Richard R Chromik

List of Publications by Year
in descending order

122	3,594	109137	174990
papers	citations	35 h-index	52 g-index

122	122	122	2996
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The Effect of Deposition Conditions on Adhesion Strength of Ti and Ti6Al4V Cold Spray Splats. Journal of Thermal Spray Technology, 2012, 21, 288-303.	1.6	148
2	Shear-Induced Structural Changes and Origin of Ultralow Friction of Hydrogenated Diamond-like Carbon (DLC) in Dry Environment. ACS Applied Materials & Interfaces, 2017, 9, 16704-16714.	4.0	127
3	Imaging and mechanical property measurements of kerogen via nanoindentation. Geochimica Et Cosmochimica Acta, 2004, 68, 4113-4119.	1.6	114
4	Surface phosphonation enhances hydroxyapatite coating adhesion on polyetheretherketone and its osseointegration potential. Acta Biomaterialia, 2017, 47, 149-158.	4.1	112
5	The influence of Al2O3 particle morphology on the coating formation and dry sliding wear behavior of cold sprayed Alâ€“Al2O3 composites. Surface and Coatings Technology, 2015, 270, 324-333.	2.2	109
6	Nanostructure, osteopontin, and mechanical properties of calcitic avian eggshell. Science Advances, 2018, 4, eaar3219.	4.7	86
7	Microstructural evolution in lead-free solder alloys: Part I. Cast Snâ€“Agâ€“Cu eutectic. Journal of Materials Research, 2004, 19, 1417-1424.	1.2	85
8	Mechanical Properties of Intermetallic Compounds in the Auâ€“Sn System. Journal of Materials Research, 2005, 20, 2161-2172.	1.2	80
9	The influence of carbon nanotubes on the corrosion behaviour of AZ31B magnesium alloy. Corrosion Science, 2010, 52, 3917-3923.	3.0	75
10	Preparation of chameleon coatings for space and ambient environments. Thin Solid Films, 2007, 515, 6737-6743.	0.8	73
11	Run-in behavior of nanocrystalline diamond coatings studied by in situ tribometry. Wear, 2008, 265, 477-489.	1.5	71
12	Mechanical behavior of Ti cold spray coatings determined by a multi-scale indentation method. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 530, 253-265.	2.6	71
13	In situ tribometry of solid lubricant nanocomposite coatings. Wear, 2007, 262, 1239-1252.	1.5	66
14	Mechanical Property Mapping of Cold Sprayed Ti Splats and Coatings. Journal of Thermal Spray Technology, 2011, 20, 486-496.	1.6	65
15	Tribological behavior of electrodeposited Zn, Znâ€“Ni, Cd and Cdâ€“Ti coatings on low carbon steel substrates. Tribology International, 2012, 56, 107-120.	3.0	64
16	Cold spray deposition of a Ni-WC composite coating and its dry sliding wear behavior. Surface and Coatings Technology, 2016, 308, 424-434.	2.2	62
17	In situ tribometry of cold-sprayed Al-Al2O3 composite coatings. Surface and Coatings Technology, 2013, 215, 350-356.	2.2	61
18	Microstructural evolution in lead-free solder alloys: Part II. Directionally solidified Sn-Ag-Cu, Sn-Cu and Sn-Ag. Journal of Materials Research, 2004, 19, 1425-1431.	1.2	57

