Ali Erdemir

List of Publications by Citations

265 papers	18,021 citations	65 h-index	128 g-index
281 ext. papers	20,391 ext. citations	4.4 avg, IF	7.3 L-index

#	Paper	IF	Citations
265	Global energy consumption due to friction in passenger cars. *Tribology International*, **2012**, 47, 221-234	4.9	890
264	Graphene: a new emerging lubricant. *Materials Today*, **2014**, 17, 31-42	21.8	850
263	Tribology of diamond-like carbon films: recent progress and future prospects. *Journal Physics D: Applied Physics*, **2006**, 39, R311-R327	3	834
262	Influence of tribology on global energy consumption, costs and emissions. *Friction*, **2017**, 5, 263-284	5.6	594
261	Few layer graphene to reduce wear and friction on sliding steel surfaces. *Carbon*, **2013**, 54, 454-459	10.4	496
260	Friction. Macroscale superlubricity enabled by graphene nanoscroll formation. *Science*, **2015**, 348, 1118-22	33.3	481
259	A study of the wear mechanism of diamond-like carbon films. *Surface and Coatings Technology*, **1996**, 82, 48-56	4.4	448
258	The effect of laser surface texturing on transitions in lubrication regimes during unidirectional sliding contact. *Tribology International*, **2005**, 38, 219-225	4.9	426
257	The role of hydrogen in tribological properties of diamond-like carbon films. *Surface and Coatings Technology*, **2001**, 146-147, 292-297	4.4	407
256	Review of engineered tribological interfaces for improved boundary lubrication. *Tribology International*, **2005**, 38, 249-256	4.9	384
255	Reduced wear and friction enabled by graphene layers on sliding steel surfaces in dry nitrogen. *Carbon*, **2013**, 59, 167-175	10.4	338
254	Ultrananocrystalline diamond thin films for MEMS and moving mechanical assembly devices. *Diamond and Related Materials*, **2001**, 10, 1952-1961	3.5	318
253	An investigation of the relationship between graphitization and frictional behavior of DLC coatings. *Surface and Coatings Technology*, **1996**, 86-87, 564-568	4.4	274
252	Synthesis of diamondlike carbon films with superlow friction and wear properties. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2000**, 18, 1987-1992	2.9	268
251	Solid Lubricant Coatings: Recent Developments and Future Trends. *Tribology Letters*, **2004**, 17, 389-397	2.8	267
250	Global energy consumption due to friction in trucks and buses. *Tribology International*, **2014**, 78, 94-114	4.9	246
249	A crystal-chemical approach to lubrication by solid oxides. *Tribology Letters*, **2000**, 8, 97-102	2.8	240

248	Carbon-based tribofilms from lubricating oils. *Nature*, **2016**, 536, 67-71	50.4	240
247	Friction of diamond-like carbon films in different atmospheres. *Wear*, **2003**, 254, 1070-1075	3.5	231
246	Genesis of superlow friction and wear in diamondlike carbon films. *Tribology International*, **2004**, 37, 1005-1012	4.9	220
245	Approaches for Achieving Superlubricity in Two-Dimensional Materials. *ACS Nano*, **2018**, 12, 2122-2137	16.7	207
244	Superlow friction behavior of diamond-like carbon coatings: Time and speed effects. *Applied Physics Letters*, **2001**, 78, 2449-2451	3.4	204
243	Extraordinary Macroscale Wear Resistance of One Atom Thick Graphene Layer. *Advanced Functional Materials*, **2014**, 24, 6640-6646	15.6	193
242	Friction-induced structural transformations of diamondlike carbon coatings under various atmospheres. *Surface and Coatings Technology*, **2003**, 163-164, 444-450	4.4	192
241	Global energy consumption due to friction and wear in the mining industry. *Tribology International*, **2017**, 115, 116-139	4.9	170
240	The Effect of Laser Texturing of Steel Surfaces and Speed-Load Parameters on the Transition of Lubrication Regime from Boundary to Hydrodynamic. *Tribology Transactions*, **2004**, 47, 299-307	1.8	167
239	Friction and wear behavior of laser textured surface under lubricated initial point contact. *Wear*, **2011**, 271, 1719-1725	3.5	166
238	Frictional behavior of diamondlike carbon films in vacuum and under varying water vapor pressure. *Surface and Coatings Technology*, **2003**, 163-164, 535-540	4.4	157
237	A tribological investigation of the graphite-to-diamond-like behavior of amorphous carbon films ion beam deposited on ceramic substrates. *Surface and Coatings Technology*, **1991**, 50, 17-23	4.4	152
236	A crystal chemical approach to the formulation of self-lubricating nanocomposite coatings. *Surface and Coatings Technology*, **2005**, 200, 1792-1796	4.4	148
235	The impact of tribology on energy use and CO2 emission globally and in combustion engine and electric cars. *Tribology International*, **2019**, 135, 389-396	4.9	147
234	Synthesis of superlow-friction carbon films from highly hydrogenated methane plasmas. *Surface and Coatings Technology*, **2000**, 133-134, 448-454	4.4	146
233	Tribological properties of nanocrystalline diamond films. *Surface and Coatings Technology*, **1999**, 120-121, 565-572	4.4	144
232	Effect of medications for root canal treatment on bonding to root canal dentin. *Journal of Endodontics*, **2004**, 30, 113-6	4.7	140
231	Influence of environmental parameters on the frictional behavior of DLC coatings. *Surface and Coatings Technology*, **1997**, 94-95, 463-468	4.4	139

