

Henry A Sodano

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/607339/publications.pdf>

Version: 2024-02-01

127
papers

10,232
citations

71102

41
h-index

33894

99
g-index

130
all docs

130
docs citations

130
times ranked

7797
citing authors

#	ARTICLE	IF	CITATIONS
1	A review of power harvesting using piezoelectric materials (2003–2006). <i>Smart Materials and Structures</i> , 2007, 16, R1-R21.	3.5	2,157
2	A Review of Power Harvesting from Vibration Using Piezoelectric Materials. <i>The Shock and Vibration Digest</i> , 2004, 36, 197-205.	6.2	1,137
3	A review of energy harvesting using piezoelectric materials: state-of-the-art a decade later (2008–2018). <i>Smart Materials and Structures</i> , 2019, 28, 113001.	3.5	520
4	Ultra High Energy Density Nanocomposite Capacitors with Fast Discharge Using $\text{Ba}_{0.2}\text{Sr}_{0.8}\text{TiO}_3$ Nanowires. <i>Nano Letters</i> , 2013, 13, 1373-1379.	9.1	430
5	Energy harvesting from a backpack instrumented with piezoelectric shoulder straps. <i>Smart Materials and Structures</i> , 2007, 16, 1810-1820.	3.5	312
6	Synthesis of High Aspect Ratio BaTiO_3 Nanowires for High Energy Density Nanocomposite Capacitors. <i>Advanced Energy Materials</i> , 2013, 3, 451-456.	19.5	297
7	Self-Healing Polyurethanes with Shape Recovery. <i>Advanced Functional Materials</i> , 2014, 24, 5261-5268.	14.9	248
8	Energy harvesting through a backpack employing a mechanically amplified piezoelectric stack. <i>Mechanical Systems and Signal Processing</i> , 2008, 22, 721-734.	8.0	241
9	Enhanced Energy Storage in Nanocomposite Capacitors through Aligned PZT Nanowires by Uniaxial Strain Assembly. <i>Advanced Energy Materials</i> , 2012, 2, 469-476.	19.5	233
10	Increased Interface Strength in Carbon Fiber Composites through a ZnO Nanowire Interphase. <i>Advanced Functional Materials</i> , 2009, 19, 2654-2660.	14.9	215
11	Relationship between BaTiO_3 Nanowire Aspect Ratio and the Dielectric Permittivity of Nanocomposites. <i>ACS Applied Materials & Interfaces</i> , 2014, 6, 5450-5455.	8.0	208
12	Vertically aligned BaTiO_3 nanowire arrays for energy harvesting. <i>Energy and Environmental Science</i> , 2014, 7, 288-296.	30.8	172
13	Nanocomposites with increased energy density through high aspect ratio PZT nanowires. <i>Nanotechnology</i> , 2011, 22, 015702.	2.6	169
14	Zinc Oxide Nanowire Interphase for Enhanced Interfacial Strength in Lightweight Polymer Fiber Composites. <i>ACS Applied Materials & Interfaces</i> , 2009, 1, 1827-1833.	8.0	142
15	Effect of ZnO nanowire morphology on the interfacial strength of nanowire coated carbon fibers. <i>Composites Science and Technology</i> , 2011, 71, 946-954.	7.8	137
16	Enhanced Interfacial Strength and UV Shielding of Aramid Fiber Composites through ZnO Nanoparticle Sizing. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 33963-33971.	8.0	134
17	Synthesis of calcium copper titanate ($\text{CaCu}_3\text{Ti}_4\text{O}_{12}$) nanowires with insulating SiO_2 barrier for low loss high dielectric constant nanocomposites. <i>Nano Energy</i> , 2015, 17, 302-307.	16.0	131
18	Isolation of Aramid Nanofibers for High Strength and Toughness Polymer Nanocomposites. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 11167-11175.	8.0	125

