

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

62
docs citations

62
times ranked

4262
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	Epitaxial Graphene on SiC(0001): More than Just Honeycombs. Physical Review Letters, 2010, 105, 085502.	2.9	124
3	Charge compensation and mixed valency in LaAlO ₃ /SrTiO ₃ heterointerfaces studied by the FLAPW method. Physical Review B, 2006, 74, .	1.1	118
4	Strong optical nonlinearity of CVD-grown MoS ₂ as probed by wavelength-dependent second-harmonic generation. Physical Review B, 2014, 90, .	1.1	96
5	Origin of p-type characteristics in a SnSe single crystal. Applied Physics Letters, 2017, 110, .	1.5	81
6	Evidence of Nanocrystalline Semiconducting Graphene Monoxide during Thermal Reduction of Graphene Oxide in Vacuum. ACS Nano, 2011, 5, 9710-9717.	7.3	78
7	Impact of Selenium Doping on Resonant Second-Harmonic Generation in Monolayer MoS ₂ . ACS Photonics, 2017, 4, 38-44.	3.2	75
8	Role of strong spin-orbit coupling in the superconductivity of the hexagonal pnictide SrPtAs. Physical Review B, 2012, 85, .	1.1	64
9	Coherent Lattice Vibrations in Mono- and Few-Layer WSe ₂ . ACS Nano, 2016, 10, 5560-5566.	7.3	62
10	Giant enhancement of the intrinsic spin Hall conductivity in tungsten via substitutional doping. Physical Review B, 2017, 96, .	1.1	58
11	Growth and Simultaneous Valleys Manipulation of Two-Dimensional MoSe ₂ -WSe ₂ Lateral Heterostructure. ACS Nano, 2017, 11, 8822-8829.	7.3	54
12	TiO ₂ /RbPbI ₃ halide perovskite solar cells. Solar Energy Materials and Solar Cells, 2017, 172, 44-54.	3.0	53
13	Extremely large perpendicular magnetic anisotropy of an Fe(001) surface capped by transition metal monolayers: A density functional study. Physical Review B, 2013, 88, .	1.1	48
14	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
15	Topological Oxide Insulator in Cubic Perovskite Structure. Scientific Reports, 2013, 3, 1651.	1.6	43
16	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
17	Si diffusion path for pit-free graphene growth on SiC(0001). Physical Review B, 2011, 84, .	1.1	35
18	Strain effect on electronic structure and thermoelectric properties of orthorhombic SnSe: A first principles study. AIP Advances, 2015, 5, .	0.6	35

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19	Strain-induced giant second-harmonic generation in monolayered 2H-MoX_2 ($X = \text{S, Se, Te}$). Applied Physics Letters, 2015, 107, .	1.5	34
20	A microscopic study investigating the structure of SnSe surfaces. Surface Science, 2016, 651, 5-9.	0.8	33
21	Surface-termination-dependent magnetism and strong perpendicular magnetocrystalline anisotropy of an FeRh(001) thin film. Physical Review B, 2015, 92, .	1.1	30
22	Strain-induced band-gap engineering of graphene monoxide and its effect on graphene. Physical Review B, 2013, 87, .	1.1	27
23	Jahn-Teller driven perpendicular magnetocrystalline anisotropy in metastable ruthenium. Physical Review B, 2015, 91, .	1.1	21
24	Anisotropic thermal conductivity of semiconducting graphene monoxide. Applied Physics Letters, 2013, 102, .	1.5	19
25	Theory of perpendicular magnetocrystalline anisotropy in Fe/MgO (001). Journal of Magnetism and Magnetic Materials, 2016, 414, 126-131.	1.0	18
26	Engineering of magnetostriction in $\text{Fe}_3\text{Pt}_{1-x}\text{Ir}_x$ by controlling the Ir concentration. Applied Physics Letters, 2011, 98, 152502.	1.5	16
27	First-principles study of magnetization reorientation and large perpendicular magnetic anisotropy in $\text{Cu}/\text{Fe}/\text{MgO}/\text{Cu}$ heterostructures. Physical Review B, 2018, 98, .	1.4	15
28	Structural, electronic, and linear optical properties of organic photovoltaic PBTTT-C14 crystal. Journal of Chemical Physics, 2013, 138, 164503.	1.2	12
29	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
30	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
31	Spin-orbit torque engineering in W/CoFeB heterostructures with W-Ta or W-V alloy layers between W and CoFeB . NPC Asia Materials, 2021, 13, .	3.8	11
32	Strong perpendicular magnetocrystalline anisotropy of bulk and the (001) surface of $\text{DO}_{22}\text{Mn}_3\text{Ga}$: a density functional study. Journal of Physics Condensed Matter, 2012, 24, 416003.	0.7	10
33	Electric-field-driven hole carriers and superconductivity in diamond. Physical Review B, 2013, 87, .	1.1	10
34	Tunability of magnetic anisotropy of Co on two-dimensional materials by tetrahedral bonding. Physical Review B, 2019, 99, .	1.1	9
35	Large reduction in switching current driven by spin-orbit torque in W/CoFeB heterostructures with W-N interfacial layers. Acta Materialia, 2020, 200, 551-558.	3.8	9
36	Enhanced voltage-controlled magnetic anisotropy via magnetoelasticity in $\text{FePt}/\text{MgO}(001)$. Physical Review B, 2020, 101, .	1.1	9