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19	Room and elevated temperature sliding wear behavior of cold sprayed Ni-WC composite coatings. Surface and Coatings Technology, 2018, 350, 136-145.	2.2	57
20	Erosive wear behavior of Cold-Sprayed Ni-WC composite coating. Wear, 2017, 376-377, 566-577.	1.5	53
21	Quantitative in situ measurement of transfer film thickness by a Newton's rings method. Wear, 2008, 264, 731-736.	1.5	52
22	In situ tribology of nanocomposite Tiâ€“Siâ€“Câ€“H coatings prepared by PE-CVD. Wear, 2011, 272, 133-148.	1.5	51
23	Evaluation of strain rate sensitivity by constant load nanoindentation. Journal of Materials Science, 2012, 47, 7189-7200.	1.7	51
24	Effect of WC morphology on dry sliding wear behavior of cold-sprayed Ni-WC composite coatings. Surface and Coatings Technology, 2019, 357, 849-863.	2.2	50
25	Microtribological Performance of Auâ€“MoS2 and Tiâ€“MoS2 Coatings with Varying Contact Pressure. Tribology Letters, 2010, 40, 199-211.	1.2	49
26	High temperature friction and wear behavior of cold-sprayed Ti6Al4V and Ti6Al4V-TiC composite coatings. Wear, 2019, 426-427, 357-369.	1.5	47
27	Modified ball bond shear test for determination of adhesion strength of cold spray splats. Surface and Coatings Technology, 2010, 205, 1409-1414.	2.2	44
28	Nanoindentation studies to separate thermal and optical effects in photo-softening of azo polymers. Journal of Materials Chemistry C, 2015, 3, 995-1003.	2.7	44
29	Tribological Behavior of a Cold-Sprayed Cuâ€“MoS2 Composite Coating During Dry Sliding Wear. Tribology Letters, 2016, 62, 1.	1.2	44
30	Comparison of Different Demagnetization Models of Permanent Magnet in Machines for Electric Vehicle Application. IEEE Transactions on Magnetics, 2016, 52, 1-4.	1.2	44
31	Scaling Effects on Materials Tribology: From Macro to Micro Scale. Materials, 2017, 10, 550.	1.3	44
32	Influence of Powder Morphology and Microstructure on the Cold Spray and Mechanical Properties of Ti6Al4V Coatings. Journal of Thermal Spray Technology, 2018, 27, 827-842.	1.6	43
33	Microstructure and Mechanical Properties of Ti Cold-Spray Splats Determined by Electron Channeling Contrast Imaging and Nanoindentation Mapping. Microscopy and Microanalysis, 2015, 21, 570-581.	0.2	38
34	Characterization of Ti cold spray coatings by indentation methods. Acta Astronautica, 2011, 69, 923-928.	1.7	37
35	Scaling effects between micro- and macro-tribology for a Tiâ€“MoS2 coating. Wear, 2012, 274-275, 149-161.	1.5	37
36	Role of Third Bodies in Friction and Wear of Cold-Sprayed Ti and Tiâ€“TiC Composite Coatings. Tribology Letters, 2017, 65, 1.	1.2	37

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37	Dry sliding wear behaviour of cold-sprayed Cu-MoS2 and Cu-MoS2-WC composite coatings: The influence of WC. Tribology International, 2018, 123, 296-306.	3.0	37
38	Nanoindentation study of light-induced softening of supramolecular and covalently functionalized azo polymers. Journal of Materials Chemistry C, 2013, 1, 2806.	2.7	34
39	Effect of metallurgical factors on the bulk magnetic properties of non-oriented electrical steels. Journal of Magnetism and Magnetic Materials, 2014, 356, 42-51.	1.0	33
40	Calorimetric study of the energetics and kinetics of interdiffusion in Cu/Cu6Sn5 thinâ€film diffusion couples. Applied Physics Letters, 1995, 67, 2795-2797.	1.5	31
41	Materials Phenomena Revealed by InÂSitu Tribometry. Jom, 2012, 64, 35-43.	0.9	31
42	Third Body Behavior During Dry Sliding of Cold-Sprayed Al-Al2O3 Composites: In Situ Tribometry and Microanalysis. Tribology Letters, 2014, 54, 191-206.	1.2	31
43	Cold Spray Deposition of Ni and WC-Reinforced Ni Matrix Composite Coatings. Journal of Thermal Spray Technology, 2017, 26, 1908-1921.	1.6	31
44	Microstructural and Tribological Behavior of Thermal Spray CrMnFeCoNi High Entropy Alloy Coatings. Journal of Thermal Spray Technology, 2022, 31, 1285-1301.	1.6	31
45	Understanding the solidification and microstructure evolution during CSC-MIG welding of Feâ€“Crâ€“B-based alloy. Materials Characterization, 2013, 86, 127-138.	1.9	30
46	Adhesion strength of titanium particles to alumina substrates: A combined cold spray and LIPIT study. Surface and Coatings Technology, 2019, 361, 403-412.	2.2	30
47	Effect of crystallographic texture on the bulk magnetic properties of non-oriented electrical steels. Journal of Magnetism and Magnetic Materials, 2014, 365, 14-22.	1.0	28
48	Temperature-dependent microtensile testing of thin film materials for application to microelectromechanical system. Microsystem Technologies, 2006, 12, 1045-1051.	1.2	25
49	Magnetic domain structure and crystallographic orientation of electrical steels revealed by a forescatter detector and electron backscatter diffraction. Ultramicroscopy, 2014, 142, 40-49.	0.8	25
50	Tribologically induced nanolaminate in a cold-sprayed WC-reinforced Cu matrix composite: a key to high wear resistance. Materials and Design, 2019, 182, 108009.	3.3	25
51	Microtribological performance of Auâ€“MoS2 nanocomposite and Au/MoS2 bilayer coatings. Tribology International, 2012, 52, 144-152.	3.0	24
52	Effect of Shear Cutting on Microstructure and Magnetic Properties of Non-Oriented Electrical Steel. IEEE Transactions on Magnetics, 2016, 52, 1-4.	1.2	24
53	Sliding wear behavior of cold-sprayed Ni-WC composite coatings: Influence OF WC content. Wear, 2021, 477, 203792.	1.5	24
54	Crystal structure of Au1â^'xNixSn4 intermetallic alloys. Journal of Alloys and Compounds, 2002, 334, 79-85.	2.8	23

