

# Jen-Fin Lin

## List of Publications by Year in descending order

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116  
papers

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citations

394421

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501196

28  
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116  
all docs

116  
docs citations

116  
times ranked

1331  
citing authors

#	ARTICLE	IF	CITATIONS
1	Analysis of a ball screw with a preload and lubrication. Tribology International, 2009, 42, 1816-1831.	5.9	77
2	Atomistic simulations of hard and soft films under nanoindentation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 452-453, 135-141.	5.6	68
3	1-nm-thick graphene tri-layer as the ultimate copper diffusion barrier. Applied Physics Letters, 2014, 104, .	3.3	57
4	Effects of annealing temperature on microstructure, surface roughness, mechanical and tribological properties of Ni <sup>4</sup> P and Ni <sup>4</sup> P/SiC films. Surface and Coatings Technology, 2016, 288, 135-143.	4.8	44
5	The study of adhesion and nanomechanical properties of DLC films deposited on tool steels. Thin Solid Films, 2009, 517, 4916-4920.	1.8	41
6	A microcontact model developed for sphere- and cylinder-based fractal bodies in contact with a rigid flat surface. Wear, 2010, 268, 431-442.	3.1	41
7	Investigation of the relationship between primary and secondary shear bands induced by indentation in bulk metallic glasses. International Journal of Plasticity, 2010, 26, 1645-1658.	8.8	38
8	Influence of laser beam fluence on surface quality, microstructure, mechanical properties, and tribological results for laser polishing of SKD61 tool steel. Journal of Materials Processing Technology, 2016, 229, 22-35.	6.3	38
9	Characterization of the elastic and viscoelastic properties of dentin by a nanoindentation creep test. Journal of Biomechanics, 2015, 48, 2155-2161.	2.1	30
10	Effect of nitrogen content at coating film and film thickness on nanohardness and Young's modulus of hydrogenated carbon films. Diamond and Related Materials, 2004, 13, 42-53.	3.9	28
11	A new method developed to evaluate both the hardness and elastic modulus of a coating-substrate system. Surface and Coatings Technology, 2005, 200, 2489-2496.	4.8	25
12	Atomic-scale simulations of material behaviors and tribology properties for FCC and BCC metal films. Materials Letters, 2012, 80, 59-62.	2.6	25
13	Techniques developed for fault diagnosis of long-range running ball screw drive machine to evaluate lubrication condition. Measurement: Journal of the International Measurement Confederation, 2018, 126, 274-288.	5.0	24
14	Molecular dynamic simulation and characterization of self-assembled monolayer under sliding friction. Computational Materials Science, 2007, 39, 808-816.	3.0	23
15	Formation Mechanism and Mechanics of Dip-Pen Nanolithography Using Molecular Dynamics. Langmuir, 2010, 26, 3237-3241.	3.5	21
16	Effect of nitrogen content on mechanical properties and tribological behaviors of hydrogenated amorphous carbon films prepared by ion beam assisted chemical vapor deposition. Thin Solid Films, 2004, 466, 137-150.	1.8	20
17	Effects of pre-strain applied at a polyethylene terephthalate substrate before the coating of Al-doped ZnO film on film quality and optical and electrical properties. Ceramics International, 2011, 37, 2467-2476.	4.8	20
18	Stress-strain analysis for evaluating the effect of the orientation of dentin tubules on their mechanical properties and deformation behavior. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 12, 1-8.	3.1	20

