Sriram Sundararajan

List of Publications by Year
in descending order

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77 papers	1,970 citations	279487 23 h-index	253896 43 g-index
80 all docs	80 docs citations	80 times ranked	1887 citing authors

#	Article	IF	Citations
1	Development of AFM-based techniques to measure mechanical properties of nanoscale structures. Sensors and Actuators A: Physical, 2002, 101, 338-351.	2.0	189
2	Friction and wear behavior of ultra-high molecular weight polyethylene as a function of polymer crystallinity. Acta Biomaterialia, 2008, 4, 1401-1410.	4.1	125
3	Topography-induced contributions to friction forces measured using an atomic force/friction force microscope. Journal of Applied Physics, 2000, 88, 4825.	1.1	124
4	Micro/nanotribological studies of polysilicon and SiC films for MEMS applications. Wear, 1998, 217, 251-261.	1.5	121
5	Micro/nanotribology of ultra-thin hard amorphous carbon coatings using atomic force/friction force microscopy. Wear, 1999, 225-229, 678-689.	1.5	108
6	Superhydrophobic coatings on Portland cement concrete surfaces. Construction and Building Materials, 2017, 141, 393-401.	3.2	103
7	Mechanical property measurements of nanoscale structures using an atomic force microscope. Ultramicroscopy, 2002, 91, 111-118.	0.8	95
8	Static friction and surface roughness studies of surface micromachined electrostatic micromotors using an atomic force/friction force microscope. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 1777-1785.	0.9	91
9	Development of a continuous microscratch technique in an atomic force microscope and its application to study scratch resistance of ultrathin hard amorphous carbon coatings. Journal of Materials Research, 2001, 16, 437-445.	1.2	83
10	A test method for determining adhesion forces and Hamaker constants of cementitious materials using atomic force microscopy. Cement and Concrete Research, 2011, 41, 1157-1166.	4.6	77
11	The effect of heat treatment routes on the retained austenite and Tribomechanical properties of carburized AISI 8620 steel. Surface and Coatings Technology, 2016, 308, 236-243.	2.2	53
12	Synthesis and Physical Properties of Potential Biolubricants based on Ricinoleic Acid. JAOCS, Journal of the American Oil Chemists' Society, 2010, 87, 937-945.	0.8	45
13	Investigating the effect of retained austenite and residual stress on rolling contact fatigue of carburized steel with XFEM and experimental approaches. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 732, 311-319.	2.6	45
14	The effect of protein adsorption on the friction behavior of ultra-high molecular weight polyethylene. Tribology Letters, 2006, 22, 181-188.	1.2	41
15	Iterative control approach to high-speed force-distance curve measurement using AFM: Time-dependent response of PDMS example. Ultramicroscopy, 2008, 108, 911-920.	0.8	41
16	Effect of microfabrication processes on surface roughness parameters of silicon surfaces. Surface and Coatings Technology, 2004, 188-189, 581-587.	2.2	36
17	The effect of autocorrelation length on the real area of contact and friction behavior of rough surfaces. Journal of Applied Physics, 2005, 97, 103526.	1.1	35
18	Nanoscale Friction Switches: Friction Modulation of Monomolecular Assemblies Using External Electric Fields. Langmuir, 2009, 25, 12114-12119.	1.6	29