230	Tribology of two-dimensional materials: From mechanisms to modulating strategies. *Materials Today*, **2019**, 26, 67-86	21.8	129
229	Tribological characteristics of DLC films and duplex plasma nitriding/DLC coating treatments. *Surface and Coatings Technology*, **1995**, 73, 39-45	4.4	127
228	Comparative tribological behaviors of TiN, CrN and MoNCu nanocomposite coatings. *Tribology International*, **2008**, 41, 49-59	4.9	125
227	Operando tribochemical formation of onion-like-carbon leads to macroscale superlubricity. *Nature Communications*, **2018**, 9, 1164	17.4	120
226	Environmental effects on the friction of hydrogenated DLC films. *Tribology Letters*, **2006**, 21, 51-56	2.8	118
225	Evaluation of the effect of endodontic irrigation solutions on the microhardness and the roughness of root canal dentin. *Journal of Endodontics*, **2004**, 30, 792-5	4.7	115
224	Formation of ultralow friction surface films on boron carbide. *Applied Physics Letters*, **1996**, 68, 1637-1639	3.4	111
223	Material wear and fatigue in wind turbine Systems. *Wear*, **2013**, 302, 1583-1591	3.5	108
222	Effect of source gas chemistry on tribological performance of diamond-like carbon films. *Diamond and Related Materials*, **2000**, 9, 632-637	3.5	108
221	Achieving superlubricity in DLC films by controlling bulk, surface, and tribochemistry. *Friction*, **2014**, 2, 140-155	5.6	102
220	Comparison of hexahedral and tetrahedral elements in finite element analysis of the foot and footwear. *Journal of Biomechanics*, **2011**, 44, 2337-43	2.9	92
219	Tribology of naturally occurring boric acid films on boron carbide. *Surface and Coatings Technology*, **1996**, 86-87, 507-510	4.4	92
218	Physical and tribological properties of diamond films grown in argoncarbon plasmas. *Thin Solid Films*, **1995**, 270, 154-159	2.2	90
217	Characterization of transfer layers forming on surfaces sliding against diamond-like carbon. *Surface and Coatings Technology*, **1996**, 86-87, 692-697	4.4	88
216	Friction and wear performance of ion-beam-deposited diamond-like carbon films on steel substrates. *Diamond and Related Materials*, **1994**, 3, 119-125	3.5	87
215	Nanoscale friction properties of graphene and graphene oxide. *Diamond and Related Materials*, **2015**, 54, 91-96	3.5	85
214	Preparation of ultralow-friction surface films on vanadium diboride. *Wear*, **1997**, 205, 236-239	3.5	82
213	A study of the formation and self-lubrication mechanisms of boric acid films on boric oxide coatings. *Surface and Coatings Technology*, **1990**, 43-44, 588-596	4.4	80

212	Friction and wear behaviour of boron based surface treatment and nano-particle lubricant additives for wind turbine gearbox applications. *Wear*, **2011**, 271, 1754-1760	3.5	79
211	Effects of endodontic irrigation solutions on mineral content of root canal dentin using ICP-AES technique. *Journal of Endodontics*, **2005**, 31, 187-9	4.7	75
210	Design criteria for superlubricity in carbon films and related microstructures. *Tribology International* , **2004**, 37, 577-583	4.9	75
209	Ultrananocrystalline Diamond Film as a Wear-Resistant and Protective Coating for Mechanical Seal Applications. *Tribology Transactions*, **2005**, 48, 24-31	1.8	72
208	Characterization of transfer layers on steel surfaces sliding against diamond-like hydrocarbon films in dry nitrogen. *Surface and Coatings Technology*, **1995**, 76-77, 559-563	4.4	71
207	Mechanical and tribological properties of CrAlN-Ag self-lubricating films. *Surface and Coatings Technology*, **2007**, 202, 1011-1016	4.4	70
206	Graphene - MoS2 ensembles to reduce friction and wear in DLC-Steel contacts. *Carbon*, **2019**, 146, 524-527	10.4	69
205	Understanding run-in behavior of diamond-like carbon friction and preventing diamond-like carbon wear in humid air. *Langmuir*, **2011**, 27, 12702-8	4	69
204	In situ TEM studies of tribo-induced bonding modifications in near-frictionless carbon films. *Carbon*, **2010**, 48, 587-591	10.4	68
203	Shear bond strength of three resin based sealers to dentin with and without the smear layer. *Journal of Endodontics*, **2005**, 31, 293-6	4.7	68
202	Kinetics of electrochemical boriding of low carbon steel. *Applied Surface Science*, **2011**, 257, 6928-6934	6.7	67
201	Electrochemical boriding of titanium for improved mechanical properties. *Surface and Coatings Technology*, **2010**, 204, 3935-3939	4.4	65
200	Reinforcement effect of polyethylene fibre in root-filled teeth: comparison of two restoration techniques. *International Endodontic Journal*, **2006**, 39, 136-42	5.4	65
199	A study of the corrosion behavior of TiN films. *Materials Science and Engineering*, **1985**, 69, 89-93		65
198	Effect of EDTA and citric acid solutions on the microhardness and the roughness of human root canal dentin. *Journal of Endodontics*, **2005**, 31, 107-10	4.7	64
197	The Tribological Properties of Low-friction Hydrogenated Diamond-like Carbon Measured in Ultrahigh Vacuum. *Tribology Letters*, **2005**, 20, 221-227	2.8	64
196	Graphene as a protective coating and superior lubricant for electrical contacts. *Applied Physics Letters*, **2014**, 105, 231907	3.4	62
195	Tribological Properties of Nanodiamond-Epoxy Composites. *Tribology Letters*, **2012**, 47, 195-202	2.8	61

