

Charanjit Singh Bhatia

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/785808/publications.pdf>

Version: 2024-02-01

129
papers

3,201
citations

201674

27
h-index

182427

51
g-index

129
all docs

129
docs citations

129
times ranked

3985
citing authors

#	ARTICLE	IF	CITATIONS
1	The rise of carbon materials for field emission. Journal of Materials Chemistry C, 2021, 9, 2620-2659.	5.5	28
2	A Comprehensive Fundamental Understanding of Atomic Layer Deposited Titanium Oxide Films for c-Si Solar Cell Applications. IEEE Journal of Photovoltaics, 2021, 11, 319-328.	2.5	1
3	Angstrom-Scale Transparent Overcoats: Interfacial Nitrogen-Driven Atomic Intermingling Promotes Lubricity and Surface Protection of Ultrathin Carbon. Nano Letters, 2021, 21, 8960-8969.	9.1	5
4	Slippery and Wear-Resistant Surfaces Enabled by Interface Engineered Graphene. Nano Letters, 2020, 20, 905-917.	9.1	18
5	Boosting contact sliding and wear protection via atomic intermixing and tailoring of nanoscale interfaces. Science Advances, 2019, 5, eaau7886.	10.3	22
6	Nitrogen plasma treatment in two-step temperature deposited FePt bilayer media. Journal of Magnetism and Magnetic Materials, 2018, 461, 6-13.	2.3	2
7	Exchange coupled CoPt/FePtC media for heat assisted magnetic recording. Applied Physics Letters, 2018, 112, 142411.	3.3	5
8	Evidence for Chemicals Intermingling at Silicon/Titanium Oxide (TiO _x) Interface and Existence of Multiple Bonding States in Monolithic TiO _x . Advanced Functional Materials, 2018, 28, 1707018.	14.9	23
9	Growth and Composition of Atomic Layer Deposited Titanium Oxide Films for c-Si Solar Cell Applications. , 2018, , .		0
10	Direct observation of thickness and foreign interlayer driven abrupt structural transformation in ultrathin carbon and hybrid silicon nitride/carbon films. Carbon, 2017, 115, 701-719.	10.3	18
11	Superior wear resistance and low friction in hybrid ultrathin silicon nitride/carbon films: synergy of the interfacial chemistry and carbon microstructure. Nanoscale, 2017, 9, 14937-14951.	5.6	17
12	Understanding Surface Treatment and ALD AlO _x Thickness Induced Surface Passivation Quality of c-Si Cz Wafers. IEEE Journal of Photovoltaics, 2017, 7, 1224-1235.	2.5	30
13	Non-destructive patterning of 10 nm magnetic island array by phase transformation with low-energy proton irradiation. Applied Physics Letters, 2017, 111, .	3.3	4
14	Interface Engineering and Controlling the Friction and Wear of Ultrathin Carbon Films: High sp ³ Versus High sp ² Carbons. Advanced Functional Materials, 2016, 26, 1526-1542.	14.9	44
15	Correlation of nanoscale behaviour of forces and macroscale surface wettability. Nanoscale, 2016, 8, 15597-15603.	5.6	23
16	Cloaking the magnons. Physical Review B, 2016, 93, .	3.2	3
17	Atomic Scale Interface Manipulation, Structural Engineering, and Their Impact on Ultrathin Carbon Films in Controlling Wear, Friction, and Corrosion. ACS Applied Materials & Interfaces, 2016, 8, 17606-17621.	8.0	20
18	Epitaxial ferroelectric 0.3Pb(In _{1/2} Nb _{1/2})O ₃ –0.38Pb(Mg _{1/3} Nb _{2/3})O ₃ –0.32PbTiO ₃ thin films grown on (110)-oriented MgO substrates. Thin Solid Films, 2015, 597, 193-196.	1.8	6

