Esteban Broitman

List of Publications by Year
in descending order

120	3,412	147726	155592
papers	citations	31 h-index	55 g-index

126	126	126	3283
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Role of nitrogen in the formation of hard and elasticCNxthin films by reactive magnetron sputtering. Physical Review B, 1999, 59, 5162-5169.	1.1	446
2	Indentation Hardness Measurements at Macro-, Micro-, and Nanoscale: A Critical Overview. Tribology Letters, 2017, 65, 1.	1.2	329
3	Reactive magnetron sputter deposited CNx: Effects of N2 pressure and growth temperature on film composition, bonding, and microstructure. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1996, 14, 2696-2701.	0.9	172
4	Carbon nitride nanotubulite â€“ densely-packed and well-aligned tubular nanostructures. Chemical Physics Letters, 1999, 300, 695-700.	1.2	137
5	Effect of chemical sputtering on the growth and structural evolution of magnetron sputtered CNx thin films. Thin Solid Films, 2001, 382, 146-152.	0.8	94
6	Mechanical and tribological properties of CNx films deposited by reactive magnetron sputtering. Wear, 2001, 248, 55-64.	1.5	94
7	Microstructure and corrosion behaviour of DC-pulsed plasma nitrided AISI 410 martensitic stainless steel. Surface and Coatings Technology, 2004, 187, 63-69.	2.2	89
8	Structural, mechanical and tribological behavior of fullerene-like and amorphous carbon nitride coatings. Diamond and Related Materials, 2004, 13, 1882-1888.	1.8	76
9	Microstructural and topographical studies of DC-pulsed plasma nitrided AISI 4140 low-alloy steel. Surface and Coatings Technology, 2005, 200, 2391-2397.	2.2	75
10	Influence of plasma parameters on the growth and properties of magnetron sputtered CNx thin films. Journal of Applied Physics, 2000, 88, 524-532.	1.1	74
11	Carbon nitride films on orthopedic substrates. Diamond and Related Materials, 2000, 9, 1984-1991.	1.8	61
12	Electrical and optical properties of CNx(0â©½xâ©½0.25) films deposited by reactive magnetron sputtering. Journal of Applied Physics, 2001, 89, 1184-1190.	1.1	58
13	Nanoscale piezoelectric response of ZnO nanowires measured using a nanoindentation technique. Physical Chemistry Chemical Physics, 2013, 15, 11113.	1.3	55
14	Friction and rollingâ€“sliding wear of DC-pulsed plasma nitrided AISI 410 martensitic stainless steel. Wear, 2006, 260, 479-485.	1.5	53
15	Stress development during deposition of CNx thin films. Applied Physics Letters, 1998, 72, 2532-2534.	1.5	52
16	Thermal stability of carbon nitride thin films. Journal of Materials Research, 2001, 16, 3188-3201.	1.2	49
17	Growth, structure, and mechanical properties of CN[sub x]H[sub y] films deposited by dc magnetron sputtering in N[sub 2]/Ar/H[sub 2] discharges. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2000, 18, 2349.	0.9	48
18	Characterization of ZnO and ZnO:Al thin films deposited by the solâ€“gel dip-coating technique. Thin Solid Films, 2008, 517, 1077-1080.	0.8	47

