

# Steven R Spurgeon

## List of Publications by Year in descending order

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85  
papers

1,135  
citations

361413

20  
h-index

414414

32  
g-index

92  
all docs

92  
docs citations

92  
times ranked

2122  
citing authors

#	ARTICLE	IF	CITATIONS
1	Thickness dependent OER electrocatalysis of epitaxial $\text{LaFeO}_3$ thin films. Journal of Materials Chemistry A, 2022, 10, 1909-1918.	10.3	12
2	Design of a graphical user interface for few-shot machine learning classification of electron microscopy data. Computational Materials Science, 2022, 203, 111121.	3.0	12
3	First-Principles Study of Tritium Trapping in $\text{LiAlO}_2$ Nanovoids. Journal of Physical Chemistry C, 2022, 126, 5767-5776.	3.1	3
4	Oxygen Reduction Electrocatalysis with Epitaxially Grown Spinel $\text{MnFe}_2\text{O}_4$ and $\text{Fe}_3\text{O}_4$ . ACS Catalysis, 2022, 12, 3577-3588.	11.2	16
5	Adatom-Driven Oxygen Intermixing during the Deposition of Oxide Thin Films by Molecular Beam Epitaxy. Nano Letters, 2022, 22, 4963-4969.	9.1	4
6	An Automated Scanning Transmission Electron Microscope Guided by Sparse Data Analytics. Microscopy and Microanalysis, 2022, 28, 1611-1621.	0.4	15
7	Towards data-driven next-generation transmission electron microscopy. Nature Materials, 2021, 20, 274-279.	27.5	130
8	Electronic and structural properties of single-crystal Jahn-Teller active $\text{Co}_{1+x}\text{Mn}_{2-x}\text{O}_4$ thin films. Journal of Physics Condensed Matter, 2021, 33, 124002.	1.8	3
9	Bulk and Short-Circuit Anion Diffusion in Epitaxial $\text{Fe}_2\text{O}_3$ Films Quantified Using Buried Isotopic Tracer Layers. Advanced Materials Interfaces, 2021, 8, 2001768.	3.7	10
10	Fast Atomic Diffusion: Bulk and Short-Circuit Anion Diffusion in Epitaxial $\text{Fe}_2\text{O}_3$ Films Quantified Using Buried Isotopic Tracer Layers (Adv. Mater.)	3.7	10
11	Reply to Comment on "A Mechanistic Understanding of Nonclassical Crystal Growth in Hydrothermally Synthesized Sodium Yttrium Fluoride Nanowires". Chemistry of Materials, 2021, 33, 3862-3864.	6.7	1
12	Incorporation of Ti in epitaxial $\text{Fe}_2\text{TiO}_4$ thin films. Journal of Physics Condensed Matter, 2021, 33, 314004.	1.8	1
13	Percolation of Ion-Irradiation-Induced Disorder in Complex Oxide Interfaces. Nano Letters, 2021, 21, 5353-5359.	9.1	6
14	Examining Defect Creation at Interfaces in Electrocatalytically Cycled $\text{LaFeO}_3$ - $\text{SrTiO}_3$ Thin Films. Microscopy and Microanalysis, 2021, 27, 1178-1179.	0.4	0
15	The role of Nanocartography in the Development of Automated TEM. Microscopy and Microanalysis, 2021, 27, 2986-2987.	0.4	9
16	Evolution of Defect States from Different Starting States in $\text{La}_{1-x}\text{Sr}_x\text{FeO}_3$ Thin Films. Microscopy and Microanalysis, 2021, 27, 2906-2908.	0.4	0
17	Influence of Irradiation-Induced Defects on Anion Transport in Epitaxial $\text{Cr}_2\text{O}_3$ . Microscopy and Microanalysis, 2021, 27, 2904-2905.	0.4	1
18	Rapid and Flexible Few Shot Learning-Based Classification of Scanning Transmission Electron Microscopy Data. Microscopy and Microanalysis, 2021, 27, 1618-1619.	0.4	0

