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	An advanced efficient model for adhesive wear in elasticâ€"plastic spherical contact. Friction, 2022, 10, 1276-1284.	3.4	12
2	Analysis of Incomplete Film in Parallel Plates Including Inlet Tube and Groove. Journal of Tribology, 2021, 143, .	1.0	2
3	Evolution of adhesive wear and friction in elastic-plastic spherical contact. Wear, 2021, 478-479, 203915.	1.5	13
4	A Coupled Eulerianâ€"Lagrangian Model for Sliding Inception of Elasticâ€"Plastic Spherical Contact. Journal of Tribology, 2021, 143, .	1.0	4
5	Static Friction Behavior of Spherical Contact With Ultrathin Soft Coating. Journal of Tribology, 2021, 143, .	1.0	2
6	Strengthening and Weakening Effects in Bilayer Coated Spherical Contact. Frontiers in Mechanical Engineering, 2020, 6, .	0.8	1
7	Model for the static friction coefficient of spherical contact with a soft metal coating. SN Applied Sciences, 2020, 2, 1.	1.5	6
8	Recent Development in Modeling of Coated Spherical Contact. Materials, 2020, 13, 460.	1.3	7
9	Model for the static friction coefficient in a full stick elastic-plastic coated spherical contact. Friction, 2019, 7, 613-624.	3.4	14
10	Simultaneous Shot-Peening of hard and soft particles for friction reduction in reciprocal sliding. Tribology International, 2019, 130, 19-26.	3.0	6
11	Yield modes in a coated spherical contact. Tribology International, 2018, 120, 309-316.	3.0	7
12	Electrical Resistance Model of a Bilayer-Coated Spherical Contact. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2018, 8, 1614-1620.	1.4	7
13	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
14	A comparison of stick and slip contact conditions for a coated sphere compressed by a rigid flat. Friction, 2017, 5, 326-338.	3.4	17
15	Comparing surface topography parameters of rough surfaces obtained with spectral moments and deterministic methods. Tribology International, 2016, 93, 137-141.	3.0	51
16	Plasticity evolution in a coated sphere compressed by a rigid flat. Tribology International, 2016, 98, 116-124.	3.0	19
17	Effects of elastic modulus mismatch between coating and substrate on the friction and wear properties of TiN and TiAlN coating systems. Wear, 2015, 338-339, 54-61.	1.5	77
18	Indentation pop-in as a potential characterization of weakening effect in coating/substrate systems. Wear, 2015, 338-339, 325-331.	1.5	6

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19	Comment on Leonardo da Vinciâ€™s Friction Experiments: An Old Story Acknowledged and Repeated. Tribology Letters, 2015, 58, 1.	1.2	51
20	Experimental study of the effect of dwell time and normal load on static friction in creeping elasticâ€“plastic polymer spherical contact. Wear, 2014, 309, 139-145.	1.5	10
21	Yield inception of a soft coating on a flat substrate indented by a rigid sphere. Surface and Coatings Technology, 2014, 240, 444-449.	2.2	13
22	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
23	Modeling of surface texturing in hydrodynamic lubrication. Friction, 2013, 1, 195-209.	3.4	166
24	The Effect of Determining Topography Parameters on Analyzing Elastic Contact Between Isotropic Rough Surfaces. Journal of Tribology, 2013, 135, .	1.0	47
25	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
26	Experimental study of a potential weakening effect in spheres with thin hard coatings. Wear, 2012, 296, 590-597.	1.5	26
27	Discussion of the Paper: Optical In Situ Micro Tribometer for Analysis of Real Contact Area for Contact Mechanics, Adhesion, and Sliding Experiments. Tribology Letters, 2012, 46, 205-205.	1.2	7
28	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