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19	Contact and frictional behavior of rough surfaces using molecular dynamics combined with fractal theory. <i>Computational Materials Science</i> , 2007, 40, 480-484.	3.0	19
20	Fatigue Life Study of ITO/PET Specimens in Terms of Electrical Resistance and Stress/Strain Via Cyclic Bending Tests. <i>Journal of Display Technology</i> , 2013, 9, 577-585.	1.2	19
21	Analyses and experimental confirmation of removal performance of silicon oxide film in the chemical-mechanical polishing (CMP) process with pattern geometry of concentric groove pads. <i>Wear</i> , 2011, 270, 172-180.	3.1	18
22	A study of the relationship between semi-circular shear bands and pop-ins induced by indentation in bulk metallic glasses. <i>Intermetallics</i> , 2010, 18, 1572-1578.	3.9	17
23	The effects of hydrogenated carbon films with different film thickness and nitrogen content on specimen mechanical properties, scratch critical load, adhesion work and tribological behavior. <i>Diamond and Related Materials</i> , 2004, 13, 1895-1906.	3.9	16
24	Molecular Dynamics Simulations of the Roller Nanoimprint Process: Adhesion and Other Mechanical Characteristics. <i>Nanoscale Research Letters</i> , 2009, 4, 913-920.	5.7	15
25	Effects of mold geometry and taper angles on the filling mechanism of a nanoimprinted polymer using molecular dynamics. <i>Applied Surface Science</i> , 2014, 316, 292-300.	6.1	14
26	Microstructural, Electrical, and Mechanical Properties of Graphene Films on Flexible Substrate Determined by Cyclic Bending Test. <i>ACS Applied Materials &amp; Interfaces</i> , 2014, 6, 19566-19573.	8.0	14
27	Surface quality, microstructure, mechanical properties and tribological results of the SKD 61 tool steel with prior heat treatment affected by the deposited energy of continuous wave laser micro-polishing. <i>Journal of Materials Processing Technology</i> , 2016, 234, 177-194.	6.3	14
28	Effects of pre-strain applied at a polyethylene terephthalate substrate before the coating of TiO <sub>2</sub> film on the coating film quality and optical performance. <i>Thin Solid Films</i> , 2011, 519, 7875-7882.	1.8	13
29	Fatigue life study of ITO/PET specimens in cyclic bending tests. <i>Journal of Materials Science: Materials in Electronics</i> , 2015, 26, 250-261.	2.2	13
30	Thermal analysis for graphitization and ablation depths of diamond films. <i>Diamond and Related Materials</i> , 2006, 15, 1-9.	3.9	12
31	Determination for elasticity and plasticity from time-dependent nanoindentations. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 496, 90-97.	5.6	12
32	Effects of sputtering-deposition inclination angle on the IGZO film microstructures, optical properties and photoluminescence. <i>Optical Materials Express</i> , 2016, 6, 343.	3.0	12
33	Effects of nitrogen/oxygen on the electrical and optical properties and microstructure of triple layer AZO/Ag/AZO thin films. <i>Optical Materials Express</i> , 2020, 10, 249.	3.0	12
34	Novel Polymeric Surfactants for Improving Chemical Mechanical Polishing Performance of Silicon Oxide. <i>Electrochemical and Solid-State Letters</i> , 2001, 4, G42.	2.2	11
35	The response surface method and the analysis of mild oxidational wear. <i>Tribology International</i> , 2002, 35, 771-785.	5.9	11
36	Effects of a self-assembled monolayer on the sliding friction and adhesion of an Au surface. <i>Applied Physics A: Materials Science and Processing</i> , 2008, 91, 459-466.	2.3	11

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37	Plasma immersion ion implantation induced improvements of mechanical properties, wear resistance, and adhesion of diamond-like carbon films deposited on tool steel. <i>Surface and Coatings Technology</i> , 2009, 204, 229-236.	4.8	11
38	Effect of chain length of self-assembled monolayers in dip-pen nanolithography using molecular dynamics simulations. <i>Journal of Colloid and Interface Science</i> , 2011, 361, 316-320.	9.4	11
39	High-efficiency concentrated optical module. <i>Energy</i> , 2012, 44, 593-603.	8.8	11
40	Effects of prestrain applied to poly(ethylene terephthalate) substrate before coating of indium oxide film on film quality and optical, electrical, and mechanical properties. <i>Ceramics International</i> , 2014, 40, 591-603.	4.8	11
41	Effects of thicknesses of Si/Al/Si composite films and annealing temperature on metal-induced si crystallization efficiency, voids, and electrical properties. <i>Thin Solid Films</i> , 2016, 599, 151-160.	1.8	11
42	An Investigation of the Effects of Polymethylmethacrylate Orientation and Antistiction Layer on the Nanoimprint Process Using Molecular Dynamics. <i>Advanced Science Letters</i> , 2011, 4, 36-43.	0.2	11
43	Determining buckling strain energy release rate through indentation-induced delamination. <i>Thin Solid Films</i> , 2011, 519, 4889-4893.	1.8	10
44	Studies on centrifugal clutch judder behavior and the design of frictional lining materials. <i>Mechanical Systems and Signal Processing</i> , 2016, 66-67, 811-828.	8.0	10
45	Formation of microcrystalline silicon films using rapid crystal aluminum induced crystallization under low-temperature rapid thermal annealing. <i>Thin Solid Films</i> , 2010, 518, 6966-6971.	1.8	9
46	Effects of annealing conditions and thickness ratio of Si/Al films on the Hall carrier mobility, Al carrier concentration, and nanovoids formed in the metal-induced Si crystallization of Si/Al/Si/SiO <sub>2</sub> /glass specimens. <i>Surface and Coatings Technology</i> , 2011, 205, 4672-4682.	4.8	9
47	Nanotribology of self-assembled monolayer with a probe tip investigated using molecular dynamics simulations. <i>Micron</i> , 2013, 44, 410-418.	2.2	9
48	Surface polishes of the SKD 61 tool steel by a femto pulse laser operating in a wide range of powers. <i>Journal of Materials Processing Technology</i> , 2020, 277, 116465.	6.3	9
49	Effect of the addition of zirconium on the electrical, optical, and mechanical properties and microstructure of ITO thin films. <i>Vacuum</i> , 2021, 183, 109844.	3.5	9
50	Non-vacuum growth of graphene films using solid carbon source. <i>Applied Physics Letters</i> , 2015, 106, 221604.	3.3	8
51	Effects of thin titanium and graphene depositions and annealing temperature on electrical, optical, and mechanical properties of IGZO/Ti/graphene/PI specimen. <i>Ceramics International</i> , 2018, 44, 6573-6583.	4.8	8
52	Deep Trench Isolation and Inverted Pyramid Array Structures Used to Enhance Optical Efficiency of Photodiode in CMOS Image Sensor via Simulations. <i>Sensors</i> , 2020, 20, 3062.	3.8	8
53	Applications of energy flux and numerical analyses to the plasma etching of silicon deep trench isolation (DTI) structures. <i>Precision Engineering</i> , 2021, 71, 141-152.	3.4	8
54	Characterization of the electrical and optical properties for a-IGZO/Ag/a-IGZO triple-layer thin films with different thickness depositions on a curved glass substrate. <i>Optical Materials Express</i> , 2019, 9, 3414.	3.0	8