#	Article	IF	Citations
19	Hard and elastic epitaxial ZrB2 thin films on Al2O3(0001) substrates deposited by magnetron sputtering from a ZrB2 compound target. Acta Materialia, 2016, 111, 166-172.	3.8	47
20	Adaptive hard and tough mechanical response in single-crystal B1 VNx ceramics via control of anion vacancies. Acta Materialia, 2020, 192, 78-88.	3.8	46
21	Reactive magnetron sputtering of CNx thin films at different substrate bias. Thin Solid Films, 1997, 308-309, 223-227.	0.8	41
22	Dangling bond energetics in carbon nitride and phosphorus carbide thin films with fullerene-like and amorphous structure. Chemical Physics Letters, 2009, 482, 110-113.	1.2	41
23	The nature of the frictional force at the macro-, micro-, and nano-scales. Friction, 2014, 2, 40-46.	3.4	41
24	Tribocorrosion behavior and ions release of CoCrMo alloy coated with a TiAlVCN/CN multilayer in simulated body fluid plus bovine serum albumin. Tribology International, 2015, 81, 159-168.	3.0	41
25	Water adsorption on fullerene-like carbon nitride overcoats. Thin Solid Films, 2008, 517, 1106-1110.	0.8	40
26	Microstructural evolution of solâ€“gel derived ZnO thin films. Thin Solid Films, 2010, 518, 6792-6798.	0.8	39
27	Age hardening in (Ti 1â^'x Al x)B 2+Î” thin films. Scripta Materialia, 2017, 127, 122-126.	2.6	38
28	Highly stable, mesoporous mixed lanthanumâ€“cerium oxides with tailored structure and reducibility. Journal of Materials Science, 2011, 46, 2928-2937.	1.7	35
29	Initial Oxidation of Cu(hkl) Surfaces Vicinal to Cu(111): A High-Throughput Study of Structure Sensitivity. Journal of Physical Chemistry C, 2012, 116, 16054-16062.	1.5	35
30	Industrial-scale deposition of highly adherent CNx films on steel substrates. Surface and Coatings Technology, 2010, 204, 3349-3357.	2.2	33
31	Adhesion improvement of carbon-based coatings through a high ionization deposition technique. Journal of Physics: Conference Series, 2012, 370, 012009.	0.3	33
32	Nanoscale elastic modulus of single horizontal ZnO nanorod using nanoindentation experiment. Nanoscale Research Letters, 2012, 7, 146.	3.1	30
33	High temperature nanoindentation hardness and Young's modulus measurement in a neutron-irradiated fuel cladding material. Journal of Nuclear Materials, 2017, 487, 113-120.	1.3	30
34	Mechanical and tribological properties of CNx films deposited by reactive pulsed laser ablation. Diamond and Related Materials, 2002, 11, 98-104.	1.8	29
35	Electrical properties of carbon nitride thin films: Role of morphology and hydrogen content. Journal of Electronic Materials, 2002, 31, L11-L15.	1.0	28
36	Filtered pulsed cathodic arc deposition of fullerene-like carbon and carbon nitride films. Journal of Applied Physics, 2014, 115, .	1.1	27

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37	Diamond graphitization by laser-writing for all-carbon detector applications. Diamond and Related Materials, 2017, 75, 25-33.	1.8	26
38	High-temperature nanoindentation of epitaxial ZrB2 thin films. Scripta Materialia, 2016, 124, 117-120.	2.6	25
39	Piezoelectric and opto-electrical properties of silver-doped ZnO nanorods synthesized by low temperature aqueous chemical method. AIP Advances, 2015, 5, .	0.6	24
40	Mechanical properties and tribological behavior at micro and macro-scale of WC/WCN/W hierarchical multilayer coatings. Tribology International, 2016, 101, 194-203.	3.0	24
41	Synthesis and characterization of (Ti1-Al)B2+ thin films from combinatorial magnetron sputtering. Thin Solid Films, 2019, 669, 181-187.	0.8	24
42	V0.5Mo0.5Nx/MgO(001): Composition, nanostructure, and mechanical properties as a function of film growth temperature. Acta Materialia, 2017, 126, 194-201.	3.8	23
43	Deposition of Y2O3 by plasma enhanced organometallic chemical vapor deposition using an electron cyclotron resonance source. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1993, 11, 1870-1874.	0.9	22
44	Growth of CNx/BN:C multilayer films by magnetron sputtering. Thin Solid Films, 2000, 360, 17-23.	0.8	20
45	Structural and mechanical properties of diamond-like carbon films deposited by direct current magnetron sputtering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2003, 21, 851-859.	0.9	20
46	Comparison of the properties of Pb thin films deposited on Nb substrate using thermal evaporation and pulsed laser deposition techniques. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 729, 451-455.	0.7	19
47	Mechanical and tribological properties of CdOÂ+ÂSnO2 thin films prepared by solâ€“gel. Journal of Sol-Gel Science and Technology, 2015, 74, 114-120.	1.1	18
48	Stresses and Cracking During Chromia-Spinel-NiO Cluster Formation in TBC Systems. Journal of Thermal Spray Technology, 2015, 24, 1002-1014.	1.6	18
49	Novel method for in-situ and simultaneous nanofriction and nanowear characterization of materials. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, .	0.9	17
50	Novel transparent MgSiON thin films with high hardness and refractive index. Vacuum, 2016, 131, 1-4.	1.6	16
51	Water adsorption on phosphorous-carbide thin films. Surface and Coatings Technology, 2009, 204, 1035-1039.	2.2	15
52	Influence of substrate material on the life of atmospheric plasma sprayed thermal barrier coatings. Surface and Coatings Technology, 2013, 232, 795-803.	2.2	15
53	Nanoprobe mechanical and piezoelectric characterization of Sc_xAl_{1â^'x}N(0001) thin films. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 666-673.	0.8	15
54	Growth and mechanical properties of 111-oriented V0.5Mo0.5Nx/Al2O3(0001) thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2018, 36, .	0.9	15