#	ARTICLE	IF	CITATIONS
19	Time-resolved imaging of pulse-induced magnetization reversal with a microwave assist field. Scientific Reports, 2015, 5, 10695.	3.3	3
20	Ultrathin Carbon with Interspersed Graphene/Fullerene-like Nanostructures: A Durable Protective Overcoat for High Density Magnetic Storage. Scientific Reports, 2015, 5, 11607.	3.3	33
21	Two-step temperature deposited FePt bilayer for tunable magnetic properties. Journal Physics D: Applied Physics, 2015, 48, 445007.	2.8	3
22	Combined Thermography and Luminescence Imaging to Characterize the Spatial Performance of Multicrystalline Si Wafer Solar Cells. IEEE Journal of Photovoltaics, 2015, 5, 102-111.	2.5	18
23	Magnetization reversal using excitation of collective modes in nanodot matrices. Scientific Reports, 2015, 5, 7908.	3.3	3
24	High density heat-assisted magnetic recording (HAMR) with use of nano-aperture optics. , 2015, , .		0
25	Probing the Role of Carbon Microstructure on the Thermal Stability and Performance of Ultrathin ($\pm 2\text{ nm}$) Overcoats on $L1$ FePt Media for Heat-Assisted Magnetic Recording. ACS Applied Materials & Interfaces, 2015, 7, 158-165.	8.0	19
26	Extraction of Surface Recombination Velocity at Highly Doped Silicon Surfaces Using Electron-Beam-Induced Current. IEEE Journal of Photovoltaics, 2015, 5, 263-268.	2.5	9
27	Dual-Stage Nanopositioning Scheme for 10 Tbit/in ² Hard Disk Drives With a Shear-Mode Piezoelectric Single-Crystal Microactuator. IEEE Transactions on Magnetics, 2015, 51, 1-9.	2.1	13
28	Passivation of Boron-Doped Industrial Silicon Emitters by Thermal Atomic Layer Deposited Titanium Oxide. IEEE Journal of Photovoltaics, 2015, 5, 1062-1066.	2.5	41
29	Individual magnetization reversal of a square dot matrix by common current excitation. Journal Physics D: Applied Physics, 2015, 48, 295301.	2.8	1
30	Synchronization of spin-transfer torque oscillators by spin pumping, inverse spin Hall, and spin Hall effects. Journal of Applied Physics, 2015, 117, 063907.	2.5	16
31	Characterization of C-apertures in a successful demonstration of heat-assisted magnetic recording. Optics Letters, 2015, 40, 3444.	3.3	6
32	Durable ultrathin silicon nitride/carbon bilayer overcoats for magnetic heads: The role of enhanced interfacial bonding. Journal of Applied Physics, 2015, 117, .	2.5	15
33	Application and modeling of single contact electron beam induced current technique on multicrystalline silicon solar cells. Solar Energy Materials and Solar Cells, 2015, 133, 143-147.	6.2	1
34	Enhanced characteristics of pulsed DC sputtered ultrathin ($\pm 2\text{ nm}$) amorphous carbon overcoats on hard disk magnetic media. Diamond and Related Materials, 2015, 51, 14-23.	3.9	15
35	Probing the role of C ⁺ ion energy, thickness and graded structure on the functional and microstructural characteristics of ultrathin carbon films ($\pm 2\text{ nm}$). Tribology International, 2015, 81, 73-88.	5.9	19
36	Tunable daughter molds from a single Si master grating mold. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2014, 32, 051601.	1.2	1