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19	Evidence of lithium mobility under neutron irradiation. <i>Journal of Materials Research and Technology</i> , 2021, 14, 475-483.	5.8	4
20	Understanding the Electronic Structure Evolution of Epitaxial LaNi <sub>1-x</sub> Fe <sub>x</sub> O <sub>3</sub> Thin Films for Water Oxidation. <i>Nano Letters</i> , 2021, 21, 8324-8331.	9.1	31
21	Rapid and flexible segmentation of electron microscopy data using few-shot machine learning. <i>Npj Computational Materials</i> , 2021, 7, .	8.7	37
22	Radiation Enhanced Anion Diffusion in Chromia. <i>Journal of Physical Chemistry C</i> , 2021, 125, 27820-27827.	3.1	5
23	Hole-Trapping-Induced Stabilization of Ni <sup>4+</sup> in SrNiO <sub>3</sub> /LaFeO <sub>3</sub> Superlattices. <i>Advanced Materials</i> , 2020, 32, e2005003.	21.0	26
24	Order-disorder behavior at thin film oxide interfaces. <i>Current Opinion in Solid State and Materials Science</i> , 2020, 24, 100870.	11.5	5
25	An Atomic-Scale Understanding of UO <sub>2</sub> Surface Evolution during Anoxic Dissolution. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 39781-39786.	8.0	8
26	Carbonaceous deposits on aluminide coatings in tritium-producing assemblies. <i>Nuclear Materials and Energy</i> , 2020, 25, 100797.	1.3	2
27	Correlative Imaging of Phase Separation in Fe <sub>2</sub> TiO <sub>4</sub> Thin Films Prepared by Conventional Ga and Xe Plasma FIB Processing. <i>Microscopy and Microanalysis</i> , 2020, 26, 186-187.	0.4	0
28	Probing the Unique Radiation Damage Response of Oxide Interfaces Using Multi-modal STEM Imaging, Diffraction, and Spectroscopy. <i>Microscopy and Microanalysis</i> , 2020, 26, 1666-1667.	0.4	0
29	Quantitative STEM Imaging and Multislice Simulation of Stacking Fault Defects for Exciton Trapping in GaAs. <i>Microscopy and Microanalysis</i> , 2020, 26, 2822-2823.	0.4	0
30	A Mechanistic Understanding of Nonclassical Crystal Growth in Hydrothermally Synthesized Sodium Yttrium Fluoride Nanowires. <i>Chemistry of Materials</i> , 2020, 32, 2753-2763.	6.7	27
31	Reversible Oxidation Quantified by Optical Properties in Epitaxial Fe <sub>2</sub> CrO <sub>4</sub> + $\delta$ Films on (001) MgAl <sub>2</sub> O <sub>4</sub> . <i>ACS Omega</i> , 2020, 5, 3240-3249.	3.5	7
32	Asymmetric Lattice Disorder Induced at Oxide Interfaces. <i>Advanced Materials Interfaces</i> , 2020, 7, 1901944.	3.7	13
33	Microscopic model for the stacking-fault potential and the exciton wave function in GaAs. <i>Physical Review B</i> , 2020, 101, .	3.2	2
34	Nanoscale Quantification of Interstitial Oxygen in Hyperstoichiometric UO <sub>2+x</sub> . <i>Microscopy and Microanalysis</i> , 2019, 25, 1598-1599.	0.4	0
35	Effect of structure and composition on the electronic excitation induced amorphization of La <sub>2</sub> Ti <sub>2-x</sub> Zr <sub>x</sub> O <sub>7</sub> ceramics. <i>Scientific Reports</i> , 2019, 9, 8190.	3.3	11
36	Atomic-Scale Mechanisms for Interfacial Radiation Damage Resistance of Thin Film Oxide Heterostructures. <i>Microscopy and Microanalysis</i> , 2019, 25, 1562-1563.	0.4	0

