

Izhak Etsion

List of Publications by Year in descending order

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140
papers

9,612
citations

50170

46
h-index

37111

96
g-index

141
all docs

141
docs citations

141
times ranked

4148
citing authors

#	ARTICLE	IF	CITATIONS
1	State of the Art in Laser Surface Texturing. Journal of Tribology, 2005, 127, 248-253.	1.0	1,134
2	Improving Tribological Performance of Mechanical Components by Laser Surface Texturing. Tribology Letters, 2004, 17, 733-737.	1.2	519
3	The effect of laser surface texturing on transitions in lubrication regimes during unidirectional sliding contact. Tribology International, 2005, 38, 219-225.	3.0	497
4	Friction-Reducing Surface-Texturing in Reciprocating Automotive Components. Tribology Transactions, 2001, 44, 359-366.	1.1	417
5	An improved wedge calibration method for lateral force in atomic force microscopy. Review of Scientific Instruments, 2003, 74, 3362-3367.	0.6	374
6	Improving fuel efficiency with laser surface textured piston rings. Tribology International, 2009, 42, 542-547.	3.0	373
7	A Finite Element Based Elastic-Plastic Model for the Contact of Rough Surfaces. Tribology Transactions, 2003, 46, 383-390.	1.1	351
8	Testing piston rings with partial laser surface texturing for friction reduction. Wear, 2006, 261, 792-796.	1.5	332
9	Experimental Investigation of Laser Surface Textured Parallel Thrust Bearings. Tribology Letters, 2004, 17, 295-300.	1.2	309
10	Different aspects of the role of wear debris in fretting wear. Wear, 2002, 252, 902-910.	1.5	295
11	A Static Friction Model for Elastic-Plastic Contacting Rough Surfaces. Journal of Tribology, 2004, 126, 34-40.	1.0	264
12	Unloading of an elastic-plastic loaded spherical contact. International Journal of Solids and Structures, 2005, 42, 3716-3729.	1.3	229
13	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.	1.1	193
14	Friction and wear of MoS ₂ films on laser textured steel surfaces. Surface and Coatings Technology, 2008, 202, 3332-3340.	2.2	177
15	Modeling of surface texturing in hydrodynamic lubrication. Friction, 2013, 1, 195-209.	3.4	166
16	The effect of contact conditions and material properties on the elasticity terminus of a spherical contact. International Journal of Solids and Structures, 2006, 43, 5736-5749.	1.3	163
17	The Effect of WS ₂ Nanoparticles on Friction Reduction in Various Lubrication Regimes. Tribology Letters, 2004, 17, 179-186.	1.2	150
18	Resolving the contradiction of asperities plastic to elastic mode transition in current contact models of fractal rough surfaces. Wear, 2007, 262, 624-629.	1.5	143

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19	A Semi-Analytical Solution for the Sliding Inception of a Spherical Contact. <i>Journal of Tribology</i> , 2003, 125, 499-506.	1.0	140
20	Analysis of the Hydrodynamic Effects in a Surface Textured Circumferential Gas Seal. <i>Tribology Transactions</i> , 2001, 44, 472-478.	1.1	136
21	The effect of surface texturing in soft elasto-hydrodynamic lubrication. <i>Tribology International</i> , 2009, 42, 284-292.	3.0	115
22	Adhesion in elastic-plastic spherical microcontact. <i>Journal of Colloid and Interface Science</i> , 2003, 261, 372-378.	5.0	113
23	Slip Index: A New Unified Approach to Fretting. <i>Tribology Letters</i> , 2004, 17, 569-573.	1.2	113
24	Unloading an elastic-plastic contact of rough surfaces. <i>Journal of the Mechanics and Physics of Solids</i> , 2006, 54, 2652-2674.	2.3	108
25	Liposomes Act as Effective Biolubricants for Friction Reduction in Human Synovial Joints. <i>Langmuir</i> , 2010, 26, 1107-1116.	1.6	108
26	The effect of various surface treatments on piston pin scuffing resistance. <i>Wear</i> , 2006, 261, 785-791.	1.5	89
27	Analytical Approximations in Modeling Contacting Rough Surfaces. <i>Journal of Tribology</i> , 1999, 121, 234-239.	1.0	88
28	The effect of surface regular microtopography on fretting fatigue life. <i>Wear</i> , 2002, 253, 509-515.	1.5	88
29	Wear life and adhesion of solid lubricant films on laser-textured steel surfaces. <i>Wear</i> , 2009, 267, 1203-1207.	1.5	83
30	The effect of contact conditions and material properties on elastic-plastic spherical contact. <i>Journal of Mechanics of Materials and Structures</i> , 2006, 1, 865-879.	0.4	81
31	A novel test rig for in situ and real time optical measurement of the contact area evolution during pre-sliding of a spherical contact. <i>Tribology Letters</i> , 2006, 23, 55-63.	1.2	79
32	Effects of elastic modulus mismatch between coating and substrate on the friction and wear properties of TiN and TiAlN coating systems. <i>Wear</i> , 2015, 338-339, 54-61.	1.5	77
33	A finite element model of loading and unloading of an asperity contact with adhesion and plasticity. <i>Journal of Colloid and Interface Science</i> , 2007, 312, 522-528.	5.0	73
34	In situ and real-time optical investigation of junction growth in spherical elastic-plastic contact. <i>Wear</i> , 2008, 264, 1043-1050.	1.5	70
35	In situ investigation of the contact area in elastic-plastic spherical contact during loading-unloading. <i>Tribology Letters</i> , 2007, 25, 153-160.	1.2	69
36	Stability Threshold and Steady-State Response of Noncontacting Coned-Face Seals. <i>ASLE Transactions</i> , 1985, 28, 449-460.	0.6	68