29	Plastic yield inception of an indented coated flat and comparison with a flattened coated sphere. Tribology International, 2012, 53, 61-67.	3.0	26
30	The onset of plastic yielding in a coated sphere compressed by a rigid flat. Wear, 2011, 271, 2968-2977.	1.5	51
31	The effect of contact conditions and material properties on plastic yield inception in a spherical shell compressed by a rigid flat. International Journal of Solids and Structures, 2011, 48, 463-471.	1.3	5
32	The evolution of fretting wear in a micro-spherical contact. Wear, 2011, 270, 567-575.	1.5	26
33	The effect of frequency on fretting in a micro-spherical contact. Wear, 2011, 270, 857-865.	1.5	19
34	Elasticâ€“plastic spherical contact under cyclic tangential loading in pre-sliding. Wear, 2011, 270, 888-894.	1.5	17
35	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	3.0	1
36	The Onset of Plastic Yielding in a Spherical Shell Compressed by a Rigid Flat. Journal of Applied Mechanics, Transactions ASME, 2011, 78, .	1.1	13

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37	Long Time Spreading of a Microdroplet on a Smooth Solid Surface. Langmuir, 2010, 26, 1824-1829.	1.6	6
38	The Effect of Asperity Flattening During Cyclic Normal Loading of a Rough Spherical Contact. Tribology Letters, 2010, 40, 347-355.	1.2	15
39	Elasticâ€“Plastic Spherical Contact Modeling Including Roughness Effects. Tribology Letters, 2010, 40, 357-363.	1.2	32
40	Liposomes as potential biolubricant additives for wear reduction in human synovial joints. Wear, 2010, 268, 1037-1042.	1.5	29
41	Unloading of an elasticâ€“plastic spherical contact under stick contact condition. International Journal of Solids and Structures, 2010, 47, 990-997.	1.3	38
42	Theoretical Analysis of Surface-Textured Elastomer Sleeve in Lubricated Rotary Sliding. Tribology Transactions, 2010, 53, 376-385.	1.1	25
43	Revisiting the Cattaneoâ€“Mindlin Concept of Interfacial Slip in Tangentially Loaded Compliant Bodies. Journal of Tribology, 2010, 132, .	1.0	64
44	The Effect of Contact Conditions on the Onset of Plastic Yielding in a Spherical Shell Compressed by a Rigid Flat. , 2010, , .		0
45	Liposomes Act as Effective Biolubricants for Friction Reduction in Human Synovial Joints. Langmuir, 2010, 26, 1107-1116.	1.6	108
46	Dynamic Elastic Contact Model for Sliding Realistic Rough Surfaces. , 2010, , .		0
47	Very Early Stage of Elastic-Plastic Spherical Contact Fretting. , 2009, , .		1
48	Numerical Analysis of a Spherical Shell Compressed by a Rigid Flat. , 2009, , .		0
49	The Effect of Dwell Time on the Static Friction in Creeping Elasticâ€“Plastic Polymer Spherical Contact. Tribology Letters, 2009, 35, 159-170.	1.2	15
50	The Effect of Elastomer Surface Texturing in Soft Elasto-Hydrodynamic Lubrication. Tribology Letters, 2009, 36, 95-103.	1.2	47
51	Improving fuel efficiency with laser surface textured piston rings. Tribology International, 2009, 42, 542-547.	3.0	373
52	The effect of surface texturing in soft elasto-hydrodynamic lubrication. Tribology International, 2009, 42, 284-292.	3.0	115
53	Wear life and adhesion of solid lubricant films on laser-textured steel surfaces. Wear, 2009, 267, 1203-1207.	1.5	83
54	Techniques for assessment of wear between human cartilage surfaces. Wear, 2009, 266, 1216-1223.	1.5	24

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55	A simple atomic force microscopy calibration method for direct measurement of surface energy on nanostructured surfaces covered with molecularly thin liquid films. Review of Scientific Instruments, 2009, 80, 055109.	0.6	5
56	Revisiting the Cattaneo-Mindlin Concept of Interfacial Slip in Tangentially Loaded Compliant Bodies. , 2009, , .		1
57	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
