Roland Larsson

List of Publications by Year
in descending order

130 papers	3,152 citations	126708 33 h-index	197535 49 g-index
134 all docs	134 docs citations	134 times ranked	1685 citing authors

#	Article	IF	Citations
1	Two-Dimensional CFD-Analysis of Micro-Patterned Surfaces in Hydrodynamic Lubrication. Journal of Tribology, 2005, 127, 96-102.	1.0	166
2	Transient non-Newtonian elastohydrodynamic lubrication analysis of an involute spur gear. Wear, 1997, 207, 67-73.	1.5	111
3	A mixed lubrication model incorporating measured surface topography. Part 1: Theory of flow factors. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2010, 224, 335-351.	1.0	106
4	Thermal influence on torque transfer of wet clutches in limited slip differential applications. Tribology International, 2007, 40, 876-884.	3.0	88
5	Boundary and elastohydrodynamic lubrication studies of glycerol aqueous solutions as green lubricants. Tribology International, 2014, 69, 39-45.	3.0	83
6	Friction Reduction in Elastohydrodynamic Contacts by Thin-Layer Thermal Insulation. Tribology Letters, 2014, 53, 477-486.	1.2	75
7	Non-corrosive and Biomaterials Protic Ionic Liquids with High Lubricating Performance. Tribology Letters, 2016, 63, 1.	1.2	71
8	Numerical simulation of a wear experiment. Wear, 2011, 271, 2947-2952.	1.5	70
9	Numerical Simulation of a Ball Impacting and Rebounding a Lubricated Surface. Journal of Tribology, 1995, 117, 94-102.	1.0	69
10	On the dry elasto-plastic contact of nominally flat surfaces. Tribology International, 2007, 40, 574-579.	3.0	69
11	Towards the true prediction of EHL friction. Tribology International, 2013, 66, 19-26.	3.0	68
12	Modelling of leakage on metal-to-metal seals. Tribology International, 2016, 94, 421-427.	3.0	68
13	Wet clutch friction characteristics obtained from simplified pin on disc test. Tribology International, 2008, 41, 824-830.	3.0	64
14	The Significance of Oil Thermal Properties on the Performance of a Tilting-Pad Thrust Bearing. Journal of Tribology, 2002, 124, 377-385.	1.0	62
15	The influence of base oil polarity on the tribological performance of zinc dialkyl dithiophospate additives. Tribology International, 2010, 43, 2268-2278.	3.0	60
16	Film thickness in a ball-on-disc contact lubricated with greases, bleed oils and base oils. Tribology International, 2012, 53, 53-60.	3.0	56
17	A cavitation algorithm for arbitrary lubricant compressibility. Tribology International, 2007, 40, 1294-1300.	3.0	55
18	The Navierâ€“Stokes approach for thermal EHL line contact solutions. Tribology International, 2002, 35, 163-170.	3.0	52