#	ARTICLE	IF	CITATIONS
37	Current induced annealing and electrical characterization of single layer graphene grown by chemical vapor deposition for future interconnects in VLSI circuits. Applied Physics Letters, 2014, 105, .	3.3	7
38	Excellent <i>c</i> -Si surface passivation by low-temperature atomic layer deposited titanium oxide. Applied Physics Letters, 2014, 104, .	3.3	126
39	Structural Evolution and Properties of $0.3\text{Pb}(\text{In})_{1/2}\text{Nb}_{1/2}$ Ferroelectric Ceramics with Different Sintering Times. Journal of the American Ceramic Society, 2014, 97, 3294-3300.	3.8	4
40	Electrical detection of microwave assisted magnetization reversal by spin pumping. Applied Physics Letters, 2014, 104, .	3.3	9
41	Effect of FePt on resonant behaviour of a near field transducer for high areal density heat assisted magnetic recording. Applied Physics Letters, 2014, 104, .	3.3	5
42	Comparison of Corrosion and Tribological Properties of Ultrathin (≈ 2 nm) Carbon Films on Hard-Disk Media by DC Sputtering and FCVA Processes. IEEE Transactions on Magnetics, 2014, 50, 1-4.	2.1	2
43	Improving the efficiency of a poly(3-hexylthiophene)-CuInS ₂ photovoltaic device by incorporating graphene nanopowder. Journal of Nanophotonics, 2014, 8, 083092.	1.0	7
44	Spin wave non-reciprocity and beating in permalloy by the time-resolved magneto-optical Kerr effect. Journal Physics D: Applied Physics, 2014, 47, 385002.	2.8	2
45	Omnidirectional study of nanostructured glass packaging for solar modules. Progress in Photovoltaics: Research and Applications, 2014, 22, 356-361.	8.1	11
46	Ion Implantation Challenges for Patterned Media at Areal Densities Over 5 Tbps. IEEE Transactions on Magnetics, 2014, 50, 41-46.	2.1	7
47	Outdoor performance and durability testing of antireflecting and self-cleaning glass for photovoltaic applications. Solar Energy, 2014, 110, 231-238.	6.1	54
48	Enhanced Tribological, Corrosion, and Microstructural Properties of an Ultrathin (≈ 2 nm) Silicon Nitride/Carbon Bilayer Overcoat for High Density Magnetic Storage. ACS Applied Materials & Interfaces, 2014, 6, 9376-9385.	8.0	24
49	Electrical transport properties of polycrystalline CVD graphene on SiO ₂ /Si substrate. Diamond and Related Materials, 2014, 45, 28-33.	3.9	19
50	An ultrathin multilayer TiN/SiN wear resistant coating for advanced magnetic tape drive heads. Thin Solid Films, 2014, 556, 354-360.	1.8	7
51	Energy gradient carbon embedding in the magnetic media for improved tribological performance. Surface and Coatings Technology, 2014, 242, 152-156.	4.8	3
52	Bi-level surface modification of hard disk media by carbon using filtered cathodic vacuum arc: Reduced overcoat thickness without reduced corrosion performance. Diamond and Related Materials, 2014, 44, 100-108.	3.9	20
53	Preparation of Ag/TiO ₂ /SiO ₂ films via photo-assisted deposition and adsorptive self-assembly for catalytic bactericidal application. Applied Surface Science, 2014, 311, 582-592.	6.1	19
54	Strain-enhanced tunneling magnetoresistance in MgO magnetic tunnel junctions. Scientific Reports, 2014, 4, 6505.	3.3	36

