

# Masashi Arita

## List of Publications by Year in descending order

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116  
papers

1,547  
citations

331538

21  
h-index

330025

37  
g-index

117  
all docs

117  
docs citations

117  
times ranked

1685  
citing authors

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 1  | Giant tunneling magnetoresistance in epitaxial Co <sub>2</sub> MnSi/MgO/Co <sub>2</sub> MnSi magnetic tunnel junctions by half-metallicity of Co <sub>2</sub> MnSi and coherent tunneling. Applied Physics Letters, 2012, 101, . | 1.5 | 219       |
| 2  | Spin-dependent tunneling characteristics of fully epitaxial magnetic tunneling junctions with a full-Heusler alloy Co <sub>2</sub> MnSi thin film and a MgO tunnel barrier. Applied Physics Letters, 2006, 89, 192505.           | 1.5 | 182       |
| 3  | Fabrication of fully epitaxial magnetic tunnel junctions using cobalt-based full-Heusler alloy thin film and their tunnel magnetoresistance characteristics. Journal Physics D: Applied Physics, 2006, 39, 824-833.              | 1.3 | 93        |
| 4  | <i>In situ</i> transmission electron microscopy analysis of conductive filament during solid electrolyte resistance switching. Applied Physics Letters, 2011, 98, .  | 1.5 | 76        |
| 5  | Switching operation and degradation of resistive random access memory composed of tungsten oxide and copper investigated using in-situ TEM. Scientific Reports, 2015, 5, 17103.  | 1.6 | 60        |
| 6  | Resistance switching properties of molybdenum oxide films. Thin Solid Films, 2012, 520, 4762-4767.   | 0.8 | 45        |
| 7  | Tungsten Films with the A15 Structure. Japanese Journal of Applied Physics, 1993, 32, 1759-1764.   | 0.8 | 42        |
| 8  | Effect of nonstoichiometry on the half-metallic character of Co <sub>2</sub> MnSi investigated through saturation magnetization and tunneling magnetoresistance ratio. Physical Review B, 2014, 89, .                            | 1.1 | 42        |
| 9  | Fabrication of Fe-doped WO <sub>3</sub> films for NO <sub>2</sub> sensing at lower operating temperature. Sensors and Actuators B: Chemical, 2015, 221, 393-400.   | 4.0 | 42        |
| 10 | Thin film deposition and characterization of pure and iron-doped electron-beam evaporated tungsten oxide for gas sensors. Thin Solid Films, 2010, 518, 4791-4797.  | 0.8 | 41        |
| 11 | Filament formation and erasure in molybdenum oxide during resistive switching cycles. Applied Physics Letters, 2014, 105, .  | 1.5 | 41        |
| 12 | Structural and magnetic properties of epitaxially grown full-Heusler alloy Co <sub>2</sub> MnGe thin films deposited using magnetron sputtering. Journal of Applied Physics, 2006, 99, 08J110.                                   | 1.1 | 31        |
| 13 | Improved tunnel magnetoresistance characteristics of magnetic tunnel junctions with a Heusler alloy thin film of Co <sub>2</sub> MnGe and a MgO tunnel barrier. Journal of Applied Physics, 2007, 101, 09J513.                   | 1.1 | 29        |
| 14 | The effect of pressure and W-doping on the properties of ZnO thin films for NO <sub>2</sub> gas sensing. Applied Surface Science, 2015, 357, 728-734.  | 3.1 | 28        |
| 15 | Probing electrochemistry at the nanoscale: in situ TEM and STM characterizations of conducting filaments in memristive devices. Journal of Electroceramics, 2017, 39, 73-93.   | 0.8 | 28        |
| 16 | I-V measurement of NiO nanoregion during observation by transmission electron microscopy. Journal of Applied Physics, 2011, 109, 053702.   | 1.1 | 25        |
| 17 | Determination of Long-Range-Order Parameter of Fe <sub>3</sub> Si Alloy by means of <sup>57</sup> Fe Mössbauer Effect. Transactions of the Japan Institute of Metals, 1985, 26, 710-720.   | 0.5 | 24        |
| 18 | Transmission electron microscopy of La <sub>0.7</sub> Ca <sub>0.3</sub> MnO <sub>3</sub> thin films. Journal of Magnetism and Magnetic Materials, 2000, 211, 84-90.  | 1.0 | 22        |