194	Friction and wear properties of smooth diamond films grown in fullerene + argon plasmas. *Diamond and Related Materials*, **1996**, 5, 923-931	3.5	61
193	The growth of single Fe2B phase on low carbon steel via phase homogenization in electrochemical boriding (PHEB). *Surface and Coatings Technology*, **2011**, 206, 2005-2011	4.4	60
192	Tribological Performance of Diamond and Diamondlike Carbon Films at Elevated Temperatures. *Tribology Transactions*, **1996**, 39, 787-794	1.8	60
191	Fundamental understanding of the tribological and thermal behavior of Ag/MoS2 nanoparticle-based multi-component lubricating system. *Wear*, **2012**, 288, 9-16	3.5	59
190	Effect of source gas and deposition method on friction and wear performance of diamondlike carbon films. *Surface and Coatings Technology*, **1997**, 94-95, 525-530	4.4	59
189	Friction and wear performance of diamond-like carbon films grown in various source gas plasmas. *Surface and Coatings Technology*, **1999**, 120-121, 589-593	4.4	59
188	Ultralow friction behavior of borided steel surfaces after flash annealing. *Applied Physics Letters*, **1996**, 68, 923-925	3.4	58
187	Relationship of hertzian contact pressure to friction behavior of self-lubricating boric acid films. *Surface and Coatings Technology*, **1991**, 49, 435-438	4.4	57
186	Concurrent musculoskeletal dynamics and finite element analysis predicts altered gait patterns to reduce foot tissue loading. *Journal of Biomechanics*, **2010**, 43, 2810-5	2.9	56
185	Friction and Wear Mechanisms of Smooth Diamond Films During Sliding in Air and Dry Nitrogen. *Tribology Transactions*, **1997**, 40, 667-675	1.8	55
184	Superior wear resistance of diamond and DLC coatings. *Current Opinion in Solid State and Materials Science*, **2018**, 22, 243-254	12	54
183	Durability and tribological performance of smooth diamond films produced by Ar-C60 microwave plasmas and by laser polishing. *Surface and Coatings Technology*, **1997**, 94-95, 537-542	4.4	53
182	TOF-SIMS and XPS characterization of diamond-like carbon films after tests in inert and oxidizing environments. *Wear*, **2008**, 265, 244-254	3.5	53
181	Effect of microstructure and thickness on the friction and wear behavior of CrN coatings. *Wear*, **2013**, 302, 963-971	3.5	52
180	Superlubricity: Friction's vanishing act. *Physics Today*, **2018**, 71, 40-46	0.9	51
179	On the hydrogen lubrication mechanism(s) of DLC films: An imaging TOF-SIMS study. *Surface and Coatings Technology*, **2008**, 203, 750-755	4.4	51
178	Phase Transformations in Silicon Under Dry and Lubricated Sliding. *Tribology Transactions*, **2002**, 45, 372-380	1.8	49
177	Rolling-contact fatigue and wear resistance of hard coatings on bearing-steel substrates. *Surface and Coatings Technology*, **1992**, 54-55, 482-489	4.4	47

176	The effects of beam energy and substrate temperature on the tribological properties of hard-carbon films on aluminum. *Surface and Coatings Technology*, **1992**, 51, 139-145	4.4	47
175	Evaluation of electrochemical boriding of Inconel 600. *Surface and Coatings Technology*, **2013**, 215, 452-459	4.4	46
174	Tribological analysis of TiN and DLC coated contacts by 3D FEM modelling and stress simulation. *Wear*, **2008**, 264, 877-884	3.5	46
173	Effect of Humidity on the Tribological Properties of Carbide-Derived Carbon (CDC) Films on Silicon Carbide. *Tribology Letters*, **2003**, 15, 51-55	2.8	46
172	Self-replenishing solid lubricant films on boron carbide. *Surface Engineering*, **1999**, 15, 291-295	2.6	45
171	Tribological performance of some alternative bearing materials for artificial joints. *Wear*, **2003**, 255, 1015-1021	3.5	44
170	Effect of tribochemistry on lubricity of DLC films in hydrogen. *Surface and Coatings Technology*, **2014**, 257, 241-246	4.4	43
169	Surface analytical investigation of nearly-frictionless carbon films after tests in dry and humid nitrogen. *Surface and Coatings Technology*, **2007**, 201, 7401-7407	4.4	43
168	Relation of Certain Quantum Chemical Parameters to Lubrication Behavior of Solid Oxides. *International Journal of Molecular Sciences*, **2005**, 6, 203-218	6.3	43
167	Friction and wear of diamond and diamond-like carbon films. *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*, **2002**, 216, 387-400	1.4	43
166	Correlation of interface structure with adhesive strength of ion-plated TiN hard coatings. *Surface and Coatings Technology*, **1989**, 39-40, 365-376	4.4	43
165	Surface structure of hydrogenated diamond-like carbon: origin of run-in behavior prior to superlubricious interfacial shear. *Langmuir*, **2015**, 31, 1711-21	4	42
164	Structural order in near-frictionless hydrogenated diamondlike carbon films probed at three length scales via transmission electron microscopy. *Physical Review B*, **2007**, 75,	3.3	42
163	On the possible role of triboplasma in friction and wear of diamond-like carbon films in hydrogen-containing environments. *Journal Physics D: Applied Physics*, **2009**, 42, 075307	3	41
162	Effects of high-temperature hydrogenation treatment on sliding friction and wear behavior of carbide-derived carbon films. *Surface and Coatings Technology*, **2004**, 188-189, 588-593	4.4	41
161	Transfer of 319 Al alloy to titanium diboride and titanium nitride based (TiAlN, TiCN, TiN) coatings: effects of sliding speed, temperature and environment. *Surface and Coatings Technology*, **2005**, 200, 2260-2270	4.4	39
160	Tribological Properties of Hard Carbon Films on Zirconia Ceramics. *Tribology Transactions*, **1996**, 39, 735-744	1.8	39
159	Surface metallurgical and tribological characteristics of TiN-coated bearing steels. *Surface and Coatings Technology*, **1988**, 36, 755-763	4.4	38

