

Kazuhiro Marumoto

List of Publications by Year in descending order

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91
papers

2,061
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277466

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42
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101
all docs

101
docs citations

101
times ranked

2637
citing authors

#	ARTICLE	IF	CITATIONS
1	2D coherent charge transport in highly ordered conducting polymers doped by solid state diffusion. <i>Nature Materials</i> , 2016, 15, 896-902.	26.3	369
2	Optimized carrier extraction at interfaces for 23.6% efficient tin-lead perovskite solar cells. <i>Energy and Environmental Science</i> , 2022, 15, 2096-2107.	31.9	212
3	Spatial Extent of Wave Functions of Gate-Induced Hole Carriers in Pentacene Field-Effect Devices as Investigated by Electron Spin Resonance. <i>Physical Review Letters</i> , 2006, 97, 256603.	8.0	163
4	Electron Spin Resonance of Field-Induced Polarons in Regioregular Poly(3-alkylthiophene) Using Metal-Insulator-Semiconductor Diode Structures. <i>Journal of the Physical Society of Japan</i> , 2005, 74, 3066-3076.	1.6	67
5	Microscopic mechanisms behind the high mobility in rubrene single-crystal transistors as revealed by field-induced electron spin resonance. <i>Physical Review B</i> , 2011, 83, .	3.3	65
6	Direct Observation of Hole Accumulation in Polymer Solar Cells During Device Operation using Light-Induced Electron Spin Resonance. <i>Advanced Materials</i> , 2013, 25, 2362-2367.	24.0	61
7	Direct observation of dramatically enhanced hole formation in a perovskite-solar-cell material spiro-OMeTAD by Li-TFSI doping. <i>Applied Physics Letters</i> , 2017, 110, .	3.2	56
8	Tuning of Charge Density Wave Strengths by Competition between Electron-Phonon Interaction of PdII-PdIV Mixed-Valence States and Electron Correlation of NiIII States in Quasi-One-Dimensional Bromo-Bridged Ni ^{II} -Pd Mixed-Metal MX Chain Compounds Ni _{1-x} Pd _x (chxn) ₂ Br ₃ . <i>Inorganic Chemistry</i> , 1999, 38, 5124-5130.	4.2	54
9	Charge Formation in Pentacene Layers During Solar Cell Fabrication: Direct Observation by Electron Spin Resonance. <i>Advanced Energy Materials</i> , 2012, 2, 591-597.	21.9	48
10	Light-Induced Degradation Mechanism in Poly(3-hexylthiophene)/Fullerene Blend Solar Cells. <i>Advanced Energy Materials</i> , 2016, 6, 1600171.	21.9	42
11	Visualization of Local Valence Structures in Quasi-One-Dimensional Halogen-Bridged Complexes [Ni ^{II} -xPd _x (chxn) ₂ Br] ₂ by STM. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 3171-3175.	14.6	40
12	Direct observation of the charge carrier concentration in organic field-effect transistors by electron spin resonance. <i>Applied Physics Letters</i> , 2009, 94, 103308.	3.2	36
13	Dynamical Valence Fluctuation at the Charge-Density-Wave Phase Boundary in Iodide-Bridged Pt Compound [Pt(chxn) ₂] ₂ I ₂ . <i>Journal of the American Chemical Society</i> , 2006, 128, 6420-6425.	14.5	34
14	Electrical Conduction of Regioregular and Regiorandom Poly(3-hexylthiophene) Doped with Iodine. <i>Journal of the Physical Society of Japan</i> , 2005, 74, 3314-3319.	1.6	32
15	Electron Spin Resonance Observations of Field-Induced Polarons in Regioregular Poly(3-octylthiophene) Metal-Insulator-Semiconductor Diode Structures. <i>Journal of the Physical Society of Japan</i> , 2004, 73, 1673-1676.	1.6	29
16	Dramatic enhancement of fullerene anion formation in polymer solar cells by thermal annealing: Direct observation by electron spin resonance. <i>Applied Physics Letters</i> , 2014, 104, .	3.2	29
17	Electron-nuclear double-resonance observation of spatial extent of polarons in polythiophene and poly(3-alkylthiophene). <i>Chemical Physics Letters</i> , 2007, 435, 273-277.	2.6	28
18	Electron spin resonance observation of charge carrier concentration in organic field-effect transistors during device operation. <i>Physical Review B</i> , 2013, 87, .	3.3	28