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|----|--|-----|-----------|
| 19 | In-situ transmission electron microscopy of conductive filaments in NiO resistance random access memory and its analysis. <i>Journal of Applied Physics</i> , 2013, 113, 083701.   | 1.1 | 22        |
| 20 | Development of TEM Holder Generating In-Plane Magnetic Field Used for In-Situ TEM Observation. <i>Materials Transactions</i> , 2014, 55, 403-409.  | 0.4 | 22        |
| 21 | Smooth Interfacial Scavenging for Resistive Switching Oxide via the Formation of Highly Uniform Layers of Amorphous TaO <sub>x</sub> . <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 5609-5617.                                    | 4.0 | 22        |
| 22 | Preparation of resistance random access memory samples for in situ transmission electron microscopy experiments. <i>Thin Solid Films</i> , 2013, 533, 48-53.   | 0.8 | 20        |
| 23 | Analysis of resistance switching and conductive filaments inside Cu-Ge-S using in situ transmission electron microscopy. <i>Journal of Materials Research</i> , 2012, 27, 886-896.   | 1.2 | 19        |
| 24 | Switching of Cu/MoO <sub>x</sub> /TiN CBRAM at MoO <sub>x</sub> /TiN interface. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2016, 213, 306-310.  | 0.8 | 17        |
| 25 | Microstructural transitions in resistive random access memory composed of molybdenum oxide with copper during switching cycles. <i>Nanoscale</i> , 2016, 8, 14754-14766.   | 2.8 | 17        |
| 26 | Multifunctional Device Using Nanodot Array. <i>Japanese Journal of Applied Physics</i> , 2006, 45, 5317-5321.  | 0.8 | 16        |
| 27 | Epitaxial growth of Heusler alloy Co <sub>2</sub> MnSi/MgO heterostructures on Ge(001) substrates. <i>Applied Physics Letters</i> , 2011, 98, 262505.  | 1.5 | 16        |
| 28 | The Observation of "Conduction Spot" on NiO Resistance Random Access Memory. <i>Japanese Journal of Applied Physics</i> , 2011, 50, 081101.  | 0.8 | 15        |
| 29 | Single-Electron Device With Si Nanodot Array and Multiple Input Gates. <i>IEEE Nanotechnology Magazine</i> , 2009, 8, 535-541.   | 1.1 | 13        |
| 30 | Highly Spin-Polarized Tunneling in Epitaxial Magnetic Tunnel Junctions with a Co <sub>2</sub> MnSi Electrode and a MgO Barrier with Improved Interfacial Structural Properties. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 093004. | 0.8 | 13        |
| 31 | Green Synthesis of Size-Tunable Iron Oxides and Iron Nanoparticles in a Salt Matrix. <i>ACS Sustainable Chemistry and Engineering</i> , 2019, 7, 17697-17705.  | 3.2 | 12        |
| 32 | Tip production technique to form ferromagnetic nanodots. <i>Materials Science and Engineering C</i> , 2003, 23, 927-930.   | 3.8 | 11        |
| 33 | In situ Conductance Measurement of a Limited Number of Nanoparticles during Transmission Electron Microscopy Observation. <i>Japanese Journal of Applied Physics</i> , 2005, 44, L790-L792.  | 0.8 | 11        |
| 34 | (Invited) Visualization of Conductive Filament of ReRAM during Resistive Switching by in-situ TEM. <i>ECS Transactions</i> , 2015, 69, 299-309.  | 0.3 | 11        |
| 35 | Microstructure and electric property of MgO/Fe/MgO tri-layer films forming a nano-granular system. <i>Microelectronic Engineering</i> , 2008, 85, 2445-2450.   | 1.1 | 10        |
| 36 | The Observation of "Conduction Spot" on NiO Resistance Random Access Memory. <i>Japanese Journal of Applied Physics</i> , 2011, 50, 081101.  | 0.8 | 10        |

