

Yoshiro Hirayama

List of Publications by Year in descending order

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Version: 2024-02-01

55
papers

3,780
citations

159358

30
h-index

168136

53
g-index

55
all docs

55
docs citations

55
times ranked

2468
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 1 | Coherent Manipulation of Electronic States in a Double Quantum Dot. Physical Review Letters, 2003, 91, 226804. | 2.9 | 679 |
| 2 | Allowed and forbidden transitions in artificial hydrogen and helium atoms. Nature, 2002, 419, 278-281. | 13.7 | 342 |
| 3 | Bidirectional Counting of Single Electrons. Science, 2006, 312, 1634-1636. | 6.0 | 323 |
| 4 | Controlled multiple quantum coherences of nuclear spins in a nanometre-scale device. Nature, 2005, 434, 1001-1005. | 13.7 | 186 |
| 5 | Electrically Controlled Nuclear Spin Polarization and Relaxation by Quantum-Hall States. Physical Review Letters, 2002, 88, 176601. | 2.9 | 146 |
| 6 | Quantum Hall Transition in Real Space: From Localized to Extended States. Physical Review Letters, 2008, 101, 256802. | 2.9 | 132 |
| 7 | Valley Polarization in Si(100) at Zero Magnetic Field. Physical Review Letters, 2006, 96, 236801. | 2.9 | 131 |
| 8 | Imaging of Friedel Oscillation Patterns of Two-Dimensionally Accumulated Electrons at Epitaxially Grown InAs(111)A Surfaces. Physical Review Letters, 2001, 86, 3384-3387. | 2.9 | 122 |
| 9 | Electron counting of single-electron tunneling current. Applied Physics Letters, 2004, 84, 2343-2345. | 1.5 | 114 |
| 10 | Fabrication of a GaAs quantum-well-wire structure by Ga focused-ion-beam implantation and its optical properties. Physical Review B, 1988, 37, 2774-2777. | 1.1 | 107 |
| 11 | Resonant tunneling through one- and zero-dimensional states constricted by Al _x Ga _{1-x} As/GaAs/Al _x Ga _{1-x} As heterojunctions and high-resistance regions induced by focused Ga ion-beam implantation. Physical Review B, 1990, 41, 5459-5462. | 1.1 | 103 |
| 12 | Ion-Species Dependence of Interdiffusion in Ion-Implanted GaAs-AlAs Superlattices. Japanese Journal of Applied Physics, 1985, 24, 1498-1502. | 0.8 | 102 |
| 13 | Measurement of the Noise Spectrum Using a Multiple-Pulse Sequence. Physical Review Letters, 2011, 107, 170504. | 2.9 | 89 |
| 14 | Negative Coulomb Drag in a One-Dimensional Wire. Science, 2006, 313, 204-207. | 6.0 | 87 |
| 15 | Compositional Disorder of GaAs-Al _x Ga _{1-x} As Superlattice by Ga Focused Ion Beam Implantation and its Application to Submicron Structure Fabrication. Japanese Journal of Applied Physics, 1985, 24, L516-L518. | 0.8 | 85 |
| 16 | Charge noise analysis of an AlGaAs/GaAs quantum dot using transmission-type radio-frequency single-electron transistor technique. Applied Physics Letters, 2000, 77, 543-545. | 1.5 | 75 |
| 17 | Charge Excitations in Easy-Axis and Easy-Plane Quantum Hall Ferromagnets. Physical Review Letters, 2001, 87, 196801. | 2.9 | 65 |
| 18 | Rotation and phase-shift operations for a charge qubit in a double quantum dot. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 21, 1046-1052. | 1.3 | 65 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 19 | Electronic transport through very short and narrow channels constricted in GaAs by highly resistive Ga-implanted regions. <i>Physical Review B</i> , 1989, 39, 5535-5537. | 1.1 | 64 |
| 20 | Two-dimensional growth of InSb thin films on GaAs(111)A substrates. <i>Applied Physics Letters</i> , 2000, 76, 589-591. | 1.5 | 61 |
| 21 | Nonequilibrium Transport through a Vertical Quantum Dot in the Absence of Spin-Flip Energy Relaxation. <i>Physical Review Letters</i> , 2002, 88, 236802. | 2.9 | 57 |
| 22 | High Electron Mobility in AlGaAs/GaAs Modulation-Doped Structures. <i>Japanese Journal of Applied Physics</i> , 1991, 30, 902-905. | 0.8 | 54 |
| 23 | Low-Frequency Spin Dynamics in a Canted Antiferromagnet. <i>Science</i> , 2006, 313, 329-332. | 6.0 | 50 |
| 24 | Optical probing of composite fermions in a two-dimensional electron gas. <i>Nature Physics</i> , 2006, 2, 239-243. | 6.5 | 48 |
| 25 | Interdiffusion of Al and Ga in Si-Implanted GaAs/AlAs Superlattices. <i>Japanese Journal of Applied Physics</i> , 1984, 23, 1568-1572. | 0.8 | 45 |
| 26 | Electrical Properties of Ga Ion Beam Implanted GaAs Epilayer. <i>Japanese Journal of Applied Physics</i> , 1985, 24, L965-L967. | 0.8 | 44 |
| 27 | Ballistic electron transport in macroscopic four-terminal square structures with high mobility. <i>Applied Physics Letters</i> , 1991, 58, 2672-2674. | 1.5 | 44 |
| 28 | Local Density of States in Zero-Dimensional Semiconductor Structures. <i>Physical Review Letters</i> , 2001, 87, 196804. | 2.9 | 43 |
| 29 | Two-dimensional electron gas formed in a back-gated undoped heterostructure. <i>Applied Physics Letters</i> , 1998, 72, 1745-1747. | 1.5 | 41 |
| 30 | Conductance characteristics of ballistic one-dimensional channels controlled by a gate electrode. <i>Applied Physics Letters</i> , 1989, 54, 2556-2558. | 1.5 | 36 |
| 31 | Transport characteristics of AlGaAs/GaAs wires fabricated by focused Ga ion beam implantation. <i>Journal of Applied Physics</i> , 1991, 69, 3633-3640. | 1.1 | 33 |
| 32 | Resonant tunneling of three-dimensional electrons into degenerate zero-dimensional levels. <i>Physical Review B</i> , 1991, 44, 13815-13818. | 1.1 | 30 |
| 33 | Robust Nodal Structure of Landau Level Wave Functions Revealed by Fourier Transform Scanning Tunneling Spectroscopy. <i>Physical Review Letters</i> , 2012, 109, 116805. | 2.9 | 27 |
| 34 | Nanometre-scale nuclear-spin device for quantum information processing. <i>Journal of Physics Condensed Matter</i> , 2006, 18, S885-S900. | 0.7 | 25 |
| 35 | Detection and Control of Spin-Orbit Interactions in a GaAs Hole Quantum Point Contact. <i>Physical Review Letters</i> , 2017, 118, 146801. | 2.9 | 18 |
| 36 | Transport characteristics of InSb trench-type in-plane gate quantum point contact. <i>Applied Physics Letters</i> , 2018, 112, . | 1.5 | 17 |

