

# Chaoquan Hu

## List of Publications by Year in descending order

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66  
papers

1,470  
citations

257450  
24  
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361022  
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66  
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docs citations

66  
times ranked

1465  
citing authors

#	ARTICLE	IF	CITATIONS
1	Towards highly efficient solar-driven interfacial evaporation for desalination. <i>Journal of Materials Chemistry A</i> , 2020, 8, 17907-17937.	10.3	115
2	3D Hydrogel Evaporator with Vertical Radiant Vessels Breaking the Trade-off between Thermal Localization and Salt Resistance for Solar Desalination of High Salinity. <i>Advanced Materials</i> , 2022, 34, .	21.0	73
3	Ar plasma treatment on few layer graphene sheets for enhancing their field emission properties. <i>Journal Physics D: Applied Physics</i> , 2010, 43, 055302.	2.8	69
4	Biomass-Derived Carbonaceous Materials with Multichannel Waterways for Solar-Driven Clean Water and Thermoelectric Power Generation. <i>ACS Sustainable Chemistry and Engineering</i> , 2021, 9, 4571-4582.	6.7	56
5	Effects of substrate bias voltage on the microstructure, mechanical properties and tribological behavior of reactive sputtered niobium carbide films. <i>Surface and Coatings Technology</i> , 2012, 212, 185-191.	4.8	47
6	Novel SPR sensing platform based on superstructure MoS <sub>2</sub> nanosheets for ultrasensitive detection of mercury ion. <i>Sensors and Actuators B: Chemical</i> , 2019, 284, 589-594.	7.8	47
7	Effects of substrate bias on the preferred orientation, phase transition and mechanical properties for NbN films grown by direct current reactive magnetron sputtering. <i>Journal of Applied Physics</i> , 2008, 104, .	2.5	43
8	Structural evolution and dielectric properties of Nd and Mn co-doped BaTiO <sub>3</sub> ceramics. <i>Journal of Alloys and Compounds</i> , 2018, 760, 31-41.	5.5	43
9	Preferred orientation, phase transition and hardness for sputtered zirconium nitride films grown at different substrate biases. <i>Surface and Coatings Technology</i> , 2011, 205, 2865-2870.	4.8	42
10	New design for highly durable infrared-reflective coatings. <i>Light: Science and Applications</i> , 2018, 7, 17175-17175.	16.6	37
11	Effects of the chemical bonding on the optical and mechanical properties for germanium carbide films used as antireflection and protection coating of ZnS windows. <i>Journal of Physics Condensed Matter</i> , 2006, 18, 4231-4241.	1.8	31
12	Influence of the residual stress on the nanoindentation-evaluated hardness for zirconium nitride films. <i>Surface and Coatings Technology</i> , 2012, 206, 3250-3257.	4.8	31
13	On the nature of point defect and its effect on electronic structure of rocksalt hafnium nitride films. <i>Acta Materialia</i> , 2014, 81, 315-325.	7.9	31
14	Identification and thermodynamic mechanism of the phase transition in hafnium nitride films. <i>Acta Materialia</i> , 2015, 90, 59-68.	7.9	31
15	Oxygen vacancies dependent phase transition of Y <sub>2</sub> O <sub>3</sub> films. <i>Applied Surface Science</i> , 2017, 410, 470-478.	6.1	31
16	Evaporation rate far beyond the input solar energy limit enabled by introducing convective flow. <i>Chemical Engineering Journal</i> , 2022, 429, 132335.	12.7	31
17	Structure, mechanical and tribological properties of HfCx films deposited by reactive magnetron sputtering. <i>Applied Surface Science</i> , 2015, 327, 68-76.	6.1	30
18	Tribochemistry dependent tribological behavior of superhard TaC/SiC multilayer films. <i>Surface and Coatings Technology</i> , 2018, 337, 492-500.	4.8	29