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37	Multiple loading–unloading of an elastic–plastic spherical contact. International Journal of Solids and Structures, 2006, 43, 7119-7127.	1.3	64
38	Revisiting the Cattaneo–Mindlin Concept of Interfacial Slip in Tangentially Loaded Compliant Bodies. Journal of Tribology, 2010, 132, .	1.0	64
39	A rational human joint friction test using a human cartilage-on-cartilage arrangement. Tribology Letters, 2006, 22, 29-36.	1.2	59
40	Experimental study of the effect of coating thickness and substrate roughness on tool wear during turning. Tribology International, 2017, 110, 341-347.	3.0	58
41	A Hydrostatic Laser Surface Textured Gas Seal. Tribology Letters, 2006, 22, 21-28.	1.2	57
42	Loading–unloading of an elastic–plastic adhesive spherical microcontact. Journal of Colloid and Interface Science, 2008, 321, 242-250.	5.0	55
43	Adhesive force: the underlying cause of the disc anchorage to the fossa and/or eminence in the temporomandibular joint–A new concept. International Journal of Oral and Maxillofacial Surgery, 2002, 31, 94-99.	0.7	52
44	The onset of plastic yielding in a coated sphere compressed by a rigid flat. Wear, 2011, 271, 2968-2977.	1.5	51
45	Comment on Leonardo da Vinci’s Friction Experiments: An Old Story Acknowledged and Repeated. Tribology Letters, 2015, 58, 1.	1.2	51
46	Comparing surface topography parameters of rough surfaces obtained with spectral moments and deterministic methods. Tribology International, 2016, 93, 137-141.	3.0	51
47	The Effect of Elastomer Surface Texturing in Soft Elasto-Hydrodynamic Lubrication. Tribology Letters, 2009, 36, 95-103.	1.2	47
48	The Effect of Determining Topography Parameters on Analyzing Elastic Contact Between Isotropic Rough Surfaces. Journal of Tribology, 2013, 135, .	1.0	47
49	Enhancing tribological performance of the magnetic tape/guide interface by laser surface texturing. Tribology Letters, 2007, 27, 89-95.	1.2	45
50	Static Friction of Contacting Real Surfaces in the Presence of Sub-Boundary Lubrication. Journal of Tribology, 1998, 120, 296-303.	1.0	42
51	Analysis of Surface Textured Air Bearing Sliders with Rarefaction Effects. Tribology Letters, 2007, 28, 251-261.	1.2	42
52	Nanoscale fretting wear study by scanning probe microscopy. Tribology Letters, 2005, 18, 493-498.	1.2	39
53	[100]-Textured diamond films for tribological applications. Diamond and Related Materials, 1997, 6, 381-385.	1.8	38
54	Unloading of an elastic–plastic spherical contact under stick contact condition. International Journal of Solids and Structures, 2010, 47, 990-997.	1.3	38