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|----|---|-----|-----------|
| 37 | Electric Field Induced Nuclear Spin Resonance Mediated by Oscillating Electron Spin Domains in GaAs-Based Semiconductors. <i>Physical Review Letters</i> , 2008, 101, 137602. | 2.9 | 11 |
| 38 | Wigner solids of domain wall skyrmions. <i>Nature Communications</i> , 2021, 12, 6006. | 5.8 | 10 |
| 39 | Inelastic Electron Transport and Ortho-Para Fluctuation of Water Molecule in $H_2O@C_{60}$ Single Molecule Transistors. <i>Nano Letters</i> , 2021, 21, 10346-10353. | 4.5 | 9 |
| 40 | Low-Frequency Spin Fluctuations in Skyrmions Confined by Wires: Measurements of Local Nuclear Spin Relaxation. <i>Physical Review Letters</i> , 2011, 107, 126807. | 2.9 | 8 |
| 41 | Impact of Valley Polarization on the Resistivity in Two Dimensions. <i>Physical Review Letters</i> , 2011, 106, 196403. | 2.9 | 8 |
| 42 | Fabry-Pérot interference in a triple-gated quantum point contact. <i>Applied Physics Letters</i> , 2016, 109, 143509. | 1.5 | 6 |
| 43 | Electric-field-induced two-dimensional hole gas in undoped GaSb quantum wells. <i>Applied Physics Letters</i> , 2019, 114, . | 1.5 | 6 |
| 44 | Probing strain modulation in a gate-defined one-dimensional electron system. <i>Physical Review B</i> , 2019, 100, . | 1.1 | 6 |
| 45 | Resistively detected NMR in a triple-gate quantum point contact: Magnetic field dependence. <i>Physical Review B</i> , 2020, 101, . | 1.1 | 5 |
| 46 | Comparison of nuclear electric resonance and nuclear magnetic resonance in integer and fractional quantum Hall states. <i>AIP Advances</i> , 2015, 5, 087156. | 0.6 | 4 |
| 47 | Localized NMR Mediated by Electrical-Field-Induced Domain Wall Oscillation in Quantum-Hall-Ferromagnet Nanowire. <i>Nano Letters</i> , 2016, 16, 1596-1601. | 4.5 | 4 |
| 48 | Even-denominator fractional quantum Hall state in conventional triple-gated quantum point contact. <i>Applied Physics Express</i> , 2022, 15, 025002. | 1.1 | 4 |
| 49 | Scanning nuclear electric resonance microscopy using quantum-Hall-effect breakdown. <i>AIP Advances</i> , 2016, 6, 075024. | 0.6 | 3 |
| 50 | Large Zeeman Splitting in Out-of-Plane Magnetic Field in a Double-Layer Quantum Point Contact. <i>Journal of the Physical Society of Japan</i> , 2021, 90, 024709. | 0.7 | 2 |
| 51 | Double nuclear spin relaxation in hybrid quantum Hall systems. <i>Physical Review B</i> , 2021, 104, . | 1.1 | 2 |
| 52 | Quantum point contact potential curvature under correlated disorder potentials. <i>Physical Review B</i> , 2020, 102, . | 1.1 | 1 |
| 53 | Magnetotransport of electrically induced two-dimensional hole gases in undoped GaSb quantum wells. <i>Physical Review Research</i> , 2020, 2, . | 1.3 | 1 |
| 54 | Imaging disorder-induced scattering centers in quantum Hall incompressible strip. <i>Physical Review B</i> , 2021, 103, . | 1.1 | 0 |

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|----|---|-----|-----------|
| 55 | Resistively Detected NMR Lineshapes in a Local Filling $\nu=1$ Quantum Hall Breakdown. Physica Status Solidi (B): Basic Research, 2022, 259, 2100504. | 0.7 | 0 |