Hiroyuki Ishii

List of Publications by Year
in descending order

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75	1,221	471061	433756
papers	citations	17 h-index	31 g-index

79	79	79	1306
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Robust, high-performance n-type organic semiconductors. Science Advances, 2020, 6, eaaz0632.	4.7	135
2	Bent-Shaped p-Type Small-Molecule Organic Semiconductors: A Molecular Design Strategy for Next-Generation Practical Applications. Journal of the American Chemical Society, 2020, 142, 9083-9096.	6.6	108
3	Boron-Stabilized Planar Neutral Ï€-Radicals with Well-Balanced Ambipolar Charge-Transport Properties. Journal of the American Chemical Society, 2017, 139, 14336-14339.	6.6	97
4	Inelastic Transport in Vibrating Disordered Carbon Nanotubes: Scattering Times and Temperature-Dependent Decoherence Effects. Physical Review Letters, 2010, 104, 116801.	2.9	55
5	Wave-packet approach to transport properties of carrier coupled with intermolecular and intramolecular vibrations of organic semiconductors. Physical Review B, 2012, 85, .	1.1	48
6	Charge transport in carbon nanotubes based materials: a Kuboâ€“Greenwood computational approach. Comptes Rendus Physique, 2009, 10, 283-296.	0.3	46
7	Zigzagâ€Elongated Fused Ï€â€Electronic Core: A Molecular Design Strategy to Maximize Chargeâ€Carrier Mobility. Advanced Science, 2018, 5, 1700317.	5.6	43
8	Nitrogen-Containing Perylene Diimides: Molecular Design, Robust Aggregated Structures, and Advances in n-Type Organic Semiconductors. Accounts of Chemical Research, 2022, 55, 660-672.	7.6	38
9	Order-Nelectron transport calculations from ballistic to diffusive regimes by a time-dependent wave-packet diffusion method: Application to transport properties of carbon nanotubes. Physical Review B, 2010, 82, .	1.1	34
10	Oxygen- and Sulfur-Bridged Bianthracene V-Shaped Organic Semiconductors. Bulletin of the Chemical Society of Japan, 2017, 90, 931-938.	2.0	28
11	Roles of intramolecular and intermolecular electron-phonon coupling on the formation and transport of large polarons in organic semiconductors. Physical Review B, 2012, 86, .	1.1	27
12	Strong anisotropy of momentum-relaxation time induced by intermolecular vibrations of single-crystal organic semiconductors. Physical Review B, 2013, 88, .	1.1	27
13	Alkyl-Substituted Selenium-Bridged V-Shaped Organic Semiconductors Exhibiting High Hole Mobility and Unusual Aggregation Behavior. Journal of the American Chemical Society, 2020, 142, 14974-14984.	6.6	25
14	Air-Stable Benzo[c]thiophene Diimide n-Type Ï€-Electron Core. Organic Letters, 2019, 21, 4448-4453.	2.4	23
15	Evidence for Chargeâ€Trapping Inducing Polymorphic Structuralâ€Phase Transition in Pentacene. Advanced Materials, 2015, 27, 122-129.	11.1	22
16	High performance solution-crystallized thin-film transistors based on V-shaped thieno[3,2-f:4,5-fâ€²]bis[1]benzothiophene semiconductors. Journal of Materials Chemistry C, 2017, 5, 1903-1909.	2.7	22
17	Time-Dependent Wave-Packet Diffusion Method for Quantum Transport Calculation: From Diffusive to Ballistic Regimes. Applied Physics Express, 0, 1, 123002.	1.1	20
18	The emergence of charge coherence in soft molecular organic semiconductors via the suppression of thermal fluctuations. NPG Asia Materials, 2016, 8, e252-e252.	3.8	19