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19	Scalable free-standing polypyrrole films for wrist-band type flexible thermoelectric power generator. <i>Energy</i> , 2019, 176, 853-860.	8.9	27
20	Initial photooxidation mechanism leading to reactive radical formation of polythiophene derivatives. <i>Polymer Journal</i> , 2015, 47, 26-30.	2.8	26
21	Direct determination of interfacial molecular orientations in field-effect devices of P3HT/PCBM composites by electron spin resonance. <i>Organic Electronics</i> , 2011, 12, 716-723.	2.7	25
22	Deterioration mechanism of perovskite solar cells by operando observation of spin states. <i>Communications Materials</i> , 2020, 1, .	7.1	25
23	[[Pt(en) ₂][PtX ₂ (en) ₂]] ₃ [[MX ₅ X ₃]] ₂ ·12H ₂ O: Quasi-One-Dimensional Halogen-Bridged PtIV Mixed-Valence Compounds with Magnetic Counteranions. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 4763-4767.	14.6	24
24	Operando Direct Observation of Charge Accumulation and the Correlation with Performance Deterioration in PTB7 Polymer Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 26434-26442.	8.2	24
25	Boosting thermoelectric power factor of free-standing Poly(3,4-ethylenedioxythiophene):polystyrenesulphonate films by incorporation of bismuth antimony telluride nanostructures. <i>Journal of Power Sources</i> , 2019, 435, 226758.	7.9	24
26	Biogenic Reduction of Graphene Oxide: An Efficient Superparamagnetic Material for Photocatalytic Hydrogen Production. <i>ACS Applied Energy Materials</i> , 2018, 1, 5907-5918.	5.2	23
27	Electron Spin Resonance Observation of Gate-induced Charge Carriers in Organic Field-effect Devices Fabricated on Silicon Substrates. <i>Japanese Journal of Applied Physics</i> , 2007, 46, L792-L795.	1.6	21
28	Mechanistic Investigation into the Light Soaking Effect Observed in Inverted Polymer Solar Cells Containing Chemical Bath Deposited Titanium Oxide. <i>Journal of Physical Chemistry C</i> , 2015, 119, 5274-5280.	3.2	21
29	Electron Spin Resonance Observation of Gate-Induced Ambipolar Charge Carriers in Organic Devices. <i>Japanese Journal of Applied Physics</i> , 2007, 46, L1191.	1.6	20
30	Two-dimensional magnetic interactions and magnetism of high-density charges in a polymer transistor. <i>Applied Physics Letters</i> , 2013, 102, .	3.2	20
31	Molecular Oriented Charge Accumulation in High-Efficiency Polymer Solar Cells as Revealed by Operando Spin Analysis. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 31129-31138.	8.2	20
32	Transient Electron Spin Polarization Imaging of Heterogeneous Charge-Separation Geometries at Bulk-Heterojunction Interfaces in Organic Solar Cells. <i>Journal of Physical Chemistry C</i> , 2019, 123, 13472-13481.	3.2	20
33	Electron spin resonance of thin films of organic light-emitting material tris(8-hydroxyquinoline) aluminum doped by magnesium. <i>Synthetic Metals</i> , 2012, 162, 2451-2454.	4.0	18
34	Elucidating the mechanisms behind thermoelectric power factor enhancement of poly(3,4-ethylenedioxythiophene):poly(styrenesulfonate) flexible films. <i>Vacuum</i> , 2018, 153, 238-247.	3.5	15
35	Direct Observation of Radical States and the Correlation with Performance Degradation in Organic Light-Emitting Diodes During Device Operation. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2018, 215, 1700731.	1.9	15
36	Stability improvement mechanism due to less charge accumulation in ternary polymer solar cells. <i>Npj Flexible Electronics</i> , 2022, 6, .	11.1	15