#	ARTICLE	IF	CITATIONS
19	Aramid nanofibers for multiscale fiber reinforcement of polymer composites. <i>Composites Science and Technology</i> , 2018, 161, 92-99.	7.8	115
20	Carboxyl functionalization of carbon fibers through a grafting reaction that preserves fiber tensile strength. <i>Carbon</i> , 2011, 49, 4246-4255.	10.3	113
21	Enhanced interfacial strength of aramid fiber reinforced composites through adsorbed aramid nanofiber coatings. <i>Composites Science and Technology</i> , 2019, 174, 125-133.	7.8	109
22	High-sensitivity accelerometer composed of ultra-long vertically aligned barium titanate nanowire arrays. <i>Nature Communications</i> , 2013, 4, 2682.	12.8	107
23	Role of Surface Chemistry in Adhesion between ZnO Nanowires and Carbon Fibers in Hybrid Composites. <i>ACS Applied Materials & Interfaces</i> , 2013, 5, 635-645.	8.0	96
24	Increased interyarn friction through ZnO nanowire arrays grown on aramid fabric. <i>Composites Science and Technology</i> , 2015, 107, 75-81.	7.8	83
25	ZnO nanowire interfaces for high strength multifunctional composites with embedded energy harvesting. <i>Energy and Environmental Science</i> , 2016, 9, 634-643.	30.8	83
26	Scalable Synthesis of Morphotropic Phase Boundary Lead Zirconium Titanate Nanowires for Energy Harvesting. <i>Advanced Materials</i> , 2014, 26, 7547-7554.	21.0	79
27	Vertically Aligned Arrays of BaTiO ₃ Nanowires. <i>ACS Applied Materials & Interfaces</i> , 2013, 5, 11894-11899.	8.0	71
28	A Low-Frequency Energy Harvester from Ultralong, Vertically Aligned BaTiO ₃ Nanowire Arrays. <i>Advanced Energy Materials</i> , 2014, 4, 1301660.	19.5	69
29	Lead-free 0.5Ba(Zr _{0.2} Ti _{0.8})O ₃ ~0.5(Ba _{0.7} Ca _{0.3})TiO ₃ nanowires for energy harvesting. <i>Nanoscale</i> , 2016, 8, 5098-5105.	10.3	69
30	Self-healing polymers and composites for extreme environments. <i>Journal of Materials Chemistry A</i> , 2016, 4, 17403-17411.	10.3	68
31	Morphology-Controlled ZnO Nanowire Arrays for Tailored Hybrid Composites with High Damping. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 332-339.	8.0	67
32	Concept and model of a piezoelectric structural fiber for multifunctional composites. <i>Composites Science and Technology</i> , 2008, 68, 1911-1918.	7.8	65
33	Structural Effects and Energy Conversion Efficiency of Power Harvesting. <i>Journal of Intelligent Material Systems and Structures</i> , 2009, 20, 505-514.	2.5	64
34	Hydrothermal synthesis of vertically aligned lead zirconate titanate nanowire arrays. <i>Applied Physics Letters</i> , 2009, 95, .	3.3	62
35	Printed Nanocomposite Energy Harvesters with Controlled Alignment of Barium Titanate Nanowires. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 38359-38367.	8.0	59
36	Fabrication and Electromechanical Characterization of a Piezoelectric Structural Fiber for Multifunctional Composites. <i>Advanced Functional Materials</i> , 2009, 19, 592-598.	14.9	55