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19	Coherent Electron Transport in Airâ€Stable, Printed Singleâ€Crystal Organic Semiconductor and Application to Megahertz Transistors. Advanced Materials, 2020, 32, e2003245.	11.1	19
20	Electronâ€“phonon coupling effect on quantum transport in carbon nanotubes using time-dependent wave-packet approach. Physica E: Low-Dimensional Systems and Nanostructures, 2007, 40, 249-252.	1.3	17
21	Extended Ï€-Electron Delocalization in Quinoid-Based Conjugated Polymers Boosts Intrachain Charge Carrier Transport. Chemistry of Materials, 2021, 33, 8183-8193.	3.2	17
22	Conduction band structure of high-mobility organic semiconductors and partially dressed polaron formation. Nature Materials, 2022, 21, 910-916.	13.3	17
23	Charge transport calculations by a wave-packet dynamical approach using maximally localized Wannier functions based on density functional theory: Application to high-mobility organic semiconductors. Physical Review B, 2017, 95, .	1.1	16
24	Quantum transport properties of carbon nanotube field-effect transistors with electron-phonon coupling. Physical Review B, 2007, 76, .	1.1	14
25	Correlation between thermal fluctuation effects and phase coherence factor in carrier transport of single-crystal organic semiconductors. Applied Physics Letters, 2015, 106, .	1.5	14
26	Quantitative mobility evaluation of organic semiconductors using quantum dynamics based on density functional theory. Physical Review B, 2018, 98, .	1.1	14
27	Cooperative Aggregations of Nitrogen-Containing Perylene Diimides Driven by Rigid and Flexible Functional Groups. Chemistry of Materials, 2020, 32, 9115-9125.	3.2	14
28	Mixed-Orbital Charge Transport in N-Shaped Benzene- and Pyrazine-Fused Organic Semiconductors. Journal of the American Chemical Society, 2022, 144, 11159-11167.	6.6	14
29	Effects of Vacancy Defects on Thermal Conduction of Silicon Nanowire: Nonequilibrium Green's Function Approach. Applied Physics Express, 2011, 4, 085001.	1.1	13
30	Charge mobility calculation of organic semiconductors without use of experimental single-crystal data. Scientific Reports, 2020, 10, 2524.	1.6	13
31	Transient Current Behavior through Molecular Bridge Systems; Effects of Intra-Molecule Current on Quantum Relaxation and Oscillation. E-Journal of Surface Science and Nanotechnology, 2009, 7, 606-616.	0.1	13
32	Photoemission study of the skutterudite compounds CoSb3and RhSb3. Journal of the Physical Society of Japan, 2002, 71, 2271-2275.	0.7	12
33	Flat-band exciton in two-dimensional KagomÃ© quantum wire systems. Physical Review B, 2004, 69, .	1.1	12
34	Relaxation Process of Transient Current Through Nanoscale Systems; Density Matrix Calculations. E-Journal of Surface Science and Nanotechnology, 2008, 6, 213-221.	0.1	12
35	Quantum electron transport in kagomÃ©-lattice-chain systems with electric fields. Physical Review B, 2006, 73, .	1.1	11
36	Disorder and localization dynamics in polymorphs of the molecular semiconductor pentacene probed by in situ micro-Raman spectroscopy and molecular dynamics simulations. Physical Review Materials, 2019, 3, .	0.9	11

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37	Edge-Phonon Scattering Effects on Electron Transport of Graphene Nanoribbons. Applied Physics Express, 2010, 3, 095102.	1.1	10
38	Sub-molecular structural relaxation at a physisorbed interface with monolayer organic single-crystal semiconductors. Communications Physics, 2020, 3, .	2.0	10
39	Role of Perfluorophenyl Group in the Side Chain of Small-Molecule n-Type Organic Semiconductors in Stress Stability of Single-Crystal Transistors. Journal of Physical Chemistry Letters, 2021, 12, 2095-2101.	2.1	10
40	Approaching isotropic charge transport of n-type organic semiconductors with bulky substituents. Communications Chemistry, 2021, 4, .	2.0	10
41	Hall conductivity calculations by the time-dependent wave-packet diffusion method. Physical Review B, 2011, 83, .	1.1	9
42	Large-scale conductivity-tensor calculations for Hall effects in time-dependent wave-packet diffusion method. Physical Review B, 2014, 90, .	1.1	9
43	Second highest occupied molecular orbital effects on the valence band structure of organic semiconductors. Japanese Journal of Applied Physics, 2019, 58, SIIB27.	0.8	9
44	Relaxation processes of transient current in nano-contact system: effects of electrode. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 481-484.	0.8	8
45	Band-like transporting and thermally durable V-shaped organic semiconductors with a phenyl key block. Journal of Materials Chemistry C, 2020, 8, 14172-14179.	2.7	7
46	Contact and phonon scattering effects on quantum transport properties of carbon-nanotube field-effect transistors. Applied Surface Science, 2008, 254, 7600-7603.	3.1	6
47	Oxygenâ€•and Sulfurâ€bridged Lâ€shaped Ïâ€Conjugated Molecules: Synthesis, Aggregated Structures, and Charge Transporting Behavior. Asian Journal of Organic Chemistry, 2018, 7, 2309-2314.	1.3	6
48	Fabrication of Highly Oriented Multilayer Films of Picene and DNTT on Their Bulklike Monolayer. ACS Omega, 2019, 4, 8669-8673.	1.6	6
49	Carrier transport calculations of organic semiconductors with static and dynamic disorder. Japanese Journal of Applied Physics, 2019, 58, 110501.	0.8	6
50	Influence of strong electron-phonon coupling and dynamic lattice disorder on the Hall effect in organic crystals. Physical Review B, 2013, 87, .	1.1	5
51	Surface Structure of Organic Semiconductor [n]Phenacene Single Crystals. Journal of the American Chemical Society, 2018, 140, 14046-14049.	6.6	5
52	Endâ€Capping Ïâ€Conjugated Systems with Mediumâ€Sized Sulfurâ€Containing Rings: A Route Towards Solutionâ€Processable Airâ€Stable Semiconductors. Chemistry - A European Journal, 2018, 24, 11503-11510.	1.7	5
53	Photoemission Tomography of a One-Dimensional Row Structure of a Flat-Lying Picene Multilayer on Ag(110). Journal of Physical Chemistry Letters, 2022, 13, 1512-1518.	2.1	5
54	Quantum electron transport through carbon nanotubes with electron-phonon coupling. Journal of Vacuum Science & Technology B, 2009, 27, 882.	1.3	4