158	Tribological Behavior of NiAl-Layered Double Hydroxide Nanoplatelets as Oil-Based Lubricant Additives. *ACS Applied Materials & Interfaces*, **2017**, 9, 30891-30899	9.5	37
157	Solid/liquid lubrication of ceramics at elevated temperatures. *Wear*, **1997**, 203-204, 588-595	3.5	37
156	Insights into near-frictionless carbon films. *Journal of Applied Physics*, **2004**, 95, 7765-7771	2.5	37
155	Tribological Properties of Carbon Coatings Produced by High Temperature Chlorination of Silicon Carbide. *Tribology Transactions*, **2000**, 43, 809-815	1.8	36
154	An analytical study of tribofilms generated by the interaction of ashless antiwear additives with ZDDP using XANES and nano-indentation. *Tribology International*, **2015**, 82, 43-57	4.9	35
153	Effects of different curing units and luting agents on push-out bond strength of translucent posts. *Journal of Endodontics*, **2010**, 36, 1521-5	4.7	35
152	Quantification of oxygenated species on a diamond-like carbon (DLC) surface. *Applied Surface Science*, **2011**, 257, 7633-7638	6.7	35
151	Superlubricity of the DLC films-related friction system at elevated temperature. *RSC Advances*, **2015**, 5, 93147-93154	3.7	34
150	Development of ultrananocrystalline diamond (UNCD) coatings for multipurpose mechanical pump seals. *Wear*, **2011**, 270, 325-331	3.5	34
149	Top-surface characterization of a near frictionless carbon film. *Diamond and Related Materials*, **2007** , 16, 209-215	3.5	34
148	Effect of solvents on bonding to root canal dentin. *Journal of Endodontics*, **2004**, 30, 589-92	4.7	34
147	Operando formation of an ultra-low friction boundary film from synthetic magnesium silicon hydroxide additive. *Tribology International*, **2017**, 110, 35-40	4.9	33
146	Effect of copper addition on the temperature dependent reciprocating wear behaviour of CrN coatings. *Surface and Coatings Technology*, **2007**, 202, 866-870	4.4	33
145	Finite element modeling of the first ray of the foot: a tool for the design of interventions. *Journal of Biomechanical Engineering*, **2007**, 129, 750-6	2.1	33
144	Structure and tribological behaviour of nanoscale multilayer C/Cr coatings deposited by the combined steered cathodic arc/unbalanced magnetron sputtering technique. *Thin Solid Films*, **2004**, 447-448, 7-13	2.2	33
143	Effects of nanoscale surface texture and lubricant molecular structure on boundary lubrication in liquid. *Langmuir*, **2013**, 29, 13419-26	4	32
142	Is Ultra-Low Friction Needed to Prevent Wear of Diamond-Like Carbon (DLC)? An Alcohol Vapor Lubrication Study for Stainless Steel/DLC Interface. *Tribology Letters*, **2011**, 42, 285-291	2.8	30
141	Analysis of plastic deformation in diamond like carbon films–steel substrate system with tribological tests. *Thin Solid Films*, **2011**, 519, 3203-3212	2.2	30

140	Assessment of antibacterial activity of EndoREZ. *Oral Surgery Oral Medicine Oral Pathology Oral Radiology and Endodontics*, **2006**, 102, 119-26		30
139	Electrochemical boriding and characterization of AISI D2 tool steel. *Thin Solid Films*, **2011**, 520, 1582-1588	2.2	29
138	Fractional Coverage Model for the Adsorption and Removal of Gas Species and Application to Superlow Friction Diamond-Like Carbon. *Journal of Tribology*, **2004**, 126, 615-619	1.8	29
137	Superlubricity of Polyalkylene Glycol Aqueous Solutions Enabled by Ultrathin Layered Double Hydroxide Nanosheets. *ACS Applied Materials & Interfaces*, **2019**, 11, 20249-20256	9.5	28
136	Evaluation of pH and calcium ion release of Acroseal sealer in comparison with Apexit and Sealapex sealers. *Oral Surgery Oral Medicine Oral Pathology Oral Radiology and Endodontics*, **2007**, 103, e86-91		28
135	Sliding Wear of Silicon Carbide□Titanium Boride Ceramic-Matrix Composite. *Journal of the American Ceramic Society*, **1993**, 76, 511-517	3.8	28
134	Nano-texture for a wear-resistant and near-frictionless diamond-like carbon. *Carbon*, **2014**, 73, 403-412	10.4	27
133	Rolling contact fatigue behavior of Cu and TiN coatings on bearing steel substrates. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1985**, 3, 2348-2353	2.9	27
132	Investigation of Initial and Steady-State Sliding Behavior of a Nearly Frictionless Carbon Film by Imaging 2- and 3-D TOF-SIMS. *Tribology Letters*, **2007**, 28, 241-249	2.8	26
131	Tribological behavior of hard carbon coatings on steel substrates. *Wear*, **2003**, 255, 854-858	3.5	25
130	Solid Lubrication of Ceramic Surfaces by IAD-Silver Coatings for Heat Engine Applications. *Tribology Transactions*, **1990**, 33, 511-518	1.8	25
129	Tribochemistry of Carbon Films in Oxygen and Humid Environments: Oxidative Wear and Galvanic Corrosion. *Langmuir*, **2016**, 32, 1996-2004	4	25
128	Influence of process duration on structure and chemistry of borided low carbon steel. *Surface and Coatings Technology*, **2010**, 205, 1578-1583	4.4	24
127	A Gas-Surface Interaction Model for Spatial and Time-Dependent Friction Coefficient in Reciprocating Contacts: Applications to Near-Frictionless Carbon. *Journal of Tribology*, **2005**, 127, 82-88	1.8	24
126	Nano-structured carbide-derived carbon films and their tribology. *Tsinghua Science and Technology*, **2005**, 10, 699-703	3.4	24
125	The boron oxide□boric acid system: Nanoscale mechanical and wear properties. *Journal of Materials Research*, **1999**, 14, 3455-3466	2.5	24
124	Fatigue resistant carbon coatings for rolling/sliding contacts. *Tribology International*, **2016**, 98, 172-178	4.9	23
123	Comparison of different irrigation activation techniques on smear layer removal: an in vitro study. *Microscopy Research and Technique*, **2015**, 78, 230-9	2.8	23