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19	A mixed lubrication model incorporating measured surface topography. Part 2: Roughness treatment, model validation, and simulation. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2010, 224, 353-365.	1.0	48
20	Influence on friction from piston ring design, cylinder liner roughness and lubricant properties. Tribology International, 2017, 116, 272-284.	3.0	48
21	The Influence of DLC Coating on EHL Friction Coefficient. Tribology Letters, 2012, 47, 285-294.	1.2	44
22	Modelling the effect of surface roughness on lubrication in all regimes. Tribology International, 2009, 42, 512-516.	3.0	43
23	A comparison between computational fluid dynamic and Reynolds approaches for simulating transient EHL line contacts. Tribology International, 2004, 37, 61-69.	3.0	42
24	Comment on â€œHistory, Origins and Prediction of Elastohydrodynamic Frictionâ€•by Spikes and Jie. Tribology Letters, 2015, 58, 1.	1.2	42
25	Fully coupled EHL model for simulation of finite length line cam-roller follower contacts. Tribology International, 2016, 103, 584-598.	3.0	41
26	Elastohydrodynamic lubrication friction mapping â€“ the influence of lubricant, roughness, speed, and slide-to-roll ratio. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2011, 225, 671-681.	1.0	40
27	A New Approach for Studying Cavitation in Lubrication. Journal of Tribology, 2014, 136, .	1.0	40
28	Fuel consumption and friction benefits of low viscosity engine oils for heavy duty applications. Tribology International, 2017, 110, 23-34.	3.0	37
29	CuO nanosheets produced in graphene oxide solution: An excellent anti-wear additive for self-lubricating polymer composites. Composites Science and Technology, 2018, 162, 86-92.	3.8	37
30	Study of lubricated impact using optical interferometry. Wear, 1995, 190, 184-189.	1.5	36
31	A numerical model to investigate the effect of honing angle on the hydrodynamic lubrication between a combustion engine piston ring and cylinder liner. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2011, 225, 683-689.	1.0	36
32	Rough surface flow factors in full film lubrication based on a homogenization technique. Tribology International, 2007, 40, 1025-1034.	3.0	35
33	On the influence of surface roughness on real area of contact in normal, dry, friction free, rough contact by using a neural network. Wear, 2009, 266, 592-595.	1.5	35
34	A semi-deterministic texture-roughness model of the piston ringâ€“cylinder liner contact. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2011, 225, 325-333.	1.0	35
35	Modelling and analysis of elastic and thermal deformations of a hybrid journal bearing. Tribology International, 2018, 118, 451-457.	3.0	34
36	The Effect of DLC Coating Thickness on Elstohydrodynamic Friction. Tribology Letters, 2014, 55, 353-362.	1.2	33

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37	Component test for simulation of piston ring â€“ Cylinder liner friction at realistic speeds. Tribology International, 2016, 104, 57-63.	3.0	32
38	Elastohydrodynamic Lubrication at Impact Loading. Journal of Tribology, 1994, 116, 770-776.	1.0	31
39	Micro-pitting Damage of Bearing Steel Surfaces under Mixed Lubrication Conditions: Effects of Roughness, Hardness and ZDDP Additive. Tribology International, 2019, 138, 239-249.	3.0	31
40	Film-forming capability in rough surface EHL investigated using contact resistance. Tribology International, 2008, 41, 831-838.	3.0	30
41	Semi-deterministic chemo-mechanical model of boundary lubrication. Faraday Discussions, 2012, 156, 343.	1.6	30
42	Mapping of the lubrication regimes in rough surface EHL contacts. Tribology International, 2019, 131, 637-651.	3.0	30
43	Synthesis of hollow fullerene-like molybdenum disulfide/reduced graphene oxide nanocomposites with excellent lubricating properties. Carbon, 2018, 134, 423-430.	5.4	29
44	Base fluid parameters for elastohydrodynamic lubrication and friction calculations and their influence on lubrication capability. Journal of Synthetic Lubrication: Research, Development and Application of Synthetic Lubricants and Functional Fluids, 2001, 18, 183-198.	0.7	25
45	Micro-pitting and wear assessment of engine oils operating under boundary lubrication conditions. Tribology International, 2019, 129, 338-346.	3.0	25
46	Thermal transient rough EHL line contact simulations by aid of computational fluid dynamics. Tribology International, 2008, 41, 683-693.	3.0	24
47	Elastohydrodynamic lubrication at pure squeeze motion. Wear, 1994, 179, 39-43.	1.5	23
48	An experimental and numerical investigation of frictional losses and film thickness for four cylinder liner variants for a heavy duty diesel engine. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2013, 227, 1319-1333.	1.0	23
49	The correlation between gear contact friction and ball on disc friction measurements. Tribology International, 2015, 83, 114-119.	3.0	23
50	Influence of Clutch Output Shaft Inertia and Stiffness on the Performance of the Wet Clutch. Tribology Transactions, 2013, 56, 310-319.	1.1	22
51	A stochastic two-scale model for pressure-driven flow between rough surfaces. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20160069.	1.0	22
52	Turning the solubility and lubricity of ionic liquids by absorbing CO 2. Tribology International, 2018, 121, 223-230.	3.0	22
53	The influence of AFM and VSI techniques on the accurate calculation of tribological surface roughness parameters. Tribology International, 2013, 57, 242-250.	3.0	20
54	Experimental and numerical investigations of oil film formation and friction in a piston ringâ€“liner contact. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2013, 227, 126-140.	1.0	19

