Ivan Krupka

List of Publications by Year
in descending order

136	2,106	236833	345118
papers	citations	25 h-index	36 g-index

137	137	137	1134
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The effect of surface texturing on thin EHD lubrication films. Tribology International, 2007, 40, 1100-1110.	3.0	98
2	An Automatic System for Real-Time Evaluation of EHD Film Thickness and Shape Based on the Colorimetric Interferometry. Tribology Transactions, 1999, 42, 303-309.	1.1	90
3	Effect of surface texturing on rolling contact fatigue within mixed lubricated non-conformal rolling/sliding contacts. Tribology International, 2010, 43, 1457-1465.	3.0	63
4	Effect of surface texturing on mixed lubricated non-conformal contacts. Tribology International, 2008, 41, 1063-1073.	3.0	54
5	EHL simulation using the free-volume viscosity model. Tribology Letters, 2006, 23, 27-37.	1.2	49
6	An Experimental Validation of the Recently Discovered Scale Effect in Generalized Newtonian EHL. Tribology Letters, 2009, 33, 127-135.	1.2	47
7	A novel tribological study on DLC-coated micro-dimpled orthopedics implant interface. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 45, 121-131.	1.5	44
8	Comment on â€œHistory, Origins and Prediction of Elastohydrodynamic Frictionâ€•by Spikes and Jie. Tribology Letters, 2015, 58, 1.	1.2	42
9	The Effect of Load (Pressure) for Quantitative EHL Film Thickness. Tribology Letters, 2010, 37, 613-622.	1.2	41
10	The impact of surface and geometry on coefficient of friction of artificial hip joints. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 72, 192-199.	1.5	38
11	Effect of surface texturing on elastohydrodynamically lubricated contact under transient speed conditions. Tribology International, 2011, 44, 1144-1150.	3.0	37
12	Influence of sanding parameters on adhesion recovery in contaminated wheelâ€“rail contact. Wear, 2015, 322-323, 218-225.	1.5	37
13	Local Effects in EHL Contacts with Oil-Impregnated Sintered Materials. Lubricants, 2019, 7, 1.	1.2	37
14	Effect of shot peening on rolling contact fatigue and lubricant film thickness within mixed lubricated non-conformal rolling/sliding contacts. Tribology International, 2011, 44, 1726-1735.	3.0	36
15	The effect of surface roughness on friction and film thickness in transition from EHL to mixed lubrication. Tribology International, 2018, 128, 356-364.	3.0	36
16	Effect of surface topography on mixed lubrication film formation during start up under rolling/sliding conditions. Tribology International, 2010, 43, 1035-1042.	3.0	35
17	Effect of surface roughness on lubricant film breakdown and transition from EHL to mixed lubrication. Tribology International, 2016, 100, 116-125.	3.0	34
18	Experimental and numerical investigation on the behavior of transverse limited micro-grooves in EHL point contacts. Tribology International, 2015, 84, 81-89.	3.0	31