#	ARTICLE	IF	CITATIONS
37	Optimal parameters and power characteristics of piezoelectric energy harvesters with an RC circuit. <i>Smart Materials and Structures</i> , 2009, 18, 045011.	3.5	52
38	Controlled synthesis of ultra-long vertically aligned BaTiO ₃ nanowire arrays for sensing and energy harvesting applications. <i>Nanotechnology</i> , 2014, 25, 375603.	2.6	51
39	Multi-Inclusion modeling of multiphase piezoelectric composites. <i>Composites Part B: Engineering</i> , 2013, 47, 181-189.	12.0	50
40	Thermally responsive self-healing composites with continuous carbon fiber reinforcement. <i>Composites Science and Technology</i> , 2015, 118, 244-250.	7.8	48
41	Role of ZnO nanowire arrays on the impact response of aramid fabrics. <i>Composites Part B: Engineering</i> , 2017, 127, 222-231.	12.0	47
42	High strength epoxy nanocomposites reinforced by epoxy functionalized aramid nanofibers. <i>Polymer</i> , 2020, 195, 122438.	3.8	46
43	Aramid Nanofiber Reinforced Polymer Nanocomposites via Amide-Amide Hydrogen Bonding. <i>ACS Applied Polymer Materials</i> , 2020, 2, 2934-2945.	4.4	43
44	Relationship between orientation factor of lead zirconate titanate nanowires and dielectric permittivity of nanocomposites. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	41
45	Aramid Nanofiber Reinforced Rubber Compounds for the Application of Tire Tread with High Abrasion Resistance and Fuel Saving Efficiency. <i>ACS Applied Polymer Materials</i> , 2020, 2, 4874-4884.	4.4	36
46	3D Printing of a self-healing, high strength, and reprocessable thermoset. <i>Polymer Chemistry</i> , 2020, 11, 6441-6452.	3.9	36
47	Precipitation-Printed High- $\hat{\rho}$ Phase Poly(vinylidene fluoride) for Energy Harvesting. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 58072-58081.	8.0	36
48	Laser induced graphene fibers for multifunctional aramid fiber reinforced composite. <i>Carbon</i> , 2020, 158, 146-156.	10.3	35
49	Noncontact and simultaneous measurement of the d_{33} and d_{31} piezoelectric strain coefficients. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	34
50	Large-scale synthesis of Ba _x Sr _{1-x} TiO ₃ nanowires with controlled stoichiometry. <i>Applied Physics Letters</i> , 2014, 104, .	3.3	34
51	Tailored inter yarn friction in aramid fabrics through morphology control of surface grown ZnO nanowires. <i>Composites Part A: Applied Science and Manufacturing</i> , 2015, 76, 326-333.	7.6	34
52	Thermally Stable Poly(vinylidene fluoride) for High-Performance Printable Piezoelectric Devices. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 21871-21882.	8.0	34
53	Laser induced graphene interlaminar reinforcement for tough carbon fiber/epoxy composites. <i>Composites Science and Technology</i> , 2021, 201, 108493.	7.8	34
54	Enhanced active piezoelectric 0-3 nanocomposites fabricated through electrospun nanowires. <i>Journal of Applied Physics</i> , 2008, 103, 124108.	2.5	33