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55	Electric and Thermal Transport Calculations through Interface and Applications to Thermoelectric Energy Conversion. E-Journal of Surface Science and Nanotechnology, 2014, 12, 115-118.	0.1	4
56	On the Phononic Bandgap of Carbon Nanotubes. Journal of Nanomaterials, 2013, 2013, 1-4.	1.5	3
57	Time-dependent wave-packet approach to the quantum transport of carbon nanotubes with vacancies. Surface Science, 2007, 601, 5266-5269.	0.8	2
58	Thermal conductance calculations of silicon nanowires: comparison with diamond nanowires. Nanoscale Research Letters, 2013, 8, 256.	3.1	2
59	Organic Semiconductors: Zigzag-Elongated Fused Ï€-Electronic Core: A Molecular Design Strategy to Maximize Charge-Carrier Mobility (Adv. Sci. 1/2018). Advanced Science, 2018, 5, 1870005.	5.6	2
60	Chrysenodithiophene-Based Conjugated Polymer: An Elongated Fused Ï€-Electronic Backbone with a Unique Orbital Structure Toward Efficient Intermolecular Carrier Transport. Macromolecules, 2021, 54, 2113-2123.	2.2	2
61	Charge Transport Theory of Organic Semiconductors. Journal of the Institute of Electrical Engineers of Japan, 2016, 136, 434-437.	0.0	2
62	Quantum Electron Transport in Finite-size Flat-band Kagome Lattice Systems. AIP Conference Proceedings, 2005, , .	0.3	1
63	Wave Packet Dynamical Calculations for Charge Transport of Organic Semiconductors: Role of Molecular Vibrations and Trap Potentials. Molecular Crystals and Liquid Crystals, 2015, 620, 2-9.	0.4	1
64	Numerical Approach to Charge Transport Problems on Organic Molecular Crystals. Springer Series in Materials Science, 2015, , 319-347.	0.4	1
65	Effect of Electronically Distinct Aromatic Substituents on the Molecular Assembly and Hole Transport of V-Shaped Organic Semiconductors. Journal of Physical Chemistry C, 2020, 124, 17503-17511.	1.5	1
66	Symmetry Breaking and Electron Transport in Kagome-Chain Systems. E-Journal of Surface Science and Nanotechnology, 2005, 3, 399-404.	0.1	0
67	Bias drop and phonon emission in molecular wires. Applied Surface Science, 2012, 258, 2121-2123.	3.1	0
68	Theory of electron transport at the atomistic level. Japanese Journal of Applied Physics, 2018, 57, 08NA01.	0.8	0
69	Multi-Scale Quantum Transport Simulations from Atomistic Levels. Journal of the Vacuum Society of Japan, 2011, 54, 501-506.	0.3	0
70	Thermal Conduction Calculation of Nanowire by Non-equilibrium Green's Function. Hyomen Kagaku, 2011, 32, 410-415.	0.0	0
71	Crossover to Quantized Thermal Conductance in Nanotubes and Nanowires. Open Journal of Composite Materials, 2013, 03, 48-54.	0.4	0
72	Atomistic Calculations of Heat Transport in a Silicon Crystal. E-Journal of Surface Science and Nanotechnology, 2014, 12, 154-156.	0.1	0

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73	High-Performance Simulation for Quantum Charge Transport in Large Scale Materials -Application to Carbon Nanotubes and Organic Semiconductors-. ECS Meeting Abstracts, 2018, , .	0.0	0
74	Ab Initio Calculations of the Transport Through Single Molecules and Carbon Nanotubes. , 2007, , 429-432.		0
75	Gate induced modulation of electronic states in monolayer organic field-effect transistor. Applied Physics Letters, 2021, 119, 223301.	1.5	0