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19	Effect of laser treatment parameters on surface modification and tribological behavior of AISI 8620 steel. Tribology International, 2017, 112, 94-102.	3.0	29
20	Comparison of the effect of surface roughness on the micro/nanotribological behavior of ultra-high-molecular-weight polyethylene (UHMWPE) in air and bovine serum solution. Journal of Biomedical Materials Research - Part A, 2005, 74A, 687-695.	2.1	28
21	Tribological behavior and wettability of spray-coated superhydrophobic coatings on aluminum. Wear, 2017, 376-377, 1713-1719.	1.5	25
22	Friction and wear behavior of ultrahigh molecular weight polyethylene as a function of crystallinity in the presence of the phospholipid dipalmitoyl phosphatidylcholine. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2010, 93B, 351-358.	1.6	24
23	Effect of retained austenite on micropitting behavior of carburized AISI 8620 steel under boundary lubrication. Materialia, 2018, 3, 192-201.	1.3	24
24	The effect of contact pressure and surface texture on running-in behavior of case carburized steel under boundary lubrication. Wear, 2017, 376-377, 851-857.	1.5	23
25	Evaluation of Friction Behavior and Its Contact-Area Dependence at the Micro- and Nano-Scales. Tribology Letters, 2009, 36, 259-267.	1.2	21
26	Correlation between evolution of surface roughness parameters and micropitting of carburized steel under boundary lubrication condition. Surface and Coatings Technology, 2018, 350, 445-452.	2.2	21
27	Micro/Nanotribological Studies of Single-Crystal Silicon and Polysilicon and SiC Films for Use in MEMS Devices. , 1998, , 407-430.		21
28	Investigating the micropitting and wear performance of copper oxide and tungsten carbide nanofluids under boundary lubrication. Wear, 2019, 428-429, 55-63.	1.5	20
29	Generating random surfaces with desired autocorrelation length. Applied Physics Letters, 2006, 88, 141903.	1.5	18
30	Visualization by atomic force microscopy and FISH of the 45S rDNA gaps in mitotic chromosomes of Lolium perenne. Protoplasma, 2009, 236, 59-65.	1.0	18
31	The evolution of hardness and tribofilm growth during running-in of case carburized steel under boundary lubrication. Tribology International, 2018, 118, 1-10.	3.0	18
32	Effect of retained austenite on spalling behavior of carburized AISI 8620 steel under boundary lubrication. International Journal of Fatigue, 2019, 119, 238-246.	2.8	18
33	Superhydrophobic engineering surfaces with tunable air-trapping ability. Journal of Micromechanics and Microengineering, 2008, 18, 035024.	1.5	17
34	The effects of adhesive strength and load on material transfer in nanoscale wear. Computational Materials Science, 2014, 95, 464-469.	1.4	17
35	Automated trichome counting in soybean using advanced imageâ€processing techniques. Applications in Plant Sciences, 2020, 8, e11375.	0.8	17
36	The Effect of Agglomeration Reduction on the Tribological Behavior of WS2 and MoS2 Nanoparticle Additives in the Boundary Lubrication Regime. Lubricants, 2018, 6, 106.	1.2	14

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37	Adhesion and friction studies of silicon surfaces processed using a microparticle-based method. Tribology Letters, 2006, 23, 1-5.	1.2	13
38	An alternative method to determining optical lever sensitivity in atomic force microscopy without tip-sample contact. Review of Scientific Instruments, 2010, 81, 073711.	0.6	12
39	Activation energy for diffusion and welding of PLA films. Polymer Engineering and Science, 2012, 52, 1693-1700.	1.5	12
40	Structural and Chemical Evolution of the Near-Apex Region of an Atomic Force Microscope Tip Subject to Sliding. Tribology Letters, 2014, 53, 181-187.	1.2	12
41	Microtribological behavior of Mo and W nanoparticle/graphene composites. Wear, 2018, 414-415, 310-316.	1.5	12
42	Effect of Retained Austenite on White Etching Crack Behavior of Carburized AISI 8620 Steel Under Boundary Lubrication. Tribology Letters, 2019, 67, 1.	1.2	11
43	Method to Generate Surfaces with Desired Roughness Parameters. Langmuir, 2007, 23, 8347-8351.	1.6	9
44	Micro- and macroscale coefficients of friction of cementitious materials. Cement and Concrete Research, 2013, 54, 21-28.	4.6	7
45	Effect of plasticizer on the wear behavior and ice adhesion of elastomeric coatings. Wear, 2019, 426-427, 212-218.	1.5	7
46	The Effect of Protein Adsorption on the Friction Behavior of Ultra-High Molecular Weight Polyethylene. , 2006, , 1203.		6
47	Rubbers Based on Conjugated Soybean Oil: Synthesis and Characterization. Macromolecular Materials and Engineering, 2011, 296, 444-454.	1.7	6
48	Lubricant Properties of Ï‰Âê˜Â1 Hydroxy Branched Fatty Acid-Containing Natural and Synthetic Lipids. Tribology Letters, 2017, 65, 1.	1.2	6
49	Formation of Size and Density Controlled Nanostructures by Galvanic Displacement. Nanomaterials, 2020, 10, 644.	1.9	6
50	Influence of Deicing Salts on the Water-Repellency of Portland Cement Concrete Coated with Polytetrafluoroethylene and Polyetheretherketone. , 2017, , .		5
51	Influence of Surfactants on the Tribological Behavior of Nanoparticle Additives Under Boundary Lubrication Conditions. Arabian Journal for Science and Engineering, 2021, 46, 7967.	1.7	5
52	An investigation on ice adhesion and wear of surfaces with differential stiffness. Wear, 2021, 476, 203662.	1.5	4
53	Atom Scale Characterization of the Near Apex Region of an Atomic Force Microscope Tip. Microscopy and Microanalysis, 2010, 16, 636-642.	0.2	3
54	The rheology of slurries of athermal cohesive micro-particles immersed in fluid: A computational and experimental comparison. Chemical Engineering Science, 2019, 193, 411-420.	1.9	3