#	ARTICLE	IF	CITATIONS
55	Aramid nanofiber interlayer for improved interlaminar properties of carbon fiber/epoxy composites. Composites Part B: Engineering, 2020, 197, 108130.	12.0	33
56	Characterization of multifunctional structural capacitors for embedded energy storage. Journal of Applied Physics, 2009, 106, .	2.5	32
57	Novel self-healing CFRP composites with high glass transition temperatures. Composites Science and Technology, 2018, 168, 96-103.	7.8	32
58	Ultra-long vertically aligned lead titanate nanowire arrays for energy harvesting in extreme environments. Nano Energy, 2017, 31, 168-173.	16.0	30
59	Enhanced interfacial strength of hierarchical fiberglass composites through an aramid nanofiber interphase. Composites Science and Technology, 2020, 192, 108109.	7.8	30
60	Energy-harvesting materials for smart fabrics and textiles. MRS Bulletin, 2018, 43, 214-219.	3.5	29
61	Barium Titanate Film Interfaces for Hybrid Composite Energy Harvesters. ACS Applied Materials & Interfaces, 2017, 9, 4057-4065.	8.0	28
62	Laser induced graphene in fiberglass-reinforced composites for strain and damage sensing. Composites Science and Technology, 2020, 199, 108367.	7.8	27
63	Hydrothermal growth of highly textured BaTiO ₃ films composed of nanowires. Nanotechnology, 2013, 24, 095602.	2.6	26
64	Adhesive Force Measurement between HOPG and Zinc Oxide as an Indicator for Interfacial Bonding of Carbon Fiber Composites. ACS Applied Materials & Interfaces, 2015, 7, 15380-15387.	8.0	26
65	Biomimetic Nanostructured Interfaces for Hierarchical Composites. Advanced Materials Interfaces, 2016, 3, 1500404.	3.7	26
66	High strength fiber reinforced composites with surface fibrilized aramid fibers. Journal of Applied Physics, 2018, 124, .	2.5	26
67	Investigation of an energy harvesting small unmanned air vehicle. Proceedings of SPIE, 2008, , .	0.8	25
68	Conformal BaTiO ₃ Films with High Piezoelectric Coupling through an Optimized Hydrothermal Synthesis. ACS Applied Materials & Interfaces, 2016, 8, 21446-21453.	8.0	24
69	Optimal power, power limit and damping of vibration based piezoelectric power harvesters. Smart Materials and Structures, 2018, 27, 075057.	3.5	24
70	In Situ Damage Detection for Fiber-Reinforced Composites Using Integrated Zinc Oxide Nanowires. Advanced Functional Materials, 2018, 28, 1802846.	14.9	24
71	Transfer printed laser induced graphene strain gauges for embedded sensing in fiberglass composites. Composites Part B: Engineering, 2021, 219, 108932.	12.0	24
72	Direct measurement of piezoelectric shear coefficient. Journal of Applied Physics, 2013, 113, 214106.	2.5	22

#	ARTICLE	IF	CITATIONS
73	Multifunctional Barium Titanate Coated Carbon Fibers. <i>Advanced Functional Materials</i> , 2014, 24, 6303-6308.	14.9	22
74	Piezoelectric Damping of Resistively Shunted Beams and Optimal Parameters for Maximum Damping. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2010, 132, .	1.6	21
75	Highly aligned arrays of high aspect ratio barium titanate nanowires via hydrothermal synthesis. <i>Applied Physics Letters</i> , 2015, 106, .	3.3	21
76	Enhanced energy harvesting through nanowire based functionally graded interfaces. <i>Nano Energy</i> , 2018, 52, 171-182.	16.0	21
77	Enhanced piezoelectric properties of lead zirconate titanate sol-gel derived ceramics using single crystal $\text{PbZr}_{0.52}\text{Ti}_{0.48}\text{O}_3$ cubes. <i>Journal of Applied Physics</i> , 2010, 108, .	2.5	20
78	Structure-Property Relationships in Aligned Electrospun Barium Titanate Nanofibers. <i>Journal of the American Ceramic Society</i> , 2016, 99, 3902-3908.	3.8	20
79	Modeling of a New Active Eddy Current Vibration Control System. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2008, 130, .	1.6	19
80	Interaction of ZnO Nanowires with Carbon Fibers for Hierarchical Composites with High Interfacial Strength. <i>Journal of Solid Mechanics and Materials Engineering</i> , 2010, 4, 1687-1698.	0.5	19
81	Active photo-thermal self-healing of shape memory polyurethanes. <i>Smart Materials and Structures</i> , 2017, 26, 055003.	3.5	19
82	Laser induced graphene for in-situ ballistic impact damage and delamination detection in aramid fiber reinforced composites. <i>Composites Science and Technology</i> , 2021, 202, 108551.	7.8	19
83	Hydrothermal growth of textured $\text{Ba}_x\text{Sr}_{1-x}\text{TiO}_3$ films composed of nanowires. <i>Nanoscale</i> , 2013, 5, 10901.	5.6	18
84	Laser induced graphene for in situ damage sensing in aramid fiber reinforced composites. <i>Composites Science and Technology</i> , 2021, 201, 108541.	7.8	18
85	Influence of aspect ratio on effective electromechanical coupling of nanocomposites with lead zirconate titanate nanowire inclusion. <i>Journal of Intelligent Material Systems and Structures</i> , 2011, 22, 1879-1886.	2.5	17
86	Nanostructured ZnO Interphase for Carbon Fiber Reinforced Composites with Strain Rate Tailored Interfacial Strength. <i>Advanced Materials Interfaces</i> , 2020, 7, 1901544.	3.7	17
87	ZnO Nanostructured Interphase for Multifunctional and Lightweight Glass Fiber Reinforced Composite Materials under Various Loading Conditions. <i>ACS Applied Nano Materials</i> , 2020, 3, 1363-1372.	5.0	17
88	Barium titanate and barium strontium titanate coated carbon fibers for multifunctional structural capacitors. <i>Journal of Composite Materials</i> , 2013, 47, 1527-1533.	2.4	16
89	Fatigue damage tracking and life prediction of fiberglass composites using a laser induced graphene interlayer. <i>Composites Part B: Engineering</i> , 2021, 218, 108935.	12.0	16
90	Toughening mechanism of heterogeneous aliphatic polyurethanes. <i>Polymer</i> , 2014, 55, 2086-2093.	3.8	15