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55	Chemical bonding, structure, and hardness of carbon nitride thin films. Diamond and Related Materials, 2000, 9, 1790-1794.	1.8	14
56	Analysis of direct and converse piezoelectric responses from zinc oxide nanowires grown on a conductive fabric. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 579-584.	0.8	14
57	Ion-plated discontinuous thin film strain gauges. Thin Solid Films, 1998, 317, 440-442.	0.8	13
58	Water adsorption on lubricated fullerene-like CNx films. Thin Solid Films, 2006, 515, 979-983.	0.8	13
59	The effect of oxygen-plasma treatment on the mechanical and piezoelectrical properties of ZnO nanorods. Chemical Physics Letters, 2014, 608, 235-238.	1.2	13
60	Characterisation of Pb thin films prepared by the nanosecond pulsed laser deposition technique for photocathode application. Thin Solid Films, 2015, 579, 50-56.	0.8	13
61	Reactive sputtering of CSx thin solid films using CS2 as precursor. Vacuum, 2020, 182, 109775.	1.6	13
62	Interactions of SO2 and H2S with amorphous carbon films. Applied Catalysis A: General, 2009, 362, 8-13.	2.2	12
63	Anisotropies in magnetron sputtered carbon nitride thin films. Applied Physics Letters, 2001, 78, 2703-2705.	1.5	11
64	Nanomechanical and electrical properties of Nb thin films deposited on Pb substrates by pulsed laser deposition as a new concept photocathode for superconductor cavities. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 804, 132-136.	0.7	11
65	Synthesis and characterization of the mechanical and optical properties of Ca-Si-O-N thin films deposited by RF magnetron sputtering. Surface and Coatings Technology, 2017, 315, 88-94.	2.2	11
66	Comparative study of macro- and microtribological properties of carbon nitride thin films deposited by HiPIMS. Wear, 2017, 370-371, 1-8.	1.5	11
67	Micro-tribological performance of fullerene-like carbon and carbon-nitride surfaces. Tribology International, 2018, 128, 104-112.	3.0	11
68	Fullerene-like Carbon Nitride: A New Carbon-based Tribological Coating. , 2008, , 620-653.		11
69	Monitoring the structural and chemical properties of CNxthin films during in situ annealing in a TEM. EPJ Applied Physics, 2001, 13, 97-105.	0.3	10
70	Structural, electrical, and optical properties of diamondlike carbon films deposited by dc magnetron sputtering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2003, 21, L23-L27.	0.9	10
71	Oxidation of Fluorinated Amorphous Carbon (a-CF_x) Films. Langmuir, 2010, 26, 908-914.	1.6	10
72	Microstructural, nanomechanical, and microtribological properties of Pb thin films prepared by pulsed laser deposition and thermal evaporation techniques. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, 021505.	0.9	10

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73	Micro and Macro-Tribology Behavior of a Hierarchical Architecture of a Multilayer TaN/Ta Hard Coating. Coatings, 2020, 10, 263.	1.2	10
74	Synthesis and properties of CS_xF_ythin films deposited by reactive magnetron sputtering in an Ar/SF₆discharge. Journal of Physics Condensed Matter, 2017, 29, 195701.	0.7	9
75	Deviations from Matthiessen's rule in continuous metal films. Thin Solid Films, 1996, 277, 192-195.	0.8	8
76	Zinc oxide-based thin film functional layers for chemiresistive sensors. Thin Solid Films, 2012, 520, 6669-6676.	0.8	8
77	Ion beam analysis, corrosion resistance and nanomechanical properties of TiAlCN/CNx multilayer grown by reactive magnetron sputtering. Nuclear Instruments & Methods in Physics Research B, 2014, 331, 134-139.	0.6	8
78	Tribological and Nanomechanical Behavior of Liquid Wood. Journal of Tribology, 2019, 141, .	1.0	8
79	Oxidation Kinetics of Hydrogenated Amorphous Carbon (a-CHx) Overcoats for Magnetic Data Storage Media. Langmuir, 2007, 23, 5485-5490.	1.6	7
80	Adsorption of Fluorinated Ethers and Alcohols on Fresh and Oxidized Carbon Overcoats for Magnetic Data Storage. Langmuir, 2007, 23, 1953-1958.	1.6	7
81	Reactive sputtering of Î´-ZrH2 thin films by high power impulse magnetron sputtering and direct current magnetron sputtering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2014, 32, .	0.9	7
82	Tight comparison of Mg and Y thin film photocathodes obtained by the pulsed laser deposition technique. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 836, 57-60.	0.7	7
83	Pulsed laser deposition of yttrium photocathode suitable for use in radio-frequency guns. Applied Physics A: Materials Science and Processing, 2017, 123, 1.	1.1	7
84	Resistance adjustment in RuO2-based thick film strain-gauges by laser irradiation. Journal of Materials Science Letters, 1997, 16, 1983-1985.	0.5	6
85	Comparative study on the properties of ZnO nanowires and nanocrystalline thin films. Surface and Coatings Technology, 2012, 213, 59-64.	2.2	6
86	Mechanical and tribological properties of AlCuFe quasicrystal and Al(Si)CuFe approximant thin films. Journal of Materials Research, 2016, 31, 232-240.	1.2	6
87	Nanotribological behavior of deep cryogenically treated martensitic stainless steel. Beilstein Journal of Nanotechnology, 2017, 8, 1760-1768.	1.5	6
88	Reactive magnetron sputtering of tungsten target in krypton/trimethylboron atmosphere. Thin Solid Films, 2019, 688, 137384.	0.8	6
89	Structural properties of AlSn thin films deposited by magnetron sputtering. Journal of Materials Science Letters, 2001, 20, 1365-1367.	0.5	5
90	Structural and morphological properties of metallic thin films grown by pulsed laser deposition for photocathode application. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	1.1	5

