

Sung-Hyon Sonny Rhim

List of Publications by Year in descending order

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60
papers

2,198
citations

304368

22
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214527

47
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62
all docs

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docs citations

62
times ranked

4262
citing authors

#	ARTICLE	IF	CITATIONS
1	Slater-Pauling behavior of interfacial magnetic properties of $\text{Mn}_3\text{Co}/\text{Pt}$ transition metal alloy/Pt structures. <i>Physical Review B</i> , 2022, 105, .	1.1	1
2	Anomalous Hall effect in a compensated ferrimagnet: Symmetry analysis for $\text{Mn}_3\text{Co}/\text{Pt}$. <i>Physical Review Research</i> , 2022, 4, .	1.1	1
3	Robust half-metallicities of alkali-metal-based half-Heusler compounds. <i>Physical Review Materials</i> , 2022, 6, .	0.9	9
4	Fine tuning of the magnetic properties in Mn_3Co Ga Heusler films near the critical regime. <i>Journal of Alloys and Compounds</i> , 2021, 858, 158288.	2.8	1
5	Spin-orbit torque engineering in W/CoFeB heterostructures with W-Ta or W-V alloy layers between W and CoFeB . <i>NPG Asia Materials</i> , 2021, 13, .	3.8	11
6	Engineering anisotropic magnetoresistance of Hall bars with interfacial organic layers. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2020, 38, 040602.	0.6	0
7	Two-dimensional Materials in Curved Geometry. <i>Journal of the Korean Physical Society</i> , 2020, 77, 997-1001.	0.3	0
8	Large reduction in switching current driven by spin-orbit torque in W/CoFeB heterostructures with W-N interfacial layers. <i>Acta Materialia</i> , 2020, 200, 551-558.	3.8	9
9	Enhanced voltage-controlled magnetic anisotropy via magnetoelasticity in $\text{FePt}/\text{MgO}(001)$. <i>Physical Review B</i> , 2020, 101, .	1.1	9
10	Tunability of magnetic anisotropy of Co on two-dimensional materials by tetrahedral bonding. <i>Physical Review B</i> , 2019, 99, .	1.1	9
11	Inducing and manipulating magnetization in 2D zinc oxide by strain and external voltage. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 145802.	0.7	0
12	First-principles study of magnetization reorientation and large perpendicular magnetic anisotropy in $\text{Cu}/\text{Fe}/\text{MgO}$ heterostructures. <i>Physical Review B</i> , 2018, 98, .	1.1	9
13	Modulated electrical and magnetic properties of Mn thin film by structural deformation of BaTiO_3 . <i>Applied Physics Express</i> , 2018, 11, 083001.	1.1	0
14	Thickness effect on magnetocrystalline anisotropy of $\text{MnPt}(\text{O}^{-1})$ film. <i>Journal of Magnetism and Magnetic Materials</i> , 2018, 467, 69-73.	1.0	3
15	Electric control of magnetism in low-dimensional magnets on ferroelectric surfaces. <i>AIP Advances</i> , 2017, 7, 055816.	0.6	3
16	Impact of Selenium Doping on Resonant Second-Harmonic Generation in Monolayer MoS_2 . <i>ACS Photonics</i> , 2017, 4, 38-44.	3.2	75
17	Growth and Simultaneous Valleys Manipulation of Two-Dimensional MoSe_2 - WSe_2 Lateral Heterostructure. <i>ACS Nano</i> , 2017, 11, 8822-8829.	7.3	54
18	$\text{TiO}_2/\text{RbPbI}_3$ halide perovskite solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2017, 172, 44-54.	3.0	53

#	ARTICLE	IF	CITATIONS
19	Engineering the magnetic properties of zigzag graphene nanoribbon by epoxy chains. Materials Research Express, 2017, 4, 085008.	0.8	3
20	Origin of p-type characteristics in a SnSe single crystal. Applied Physics Letters, 2017, 110, .	1.5	81
21	Gigantic perpendicular magnetic anisotropy of heavy transition metal cappings on Fe/MgO(0 0 1). Journal of Magnetism and Magnetic Materials, 2017, 442, 183-188.	1.0	5
22	Giant enhancement of the intrinsic spin Hall conductivity in $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"> \langle \text{mml:mi}> \hat{1}^2 \langle \text{mml:mi}> \langle \text{mml:math}> \text{-tungsten via substitutional doping. Physical Review B, 2017, 96, .$	1.1	58
23	A microscopic study investigating the structure of SnSe surfaces. Surface Science, 2016, 651, 5-9.	0.8	33
24	Coherent Lattice Vibrations in Mono- and Few-Layer WSe_2 . ACS Nano, 2016, 10, 5560-5566.	7.3	62
25	Density functional theory study of the electronic structure and the thermoelectric properties of strained Mn_4Si_7 . Journal of the Korean Physical Society, 2016, 69, 402-405.	0.3	2
26	Electrical modulation and switching of transverse acoustic phonons. Physical Review B, 2016, 94, .	1.1	6
27	La Displacement Driven Double-Exchange Like Mediation in Titanium $\langle i \rangle \langle \text{d} \rangle \langle \text{sub} \rangle \langle \text{xy} \rangle \langle / \text{sub} \rangle \langle / i \rangle$ Ferromagnetism at the $\text{LaAlO}_3 \langle \text{sub} \rangle \langle \text{SrTiO}_3 \rangle \langle \text{sub} \rangle$. Journal of the Physical Society of Japan, 2016, 85, 043702.	0.7	1
28	Theory of perpendicular magnetocrystalline anisotropy in Fe/MgO (001). Journal of Magnetism and Magnetic Materials, 2016, 414, 126-131.	1.0	18
29	Magnetism of Asymmetrically Terminated FeRh(001) Thin Films: A First-Principle Study. IEEE Transactions on Magnetics, 2016, 52, 1-3.	1.2	0
30	Surface-termination-dependent magnetism and strong perpendicular magnetocrystalline anisotropy of an FeRh(001) thin film. Physical Review B, 2015, 92, .	1.1	30
31	Strain effect on electronic structure and thermoelectric properties of orthorhombic SnSe: A first principles study. AIP Advances, 2015, 5, .	0.6	35
32	Magneto-transport and thermoelectric properties of epitaxial FeSb ₂ thin film on MgO substrate. Applied Physics Letters, 2015, 106, .	1.5	6
33	Hybrid Germanium Iodide Perovskite Semiconductors: Active Lone Pairs, Structural Distortions, Direct and Indirect Energy Gaps, and Strong Nonlinear Optical Properties. Journal of the American Chemical Society, 2015, 137, 6804-6819.	6.6	710
34	Thickness effect on magnetocrystalline anisotropy of Co/Pd(111) films: A density functional study. Journal of Applied Physics, 2015, 117, 17E105.	1.1	5
35	Jahn-Teller driven perpendicular magnetocrystalline anisotropy in metastable ruthenium. Physical Review B, 2015, 91, .	1.1	21
36	Magnetocrystalline anisotropy of 4d/5d transition metals on a Co(0001) surface: A first-principles study. Journal of Applied Physics, 2015, 117, 17A327.	1.1	4