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55	Micro-scale sliding contacts on Au and Au-MoS2 coatings. Surface and Coatings Technology, 2010, 205, 1449-1454.	2.2	22
56	Microstructure Refinement of Cold-Sprayed Copper Investigated By Electron Channeling Contrast Imaging. Microscopy and Microanalysis, 2014, 20, 1499-1506.	0.2	22
57	Tribological behavior of TiN and Ti (Si,C)N coatings on cold sprayed Ti substrates. Surface and Coatings Technology, 2016, 291, 264-275.	2.2	22
58	Using macro and micro electrochemical methods to understand the corrosion behavior of stainless steel thermal spray coatings. Npj Materials Degradation, 2019, 3, .	2.6	21
59	In Situ Studies of TiC1â^'x N x Hard Coating Tribology. Tribology Letters, 2010, 40, 365-373.	1.2	20
60	Residual stress near single shot peening impingements determined by nanoindentation and numerical simulations. Journal of Materials Science, 2015, 50, 2284-2297.	1.7	20
61	Effect of crystallographic orientation on the tribological behavior of electrodeposited Zn coatings. RSC Advances, 2016, 6, 17360-17372.	1.7	19
62	The Role of Temperature-Dependent Material Properties in Optimizing the Design of Permanent Magnet Motors. IEEE Transactions on Magnetics, 2018, 54, 1-4.	1.2	19
63	Fretting wear behavior of Znâ€“Ni alloy coatings. Wear, 2015, 330-331, 112-121.	1.5	18
64	The Effect of Submicron Second-Phase Particles on the Rate of Grain Refinement in a Copper-Oxygen Alloy During Cold Spray. Journal of Thermal Spray Technology, 2017, 26, 1509-1516.	1.6	18
65	Calorimetric investigation of the formation of metastable silicides in Au/a-Si thin film multilayers. Journal of Applied Physics, 2002, 91, 8992-8998.	1.1	17
66	The effect of easy axis misorientation on the low induction hysteresis properties of non-oriented electrical steels. Journal of Magnetism and Magnetic Materials, 2015, 382, 124-133.	1.0	17
67	Influence of WC on third body behaviour during fretting of cold-sprayed Cu MoS2WC composites. Tribology International, 2019, 134, 15-25.	3.0	17
68	The influence of powder properties on the adhesion strength and microstructural evolution of cold sprayed Ti6Al4V single splats. Materials Letters, 2019, 244, 58-61.	1.3	17
69	Micro-tribological performance of MoS2 lubricants with varying Au content. Surface and Coatings Technology, 2008, 203, 761-765.	2.2	16
70	Sliding wear of cold sprayed Ti6Al4V coatings: Effect of porosity and normal load. Wear, 2020, 450-451, 203268.	1.5	16
71	The role of metal powder properties on the tribology of cold sprayed Ti6Al4V-TiC metal matrix composites. Surface and Coatings Technology, 2021, 411, 126974.	2.2	16
72	Tailoring the mechanical and tribological properties of sputtered boron carbide films via the B1â^'xCx composition. Surface and Coatings Technology, 2015, 267, 2-7.	2.2	15