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91	Nanofrictional behavior of amorphous, polycrystalline and textured Y-Cr-O films. Applied Surface Science, 2016, 378, 157-162.	3.1	5
92	The growth of single-crystal films of silver on rock salt by ion plating. Thin Solid Films, 1988, 165, L101-L105.	0.8	4
93	Growth of lead thin films on silicon and niobium substrates by sputtering technique. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, 031502.	0.9	4
94	Innovations in polymers and composite materials. E-Polymers, 2017, 17, 1.	1.3	4
95	Mechanical and Tribological Properties of the Oxide Thin Films Obtained by Solâ€“gel Method. , 2016, , 1-14.		4
96	The influence of steel microstructure in high-speed high-load bearing applications. Materials Science and Technology, 2021, 37, 1370-1385.	0.8	4
97	Nano-Scale Friction of Multi-Phase Powder Metallurgy Tool Steels. Advanced Materials Research, 0, 1119, 70-74.	0.3	3
98	Mechanical and tribological behavior of solâ€“gel TiO2â€“CdO films measured at the microscale levels. Journal of Sol-Gel Science and Technology, 2017, 82, 682-691.	1.1	3
99	Advances in science and technology of polymers and composite materials. E-Polymers, 2018, 18, 1.	1.3	3
100	Measurement of H and E within and in the neighborhood of a single hydride platelet in Zircaloy-2. Journal of Nuclear Materials, 2020, 531, 152013.	1.3	3
101	Electron stimulated decomposition of fluorocarbons on amorphous hydrogenated carbon (a-CHx) overcoats used in data storage media. Tribology Letters, 2007, 26, 45-51.	1.2	2
102	Structural and Mechanical Properties of CN_Xand CP_XThin Solid Films. Key Engineering Materials, 0, 488-489, 581-584.	0.4	2
103	Advanced Carbon-Based Coatings. , 2014, , 389-412.		2
104	Non-conventional photocathodes based on Cu thin films deposited on Y substrate by sputtering. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 752, 27-32.	0.7	2
105	Novel insights in polymer and composite materials. E-Polymers, 2015, 15, 285-286.	1.3	2
106	Fabrication of Nb/Pb structures through ultrashort pulsed laser deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, .	0.9	2
107	A Novel Oxide Characterization Method of Nickel Base Alloy 600 Used in Nuclear Plant Reactors. , 2013, , 3355-3361.		2
108	Tribological and nanomechanical properties of a lignin-based biopolymer. E-Polymers, 2020, 20, 528-541.	1.3	2

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109	Differences in the Sliding Wear Track Patterns Between UHMWPE/Steel and UHMWPE/CNx Pairs. , 2012, 1, 329-336.		1
110	Order twins in (111)-evaporated thin films of CuAu I. Thin Solid Films, 1990, 191, 275-282.	0.8	0
111	Carbon nitride as a buffer layer for magnetic thin films. Thin Solid Films, 2005, 476, 148-151.	0.8	0
112	ICMCTF 2013 â€" Preface. Thin Solid Films, 2013, 549, 1.	0.8	0
113	ICMCTF 2014 - Preface. Thin Solid Films, 2014, 572, 1.	0.8	0
114	ICMCTF 2015 â€" Preface. Thin Solid Films, 2015, 596, 1.	0.8	0
115	2015 Global Conference on Polymer and Composite Materials (PCM2015). IOP Conference Series: Materials Science and Engineering, 2015, 87, 011001.	0.3	0
116	ICMCTF 2015 â€" Preface. Surface and Coatings Technology, 2015, 284, 1.	2.2	0
117	Advanced Carbon-Based Coatings. , 2016, , .		0
118	ICMCTF 2016 â€" Preface. Surface and Coatings Technology, 2016, 308, 1.	2.2	0
119	Nanomechanical and microtribological properties of yttrium thin films for photocathode engineering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, 031507.	0.9	0
120	Mechanical and Tribological Properties of the Oxide Thin Films Obtained by Sol-Gel Method. , 2018, , 1513-1526.		0