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55	A two scale mixed lubrication wearing-in model, applied to hydraulic motors. Tribology International, 2015, 90, 248-256.	3.0	19
56	Elastohydrodynamic lubrication for the finite line contact under transient loading conditions. Tribology International, 2018, 127, 489-499.	3.0	19
57	Topography transformations due to running-in of rolling-sliding non-conformal contacts. Tribology International, 2020, 144, 106126.	3.0	19
58	Material Characterization and Influence of Sliding Speed and Pressure on Friction and Wear Behavior of Self-Lubricating Bearing Materials for Hydropower Applications. Lubricants, 2018, 6, 39.	1.2	18
59	Lubricant ageing effects on the friction characteristics of wet clutches. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2010, 224, 639-647.	1.0	17
60	Controllable superlubricity achieved with mixtures of green ionic liquid and glycerol aqueous solution via humidity. Journal of Molecular Liquids, 2022, 345, 117860.	2.3	16
61	A New Film Parameter for Rough Surface EHL Contacts with Anisotropic and Isotropic Structures. Tribology Letters, 2021, 69, 1.	1.2	15
62	Evolution of ZDDPâ€derived reaction layer morphology with rubbing time. Scanning, 2010, 32, 294-303.	0.7	14
63	Transient analysis of surface roughness features in thermal elastohydrodynamic contacts. Tribology International, 2020, 141, 105915.	3.0	14
64	Controllable Friction of Green Ionic Liquids via Environmental Humidity. Advanced Engineering Materials, 2020, 22, 1901253.	1.6	14
65	Performance of synthetic oils in the hydrodynamic regime â€" 1. experimental. Journal of Synthetic Lubrication: Research, Development and Application of Synthetic Lubricants and Functional Fluids, 2003, 20, 15-24.	0.7	13
66	Performance and mechanisms of silicate tribofilm in heavily loaded rolling/sliding non-conformal contacts. Tribology International, 2018, 123, 130-141.	3.0	13
67	Micro-pitting and wear characterization for different rolling bearing steels: Effect of hardness and heat treatments. Wear, 2020, 458-459, 203404.	1.5	13
68	Numerical Simulation of Static Seal Contact Mechanics Including Hydrostatic Load at the Contacting Interface. Lubricants, 2021, 9, 1.	1.2	13
69	Die wall friction and influence of some process parameters on friction in iron powder compaction. Materials Science and Technology, 2003, 19, 1777-1782.	0.8	12
70	Low degree of freedom approach for predicting friction in elastohydrodynamically lubricated contacts. Tribology International, 2016, 94, 560-570.	3.0	12
71	The detection of plastic deformation in rolling element bearings by acoustic emission. Tribology International, 2017, 110, 209-215.	3.0	12
72	On the loading and unloading of metal-to-metal seals: A two-scale stochastic approach. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2018, 232, 1525-1537.	1.0	12