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19	Structure and mechanical properties of $\text{Ti-NbN/SiNx}$ and $\text{TiO}_2\text{-NbN/SiNx}$ nano-multilayer films deposited by reactive magnetron sputtering. <i>Surface and Coatings Technology</i> , 2009, 203, 1702-1708.	4.8	28
20	Structures, mechanical properties and thermal stability of $\text{TiN/SiNx}$ multilayer coatings deposited by magnetron sputtering. <i>Journal of Alloys and Compounds</i> , 2009, 486, 515-520.	5.5	28
21	Effects of nitrogen flow rate on the preferred orientation and phase transition for niobium nitride films grown by direct current reactive magnetron sputtering. <i>Journal Physics D: Applied Physics</i> , 2009, 42, 035304.	2.8	27
22	Optical coatings of durability based on transition metal nitrides. <i>Thin Solid Films</i> , 2019, 688, 137339.	1.8	27
23	Annealing effects on the bonding structures, optical and mechanical properties for radio frequency reactive sputtered germanium carbide films. <i>Applied Surface Science</i> , 2009, 255, 3552-3557.	6.1	26
24	Negative effect of vacancies on cubic symmetry, hardness and conductivity in hafnium nitride films. <i>Scripta Materialia</i> , 2015, 108, 141-146.	5.2	25
25	The AlN layer thickness dependent coherent epitaxial growth, stress and hardness in $\text{NbN/AlN}$ nanostructured multilayer films. <i>Surface and Coatings Technology</i> , 2013, 235, 367-375.	4.8	24
26	Nature of Tunable Optical Reflectivity of Rocksalt Hafnium Nitride Films. <i>Journal of Physical Chemistry C</i> , 2014, 118, 20511-20520.	3.1	23
27	N dependent tribochemistry: Achieving superhard wear-resistant low-friction $\text{TaC}_x\text{N}_y$ films. <i>Surface and Coatings Technology</i> , 2017, 328, 378-389.	4.8	23
28	$\text{Ge}_{1-x}\text{Cx}$ double-layer antireflection and protection coatings. <i>Applied Surface Science</i> , 2006, 252, 8135-8138.	6.1	22
29	Multilayer antireflective and protective coatings comprising amorphous diamond and amorphous hydrogenated germanium carbide for ZnS optical elements. <i>Thin Solid Films</i> , 2008, 516, 3117-3122.	1.8	22
30	Improved multi-level data storage properties of germanium-antimony-tellurium films by nitrogen doping. <i>Scripta Materialia</i> , 2017, 141, 120-124.	5.2	21
31	Chemical bonding of $\text{a-Ge}_{1-x}\text{Cx:H}$ films grown by RF reactive sputtering. <i>Vacuum</i> , 2004, 77, 63-68.	3.5	20
32	Effects of bias voltage and annealing on the structure and mechanical properties of $\text{WC}_{0.75}\text{N}_{0.25}$ thin films. <i>Journal of Alloys and Compounds</i> , 2009, 486, 357-364.	5.5	20
33	Understanding phase-change materials with unexpectedly low resistance drift for phase-change memories. <i>Journal of Materials Chemistry C</i> , 2018, 6, 3387-3394.	5.5	20
34	Relatively low temperature synthesis of hexagonal tungsten carbide films by N doping and its effect on the preferred orientation, phase transition, and mechanical properties. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2009, 27, 167-173.	2.1	19
35	Thermal stability of magnetron sputtering amorphous carbon nitride films. <i>Vacuum</i> , 2003, 72, 233-239.	3.5	18
36	Interfacial fracture for $\text{TiN/SiNx}$ nano-multilayer coatings on Si(111) characterized by nanoindentation experiments. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 494, 324-328.	5.6	18