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37	Characterization of surface layers formed on DU10Mo ingots after processing steps and high humidity exposure. <i>Journal of Nuclear Materials</i> , 2019, 514, 28-39.	2.7	4
38	Epitaxial growth and atomic arrangement in Fe <sub>2</sub> CrO <sub>4</sub> on crystal symmetry matched (001) MgAl <sub>2</sub> O <sub>4</sub> . <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2019, 37, 031511.	2.1	10
39	Nanoscale oxygen defect gradients in UO <sub>2+x</sub> surfaces. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 17181-17186.	7.1	17
40	Electronic Structure and Band Alignment of LaMnO <sub>3</sub> /SrTiO <sub>3</sub> Polar/Nonpolar Heterojunctions. <i>Advanced Materials Interfaces</i> , 2019, 6, 1801428.	3.7	22
41	Creation and Ordering of Oxygen Vacancies at WO <sub>3</sub> and Perovskite Interfaces. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 17480-17486.	8.0	29
42	Chemical and electronic structure analysis of a SrTiO <sub>3</sub> (001)/p-Ge(001) hydrogen evolution photocathode. <i>MRS Communications</i> , 2018, 8, 446-452.	1.8	8
43	Onset of phase separation in the double perovskite oxide $\text{La}_{1-x}\text{Ca}_x\text{Ti}_2\text{O}_7$ . <i>Physical Review B</i> , 2018, 97, .	2.2	10
44	Tuning piezoelectric properties through epitaxy of La <sub>2</sub> Ti <sub>2</sub> O <sub>7</sub> and related thin films. <i>Scientific Reports</i> , 2018, 8, 3037.	3.3	15
45	Chemical imaging and diffusion of hydrogen and lithium in lithium aluminate. <i>Journal of Nuclear Materials</i> , 2018, 511, 1-10.	2.7	19
46	Probing the Origin of Interfacial Carriers in SrTiO <sub>3</sub> /LaCrO <sub>3</sub> Superlattices. <i>Chemistry of Materials</i> , 2017, 29, 1147-1155.	6.7	19
47	Influence of LaFeO <sub>3</sub> Surface Termination on Water Reactivity. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 1038-1043.	4.6	60
48	The effects of core-level broadening in determining band alignment at the epitaxial SrTiO <sub>3</sub> (001)/p-Ge(001) heterojunction. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	26
49	Measurement Error in Atomic-Scale Scanning Transmission Electron Microscopy Energy-Dispersive X-Ray Spectroscopy (STEM-EDS) Mapping of a Model Oxide Interface. <i>Microscopy and Microanalysis</i> , 2017, 23, 513-517.	0.4	22
50	Damage evolution of ion irradiated defected-fluorite La <sub>2</sub> Zr <sub>2</sub> O <sub>7</sub> epitaxial thin films. <i>Acta Materialia</i> , 2017, 130, 111-120.	7.9	20
51	Heterogeneous Two-Phase Pillars in Epitaxial NiFe <sub>2</sub> O <sub>4</sub> /LaFeO <sub>3</sub> Nanocomposites. <i>Advanced Materials Interfaces</i> , 2017, 4, 1700396.	3.7	5
52	An all-perovskite p-n junction based on transparent conducting La <sub>1-x</sub> Sr <sub>x</sub> CrO <sub>3</sub> epitaxial layers. <i>Applied Physics Letters</i> , 2017, 111, .	3.3	12
53	Multimodal Imaging of Cation Disorder and Oxygen Deficiency-Mediated Phase Separation in Double Perovskite Oxides. <i>Microscopy and Microanalysis</i> , 2017, 23, 1678-1679.	0.4	1
54	Dynamic interface rearrangement in LaFeO <sub>3</sub> /SrTiO <sub>3</sub> heterojunctions. <i>Physical Review Materials</i> , 2017, 1, .	2.1	10

