

# Universal current-velocity relation of skyrmion motion

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Citation Report

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 1  | Miniature Hall sensor integrated on a magnetic thin film for detecting domain wall motion. Journal of Applied Physics, 2013, 114, 053909.                      | 1.1  | 4         |
| 2  | Quantum motion and level quantization of a skyrmion in a pinning potential in chiral magnets. Physical Review B, 2013, 88, .                                   | 1.1  | 15        |
| 3  | Moving with the current. Nature Nanotechnology, 2013, 8, 160-161.  | 15.6 | 48        |
| 4  | Observation of the Magnetic Skyrmion Lattice in a MnSi Nanowire by Lorentz TEM. Nano Letters, 2013, 13, 3755-3759.   | 4.5  | 110       |
| 5  | Skyrmions singled out. Nature Nanotechnology, 2013, 8, 800-802.  | 15.6 | 20        |
| 6  | Chirality from Interfacial Spin-Orbit Coupling Effects in Magnetic Bilayers. Physical Review Letters, 2013, 111, 216601.                                       | 2.9  | 166       |
| 7  | Nucleation, stability and current-induced motion of isolated magnetic skyrmions in nanostructures. Nature Nanotechnology, 2013, 8, 839-844.                    | 15.6 | 1,387     |
| 8  | Topological properties and dynamics of magnetic skyrmions. Nature Nanotechnology, 2013, 8, 899-911.  | 15.6 | 2,887     |
| 9  | Spin-wave propagation in the presence of interfacial Dzyaloshinskii-Moriya interaction. Physical Review B, 2013, 88, .   | 1.1  | 267       |
| 10 | Current-induced skyrmion dynamics in constricted geometries. Nature Nanotechnology, 2013, 8, 742-747.  | 15.6 | 686       |
| 11 | Particle model for skyrmions in metallic chiral magnets: Dynamics, pinning, and creep. Physical Review B, 2013, 87, .  | 1.1  | 248       |
| 12 | Skyrmions on the track. Nature Nanotechnology, 2013, 8, 152-156.   | 15.6 | 2,422     |
| 13 | Spin-transfer torques in helimagnets. Physical Review B, 2013, 87, .   | 1.1  | 20        |
| 14 | Manipulation of skyrmions in nanodisks with a current pulse and skyrmion rectifier. Applied Physics Letters, 2013, 102, .                                      | 1.5  | 45        |
| 15 | Driven Skyrmions and Dynamical Transitions in Chiral Magnets. Physical Review Letters, 2013, 110, 207202.  | 2.9  | 92        |
| 16 | Phase-field-crystal model for magnetocrystalline interactions in isotropic ferromagnetic solids. Physical Review E, 2013, 88, 032407.                          | 0.8  | 24        |
| 17 | From particles to nanowires. Nature Nanotechnology, 2013, 8, 145-145.  | 15.6 | 1         |
| 18 | Three layers of skyrmions in the magnetic triple-layer structure without the Dzyaloshinskyâ€Moriya interaction. Journal of Applied Physics, 2014, 116, 223901. | 1.1  | 8         |

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 19 | Dual-frequency microwave-driven resonant excitations of skyrmions in nanoscale magnets. RSC Advances, 2014, 4, 62179-62185.  | 1.7  | 7         |
| 20 | Effects of Rashba and Dresselhaus spin-orbit interactions on the ground state of two-dimensional localized spins. Journal of Physics Condensed Matter, 2014, 26, 196005. | 0.7  | 7         |
| 21 | Phase Diagram of a Single Skyrmion in Magnetic Nanowires. IEEE Transactions on Magnetism, 2014, 50, 1-4.   | 1.2  | 7         |
| 22 | Effect of Dzyaloshinskii-Moriya interaction on magnetic vortex. AIP Advances, 2014, 4, .   | 0.6  | 24        |
| 23 | Growth of Metal Silicide Nanowires and Their Spintronic and Renewable Energy Applications. RSC Smart Materials, 2014, , 312-362.   | 0.1  | 2         |
| 24 | Inertia, diffusion, and dynamics of a driven skyrmion. Physical Review B, 2014, 90, .  | 1.1  | 138       |
| 25 | Phasons and Excitations in Skyrmion Lattice. Journal of the Physical Society of Japan, 2014, 83, 104711.   | 0.7  | 22        |
| 26 | Spin-orbit torques in action. Nature Nanotechnology, 2014, 9, 86-88.   | 15.6 | 154       |
| 27 | Theory of magnon-skyrmion scattering in chiral magnets. Physical Review B, 2014, 89, .   | 1.1  | 141       |
| 28 | Spin-orbit torques and anisotropic magnetization damping in skyrmion crystals. Physical Review B, 2014, 89, .  | 1.1  | 29        |
| 29 | Dynamics of skyrmions in chiral magnets: Dynamic phase transitions and equation of motion. Journal of Applied Physics, 2014, 115, 17D109.                                | 1.1  | 8         |
| 30 | ac Current Generation in Chiral Magnetic Insulators and Skyrmion Motion induced by the Spin Seebeck Effect. Physical Review Letters, 2014, 112, 187203.                  | 2.9  | 110       |
| 31 | Internal modes of a skyrmion in the ferromagnetic state of chiral magnets. Physical Review B, 2014, 89, .  | 1.1  | 94        |
| 32 | Biskyrmion states and their current-driven motion in a layered manganite. Nature Communications, 2014, 5, 3198.  | 5.8  | 241       |
| 33 | Thermally driven ratchet motion of a skyrmion microcrystal and topological magnon Hall effect. Nature Materials, 2014, 13, 241-246.                                      | 13.3 | 268       |
| 34 | Spin structure of the anisotropic helimagnet Cr <sup>1+3</sup> NbS <sub>2</sub> in a magnetic field. Applied Physics Letters, 2014, 105, .                               | 1.5  | 37        |
| 35 | Brownian motion of massive skyrmions in magnetic thin films. Annals of Physics, 2014, 351, 850-856.  | 1.0  | 40        |
| 36 | Interfacial Dzyaloshinskii-Moriya interaction induced nonreciprocity of spin waves in magnonic waveguides. RSC Advances, 2014, 4, 46454-46459.                           | 1.7  | 37        |



| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 55 | Quantum fluctuations stabilize skyrmion textures. <i>Physical Review B</i> , 2015, 92, .   | 1.1  | 37        |
| 56 | Topological spin Hall effect resulting from magnetic skyrmions. <i>Physical Review B</i> , 2015, 92, .   | 1.1  | 53        |
| 57 | Shapiro steps for skyrmion motion on a washboard potential with longitudinal and transverse ac drives. <i>Physical Review B</i> , 2015, 92, .  | 1.1  | 36        |
| 58 | Microwave field frequency and current density modulated skyrmion-chain in nanotrack. <i>Scientific Reports</i> , 2015, 5, 15154.   | 1.6  | 14        |
| 59 | Lorentz transmission electron microscopy on nanometric magnetic bubbles and skyrmions in bilayered manganites $\text{La}_{1.2}\text{Sr}_{1.8}(\text{Mn}_{1-x}\text{Y}_x)\text{O}_7$ with controlled magnetic anisotropy. <i>Applied Physics Letters</i> , 2015, 107, . | 1.5  | 30        |
| 60 | Static property and current-driven precession of $2\pi$ -vortex in nano-disk with Dzyaloshinskii-Moriya interaction. <i>AIP Advances</i> , 2015, 5, .  | 0.6  | 17        |
| 61 | Skyrmion-Based Dynamic Magnonic Crystal. <i>Nano Letters</i> , 2015, 15, 4029-4036.  | 4.5  | 109       |
| 62 | Large anisotropic deformation of skyrmions in strained crystal. <i>Nature Nanotechnology</i> , 2015, 10, 589-592.  | 15.6 | 188       |
| 63 | Guided current-induced skyrmion motion in 1D potential well. <i>Scientific Reports</i> , 2015, 5, 10620.   | 1.6  | 104       |
| 64 | All-magnetic control of skyrmions in nanowires by a spin wave. <i>Nanotechnology</i> , 2015, 26, 225701.   | 1.3  | 86        |
| 65 | Topological skyrmion dynamics driven by spin-transfer torque. , 2015, , .  |      | 0         |
| 66 | Spin motive force driven by skyrmion dynamics in magnetic nanodisks. <i>Physical Review B</i> , 2015, 91, .  | 1.1  | 19        |
| 67 | Voltage-gated skyrmion transistor. , 2015, , .   |      | 0         |
| 68 | Dynamical magnetoelectric phenomena of multiferroic skyrmions. <i>Journal of Physics Condensed Matter</i> , 2015, 27, 503001.  | 0.7  | 64        |
| 69 | A flexible multi-stimuli in situ (S)TEM: Concept, optical performance, and outlook. <i>Ultramicroscopy</i> , 2015, 151, 31-36.   | 0.8  | 9         |
| 70 | Dynamics of magnetic skyrmions. <i>Chinese Physics B</i> , 2015, 24, 017506.   | 0.7  | 14        |
| 71 | Topologically protected dynamics of spin textures. <i>Journal of Magnetism and Magnetic Materials</i> , 2015, 383, 65-68.  | 1.0  | 1         |
| 72 | Capturing of a magnetic skyrmion with a hole. <i>Physical Review B</i> , 2015, 91, .   | 1.1  | 135       |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 73 | Real-space anisotropic dielectric response in a multiferroic skyrmion lattice. <i>Scientific Reports</i> , 2015, 5, 8318.   | 1.6 | 8         |
| 74 | Current-Induced Dynamics in a Skyrmion Lattice. <i>IEEE Transactions on Magnetics</i> , 2015, 51, 1-4.  | 1.2 | 1         |
| 75 | Real-Space Observation of Short-Period Cubic Lattice of Skyrmions in MnGe. <i>Nano Letters</i> , 2015, 15, 5438-5442.   | 4.5 | 160       |
| 76 | Magnetic skyrmion transistor: skyrmion motion in a voltage-gated nanotrack. <i>Scientific Reports</i> , 2015, 5, 11369.   | 1.6 | 205       |
| 77 | Electrical probing of field-driven cascading quantized transitions of skyrmion cluster states in MnSi nanowires. <i>Nature Communications</i> , 2015, 6, 7637.          | 5.8 | 83        |
| 78 | A new class of chiral materials hosting magnetic skyrmions beyond room temperature. <i>Nature Communications</i> , 2015, 6, 7638.                                       | 5.8 | 411       |
| 79 | Collective Transport Properties of Driven Skyrmions with Random Disorder. <i>Physical Review Letters</i> , 2015, 114, 217202.   | 2.9 | 181       |
| 80 | Photodrive of magnetic bubbles via magnetoelastic waves. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 8977-8981. | 3.3 | 87        |
| 81 | Current-induced motion in a skyrmion lattice. <i>Journal of Applied Physics</i> , 2015, 117, 17E509.  | 1.1 | 3         |
| 82 | Current-induced magnetic skyrmions oscillator. <i>New Journal of Physics</i> , 2015, 17, 023061.  | 1.2 | 149       |
| 83 | Quantized transport for a skyrmion moving on a two-dimensional periodic substrate. <i>Physical Review B</i> , 2015, 91, .   | 1.1 | 81        |
| 84 | Memory functions of magnetic skyrmions. <i>Japanese Journal of Applied Physics</i> , 2015, 54, 053001.  | 0.8 | 143       |
| 85 | Magnetic skyrmion logic gates: conversion, duplication and merging of skyrmions. <i>Scientific Reports</i> , 2015, 5, 9400.   | 1.6 | 610       |
| 86 | Current-driven dynamics of skyrmions stabilized in MnSi nanowires revealed by topological Hall effect. <i>Nature Communications</i> , 2015, 6, 8217.                    | 5.8 | 124       |
| 87 | Writing a skyrmion on multiferroic materials. <i>Applied Physics Letters</i> , 2015, 107, .   | 1.5 | 33        |
| 88 | Current-Driven Motion of Magnetic Domain Wall with Many Bloch Lines. <i>Journal of the Physical Society of Japan</i> , 2015, 84, 083701.                                | 0.7 | 2         |
| 89 | Dynamic susceptibility study on the skyrmion phase stability of Fe <sub>0.7</sub> Co <sub>0.3</sub> Si. <i>Journal of Applied Physics</i> , 2015, 117, 123903.          | 1.1 | 12        |
| 90 | Effect of external field on current-induced skyrmion dynamics in a nanowire. <i>Journal of Applied Physics</i> , 2015, 117, 17E505.                                     | 1.1 | 2         |

| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 91  | Angular dependence of the spin textures in two-dimensional chiral magnets. Journal of Applied Physics, 2015, 117, 203902.                        | 1.1 | 2         |
| 92  | Stability of single skyrmionic bits. Nature Communications, 2015, 6, 8455.   | 5.8 | 130       |
| 93  | Uniaxial stress control of skyrmion phase. Nature Communications, 2015, 6, 8539.   | 5.8 | 143       |
| 94  | Magnus-induced ratchet effects for skyrmions interacting with asymmetric substrates. New Journal of Physics, 2015, 17, 073034.                   | 1.2 | 59        |
| 95  | Magnetic solitons driven by spin-based phenomena: A review on their features and potentialities. , 2015, , .                                     |     | 0         |
| 96  | Perpendicular reading of single confined magnetic skyrmions. Nature Communications, 2015, 6, 8541.   | 5.8 | 92        |
| 97  | A strategy for the design of skyrmion racetrack memories. Scientific Reports, 2014, 4, 6784.   | 1.6 | 689       |
| 98  | Skyrmion motion driven by oscillating magnetic field. Scientific Reports, 2016, 6, 20360.  | 1.6 | 45        |
| 99  | Nanoscale control of low-dimensional spin structures in manganites. Chinese Physics B, 2016, 25, 067504.   | 0.7 | 2         |
| 100 | Noise fluctuations and drive dependence of the skyrmion Hall effect in disordered systems. New Journal of Physics, 2016, 18, 095005.             | 1.2 | 98        |
| 101 | Skyrmion Creation and Manipulation by Nano-Second Current Pulses. Scientific Reports, 2016, 6, 22638.  | 1.6 | 70        |
| 102 | Magnetic Skyrmion Transport in a Nanotrack With Spatially Varying Damping and Non-adiabatic Torque. IEEE Transactions on Magnetics, 2016, , 1-1. | 1.2 | 7         |
| 103 | Dynamics of antiferromagnetic skyrmion driven by the spin Hall effect. Applied Physics Letters, 2016, 109, .                                     | 1.5 | 111       |
| 104 | Current-controlled unidirectional edge-meron motion. Journal of Applied Physics, 2016, 120, .  | 1.1 | 10        |
| 105 | Skyrmion-number dependence of spin-transfer torque on magnetic bubbles. Journal of Applied Physics, 2016, 120, .                                 | 1.1 | 15        |
| 106 | Creation of Skyrmions by Electric Field on Chiral Lattice Magnetic Insulators. Advanced Electronic Materials, 2016, 2, 1500180.                  | 2.6 | 17        |
| 107 | Skyrmions and Hall Transport. Physical Review Letters, 2016, 117, 116805.  | 2.9 | 10        |
| 108 | Shape-dependence of the barrier for skyrmions on a two-lane racetrack. , 2016, , .   |     | 1         |

| #   | ARTICLE   | IF   | CITATIONS |
|-----|---|------|-----------|
| 109 | Emergent geometric frustration of artificial magnetic skyrmion crystals. <i>Physical Review B</i> , 2016, 94, .   | 1.1  | 29        |
| 110 | Skyrmions with Attractive Interactions in an Ultrathin Magnetic Film. <i>Physical Review Letters</i> , 2016, 117, 157205.   | 2.9  | 80        |
| 111 | Magnetic skyrmions: from fundamental to applications. <i>Journal Physics D: Applied Physics</i> , 2016, 49, 423001.   | 1.3  | 318       |
| 112 | Skyrmions in square-lattice antiferromagnets. <i>Physical Review B</i> , 2016, 94, .  | 1.1  | 40        |
| 113 | Thermally stable magnetic skyrmions in multilayer synthetic antiferromagnetic racetracks. <i>Physical Review B</i> , 2016, 94, .  | 1.1  | 70        |
| 114 | Skyrmion domain wall collision and domain wall-gated skyrmion logic. <i>Physical Review B</i> , 2016, 94, .   | 1.1  | 63        |
| 115 | Theory of magnon motive force in chiral ferromagnets. <i>Physical Review B</i> , 2016, 94, .  | 1.1  | 5         |
| 116 | Magnetic Radial Vortex Stabilization and Efficient Manipulation Driven by the Dzyaloshinskii-Moriya Interaction and Spin-Transfer Torque. <i>Physical Review Letters</i> , 2016, 117, 087204. | 2.9  | 71        |
| 117 | Magnus-induced dynamics of driven skyrmions on a quasi-one-dimensional periodic substrate. <i>Physical Review B</i> , 2016, 94, .   | 1.1  | 28        |
| 118 | Skyrmion-Electronics: An Overview and Outlook. <i>Proceedings of the IEEE</i> , 2016, 104, 2040-2061.   | 16.4 | 289       |
| 119 | Control and manipulation of a magnetic skyrmionium in nanostructures. <i>Physical Review B</i> , 2016, 94, .  | 1.1  | 137       |
| 120 | Skyrmionic magnetization configurations at chiral magnet/ferromagnet heterostructures. <i>Physical Review B</i> , 2016, 93, .   | 1.1  | 9         |
| 121 | Stability of skyrmion lattices and symmetries of quasi-two-dimensional chiral magnets. <i>Physical Review B</i> , 2016, 93, .   | 1.1  | 65        |
| 122 | Density functional theory study of skyrmion pinning by atomic defects in MnSi. <i>Physical Review B</i> , 2016, 93, .   | 1.1  | 18        |
| 123 | Static and Dynamical Properties of Antiferromagnetic Skyrmions in the Presence of Applied Current and Temperature. <i>Physical Review Letters</i> , 2016, 116, 147203.                        | 2.9  | 464       |
| 124 | Dynamics of Dirac strings and monopolelike excitations in chiral magnets under a current drive. <i>Physical Review B</i> , 2016, 93, .  | 1.1  | 20        |
| 125 | Single-Phase Type-II Multiferroics. <i>Series in Materials Science and Engineering</i> , 2016, , 99-137.  | 0.1  | 0         |
| 126 | Phenomenology of current-induced skyrmion motion in antiferromagnets. <i>New Journal of Physics</i> , 2016, 18, 075016.   | 1.2  | 74        |



| #   | ARTICLE   | IF   | CITATIONS |
|-----|---|------|-----------|
| 127 | Analytical trajectories of skyrmions in confined geometries: Skyrmionic racetracks and nano-oscillators. <i>Physical Review B</i> , 2016, 94, .   | 1.1  | 47        |
| 128 | Engineering skyrmions in transition-metal multilayers for spintronics. <i>Nature Communications</i> , 2016, 7, 11779.   | 5.8  | 109       |
| 129 | Control of Hall angle of Skyrmion driven by electric current. <i>Chinese Physics B</i> , 2016, 25, 067203.  | 0.7  | 8         |
| 130 | Positron spectroscopy of point defects in the skyrmion-lattice compound MnSi. <i>Scientific Reports</i> , 2016, 6, 29109.   | 1.6  | 23        |
| 131 | Pinning and movement of individual nanoscale magnetic skyrmions via defects. <i>New Journal of Physics</i> , 2016, 18, 055009.  | 1.2  | 94        |
| 132 | Complementary Skyrmion Racetrack Memory With Voltage Manipulation. <i>IEEE Electron Device Letters</i> , 2016, 37, 924-927.   | 2.2  | 70        |
| 133 | Magnetic bilayer-skyrmions without skyrmion Hall effect. <i>Nature Communications</i> , 2016, 7, 10293.   | 5.8  | 384       |
| 134 | Skyrmions and Electric Currents in Metallic Materials. <i>SpringerBriefs in Physics</i> , 2016, , 33-56.  | 0.2  | 0         |
| 135 | Effect of anisotropic Dzyaloshinskiiâ€“Moriya interactions on phase diagrams of the Ashkinâ€“Teller model. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016, 455, 92-97. | 1.2  | 1         |
| 136 | Generic Aspects of Skyrmion Lattices in Chiral Magnets. <i>Springer Series in Materials Science</i> , 2016, , 1-28.   | 0.4  | 47        |
| 137 | Theory of antiskyrmions in magnets. <i>Nature Communications</i> , 2016, 7, 10542.  | 5.8  | 130       |
| 138 | Ginzburg-Landau theory for skyrmions in inversion-symmetric magnets with competing interactions. <i>Physical Review B</i> , 2016, 93, .   | 1.1  | 198       |
| 139 | Observation of room-temperature magnetic skyrmions and their current-driven dynamics in ultrathin metallic ferromagnets. <i>Nature Materials</i> , 2016, 15, 501-506.                       | 13.3 | 1,331     |
| 140 | Topological Skyrmion Dynamics in Chiral Magnets. <i>Springer Series in Materials Science</i> , 2016, , 29-53.   | 0.4  | 5         |
| 141 | Current-Driven Dynamics of Skyrmions. <i>Springer Series in Materials Science</i> , 2016, , 55-81.  | 0.4  | 1         |
| 142 | Stability of topological charge of magnetic skyrmion configurations. <i>Journal of Magnetism and Magnetic Materials</i> , 2016, 399, 155-158.   | 1.0  | 6         |
| 143 | Effect of Dzyaloshinskiiâ€“Moriya interaction on phase diagrams of spin-1 Heisenbergâ€“Ising alternating chains. <i>Journal of Magnetism and Magnetic Materials</i> , 2016, 401, 796-801.   | 1.0  | 3         |
| 144 | Magnetic skyrmion-based synaptic devices. <i>Nanotechnology</i> , 2017, 28, 08LT02.   | 1.3  | 223       |