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37	Increasing sp <sup>3</sup> hybridized carbon atoms in germanium carbide films by increasing the argon ion energy and germanium content. <i>Journal Physics D: Applied Physics</i> , 2010, 43, 135103.	2.8	18
38	Structure, mechanical property, and tribological behavior of c-NbN/CN <sub>x</sub> multilayers grown by magnetron sputtering. <i>Surface and Coatings Technology</i> , 2012, 206, 4040-4045.	4.8	18
39	Effects of radio frequency power on the chemical bonding, optical and mechanical properties for radio frequency reactive sputtered germanium carbide films. <i>Journal Physics D: Applied Physics</i> , 2006, 39, 5074-5079.	2.8	17
40	“All-crystalline” phase transition in nonmetal doped germanium “antimony” tellurium films for high-temperature non-volatile photonic applications. <i>Acta Materialia</i> , 2020, 188, 121-130.	7.9	17
41	Highly hard yet toughened bcc-W coating by doping unexpectedly low B content. <i>Scientific Reports</i> , 2017, 7, 9353.	3.3	15
42	The role of structural order and stiffness in the simultaneous enhancement of optical contrast and thermal stability in phase change materials. <i>Journal of Materials Chemistry C</i> , 2019, 7, 4132-4142.	5.5	13
43	Modulation periodicity dependent structure, stress, and hardness in NbN/W <sub>2</sub> N nanostructured multilayer films. <i>Journal of Applied Physics</i> , 2011, 109, .	2.5	12
44	Role of carbon in the formation of hard Ge <sub>1-x</sub> C <sub>x</sub> thin films by reactive magnetron sputtering. <i>Physica B: Condensed Matter</i> , 2011, 406, 2658-2662.	2.7	12
45	Improving electrical conductivity and wear resistance of hafnium nitride films via tantalum incorporation. <i>Ceramics International</i> , 2017, 43, 8517-8524.	4.8	12
46	Phase Change Materials for Nonvolatile, Solid-State Reflective Displays: From New Structural Design Rules to Enhanced Color-Changing Performance. <i>Advanced Optical Materials</i> , 2020, 8, 2000062.	7.3	12
47	Relationship between dielectric coefficient and Urbach tail width of hydrogenated amorphous germanium carbon alloy films. <i>Applied Physics Letters</i> , 2012, 101, 042109.	3.3	10
48	Field emission properties of vertically aligned thin-graphite sheets/graphite-encapsulated Cu particles. <i>Applied Surface Science</i> , 2012, 258, 6930-6937.	6.1	9
49	Three distinct optical-switching states in phase-change materials containing impurities: From physical origin to material design. <i>Journal of Materials Science and Technology</i> , 2021, 75, 118-125.	10.7	9
50	Optical reflectivity and hardness improvement of hafnium nitride films via tantalum alloying. <i>Applied Physics Letters</i> , 2016, 109, 232102.	3.3	8
51	Stress induced preferred orientation and phase transition for ternary WC <sub>x</sub> Ny thin films. <i>Applied Surface Science</i> , 2009, 255, 8164-8170.	6.1	7
52	Transformation of electronic properties and structural phase transition from HfN to Hf <sub>3</sub> N <sub>4</sub> . <i>Journal of Physics Condensed Matter</i> , 2015, 27, 225501.	1.8	7
53	Integration of superhydrophobicity and high durability in super-rough hard thin films. <i>Ceramics International</i> , 2021, 47, 23653-23658.	4.8	7
54	<i>In situ</i> growth of ultra-smooth or super-rough thin films by suppression of vertical or horizontal growth of surface mounds. <i>Journal of Materials Chemistry C</i> , 2020, 8, 3248-3257.	5.5	7

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55	Hardness and optical gap enhancement of germanium carbon films by nitrogen incorporation. Thin Solid Films, 2015, 584, 208-213.	1.8	5
56	Improving the reflectance and color contrasts of phase-change materials by vacancy reduction for optical-storage and display applications. Optics Letters, 2020, 45, 244.	3.3	5
57	Field electron emission enhancement of amorphous carbon through a niobium buffer layer. Journal of Applied Physics, 2008, 103, 114314.	2.5	4
58	Ion-bombardment-induced reduction in vacancies and its enhanced effect on conductivity and reflectivity in hafnium nitride films. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	3
59	Surface roughening transition induced by phase transformation in hafnium nitride films. Surface and Coatings Technology, 2017, 320, 414-420.	4.8	3
60	Field electron emission enhancement of amorphous carbon through a niobium carbide buffer layer. Journal of Applied Physics, 2009, 105, .	2.5	2
61	Structural evolution and optical properties of hydrogenated germanium carbonitride films. Vacuum, 2016, 129, 23-30.	3.5	2
62	Combined effect of ion bombardment and nitrogen incorporation on structure, mechanical and optical properties of amorphous Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> films. Vacuum, 2017, 141, 32-40.	3.5	2
63	Full-color, multi-level transmittance modulators: From reflectivity/gradient absorption coupling mechanism to materials map. Acta Materialia, 2021, 216, 117132.	7.9	2
64	Designing hard, low-refractive-index lossy materials for super wear-resistant absorbers. Materials Research Letters, 2022, 10, 472-480.	8.7	2
65	Effects of bonding structure from niobium carbide buffer layer on the field electric emission properties of a-C films. Journal of Applied Physics, 2009, 105, 074318.	2.5	1
66	Designing infrared phase change materials for colorful infrared transmittance modulators. Applied Surface Science, 2022, 600, 154104.	6.1	1