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55	Study of the wear behavior and adhesion of diamond films deposited on steel substrates by use of a CrN interlayer. <i>Diamond and Related Materials</i> , 1999, 8, 859-864.	1.8	37
56	Fluid Film Dynamic Coefficients in Mechanical Face Seals. <i>Journal of Lubrication Technology</i> , 1983, 105, 297-302.	0.1	36
57	Nonlinear Dynamic Analysis of Noncontacting Coned-Face Mechanical Seals. <i>ASLE Transactions</i> , 1986, 29, 383-393.	0.6	35
58	Electrical Conductivity and Friction Force Estimation in Compliant Electrical Connectors. <i>Tribology Transactions</i> , 2000, 43, 816-822.	1.1	33
59	A Model for Magnetic Tape/Guide Friction Reduction by Laser Surface Texturing. <i>Tribology Letters</i> , 2007, 28, 9-17.	1.2	33
60	Elastic-Plastic Spherical Contact Modeling Including Roughness Effects. <i>Tribology Letters</i> , 2010, 40, 357-363.	1.2	32
61	Comparison of the Static Friction Subboundary Lubrication Model with Experimental Measurements on Thin-Film Disks. <i>Tribology Transactions</i> , 1998, 41, 217-224.	1.1	29
62	Liposomes as potential biolubricant additives for wear reduction in human synovial joints. <i>Wear</i> , 2010, 268, 1037-1042.	1.5	29
63	Crosstalk problems in scanning-by-probe atomic force microscopy. <i>Review of Scientific Instruments</i> , 2003, 74, 3569-3571.	0.6	28
64	A contact model for a creeping sphere and a rigid flat. <i>Wear</i> , 2008, 265, 598-605.	1.5	28
65	A Model for the Static Sealing Performance of Compliant Metallic Gas Seals Including Surface Roughness and Rarefaction Effects. <i>Tribology Transactions</i> , 2000, 43, 237-244.	1.1	26
66	The evolution of fretting wear in a micro-spherical contact. <i>Wear</i> , 2011, 270, 567-575.	1.5	26
67	Experimental study of a potential weakening effect in spheres with thin hard coatings. <i>Wear</i> , 2012, 296, 590-597.	1.5	26
68	Plastic yield inception of an indented coated flat and comparison with a flattened coated sphere. <i>Tribology International</i> , 2012, 53, 61-67.	3.0	26
69	Performance of End-Face Seals with Diametral Tilt and Coning-Hydrostatic Effects. <i>ASLE Transactions</i> , 1980, 23, 279-288.	0.6	25
70	Experimental Observation of the Dynamic Behavior of Noncontacting Coned-Face Mechanical Seals. <i>ASLE Transactions</i> , 1984, 27, 263-270.	0.6	25
71	A Model for Potential Adhesive Wear Particle at Sliding Inception of a Spherical Contact. <i>Tribology Letters</i> , 2008, 30, 225-233.	1.2	25
72	Theoretical Analysis of Surface-Textured Elastomer Sleeve in Lubricated Rotary Sliding. <i>Tribology Transactions</i> , 2010, 53, 376-385.	1.1	25

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73	Techniques for assessment of wear between human cartilage surfaces. <i>Wear</i> , 2009, 266, 1216-1223.	1.5	24
74	The Accuracy of the Narrow Seal Approximation in Analyzing Radial Face Seals. <i>ASLE Transactions</i> , 1980, 23, 208-216.	0.6	22
75	The effect of frequency on fretting in a micro-spherical contact. <i>Wear</i> , 2011, 270, 857-865.	1.5	19
76	Plasticity evolution in a coated sphere compressed by a rigid flat. <i>Tribology International</i> , 2016, 98, 116-124.	3.0	19
77	State of the Art in Laser Surface Texturing. , 2009, , 761-762.		19
78	Static Sealing Performance of Gas Mechanical Seals Including Surface Roughness and Rarefaction Effects. <i>Tribology Transactions</i> , 1998, 41, 531-536.	1.1	18
79	A parameter study of separation modes of adhering microcontacts. <i>Journal of Applied Physics</i> , 2008, 103, 064902.	1.1	18
80	Elastic-plastic spherical contact under cyclic tangential loading in pre-sliding. <i>Wear</i> , 2011, 270, 888-894.	1.5	17
81	A comparison of stick and slip contact conditions for a coated sphere compressed by a rigid flat. <i>Friction</i> , 2017, 5, 326-338.	3.4	17
82	The Effect of Dwell Time on the Static Friction in Creeping Elastic-plastic Polymer Spherical Contact. <i>Tribology Letters</i> , 2009, 35, 159-170.	1.2	15
83	The Effect of Asperity Flattening During Cyclic Normal Loading of a Rough Spherical Contact. <i>Tribology Letters</i> , 2010, 40, 347-355.	1.2	15
84	Model for the static friction coefficient in a full stick elastic-plastic coated spherical contact. <i>Friction</i> , 2019, 7, 613-624.	3.4	14
85	The Onset of Plastic Yielding in a Spherical Shell Compressed by a Rigid Flat. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2011, 78, .	1.1	13
86	Yield inception of a soft coating on a flat substrate indented by a rigid sphere. <i>Surface and Coatings Technology</i> , 2014, 240, 444-449.	2.2	13
87	Evolution of adhesive wear and friction in elastic-plastic spherical contact. <i>Wear</i> , 2021, 478-479, 203915.	1.5	13
88	An advanced efficient model for adhesive wear in elastic-plastic spherical contact. <i>Friction</i> , 2022, 10, 1276-1284.	3.4	12
89	Nonaxisymmetric Incompressible Hydrostatic Pressure Effects in Radial Face Seals. <i>Journal of Lubrication Technology</i> , 1978, 100, 379-383.	0.1	11
90	The Contact of a Compliant Curved and a Nominally Flat Rough Surfaces. <i>Tribology Transactions</i> , 2000, 43, 507-513.	1.1	11