| #   | ARTICLE  | IF   | CITATIONS |
|-----|--|------|-----------|
| 145 | Skyrmion oscillations in magnetic nanorods with chiral interactions. <i>Physical Review B</i> , 2017, 95, .  | 1.1  | 24        |
| 146 | Magnetic Skyrmion Formation at Lattice Defects and Grain Boundaries Studied by Quantitative Off-Axis Electron Holography. <i>Nano Letters</i> , 2017, 17, 1395-1401. | 4.5  | 33        |
| 147 | Theory of skyrmions in bilayer systems. <i>Scientific Reports</i> , 2017, 7, 42645.  | 1.6  | 43        |
| 148 | Steady motion of skyrmions and domains walls under diffusive spin torques. <i>Physical Review B</i> , 2017, 95, .  | 1.1  | 5         |
| 149 | Compact Modeling and Evaluation of Magnetic Skyrmion-Based Racetrack Memory. <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 1060-1068.                     | 1.6  | 26        |
| 150 | Magnetic skyrmions on a two-lane racetrack. <i>New Journal of Physics</i> , 2017, 19, 025002.  | 1.2  | 128       |
| 151 | Reversible vector ratchets for skyrmion systems. <i>Physical Review B</i> , 2017, 95, .  | 1.1  | 32        |
| 152 | Effects of second neighbor interactions on skyrmion lattices in chiral magnets. <i>Journal of Physics Condensed Matter</i> , 2017, 29, 205801.                       | 0.7  | 7         |
| 153 | Current-driven skyrmion motion along disordered magnetic tracks. <i>AIP Advances</i> , 2017, 7, 056017.  | 0.6  | 12        |
| 154 | Edge states and skyrmion dynamics in nanostripes of frustrated magnets. <i>Nature Communications</i> , 2017, 8, 14394.   | 5.8  | 83        |
| 155 | Examination of the stability of skyrmion structures in perpendicularly-magnetized Co/Ni films. <i>Japanese Journal of Applied Physics</i> , 2017, 56, 050309.        | 0.8  | 2         |
| 156 | Advanced Electron Holography Applied to Electromagnetic Field Study in Materials Science. <i>Advanced Materials</i> , 2017, 29, 1602216.                             | 11.1 | 9         |
| 157 | Motion of Skyrmions in Well-Separated Two-Lane Racetracks. <i>Spin</i> , 2017, 07, 1740006.  | 0.6  | 11        |
| 158 | Magnetic skyrmions: advances in physics and potential applications. <i>Nature Reviews Materials</i> , 2017, 2, .   | 23.3 | 1,456     |
| 159 | Formation and stability of metastable skyrmionic spin structures with various topologies in an ultrathin film. <i>Physical Review B</i> , 2017, 95, .                | 1.1  | 61        |
| 161 | Coupled gyration modes in one-dimensional skyrmion arrays in thin-film nanostrips as new type of information carrier. <i>Scientific Reports</i> , 2017, 7, 45185.    | 1.6  | 30        |
| 162 | An Improved Racetrack Structure for Transporting a Skyrmion. <i>Scientific Reports</i> , 2017, 7, 45330.   | 1.6  | 92        |
| 163 | Room-Temperature Current-Induced Generation and Motion of sub-100 nm Skyrmions. <i>Nano Letters</i> , 2017, 17, 2703-2712.   | 4.5  | 291       |

| #   | ARTICLE   | IF   | CITATIONS |
|-----|---|------|-----------|
| 164 | Intrinsic nonadiabatic topological torque in magnetic skyrmions and vortices. <i>Physical Review B</i> , 2017, 95, .  | 1.1  | 16        |
| 165 | Manipulation of magnetic skyrmions with a scanning tunneling microscope. <i>Physical Review B</i> , 2017, 95, .   | 1.1  | 5         |
| 166 | Noncentrosymmetric Magnets Hosting Magnetic Skyrmions. <i>Advanced Materials</i> , 2017, 29, 1603227.   | 11.1 | 158       |
| 167 | Dynamic phases of active matter systems with quenched disorder. <i>Physical Review E</i> , 2017, 95, 032606.  | 0.8  | 61        |
| 168 | Depinning and nonequilibrium dynamic phases of particle assemblies driven over random and ordered substrates: a review. <i>Reports on Progress in Physics</i> , 2017, 80, 026501.       | 8.1  | 197       |
| 169 | Skyrmion Sensor-Based Low-Power Global Interconnects. <i>IEEE Transactions on Magnetics</i> , 2017, 53, 1-6.  | 1.2  | 5         |
| 170 | Light-Induced Anisotropic Skyrmion and Stripe Phases in a Rashba Ferromagnet. <i>Physical Review Letters</i> , 2017, 119, 147202.   | 2.9  | 19        |
| 171 | Stabilization and current-induced motion of antiskyrmion in the presence of anisotropic Dzyaloshinskii-Moriya interaction. <i>Physical Review B</i> , 2017, 96, .                       | 1.1  | 91        |
| 172 | Magnetic Skyrmions and Skyrmion Clusters in the Helical Phase of $\text{Cu}_2\text{MnSi}$ . <i>Physical Review Letters</i> , 2017, 119, 137201.   | 2.9  | 46        |
| 173 | Skyrmions and multisublattice helical states in a frustrated chiral magnet. <i>Physical Review B</i> , 2017, 96, .  | 1.1  | 30        |
| 174 | Skyrmion production on demand by homogeneous DC currents. <i>New Journal of Physics</i> , 2017, 19, 092001.   | 1.2  | 69        |
| 175 | Controlled creation of nanometric skyrmions using external magnetic fields. <i>Applied Physics Letters</i> , 2017, 111, .   | 1.5  | 25        |
| 176 | Chiral magnetic excitations in FeGe films. <i>Physical Review B</i> , 2017, 95, .   | 1.1  | 23        |
| 177 | Dzyaloshinskii-Moriya interaction at an antiferromagnetic interface: First-principles study of Fe/Ir bilayers on Rh(001). <i>Physical Review B</i> , 2017, 96, .                        | 1.1  | 29        |
| 178 | Skyrmions in magnetic multilayers. <i>Physics Reports</i> , 2017, 704, 1-49.  | 10.3 | 412       |
| 179 | Helical and skyrmion lattice phases in three-dimensional chiral magnets: Effect of anisotropic interactions. <i>Scientific Reports</i> , 2017, 7, 7392.                                 | 1.6  | 16        |
| 180 | Stability of Neel skyrmions in ultra-thin nanodots considering Dzyaloshinskii-Moriya and dipolar interactions. <i>Journal of Magnetism and Magnetic Materials</i> , 2017, 443, 116-123. | 1.0  | 29        |
| 181 | Current-driven skyrmion expulsion from magnetic nanostrips. <i>Physical Review B</i> , 2017, 95, .  | 1.1  | 29        |

| #   | ARTICLE  | IF   | CITATIONS |
|-----|--|------|-----------|
| 182 | Generation of high-density biskyrmions by electric current. Npj Quantum Materials, 2017, 2, .  | 1.8  | 30        |
| 183 | Shapiro spikes and negative mobility for skyrmion motion on quasi-one-dimensional periodic substrates. Physical Review B, 2017, 95, .                                    | 1.1  | 12        |
| 184 | Field-driven oscillation and rotation of a multiskyrmion cluster in a nanodisk. Physical Review B, 2017, 95, .   | 1.1  | 16        |
| 185 | Fluctuations and noise signatures of driven magnetic skyrmions. Physical Review B, 2017, 96, .   | 1.1  | 46        |
| 186 | Micromagnetic investigations of Néel- and Bloch-type skyrmion dynamics induced by spin Hall effect of cap layers. Japanese Journal of Applied Physics, 2017, 56, 098001. | 0.8  | 5         |
| 187 | Topological trajectories of a magnetic skyrmion with an in-plane microwave magnetic field. Journal of Applied Physics, 2017, 122, .                                      | 1.1  | 11        |
| 188 | Pinning of magnetic skyrmions in a monolayer Co film on Pt(111): Theoretical characterization and exemplified utilization. Physical Review B, 2017, 96, .                | 1.1  | 57        |
| 189 | Quantum Dynamics of Skyrmions in Chiral Magnets. Physical Review X, 2017, 7, .   | 2.8  | 40        |
| 190 | Paths to collapse for isolated skyrmions in few-monolayer ferromagnetic films. Physical Review B, 2017, 95, .  | 1.1  | 52        |
| 191 | Dynamics and inertia of a skyrmion in chiral magnets and interfaces: A linear response approach based on magnon excitations. Physical Review B, 2017, 96, .              | 1.1  | 16        |
| 192 | Skyrmion–Anti-Skyrmion Pair Creation by in-Plane Currents. Physical Review Letters, 2017, 118, 267203.   | 2.9  | 50        |
| 193 | Interface-induced phenomena in magnetism. Reviews of Modern Physics, 2017, 89, .   | 16.4 | 672       |
| 194 | Mass of a skyrmion under a driving current. Journal of Magnetism and Magnetic Materials, 2017, 424, 291-297.   | 1.0  | 7         |
| 195 | Spin-Orbitronics at Transition Metal Interfaces. Solid State Physics, 2017, 68, 1-89.  | 1.3  | 28        |
| 196 | Unified theory of magnetoelastic effects in B20 chiral magnets. New Journal of Physics, 2017, 19, 123002.  | 1.2  | 25        |
| 198 | Effective description of domain wall strings. Physical Review B, 2018, 97, .   | 1.1  | 16        |
| 199 | Nonuniform gyrotropic oscillation of skyrmion in a nanodisk. AIP Advances, 2018, 8, .  | 0.6  | 5         |
| 200 | Dynamics of a magnetic skyrmionium driven by spin waves. Applied Physics Letters, 2018, 112, .   | 1.5  | 43        |

| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 201 | Magnetic Field Control of Cycloidal Domains and Electric Polarization in Multiferroic $\text{BiFeO}_3$ . Physical Review Letters, 2018, 120, 147203.                       | 2.9 | 15        |
| 202 | The spin structures of interlayer coupled magnetic films with opposite chirality. Scientific Reports, 2018, 8, 2361.   | 1.6 | 7         |
| 203 | Stabilization of magnetic skyrmions by RKKY interactions. Physical Review B, 2018, 97, .   | 1.1 | 19        |
| 204 | Magnetic Skyrmion as a Nonlinear Resistive Element: A Potential Building Block for Reservoir Computing. Physical Review Applied, 2018, 9, .                                | 1.5 | 191       |
| 205 | Dzyaloshinskii-Moriya interaction induced extrinsic linewidth broadening of ferromagnetic resonance. Physical Review B, 2018, 97, .  | 1.1 | 2         |
| 206 | Current-Driven Motion of Domain Boundaries between Skyrmion Lattice and Helical Magnetic Structure. Nano Letters, 2018, 18, 929-933.                                       | 4.5 | 15        |
| 207 | Stable Magnetic Skyrmion States at Room Temperature Confined to Corrals of Artificial Surface Pits Fabricated by a Focused Electron Beam. Nano Letters, 2018, 18, 754-762. | 4.5 | 34        |
| 208 | Controllable transport of a skyrmion in a ferromagnetic narrow channel with voltage-controlled magnetic anisotropy. Journal Physics D: Applied Physics, 2018, 51, 205002.  | 1.3 | 17        |
| 209 | Stabilization and control of Majorana bound states with elongated skyrmions. Physical Review B, 2018, 97, .  | 1.1 | 31        |
| 210 | Avalanches and Criticality in Driven Magnetic Skyrmions. Physical Review Letters, 2018, 120, 117203.   | 2.9 | 22        |
| 211 | Magnetic skyrmion bubble motion driven by surface acoustic waves. Applied Physics Letters, 2018, 112, .  | 1.5 | 36        |
| 212 | Creation, transport and detection of imprinted magnetic solitons stabilized by spin-polarized current. Journal of Magnetism and Magnetic Materials, 2018, 455, 25-31.      | 1.0 | 19        |
| 213 | Spin-orbit-torque-induced skyrmion dynamics for different types of spin-orbit coupling. Journal of Magnetism and Magnetic Materials, 2018, 455, 14-18.                     | 1.0 | 11        |
| 214 | Skyrmions and Hall viscosity. AIP Advances, 2018, 8, 055601.   | 0.6 | 1         |
| 215 | Skyrmionium "high velocity without the skyrmion Hall effect. Scientific Reports, 2018, 8, 16966.   | 1.6 | 75        |
| 216 | Nonequilibrium Quantum Dynamics of Current-Driven Magnetic Domain Walls and Skyrmions. Nanoscience and Technology, 2018, , 325-342.  | 1.5 | 0         |
| 217 | Perspective: Magnetic skyrmions "Overview of recent progress in an active research field. Journal of Applied Physics, 2018, 124, .   | 1.1 | 387       |
| 218 | Modeling the Shape of Axisymmetric Skyrmions in Magnetic Multilayers. Physical Review Applied, 2018, 10, .   | 1.5 | 31        |

| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 219 | Magnetic excitations of skyrmions in antiferromagnetic-exchange coupled disks. Journal of Applied Physics, 2018, 124, .   | 1.1 | 9         |
| 220 | Spin-orbit torque induced dipole skyrmion motion at room temperature. Physical Review B, 2018, 98, .  | 1.1 | 29        |
| 221 | Magnetic Skyrmions in Thin Films. Springer Series in Solid-state Sciences, 2018, , 117-150.   | 0.3 | 1         |
| 222 | Skyrmion Lattices Far from Equilibrium. Springer Series in Solid-state Sciences, 2018, , 151-176.   | 0.3 | 1         |
| 223 | Nonequilibrium phases and segregation for skyrmions on periodic pinning arrays. Physical Review B, 2018, 98, .  | 1.1 | 32        |
| 224 | Universality of defect-skyrmion interaction profiles. Nature Communications, 2018, 9, 4395.   | 5.8 | 53        |
| 225 | High-resolution combined tunneling electron charge and spin transport theory of Néel and Bloch skyrmions. Physical Review B, 2018, 98, .                        | 1.1 | 5         |
| 226 | Complementary Skyrmion Racetrack Memory Enables Voltage-Controlled Local Data Update Functionality. IEEE Transactions on Electron Devices, 2018, 65, 4667-4673. | 1.6 | 7         |
| 227 | The Story So Far. Springer Theses, 2018, , 1-30.  | 0.0 | 0         |
| 228 | Theory of the Topological Spin Hall Effect in Antiferromagnetic Skyrmions: Impact on Current-Induced Motion. Physical Review Letters, 2018, 121, 097204.        | 2.9 | 60        |
| 229 | Manipulation of skyrmion motion by magnetic field gradients. Nature Communications, 2018, 9, 2115.  | 5.8 | 92        |
| 230 | Clogging and depinning of ballistic active matter systems in disordered media. Physical Review E, 2018, 97, 052613.   | 0.8 | 35        |
| 231 | Controlled creation and stability of skyrmions on a discrete lattice. Physical Review B, 2018, 97, .  | 1.1 | 34        |
| 232 | Dynamics of distorted skyrmions in strained chiral magnets. New Journal of Physics, 2018, 20, 063050.   | 1.2 | 10        |
| 233 | Asymmetric skyrmion Hall effect in systems with a hybrid Dzyaloshinskii-Moriya interaction. Physical Review B, 2018, 97, .                                      | 1.1 | 55        |
| 234 | A theory on skyrmion size. Communications Physics, 2018, 1, .   | 2.0 | 219       |
| 235 | Theory of current-induced skyrmion dynamics close to a boundary. Journal of Magnetism and Magnetic Materials, 2018, 465, 685-691.                               | 1.0 | 25        |
| 236 | Magnetic Skyrmion as a Spintronic Deep Learning Spiking Neuron Processor. IEEE Transactions on Magnetics, 2018, 54, 1-7.  | 1.2 | 38        |

| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 237 | Interaction of isolated skyrmions with point and linear defects. <i>Journal of Magnetism and Magnetic Materials</i> , 2018, 465, 709-715.                           | 1.0 | 16        |
| 238 | Photonic orbital angular momentum transfer and magnetic skyrmion rotation. <i>Optics Express</i> , 2018, 26, 8778.  | 1.7 | 39        |
| 239 | Spin torques and magnetic texture dynamics driven by the supercurrent in superconductor/ferromagnet structures. <i>Physical Review B</i> , 2018, 98, .              | 1.1 | 29        |
| 240 | Magnetic field gradient driven dynamics of isolated skyrmions and antiskyrmions in frustrated magnets. <i>New Journal of Physics</i> , 2018, 20, 053037.            | 1.2 | 37        |
| 241 | Theory of current-driven skyrmions in disordered magnets. <i>Scientific Reports</i> , 2018, 8, 6328.  | 1.6 | 33        |
| 242 | Emerging Neuromorphic Computing Paradigms Exploring Magnetic Skyrmions. , 2018, , .   |     | 11        |
| 243 | Current-induced dynamics of skyrmion strings. <i>Science Advances</i> , 2018, 4, eaat1115.  | 4.7 | 49        |
| 244 | Asymmetric and Symmetric Exchange in a Generalized 2D Rashba Ferromagnet. <i>Physical Review Letters</i> , 2018, 121, 086802.                                       | 2.9 | 32        |
| 245 | Selective activation of an isolated magnetic skyrmion in a ferromagnet with microwave electric fields. <i>Applied Physics Letters</i> , 2018, 113, 072404.          | 1.5 | 12        |
| 246 | Skyrmion Gas Manipulation for Probabilistic Computing. <i>Physical Review Applied</i> , 2018, 9, .  | 1.5 | 148       |
| 247 | Skyrmions Driven by Intrinsic Magnons. <i>Physical Review Letters</i> , 2018, 120, 237203.  | 2.9 | 48        |
| 248 | Reversible to irreversible transitions in periodically driven skyrmion systems. <i>New Journal of Physics</i> , 2019, 21, 013001.                                   | 1.2 | 17        |
| 249 | Current-Induced Dynamics of Skyrmion Strings Investigated by Nonreciprocal Hall Effect. <i>Springer Theses</i> , 2019, , 55-69.                                     | 0.0 | 1         |
| 250 | Trochoidal antiskyrmion motion with microwave electric fields. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 435001.  | 1.3 | 6         |
| 251 | Tunable magnetic skyrmions in spintronic nanostructures for cellular-level magnetic neurostimulation. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 465002. | 1.3 | 8         |
| 252 | Manipulating movement of skyrmion by strain gradient in a nanotrack. <i>Journal of Magnetism and Magnetic Materials</i> , 2019, 492, 165659.                        | 1.0 | 9         |
| 253 | Skyrmions and Hall transport. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 383001.  | 0.7 | 15        |
| 254 | Skyrmion relaxation dynamics in the presence of quenched disorder. <i>Physical Review B</i> , 2019, 100, .  | 1.1 | 21        |

| #   | ARTICLE  | IF   | CITATIONS |
|-----|--|------|-----------|
| 255 | Orientation-dependent current-induced motion of skyrmions with various topologies. <i>Physical Review B</i> , 2019, 99, .  | 1.1  | 16        |
| 256 | Direct current-tunable MHz to multi-GHz skyrmion generation and control. <i>Scientific Reports</i> , 2019, 9, 9496.  | 1.6  | 7         |
| 257 | Coherent charge and magnetic ordering in Ho/Y superlattice revealed by element-selective x-ray scattering. <i>Physical Review B</i> , 2019, 100, .                                 | 1.1  | 1         |
| 258 | The stability of a skyrmion in a nanotube. <i>New Journal of Physics</i> , 2019, 21, 093024.   | 1.2  | 16        |
| 259 | Atomistic simulations of spin-lattice coupling effects on magnetomechanics in skyrmion materials. <i>Physical Review B</i> , 2019, 100, .  | 1.1  | 6         |
| 260 | Electric-field control of collective spin excitations in Néel-type skyrmions. <i>Applied Physics Express</i> , 2019, 12, 093003.   | 1.1  | 3         |
| 261 | Current-induced nucleation, manipulation, and reversible switching of antiskyrmioniums. <i>Applied Physics Letters</i> , 2019, 115, .  | 1.5  | 7         |
| 262 | Tuning Resonance Frequency of Spin Wave Localized in an Isolated Skyrmion by Magnetoelectric Couplings. <i>Spin</i> , 2019, 09, 1950009.   | 0.6  | 1         |
| 263 | Analytical modeling of the interaction between skyrmions and extended defects. <i>Physical Review B</i> , 2019, 100, .   | 1.1  | 16        |
| 264 | Electrical tuning of skyrmion dynamics in multiferroic composite thin films. <i>Physical Review B</i> , 2019, 100, .   | 1.1  | 6         |
| 265 | Slow steady flow of a skyrmion lattice in a confined geometry probed by narrow-band resistance noise. <i>Physical Review B</i> , 2019, 100, .                                      | 1.1  | 16        |
| 266 | Collective transport properties of skyrmions on the depinning phase transition. <i>Physical Review B</i> , 2019, 100, .  | 1.1  | 15        |
| 267 | Current-induced spin-orbit torques in ferromagnetic and antiferromagnetic systems. <i>Reviews of Modern Physics</i> , 2019, 91, .  | 16.4 | 899       |
| 268 | Ultrafast spin dynamics and spintronics for ferrimagnets close to the spin compensation point (Review). <i>Low Temperature Physics</i> , 2019, 45, 935-963.                        | 0.2  | 44        |
| 269 | Current-Driven Skyrmion Dynamics and Drive-Dependent Skyrmion Hall Effect in an Ultrathin Film. <i>Physical Review Applied</i> , 2019, 12, .                                       | 1.5  | 111       |
| 270 | Wiggling skyrmion propagation under parametric pumping. <i>Physical Review B</i> , 2019, 99, .   | 1.1  | 28        |
| 271 | Stochastic dynamics and pattern formation of geometrically confined skyrmions. <i>Communications Physics</i> , 2019, 2, .  | 2.0  | 24        |
| 272 | Effect of Dzyaloshinskii-Moriya Interaction Energy Confinement on Current-Driven Dynamics of Skyrmions. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019, 13, 1900090. | 1.2  | 11        |



| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 273 | Driven gyrotropic skyrmion motion through steps in magnetic anisotropy. Scientific Reports, 2019, 9, 6525.   | 1.6 | 18        |
| 274 | Steering Magnetic Skyrmions with Currents: A Nonequilibrium Green's Functions Approach. Physica Status Solidi (B): Basic Research, 2019, 256, 1800590.   | 0.7 | 14        |
| 275 | Bilayer skyrmion dynamics on a magnetic anisotropy gradient. New Journal of Physics, 2019, 21, 043006.   | 1.2 | 28        |
| 276 | A sum rule of uniaxial anisotropy and external magnetic field for formation of Néel-type skyrmion lattices in two-dimensional ferromagnets. Journal of Physics Condensed Matter, 2019, 31, 215302. | 0.7 | 1         |
| 277 | Skyrmions in anisotropic magnetic fields: strain and defect driven dynamics. MRS Advances, 2019, 4, 643-650.   | 0.5 | 3         |
| 278 | Current-induced skyrmion motion on magnetic nanotubes. Journal Physics D: Applied Physics, 2019, 52, 225001.   | 1.3 | 27        |
| 279 | Deflection of ferromagnetic and antiferromagnetic skyrmions at heterochiral interfaces. Physical Review B, 2019, 99, .   | 1.1 | 25        |
| 280 | Antiferromagnetic skyrmions overcoming obstacles in a racetrack. Journal of Physics Condensed Matter, 2019, 31, 225802.  | 0.7 | 12        |
| 281 | Current-Driven Skyrmion Dynamics Along Curved Tracks. IEEE Transactions on Magnetics, 2019, 55, 1-8.   | 1.2 | 3         |
| 282 | Nonlinear transport, dynamic ordering, and clustering for driven skyrmions on random pinning. Physical Review B, 2019, 99, .   | 1.1 | 18        |
| 283 | Shape of a skyrmion. Journal of Physics Condensed Matter, 2019, 31, 165802.  | 0.7 | 2         |
| 284 | Current-driven skyrmion depinning in magnetic granular films. Physical Review B, 2019, 99, .   | 1.1 | 26        |
| 285 | Element-specific soft x-ray spectroscopy, scattering, and imaging studies of the skyrmion-hosting compound $\text{Co}_8\text{Mn}_{11}\text{Sb}_{20}$ . Physical Review B, 2019, 99, .              | 1.1 | 29        |
| 286 | Current-Induced Nucleation and Dynamics of Skyrmions in a $\text{Co}$ -based Heusler Alloy. Physical Review Applied, 2019, 11, .   | 1.5 | 26        |
| 287 | Two-dimensional skyrmion bags in liquid crystals and ferromagnets. Nature Physics, 2019, 15, 655-659.  | 6.5 | 140       |
| 288 | Dynamics of skyrmion in disordered chiral magnet of thin film form. Scientific Reports, 2019, 9, 5111.   | 1.6 | 8         |
| 289 | Thermally assisted skyrmion drag in a nonuniform electric field. Physical Review B, 2019, 99, .  | 1.1 | 12        |
| 290 | Solid-liquid transition of skyrmions in a two-dimensional chiral magnet. Physical Review B, 2019, 99, .  | 1.1 | 22        |

| #   | ARTICLE  | IF   | CITATIONS |
|-----|--|------|-----------|
| 291 | Realization of skyrmion subtracter and diverter in a voltage-gated synthetic antiferromagnetic racetrack. <i>Journal of Applied Physics</i> , 2019, 125, .   | 1.1  | 5         |
| 292 | Design and Optimization of Skyrmion-Based Racetrack Memory by Overcoming Clogging and Annihilation of Skyrmion Signals. <i>Spin</i> , 2019, 09, 1950019.   | 0.6  | 1         |
| 293 | Chiral edge currents for ac-driven skyrmions in confined pinning geometries. <i>Physical Review B</i> , 2019, 100, .   | 1.1  | 5         |
| 294 | Existence of in-Plane Magnetic Skyrmion and its Motion under Current Flow. <i>Physical Review Applied</i> , 2019, 12, .  | 1.5  | 35        |
| 295 | Magnetic tunnel junctions: An efficient way for electrical skyrmion detection investigated by <i>ab initio</i> theory. <i>Physical Review B</i> , 2019, 100, .   | 1.1  | 5         |
| 296 | Manipulating the Topology of Nanoscale Skyrmion Bubbles by Spatially Geometric Confinement. <i>ACS Nano</i> , 2019, 13, 922-929.   | 7.3  | 43        |
| 297 | Disordering, clustering, and laning transitions in particle systems with dispersion in the Magnus term. <i>Physical Review E</i> , 2019, 99, 012606.   | 0.8  | 7         |
| 298 | Coupling of the skyrmion velocity to its breathing mode in periodically notched nanotracks. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 024003.  | 1.3  | 16        |
| 299 | Thermal creep and the skyrmion Hall angle in driven skyrmion crystals. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 07LT01.  | 0.7  | 36        |
| 300 | Dynamics of antiskyrmions induced by the voltage-controlled magnetic anisotropy gradient. <i>Journal of Magnetism and Magnetic Materials</i> , 2020, 496, 165922.  | 1.0  | 14        |
| 301 | Skyrmion-electronics: writing, deleting, reading and processing magnetic skyrmions toward spintronic applications. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 143001.                            | 0.7  | 268       |
| 302 | Skyrmions on 2D elastic surfaces with fixed boundary frame. <i>Journal of Magnetism and Magnetic Materials</i> , 2020, 498, 166095.  | 1.0  | 6         |
| 303 | Measurement of skyrmion mass by using simple harmonic oscillation. <i>Journal of Magnetism and Magnetic Materials</i> , 2020, 500, 166382.   | 1.0  | 7         |
| 304 | A ferromagnetic skyrmion-based nano-oscillator with modified profile of Dzyaloshinskii-Moriya interaction. <i>Journal of Magnetism and Magnetic Materials</i> , 2020, 496, 165912.                           | 1.0  | 27        |
| 305 | Current-Induced Helicity Reversal of a Single Skyrmionic Bubble Chain in a Nanostructured Frustrated Magnet. <i>Advanced Materials</i> , 2020, 32, e1904815.   | 11.1 | 47        |
| 306 | Dynamical magnetoelectric phenomena of skyrmions in multiferroics. <i>ChemistrySelect</i> , 2020, 5, .   | 0.7  | 0         |
| 307 | Role of higher-order exchange interactions for skyrmion stability. <i>Nature Communications</i> , 2020, 11, 4756.  | 5.8  | 59        |
| 308 | Topological quantization of the classical stochastic transport of a magnetic skyrmion driven by a ratchetlike spin-polarized electric current at finite temperature. <i>Physical Review B</i> , 2020, 102, . | 1.1  | 1         |

| #   | ARTICLE   | IF   | CITATIONS |
|-----|---|------|-----------|
| 309 | Late stages in the ordering of magnetic skyrmion lattices. Physical Review B, 2020, 102, .  | 1.1  | 4         |
| 310 | Stability of skyrmion formation and its abnormal dynamic modes in magnetic nanotubes. Physical Review B, 2020, 102, .   | 1.1  | 10        |
| 311 | Emergent electromagnetic induction in a helical-spin magnet. Nature, 2020, 586, 232-236.  | 13.7 | 60        |
| 312 | Direct observation of electric and magnetic fields of functional materials. Materials Science and Engineering Reports, 2020, 142, 100564.   | 14.8 | 14        |
| 313 | Quantum fluctuations in ferromagnetic and antiferromagnetic spinâ€”spiral structures. Annals of Physics, 2020, 419, 168241.   | 1.0  | 0         |
| 314 | Electric-field-driven non-volatile multi-state switching of individual skyrmions in a multiferroic heterostructure. Nature Communications, 2020, 11, 3577.                          | 5.8  | 117       |
| 315 | Skyrmion spin transfer torque due to current confined in a nanowire. Physical Review B, 2020, 102, .  | 1.1  | 4         |
| 316 | Stabilization of Magnetic Skyrmions on Arrays of Self-Assembled Hexagonal Nanodomes for Magnetic Recording Applications. ACS Applied Materials & Interfaces, 2020, 12, 53454-53461. | 4.0  | 27        |
| 317 | Emergent Topological Hall Effect at a Chargeâ€”Transfer Interface. Small, 2020, 16, e2004683.   | 5.2  | 14        |
| 318 | Dynamics of antiferromagnetic skyrmions in the absence or presence of pinning defects. Physical Review B, 2020, 102, .  | 1.1  | 18        |
| 319 | Combing the helical phase of chiral magnets with electric currents. Physical Review B, 2020, 102, .   | 1.1  | 14        |
| 320 | Sub-nanoscale atom-by-atom crafting of skyrmion-defect interaction profiles. Scientific Reports, 2020, 10, 14655.   | 1.6  | 16        |
| 321 | Accurate manipulation of single skyrmion by probe ring. Journal of Applied Physics, 2020, 128, .  | 1.1  | 3         |
| 322 | Jamming, fragility and pinning phenomena in superconducting vortex systems. Scientific Reports, 2020, 10, 11625.  | 1.6  | 3         |
| 323 | Magnetic skyrmions in cylindrical ferromagnetic nanostructures with chiral interactions. Physical Review B, 2020, 102, .  | 1.1  | 16        |
| 324 | Topological energy barrier for skyrmion lattice formation in MnSi. Physical Review B, 2020, 102, .  | 1.1  | 4         |
| 325 | Shapiro steps and nonlinear skyrmion Hall angles for dc and ac driven skyrmions on a two-dimensional periodic substrate. Physical Review B, 2020, 102, .                            | 1.1  | 10        |
| 326 | Evolution and competition between chiral spin textures in nanostripes with $D < 2d >$ symmetry. Science Advances, 2020, 6, .  | 4.7  | 24        |

| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 327 | Dynamics of skyrmion bags driven by the spin-orbit torque. <i>Applied Physics Letters</i> , 2020, 117, .  | 1.5 | 16        |
| 328 | Wiggling Skyrmions Confined in a Linear Potential Well. <i>Physica Status Solidi - Rapid Research Letters</i> , 2020, 14, 2000214.  | 1.2 | 1         |
| 329 | Steering of the Skyrmion Hall Angle by Gate Voltages. <i>Physical Review Letters</i> , 2020, 124, 207202.   | 2.9 | 6         |
| 330 | Giant Topological Hall Effect and Superstable Spontaneous Skyrmions below 330 K in a Centrosymmetric Complex Noncollinear Ferromagnet $\text{NdMn}_2\text{Ge}_2$ . <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 24125-24132. | 4.0 | 17        |
| 331 | Theoretical investigation of antiferromagnetic skyrmions in a triangular monolayer. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 425801.  | 0.7 | 10        |
| 332 | Investigation of the Role of Rare-Earth Elements in Spin-Hall Topological Hall Effect in Pt/Ferrimagnetic-Garnet Bilayers. <i>Nano Letters</i> , 2020, 20, 4667-4672.   | 4.5 | 18        |
| 333 | Spin-transfer torque driven motion, deformation, and instabilities of magnetic skyrmions at high currents. <i>Physical Review B</i> , 2020, 101, .  | 1.1 | 25        |
| 334 | Enhanced Stability of Antiferromagnetic Skyrmion during Its Motion by Anisotropic Dzyaloshinskii-Moriya Interaction. <i>Physica Status Solidi - Rapid Research Letters</i> , 2020, 14, 2000157.   | 1.2 | 4         |
| 335 | Spin current pumped by confined breathing skyrmion. <i>New Journal of Physics</i> , 2020, 22, 053029.   | 1.2 | 2         |
| 336 | Motion tracking of 80-nm-size skyrmions upon directional current injections. <i>Science Advances</i> , 2020, 6, eaaz9744.   | 4.7 | 37        |
| 337 | Enhanced skyrmion motion via strip domain wall. <i>Physical Review B</i> , 2020, 101, .   | 1.1 | 23        |
| 338 | Shear banding, intermittency, jamming, and dynamic phases for skyrmions in inhomogeneous pinning arrays. <i>Physical Review B</i> , 2020, 101, .  | 1.1 | 14        |
| 339 | Skyrmion dynamics and topological sorting on periodic obstacle arrays. <i>New Journal of Physics</i> , 2020, 22, 053025.  | 1.2 | 16        |
| 340 | Current-driven skyrmion motion in granular films. <i>Physical Review B</i> , 2020, 101, .   | 1.1 | 38        |
| 341 | Three-Dimensional Dynamics of a Magnetic Hopfion Driven by Spin Transfer Torque. <i>Physical Review Letters</i> , 2020, 124, 127204.  | 2.9 | 56        |
| 342 | Defect-implantation for the all-electrical detection of non-collinear spin-textures. <i>Nature Communications</i> , 2020, 11, 1602.   | 5.8 | 12        |
| 343 | Controlling skyrmion motion in an angelfish-type racetrack memory by an AC magnetic field. <i>Applied Physics Express</i> , 2020, 13, 073003.   | 1.1 | 14        |
| 344 | Skyrmion dynamics and transverse mobility: skyrmion Hall angle reversal on 2D periodic substrates with dc and biharmonic ac drives. <i>European Physical Journal B</i> , 2020, 93, 1.   | 0.6 | 8         |