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37	Robust half-metallicities of alkali-metal-based half-Heusler compounds. Physical Review Materials, 2022, 6, .	0.9	9
38	Anomalous Hall effect in a compensated ferrimagnet: Symmetry analysis for $\text{Mn}_3\text{Mn}_2\text{Sb}$. Physical Review Research, 2022, 4, .	1.1	6
39	Dimensional metallicity and possible interface superconductivity in CuCl_2/Si superlattices. Physical Review B, 2007, 76, .	1.1	6
40	Magneto-transport and thermoelectric properties of epitaxial FeSb ₂ thin film on MgO substrate. Applied Physics Letters, 2015, 106, .	1.5	6
41	Electrical modulation and switching of transverse acoustic phonons. Physical Review B, 2016, 94, .	1.1	6
42	First-principles studies on infrared properties of semiconducting graphene monoxide. Journal of Applied Physics, 2013, 114, 164313.	1.1	5
43	Thickness effect on magnetocrystalline anisotropy of Co/Pd(111) films: A density functional study. Journal of Applied Physics, 2015, 117, 17E105.	1.1	5
44	Gigantic perpendicular magnetic anisotropy of heavy transition metal cappings on Fe/MgO(001). Journal of Magnetism and Magnetic Materials, 2017, 442, 183-188.	1.0	5
45	Slater-Pauling behavior of interfacial magnetic properties of $\text{Mn}_3\text{Mn}_2\text{Sb}/\text{Pt}$ transition metal alloy/Pt structures. Physical Review B, 2022, 105, .	1.1	4
46	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
47	Electric control of magnetism in low-dimensional magnets on ferroelectric surfaces. AIP Advances, 2017, 7, 055816.	0.6	3
48	Engineering the magnetic properties of zigzag graphene nanoribbon by epoxy chains. Materials Research Express, 2017, 4, 085008.	0.8	3
49	Thickness effect on magnetocrystalline anisotropy of $\text{MnPt}(\text{O}^{-1})$ film. Journal of Magnetism and Magnetic Materials, 2018, 467, 69-73.	1.0	3
50	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
51	La Displacement Driven Double-Exchange Like Mediation in Titanium d_{xy} Ferromagnetism at the $\text{LaAlO}_3/\text{SrTiO}_3$. Journal of the Physical Society of Japan, 2016, 85, 043702.	0.7	1
52	Fine tuning of the magnetic properties in $\text{Mn}_3\text{-Co Ga}$ Heusler films near the critical regime. Journal of Alloys and Compounds, 2021, 858, 158288.	2.8	1
53	Interface two-dimensional metallicity but lack of superconductivity in heterobonded semiconductors: ZnS/Si and GaP/Si . Physical Review B, 2009, 79, .	1.1	0
54	Quantitative In Situ Selected Area Electron Diffraction of Vacuum Thermally Reduced Graphene Oxide. Microscopy and Microanalysis, 2012, 18, 1576-1577.	0.2	0

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55	Water-driven Growth of Graphene Monoxide Revealed by In Situ Infrared and Electron Microscopy, Diffraction and Spectroscopy. <i>Microscopy and Microanalysis</i> , 2012, 18, 1508-1509.	0.2	0
56	Magnetism of Asymmetrically Terminated FeRh(001) Thin Films: A First-Principle Study. <i>IEEE Transactions on Magnetics</i> , 2016, 52, 1-3.	1.2	0
57	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
58	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
59	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
60	Two-dimensional Materials in Curved Geometry. <i>Journal of the Korean Physical Society</i> , 2020, 77, 997-1001.	0.3	0