Optical probing of spin dynamics of two-dimensional and bulk electrons in a GaAs/AlGaAs heterojunction system. New Journal of Physics, 2010, 12, 113040.	1.2	7
40	Compact cryogenic Kerr microscope for time-resolved studies of electron spin transport in microstructures. Review of Scientific Instruments, 2008, 79, 123904.	0.6	6
41	Public exhibit for demonstrating the quantum of electrical conductance. American Journal of Physics, 2011, 79, 856-860.	0.3	5
42	Stabilizing nuclear spins around semiconductor electrons via the interplay of optical coherent population trapping and dynamic nuclear polarization. Physical Review B, 2016, 93, .	1.1	5
43	Two-laser dynamic nuclear polarization with semiconductor electrons: Feedback, suppressed fluctuations, and bistability near two-photon resonance. Physical Review B, 2018, 98, .	1.1	5
44	Hyperfine-mediated transitions between electronic spin-1/2 levels of transition metal defects in SiC. New Journal of Physics, 2021, 23, 083010.	1.2	5
45	Towards quantum optics and entanglement with electron spin ensembles in semiconductors. Solid State Sciences, 2009, 11, 935-941.	1.5	4
46	Circuit-model analysis for spintronic devices with chiral molecules as spin injectors. Physical Review B, 2019, 99, .	1.1	3
47	Quantum superposition of charge states on capacitively coupled superconducting islands. Physical Review B, 2003, 67, .	1.1	2
48	Quantum transitions of a small Josephson junction array. Physica B: Condensed Matter, 2000, 280, 243-244.	1.3	1
49	Toward nonclassical light storage via atomic-vapor Raman scattering. , 2003, , .		1
50	Broadband single-mode planar waveguides in monolithic 4H-SiC. Journal of Applied Physics, 2022, 131, 025703.	1.1	1
51	Electromagnetically induced transparency in inhomogeneously broadened divacancy defect ensembles in SiC. Journal of Applied Physics, 2022, 131, 094401.	1.1	1
52	Solid start for solid-state quantum bits. Physics World, 1999, 12, 21-22.	0.0	0
53	Characterization of low-resistance ohmic contacts to a two-dimensional electron gas in a GaAs/AlGaAs heterostructure. EPJ Applied Physics, 2020, 89, 20101.	0.3	0
54	Macroscopic Quantum Superposition in a Three-Josephson-Junction Loop. , 2001, , 25-34.		0