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73	Cold-Sprayed Cu-MoS2 and Its Fretting Wear Behavior. Journal of Thermal Spray Technology, 2016, 25, 473-482.	1.6	15
74	Significance of Al 2 O 3 particle morphology in the microstructure evolution of cold-sprayed Al-Al 2 O 3 during unconstrained high-pressure torsion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 684, 510-516.	2.6	15
75	Microstructure and mechanical property connections for a punched non-oriented electrical steel lamination. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 725, 456-465.	2.6	15
76	High cycle fatigue behavior of hard turned 300ÂM ultra-high strength steel. International Journal of Fatigue, 2020, 131, 105380.	2.8	15
77	Effects of Laser Cutting on Microstructure and Magnetic Properties of Non-Orientation Electrical Steel Laminations. IEEE Transactions on Magnetics, 2020, 56, 1-9.	1.2	15
78	Local Magnetic Properties in Non-oriented Electrical Steel and Their Dependence on Magnetic Easy Axis and Misorientation Parameters. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 1262-1276.	1.1	14
79	Tribological Performance of High-Entropy Coatings (HECs): A Review. Materials, 2022, 15, 3699.	1.3	14
80	Laser welding of Tiâ€“5Alâ€“5Vâ€“5Moâ€“3Cr. Canadian Metallurgical Quarterly, 2011, 50, 263-272.	0.4	13
81	Cold-spray processing of titanium and titanium alloys. , 2015, , 405-423.		13
82	Accuracy of time domain extension formulae of core losses in nonâ€oriented electrical steel laminations under nonâ€sinusoidal excitation. IET Electric Power Applications, 2017, 11, 1131-1139.	1.1	13
83	Nanomechanical testing of third bodies. Current Opinion in Solid State and Materials Science, 2018, 22, 142-155.	5.6	13
84	Microstructure and Tribology of Spark Plasma Sintered Feâ€“Crâ€“B Metamorphic Alloy Powder. Tribology Letters, 2011, 44, 269-278.	1.2	12
85	Correlation Between AC Core Loss and Surface Magnetic Barkhausen Noise in Electric Motor Steel. Journal of Nondestructive Evaluation, 2014, 33, 663-669.	1.1	12
86	Influence of Substrate Characteristics on Single Ti Splat Bonding to Ceramic Substrates by Cold Spray. Journal of Thermal Spray Technology, 2018, 27, 1011-1024.	1.6	12
87	Investigating cube-corner indentation hardness and strength relationship under quasi-static and dynamic testing regimes. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 677, 534-539.	2.6	11
88	Tribological Coatings Prepared by Cold Spray. , 2018, , 321-348.		11
89	Hard turning multi-performance optimization for improving the surface integrity of 300M ultra-high strength steel. International Journal of Advanced Manufacturing Technology, 2019, 104, 141-157.	1.5	11
90	Modelling and analysis of the effects of cutting of core laminations in electric machines. IET Electric Power Applications, 2020, 14, 2355-2361.	1.1	11