122	Accuracy of two electronic apex locators in primary teeth with and without apical resorption: a laboratory study. *International Endodontic Journal*, **2008**, 41, 436-41	5.4	23
121	Effect of different irrigant activation protocols on push-out bond strength. *Lasers in Medical Science* , **2015**, 30, 2143-9	3.1	22
120	Evaluation of DLC coatings for spark-ignited, direct-injected fuel systems. *Surface and Coatings Technology*, **2004**, 179, 237-244	4.4	22
119	Dry Lubricant Films for Aluminum Forming. *Tribology Transactions*, **2000**, 43, 535-541	1.8	22
118	Bipolar tribocharging signal during friction force fluctuations at metal-insulator interfaces. *Angewandte Chemie - International Edition*, **2014**, 53, 12101-5	16.4	21
117	Plasma-Functionalized Polytetrafluoroethylene Nanoparticles for Improved Wear in Lubricated Contact. *ACS Applied Materials & Interfaces*, **2017**, 9, 25631-25641	9.5	21
116	Ultra-fast boriding of nickel aluminide. *Thin Solid Films*, **2011**, 520, 1575-1581	2.2	20
115	Near-surface characterization of amorphous carbon films by neutron reflectivity. *Applied Physics Letters*, **2003**, 83, 452-454	3.4	20
114	Iron-Nanoparticle Driven Tribochemistry Leading to Superlubric Sliding Interfaces. *Advanced Materials Interfaces*, **2019**, 6, 1901416	4.6	19
113	A three-dimensional inverse finite element analysis of the heel pad. *Journal of Biomechanical Engineering*, **2012**, 134, 031002	2.1	19
112	Superlubricity in Diamondlike Carbon Films **2007**, 253-271		19
111	Effect of gutta-percha solvents on mineral contents of human root dentin using ICP-AES technique. *Journal of Endodontics*, **2004**, 30, 54-6	4.7	19
110	Periodic ab initio calculations of orthoboric acid. *Journal of Chemical Physics*, **2000**, 113, 3338-3343	3.9	19
109	Crystal Chemistry and Solid Lubricating Properties of the Monochalcogenides Gallium Selenide and Tin Selenide. *Tribology Transactions*, **1994**, 37, 471-478	1.8	19
108	Interaction of phosphonium ionic liquids with borate esters at tribological interfaces. *RSC Advances*, **2016**, 6, 53148-53161	3.7	18
107	Synthesis and Tribology of Carbide-Derived Carbon Films. *International Journal of Applied Ceramic Technology*, **2006**, 3, 236-244	2	18
106	Solid Lubricants and Self-Lubricating Films. *Mechanics & Materials Science*, **2000**,		18
105	Synthesis and Tribology of Micro-Carbon Sphere Additives for Enhanced Lubrication. *Tribology Transactions*, **2015**, 58, 474-480	1.8	17