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73	Elasto-hydrodynamic simulation of complex geometries in hydraulic motors. Tribology International, 2009, 42, 1418-1423.	3.0	11
74	Micro-Pitting and Wear Assessment of PAO vs Mineral-Based Engine Oil Operating under Mixed Lubrication Conditions: Effects of Lambda, Roughness Lay and Sliding Direction. Lubricants, 2019, 7, 42.	1.2	11
75	Water contamination effect in wet clutch system. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2013, 227, 376-389.	1.1	10
76	Influence of water on the tribological properties of zinc dialkyl-dithiophosphate and over-based calcium sulphonate additives in wet clutch contacts. Tribology International, 2015, 87, 113-120.	3.0	10
77	Controlling friction in Ionic Liquid/Glycerol Aqueous Solution lubricated contacts by adjusting CO2 and water content. Tribology International, 2021, 161, 107070.	3.0	10
78	Micropitting performance of glycerol-based lubricants under rolling-sliding contact conditions. Tribology International, 2022, 167, 107348.	3.0	10
79	The Influence on Boundary Friction of the Permeability of Sintered Bronze. Tribology Letters, 2008, 31, 1-8.	1.2	9
80	Study of the short-term effect of Fe₃O₄ particles in rolling element bearings: Observation of vibration, friction and change of surface topography of contaminated angular contact ball bearings. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2014, 228, 1063-1070.	1.0	9
81	Degradation mechanism of automatic transmission fluid by water as a contaminant. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2015, 229, 74-85.	1.0	9
82	A wear model for EHL contacts in gerotor type hydraulic motors. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2015, 229, 254-264.	1.1	9
83	Traction formula for rolling-sliding contacts in consideration of roughness under low slide to roll ratios. Tribology International, 2016, 104, 263-271.	3.0	9
84	A model for twin land oil control rings. Tribology International, 2016, 95, 475-482.	3.0	9
85	Thermal Turbulent Flow in Leading Edge Grooved and Conventional Tilting Pad Journal Bearing Segmentsâ€"A Comparative Study. Lubricants, 2018, 6, 97.	1.2	9
86	A Multi-scale Contact Temperature Model for Dry Sliding Rough Surfaces. Tribology Letters, 2021, 69, 1.	1.2	9
87	Lubricant film formation in rough surface non-conformal conjunctions subjected to GPa pressures and high slide-to-roll ratios. Scientific Reports, 2020, 10, 22250.	1.6	9
88	A Computational Fluid Dynamics Study on Shearing Mechanisms in Thermal Elastohydrodynamic Line Contacts. Lubricants, 2019, 7, 69.	1.2	9
89	A simplified solution to the combined squeeze-sliding lubrication problem. Wear, 1994, 173, 85-94.	1.5	8
90	Modelling Non-Steady EHL with Focus on Lubricant Density. Tribology Series, 1997, , 511-521.	0.1	8

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91	A Complementarity Problemâ€“Based Solution Procedure for 2D Steady-State Rolling Contacts with Dry Friction. Tribology Transactions, 2016, 59, 1031-1038.	1.1	8
92	Surface chemistry of wet clutch influenced by water contamination in automatic transmission fluids. Tribology International, 2016, 96, 395-401.	3.0	8
93	Linear Complementarity Framework for 3D Steady-State Rolling Contact Problems Including Creepages with Isotropic and Anisotropic Friction for Circular Hertzian Contact. Tribology Transactions, 2017, 60, 832-844.	1.1	8
94	Texture-induced effects causing reduction of friction in mixed lubrication for twin land oil control rings. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2018, 232, 166-178.	1.0	8
95	Artificial Neural Network Architecture for Prediction of Contact Mechanical Response. Frontiers in Mechanical Engineering, 2021, 6, .	0.8	8
96	Film Thickness, Pressure Distribution and Traction in Sliding EHL Conjunctions. Tribology Series, 1999, 36, 505-516.	0.1	7
97	The influence of surface roughness on friction in a flexible hybrid bearing. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2011, 225, 975-985.	1.0	7
98	The effect of three-dimensional deformations of a cylinder liner on the tribological performance of a piston ringâ€“cylinder liner system. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2014, 228, 1080-1087.	1.0	7
99	A low degree of freedom approach for prediction of friction in finite EHL line contacts. Tribology International, 2017, 115, 628-639.	3.0	6
100	A smart friction control strategy enabled by CO2 absorption and desorption. Scientific Reports, 2019, 9, 13262.	1.6	6
101	Application of topological optimisation methodology to hydrodynamic thrust bearings. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2021, 235, 1669-1679.	1.0	6
102	Thermal Effects in Slender EHL Contacts. Lubricants, 2022, 10, 89.	1.2	6
103	Determination of lubricant compressibility in EHL conjunctions using the Hybrid technique. Tribology Series, 2000, 38, 589-596.	0.1	5
104	Permeability of Sinter Bronze Friction Material for Wet Clutches. Tribology Transactions, 2008, 51, 303-309.	1.1	5
105	Prediction of driveline vibrations caused by ageing the limited slip coupling. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2016, 230, 1687-1698.	1.1	5
106	Application of an inclined, spinning ball-on-rotating disc apparatus to simulate railway wheel and rail contact problems. Wear, 2017, 374-375, 46-53.	1.5	5
107	The effect of ageing on elastohydrodynamic friction in heavy-duty diesel engine oils. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2017, 231, 708-715.	1.0	5
108	On the flow through plastically deformed surfaces under unloading: A spectral approach. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2018, 232, 908-918.	1.1	5