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91	The influence of vanadium alloying on the elevated-temperature mechanical properties of thin gold films. Thin Solid Films, 2007, 515, 7919-7925.	0.8	10
92	Tribology of a Feâ€“Crâ€“B-Based Alloy Coating Fabricated by a Controlled Short-Circuit MIG Welding Process. Metallography, Microstructure, and Analysis, 2013, 2, 223-233.	0.5	10
93	Factors Affecting Adhesion in Metal/Ceramic Interfaces Created by Cold Spray. Journal of Thermal Spray Technology, 2021, 30, 1703-1723.	1.6	10
94	Wear resistant solid lubricating coatings via compression molding and thermal spraying technologies. Surface and Coatings Technology, 2021, 426, 127790.	2.2	10
95	Combining in situ and online approaches to monitor interfacial processes in lubricated sliding contacts. MRS Communications, 2016, 6, 301-308.	0.8	9
96	Design and analysis of a toroidal tester for the measurement of core losses under axial compressive stress. Journal of Magnetism and Magnetic Materials, 2017, 432, 519-526.	1.0	9
97	Effects of humidity on the sliding wear properties of Znâ€“Ni alloy coatings. RSC Advances, 2017, 7, 22662-22671.	1.7	9
98	Tribology of Self-Lubricating Metal Matrix Composites. , 2018, , 33-73.		9
99	Effect of Microstructure and Properties of Ni-WC Composite Coatings on Their Solid Particle Erosion Behavior. Journal of Materials Engineering and Performance, 2019, 28, 1532-1543.	1.2	9
100	Electron Channeling Contrast Imaging of Plastic Deformation Induced by Indentation in Polycrystalline Nickel. Microscopy and Microanalysis, 2013, 19, 1620-1631.	0.2	8
101	Variations in nanomechanical properties of back-end Zrâ€“2.5Nb pressure tube material. Journal of Nuclear Materials, 2013, 442, 116-123.	1.3	7
102	Short-time exposure oxidation studies on multi-component coatings and their influence on tribological behavior. Wear, 2021, 477, 203892.	1.5	6
103	Coating induced residual stress in nonoriented electrical steel laminations. Journal of Materials Research, 2014, 29, 1737-1746.	1.2	5
104	Relationship between indentation plastic zone size and residual stresses in plastically deformed Fe. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 696, 1-9.	2.6	5
105	Comparison of fretting behaviour of electrodeposited Zn-Ni and Cd coatings. Tribology International, 2018, 120, 535-546.	3.0	5
106	Effect of metal powder properties on the deposition characteristics of cold-sprayed Ti6Al4V-TiC coatings: An experimental and finite element study. Surfaces and Interfaces, 2021, 25, 101208.	1.5	5
107	Tribology of Self-Lubricating Metal Matrix Composites. , 2022, , 31-71.		5
108	Manufacturing and Tribological Behavior of Self-Lubricating Duplex Composites: Graphite-Reinforced Polymer Composites and Polymer-Infiltrated Metal Networks. Journal of Materials Engineering and Performance, 2021, 30, 103-115.	1.2	4

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109	Mechanical properties and wear resistance of industrial bearing liners in concentrated boundary-lubricated sliding. Wear, 2021, 477, 203806.	1.5	4
110	Friction of Microscale Contacts on Diamond-Like Carbon Nanocomposite Coatings. , 2005, , .		4
111	Mechanical Properties and Residual Stress Measurement of TiN/Ti Duplex Coating Using HiPIMS TiN on Cold Spray Ti. Coatings, 2022, 12, 759.	1.2	4
112	Microstructural Characterization of Mgâ€“0.3Alâ€“0.2Ca Alloy Using Ion Milling Surface Preparation Technique. Metallography, Microstructure, and Analysis, 2014, 3, 257-262.	0.5	3
113	Sliding-induced Microstructure of Cold-Sprayed Copper Coating Observed by Electron Channeling Contrast Imaging. Microscopy and Microanalysis, 2014, 20, 2104-2105.	0.2	3
114	Effect of a Coating Induced Residual Stress on Magnetic Domain Structure in Non-Oriented Electrical Steels. Microscopy and Microanalysis, 2014, 20, 894-895.	0.2	2
115	Failure dynamics of spherical and irregular shaped Ti splats deposited on sapphire by cold spray. Surface Topography: Metrology and Properties, 2019, 7, 045002.	0.9	2
116	Effect of Al and Cd sacrificial coatings on the wear of steel substrates. Wear, 2021, 477, 203847.	1.5	2
117	Specific Energy as a Characterizing Parameter for Laser Welded Ti-5Al-5V-5Mo-3Cr Alloy. Materials Science Forum, 0, 706-709, 2931-2936.	0.3	1
118	Local Scale Microstructural Effects from the Deformation and Recrystallization of Non-Oriented Electrical Steels. Metallurgical and Materials Transactions E, 2016, 3, 250-263.	0.5	1
119	Friction transitions and connections to third bodies for a Cd coating on steel substrate. Friction, 2020, 8, 784-801.	3.4	1
120	Internal Oxidation and Mechanical Properties of Pt-IrO2 Thin Films. Materials Research Society Symposia Proceedings, 2003, 795, 445.	0.1	0
121	Magnetic Domain Structure and Crystal Orientation Revealed by a Forescatter Detector and Electron Backscatter Diffraction.. Microscopy and Microanalysis, 2014, 20, 1458-1459.	0.2	0
122	Demagnetization proximity considerations of inverter-fed permanent magnet motors. , 2017, , .		0