#	ARTICLE	IF	CITATIONS
55	Friction and wear durability studies on the 3D negative fingerprint and honeycomb textured SU-8 surfaces. Tribology International, 2013, 60, 187-197.	5.9	18
56	Large scale antireflective glass texturing using grid contacts in anodization methods. Solar Energy Materials and Solar Cells, 2013, 116, 9-13.	6.2	8
57	Developing an (Al,Ti)N x C y Interlayer to Improve the Durability of the ta-C Coating on Magnetic Recording Heads. Tribology Letters, 2013, 50, 233-243.	2.6	9
58	Nondestructive Defect Characterization of Saw-Damage-Etched Multicrystalline Silicon Wafers Using Scanning Electron Acoustic Microscopy. IEEE Journal of Photovoltaics, 2013, 3, 370-374.	2.5	2
59	Deposition temperature independent excellent passivation of highly boron doped silicon emitters by thermal atomic layer deposited Al ₂ O ₃ . Journal of Applied Physics, 2013, 114, 094505.	2.5	18
60	Electric-field-induced magnetization changes in Co/Al ₂ O ₃ granular multilayers. Physical Review B, 2013, 87, .	3.2	1
61	Integral resonant control for suppression of resonance in piezoelectric micro-actuator used in precision servomechanism. Mechatronics, 2013, 23, 1-9.	3.3	34
62	Excellent Si surface passivation by thermal atomic layer deposited aluminum oxide after industrial firing activation. Journal Physics D: Applied Physics, 2013, 46, 385102.	2.8	19
63	The effect of light soaking on crystalline silicon surface passivation by atomic layer deposited Al ₂ O ₃ . Journal of Applied Physics, 2013, 113, .	2.5	55
64	Stochastic nonlinear electrical characteristics of graphene. Applied Physics Letters, 2013, 102, .	3.3	6
65	Nondestructive defect characterization of saw-damage-etched multicrystalline silicon wafers using scanning electron acoustic microscopy. , 2013, , .		0
66	Magneto-optical Kerr effect investigation on magnetoelectric coupling in ferromagnetic/antiferroelectric multilayer thin film structures. Applied Physics Letters, 2012, 101, .	3.3	4
67	Ultrathin Si/C graded layer to improve tribological properties of Co magnetic films. Applied Physics Letters, 2012, 101, 191601.	3.3	14
68	Integral Resonant Control for Suppression of Micro-Actuator Resonance in Dual Stage Actuator. IEEE Transactions on Magnetics, 2012, 48, 4614-4617.	2.1	1
69	Parallel-leaky capacitance equivalent circuit model for MgO magnetic tunnel junctions. Applied Physics Letters, 2012, 101, .	3.3	23
70	First-Order Reversal Curve Investigations on the Effects of Ion Implantation in Magnetic Media. IEEE Transactions on Magnetics, 2012, 48, 2753-2756.	2.1	11
71	Nondestructive defect characterization of saw-damage-etched multicrystalline silicon wafers using scanning electron acoustic microscopy. , 2012, , .		0
72	A Novel Approach of Carbon Embedding in Magnetic Media for Future Head/Disk Interface. IEEE Transactions on Magnetics, 2012, 48, 1807-1812.	2.1	18

#	ARTICLE	IF	CITATIONS
73	Ultrafine and High Aspect Ratio Metal Lines by Electron Beam Lithography for Silicon Solar Cell Metallisation. Energy Procedia, 2012, 15, 91-96.	1.8	3
74	The Effect of Dust on Transmission and Self-cleaning Property of Solar Panels. Energy Procedia, 2012, 15, 421-427.	1.8	66
75	Effect of angstrom-scale surface roughness on the self-assembly of polystyrene-polydimethylsiloxane block copolymer. Scientific Reports, 2012, 2, 617.	3.3	17
76	Spacer-less, decoupled granular L10 FePt magnetic media using Ar ⁺ He sputtering gas. Journal of Applied Physics, 2012, 112, 113916.	2.5	4
77	TiO ₂ Thin Films Prepared via Adsorptive Self-Assembly for Self-Cleaning Applications. ACS Applied Materials & Interfaces, 2012, 4, 1093-1102.	8.0	92
78	Biaxial strain effect of spin dependent tunneling in MgO magnetic tunnel junctions. Applied Physics Letters, 2012, 101, 042407.	3.3	18
79	Development of a ta-C Wear Resistant Coating with Composite Interlayer for Recording Heads of Magnetic Tape Drives. Tribology Letters, 2012, 46, 221-232.	2.6	10
80	Thermal analysis and performance optimization of a solar hot water plant with economic evaluation. Solar Energy, 2012, 86, 1378-1395.	6.1	55
81	A practical superhydrophilic self cleaning and antireflective surface for outdoor photovoltaic applications. Solar Energy Materials and Solar Cells, 2012, 98, 46-51.	6.2	160
82	Bulk heterojunction formation with induced concentration gradient from a bilayer structure of P3HT:CdSe/ZnS quantum dots using inter-diffusion process for developing high efficiency solar cell. Organic Electronics, 2012, 13, 710-714.	2.6	21
83	Effect of pre-treatment of the substrate surface by energetic C ⁺ ion bombardment on structure and nano-tribological characteristics of ultra-thin tetrahedral amorphous carbon (ta-C) protective coatings. Journal Physics D: Applied Physics, 2011, 44, 115502.	2.8	20
84	Enhancement of optical transmission with random nanohole structures. Optics Express, 2011, 19, A35.	3.4	35
85	Ion-Implantation Studies on Perpendicular Media. Journal of Nanoscience and Nanotechnology, 2011, 11, 2619-2622.	0.9	2
86	Substrate bias effect on AlO _x -based magnetic tunnel junctions. Journal of Physics: Conference Series, 2011, 266, 012105.	0.4	0
87	Magnetic field control of hysteretic switching in Co/Al ₂ O ₃ multilayers by carrier injection. AIP Advances, 2011, 1, .	1.3	4
88	Interface mediated control of microstructure and magnetic properties of FePt/C thin films. Journal of Magnetism and Magnetic Materials, 2011, 323, 2658-2662.	2.3	6
89	Overcoat Free Magnetic Media for Lower Magnetic Spacing and Improved Tribological Properties for Higher Areal Densities. Tribology Letters, 2011, 43, 247-256.	2.6	21
90	Frictional characteristics of exfoliated and epitaxial graphene. Carbon, 2011, 49, 4070-4073.	10.3	116