| #   | ARTICLE   | IF   | CITATIONS |
|-----|---|------|-----------|
| 345 | Impurity-dependent gyrotropic motion, deflection and pinning of current-driven ultrasmall skyrmions in PdFe/Ir(111) surface. Journal of Physics Condensed Matter, 2020, 32, 425802. | 0.7  | 15        |
| 346 | Anisotropic critical behavior of current-driven skyrmion dynamics in chiral magnets with disorder. New Journal of Physics, 2020, 22, 033043.  | 1.2  | 5         |
| 347 | Stability and dynamics of in-plane skyrmions in collinear ferromagnets. Physical Review B, 2020, 101, .   | 1.1  | 22        |
| 348 | Reentrant pinning, dynamic row reduction, and skyrmion accumulation for driven skyrmions in inhomogeneous pinning arrays. Europhysics Letters, 2020, 129, 21001.                    | 0.7  | 3         |
| 349 | Current-induced shuttlecock-like movement of non-axisymmetric chiral skyrmions. Scientific Reports, 2020, 10, 396.  | 1.6  | 13        |
| 350 | Dynamical switching of confined magnetic skyrmions under circular magnetic fields. Physical Review B, 2020, 101, .  | 1.1  | 4         |
| 351 | Controlling the deformation of antiferromagnetic skyrmions in the high-velocity regime. Physical Review B, 2020, 101, .   | 1.1  | 33        |
| 352 | Creation of nanometric magnetic skyrmions by global application of circularly polarized microwave magnetic field. Physical Review B, 2020, 101, .                                   | 1.1  | 6         |
| 353 | Magnetic Skyrmion Materials. Chemical Reviews, 2021, 121, 2857-2897.  | 23.0 | 292       |
| 354 | Control of the Half-Skyrmion Hall Effect and Its Application to Adder-Subtractor. Advanced Quantum Technologies, 2021, 4, 2000060.  | 1.8  | 10        |
| 355 | Origin of the hump anomalies in the Hall resistance loops of ultrathin $\text{SrRuO}_3$ multilayers. Physical Review Materials, 2021, 5, .  | 1.9  | 18        |
| 356 | Targeted Writing and Deleting of Magnetic Skyrmions in Two-Terminal Nanowire Devices. Nano Letters, 2021, 21, 1253-1259.  | 4.5  | 19        |
| 357 | Chiral Magnetic Domain Wall and Skyrmion Memory Devices. , 2021, , 175-201.   |      | 1         |
| 358 | Unidirectional current-driven toron motion in a cylindrical nanowire. Applied Physics Letters, 2021, 118, .   | 1.5  | 7         |
| 359 | Spintronics. , 2021, , 305-424.   |      | 1         |
| 360 | Dynamics of magnetic skyrmions. , 2021, , 233-254.  |      | 0         |
| 361 | Scattering modes of skyrmions in a bilayer system with ferromagnetic coupling. Nanotechnology, 2021, 32, 175702.  | 1.3  | 6         |
| 362 | Geometrically Constrained Skyrmions. Magnetochemistry, 2021, 7, 26.   | 1.0  | 10        |

| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 363 | Role of impurity clusters for the current-driven motion of magnetic skyrmions. Physical Review B, 2021, 103, .  | 1.1 | 13        |
| 364 | Interlayer coupling effect on skyrmion dynamics in synthetic antiferromagnets. Applied Physics Letters, 2021, 118, .  | 1.5 | 7         |
| 365 | Numerical Simulation of the Influence of Inhomogeneities on the Properties of Magnetization Nanostructures. Physics of Metals and Metallography, 2021, 122, 169-196.                    | 0.3 | 1         |
| 366 | Antiferromagnetic skyrmion repulsion based artificial neuron device. Nanotechnology, 2021, 32, 215204.  | 1.3 | 16        |
| 367 | A ferromagnetic skyrmion-based nano-oscillator with modified perpendicular magnetic anisotropy. Physics Letters, Section A: General, Atomic and Solid State Physics, 2021, 392, 127157. | 0.9 | 12        |
| 368 | Emergence of room temperature stable skyrmionic bubbles in the rare earth based REMn2Ge2 (RE= Ce, Tj ETQq1.10.784314 rgBT /O) 2.9 36  | 1.1 | 14        |
| 369 | Skyrmion driven by rotary magnetic field on the surface of magnetic nanotube: a Monte Carlo study. Nanotechnology, 2021, 32, 275702.  | 1.3 | 1         |
| 370 | Skyrmions near defects. Journal of Physics Condensed Matter, 2021, 33, 195802.  | 0.7 | 3         |
| 371 | Current-induced dynamics of skyrmion tubes in synthetic antiferromagnetic multilayers. Physical Review B, 2021, 103, .  | 1.1 | 16        |
| 372 | Temperature effects in spin-dependent Hall currents in an ideal skyrmion gas. Physical Review B, 2021, 103, .   | 1.1 | 3         |
| 373 | Skyrmion crystals in centrosymmetric itinerant magnets without horizontal mirror plane. Scientific Reports, 2021, 11, 11184.  | 1.6 | 46        |
| 374 | The relation between the radii and the densities of magnetic skyrmions. Communications in Theoretical Physics, 2021, 73, 075701.  | 1.1 | 0         |
| 375 | Motion-induced inertial effects and topological phase transitions in skyrmion transport. Journal of Physics Condensed Matter, 2021, 33, 265403.   | 0.7 | 3         |
| 376 | Nanoscale Materials for State-of-the-Art Magnetic Memory Technologies. Progress in Physics of Metals, 2021, 22, 175-203.  | 0.5 | 1         |
| 377 | Prospect of Spintronics in Neuromorphic Computing. Advanced Electronic Materials, 2021, 7, 2100465.   | 2.6 | 33        |
| 378 | Skyrmion battery effect via inhomogeneous magnetic anisotropy. Applied Physics Reviews, 2021, 8, .  | 5.5 | 6         |
| 379 | Magnonic control of the superconducting spin valve by magnetization reorientation in a helimagnet. Applied Physics Letters, 2021, 118, .  | 1.5 | 6         |
| 380 | Zeeman coupling and Dzyaloshinskii-Moriya interaction driven by electric current vorticity. Physical Review B, 2021, 103, .   | 1.1 | 4         |

| #   | ARTICLE  | IF   | CITATIONS |
|-----|--|------|-----------|
| 381 | Directional locking and the influence of obstacle density on skyrmion dynamics in triangular and honeycomb arrays. <i>Journal of Physics Condensed Matter</i> , 2021, 33, 305801.                    | 0.7  | 4         |
| 382 | Kinetics of Magnetic Skyrmion Crystal Formation from the Conical Phase. <i>Nano Letters</i> , 2021, 21, 5547-5554.   | 4.5  | 0         |
| 383 | Control of Néel-type Magnetic Kinks Confined in a Square Nanostructure by Spin-Polarized Currents. <i>Frontiers in Physics</i> , 2021, 9, .  | 1.0  | 1         |
| 384 | Skyrmion Dynamics at Finite Temperatures: Beyond Thiele's Equation. <i>Physical Review Letters</i> , 2021, 127, 047203.  | 2.9  | 26        |
| 385 | Transcription and logic operations of magnetic skyrmions in bilayer cross structures. <i>Journal of Physics Condensed Matter</i> , 2021, 33, 404001.   | 0.7  | 3         |
| 386 | Visualizing the strongly reshaped skyrmion Hall effect in multilayer wire devices. <i>Nature Communications</i> , 2021, 12, 4252.  | 5.8  | 21        |
| 387 | Finsler geometry modeling and Monte Carlo study of skyrmion shape deformation by uniaxial stress. <i>Physical Review B</i> , 2021, 104, .  | 1.1  | 7         |
| 388 | Antiferromagnetic-Bimeron dynamics driven by a spin-polarized current at an inhomogeneous racetrack. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2021, 403, 127399. | 0.9  | 12        |
| 389 | Magnon-driven skyrmion dynamics in antiferromagnets: Effect of magnon polarization. <i>Physical Review B</i> , 2021, 104, .  | 1.1  | 19        |
| 390 | Magnetic skyrmion bundles and their current-driven dynamics. <i>Nature Nanotechnology</i> , 2021, 16, 1086-1091.   | 15.6 | 110       |
| 391 | Microdynamic Study of Spin-Lattice Coupling Effects on Skyrmion Transport. <i>Physical Review Letters</i> , 2021, 127, 097201.   | 2.9  | 12        |
| 392 | Voltage-controlled skyrmion deletion device based on magnetic defects. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 445001.   | 1.3  | 0         |
| 393 | Controlled Domain-Wall Pair to Skyrmion Conversion in Typical Junction Geometry Useful for Magnetic Memory Devices. <i>ECS Journal of Solid State Science and Technology</i> , 2021, 10, 081002.     | 0.9  | 5         |
| 394 | Dynamics and nonmonotonic drag for individually driven skyrmions. <i>Physical Review B</i> , 2021, 104, .  | 1.1  | 5         |
| 395 | Regular and in-plane skyrmions and antiskyrmions from boundary instabilities. <i>Physical Review B</i> , 2021, 104, .  | 1.1  | 3         |
| 396 | Size and profile of skyrmions in skyrmion crystals. <i>Communications Physics</i> , 2021, 4, .   | 2.0  | 30        |
| 397 | Thermally activated dynamics of current-driven skyrmions in random media. <i>Europhysics Letters</i> , 2021, 136, 10001.   | 0.7  | 0         |
| 398 | Current-induced dynamics and tunable spectra of a magnetic chiral bobber. <i>Physical Review B</i> , 2021, 104, .  | 1.1  | 3         |

| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 399 | Compositional Studies of Metals with Complex Order by means of the Optical Floating Zone Technique. Physica Status Solidi (B): Basic Research, 2022, 259, 2100159.   | 0.7 | 4         |
| 400 | Ultrafast electron microscopy for probing magnetic dynamics. MRS Bulletin, 2021, 46, 711-719.  | 1.7 | 9         |
| 401 | Circuits and excitations to enable Brownian token-based computing with skyrmions. Applied Physics Letters, 2021, 119, .  | 1.5 | 14        |
| 402 | A skyrmion-based non-volatile racetrack with a potential well structure. Journal Physics D: Applied Physics, 2022, 55, 035001.   | 1.3 | 1         |
| 403 | Formation and annihilation of skyrmions in a bucket-shaped nanotube. Physics Letters, Section A: General, Atomic and Solid State Physics, 2021, 415, 127656.   | 0.9 | 3         |
| 404 | Magnetic imaging of various topological spin textures and their dynamics. Journal of Magnetism and Magnetic Materials, 2021, 539, 168332.  | 1.0 | 10        |
| 405 | Topological spin textures of antiskyrmionic crystals in two-dimensional magnetic monolayers. Journal of Magnetism and Magnetic Materials, 2021, 539, 168369.   | 1.0 | 1         |
| 406 | Néel-type antiferromagnetic skyrmionic crystals on two-dimensional square lattices investigated with optimized quantum Monte Carlo method. Physica E: Low-Dimensional Systems and Nanostructures, 2022, 135, 114978. | 1.3 | 1         |
| 407 | Magnetic bubble dynamics driven by magnetic field gradients. Journal of Magnetism and Magnetic Materials, 2022, 541, 168475.   | 1.0 | 1         |
| 408 | Skyrmions in antiferromagnets. , 2021, , 333-345.  |     | 0         |
| 409 | Conventional applications of skyrmions. , 2021, , 367-391.   |     | 0         |
| 410 | Current-Induced Dynamics of Chiral Magnetic Structures: Creation, Motion, and Applications. Topics in Applied Physics, 2021, , 147-181.  | 0.4 | 2         |
| 411 | Topology in Magnetism. Topics in Applied Physics, 2021, , 357-403.   | 0.4 | 6         |
| 412 | A strategy for the design of skyrmion racetrack memories. , 0, .   |     | 1         |
| 413 | Scattering of high-energy magnons off a magnetic skyrmion. Low Temperature Physics, 2015, 41, 817-825.   | 0.2 | 28        |
| 414 | First order reversal curve Hall analysis of zero-field skyrmions on Pt/Co/Ta multilayers. Journal Physics D: Applied Physics, 2020, 53, 395001.  | 1.3 | 4         |
| 415 | Skyrmion pinball and directed motion on obstacle arrays. Journal of Physics Communications, 2020, 4, 085001.   | 0.5 | 8         |
| 416 | Mode locking phenomena of the current-induced skyrmion-lattice motion in microfabricated MnSi. Physical Review B, 2020, 102, .   | 1.1 | 6         |



| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 417 | Controlled motion of skyrmions in a magnetic antidot lattice. <i>Physical Review B</i> , 2020, 102, .   | 1.1 | 26        |
| 418 | Skyrmion morphology in ultrathin magnetic films. <i>Physical Review Materials</i> , 2018, 2, .  | 0.9 | 52        |
| 419 | Room-temperature observation and current control of skyrmions in Pt/Co/Os/Pt thin films. <i>Physical Review Materials</i> , 2018, 2, .  | 0.9 | 43        |
| 420 | Theoretical study on stabilization and destabilization of magnetic skyrmions by uniaxial-strain-induced anisotropic Dzyaloshinskii-Moriya interactions. <i>Physical Review Materials</i> , 2020, 4, . | 0.9 | 3         |
| 421 | Material systems for FM-/AFM-coupled skyrmions in Co/Pt-based multilayers. <i>Physical Review Materials</i> , 2020, 4, .  | 0.9 | 13        |
| 422 | Dimension transcendence and anomalous charge transport in magnets with moving multiple- $Q$ spin textures. <i>Physical Review Research</i> , 2020, 2, .   | 1.3 | 12        |
| 423 | Interaction of a Magnetic Vortex with Magnetic Anisotropy Nonuniformity. <i>Journal of Experimental and Theoretical Physics</i> , 2020, 131, 589-599.   | 0.2 | 4         |
| 424 | Chapter 8 Magnetic Skyrmion Dynamics. <i>Series in Materials Science and Engineering</i> , 2016, , 211-238.   | 0.1 | 2         |
| 425 | Hierarchically structuring and synchronous photoreduction of graphene oxide films by laser holography for supercapacitors. <i>Optics Letters</i> , 2019, 44, 1714.                                    | 1.7 | 8         |
| 426 | Skyrmion Crystals and Phase Transitions in Magneto-Ferroelectric Superlattices: Dzyaloshinskii-Moriya Interaction in a Frustrated $J_1 \sim J_2$ Model. <i>Symmetry</i> , 2020, 12, 26.               | 1.1 | 10        |
| 427 | Magnetic domain chirality and tuning of skyrmion topology. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2018, 67, 137508.   | 0.2 | 2         |
| 428 | Skyrmions-based magnetic racetrack memory. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2018, 67, 137510.   | 0.2 | 7         |
| 429 | Magnetic Skyrmions: Recent advances and applications. <i>IEEE Nanotechnology Magazine</i> , 2021, 15, 28-40.  | 0.9 | 2         |
| 430 | Cyromotion of a Single Magnetic Skyrmion Particle. <i>JPSJ News and Comments</i> , 2021, 18, 12.  | 0.2 | 0         |
| 431 | Thermal motion of skyrmion arrays in granular films. <i>Physical Review B</i> , 2021, 104, .  | 1.1 | 5         |
| 432 | Torque field and skyrmion motion by spin transfer torque in a quasi-2D interface in presence of strong spin-orbit interaction. <i>Journal of Applied Physics</i> , 2021, 130, 133903.                 | 1.1 | 3         |
| 433 | Robust formation of skyrmion and skyrmionium in magnetic hemispherical shells and their dynamic switching. <i>Physical Review B</i> , 2021, 104, .  | 1.1 | 3         |
| 434 | Robust skyrmion mediated reversal of ferromagnetic nanodots of 20 nm lateral dimension with high Ms and observable DMI. <i>Scientific Reports</i> , 2021, 11, 20914.                                  | 1.6 | 5         |

| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 435 | The rectilinear motion of the individual asymmetrical skyrmion driven by temperature gradients. <i>Acta Materialia</i> , 2021, 221, 117383.   | 3.8 | 14        |
| 436 | SCES2013 Summary: Experiment. , 2014, , .   |     | 0         |
| 437 | Control of skyrmion movement in nanotrack by using periodic strain. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2018, 67, 137503.  | 0.2 | 1         |
| 438 | In situ electron holography of magnetic skyrmions in nanostructures. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2018, 67, 131203.   | 0.2 | 0         |
| 439 | Critical behaviors of helimagnetic ordering systems relating to skyrmion. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2018, 67, 137501.  | 0.2 | 5         |
| 440 | Overview and advances in skyrmionics. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2018, 67, 131205.  | 0.2 | 3         |
| 442 | Magnetic skyrmions in monoatomic-thin Gadolinium square-shaped nanoislands. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2021, , 115015.  | 1.3 | 1         |
| 443 | Nonmagnetic impurities in skyrmion racetrack memory. <i>Nanosystems: Physics, Chemistry, Mathematics</i> , 2020, 11, 628-635.   | 0.2 | 1         |
| 444 | Magnus-force induced skyrmion-antiskyrmion coupling in inhomogeneous racetrack. <i>Journal of Physics Condensed Matter</i> , 2021, 33, 105802.  | 0.7 | 5         |
| 445 | Multifunctional oxides for topological magnetic textures by design. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 093001.   | 1.3 | 3         |
| 446 | Fine energy structure of a magnetic skyrmion localized on a nonmagnetic impurity in an external magnetic field. <i>Physics of Complex Systems</i> , 2020, 1, 165-168.   | 0.2 | 0         |
| 447 | Suppression of Skyrmion Hall Motion in Antiferromagnets Driven by Circularly Polarized Spin Waves. <i>Frontiers in Physics</i> , 2021, 9, .   | 1.0 | 0         |
| 448 | Magnetic skyrmion shape manipulation by perpendicular magnetic anisotropy excitation within geometrically confined nanostructures. <i>Journal of Magnetism and Magnetic Materials</i> , 2022, 545, 168775.      | 1.0 | 10        |
| 449 | Velocity increase of skyrmion motion by constructing wedge nanotracks. <i>Journal of Magnetism and Magnetic Materials</i> , 2022, 546, 168877.  | 1.0 | 4         |
| 450 | Unidirectional localization and track-selection of antiferromagnetic skyrmions through tuning magnetocrystalline anisotropy barriers. <i>Journal of Magnetism and Magnetic Materials</i> , 2022, 546, 168852.   | 1.0 | 6         |
| 451 | Skyrmion dynamics and skyrmion-bimeron crossover in antiferromagnetic thin nanodisks with a random distribution of magnetic impurities. <i>Journal of Magnetism and Magnetic Materials</i> , 2022, 546, 168823. | 1.0 | 3         |
| 452 | Fluctuations and Pinning for Individually Manipulated Skyrmions. <i>Frontiers in Physics</i> , 2021, 9, .   | 1.0 | 1         |
| 453 | Controllable interskyrmion attractive interactions and resulting skyrmion-lattice structures in two-dimensional chiral magnets with in-plane anisotropy. <i>Physical Review B</i> , 2021, 104, .                | 1.1 | 3         |

| #   | ARTICLE   | IF   | CITATIONS |
|-----|---|------|-----------|
| 454 | Negative differential resistance state in the free-flux-flow regime of driven vortices in a single crystal of $\text{Cr}_2\text{Te}_3$ . Physical Review B, 2021, 104, .                          | 1.1  | 3         |
| 455 | Dynamic transition of current-driven single-skyrmion motion in a room-temperature chiral-lattice magnet. Nature Communications, 2021, 12, 6797.   | 5.8  | 26        |
| 456 | Skyrmion and bimeron hurdle race in antiferromagnetic racetracks. Physics Letters, Section A: General, Atomic and Solid State Physics, 2022, 425, 127868.   | 0.9  | 3         |
| 457 | Design of Reconfigurable Spin-Wave Nanochannels Based on Strain-Mediated Multiferroic Heterostructures and Logic Device Applications. IEEE Transactions on Electron Devices, 2022, 69, 1650-1657. | 1.6  | 2         |
| 458 | Skyrmionics in correlated oxides. MRS Bulletin, 2021, 46, 1053-1062.  | 1.7  | 5         |
| 459 | Confinement of Magnetic Skyrmions to Corrals of Artificial Surface Pits with Complex Geometries. Frontiers in Physics, 2022, 9, .   | 1.0  | 3         |
| 460 | Skyrmion Dynamics in the Presence of Deformation. Physical Review Applied, 2022, 17, .  | 1.5  | 7         |
| 461 | Skyrmion Creation and Annihilation by Electric Current Vorticity. IEEE Transactions on Magnetics, 2022, 58, 1-7.  | 1.2  | 0         |
| 462 | Defect modeling in skyrmionic ferromagnetic systems. APL Materials, 2022, 10, .   | 2.2  | 11        |
| 463 | Skyrmion bound state and dynamics in an antiferromagnetic bilayer racetrack. Journal of Magnetism and Magnetic Materials, 2022, 549, 168997.  | 1.0  | 4         |
| 464 | Controlled Switching of the Number of Skyrmions in a Magnetic Nanodot by Electric Fields. Advanced Materials, 2022, 34, e2107908.   | 11.1 | 19        |
| 465 | Skyrmion Bound State and Dynamics in an Antiferromagnetic Bilayer Racetrack. SSRN Electronic Journal, 0, , .  | 0.4  | 0         |
| 466 | Electrical manipulation of skyrmions in a chiral magnet. Nature Communications, 2022, 13, 1593.   | 5.8  | 51        |
| 467 | Spin dynamics in the skyrmion-host lacunar spinel $\text{Ga}_4\text{V}_8\text{S}_3$ . Physical Review B, 2021, 104, .   | 1.1  | 3         |
| 468 | Interaction of In-Plane Magnetic Skyrmions with Magnetic Domain Walls: Micromagnetic Simulations. Physical Review Applied, 2022, 17, .  | 1.5  | 0         |
| 470 | Current-driven dynamics of skyrmion bubbles in achiral uniaxial magnets. Chinese Physics B, 2022, 31, 077504.   | 0.7  | 2         |
| 471 | Micromagnetic manipulation and spin excitation of skyrmionic structures. Journal Physics D: Applied Physics, 2022, 55, 333001.  | 1.3  | 10        |
| 472 | Electric-field driven stability control of skyrmions in an ultrathin transition-metal film. Npj Computational Materials, 2022, 8, .   | 3.5  | 5         |

| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 473 | Magnetic skyrmion manipulation in CrTe <sub>2</sub> /WTe <sub>2</sub> 2D van der Waals heterostructure. Applied Physics Letters, 2022, 120, .   | 1.5 | 10        |
| 474 | Tunable skyrmionâ€™edge interaction in magnetic multilayers by interlayer exchange coupling. AIP Advances, 2022, 12, .  | 0.6 | 5         |
| 475 | Bio-Inspired Computing with Magnetic Skyrmions Using Deep Learning. International Journal of Modeling, Simulation, and Scientific Computing, 0, , .                                   | 0.9 | 0         |
| 476 | Topological spin textures of antiskyrmionic crystals in two-dimensional antiferromagnets. Journal of Magnetism and Magnetic Materials, 2022, 561, 169515.                             | 1.0 | 1         |
| 477 | Progress and challenges in magnetic skyrmionics. Chinese Physics B, 2022, 31, 087507.   | 0.7 | 6         |
| 479 | Asymmetric Motion of Magnetic Skyrmions in Ferromagnetic Nanotubes Induced by a Magnetic Field. Symmetry, 2022, 14, 1195.   | 1.1 | 2         |
| 480 | Skyrmion pinning energetics in thin film systems. Nature Communications, 2022, 13, .  | 5.8 | 25        |
| 481 | Soliton motion in skyrmion chains: Stabilization and guidance by nanoengineered pinning. Physical Review B, 2022, 105, .  | 1.1 | 9         |
| 482 | Non-Hermitian adiabatic perturbation theory of topological quantization of the average velocity of a magnetic skyrmion under thermal fluctuations. Physical Review B, 2022, 105, .    | 1.1 | 0         |
| 484 | Commensuration effects on skyrmion Hall angle and drag for manipulation of skyrmions on two-dimensional periodic substrates. Physical Review B, 2022, 105, .                          | 1.1 | 5         |
| 485 | Nonzero Skyrmion Hall Effect in Topologically Trivial Structures. Physical Review Applied, 2022, 17, .  | 1.5 | 6         |
| 486 | Phase diagram of chiral magnets via Greenâ€™s function method. Journal of Physics Condensed Matter, 2022, 34, 375801.   | 0.7 | 0         |
| 487 | Magnon-driven dynamics of frustrated skyrmion in synthetic antiferromagnets:Effect of skyrmion helicity oscillation. New Journal of Physics, 0, , .                                   | 1.2 | 3         |
| 488 | The skyrmion bags in an anisotropy gradient. Journal of Physics Condensed Matter, 2022, 34, 395801.   | 0.7 | 3         |
| 489 | Mechanical Acceleration and Control of the Thermal Motion of a Magnetic Skyrmion. Physical Review Applied, 2022, 18, .  | 1.5 | 7         |
| 490 | Investigations on antiferromagnetic skyrmion crystal generated by a staggered magnetic field. Physics Letters, Section A: General, Atomic and Solid State Physics, 2022, 448, 128328. | 0.9 | 1         |
| 491 | Topological Charge Control of Skyrmion Structure in Frustrated Magnets by Circularly Polarized Light. Physical Review Applied, 2022, 18, .  | 1.5 | 3         |
| 492 | Editorial: Generation, detection and manipulation of skyrmions in magnetic nanostructures. Frontiers in Physics, 0, 10, .   | 1.0 | 0         |

| #   | ARTICLE   | IF   | CITATIONS |
|-----|---|------|-----------|
| 493 | High-temperature non-centrosymmetric magnets for skyrmionics. <i>APL Materials</i> , 2022, 10, .  | 2.2  | 3         |
| 494 | Chirality-dependent spin-transfer torque and current-induced spin rotation in helimagnets. <i>Physical Review B</i> , 2022, 106, .  | 1.1  | 5         |
| 495 | Spin-wave-driven skyrmion dynamics in ferrimagnets: Effect of net angular momentum. <i>Physical Review B</i> , 2022, 106, .   | 1.1  | 8         |
| 496 | Weakly pinned skyrmion liquid in a magnetic heterostructure. <i>Physical Review B</i> , 2022, 106, .  | 1.1  | 1         |
| 497 | Quantized topological charges of ferroelectric skyrmions in two-dimensional multiferroic materials. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2022, 144, 115466.     | 1.3  | 1         |
| 498 | Response of the chiral soliton lattice to spin-polarized currents. <i>Physical Review B</i> , 2022, 106, .  | 1.1  | 4         |
| 499 | Fundamental physics and applications of skyrmions: A review. <i>Journal of Magnetism and Magnetic Materials</i> , 2022, 563, 169905.  | 1.0  | 10        |
| 501 | Skyrmion Echo in a System of Interacting Skyrmions. <i>Physical Review Letters</i> , 2022, 129, .   | 2.9  | 4         |
| 502 | Statics and dynamics of skyrmions interacting with disorder and nanostructures. <i>Reviews of Modern Physics</i> , 2022, 94, .  | 16.4 | 61        |
| 503 | Clogging, diode and collective effects of skyrmions in funnel geometries. <i>New Journal of Physics</i> , 2022, 24, 103030.   | 1.2  | 10        |
| 504 | Emergence of Ferromagnetic Metal Surface State in a Nonmagnetic Semiconductor FeSi and Its Spin-orbitronic Functionality. <i>Materia Japan</i> , 2022, 61, 671-678.                       | 0.1  | 0         |
| 505 | Spin dynamics in patterned magnetic multilayers with perpendicular magnetic anisotropy. <i>Solid State Physics</i> , 2022, , 1-51.  | 1.3  | 0         |
| 506 | Critical Temperature of a Superconductor/Ferromagnet Nanostructure near a Magnetic Skyrmion. <i>JETP Letters</i> , 2022, 116, 449-455.  | 0.4  | 3         |
| 507 | An alternative understanding of the skyrmion Hall effect based on one-dimensional domain wall motion. <i>Applied Physics Express</i> , 2022, 15, 123001.                                  | 1.1  | 2         |
| 508 | Depinning phase transition of antiferromagnetic skyrmions with quenched disorder. <i>Physical Review E</i> , 2022, 106, .   | 0.8  | 0         |
| 509 | Magnus induced diode effect for skyrmions in channels with periodic potentials. <i>Journal of Physics Condensed Matter</i> , 2023, 35, 015804.  | 0.7  | 3         |
| 510 | Reviewâ€”Magnetic Skyrmions in Chiral Ferromagnets: Electrical Transport Properties and Device Applications. <i>ECS Journal of Solid State Science and Technology</i> , 2022, 11, 115003. | 0.9  | 3         |
| 511 | Nonthermal current-induced transition from skyrmion lattice to nontopological magnetic phase in spatially confined MnSi. <i>Physical Review B</i> , 2022, 106, .                          | 1.1  | 0         |

| #   | ARTICLE  | IF   | CITATIONS |
|-----|--|------|-----------|
| 512 | Current-Induced Magnetic Skyrmions with Controllable Polarities in the Helical Phase. Nano Letters, 2022, 22, 8793-8800.   | 4.5  | 0         |
| 513 | Skyrmion based energy-efficient straintronic physical reservoir computing. Neuromorphic Computing and Engineering, 2022, 2, 044011.  | 2.8  | 7         |
| 514 | A skyrmion helicity-based multistate memory in synthetic antiferromagnets. Journal of Applied Physics, 2022, 132, .  | 1.1  | 2         |
| 515 | Motion of a magnetic skyrmionium driven by acoustic wave. Applied Physics Letters, 2022, 121, .  | 1.5  | 4         |
| 516 | Skyrmion-based reconfigurable logic gates and diodes in a racetrack with hard magnetic material and a notch. Journal of Magnetism and Magnetic Materials, 2023, 568, 170387. | 1.0  | 2         |
| 517 | Experimental verification of Thiele equation for skyrmion Hall angle. Applied Physics Express, 0, , . In-field critical behaviour of $I^2$                                   | 1.1  | 0         |
| 518 | id="d1e598"><mml:msub><mml:mrow /><mml:mrow><mml:mn>7</mml:mn></mml:mrow></mml:msub></mml:math>Zn  | 1.3  | 3         |
| 519 | id="d1e606"><mm Influence of magnetic structure on the performance of twisted skyrmion-based nano-oscillator. Journal of Physics Condensed Matter, 2023, 35, 145801.         | 0.7  | 0         |
| 520 | 300â€Increased Diffusive Skyrmion Dynamics and Effective Pinning Reduction by Periodic Field Excitation. Advanced Materials, 2023, 35, .                                    | 11.1 | 4         |
| 521 | Magnetic skyrmions: Basic properties and potential applications. , 2023, 2, 260-289.   |      | 1         |
| 522 | Topological Hall effect in three-dimensional centrosymmetric magnetic skyrmion crystals. Physical Review B, 2023, 107, .   | 1.1  | 1         |
| 523 | Magnetic Skyrmions and Quasi Particles: A Review on Principles and Applications. , 0, , .  |      | 0         |
| 524 | Magnetic skyrmion Walker breakdown in cylindrical nanotubes. Physical Review B, 2023, 107, .   | 1.1  | 1         |
| 525 | From Early Theories of Dzyaloshinskiiâ€Moriya Interactions in Metallic Systems to Todayâ€s Novel Roads. Journal of the Physical Society of Japan, 2023, 92, .              | 0.7  | 6         |
| 526 | Topological Equivalence of Stripy States and Skyrmion Crystals. Nano Letters, 2023, 23, 3954-3962.   | 4.5  | 2         |
| 539 | External bias field control of skyrmion dynamics in a magnetic nanotrack. , 2023, , .  |      | 0         |
| 540 | Dynamic properties of magnetic hopfions. , 2023, , .   |      | 0         |