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55	Tribological analysis of a novel lubricant additive: Pyrone esters. Wear, 2020, 442-443, 203115.	1.5	3
56	Failure mode mapping for rolling/sliding contacts under low lambda conditions. Wear, 2021, 477, 203855.	1.5	3
57	Development, Assessment and Evaluation of Remote Thermo-Fluids Laboratory Experiments: Results from a Pilot Study. , 0, , .		2
58	A Comparison of Lateral Calibration Techniques for Quantitative Friction Force Microscopy. , 2005, , 821.		1
59	Iterative Control Approach to High-Speed Force-Distance Curve Measurement Using AFM for Biological Applications. , 2007, , .		1
60	Microfluidic Channel Fabrication With Tailored Wall Roughness. , 2012, , .		1
61	Rheological transition in simple shear of moderately dense assemblies of dry cohesive granules. Physical Review E, 2018, 97, 062902.	0.8	1
62	Engineering Encounters: Teaching Educators About Engineering. Science and Children, 2017, 055, .	0.1	1
63	Tribofilm characterization and residual stress changes in rolling/sliding contacts under low lambda conditions. Wear, 2022, 500-501, 204350.	1.5	1
64	Virtual Training Simulator for Atomic Force Microscopy. , 2005, , 567.		0
65	Surface Stress Generation During Formation of Alkanethiol Self-assembled Monolayer (SAM). Materials Research Society Symposia Proceedings, 2006, 951, 5.	0.1	0
66	Effect of Crystallinity on the Friction Behavior of Ultra-high-molecular-weight-polyethylene. Materials Research Society Symposia Proceedings, 2006, 977, 1.	0.1	0
67	Instrument Statics. , 2006, , 1-31.		0
68	A method to Generate Biomimetic Superhydrophobic Engineering Surfaces. Materials Research Society Symposia Proceedings, 2007, 1008, 1.	0.1	0
69	Iterative Control Approach to High-Speed Force-Distance Curve Measurement Using AFM for Biological Applications. , 2007, , .		0
70	A Relationship Between Autocorrelation Length and Adhesive Friction Behavior of Rough Surfaces. , 2005, , .		0
71	Adhesion and Friction Studies of Silicon Surfaces Processed Using a Microparticle-Based Method. , 2006, , .		0
72	The Effect of Surface Processing on the Protein Adsorption and Tribomechanical Properties of Ultra-High-Molecular Weight Polyethylene. , 2006, , .		0

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73	Evaluation of Friction Behavior and Contact Area Dependence at the Micro and Nanoscales. , 2007, , .		0
74	Friction and Wear Behavior of Ultra-High Molecular Weight Polyethylene as a Function of Polymer Crystallinity. , 2007, , .		0
75	Evaluating Tribological Properties of Materials for Total Joint Replacements Using Scanning Probe Microscopy. , 2008, , 329-350.		0
76	A Broader Impacts Course for Engineering Graduate Students. , 0, , .		0
77	Board # 109 :Baby Steps toward Meeting Engineering-rich Science Standards: Approaches and Results from a Short "What is Engineering?" Course for K-5 Pre-service Teachers (Work in Progress). , 0, , .		0