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109	Poly(alkylimidazolium bis(trifluoromethylsulfonyl)imide)â€Based Polymerized Ionic Liquids: A Potential Highâ€Performance Lubricating Grease. Advanced Materials Interfaces, 2019, 6, 1801796.	1.9	5
110	On Waviness and Two-Sided Surface Features in Thermal Elastohydrodynamically Lubricated Line Contacts. Lubricants, 2020, 8, 64.	1.2	5
111	Influence of Lubricant Pressure Response on Subsurface Stress in Elastohydrodynamically Lubricated Finite Line Contacts. Journal of Tribology, 2019, 141, .	1.0	3
112	The influence of contact time and event frequency on acoustic emission signals. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2017, 231, 1341-1349.	1.0	3
113	Boundary element method for the elastic contact problem with hydrostatic load at the contact interface. Applied Surface Science Advances, 2021, 6, 100176.	2.9	3
114	Validation of a Multi-Scale Contact Temperature Model for Dry Sliding Rough Surfaces. Lubricants, 2022, 10, 41.	1.2	3
115	Observations in Transiently Loaded EHL Contacts under Pure Sliding Conditions. Tribology Transactions, 1998, 41, 489-496.	1.1	2
116	Oil film thickness measurement by means of an optic lever technique. Lubrication Science, 2000, 13, 23-35.	0.9	2
117	Wet Clutch Degradation Monitored by Lubricant Analysis. , 2010, , .		2
118	Evaluating lifetime performance of limited slip differentials. Lubrication Science, 2014, 26, 189-201.	0.9	2
119	Transient plasto-elastohydrodynamic lubrication concerning surface features with application to split roller bearings. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2021, 235, 453-467.	1.0	2
120	A Closer Look at the Contact Conditions of a Block-on-Flat Wear Experiment. Lubricants, 2022, 10, 131.	1.2	2
121	The Critical Pressure for Bulk Leakage of Non-planar Smooth Surfaces. Tribology Letters, 2022, 70, .	1.2	2
122	The effect of two-sided roughness in rolling/sliding ehl line contacts. Tribology Series, 2003, 43, 243-251.	0.1	1
123	A Cavitation Algorithm for Arbitrary Lubricant Compressibility. , 2005, , 541.		1
124	Time-dependent hysteresis friction behaviors of linear rolling bearings. International Journal of Advanced Manufacturing Technology, 2018, 94, 3109-3116.	1.5	1
125	Micro-pitting and wear damage characterization of through hardened 100Cr6 and surface induction hardened C56E2 bearing steels. Wear, 2022, 492-493, 204218.	1.5	1
126	Performance of synthetic oils in the hydrodynamic regime - II. Generalisation. Journal of Synthetic Lubrication: Research, Development and Application of Synthetic Lubricants and Functional Fluids, 2003, 20, 139-149.	0.7	0

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127	SPECIAL ISSUE ON NORDTRIB: THE NORDIC SYMPOSIUM ON TRIBOLOGY 2010. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2011, 225, 563-564.	1.0	0
128	SPECIAL ISSUE ON TRIBOLOGY RESEARCH IN SCANDINAVIA. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2011, 225, 973-974.	1.0	0
129	Tribological characterization of potential crankshaft bearing steels for roller bearing engines. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2021, 235, 1365-1378.	1.0	0
130	Bouncing ball lubrication. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2021, 235, 2582-2587.	1.0	0