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37	Direct observation of charge transfer at the interface between PEDOT:PSS and perovskite layers. Applied Physics Express, 2019, 12, 041002.	2.4	14
38	Direct observation of electrically induced Pauli paramagnetism in single-layer graphene using ESR spectroscopy. Scientific Reports, 2016, 6, 34966.	3.4	13
39	Direct Evidence of Less Charge Accumulation in Highly Durable Polymer Solar Cells Using Operando Electron Spin Resonance Spectroscopy. ACS Applied Energy Materials, 2020, 3, 2028-2036.	5.2	13
40	Electron Spin Resonance Study of Interface Trap States and Charge Carrier Concentration in Rubrene Single-Crystal Field-Effect Transistors. Applied Physics Express, 2011, 4, 085702.	2.4	11
41	ESR Detection of Induced Spin Moments in Halogen-Bridged Mixed-Metal Complexes Ni _{1-x} Pd _x (chxn) ₂ Br ₃ . Journal of the Physical Society of Japan, 2002, 71, 1370-1375.	1.6	10
42	Direct observation of spins at bathocuproine (BCP) interfaces: An electron spin resonance study on BCP/metal (Al or Au) thin films. Chemical Physics Letters, 2014, 607, 29-33.	2.6	10
43	Mechanism of Light-Soaking Effect in Inverted Polymer Solar Cells with Open-Circuit Voltage Increase. ACS Omega, 2017, 2, 1617-1624.	3.6	10
44	Graphene oxide @ nickel phosphate nanocomposites for photocatalytic hydrogen production. Chemical Engineering Journal Advances, 2021, 6, 100105.	5.3	10
45	Electron Spin Resonance Study of Low-Dimensional Magnetic Properties of MnF ₂ -CaF ₂ Superlattices. Japanese Journal of Applied Physics, 2001, 40, L1151-L1153.	1.6	9
46	Electron Spin Resonance Study of Organic Interfaces in Ion Gel-Gated Rubrene Single-Crystal Transistors. Applied Physics Express, 2013, 6, 041603.	2.4	9
47	Electron Spin Resonance of Thin Films of $\text{Ni}^2\text{-Di}(1\text{-naphthyl})\text{-Ni}^2\text{-diphenylbenzidine (NPB)}$ Doped by Iodine Vapor. Chemistry Letters, 2012, 41, 191-193.	1.4	8
48	Investigation of Charge Accumulation States in Polymer Solar Cells using Light-Induced Electron Spin Resonance Spectroscopy. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2018, 31, 169-176.	0.5	8
49	Spin-states in MoS ₂ thin-film transistors distinguished by operando electron spin resonance. Communications Materials, 2021, 2, .	7.1	8
50	Effect of Passivation on the Interface between Perovskite and Donor-Acceptor Copolymer-based Hole-transport Layer in Perovskite Solar Cells. Chemistry Letters, 2020, 49, 1341-1344.	1.4	7
51	DEPENDENCE OF DEVICE CHARACTERISTICS OF BULK-HETEROJUNCTION ORGANIC THIN-FILM SOLAR CELLS ON CONCENTRATION OF GLYCEROL AND SORBITOL ADDITION IN PEDOT: PSS SOLUTIONS FOR FABRICATING BUFFER LAYERS. Journal of Nonlinear Optical Physics and Materials, 2010, 19, 653-662.	2.3	6
52	Charge Accumulation in Organic Solar Cells during Device Operation as Investigated by Electron Spin Resonance. Japanese Journal of Applied Physics, 2013, 52, 05DC13.	1.6	6
53	D- α -A polysulfones for blue electroluminescence. Journal of Polymer Science Part A, 2016, 54, 3454-3461.	2.4	6
54	Electrically Controlled Dimensionality of Magnetic Systems in Organic Materials. Applied Magnetic Resonance, 2018, 49, 767-782.	1.2	6