58	State of the Art in Laser Surface Texturing. , 2009, , 761-762.		19
59	HDI-03 AN ANALYSIS OF THE DIMPLE/GIMBAL CONTACT IN A HARD DISK DRIVE SUSPENSION(Head/Disk) Tj ETQq1 1 0.784314 rgBT /Ov Joint Conference on Micromechatronics for Information and Precision Equipment IIP/ISPS Joint MIPE, 2009, 2009, 105-106.	0.0	2
60	A Model for Potential Adhesive Wear Particle at Sliding Inception of a Spherical Contact. Tribology Letters, 2008, 30, 225-233.	1.2	25
61	Loadingâ€“unloading of an elasticâ€“plastic adhesive spherical microcontact. Journal of Colloid and Interface Science, 2008, 321, 242-250.	5.0	55
62	Friction and wear of MoS2 films on laser textured steel surfaces. Surface and Coatings Technology, 2008, 202, 3332-3340.	2.2	177
63	In situ and real-time optical investigation of junction growth in spherical elasticâ€“plastic contact. Wear, 2008, 264, 1043-1050.	1.5	70
64	A contact model for a creeping sphere and a rigid flat. Wear, 2008, 265, 598-605.	1.5	28
65	The Effect of Laser Surface Texturing on Soft Elasto-Hydrodynamic Lubrication Considering Non-Linear Elasticity. , 2008, , .		0
66	Techniques for Assessment of Wear Between Human Cartilage Surfaces. , 2008, , .		0
67	Wear Between Human Cartilage Surfaces. , 2008, , .		1
68	A parameter study of separation modes of adhering microcontacts. Journal of Applied Physics, 2008, 103, 064902.	1.1	18
69	Surface Active Phospholipids as Cartilage Lubricants. , 2008, , .		0
70	Theoretical and Experimental Investigation of Plastic Hysteresis in Spherical Contact Under Combined Normal and Tangential Loading. , 2008, , .		0
71	Models of Potential and Wear Particles in a Spherical Contact. , 2008, , .		0
72	Discussion: â€œA Greenwoodâ€“Williamson Model of Small-Scale Frictionâ€•(Jones, R. E., 2007, ASME J. Appl.) Tj ETQq0 0 0 rgBT /Overl	1.1	0

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73	Partial Elastomer Texturing in Soft Elasto Hydrodynamic Lubrication. , 2008, , .		2
74	Experimental Study of Static Friction in a Spherical Elastic-Plastic Contact. , 2008, , .		0
75	Experimental Study of a Creeping Polymer Sphere in Contact With a Rigid Flat. , 2008, , .		0
76	Theoretical Model of Plastic Hysteresis in Spherical Contact Under Combined Normal and Tangential Loading. , 2008, , .		0
77	Pre-Sliding of a Spherical Elastic-Plastic Contact. , 2008, , .		0
78	Loading-Unloading of an Elastic-Plastic Adhesive Spherical Contact. , 2008, , .		0
79	Analysis of Surface Textured Air Bearing Sliders With Rarefaction Effects. , 2007, , 661.		0
80	Discussion: â€œA Mathematical Model for Frictional Elastic-Plastic Sphere-on-Flat Contacts at Sliding Incipientâ€•(Chang, L., and Zhang, H., 2007, ASME J. Appl. Mech., 74, pp. 100â€“106). Journal of Applied Mechanics, Transactions ASME, 2007, 74, 1057-1057.	1.1	0
81	A Study of the Importance of Three Key Parameters on the Separation Modes of Adhering Microcontacts. , 2007, , .		0
82	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
83	A finite element model of loading and unloading of an asperity contact with adhesion and plasticity. Journal of Colloid and Interface Science, 2007, 312, 522-528.	5.0	73
84	In situ investigation of the contact area in elasticâ€“plastic spherical contact during loadingâ€“unloading. Tribology Letters, 2007, 25, 153-160.	1.2	69
85	The influence of operating and design parameters on the magnetic tape/guide friction coefficient. Tribology Letters, 2007, 25, 161-171.	1.2	8
86	Enhancing tribological performance of the magnetic tape/guide interface by laser surface texturing. Tribology Letters, 2007, 27, 89-95.	1.2	45
87	A Model for Magnetic Tape/Guide Friction Reduction by Laser Surface Texturing. Tribology Letters, 2007, 28, 9-17.	1.2	33