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55	Determination of the strain energy release rate for C/a-Si composite film produced in nanoindentation tests. <i>Journal of Applied Physics</i> , 2009, 105, 023523.	2.5	7
56	The nanoindentation applied to predict the interface delamination for the C/amorphous Si composite film. <i>Journal of Applied Physics</i> , 2009, 106, .	2.5	7
57	The model developed for stress-induced structural phase transformations of micro-crystalline silicon films. <i>Nano-Micro Letters</i> , 2010, 2, 68-73.	27.0	7
58	Effects of Prestrain Applied to a Polyethylene Terephthalate Substrate Before the Coating of Al-Doped ZnO Film on Film Quality, Electrical Properties, and Pop-In Behavior During Nanoindentation. <i>Journal of Microelectromechanical Systems</i> , 2012, 21, 1059-1070.	2.5	7
59	Effect of fractal parameters on optical properties of cold rolled aluminum alloy strips with induced surface deflection: Simulations and experimental correlations. <i>Journal of Materials Processing Technology</i> , 2020, 279, 116554.	6.3	7
60	Establishment of the Model Widely Valid for the Melting and Vaporization Zones in Selective Laser Melting Printings Via Experimental Verifications. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2022, 9, 143-162.	4.9	7
61	Effects of implantation temperature and volume flow rate ratio of nitrogen and hydrogen on nitrogen concentration distribution, mechanical properties, fatigue life, fracture toughness, and tribological behavior of plasma-nitrided P20, 718 and 420 steels. <i>Surface and Coatings Technology</i> , 2007, 201, 5912-5924.	4.8	6
62	Modeling to evaluate the contact areas of hard materials during the nano-indentation tests. <i>Sensors and Actuators A: Physical</i> , 2008, 147, 229-241.	4.1	6
63	Theoretical modeling developed to evaluate the hardness and reduced modulus for the C/a-Si composite film using nanoindentation tests. <i>Nanotechnology</i> , 2008, 19, 325710.	2.6	6
64	Nanotribological behavior of diamond surfaces using molecular dynamics with fractal theory and experiments. <i>Current Applied Physics</i> , 2010, 10, 266-271.	2.4	6
65	Effects of tip-substrate gap, deposition temperature, holding time, and pull-off velocity on dip-pen lithography investigated using molecular dynamics simulation. <i>Journal of Applied Physics</i> , 2012, 111, 103521.	2.5	6
66	Thermally-induced failures of copper through-silicon via structures evaluated by the strain energy density model. <i>Thin Solid Films</i> , 2016, 615, 281-291.	1.8	6
67	Effects of SiO <sub>2</sub> film thickness and operating temperature on thermally-induced failures in through-silicon-via structures. <i>Microelectronics Reliability</i> , 2018, 83, 1-13.	1.7	6
68	Effects of groove factor and surface roughness of raceway in ball-bearing-like specimens on tribological behavior and the onsets of two instabilities of dry contacts. <i>Wear</i> , 2018, 406-407, 126-139.	3.1	6
69	Antiwear performance of polysiloxane-containing copolymers at oil/metal interface under extreme pressure. <i>Wear</i> , 2002, 253, 862-868.	3.1	5
70	Effects of inclination angle applied to a polyethylene terephthalate substrate before the coating of Al-doped ZnO on film quality and mechanical and optical properties. <i>Ceramics International</i> , 2014, 40, 6987-6998.	4.8	5
71	Effects of inclination angle during Al-doped ZnO film deposition and number of bending cycles on electrical, piezoelectric, optical, and mechanical properties and fatigue life. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2016, 34, 021501.	2.1	5
72	Effects of deposition method and conditions for IGZO film and thermal annealing on composite film quality, surface roughness, microstructural defects, and electrical properties of Ti/IGZO/graphene/polyimide specimens. <i>Journal of Alloys and Compounds</i> , 2018, 768, 298-315.	5.5	5