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37	Strain-induced giant second-harmonic generation in monolayered $2H-XMoX_2$ ($X = S, Se, Te$). Applied Physics Letters, 2015, 107, .	1.5	34
38	Strong optical nonlinearity of CVD-grown MoS_2 as probed by wavelength-dependent second-harmonic generation. Physical Review B, 2014, 90, .	1.1	16
39	A statistical thermodynamics model for monolayer gas adsorption on graphene-based materials: implications for gas sensing applications. RSC Advances, 2014, 4, 47481-47487.	1.7	38
40	First-principles studies on infrared properties of semiconducting graphene monoxide. Journal of Applied Physics, 2013, 114, 164313.	1.1	5
41	Anisotropic thermal conductivity of semiconducting graphene monoxide. Applied Physics Letters, 2013, 102, .	1.5	19
42	Strain-induced band-gap engineering of graphene monoxide and its effect on graphene. Physical Review B, 2013, 87, .	1.1	27
43	Topological Oxide Insulator in Cubic Perovskite Structure. Scientific Reports, 2013, 3, 1651.	1.6	43
44	Electric-field-driven hole carriers and superconductivity in diamond. Physical Review B, 2013, 87, .	1.1	10
45	Extremely large perpendicular magnetic anisotropy of an Fe(001) surface capped by $5d$ transition metal monolayers: A density functional study. Physical Review B, 2013, 88, .	1.1	48
46	Structural, electronic, and linear optical properties of organic photovoltaic PBTTT-C14 crystal. Journal of Chemical Physics, 2013, 138, 164503.	1.2	12
47	Strong perpendicular magnetocrystalline anisotropy of bulk and the (001) surface of $DO_{22}Mn_3Ga$: a density functional study. Journal of Physics Condensed Matter, 2012, 24, 416003.	0.7	10
48	Formation of nitrogen-vacancy complexes during plasma-assisted nitrogen doping of epitaxial graphene on SiC(0001). Applied Physics Letters, 2012, 100, 233119.	1.5	11
49	Quantitative In Situ Selected Area Electron Diffraction of Vacuum Thermally Reduced Graphene Oxide. Microscopy and Microanalysis, 2012, 18, 1576-1577.	0.2	0
50	Water-driven Growth of Graphene Monoxide Revealed by In Situ Infrared and Electron Microscopy, Diffraction and Spectroscopy. Microscopy and Microanalysis, 2012, 18, 1508-1509.	0.2	0
51	Role of strong spin-orbit coupling in the superconductivity of the hexagonal pnictide SrPtAs. Physical Review B, 2012, 85, .	1.1	64
52	Si diffusion path for pit-free graphene growth on SiC(0001). Physical Review B, 2011, 84, .	1.1	35
53	Evidence of Nanocrystalline Semiconducting Graphene Monoxide during Thermal Reduction of Graphene Oxide in Vacuum. ACS Nano, 2011, 5, 9710-9717.	7.3	78
54	Role of functionalized transition-metal coated W tips in STM imaging: Application to epitaxial graphene on SiC(0001). Physical Review B, 2011, 84, .	1.1	11

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55	Engineering of magnetostriction in Fe ₃ Pt _{1-x} Ir _x by controlling the Ir concentration. Applied Physics Letters, 2011, 98, 152502.	1.5	16
56	Epitaxial Graphene on SiC(0001): More than Just Honeycombs. Physical Review Letters, 2010, 105, 085502.	2.9	124
57	Interface two-dimensional metallicity but lack of superconductivity in heterobonded semiconductors: ZnS/Si and GaP/Si. Physical Review B, 2009, 79, .	1.1	0
58	Interface electronic structure, two-dimensional metallicity, and possible interface superconductivity in CuClSi superlattices. Physical Review B, 2007, 76, .	1.1	6
59	Charge compensation and mixed valency in LaAlO ₃ /SrTiO ₃ heterointerfaces studied by the FLAPW method. Physical Review B, 2006, 74, .	1.1	118
60	Fully first-principles screened-exchange LDA calculations of excited states and optical properties of III-V semiconductors. Physical Review B, 2005, 71, .	1.1	45