#	Article	IF	Citations
19	Experimental study of starved EHL contacts based on thickness of oil layer in the contact inlet. Tribology International, 2013, 67, 140-145.	3.0	29
20	Improved wear resistance of functional diamond like carbon coated Tiâ€“6Alâ€“4V alloys in an edge loading conditions. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 59, 586-595.	1.5	29
21	The effect of lubricant constituents on lubrication mechanisms in hip joint replacements. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 55, 295-307.	1.5	29
22	Effect of surface texturing on lubrication film formation andÂrolling contact fatigue within mixed lubricated non-conformal contacts. Meccanica, 2011, 46, 491-498.	1.2	28
23	In situ measurements of thin films in bovine serum lubricated contacts using optical interferometry. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2014, 228, 149-158.	1.0	28
24	Fabrication and characterization of DLC coated microdimples on hip prosthesis heads. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2015, 103, 1002-1012.	1.6	26
25	Laboratory investigation of ability of oil-based friction modifiers to control adhesion at wheel-rail interface. Wear, 2016, 368-369, 230-238.	1.5	26
26	Running-in friction of hip joint replacements can be significantly reduced: The effect of surface-textured acetabular cup. Friction, 2020, 8, 1137-1152.	3.4	26
27	On the observation of lubrication mechanisms within hip joint replacements. Part I: Hard-on-soft bearing pairs. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 89, 237-248.	1.5	25
28	The Influence of Proteins and Speed on Friction and Adsorption of Metal/UHMWPE Contact Pair. Biotribology, 2017, 11, 51-59.	0.9	24
29	Mechanical wear and oxidative degradation analysis of retrieved ultra high molecular weight polyethylene acetabular cups. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 79, 314-323.	1.5	24
30	In situ observation of lubricant film formation in THR considering real conformity: The effect of model synovial fluid composition. Tribology International, 2018, 117, 206-216.	3.0	24
31	The Effect of Synovial Fluid Composition, Speed and Load on Frictional Behaviour of Articular Cartilage. Materials, 2020, 13, 1334.	1.3	24
32	Effect of Surface Texturing on Very Thin Film EHD Lubricated Contacts. Tribology Transactions, 2008, 52, 21-28.	1.1	23
33	Analytical and experimental investigation on friction of non-conformal point contacts under starved lubrication. Meccanica, 2013, 48, 545-553.	1.2	23
34	UHMWPE acetabular cup creep deformation during the run-in phase of THA's life cycle. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 87, 30-39.	1.5	23
35	Behavior of real roughness features within mixed lubricated non-conformal contacts. Tribology International, 2008, 41, 1153-1160.	3.0	22
36	The role of constituents contained in waterâ€“based friction modifiers for topâ€“ofâ€“rail application. Tribology International, 2018, 117, 87-97.	3.0	22

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37	Behavior of thin viscous boundary films in lubricated contacts between micro-textured surfaces. Tribology International, 2009, 42, 535-541.	3.0	21
38	Towards near-permanent CoCrMo prosthesis surface by combining micro-texturing and low temperature plasma carburising. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 55, 215-227.	1.5	21
39	A novel functional layered diamond like carbon coating for orthopedics applications. Diamond and Related Materials, 2016, 61, 56-69.	1.8	21
40	The Shear-Thinning Elastohydrodynamic Film Thickness of a Two-Component Mixture. Journal of Tribology, 2008, 130, .	1.0	20
41	Enhancing the parameters of starved EHL point conjunctions by artificially induced replenishment. Tribology International, 2013, 66, 134-142.	3.0	20
42	Metal matrix to ceramic matrix transition via feedstock processing of SPS titanium composites alloyed with high silicone content. Journal of Alloys and Compounds, 2018, 764, 776-788.	2.8	20
43	Towards the understanding of lubrication mechanisms in total knee replacements â€“ Part I: Experimental investigations. Tribology International, 2021, 156, 106874.	3.0	20
44	Newtonian quantitative elastohydrodynamic film thickness with linear piezoviscosity. Tribology International, 2010, 43, 2159-2165.	3.0	19
45	Lubrication within hip replacements â€“ Implication for ceramic-on-hard bearing couples. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 61, 371-383.	1.5	19
46	In situ observation of lubricant film formation in THR considering real conformity: The effect of diameter, clearance and material. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 69, 66-74.	1.5	19
47	The low adhesion problem: The effect of environmental conditions on adhesion in rolling-sliding contact. Tribology International, 2020, 151, 106521.	3.0	19
48	Experimental Study of Roughness Effect in a Rollingâ€“Sliding EHL Contact. Part I: Roughness Deformation. Tribology Transactions, 2016, 59, 267-276.	1.1	18
49	The influence of thin boundary films on real surface roughness in thin film, mixed EHD contact. Tribology International, 2007, 40, 1553-1560.	3.0	17
50	Effect of Surface Velocity Directions on Elastohydrodynamic Film Shape. Tribology Transactions, 2013, 56, 301-309.	1.1	17
51	Tribological investigation of ultra-high molecular weight polyethylene against advanced ceramic surfaces in total hip joint replacement. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2015, 229, 410-419.	1.0	17
52	Asperity-based model for prediction of traction in water-contaminated wheel-rail contact. Tribology International, 2021, 157, 106900.	3.0	16
53	Theoretical and Experimental Investigations on EHL Point Contacts with Different Entrainment Velocity Directions. Tribology Transactions, 2013, 56, 728-738.	1.1	15
54	On the observation of lubrication mechanisms within hip joint replacements. Part II: Hard-on-hard bearing pairs. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 89, 249-259.	1.5	15