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55	Electrically Controllable Spin States of Holes and Electrons in Organic Semiconductor Materials. ACS Applied Electronic Materials, 2019, 1, 2522-2530.	4.4	6
56	Operando direct observation of spin-states and charge-trappings of blue light-emitting-diode materials in thin-film devices. Scientific Reports, 2020, 10, 18800.	3.4	6
57	Facile light-initiated radical generation from 4-substituted pyridine under ambient conditions. Chemical Communications, 2020, 56, 6937-6940.	4.2	6
58	Analyses of PTzNTz Polymer Solar Cells Using ESR Spectroscopy. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2020, 33, 97-102.	0.5	6
59	Direct Evidence of the Internal Deterioration Mechanism due to Molecular Chain Ends in Polymer Solar Cells by Operando Spin Detection. ACS Applied Polymer Materials, 2022, 4, 607-617.	4.5	6
60	Visualization of Local Valence Structures in Quasi-One-Dimensional Halogen-Bridged Complexes $[\text{Ni}_{1-x}\text{Pd}_x(\text{chxn})_2\text{Br}]_2\text{Br}_2$ by STM. Angewandte Chemie, 2004, 116, 3233-3237.	2.1	5
61	$[[\text{Pt}(\text{en})_2][\text{PtX}_2(\text{en})_2]_3][\{(\text{MX}_5\text{X}_3)_2\}] \cdot 12\text{H}_2\text{O}$: Quasi-One-Dimensional Halogen-Bridged PtII-PtIV Mixed-Valence Compounds with Magnetic Counteranions. Angewandte Chemie, 2004, 116, 4867-4871.	2.1	5
62	Charge Transfer at the Interfaces between Poly(3,4-ethylenedioxythiophene):Poly(styrenesulfonate) (PEDOT:PSS) and Pentacene as Investigated by ESR. Chemistry Letters, 2012, 41, 696-698.	1.4	5
63	Direct Observation of Charge Carriers in Highly Magnesium-Doped Tris(8-hydroxyquinoline) Aluminum Thin Film by Electron Spin Resonance. Japanese Journal of Applied Physics, 2013, 52, 05DB07.	1.6	5
64	ESR Study of Degradation Mechanism Due to Charge Formation in Polymer Solar Cells. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2016, 29, 541-545.	0.5	5
65	Effects of SiN refractive index and SiO ₂ thickness on polarization-type potential-induced degradation in front-emitter type crystalline silicon photovoltaic cell modules. Energy Science and Engineering, 0, , .	3.9	5
66	ESR Observation of Optically-Generated Polarons in Conjugated Electroluminescent Polymers. Molecular Crystals and Liquid Crystals, 2001, 371, 159-162.	0.3	4
67	Dependence of the Device Performance of Polymer Solar Cells on the Insertion of Metal Nanoparticle Layers at the Electron-collecting Electrodes. Electrochemistry, 2017, 85, 272-275.	1.4	4
68	A dramatic improvement in the tensile strength of fullerene needle-like crystals. New Carbon Materials, 2018, 33, 310-315.	6.2	4
69	Microscopic Mechanism of High Efficiency and Stability of Inverted Polymer Fullerene Solar Cells. ACS Applied Energy Materials, 2023, 6, 6299-6310.	5.2	4
70	Open-Circuit-Voltage Improvement Mechanism of Perovskite Solar Cells Revealed by Operando Spin Observation. ACS Applied Materials & Interfaces, 2023, 15, 58539-58547.	8.2	4
71	Analyses of Charge Accumulation of PTzBT Ternary Polymer Solar Cells Using ESR Spectroscopy. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2021, 34, 351-356.	0.5	3
72	Polarization-Type Potential-Induced Degradation in Front-Emitter p-Type and n-Type Crystalline Silicon Solar Cells. ACS Omega, 2022, 7, 36277-36285.	3.6	3