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73	Uses of empirical mode decomposition and multi-entropy techniques to establish the correlations among vibrations, friction coefficients and component wear of ball-bearing-like specimens. Measurement: Journal of the International Measurement Confederation, 2020, 150, 107021.	5.0	5
74	Retardation of cyclic indentation creep exhibited in metal alloys. Journal of Materials Research, 2008, 23, 2650-2656.	2.6	4
75	Modified method for continuous stiffness measurement. Journal of Materials Research, 2009, 24, 599-606.	2.6	4
76	Nano-structure and nano-mechanical properties of human teeth. , 2011, , .		4
77	Effects of deposition and annealing conditions on the defects in the Al/glass composites of TFT specimens. Journal of Materials Science: Materials in Electronics, 2014, 25, 4425-4433.	2.2	4
78	Surface quality, microstructure, and mechanical properties of the SKD 61 tool steel with prior heat treatment affected by single- and double-pass continuous wave laser polishing. International Journal of Advanced Manufacturing Technology, 2017, 92, 1643-1658.	3.0	4
79	Tribological behavior and thermoelastic instability demonstrated in ball-bearing-like specimens operating in dry contacts and with grease lubrication. Tribology International, 2017, 110, 358-369.	5.9	4
80	Effects of roll pattern and reduction ratio on optical characteristics of A1008 cold-rolled steel specimens: analytical approach and experimental correlations. International Journal of Advanced Manufacturing Technology, 2020, 111, 2001-2020.	3.0	4
81	Sliding wear and fracture mechanisms of injection molded Cr <sub>3</sub> C <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> composite. Ceramics International, 2003, 29, 213-221.	4.8	3
82	Multiscale particle dynamics in nanoimprint process. Applied Physics A: Materials Science and Processing, 2008, 91, 273-279.	2.3	3
83	A New Model Developed to Evaluate the Contact Area Arising During Nano-indentation Tests With Pileup Behavior of Metal Materials. IEEE Nanotechnology Magazine, 2008, 7, 256-265.	2.0	3
84	Effects of prestrain applied to poly(ethylene terephthalate) substrate on size, porosity, and geometry of TiO <sub>2</sub> particles and optical properties of TiO <sub>2</sub> /PET specimens. Ceramics International, 2013, 39, 7063-7075.	4.8	3
85	Effects of graphene layers in IGZO / graphite-like +Ni/SiO <sub>2</sub> /Si wafer specimens on electrical and optical properties in tribotests. Optical Materials Express, 2016, 6, 3857.	3.0	3
86	Numerical and experimental studies for the anisotropic etching of silicon with the AFM oxide lines as masks. Microelectronic Engineering, 2008, 85, 143-150.	2.4	2
87	Modified method developed for contact-induced adhesion in indentation. Journal of Materials Research, 2009, 24, 1795-1802.	2.6	2
88	Effective Improvements in Microstructure and Electrical Properties of the IGZO Films by Sputtering Angles. International Journal of Applied Ceramic Technology, 2016, 13, 469-479.	2.1	2
89	Evaluations of heat treatment on polymer adhesive bonding and thermal-induced failure of two-layer through-silicon via structures. Sensors and Actuators A: Physical, 2019, 285, 685-699.	4.1	2
90	Study of the Electrical and Diffusion Barrier Properties in Ultrathin Carbon Film-Coated Copper Microwires for Interconnects. Journal of Materials Engineering and Performance, 2019, 28, 2292-2304.	2.5	2