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55	Biotribology of Synovial Cartilage: A New Method for Visualization of Lubricating Film and Simultaneous Measurement of the Friction Coefficient. Materials, 2020, 13, 2075.	1.3	15
56	Evidence of Plug Flow in Rollingâ€“Sliding Elastohydrodynamic Contact. Tribology Letters, 2014, 54, 151-160.	1.2	14
57	Influence of Lubricant Inlet Film Thickness on Elastohydrodynamically Lubricated Contact Starvation. Journal of Tribology, 2017, 139, .	1.0	13
58	Effects of lubricant rheology and impact speed on EHL film thickness at pure squeeze action. Tribology International, 2017, 106, 1-9.	3.0	13
59	Investigation of the tribological performance of ionic liquids in non-conformal EHL contacts under electric field activation. Friction, 2020, 8, 982-994.	3.4	13
60	Experimental Study of Central and Minimum Elastohydrodynamic Film Thickness by Colorimetric Interferometry Technique. Tribology Transactions, 2000, 43, 611-618.	1.1	12
61	Thin lubricating films behaviour at very high contact pressure. Tribology International, 2006, 39, 1726-1731.	3.0	12
62	Effect of real longitudinal surface roughness on lubrication film formation within line elastohydrodynamic contact. Tribology International, 2010, 43, 2384-2389.	3.0	12
63	Fundamentals of thermal elastohydrodynamic lubrication in Si₃N₄ and steel circular contacts. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2015, 229, 929-939.	1.0	12
64	Lubricant Rupture Ratio at Elastohydrodynamically Lubricated Contact Outlet. Tribology Letters, 2015, 59, 1.	1.2	12
65	Wear Analysis of Extracted Polyethylene Acetabular Cups Using a 3D Optical Scanner. Tribology Transactions, 2017, 60, 437-447.	1.1	12
66	Thermal Elastohydrodynamic Lubrication of Ceramic Materials. Tribology Transactions, 2018, 61, 869-879.	1.1	12
67	Observation of lubrication mechanisms in knee replacement: A pilot study. Biotribology, 2019, 17, 1-7.	0.9	12
68	Quantitative elastohydrodynamic film thickness of mechanically degraded oil. Tribology International, 2013, 64, 33-38.	3.0	11
69	The effect of surface grooves on film breakdowns in point contacts. Tribology International, 2016, 102, 249-256.	3.0	11
70	The Effect of Kinematic Conditions and Synovial Fluid Composition on the Frictional Behaviour of Materials for Artificial Joints. Materials, 2018, 11, 767.	1.3	11
71	Thin film lubrication study by colorimetric interferometry. Tribology Series, 2000, 38, 695-704.	0.1	10
72	Mechanical Degradation of the Liquid in an Operating EHL Contact. Tribology Letters, 2011, 41, 191-197.	1.2	10

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73	Reducing the friction of lubricated nonconformal point contacts by transverse shallow micro-grooves. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2015, 229, 420-428.	1.0	10
74	The Behavior of Surface Roughness in EHL Contacts Under Small Slide to Roll Ratios. Tribology Letters, 2012, 47, 357-366.	1.2	9
75	Experimental Study of Roughness Effect in a Rollingâ€“Sliding EHL Contact. Part II: Complementary Effects. Tribology Transactions, 2016, 59, 277-285.	1.1	9
76	Effects of lateral harmonic vibrations on film thickness in EHL point contacts. Tribology International, 2018, 117, 236-249.	3.0	9
77	Analytical Formula for the Ratio of Central to Minimum Film Thickness in a Circular EHL Contact. Lubricants, 2018, 6, 80.	1.2	9
78	Calculation of pressure distribution in EHD point contacts from experimentally determinated film thickness. Tribology International, 2005, 38, 391-401.	3.0	8
79	An Approximate Approach to Predict the Degree of Starvation in Ballâ€“Disk Machine Based on the Relative Friction. Tribology Transactions, 2013, 56, 681-686.	1.1	8
80	Lubricant flow in thin-film elastohydrodynamic contact under extreme conditions. Friction, 2016, 4, 380-390.	3.4	8
81	Influence of thermal conductivity of contact bodies on perturbed film caused by a ridge and groove in point EHL contacts. Tribology International, 2016, 100, 84-98.	3.0	8
82	Numerical study on the interaction of transversely oriented ridges in thermal elastohydrodynamic lubrication point contacts using the Eyring shear-thinning model. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2017, 231, 93-106.	1.0	8
83	On the Temperature and Lubricant Film Thickness Distribution in EHL Contacts with Arbitrary Entrainment. Lubricants, 2018, 6, 101.	1.2	8
84	The effect of surface grooves on transition to mixed lubrication. Tribology International, 2017, 114, 409-417.	3.0	7
85	Deformation of Rough Surfaces in Point EHL Contacts. Tribology Letters, 2019, 67, 1.	1.2	7
86	Analysis of Friction in Total Knee Prosthesis during a Standard Gait Cycle. Lubricants, 2021, 9, 36.	1.2	7
87	Influence of Li Grease Thickener Types on Film Thicknesses Formed between Smooth and Dented Surfaces. Tribology Online, 2017, 12, 262-273.	0.2	7
88	Formation of micro-grooves under impact loading in elliptical contacts with surface ridges. Tribology International, 2013, 65, 336-345.	3.0	6
89	Elastohydrodynamic lubricant film shape - comparison between experimental and theoretical results. Tribology Series, 1998, 34, 221-232.	0.1	5
90	ColorimÃ©trie DiffÃ©rentielle : Un outil pour l'Ã©tude de la lubrification fluide. Mecanique Et Industries, 2002, 3, 571-581.	0.2	5

