

# Kazuhiro Marumoto

## List of Publications by Year in descending order

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77  
papers

1,932  
citations

304368

22  
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276539

41  
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82  
all docs

82  
docs citations

82  
times ranked

2083  
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.	13.3	346
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.	15.6	172
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.	2.9	162
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.	0.7	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, .	1.1	64
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.	11.1	59
7	Tuning of Charge Density Wave Strengths by Competition between Electron-Phonon Interaction of Pd Mixed-Valence States and Electron Correlation of Ni States in Quasi-One-Dimensional Bromo-Bridged Ni-Pd Mixed-Metal MX Chain Compounds $Ni_{1-x}Pd_x(chxn)_2Br_3$ . <i>Inorganic Chemistry</i> , 1999, 38, 5124-5130.	1.9	54
8	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, .	1.5	53
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.	10.2	48
10	Visualization of Local Valence Structures in Quasi-One-Dimensional Halogen-Bridged Complexes $[Ni_{1-x}Pd_x(chxn)_2Br]Br_2$ by STM. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 3171-3175.	7.2	40
11	Light-Induced Degradation Mechanism in Poly(3-hexylthiophene)/Fullerene Blend Solar Cells. <i>Advanced Energy Materials</i> , 2016, 6, 1600171.	10.2	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.	1.5	36
13	Dynamical Valence Fluctuation at the Charge-Density-Wave Phase Boundary in Iodide-Bridged Pt Compound $[Pt(chxn)_2]I_2$ . <i>Journal of the American Chemical Society</i> , 2006, 128, 6420-6425.	6.6	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.	0.7	31
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.	0.7	29
16	Electron spin resonance observation of charge carrier concentration in organic field-effect transistors during device operation. <i>Physical Review B</i> , 2013, 87, .	1.1	28
17	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, .	1.5	28
18	Scalable free-standing polypyrrole films for wrist-band type flexible thermoelectric power generator. <i>Energy</i> , 2019, 176, 853-860.	4.5	27

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19	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.	1.4	25
20	[[Pt(en) <sub>2</sub> ][PtX <sub>2</sub> (en) <sub>2</sub> ] <sub>3</sub> ][{(MX <sub>5</sub> )X <sub>3</sub> ] <sub>2</sub> ]] <sup>12</sup> ·H <sub>2</sub> O: Quasi-One-Dimensional Halogen-Bridged Pt(IV) Mixed-Valence Compounds with Magnetic Counteranions. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 4763-4767.	7.2	24
21	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.	1.2	24
22	Initial photooxidation mechanism leading to reactive radical formation of polythiophene derivatives. <i>Polymer Journal</i> , 2015, 47, 26-30.	1.3	23
23	Biogenic Reduction of Graphene Oxide: An Efficient Superparamagnetic Material for Photocatalytic Hydrogen Production. <i>ACS Applied Energy Materials</i> , 2018, 1, 5907-5918.	2.5	23
24	Operando Direct Observation of Charge Accumulation and the Correlation with Performance Deterioration in PTB7 Polymer Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 26434-26442.	4.0	23
25	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.	1.5	21
26	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.	4.0	21
27	Deterioration mechanism of perovskite solar cells by operando observation of spin states. <i>Communications Materials</i> , 2020, 1, .	2.9	21
28	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.	0.8	20
29	Electron Spin Resonance Observation of Gate-Induced Ambipolar Charge Carriers in Organic Devices. <i>Japanese Journal of Applied Physics</i> , 2007, 46, L1191.	0.8	20
30	Two-dimensional magnetic interactions and magnetism of high-density charges in a polymer transistor. <i>Applied Physics Letters</i> , 2013, 102, .	1.5	20
31	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.	1.5	20
32	Molecular Oriented Charge Accumulation in High-Efficiency Polymer Solar Cells as Revealed by Operando Spin Analysis. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 31129-31138.	4.0	19
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.	2.1	18
34	Light-Induced ESR Studies of Quadrimeric Recombination Kinetics of Photogenerated Charge Carriers in Regioregular Poly(3-alkylthiophene)/C <sub>60</sub> Composites: Alkyl Chain Dependence. <i>Japanese Journal of Applied Physics</i> , 2007, 46, 5187.	0.8	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.	0.8	15
36	Elucidating the mechanisms behind thermoelectric power factor enhancement of poly(3,4-ethylenedioxythiophene):poly(styrenesulfonate) flexible films. <i>Vacuum</i> , 2018, 153, 238-247.	1.6	14

