Tsuyoshi Hasegawa

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/3781394/publications.pdf

Version: 2024-02-01

70	5,534	159585 30	106344 65
papers	citations	h-index	g-index

74	74	74	4804
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Behavioral Model of Molecular Gap-Type Atomic Switches and Its SPICE Integration. Circuits and Systems, 2022, 13, 1-12.	0.1	0
2	Noise sensitivity of physical reservoir computing in a ring array of atomic switches. Nonlinear Theory and Its Applications IEICE, 2022, 13, 373-378.	0.6	1
3	Resistive Switching Memristor: On the Direct Observation of Physical Nature of Parameter Variability. ACS Applied Materials & Interfaces, 2022, 14, 1557-1567.	8.0	6
4	Quantum Conductance in Memristive Devices: Fundamentals, Developments, and Applications. Advanced Materials, 2022, 34, e2201248.	21.0	31
5	In-materio reservoir working at low frequencies in a Ag₂S-island network. Nanoscale, 2022, 14, 7634-7640.	5.6	14
6	Emulating neural functions utilizing the larger time constants found in the operation of molecular-gap atomic switches. Japanese Journal of Applied Physics, 2021, 60, SCCF01.	1.5	2
7	In Situ Reproducible Sharp Tips for Atomic Force Microscopy. Physical Review Applied, 2021, 15, .	3.8	1
8	Changes in the temperature dependence of Ag/Ta₂O₅/Pt gapless-type atomic switches caused by desorption/adsorption of water molecules from/into the Ta₂O₅ matrix. Japanese Journal of Applied Physics, 2021, 60, SCCF05.	1.5	2
9	Study on a conductive channel of a Pt/NiO/Pt ReRAM by bias application with/without a magnetic field. Japanese Journal of Applied Physics, 2021, 60, SCCF03.	1.5	3
10	Measurement of changes in resistance of a Ag2+Î´S nano-island on removal of dopant Î´-Ag atoms. Japanese Journal of Applied Physics, 2021, 60, SE1001.	1.5	1
11	Reservoir Computing on Atomic Switch Arrays with High Precision and Excellent Memory Characteristics. Journal of Signal Processing, 2021, 25, 123-126.	0.3	3
12	Reliable operation of a molecular-gap atomic switch in a vacuum achieved by covering with an ionic liquid. Japanese Journal of Applied Physics, 2020, 59, SIIF04.	1.5	0
13	Development of a metal oxide-based molecular-gap atomic switch for unconventional computing. Japanese Journal of Applied Physics, 2020, 59, 040605.	1.5	3
14	SiO₂/Ta₂O₅ heterojunction ECM memristors: physical nature of their low voltage operation with high stability and uniformity. Nanoscale, 2020, 12, 4320-4327.	5.6	24
15	Stable analog resistance change of a molecular-gap atomic switch over a wide range. Japanese Journal of Applied Physics, 2020, 59, SIIF01.	1.5	8
16	Formation and dissolution of conductive channels in an Ag2S-islands network. Japanese Journal of Applied Physics, 2020, 59, SN1011.	1.5	4
17	Resistivity control by the electrochemical removal of dopant atoms from a nanodot. Faraday Discussions, 2019, 213, 29-40.	3.2	8
18	A nano-mechanical device using a Ag₂Sâ€“C₆₀ system. Japanese Journal of Applied Physics, 2019, 58, SDDF02.	1.5	2