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|----|---|-----|-----------|
| 37 | Crystal structures and light absorption spectra of 1,4-dithioketo-3,6-diphenylpyrrolo[3,4-c]pyrrole. <i>Journal of Applied Physics</i> , 1991, 70, 4065-4072.   | 1.1 | 9         |
| 38 | The electron-density distribution and chemical bonding of A15-type Cr obtained by the maximum-entropy method. <i>Journal of Physics Condensed Matter</i> , 1994, 6, 8681-8690.                              | 0.7 | 9         |
| 39 | Structural and electromagnetic characterizations of Fe <sup>2+</sup> /SrF <sub>2</sub> granular films. <i>Journal Physics D: Applied Physics</i> , 2006, 39, 5103-5108.                                     | 1.3 | 9         |
| 40 | In Situ TEM Observation of Cu/MoO <sub>x</sub> ReRAM Switching. <i>ECS Transactions</i> , 2013, 58, 19-25.  | 0.3 | 8         |
| 41 | A new crystal structure of 3,6-diphenylpyrrolo[3,4-c]pyrrole-1,4-dithione. <i>Acta Crystallographica Section C: Crystal Structure Communications</i> , 1991, 47, 1952-1956.                                 | 0.4 | 7         |
| 42 | Tunnel current measurement of MgO and MgO/Fe/MgO nanoregions during TEM observation. <i>Superlattices and Microstructures</i> , 2008, 44, 633-640.  | 1.4 | 7         |
| 43 | Fabrication of double-dot single-electron transistor in silicon nanowire. <i>Thin Solid Films</i> , 2010, 518, S186-S189.   | 0.8 | 7         |
| 44 | Periodic Coulomb blockade oscillations observed in single-layered Fe nanodot array. <i>Thin Solid Films</i> , 2020, 704, 138012.  | 0.8 | 7         |
| 45 | Stable and Tunable Current-Induced Phase Transition in Epitaxial Thin Films of Ca <sub>2</sub> RuO <sub>4</sub> . <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 28368-28374.                    | 4.0 | 7         |
| 46 | Crystal structure of the ordered Nb <sub>10</sub> Ge <sub>7</sub> phase. <i>Journal of Solid State Chemistry</i> , 1990, 84, 386-400.   | 1.4 | 6         |
| 47 | Single-electron transistor properties of Fe <sup>2+</sup> /SrF <sub>2</sub> granular films. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2008, 147, 100-104. | 1.7 | 6         |
| 48 | Fabrication and single-electron-transfer operation of a triple-dot single-electron transistor. <i>Journal of Applied Physics</i> , 2015, 118, .   | 1.1 | 6         |
| 49 | Fabrication and evaluation of series-triple quantum dots by thermal oxidation of silicon nanowire. <i>AIP Advances</i> , 2015, 5, .   | 0.6 | 6         |
| 50 | Coupling capacitance between double quantum dots tunable by the number of electrons in Si quantum dots. <i>Journal of Applied Physics</i> , 2015, 117, .  | 1.1 | 6         |
| 51 | Visualization of Conductive Filament during Write and Erase Cycles on Nanometer-Scale ReRAM Achieved by In-Situ TEM. , 2015, , .  |     | 6         |
| 52 | Observation of Conductive Filament in CBRAM at Switching Moment. <i>ECS Transactions</i> , 2017, 80, 895-902.   | 0.3 | 6         |
| 53 | Morphological study of Cr smoke particles with A15 structure. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 2001, 81, 1597-1612.             | 0.7 | 5         |
| 54 | Silicon nanodot-array device with multiple gates. <i>Materials Science in Semiconductor Processing</i> , 2008, 11, 175-178.   | 1.9 | 5         |