#	ARTICLE	IF	CITATIONS
91	Molecular dynamics prediction of interfacial strength and validation through atomic force microscopy. <i>Applied Physics Letters</i> , 2012, 101, .	3.3	14
92	Fiber strain sensors from carbon nanotubes self-assembled on aramid fibers. <i>Journal of Intelligent Material Systems and Structures</i> , 2014, 25, 2117-2121.	2.5	14
93	Improved inter-yarn friction and ballistic impact performance of zinc oxide nanowire coated ultra-high molecular weight polyethylene (UHMWPE). <i>Polymer</i> , 2021, 231, 124125.	3.8	14
94	Improved Interyarn Friction, Impact Response, and Stab Resistance of Surface Fibrilized Aramid Fabric. <i>Advanced Materials Interfaces</i> , 2019, 6, 1900881.	3.7	13
95	Lead titanate nanowires/polyamide-imide piezoelectric nanocomposites for high-temperature energy harvesting. <i>Nano Energy</i> , 2022, 97, 107175.	16.0	13
96	High service temperature, self-mendable thermosets networked by isocyanurate rings. <i>Polymer</i> , 2017, 114, 249-256.	3.8	12
97	Tailored nanocomposite energy harvesters with high piezoelectric voltage coefficient through controlled nanowire dispersion. <i>Nano Energy</i> , 2019, 60, 620-629.	16.0	12
98	Dehydrofluorinated PVDF for structural health monitoring in fiber reinforced composites. <i>Composites Science and Technology</i> , 2021, 214, 108982.	7.8	12
99	Intermolecular interactions dictating adhesion between ZnO and graphite. <i>Carbon</i> , 2013, 63, 517-522.	10.3	11
100	Electromechanical modeling and experimental verification of a direct write nanocomposite. <i>Smart Materials and Structures</i> , 2019, 28, 045014.	3.5	11
101	Enhanced interfacial shear strength in ultra-high molecular weight polyethylene epoxy composites through a zinc oxide nanowire interphase. <i>Composites Science and Technology</i> , 2022, 219, 109218.	7.8	11
102	Self-Healing: Self-Healing Polyurethanes with Shape Recovery (Adv. Funct. Mater. 33/2014). <i>Advanced Functional Materials</i> , 2014, 24, 5260-5260.	14.9	10
103	Laser induced graphene-based out-of-autoclave curing of fiberglass reinforced polymer matrix composites. <i>Composites Science and Technology</i> , 2022, 226, 109529.	7.8	10
104	Vibration Damping Mechanism of Fiber-Reinforced Composites with Integrated Piezoelectric Nanowires. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 47373-47381.	8.0	9
105	Synergetic effect of aramid nanofiber-graphene oxide hybrid filler on the properties of rubber compounds for tire tread application. <i>Journal of Applied Polymer Science</i> , 2022, 139, 51856.	2.6	9
106	Artificial neural networks and phenomenological degradation models for fatigue damage tracking and life prediction in laser induced graphene interlayered fiberglass composites. <i>Smart Materials and Structures</i> , 2021, 30, 085010.	3.5	7
107	Cellulose nanocrystal functionalized aramid nanofiber reinforced rubber compounds for tire tread application. <i>Cellulose</i> , 2022, 29, 7735-7749.	4.9	7
108	Hydrothermal synthesis of tetragonal phase BaTiO ₃ on carbon fiber with enhanced electromechanical coupling. <i>Journal of Materials Science</i> , 2017, 52, 7893-7906.	3.7	6