#	Article	IF	Citations
19	Timeâ€Dependent Operations in Molecular Gap Atomic Switches. Physica Status Solidi (B): Basic Research, 2019, 256, 1900068.	1.5	14
20	The rate limiting process and its activation energy in the forming process of a Cu/Ta2O5/Pt gapless-type atomic switch. Japanese Journal of Applied Physics, 2018, 57, 035202.	1.5	3
21	Nanoarchitectonics for Controlling the Number of Dopant Atoms in Solid Electrolyte Nanodots. Advanced Materials, 2018, 30, 1703261.	21.0	59
22	Development of a molecular gap-type atomic switch and its stochastic operation. Journal of Applied Physics, 2018, 124, 152114.	2.5	13
23	Operating mechanism and resistive switching characteristics of two- and three-terminal atomic switches using a thin metal oxide layer. Journal of Electroceramics, 2017, 39, 143-156.	2.0	24
24	P-type polymer-based Ag₂S atomic switch for â€œtug of warâ€•operation. Japanese Journal of Applied Physics, 2017, 56, 06GF03.	1.5	8
25	Humidity effects on the redox reactions and ionic transport in a Cu/Ta₂O₅/Pt atomic switch structure. Japanese Journal of Applied Physics, 2016, 55, 06GJ09.	1.5	49
26	Nanoscale cation motion in TaOx, HfOx and TiOx memristive systems. Nature Nanotechnology, 2016, 11, 67-74.	31.5	524
27	Observation of a Ag protrusion on a Ag 2 S island using a scanning tunneling microscope. Results in Physics, 2015, 5, 182-183.	4.1	4
28	Redox Reactions at Cu,Ag/Ta₂O₅ Interfaces and the Effects of Ta₂O₅ Film Density on the Forming Process in Atomic Switch Structures. Advanced Functional Materials, 2015, 25, 6374-6381.	14.9	148
29	Ultraâ€Low Voltage and Ultraâ€Low Power Consumption Nonvolatile Operation of a Threeâ€Terminal Atomic Switch. Advanced Materials, 2015, 27, 6029-6033.	21.0	15
30	Dynamic moderation of an electric field using a SiO₂ switching layer in TaO_x â€based ReRAM. Physica Status Solidi - Rapid Research Letters, 2015, 9, 166-170.	2.4	9
31	Position detection and observation of a conducting filament hidden under a top electrode in a Ta₂O₅-based atomic switch. Nanotechnology, 2015, 26, 145702.	2.6	19
32	Effects of temperature and ambient pressure on the resistive switching behaviour of polymer-based atomic switches. Journal of Materials Chemistry C, 2015, 3, 5715-5720.	5.5	38
33	Synaptic plasticity and memristive behavior operated by atomic switches. , 2014, , .		3
34	Volatile and nonvolatile selective operation of a two-terminal gap-type atomic switch. , 2014, , .		0
35	Energy reversible Si-based NEMS Switch for nonvolatile logic systems. , 2013, , .		3
36	Quantized Conductance and Neuromorphic Behavior of a Gapless-Type Ag-Ta2O5 Atomic Switch. Materials Research Society Symposia Proceedings, 2013, 1562, 1.	0.1	5

#	Article	IF	Citations
37	Influence of Atmosphere on Photo-Assisted Atomic Switch Operations. Key Engineering Materials, 2013, 596, 116-120.	0.4	1
38	Nonvolatile three-terminal operation based on oxygen vacancy drift in a Pt/Ta₂O_{5â^'x}/Pt, Pt structure. Applied Physics Letters, 2013, 102, 233508.	3.3	12
39	Impacts of Temperature and Moisture on the Resistive Switching Characteristics of a Cu-Ta2O5-Based Atomic Switch. Materials Research Society Symposia Proceedings, 2012, 1430, 25.	0.1	1
40	Oxygen migration process in the interfaces during bipolar resistance switching behavior of WO3â^'x-based nanoionics devices. Applied Physics Letters, 2012, 100, .	3.3	46
41	Flexible Polymer Atomic Switches using Ink-Jet Printing Technique. Materials Research Society Symposia Proceedings, 2012, 1430, 106.	0.1	1
42	On-Demand Nanodevice with Electrical and Neuromorphic Multifunction Realized by Local Ion Migration. ACS Nano, 2012, 6, 9515-9521.	14.6	186
43	Biomimetics: Controlling the Synaptic Plasticity of a Cu2S Gap-Type Atomic Switch (Adv. Funct. Mater.) Tj ETQq1 1 0.784314 rgBT /O	14.9	1
44	Conductance quantization and synaptic behavior in a Ta₂O₅-based atomic switch. Nanotechnology, 2012, 23, 435705.	2.6	157
45	Atomically controlled electrochemical nucleation at superionic solid electrolyte surfaces. Nature Materials, 2012, 11, 530-535.	27.5	208
46	Controlling the Synaptic Plasticity of a Cu₂S Gapâ€Type Atomic Switch. Advanced Functional Materials, 2012, 22, 3606-3613.	14.9	160
47	Effects of Moisture on the Switching Characteristics of Oxideâ€Based, Gaplessâ€Type Atomic Switches. Advanced Functional Materials, 2012, 22, 70-77.	14.9	247
48	Atomic Switch: Atom/Ion Movement Controlled Devices for Beyond Vonâ€Neumann Computers. Advanced Materials, 2012, 24, 252-267.	21.0	338
49	Short-term plasticity and long-term potentiation mimicked in single inorganic synapses. Nature Materials, 2011, 10, 591-595.	27.5	1,480
50	Temperature effects on the switching kinetics of a Cuâ€"Ta₂O₅-based atomic switch. Nanotechnology, 2011, 22, 254013.	2.6	75
51	Memristive operations demonstrated by gap-type atomic switches. Applied Physics A: Materials Science and Processing, 2011, 102, 811-815.	2.3	43
52	A Polymerâ€Electrolyteâ€Based Atomic Switch. Advanced Functional Materials, 2011, 21, 93-99.	14.9	130
53	Theoretical investigation of kinetics of a Cu2S-based gap-type atomic switch. Applied Physics Letters, 2011, 98, 233501.	3.3	14
54	Switching kinetics of a Cu₂S-based gap-type atomic switch. Nanotechnology, 2011, 22, 235201.	2.6	73