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|----|--|-----|-----------|
| 55 | Smoke particles of ytterbium and its oxides. Journal of Crystal Growth, 1993, 132, 71-81.  | 0.7 | 4         |
| 56 | Transmission electron microscopy of La <sub>0.7</sub> Ca <sub>0.3</sub> MnO <sub>3</sub> CMR films. Journal of Electron Microscopy, 1999, 48, 381-385.             | 0.9 | 4         |
| 57 | Conductance measurements of nanoscale regions with in situ transmission electron microscopy. Materials Science and Engineering C, 2006, 26, 776-781.               | 3.8 | 4         |
| 58 | Surface magnetic structure of epitaxial magnetite thin films grown on MgO(001). Journal of Applied Physics, 2009, 105, 07D545.                                     | 1.1 | 4         |
| 59 | (Invited) High-Speed Operation of Si Single-Electron Transistor. ECS Transactions, 2013, 58, 73-80.  | 0.3 | 4         |
| 60 | Initial states and analog switching behaviors of two major tantalum oxide resistive memories. Japanese Journal of Applied Physics, 2020, 59, 044004.               | 0.8 | 4         |
| 61 | Charge-offset stability of single-electron devices based on single-layered Fe nanodot array. AIP Advances, 2021, 11, .   | 0.6 | 4         |
| 62 | Electron microscopy of phase boundaries between the A15 and D8<sub>m</sub>, structures of Nb-ge. Philosophical Magazine Letters, 1989, 60, 161-169.                | 0.5 | 3         |
| 63 | DEFECTS OF A15 SMALL PARTICLES IN TUNGSTEN THIN FILMS. Surface Review and Letters, 1996, 03, 1191-1194.  | 0.5 | 3         |
| 64 | Magnetic microstructure of NiFe/Cu/NiFe films observed by Lorentz microscopy. Journal of Electron Microscopy, 1999, 48, 595-600.                                   | 0.9 | 3         |
| 65 | Single-electron device using Si nanodot array and multi-input gates. , 2006, , .   |     | 3         |
| 66 | Filamentary switching of ReRAM investigated by in-situ TEM. Japanese Journal of Applied Physics, 2020, 59, SG0803.   | 0.8 | 3         |
| 67 | Molecular Orientations of 1,4-dithioketo-3,6-diphenyl-pyrrolo-[3,4-c]-pyrrole on Crystalline Substrates. Japanese Journal of Applied Physics, 1993, 32, 2842-2853. | 0.8 | 2         |
| 68 | Effect of Arrangement of Input Gates on Logic Switching Characteristics of Nanodot Array Device. IEICE Transactions on Electronics, 2012, E95.C, 865-870.          | 0.3 | 2         |
| 69 | In Situ Transmission Electron Microscopy for Electronics. , 0, , .   |     | 2         |
| 70 | Capacitance evaluation of compact silicon triple quantum dots by simultaneous gate voltage sweeping. Journal of Applied Physics, 2016, 120, 234502.                | 1.1 | 2         |
| 71 | Analog memory characteristics of 1T1R MoOx resistive random access memory. , 2016, , .   |     | 2         |
| 72 | In-situ Electron Microscopy of Cu Movement in MoOx/Al <sub>2</sub> O <sub>3</sub> Bilayer CBRAM during Cyclic Switching. ECS Transactions, 2017, 80, 903-910.      | 0.3 | 2         |