104	The detection of salivary minerals in smokers and non-smokers with chronic periodontitis by the inductively coupled plasma-atomic emission spectrophotometry technique. *Journal of Periodontology*, **2006**, 77, 990-5	4.6	17
103	Orthodontic movement of a horizontally fractured tooth: a case report. *Dental Traumatology*, **2005**, 21, 160-4	4.5	17
102	Tribological behavior of oil-lubricated TiN-coated steel. *Surface and Coatings Technology*, **1992**, 54-55, 496-501	4.4	17
101	Tribological performance of ion-beam-mixed Fe/B multilayers on M50 steel. *Surface and Coatings Technology*, **1990**, 42, 283-297	4.4	17
100	Extreme Pressure Lubricant Additives Interacting on the Surface of Steel- and Tungsten CarbideDoped Diamond-Like Carbon. *Tribology Transactions*, **2013**, 56, 623-629	1.8	16
99	Direct Observation of Tribochemically Assisted Wear on Diamond-Like Carbon Thin Films. *Tribology Letters*, **2013**, 49, 351-356	2.8	16
98	Quantification of sliding-induced phase transformation in N3FC diamond-like carbon films. *Diamond and Related Materials*, **2011**, 20, 1143-1148	3.5	16
97	Hysteresis and Related Error Mechanisms in the NIST Watt Balance Experiment. *Journal of Research of the National Institute of Standards and Technology*, **2001**, 106, 627-40	1.3	16
96	The Synergistic Effects of Solid and Liquid Lubrication on the Tribological Behavior of Transformation-Toughened ZrO2 Ceramics. *Tribology Transactions*, **1992**, 35, 287-297	1.8	16
95	Cross-sectional transmission electron microscopy of the interfaces between physical vapor deposited TiNx coatings and steel substrates. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1989**, 7, 2486-2490	2.9	16
94	Effect of film adhesion on tribological properties of silver-coated alumina. *Surface and Coatings Technology*, **1990**, 43-44, 577-587	4.4	16
93	Temperature and Water Vapor Pressure Effects on the Friction Coefficient of Hydrogenated Diamondlike Carbon Films. *Journal of Tribology*, **2009**, 131,	1.8	15
92	Friction reducing properties of onion-like carbon based lubricant under high contact pressure. *Tribology - Materials, Surfaces and Interfaces*, **2012**, 6, 116-120	1.4	15
91	Interaction of plasma functionalized TiO2 nanoparticles and ZDDP on friction and wear under boundary lubrication. *Applied Surface Science*, **2019**, 489, 372-383	6.7	14
90	Tribological Performance of EP Lubricants with Phosphorus-Based Additives. *Tribology Transactions* , **2013**, 56, 645-651	1.8	14
89	Micro-to-nano triboactivity of hydrogenated DLC films. *Journal Physics D: Applied Physics*, **2009**, 42, 085307		14
88	Deposition, characterization, and tribological applications of near-frictionless carbon films on glass and ceramic substrates. *Journal of Physics Condensed Matter*, **2006**, 18, S1751-62	1.8	14
87	Characterization of ceramic films and interfaces by electron microscopic and spectroscopic techniques. *Ultramicroscopy*, **1989**, 29, 266-276	3.1	14

86	Influence of tribofilm on superlubricity of highly-hydrogenated amorphous carbon films in inert gaseous environments. *Science China Technological Sciences*, **2016**, 59, 1795-1803	3.5	14
85	Effect of surfactant on tribological performance and tribochemistry of boric acid based colloidal lubricants. *Tribology - Materials, Surfaces and Interfaces*, **2012**, 6, 134-141	1.4	13
84	The mechanical properties of freestanding near-frictionless carbon films relevant to MEMS. *Journal of Micromechanics and Microengineering*, **2006**, 16, 1374-1381	2	13
83	In vitro evaluation of the dissolving effect of solvents on root canal sealers. *Journal of Oral Science*, **2003**, 45, 123-6	1.5	13
82	Dry and oil-lubricated sliding wear of Si3N4 and Si3N4/BN fibrous monoliths. *Tribology Letters*, **2005**, 18, 231-237	2.8	13
81	High energy (MeV) ion beam modifications of sputtered MoS2 coatings on sapphire. *Nuclear Instruments & Methods in Physics Research B*, **1991**, 59-60, 788-792	1.2	13
80	Tribochemical Conversion of Methane to Graphene and Other Carbon Nanostructures: Implications for Friction and Wear. *ACS Applied Nano Materials*, **2020**, 3, 8060-8067	5.6	13
79	Annealing effects on the mechanical properties of near-frictionless carbon thin films. *Diamond and Related Materials*, **2006**, 15, 2051-2054	3.5	12
78	Tribology of Diamond, Diamond-like Carbon and Related Films. *Mechanics & Materials Science*, **2000**,		12
77	Antiwear Properties of Binary Ashless Blend of Phosphonium Ionic Liquids and Borate Esters in Partially Formulated Oil (No Zn). *Tribology Letters*, **2019**, 67, 1	2.8	11
76	Structured SiCu thin films in LiB as anodes. *Thin Solid Films*, **2014**, 572, 134-141	2.2	11
75	Effect of Carbon Coating on Scuffing Performance in Diesel Fuels. *Tribology Transactions*, **2001**, 44, 298-304	1.8	11
74	Nucleation and growth mechanisms in ion-plated TiN films on steel substrates. *Surface and Coatings Technology*, **1990**, 41, 285-293	4.4	11
73	Catalytically Active Oil-Based Lubricant Additives Enabled by Calcining Ni-Al Layered Double Hydroxides. *Journal of Physical Chemistry Letters*, **2020**, 11, 113-120	6.4	11
72	Compositionally graded SiCu thin film anode by magnetron sputtering for lithium ion battery. *Thin Solid Films*, **2015**, 596, 190-197	2.2	10
71	The effects of three different desensitizing agents on the shear bond strength of composite resin bonding agents. *Journal of the Mechanical Behavior of Biomedical Materials*, **2010**, 3, 399-404	4.1	10
70	Effect of niobium interlayer on high-temperature sliding friction and wear of silver films on alumina. *Tribology Letters*, **1996**, 2, 23	2.8	10
69	Tribological performance of quaternary CrSiCN coatings under dry and lubricated conditions. *Wear*, **2017**, 376-377, 1682-1690	3.5	9