#	ARTICLE	IF	CITATIONS
91	Increasing the luminous efficiency of an MEH-PPV based PLED using salmon DNA and single walled carbon nanotube. Journal of Luminescence, 2011, 131, 1264-1266.	3.1	12
92	Self-cleaning and antireflective packaging glass for solar modules. Renewable Energy, 2011, 36, 2489-2493.	8.9	151
93	Ion implantation induced modification of structural and magnetic properties of perpendicular media. Journal Physics D: Applied Physics, 2011, 44, 365001.	2.8	11
94	Effect of carbon embedding on the tribological properties of magnetic media surface with and without a perfluoropolyether (PFPE) layer. Journal Physics D: Applied Physics, 2011, 44, 315301.	2.8	8
95	Design and fabrication of high efficiency power coupler between different photonic crystal waveguides. Applied Physics Letters, 2011, 98, 241102.	3.3	8
96	Design of track following controller of dual actuated HDD servo for 10 Tb/in ² magnetic recording. , 2011, , .		0
97	Enhanced luminance of MEH-PPV based PLEDs using single walled carbon nanotube composite as an electron transporting layer. Journal of Luminescence, 2010, 130, 2157-2160.	3.1	19
98	Tunneling characteristics of graphene. Applied Physics Letters, 2010, 97, 252102.	3.3	13
99	Omnidirectional optical transmission by optimized nano-structures of solar cells. , 2010, , .		0
100	Ambipolar bistable switching effect of graphene. Applied Physics Letters, 2010, 97, .	3.3	30
101	Surface-Energy Engineering of Graphene. Langmuir, 2010, 26, 3798-3802.	3.5	426
102	Fabrication and experimental study of Al ₂ O ₃ -TiC sliders with piezoelectric nanoactuators for flying height control. Microsystem Technologies, 2007, 13, 751-757.	2.0	1
103	Ultrathin CNx overcoats for 1â€%Tb/in. ² hard disk drive systems. Applied Physics Letters, 2002, 81, 1113-1115.	3.3	32
104	Some tribology and mechanics issues for 100-Gb/in ² hard disk drive. IEEE Transactions on Magnetism, 2002, 38, 1879-1885.	2.1	16
105	The effects of disk morphology on flying-height modulation: experiment and simulation. IEEE Transactions on Magnetism, 2002, 38, 107-111.	2.1	21
106	Ultrathin diamond-like carbon films deposited by filtered carbon vacuum arcs. IEEE Transactions on Plasma Science, 2001, 29, 768-775.	1.3	55
107	Corrosion performance of ultrathin carbon nitride overcoats synthesized by magnetron sputtering. Thin Solid Films, 2001, 381, 6-9.	1.8	30
108	Effect of lubricant bonding fraction at the headâ€“disk interface. Tribology Letters, 2001, 10, 195-201.	2.6	28