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37	Direct observation of electrically induced Pauli paramagnetism in single-layer graphene using ESR spectroscopy. <i>Scientific Reports</i> , 2016, 6, 34966.	1.6	12
38	Direct observation of charge transfer at the interface between PEDOT:PSS and perovskite layers. <i>Applied Physics Express</i> , 2019, 12, 041002.	1.1	12
39	Stability improvement mechanism due to less charge accumulation in ternary polymer solar cells. <i>Npj Flexible Electronics</i> , 2022, 6, .	5.1	12
40	Electron Spin Resonance Study of Interface Trap States and Charge Carrier Concentration in Rubrene Single-Crystal Field-Effect Transistors. <i>Applied Physics Express</i> , 2011, 4, 085702.	1.1	11
41	Direct Evidence of Less Charge Accumulation in Highly Durable Polymer Solar Cells Using Operando Electron Spin Resonance Spectroscopy. <i>ACS Applied Energy Materials</i> , 2020, 3, 2028-2036.	2.5	11
42	ESR Detection of Induced Spin Moments in Halogen-Bridged Mixed-Metal Complexes Ni <sub>1-x</sub> Pd <sub>x</sub> (chxn) <sub>2</sub> Br <sub>3</sub> . <i>Journal of the Physical Society of Japan</i> , 2002, 71, 1370-1375.	0.7	10
43	Direct observation of spins at bathocuproine (BCP) interfaces: An electron spin resonance study on BCP/metal (Al or Au) thin films. <i>Chemical Physics Letters</i> , 2014, 607, 29-33.	1.2	10
44	Mechanism of Light-Soaking Effect in Inverted Polymer Solar Cells with Open-Circuit Voltage Increase. <i>ACS Omega</i> , 2017, 2, 1617-1624.	1.6	10
45	Electron Spin Resonance Study of Low-Dimensional Magnetic Properties of MnF <sub>2</sub> -CaF <sub>2</sub> Superlattices. <i>Japanese Journal of Applied Physics</i> , 2001, 40, L1151-L1153.	0.8	9
46	Electron Spin Resonance Study of Organic Interfaces in Ion Gel-Gated Rubrene Single-Crystal Transistors. <i>Applied Physics Express</i> , 2013, 6, 041603.	1.1	9
47	Electron Spin Resonance of Thin Films of $\text{Ni}(\text{D}i(1\text{-naphthyl})\text{-Ni})_2$ - $\text{Ni}(\text{D}i(1\text{-naphthyl})\text{-Ni})_2$ -diphenylbenzidine (NPB) Doped by Iodine Vapor. <i>Chemistry Letters</i> , 2012, 41, 191-193.	0.7	8
48	Investigation of Charge Accumulation States in Polymer Solar Cells using Light-Induced Electron Spin Resonance Spectroscopy. <i>Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]</i> , 2018, 31, 169-176.	0.1	8
49	Spin-states in MoS <sub>2</sub> thin-film transistors distinguished by operando electron spin resonance. <i>Communications Materials</i> , 2021, 2, .	2.9	7
50	Graphene oxide @ nickel phosphate nanocomposites for photocatalytic hydrogen production. <i>Chemical Engineering Journal Advances</i> , 2021, 6, 100105.	2.4	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. <i>Journal of Nonlinear Optical Physics and Materials</i> , 2010, 19, 653-662.	1.1	6
52	Charge Accumulation in Organic Solar Cells during Device Operation as Investigated by Electron Spin Resonance. <i>Japanese Journal of Applied Physics</i> , 2013, 52, 05DC13.	0.8	6
53	D- $\beta$ -A polysulfones for blue electroluminescence. <i>Journal of Polymer Science Part A</i> , 2016, 54, 3454-3461.	2.5	6
54	Electrically Controlled Dimensionality of Magnetic Systems in Organic Materials. <i>Applied Magnetic Resonance</i> , 2018, 49, 767-782.	0.6	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.	2.0	6
56	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.	0.7	6
57	Analyses of PTzNTz Polymer Solar Cells Using ESR Spectroscopy. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2020, 33, 97-102.	0.1	6
58	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.	2.0	6
59	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.	0.7	5
60	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.	0.8	5
61	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.	0.1	5
62	Operando direct observation of spin-states and charge-trappings of blue light-emitting-diode materials in thin-film devices. Scientific Reports, 2020, 10, 18800.	1.6	5
63	Effects of SiN refractive index and SiO <sub>2</sub> thickness on polarization-type potential-induced degradation in front-emitter type crystalline silicon photovoltaic cell modules. Energy Science and Engineering, 0, , .	1.9	5
64	ESR Observation of Optically-Generated Polarons in Conjugated Electroluminescent Polymers. Molecular Crystals and Liquid Crystals, 2001, 371, 159-162.	0.3	4
65	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.	0.6	4
66	A dramatic improvement in the tensile strength of fullerene needle-like crystals. New Carbon Materials, 2018, 33, 310-315.	2.9	4
67	Facile light-initiated radical generation from 4-substituted pyridine under ambient conditions. Chemical Communications, 2020, 56, 6937-6940.	2.2	4
68	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.	0.1	3
69	ESR Studies of Layered-Perovskite Manganites R <sub>0.5</sub> Sr <sub>1.5</sub> MnO <sub>4</sub> (R= La, Nd). Journal of the Physical Society of Japan, 2003, 72, 582-587.	0.7	2
70	Investigation of Degradation Mechanism of Pentacene/C <sub>60</sub> Heterojunction Solar Cells. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2017, 30, 569-575.	0.1	2
71	Microscopic Characterization of Printable Low-Voltage Electrolyte-Gated Transistors by Electron Spin Resonance. Japanese Journal of Applied Physics, 2013, 52, 05DC05.	0.8	1
72	Motional narrowing under Markovian and non-Markovian hopping transitions in inhomogeneous broadened absorption line shape. Physical Review E, 2019, 99, 052115.	0.8	1

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73	Synthesis and color development mechanism of $\text{Li}_2\text{CoTi}_3\text{O}_8$ cyan pigments: effect of synthetic temperature. Journal of the Ceramic Society of Japan, 2020, 128, 260-266.	0.5	1
74	Microscopic Analysis of Organic Solar Cells by Simultaneous Measurements of ESR and Device Performance. Materials Research Society Symposia Proceedings, 2014, 1639, 1.	0.1	0
75	Analysis of the Size of Two-Component $\text{C}_{60}$ - $\text{C}_{70}$ Fullerene Whiskers. Transactions of the Materials Research Society of Japan, 2018, 43, 229-232.	0.2	0
76	Evaluation of Microscopic Properties of Organic Solar Cells by Light-Induced Electron Spin Resonance. Japanese Journal of Applied Physics, 2012, 51, 10NE08.	0.8	0
77	Analysis of Degradation by Various Spectroscopic Methods. , 2021, , 1-11.		0