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73	Mechanistic Understanding of Polarization-Type Potential-Induced Degradation in Crystalline-Silicon Photovoltaic Cell Modules. <i>Advanced Energy and Sustainability Research</i> , 2023, 4, .	6.0	3
74	ESR Studies of Layered-Perovskite Manganites $R_{0.5}Sr_{1.5}MnO_4$ (R= La, Nd). <i>Journal of the Physical Society of Japan</i> , 2003, 72, 582-587.	1.6	2
75	Investigation of Degradation Mechanism of Pentacene/ C_{60} Heterojunction Solar Cells. <i>Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]</i> , 2017, 30, 569-575.	0.5	2
76	High Charge Transfer from C_{60} Pyrrolidine Tris-Acid to SnO_2 Electron Transport Layer Directly Observed by ESR Spectroscopy. <i>ACS Applied Energy Materials</i> , 2023, 6, 2434-2439.	5.2	2
77	Investigating the operation mechanism of light-emitting electrochemical cells through operando observations of spin states. <i>Communications Materials</i> , 2023, 4, .	7.1	2
78	Reversible shuffling of the Ce^{3+} to Ce^{4+} through anion (O/P) for efficient overall photocatalytic water splitting with P-doped ceria bismuth oxide. <i>Journal of Molecular Liquids</i> , 2023, 383, 122103.	4.9	2
79	Microscopic Characterization of Printable Low-Voltage Electrolyte-Gated Transistors by Electron Spin Resonance. <i>Japanese Journal of Applied Physics</i> , 2013, 52, 05DC05.	1.6	1
80	Motional narrowing under Markovian and non-Markovian hopping transitions in inhomogeneous broadened absorption line shape. <i>Physical Review E</i> , 2019, 99, 052115.	2.1	1
81	Synthesis and color development mechanism of $Li_2CoTi_3O_8$ cyan pigments: effect of synthetic temperature. <i>Journal of the Ceramic Society of Japan</i> , 2020, 128, 260-266.	1.2	1
82	Dihydropyrazine-reductant effects on band bending at PEDOT:PSS/perovskite interfaces in tin halide perovskite solar cells. <i>Applied Physics Letters</i> , 2024, 124, .	3.2	1
83	Microscopic Analysis of Organic Solar Cells by Simultaneous Measurements of ESR and Device Performance. <i>Materials Research Society Symposia Proceedings</i> , 2014, 1639, 1.	0.1	0
84	Analysis of the Size of Two-Component C_{60} - C_{70} Fullerene Whiskers. <i>Transactions of the Materials Research Society of Japan</i> , 2018, 43, 229-232.	0.2	0
85	Evaluation of Microscopic Properties of Organic Solar Cells by Light-Induced Electron Spin Resonance. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 10NE08.	1.6	0
86	Analysis of Degradation by Various Spectroscopic Methods. , 2021, , 1-11.		0
87	Wavelength-Recognizable $SbSI:Sb_2S_3$ Photovoltaic Devices: Elucidation of the Mechanism and Modulation of their Characteristics. <i>Advanced Functional Materials</i> , 2024, 34, .	16.3	0
88	B-doped CBO solid solution: Synthesis, characterization, and their application in water splitting. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2024, 451, 115475.	3.9	0
89	Spin-dependent recombination affected by post-annealing of organic photovoltaic devices. <i>Journal of Applied Physics</i> , 2024, 135, .	2.3	0
90	Effects of the Addition of Tin Powder to Perovskite Precursor Solutions on Band Bending at PEDOT:PSS/Perovskite Interfaces in Mixed-Cation Mixed-Halide Tin Perovskite Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2024, 15, 6392-6397.	4.8	0

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91	Metal free S-scheme heterojunction S-doped g-C ₃ N ₄ /g-C ₃ N ₄ for enhanced photocatalytic water splitting. International Journal of Hydrogen Energy, 2024, 87, 526-538.	7.1	0