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91	Effect of femtosecond laser power and overlap ratio on surface roughness parameters, contact angle, and tribological properties of the textured SKD 61 tool steel with oil lubrication. Surface Topography: Metrology and Properties, 2020, 8, 045003.	1.6	2
92	Determinations of thermoelastic instability for ball-bearing-like specimens with spacers and in grease lubrications. Tribology International, 2020, 151, 106415.	5.9	2
93	The effect of under-layers and pre-test temperature on the tribological characteristics of TiN films rubbing against steel. Wear, 2004, 256, 252-267.	3.1	1
94	A study of the self-assembled mono-layer deposition process for the anti-adhesion of nano-imprint stamps. , 2006, , .		1
95	An integrated simulation and statistical technique for investigating the effect of interpenetration polymer brushes in a good solvent. Applied Physics A: Materials Science and Processing, 2009, 94, 195.	2.3	1
96	The Interfacial Transition of the C/Si Composite Film and Si Substrate Evaluated to Predict the Pop-In Behavior in Nanoindentation. IEEE Nanotechnology Magazine, 2011, 10, 363-370.	2.0	1
97	Effects of pre-strain applied to a poly(ethylene terephthalate) substrate before TiO <sub>2</sub> film deposition on the contact angle of the substrate and the morphology of the specimen. Mechanics of Materials, 2013, 58, 23-34.	3.2	1
98	Effects of Deposition Conditions of TiO <sub>2</sub> Film and Substrate Prestrain on Film Void Geometries and Optical Properties in TiO <sub>2</sub> /PET Specimens. International Journal of Applied Ceramic Technology, 2015, 12, E217.	2.1	1
99	Effects of Deposition Inclination Angle on Microstructure and Electrical Properties of Al-Doped ZnO Coating Films. International Journal of Applied Ceramic Technology, 2016, 13, 152-163.	2.1	1
100	Fractal parameters developed to evaluate the effects of laser textured surface on oil contact angle and tribological parameters. Journal of Laser Applications, 2021, 33, 022021.	1.7	1
101	The Model Developed for Stress-Induced Structural Phase Transformations of Micro-Crystalline Silicon Films. Nano-Micro Letters, 2010, 2, 68.	27.0	1
102	Use of Nanoindentation for Investigating the Nanostructure of Dentin Tissue. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 153-158.	0.5	1
103	A study of the self-assembled mono-layer deposition process for the anti-adhesion of nano-imprint stamps. , 0, , .		0
104	Ferrule fabrication for the MT-type optical fiber connector using the microinjection process. Journal of Micromechanics and Microengineering, 2008, 18, 115026.	2.6	0
105	Coarse particle dynamics applied to the nanocontact. IEEE Nanotechnology Magazine, 2009, 3, 9-15.	1.3	0
106	Multiscale Particle Dynamics on Nanocontact and Sliding Friction. Journal of Nanoscience and Nanotechnology, 2009, 9, 3295-3300.	0.9	0
107	Mechanical Characterization of Nanomolding Process Using Coarse Particle Dynamics. Journal of Computational and Theoretical Nanoscience, 2010, 7, 2171-2175.	0.4	0
108	Investigation of acoustic properties and Raman scattering of AlN films for biosensor application. , 2011, , .		0

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109	Effects of the inclination angle of polyethylene terephthalate substrate on mechanical, electrical, and optical properties of Al-doped ZnO coating film. , 2014, , .		0
110	Effects of deposition inclination angle on the mechanical, optical and electrical characteristics of Al-doped ZnO films. , 2015, , .		0
111	Effects of prestrain applied to poly(ethylene terephthalate) substrate on microstructures and morphologies of porous TiO <sub>2</sub> film and optical scattering behaviors of light. Applied Optics, 2015, 54, 816.	1.8	0
112	Effects of deposition power of IGZO film and graphene layer in IGZO/graphene + Ni/SiO <sub>2</sub> /Si wafer specimens on the mechanical and electrical properties in tribotests. Surface and Coatings Technology, 2017, 315, 44-60.	4.8	0
113	The measuring technique developed to evaluate the thermal diffusivity of the multi-layered thin film specimens. MATEC Web of Conferences, 2017, 123, 00026.	0.2	0
114	Effects of fluorination of carbon film and annealing conditions on side leakage current and current breakdown time of SiO <sub>2</sub> /graphene/Cu/Ti/SiO <sub>2</sub> /Si specimens. Vacuum, 2020, 172, 109037.	3.5	0
115	Effects of AZO film as inductive layer and annealing temperature on microstructure crystallinity and electrical and optical properties of IGZO/SiO <sub>2</sub> and IGZO/AZO/SiO <sub>2</sub> specimens. Ceramics International, 2020, 46, 11089-11100.	4.8	0
116	Residual Stress Release During Nanoindentation-Induced Delamination. Advanced Science Letters, 2012, 8, 836-838.	0.2	0