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|----|--|-----|-----------|
| 73 | Oxygen Distribution around Filament in Ta-O Resistive RAM Fabricated Using 40 nm CMOS Technology. , 2018, , .  |     | 2         |
| 74 | Tunnel magnetocapacitance in Fe/MgF <sub>2</sub> single nanogranular layered films. Applied Physics Letters, 2020, 116, .  | 1.5 | 2         |
| 75 | Full Adder Operation Based on Si Nanodot Array Device with Multiple Inputs and Outputs. International Journal of Nanotechnology and Molecular Computation, 2009, 1, 58-69.                       | 0.3 | 2         |
| 76 | Scanning Tunneling Microscopy in Liquid on Geometrical Study of Cu(001) Surface. Japanese Journal of Applied Physics, 1995, 34, 6210-6213.   | 0.8 | 1         |
| 77 | Electron microscopy of grain boundaries of Nb <sub>3</sub> Ge with the A15 structure. Physica Status Solidi A, 1996, 157, 379-392.   | 1.7 | 1         |
| 78 | Microstructure of Fe/Cu (Au) artificial superlattice. Thin Solid Films, 1998, 318, 180-185.  | 0.8 | 1         |
| 79 | Epitaxial growth of Fe nanodots on SrF <sub>2</sub> /Si (111). Materials Science and Engineering C, 2006, 26, 1146-1150.   | 3.8 | 1         |
| 80 | Tunnel Conductance through One or a Few Fe Particles Embedded in an MgO Matrix. Japanese Journal of Applied Physics, 2006, 45, 1946-1949.  | 0.8 | 1         |
| 81 | Magnetoresistance of Fe/SrF <sub>2</sub> single-electron devices with a current-in-plane geometry. Superlattices and Microstructures, 2008, 44, 449-456.   | 1.4 | 1         |
| 82 | High-frequency properties of Si single-electron transistor. , 2012, , .  |     | 1         |
| 83 | Real-time resistive switching of Cu/MoO <sub>x</sub> ReRAM observed in transmission electron microscope. , 2014, , .   |     | 1         |
| 84 | EELS Analysis of Oxygen Scavenging Effect in a Resistive Switching Structure of Pt/Ta/SrTiO <sub>3</sub> /Pt. MRS Advances, 2018, 3, 1925-1930.  | 0.5 | 1         |
| 85 | Nanoscale filaments in Ta-O resistive RAM bit array: microscopy analysis and switching property. , 2019, , .   |     | 1         |
| 86 | Controlled Current Transport in Pt/Nb:SrTiO <sub>3</sub> Junctions via Insertion of Uniform Thin Layers of TaO <sub>x</sub> . Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900136. | 1.2 | 1         |
| 87 | Initial electrical properties of tantalum oxide resistive memories influenced by oxygen defect concentrations. Japanese Journal of Applied Physics, 2021, 60, SCCE03.                            | 0.8 | 1         |
| 88 | In-situ TEM of Nanoscale ReRAM Devices. Vacuum and Surface Science, 2018, 61, 766-771.   | 0.0 | 1         |
| 89 | Electron Microscopy of the "Disordered Phase" in Nb-Ge Thin Films. Journal of Solid State Chemistry, 1993, 106, 427-442.   | 1.4 | 0         |
| 90 | Electron Microscopy of Planar Defects in A15 Nb <sub>3</sub> Ge. Journal of Solid State Chemistry, 1993, 107, 76-92.   | 1.4 | 0         |