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91	EHL Film Thickness Behaviour Under High Pressure â€" Comparison between Numerical and Experimental Results. Solid Mechanics and Its Applications, 2006, , 217-228.	0.1	5
92	Film formation in EHL contacts with oil-impregnated sintered materials. Industrial Lubrication and Tribology, 2018, 70, 612-619.	0.6	5
93	The Effect of Kinematic Conditions on Film Thickness in Compliant Lubricated Contact. Journal of Tribology, 2018, 140, .	1.0	5
94	Analysis of Chemisorbed Tribo-Film for Ceramic-on-Ceramic Hip Joint Prostheses by Raman Spectroscopy. Journal of Functional Biomaterials, 2021, 12, 29.	1.8	5
95	EXPERIMENTAL OBSERVATION OF ELASTOHYDRODYNAMICALLY LUBRICATED CONTACTS REPLENISHMENT. MM Science Journal, 2015, 2015, 640-644.	0.2	5
96	Application of Spectroscopic Reflectometry to Elastohydrodynamic Lubrication Films Study. Tribology Letters, 2012, 45, 195-205.	1.2	4
97	Transition from plug-flow to linear speed profile near a dent in a rollingâ€"sliding EHL contact. Tribology International, 2016, 100, 344-350.	3.0	4
98	Prediction of Shallow Indentation Effects in a Rolling-Sliding EHL Contact Based on Amplitude Attenuation Theory. Tribology Online, 2017, 12, 1-7.	0.2	4
99	A systematic review on correlation between biochemical and mechanical processes of lubricant film formation in joint replacement of the last 10Âyears. Lubrication Science, 2019, 31, 85-101.	0.9	4
100	Raman analysis of chemisorbed tribofilm for metalâ€onâ€polyethylene hip joint prostheses. Biosurface and Biotribology, 2021, 7, 1-11.	0.6	4
101	FILM THICKNESS MAPPING IN LUBRICATED CONTACTS USING FLUORESCENCE. MM Science Journal, 2015, 2015, 821-824.	0.2	4
102	Experimental Comparison of the Behavior between Base Oil and Grease Starvation Based on Inlet Film Thickness. Tribology in Industry, 2017, 39, 110-119.	0.5	4
103	The effect of top of rail lubricant composition on adhesion and rheological behaviour. Engineering Science and Technology, an International Journal, 2022, 35, 101100.	2.0	4
104	Pressure Distribution Within EHD Point Contacts Based on Measured Film Thickness. , 2006, , 55.		3
105	Experimental study of the behaviour of real asperities within lubricated contacts. Lubrication Science, 2006, 18, 129-139.	0.9	3
106	Microgroove formation in surface ridges in impact elliptical EHL contacts. Lubrication Science, 2014, 26, 283-299.	0.9	3
107	Effects of out-of-contact lubricant channeling on friction and film thickness in starved elastohydrodynamic lubrication point contacts. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2017, 231, 432-440.	1.0	3
108	EXPERIMENTAL INVESTIGATION OF LUBRICATION FILM FORMATION AT START-UP OF SMOOTH SURFACES. MM Science Journal, 2015, 2015, 825-828.	0.2	3