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91	Experimental study of the effect of dwell time and normal load on static friction in creeping elastic-plastic polymer spherical contact. <i>Wear</i> , 2014, 309, 139-145.	1.5	10
92	The influence of operating and design parameters on the magnetic tape/guide friction coefficient. <i>Tribology Letters</i> , 2007, 25, 161-171.	1.2	8
93	Discussion: "An Asperity Microcontact Model" Incorporating the Transition from Elastic Deformation to Fully Plastic Flow [ASME J. Tribol., 122, No. 1, pp. 86-93 (2000)]1. <i>Journal of Tribology</i> , 2000, 122, 479-479.	1.0	8
94	Discussion of the Paper: Optical In Situ Micro Tribometer for Analysis of Real Contact Area for Contact Mechanics, Adhesion, and Sliding Experiments. <i>Tribology Letters</i> , 2012, 46, 205-205.	1.2	7
95	Yield modes in a coated spherical contact. <i>Tribology International</i> , 2018, 120, 309-316.	3.0	7
96	Electrical Resistance Model of a Bilayer-Coated Spherical Contact. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2018, 8, 1614-1620.	1.4	7
97	Recent Development in Modeling of Coated Spherical Contact. <i>Materials</i> , 2020, 13, 460.	1.3	7
98	Long Time Spreading of a Microdroplet on a Smooth Solid Surface. <i>Langmuir</i> , 2010, 26, 1824-1829.	1.6	6
99	Indentation pop-in as a potential characterization of weakening effect in coating/substrate systems. <i>Wear</i> , 2015, 338-339, 325-331.	1.5	6
100	Simultaneous Shot-Peening of hard and soft particles for friction reduction in reciprocal sliding. <i>Tribology International</i> , 2019, 130, 19-26.	3.0	6
101	Model for the static friction coefficient of spherical contact with a soft metal coating. <i>SN Applied Sciences</i> , 2020, 2, 1.	1.5	6
102	A simple atomic force microscopy calibration method for direct measurement of surface energy on nanostructured surfaces covered with molecularly thin liquid films. <i>Review of Scientific Instruments</i> , 2009, 80, 055109.	0.6	5
103	The effect of contact conditions and material properties on plastic yield inception in a spherical shell compressed by a rigid flat. <i>International Journal of Solids and Structures</i> , 2011, 48, 463-471.	1.3	5
104	A Coupled Eulerian-Lagrangian Model for Sliding Inception of Elastic-Plastic Spherical Contact. <i>Journal of Tribology</i> , 2021, 143, .	1.0	4
105	Optimum Step Design for Centering of Pistons Moving in an Incompressible Fluid. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 1977, 99, 675-680.	0.8	3
106	Partial Elastomer Texturing in Soft Elasto Hydrodynamic Lubrication. , 2008, , .		2
107	Analysis of Incomplete Film in Parallel Plates Including Inlet Tube and Groove. <i>Journal of Tribology</i> , 2021, 143, .	1.0	2
108	In Situ and Real Time Optical Investigation of Junction Growth in Spherical Elastic-Plastic Contact. , 2007, , .		2