88	Analysis of Surface Textured Air Bearing Sliders with Rarefaction Effects. Tribology Letters, 2007, 28, 251-261.	1.2	42
89	A Model for Junction Growth of a Spherical Contact. , 2007, , .		1
90	In Situ and Real Time Optical Investigation of Junction Growth in Spherical Elastic-Plastic Contact. , 2007, , .		2

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91	Reducing the Magnetic Tape/Guide Friction Coefficient by Laser Surface Texturing: Experimental Analysis. , 2007, , .		0
92	A Model for the Magnetic Tape/Guide Interface With Laser Surface Texturing. , 2007, , .		1
93	The effect of contact conditions and material properties on elastic-plastic spherical contact. Journal of Mechanics of Materials and Structures, 2006, 1, 865-879.	0.4	81
94	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
95	Multiple loadingâ€“unloading of an elasticâ€“plastic spherical contact. International Journal of Solids and Structures, 2006, 43, 7119-7127.	1.3	64
96	Unloading an elasticâ€“plastic contact of rough surfaces. Journal of the Mechanics and Physics of Solids, 2006, 54, 2652-2674.	2.3	108
97	Testing piston rings with partial laser surface texturing for friction reduction. Wear, 2006, 261, 792-796.	1.5	332
98	The effect of various surface treatments on piston pin scuffing resistance. Wear, 2006, 261, 785-791.	1.5	89
99	A Hydrostatic Laser Surface Textured Gas Seal. Tribology Letters, 2006, 22, 21-28.	1.2	57
100	A rational human joint friction test using a human cartilage-on-cartilage arrangement. Tribology Letters, 2006, 22, 29-36.	1.2	59
101	A novel test rig for inÂsitu and real time optical measurement of the contact area evolution during pre-sliding of a spherical contact. Tribology Letters, 2006, 23, 55-63.	1.2	79
102	Unloading of an elasticâ€“plastic loaded spherical contact. International Journal of Solids and Structures, 2005, 42, 3716-3729.	1.3	229
103	Nanoscale fretting wear study by scanning probe microscopy. Tribology Letters, 2005, 18, 493-498.	1.2	39
104	State of the Art in Laser Surface Texturing. Journal of Tribology, 2005, 127, 248-253.	1.0	1,134
105	The effect of laser surface texturing on transitions in lubrication regimes during unidirectional sliding contact. Tribology International, 2005, 38, 219-225.	3.0	497
106	A Static Friction Model for Elastic-Plastic Contacting Rough Surfaces. Journal of Tribology, 2004, 126, 34-40.	1.0	264
107	The Effect of WS2Nanoparticles on Friction Reduction in Various Lubrication Regimes. Tribology Letters, 2004, 17, 179-186.	1.2	150
108	Experimental Investigation of Laser Surface Textured Parallel Thrust Bearings. Tribology Letters, 2004, 17, 295-300.	1.2	309

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109	Slip Index: A New Unified Approach to Fretting. Tribology Letters, 2004, 17, 569-573.	1.2	113
110	Improving Tribological Performance of Mechanical Components by Laser Surface Texturing. Tribology Letters, 2004, 17, 733-737.	1.2	519
111	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
112	Adhesion in elasticâ€“plastic spherical microcontact. Journal of Colloid and Interface Science, 2003, 261, 372-378.	5.0	113
113	A Finite Element Based Elastic-Plastic Model for the Contact of Rough Surfaces. Tribology Transactions, 2003, 46, 383-390.	1.1	351
114	A Semi-Analytical Solution for the Sliding Inception of a Spherical Contact. Journal of Tribology, 2003, 125, 499-506.	1.0	140
115	Crosstalk problems in scanning-by-probe atomic force microscopy. Review of Scientific Instruments, 2003, 74, 3569-3571.	0.6	28
116	An improved wedge calibration method for lateral force in atomic force microscopy. Review of Scientific Instruments, 2003, 74, 3362-3367.	0.6	374