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|-----|---|-----|-----------|
| 91  | Phase boundaries between A15 and D88 structures of the Nb-Ge compound system. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1993, 67, 1129-1141.                             | 0.7 | 0         |
| 92  | Electron Microscopy of La <sub>0.7</sub> Ca <sub>0.3</sub> MnO <sub>3</sub> . Japanese Journal of Applied Physics, 2005, 44, 304-308.   | 0.8 | 0         |
| 93  | Full adder operation based on Si nanodot array device. , 2008, , .  |     | 0         |
| 94  | (Invited) In Situ Transmission Electron Microscopy Analysis of Conductive Filament in Resistance Random Access Memories. ECS Transactions, 2011, 41, 81-92.   | 0.3 | 0         |
| 95  | Si Nanodot Device Fabricated by Thermal Oxidation and their Applications. Key Engineering Materials, 2011, 470, 175-183.  | 0.4 | 0         |
| 96  | In-Situ Transmission Electron Microscopy Observation of Electromigration in Au Thin Wires. Journal of Nanoscience and Nanotechnology, 2012, 12, 8741-8745.  | 0.9 | 0         |
| 97  | Multifunctional Logic Gate by Means of Nanodot Array with Different Arrangements. Journal of Nanomaterials, 2013, 2013, 1-7.  | 1.5 | 0         |
| 98  | Highly functional three-terminal nanodot array device with almost independent input gates. , 2014, , .  |     | 0         |
| 99  | Tunable coupling capacitance of double-quantum-dot single-electron transistor with multiple gates. , 2014, , .  |     | 0         |
| 100 | In-situ TEM observation of ReRAM switching. , 2014, , .   |     | 0         |
| 101 | Study on lateral ReRAM by the use of in-situ TEM. , 2016, , .   |     | 0         |
| 102 | Evaluation of the origin of excited states appeared in small Si single-electron transistors. , 2016, , .  |     | 0         |
| 103 | Evaluation of serially coupled triple quantum dots with a compact device structure by a simultaneous voltage-sweeping method. , 2016, , .   |     | 0         |
| 104 | (Invited) Evaluation of Coupled Triple Quantum Dots with Compact Device Structure. ECS Transactions, 2017, 80, 173-180.   | 0.3 | 0         |
| 105 | Evaluation of multilevel memory capability of ReRAM using Ta<math>\text{O}</math>2<math>\text{O}</math>5<math>\text{O}</math>5<math>\text{O}</math>5<math>\text{O}</math>5 insulator and different electrode materials. , 2017, , . |     | 0         |
| 106 | Associative search using pseudo-analog memristors. , 2017, , .  |     | 0         |
| 107 | EELS Analysis of Oxygen Scavenging Effect in a Resistive Switching Structure of Pt/Ta/SrTiO <sub>3</sub> /Pt “CORRIGENDUM. MRS Advances, 2018, 3, 2075-2075.  | 0.5 | 0         |
| 108 | Nanoscale Switching and Degradation of Resistive Random Access Memory Studied by In Situ Electron Microscopy. , 0, , .  |     | 0         |

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|-----|--|-----|-----------|
| 109 | Switching Current of Ta <sub>2</sub> O <sub>5</sub> -Based Resistive Analog Memories. , 2019, , .  |     | 0         |
| 110 | Double-gate single-electron devices formed by single-layered Fe nanodot array. , 2020, , .   |     | 0         |
| 111 | Initialization process of Cu-based WO <sub>x</sub> conductive bridge RAM investigated via in situ transmission electron microscopy. Japanese Journal of Applied Physics, 2020, 59, S1E01.                                    | 0.8 | 0         |
| 112 | Probing Electrochemistry at the Nanoscale: In Situ TEM and STM Characterizations of Conducting Filaments in Memristive Devices. Kluwer International Series in Electronic Materials: Science and Technology, 2022, , 87-120. | 0.3 | 0         |
| 113 | In situ Transmission Electron Microscopy on the Conductance Quantization of a Fe Nano-particle System. Materia Japan, 2005, 44, 990-990.   | 0.1 | 0         |
| 114 | Tungsten and Chromium Having the A15-Structure. Springer Series in Cluster Physics, 1999, , 285-294.   | 0.3 | 0         |
| 115 | Investigation on Switching Operation in Resistive RAM Using In-Situ TEM. Springer Proceedings in Physics, 2017, , 205-214.   | 0.1 | 0         |
| 116 | Full Adder Operation Based on Si Nanodot Array Device with Multiple Inputs and Outputs. , 0, , 131-139.  |     | 0         |