#	ARTICLE	IF	CITATIONS
109	Precipitation printing towards diverse materials, mechanical tailoring and functional devices. Additive Manufacturing, 2020, 35, 101358.	3.0	6
110	Evaluation of Interfacial Shear Strength Healing Efficiency between Dynamic Covalent Bond-Based Epoxy and Functionalized Fiberglass. ACS Applied Polymer Materials, 2022, 4, 2925-2934.	4.4	6
111	Growth of highly textured PbTiO ₃ films on conductive substrate under hydrothermal conditions. Nanotechnology, 2015, 26, 345602.	2.6	5
112	Vertically Aligned Lead Titanate Nanowire Arrays for High Temperature Energy Harvesting. , 2015, , .		4
113	Damage localization in fiberglass-reinforced composites using laser induced graphene. Smart Materials and Structures, 2021, 30, 035006.	3.5	4
114	Aramid Nanofiber Interphase for Enhanced Interfacial Shear Strength in Ultra-High Molecular Weight Polyethylene/Epoxy Composites. Advanced Materials Interfaces, 2022, 9, 2102030.	3.7	3
115	Effect of Morphology of ZnO Nanowire Arrays on Interfacial Shear Strength in Carbon Fiber Composites. Materials Research Society Symposia Proceedings, 2009, 1174, 37.	0.1	2
116	Piezoelectric interfaces enabled energy harvesting and tailored damping in fiber composites. Proceedings of SPIE, 2017, , .	0.8	2
117	Effect of aspect ratio on the electroelastic properties of piezoelectric nanocomposites. Proceedings of SPIE, 2009, , .	0.8	1
118	Nanowire Arrays: A Low-Frequency Energy Harvester from Ultralong, Vertically Aligned BaTiO ₃ Nanowire Arrays (Adv. Energy Mater. 11/2014). Advanced Energy Materials, 2014, 4, n/a-n/a.	19.5	1
119	Energy harvesting from vertically aligned PZT nanowire arrays. Proceedings of SPIE, 2016, , .	0.8	1
120	Adsorbed Aramid Nanofiber Interphase for Enhanced Aramid Fiber Reinforced Composites. , 2019, , .		1
121	Isocyanurate transformation induced healing of isocyanurate-oxazolidone polymers. Journal of Applied Polymer Science, 2020, 137, 48698.	2.6	1
122	Electromechanical modeling and experimental verification of a directly printed nanocomposite. , 2018, , .		1
123	Adhesive Energy of Zinc Oxide and Graphite, Molecular Dynamics and Atomic Force Microscopy Study. Materials Research Society Symposia Proceedings, 2012, 1479, 89-94.	0.1	0
124	Strain analysis of nanowire interfaces in multiscale composites. Proceedings of SPIE, 2016, , .	0.8	0
125	Energy Harvesting Performance of Printed Barium Titanate Nanocomposites. , 2018, , .		0
126	Voltage coefficient of a piezoelectric nanocomposite energy harvester: modeling and experimental verification. , 2019, , .		0

#	ARTICLE	IF	CITATIONS
127	Fabrication and characterization of nanocomposite based on aramid nanofibers. , 2022, , .		0