117	Adhesive force: the underlying cause of the disc anchorage to the fossa and/or eminence in the temporomandibular jointâ€”A new concept. International Journal of Oral and Maxillofacial Surgery, 2002, 31, 94-99.	0.7	52
118	Different aspects of the role of wear debris in fretting wear. Wear, 2002, 252, 902-910.	1.5	295
119	The effect of surface regular microtopography on fretting fatigue life. Wear, 2002, 253, 509-515.	1.5	88
120	Analysis of the Hydrodynamic Effects in a Surface Textured Circumferential Gas Seal. Tribology Transactions, 2001, 44, 472-478.	1.1	136
121	Friction-Reducing Surface-Texturing in Reciprocating Automotive Components. Tribology Transactions, 2001, 44, 359-366.	1.1	417
122	A Model for the Static Sealing Performance of Compliant Metallic Gas Seals Including Surface Roughness and Rarefaction Effects. Tribology Transactions, 2000, 43, 237-244.	1.1	26
123	The Contact of a Compliant Curved and a Nominally Flat Rough Surfaces. Tribology Transactions, 2000, 43, 507-513.	1.1	11
124	Electrical Conductivity and Friction Force Estimation in Compliant Electrical Connectors. Tribology Transactions, 2000, 43, 816-822.	1.1	33
125	Discussion: â€œAn Asperity Microcontact Modelâ€‰Incorporating the Transition from Elastic Deformation to Fully Plastic Flowâ€•[ASME J. Tribol., 122, No. 1, pp. 86â€“93 (2000)]1. Journal of Tribology, 2000, 122, 479-479.	1.0	8
126	Analytical Approximations in Modeling Contacting Rough Surfaces. Journal of Tribology, 1999, 121, 234-239.	1.0	88

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127	Study of the wear behavior and adhesion of diamond films deposited on steel substrates by use of a Crâ€“N interlayer. Diamond and Related Materials, 1999, 8, 859-864.	1.8	37
128	Comparison of the Static Friction Subboundary Lubrication Model with Experimental Measurements on Thin-Film Disks. Tribology Transactions, 1998, 41, 217-224.	1.1	29
129	Static Friction of Contacting Real Surfaces in the Presence of Sub-Boundary Lubrication. Journal of Tribology, 1998, 120, 296-303.	1.0	42
130	Static Sealing Performance of Gas Mechanical Seals Including Surface Roughness and Rarefaction Effects. Tribology Transactions, 1998, 41, 531-536.	1.1	18
131	[100]-Textured diamond films for tribological applications. Diamond and Related Materials, 1997, 6, 381-385.	1.8	38
132	Nonlinear Dynamic Analysis of Noncontacting Coned-Face Mechanical Seals. ASLE Transactions, 1986, 29, 383-393.	0.6	35
133	Stability Threshold and Steady-State Response of Noncontacting Coned-Face Seals. ASLE Transactions, 1985, 28, 449-460.	0.6	68
134	Experimental Observation of the Dynamic Behavior of Noncontacting Coned-Face Mechanical Seals. ASLE Transactions, 1984, 27, 263-270.	0.6	25
135	Fluid Film Dynamic Coefficients in Mechanical Face Seals. Journal of Lubrication Technology, 1983, 105, 297-302.	0.1	36
136	The Accuracy of the Narrow Seal Approximation in Analyzing Radial Face Seals. ASLE Transactions, 1980, 23, 208-216.	0.6	22
137	Performance of End-Face Seals with Diametral Tilt and Coningâ€”Hydrostatic Effects. ASLE Transactions, 1980, 23, 279-288.	0.6	25
138	Nonaxisymmetric Incompressible Hydrostatic Pressure Effects in Radial Face Seals. Journal of Lubrication Technology, 1978, 100, 379-383.	0.1	11
139	Closure to â€œDiscussion of â€˜Nonaxisymmetric Incompressible Hydrostatic Pressure Effects in Radial Face Sealsâ€™â€•(1978, ASME J. Lubr. Technol., 100, p. 384). Journal of Lubrication Technology, 1978, 100, 384-385.	0.1	0
140	Optimum Step Design for Centering of Pistons Moving in an Incompressible Fluid. Journal of Fluids Engineering, Transactions of the ASME, 1977, 99, 675-680.	0.8	3