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109	Biotribology of synovial cartilage: Role of albumin in adsorbed film formation. Engineering Science and Technology, an International Journal, 2022, 34, 101090.	2.0	3
110	Numerical evaluation of pressure from experimentally measured film thickness in EHL point contact. Lubrication Science, 2008, 20, 47-59.	0.9	2
111	Study of Elastohydrodynamic Film Shape Under Different Directions of Velocity Vectors. , 2011, , .		2
112	Mechanism for Controlling Oil Replenishment in Starved Elliptical EHL Contacts. Tribology Letters, 2015, 60, 1.	1.2	2
113	The Influence of Surface Modification on Friction and Lubrication Mechanism Under a Bovine Serumâ€“Lubricated Condition. Tribology Transactions, 2016, 59, 316-322.	1.1	2
114	On the Relation between Friction Increase and Grease Thickener Entraining on a Border of Mixed EHL Lubrication. Lubricants, 2020, 8, 12.	1.2	2
115	Effect of Surface Topography on Mixed Lubrication Film Under Transient Conditions. , 2009, , .		2
116	Experimental investigation of friction in compliant contact: The effect of configuration, viscoelasticity and operating conditions. Tribology International, 2022, 165, 107340.	3.0	2
117	Tribological behaviour of 3D printed materials for small joint implants: A pilot study. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 132, 105274.	1.5	2
118	Experimental study of central and minimum film thickness in elastohydrodynamic elliptic contacts. Tribology Series, 2001, 39, 495-504.	0.1	1
119	Effect of Proteins on Film Formation in Bovine Serum Lubricated Contacts Under Rolling/Sliding Conditions. , 2012, , .		1
120	Abnormal lubricant aggregation on roughness features in a rollingâ€“sliding elastohydrodynamic contact. Tribology International, 2016, 94, 346-351.	3.0	1
121	Experimental Study of Artificial Features Attenuation in Rolling/Sliding Concentrated Contacts. , 2011, , .		1
122	Surface Roughness Effects under High Sliding EHL Conditions. Tribology Online, 2016, 11, 34-39.	0.2	1
123	Use of Pyrene for Quantitative Fluorescence Observation of Li-Grease around EHL Contacts. Tribology Online, 2020, 15, 117-125.	0.2	1
124	Numerical Study on the Interaction of Transverse and Longitudinal Roughness on Elastohydrodynamic Lubrication Contact Surfaces With Different Thermal Conductivities and Elastic Moduli. Journal of Tribology, 2021, 143, .	1.0	1
125	Differential colorimetry: a tool for evaluation of chromatic interference pattern. , 1998, , .		0
126	Study of Lubrication Film Formation in Ball Bearings Under Starved Conditions. , 2011, , .		0

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127	Effect of Surface Texturing on EHD Lubrication Films Under Transient Speed Condition. , 2011, , .		0
128	Experimental Study of Lubrication Film Formation in Multiple Contacts Device Under Starved Conditions. , 2012, , .		0
129	Experimental Study on Analytical Methods for Roughness Deformation Description in EHL Contacts. , 2012, , .		0
130	The Contribution of a Sliding Velocity to EHL Film Thickness Distribution. , 2012, , .		0
131	Lubrication Film Thickness Behavior Under Transient Speed and Load Conditions. , 2012, , .		0
132	Study of Scale Effect in a Starved Elastohydrodynamically Lubricated Contact. Applied Mechanics and Materials, 2016, 821, 138-143.	0.2	0
133	Effect of Kinematic Operating Conditions on Ridge Deformationâ€"Numerical Study With Experimental Comparison. Journal of Tribology, 2017, 139, .	1.0	0
134	Surface Modifications and Tribological Effect in Orthopedics Implants. Advances in Chemical and Materials Engineering Book Series, 2015, , 193-217.	0.2	0
135	Film thickness interrelationship of base oil and grease lubricated compliant and hard non-conformal contacts. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 0, , 135065012110535.	1.0	0
136	Replenishment Differences in EHL Contact Lubricated by New and In-bearings-aged Grease. Tribology in Industry, 2020, 42, 102-114.	0.5	0