#	ARTICLE	IF	CITATIONS
109	Flyability and flying height modulation measurement of sliders with sub-10 nm flying heights. IEEE Transactions on Magnetics, 2001, 37, 894-899.	2.1	28
110	Title is missing!. Tribology Letters, 2000, 8, 25-34.	2.6	14
111	Design tradeoffs for beyond 20 Gb/in. ² : Using a merged notched head on advanced low noise media (invited). Journal of Applied Physics, 2000, 87, 4996-5000.	2.5	9
112	Effect of the additive X-1P on the tribological performance and migration behavior of PFPE lubricant at the head-disk interface. IEEE Transactions on Magnetics, 2000, 36, 2708-2710.	2.1	4
113	Tribo-chemistry at the head/disk interface. IEEE Transactions on Magnetics, 1999, 35, 910-915.	2.1	31
114	Title is missing!. Tribology Letters, 1999, 7, 1-10.	2.6	20
115	Ion implantation post-processing of amorphous carbon films. Diamond and Related Materials, 1999, 8, 451-456.	3.9	11
116	The decomposition mechanisms of a perfluoropolyether at the head/disk interface of hard disk drives. Tribology Letters, 1998, 5, 203-209.	2.6	30
117	Nanomechanical properties of CN/ _x /overcoats and cathodic arc carbon (CAC) films. IEEE Transactions on Magnetics, 1998, 34, 1720-1722.	2.1	11
118	Hardness, elastic modulus, and structure of very hard carbon films produced by cathodic arc deposition with substrate pulse biasing. Applied Physics Letters, 1996, 68, 779-781.	3.3	255
119	Air bearing design, optimization, stability analysis and verification for sub-25 nm flying. IEEE Transactions on Magnetics, 1996, 32, 103-109.	2.1	19
120	Magnetic recording measurements of high coercivity longitudinal media using magnetic force microscopy (MFM). Journal of Applied Physics, 1996, 79, 5327.	2.5	26
121	Wear of hydrogenated carbon coated disks by carbon coated and uncoated Al/ ₂ O/ ₃ /TiC sliders in ultra high vacuum. IEEE Transactions on Magnetics, 1996, 32, 3669-3671.	2.1	6
122	Nanotribological characterization of hydrogenated carbon films by scanning probe microscopy. Thin Solid Films, 1995, 258, 75-81.	1.8	51
123	Design, simulation, fabrication and measurement of a 25 nm, 50% slider. IEEE Transactions on Magnetics, 1995, 31, 2952-2954.	2.1	1
124	Nanotribological evaluations of hydrogenated carbon films as thin as 5 nm on magnetic rigid disks. IEEE Transactions on Magnetics, 1995, 31, 3015-3017.	2.1	6
125	Tribochemical wear of carbon films in oxygen. Journal of Applied Physics, 1994, 76, 4651-4655.	2.5	11
126	Gaseous wear products from perfluoropolyether lubricant films. Wear, 1993, 168, 31-36.	3.1	34

#	ARTICLE	IF	CITATIONS
127	Gaseous wear products from lubricated thin film disks. IEEE Transactions on Magnetics, 1993, 29, 253-258.	2.1	13
128	Nucleation and growth of silicon on tungsten and molybdenum in a field emission microscope. Journal of Applied Physics, 1975, 46, 4685-4688.	2.5	9
129	Adsorption and surface diffusion of titanium on tungsten in a field emission microscope. Surface Science, 1974, 43, 369-384.	1.9	13