68	Mechanism of Superlubricity Conversion with Polyalkylene Glycol Aqueous Solutions. *Langmuir*, **2019**, 35, 11784-11790	4	9
67	Boron-Based Solid Nanolubricants and Lubrication Additives203-223		9
66	Scuffing Performance of Amorphous Carbon During Dry-Sliding Contact. *Tribology Transactions*, **2001**, 44, 591-596	1.8	9
65	Energy and wear analysis in lubricated sliding contact. *Wear*, **1996**, 191, 261-264	3.5	9
64	Robust Interfacial Tribofilms by Borate- and Polymer-Coated ZnO Nanoparticles Leading to Improved Wear Protection under a Boundary Lubrication Regime. *Langmuir*, **2021**, 37, 1743-1759	4	9
63	Effect of several laser systems on removal of smear layer with a variety of irrigation solutions. *Microscopy Research and Technique*, **2018**, 81, 1214-1222	2.8	9
62	Ultralow Friction of ZrO2 Ball Sliding against DLC Films under Various Environments. *Applied Sciences (Switzerland)*, **2017**, 7, 938	2.6	8
61	Electrochemical boriding of molybdenum in molten borax. *Surface Engineering*, **2015**, 31, 575-580	2.6	8
60	Effects of different chlorhexidine formulations on shear bond strengths of orthodontic brackets. *Angle Orthodontist*, **2009**, 79, 312-6	2.6	8
59	Nano-Tribological and Wear Behavior of Boric Acid Solid Lubricant . *Tribology Transactions*, **1999**, 42, 180-185	1.8	8
58	Effect of Metallic-Coating Properties on the Tribology of Coated and Oil-Lubricated Ceramics. *Tribology Transactions*, **1994**, 37, 656-660	1.8	8
57	Synthetic Lubricants Derived from Plastic Waste and their Tribological Performance. *ChemSusChem*, **2021**, 14, 4181-4189	8.3	8
56	Investigation of Nano-Mechanical and- Tribological Properties of Hydrogenated Diamond Like Carbon (DLC) Coatings. *Journal of Mechanics*, **2017**, 33, 769-776	1	7
55	High-Performance Heterocyclic Friction Modifiers for Boundary Lubrication. *Tribology Letters*, **2018**, 66, 1	2.8	7
54	Bipolar Tribocharging Signal During Friction Force Fluctuations at Metal Insulator Interfaces. *Angewandte Chemie*, **2014**, 126, 12297-12301	3.6	7
53	Effect of different light sources in combination with a light-transmitting post on the degree of conversion of resin composite at different depths of simulated root canals. *Dental Traumatology*, **2011**, 27, 195-8	4.5	7
52	Effect of the gutta-percha solvents on the microhardness and the roughness of human root dentine. *Journal of Oral Rehabilitation*, **2004**, 31, 1145-8	3.4	7
51	Near-Frictionless Carbon Coatings for Use in Fuel Injectors and Pump Systems Operating with Low-Sulfur Diesel Fuels **2000**,		7

50	Assessment of Amorphous Carbon Coating for Artificial Joints Application. *Tribology Transactions*, **2005**, 48, 190-198	1.8	7
49	Effect of the addition of Si into V2O5 coatings: Structure and tribo-mechanical properties. *Surface and Coatings Technology*, **2018**, 349, 111-118	4.4	7
48	Friction and Wear Reduction Mechanism of Polyalkylene Glycol-Based Engine Oils. *Tribology Transactions*, **2018**, 61, 621-631	1.8	6
47	Nanocomposite Coatings for Severe Applications **2010**, 679-715		6
46	Microfabrication issues in constructing freestanding membranes of near-frictionless carbon and diamond-like films. *Diamond and Related Materials*, **2007**, 16, 342-349	3.5	6
45	Complementary neutron and x-ray reflectivity studies of near-frictionless carbon films. *Journal of Applied Physics*, **2007**, 101, 103538	2.5	6
44	Si3N4/BN fibrous monoliths: Mechanical properties and tribological responses. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2005**, 412, 146-152	5.3	6
43	The role of soft (metallic) films in the tribological behavior of ceramic materials. *Wear*, **1991**, 149, 221-232	3.5	6
42	Sliding Friction and Wear of Ceramics With and Without Soft Metallic Films. *MRS Bulletin*, **1991**, 16, 49-53	3.2	6
41	Investigation of Shear-Thinning Behavior on Film Thickness and Friction Coefficient of Polyalphaolefin Base Fluids With Varying Olefin Copolymer Content. *Journal of Tribology*, **2017**, 139,	1.8	5
40	Carbon-hydrogen bonding in near-frictionless carbon. *Applied Physics Letters*, **2008**, 93, 131911	3.4	5
39	High Energy (MeV) Ion Beam Modifications of Sputtered MoS2 Coatings on Ceramics. *Tribology Transactions*, **1993**, 36, 621-626	1.8	5
38	Boundary film for structural ceramic materials. *Wear*, **1993**, 162-164, 1150-1155	3.5	5
37	Tribological Behavior of Oil-Lubricated Laser Textured Steel Surfaces in Conformal Flat and Non-Conformal Contacts. *Materials Performance and Characterization*, **2017**, 6, MPC20160013	0.5	5
36	Comparison of Neurokinin A, Substance P, Interleukin 8, and Matrix Metalloproteinase-8 Changes in Pulp tissue and Gingival Crevicular Fluid Samples of Healthy and Symptomatic Irreversible Pulpitis Teeth. *Journal of Endodontics*, **2020**, 46, 1428-1437	4.7	5
35	Engine Friction and Wear Performances with Polyalkylene Glycol Engine Oils **2016**,		5
34	Acid Treatment of Diamond-Like Carbon Surfaces for Enhanced Adsorption of Friction Modifiers and Friction Performance. *Tribology Letters*, **2018**, 66, 1	2.8	5
33	Energy Consumption Due to Friction in Motored Vehicles and Low-Friction Coatings to Reduce It **2015**, 1-23		4