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109	HDI-03 AN ANALYSIS OF THE DIMPLE/GIMBAL CONTACT IN A HARD DISK DRIVE SUSPENSION(Head/Disk) Tj ETQq1 1 0.784314 rgBT / Overlock 10 Joint Conference on Micromechanics for Information and Precision Equipment IIP/ISPS Joint MIPE, 2009, 2009, 105-106.	0.0	2
110	Static Friction Behavior of Spherical Contact With Ultrathin Soft Coating. Journal of Tribology, 2021, 143, .	1.0	2
111	Wear Between Human Cartilage Surfaces. , 2008, , .		1
112	Very Early Stage of Elastic-Plastic Spherical Contact Fretting. , 2009, , .		1
113	Revisiting the Cattaneo-Mindlin Concept of Interfacial Slip in Tangentially Loaded Compliant Bodies. , 2009, , .		1
114	Failure of Brittle and Ductile Hard Disks Due to High Shock Levels. Journal of Mechanical Design, Transactions of the ASME, 2009, 131, .	1.7	1
115	Discussion of the paper: Micro CNC surface texturing on polyoxymethylene (POM) and its tribological performance in lubricated sliding (M.H. Cho and Sangil Park, Tribology International 44 (2011)) Tj ETQq1 1 0.784314 rgBT / Overlock 10	1.0	1
116	Strengthening and Weakening Effects in Bilayer Coated Spherical Contact. Frontiers in Mechanical Engineering, 2020, 6, .	0.8	1
117	A Model for Junction Growth of a Spherical Contact. , 2007, , .		1
118	A Model for the Magnetic Tape/Guide Interface With Laser Surface Texturing. , 2007, , .		1
119	Analysis of Surface Textured Air Bearing Sliders With Rarefaction Effects. , 2007, , 661.		0
120	Discussion: "A Mathematical Model for Frictional Elastic-Plastic Sphere-on-Flat Contacts at Sliding Incipient" (Chang, L., and Zhang, H., 2007, ASME J. Appl. Mech., 74, pp. 100-106). Journal of Applied Mechanics, Transactions ASME, 2007, 74, 1057-1057.	1.1	0
121	A Study of the Importance of Three Key Parameters on the Separation Modes of Adhering Microcontacts. , 2007, , .		0
122	The Effect of Laser Surface Texturing on Soft Elasto-Hydrodynamic Lubrication Considering Non-Linear Elasticity. , 2008, , .		0
123	Techniques for Assessment of Wear Between Human Cartilage Surfaces. , 2008, , .		0
124	Surface Active Phospholipids as Cartilage Lubricants. , 2008, , .		0
125	Theoretical and Experimental Investigation of Plastic Hysteresis in Spherical Contact Under Combined Normal and Tangential Loading. , 2008, , .		0
126	Models of Potential and Wear Particles in a Spherical Contact. , 2008, , .		0

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127	Discussion: "A Greenwood-Williamson Model of Small-Scale Friction" (Jones, R. E., 2007, ASME J. Appl.)	1.1	0
128	Experimental Study of Static Friction in a Spherical Elastic-Plastic Contact. , 2008, , .		0
129	Numerical Analysis of a Spherical Shell Compressed by a Rigid Flat. , 2009, , .		0
130	The Effect of Contact Conditions on the Onset of Plastic Yielding in a Spherical Shell Compressed by a Rigid Flat. , 2010, , .		0
131	Discussion of the paper by Shuangbiao Liu, on Boundary conditions in lubrication with one dimensional analytical solutions, Tribology International, doi:10.1016/j.triboint.2011.11.021. Tribology International, 2012, 50, 91.	3.0	0
132	Discussion of the paper by Checo et al. on Moving textures: Simulation of a ring sliding on a textured liner, Tribology International, http://dx.doi.org/10.1016/j.triboint.2013.12.013. Tribology International, 2014, 73, 69.	3.0	0
133	Reducing the Magnetic Tape/Guide Friction Coefficient by Laser Surface Texturing: Experimental Analysis. , 2007, , .		0
134	Experimental Study of a Creeping Polymer Sphere in Contact With a Rigid Flat. , 2008, , .		0
135	Theoretical Model of Plastic Hysteresis in Spherical Contact Under Combined Normal and Tangential Loading. , 2008, , .		0
136	Pre-Sliding of a Spherical Elastic-Plastic Contact. , 2008, , .		0
137	Loading-Unloading of an Elastic-Plastic Adhesive Spherical Contact. , 2008, , .		0
138	Dynamic Elastic Contact Model for Sliding Realistic Rough Surfaces. , 2010, , .		0
139	Effect of Different Types of Material Hardening on Hysteretic Behavior of Spherical Contact under Combined Normal and Tangential Loading. Lecture Notes in Applied and Computational Mechanics, 2013, , 377-382.	2.0	0
140	Closure to "Discussion of "Nonaxisymmetric Incompressible Hydrostatic Pressure Effects in Radial Face Seals" (1978, ASME J. Lubr. Technol., 100, p. 384). Journal of Lubrication Technology, 1978, 100, 384-385.	0.1	0