#	Article	IF	Citations
55	Atomic switches: atomic-movement-controlled nanodevices for new types of computing. Science and Technology of Advanced Materials, 2011, 12, 013003.	6.1	39
56	Atomic switches: atomic-movement-controlled nanodevices for new types of computing. Science and Technology of Advanced Materials, 2011, 12, 013003.	6.1	8
57	The Atomic Switch. Proceedings of the IEEE, 2010, 98, 2228-2236.	21.3	60
58	Learning Abilities Achieved by a Single Solidâ€State Atomic Switch. Advanced Materials, 2010, 22, 1831-1834.	21.0	274
59	Photoassisted Formation of an Atomic Switch. Small, 2010, 6, 1745-1748.	10.0	33
60	Rate-Limiting Processes Determining the Switching Time in a Ag₂S Atomic Switch. Journal of Physical Chemistry Letters, 2010, 1, 604-608.	4.6	99
61	Nanoionics Switching Devices: â€œAtomic Switchesâ€• MRS Bulletin, 2009, 34, 929-934.	3.5	55
62	Diffusivity of Cu Ions in Solid Electrolyte and Its Effect on the Performance of Nanometer-Scale Switch. IEEE Transactions on Electron Devices, 2008, 55, 3283-3287.	3.0	121
63	Structural studies of copper sulfide films: effect of ambient atmosphere. Science and Technology of Advanced Materials, 2008, 9, 035011.	6.1	83
64	Electronic transport in Ta2O5 resistive switch. Applied Physics Letters, 2007, 91, .	3.3	213
65	Anomalous phase transition and ionic conductivity of AgI nanowire grown using porous alumina template. Journal of Applied Physics, 2007, 102, 124308.	2.5	23
66	Control of local ion transport to create unique functional nanodevices based on ionic conductors. Science and Technology of Advanced Materials, 2007, 8, 536-542.	6.1	31
67	Effect of sulfurization conditions and post-deposition annealing treatment on structural and electrical properties of silver sulfide films. Journal of Applied Physics, 2006, 99, 103501.	2.5	52
68	Atomic Switch-Nano Device using the Transfer of Atoms(Ions)-. Hyomen Kagaku, 2006, 27, 232-238.	0.0	3
69	Ionic-Electronic Conductor Nanostructures: Template-Confined Growth and Nonlinear Electrical Transport. Small, 2005, 1, 971-975.	10.0	62
70	Surface modification of MoS2 using an STM. Applied Surface Science, 1992, 60-61, 643-647.	6.1	154