32	Effect of temporary filling materials on repair bond strengths of composite resins. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2008**, 86, 303-9	3.5	4
31	Friction Mechanisms and Fundamental Aspects in Solid Lubricant Coatings **2006**, 573-593		4
30	Tribochemistry of fluorinated ZnO nanoparticles and ZDDP lubricated interface and implications for enhanced anti-wear performance at boundary lubricated contacts. *Wear*, **2021**, 474-475, 203717	3.5	4
29	Achieving Ultralow Friction and Wear by Tribocatalysis: Enabled by Formation of Nanocarbon Films.. *ACS Nano*, **2021**, 15, 18865-18879	16.7	4
28	Surface Damage and Wear Mechanisms of Amorphous Carbon Coatings under Boundary Lubrication Conditions. *Surface Engineering*, **2003**, 19, 447-453	2.6	3
27	Friction and wear behavior of near-frictionless carbon coatings in formulated gasolines. *Surface and Coatings Technology*, **2004**, 183, 111-117	4.4	3
26	Clean and Cost-effective Dry Boundary Lubricants for Aluminum Forming **1998**,		3
25	Effect of post-deposition annealing on structure and chemistry of the TiN film/steel substrate interfaces. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1991**, 9, 439-443	2.9	3
24	Tribology of Nanostructured and Composite Coatings **2006**,		3
23	Effect of solvent use on postoperative pain in root canal retreatment: a randomized, controlled clinical trial. *Clinical Oral Investigations*, **2020**, 24, 257-263	4.2	3
22	Does chlorhexidine affect the shear bond strengths of orthodontic brackets?. *Journal of Dental Sciences*, **2011**, 6, 76-81	2.5	2
21	Evaluation of DLC Coatings for Foil Bearing Applications **2007**, 5		2
20	X-Ray Studies of Near-Frictionless Carbon Films. *Materials Research Society Symposia Proceedings*, **2004**, 843, 271		2
19	Raman Chemical Imaging of Tribological Surfaces. *Tribology Transactions*, **2002**, 45, 239-245	1.8	2
18	Superlubricity and Wearless Sliding in Diamondlike Carbon Films. *Materials Research Society Symposia Proceedings*, **2001**, 697, 911		2
17	Cross-sectional transmission electron microscopy study of phase transformations at TiN film/steel substrate interfaces. *Ultramicroscopy*, **1991**, 37, 286-293	3.1	2
16	High-Temperature Durability and Tribological Performance of Diamond and Diamondlike Carbon Films **1997**, 169-184		2
15	The effect of different irrigation solutions and activation techniques on the expression of growth factors from dentine of extracted premolar teeth. *International Endodontic Journal*, **2021**, 54, 1915-1924	5.4	2

14	Depth-dependent defect and residual stress distribution in magnetron sputtered MoN:Cu nanocomposite films by x-ray microdiffraction. *Materials Research Society Symposia Proceedings*, **2006**, 977, 1		1
13	Tribological Characterization of Carbide-Derived Carbon Layers on Silicon Carbide for Dry Friction Applications. *Key Engineering Materials*, **2004**, 264-268, 465-468	0.4	1
12	Tribochemistry of Multiply Alkylated Cyclopentane Oils on Diamond-like Carbon (DLC) Coated Thrust Bearings. *Journal of ASTM International*, **2008**, 5, 101223		1
11	Comparison of dentin penetration ability of different root canal sealers used with different obturation methods. *Microscopy Research and Technique*, **2020**, 83, 1544-1551	2.8	1
10	Tribological Interaction of Plasma-Functionalized CaCO3 Nanoparticles with Zinc and Ashless Dithiophosphate Additives. *Tribology Letters*, **2021**, 69, 1	2.8	1
9	Silane Treatment of Diamond-Like Carbon: Improvement of Hydrophobicity, Oleophobicity, and Humidity Tolerance of Friction. *Tribology Letters*, **2016**, 63, 1	2.8	1
8	Diamond-like carbon films and their superlubricity **2021**, 215-230		1
7	Graphene: Extraordinary Macroscale Wear Resistance of One Atom Thick Graphene Layer (Adv. Funct. Mater. 42/2014). *Advanced Functional Materials*, **2014**, 24, 6639-6639	15.6	
6	Innenr□cktitelbild: Bipolar Tribocharging Signal During Friction Force Fluctuations at Metall□nsulator Interfaces (Angew. Chem. 45/2014). *Angewandte Chemie*, **2014**, 126, 12461-12461	3.6	
5	MEMS lubrication with alcohol vapour. *Tribology - Materials, Surfaces and Interfaces*, **2010**, 4, 109-114	1.4	
4	Comparing the Young□ Modulus of Near-Frictionless Carbon Films Obtained From Different Methods. *Materials Research Society Symposia Proceedings*, **2006**, 956, 1		
3	Complementary neutron and x-ray reflectivity studies of □ear-frictionless□carbon films. *Journal of Applied Physics*, **2007**, 101, 123516	2.5	
2	Tribology and surface engineering at Argonne National Laboratory. *Tribology International*, **1996**, 29, 263-264	4.9	
1	Mandibular second premolar with four roots. *European Journal of General Dentistry*, **2012**, 1, 54	0.2	