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55	Multidimensional Analysis of Nanoscale Phase Separation in Complex Materials Systems. Microscopy and Microanalysis, 2016, 22, 282-283.	0.4	0
56	Exchange bias and bistable magneto-resistance states in amorphous TbFeCo thin films. Applied Physics Letters, 2016, 108, .	3.3	12
57	Single chip integrates transistors and photonic components. MRS Bulletin, 2016, 41, 180-182.	3.5	0
58	Competing Pathways for Nucleation of the Double Perovskite Structure in the Epitaxial Synthesis of $\text{La}_{2-x}\text{MnNiO}_6$ . Chemistry of Materials, 2016, 28, 3814-3822.	6.7	29
59	Interface-Induced Polarization in $\text{SrTiO}_3/\text{LaCrO}_3$ Superlattices. Advanced Materials Interfaces, 2016, 3, 1500779.	3.7	28
60	Built-in Potential in $\text{Fe}_2\text{O}_3/\text{Cr}_2\text{O}_3$ Superlattices for Improved Photoexcited Carrier Separation. Advanced Materials, 2016, 28, 1616-1622.	21.0	24
61	SPM scans the chemical landscape of manganite oxides. MRS Bulletin, 2015, 40, 465-466.	3.5	0
62	Polarization screening-induced magnetic phase gradients at complex oxide interfaces. Nature Communications, 2015, 6, 6735.	12.8	71
63	Thickness-Dependent Crossover from Charge- to Strain-Mediated Magnetoelectric Coupling in Ferromagnetic/Piezoelectric Oxide Heterostructures. ACS Nano, 2014, 8, 894-903.	14.6	61
64	"Paper Factory" produces a blend of science and engineering education. MRS Bulletin, 2014, 39, 945-946.	3.5	0
65	Electric field utilized to locally pin magnetic domain walls. MRS Bulletin, 2013, 38, 598-598.	3.5	0
66	Navy SeaPerch competition spreads STEM awareness. MRS Bulletin, 2013, 38, 780-781.	3.5	0
67	Nano Focus: Superdiffusive electron transport mediates laser-induced demagnetization. MRS Bulletin, 2013, 38, 296-296.	3.5	0
68	Epitaxial strain tunes spintronic behavior of multiferroic $\text{BiFeO}_3$ . MRS Bulletin, 2013, 38, 529-529.	3.5	0
69	Ferroelectric-like phase transition observed in a metal. MRS Bulletin, 2013, 38, 1002-1002.	3.5	0
70	Energy Focus: Charge-density waves may be competing with superconductivity. MRS Bulletin, 2013, 38, 295-296.	3.5	0
71	Nano Focus: Functional ferroelectric tunnel-junction memories demonstrated. MRS Bulletin, 2012, 37, 101-102.	3.5	0
72	A Combined STEM-EELS and Neutron Reflectometry Study of Charge- and Strain-Mediated Magnetoelectric Coupling in LSMO/PZT Heterostructures. Microscopy and Microanalysis, 2012, 18, 1912-1913.	0.4	0

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73	“Spin bag” model proposed for room-temperature ferromagnetism in $\text{Sr}_3\text{YCo}_4\text{O}_{10}\text{F}$ . MRS Bulletin, 2012, 37, 881-881.	3.5	0
74	Drexel hosts Philly Materials Day. MRS Bulletin, 2012, 37, 888-889.	3.5	0
75	Inverse spin Hall effect observed in silicon. MRS Bulletin, 2012, 37, 186-186.	3.5	0
76	Magnetic properties of $\text{Co}_2\text{C}$ and $\text{Co}_3\text{C}$ nanoparticles and their assemblies. Applied Physics Letters, 2012, 101, .	3.3	64
77	A study of the effect of iron island morphology and interface oxidation on the magnetic hysteresis of Fe-MgO (001) thin film composites. Journal of Applied Physics, 2012, 112, .	2.5	16
78	A (111)-ordered $\text{Sr}_2\text{FeRuO}_6$ superlattice displays room-temperature magnetic ordering. MRS Bulletin, 2011, 36, 478-478.	3.5	0
79	Nano Focus: IR lasers enable direct patterning on conjugated polymers. MRS Bulletin, 2011, 36, 740-741.	3.5	0
80	Energy Focus: SPM reveals nanoscale understanding of oxygen reactions in fuel cells and batteries. MRS Bulletin, 2011, 36, 741-741.	3.5	0
81	Thin-film heterostructures of Fe-and Co-BaTiO <sub>3</sub> exhibit interface multiferroicity at room temperature. MRS Bulletin, 2011, 36, 843-845.	3.5	0
82	Room-temperature electrical control of ferromagnetic ordering in cobalt demonstrated. MRS Bulletin, 2011, 36, 953-954.	3.5	0
83	Energy Focus: Modified SMP allows high resolution mapping of lithium-ion diffusion. MRS Bulletin, 2010, 35, 836-836.	3.5	0
84	One-Pot Aqueous Synthesis of Fe and Ag Core/Shell Nanoparticles. Chemistry of Materials, 2010, 22, 6291-6296.	6.7	66
85	Growth of $\text{La}_2\text{Ti}_2\text{O}_7$ and $\text{LaTiO}_3$ thin films using pulsed laser deposition. Journal of Crystal Growth, 2008, 310, 1985-1990.	1.5	41