Per Erik Vullum

List of Publications by Year
in descending order

96 papers	1,790 citations	257450 24 h-index	345221 36 g-index
98 all docs	98 docs citations	98 times ranked	2807 citing authors

#	Article	IF	Citations
1	Investigation of structural, morphological, and optoelectronic properties of Ga-doped TiO2 nanoparticles for electron transport layer in solar cell applications: An experimental and theoretical study. Journal of Physics and Chemistry of Solids, 2022, 161, 110410.	4.0	2
2	On intermetallic phases formed during interdiffusion between aluminium alloys and stainless steel. Intermetallics, 2022, 142, 107443.	3.9	13
3	Alloyed Ptâ€“Zn Oxygen Reduction Catalysts for Proton Exchange Membrane Fuel Cells. ACS Applied Energy Materials, 2022, 5, 8282-8291.	5.1	6
4	Effects of metal dusting relevant exposures of alloy 601 surfaces on carbon formation and oxide development. Catalysis Today, 2021, 369, 48-61.	4.4	8
5	Microstructural and mechanical characterisation of a second generation hybrid metal extrusion & bonding aluminium-steel butt joint. Materials Characterization, 2021, 173, 110761.	4.4	9
6	Direct Observation of Charge Transfer between NO_x and Monolayer MoS₂ by Operando Scanning Photoelectron Microscopy. ACS Applied Nano Materials, 2021, 4, 3319-3324.	5.0	11
7	Interface microstructure and tensile properties of a third generation aluminium-steel butt weld produced using the Hybrid Metal Extrusion & Bonding (HYB) process. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 809, 140975.	5.6	16
8	Epitaxial (100), (110), and (111) BaTiO3 films on SrTiO3 substratesâ€”A transmission electron microscopy study. Journal of Applied Physics, 2021, 129, .	2.5	5
9	Observation of Electric-Field-Induced Structural Dislocations in a Ferroelectric Oxide. Nano Letters, 2021, 21, 3386-3392.	9.1	9
10	Dynamic observation of dislocation evolution and interaction with twin boundaries in silicon crystal growth using in â€“ situ synchrotron X-ray diffraction imaging. Acta Materialia, 2021, 210, 116819.	7.9	14
11	Detecting minute amounts of nitrogen in GaNAs thin films using STEM and CBED. Ultramicroscopy, 2021, 231, 113299.	1.9	1
12	Direct Integration of Strainedâ€Pt Catalysts into Protonâ€Exchangeâ€Membrane Fuel Cells with Atomic Layer Deposition. Advanced Materials, 2021, 33, e2007885.	21.0	10
13	Graphene-Based Transparent Conducting Substrates for GaN/AlGaN Nanocolumn Flip-Chip Ultraviolet Light-Emitting Diodes. ACS Applied Nano Materials, 2021, 4, 9653-9664.	5.0	6
14	Temperatureâ€Dependent Adhesion in van der Waals Heterostructures. Advanced Materials Interfaces, 2021, 8, 2100838.	3.7	11
15	Inhibition of metal dusting corrosion on Fe-based alloy by combined near surface severe plastic deformation (NS-SPD) and thermochemical treatment. Corrosion Science, 2021, 190, 109702.	6.6	9
16	Bottom-Up Fabrication of Oxygen Reduction Electrodes with Atomic Layer Deposition for High-Power-Density PEMFCs. Cell Reports Physical Science, 2021, 2, 100297.	5.6	10
17	On the biogenicity of Feâ€oxyhydroxide filaments in silicified lowâ€temperature hydrothermal deposits: Implications for the identification of Feâ€oxidizing bacteria in the rock record. Geobiology, 2020, 18, 31-53.	2.4	17
18	Nanocrystal segmentation in scanning precession electron diffraction data. Journal of Microscopy, 2020, 279, 158-167.	1.8	14

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19	Conductivity control via minimally invasive anti-Frenkel defects in a functional oxide. Nature Materials, 2020, 19, 1195-1200.	27.5	20
20	Interfacial atomic structure and electrical activity of nano-facetted CSL grain boundaries in high-performance multi-crystalline silicon. Journal of Applied Physics, 2020, 127, .	2.5	18
21	SiC crystalline micro bullets on bio-carbon based charcoal substrate. Journal of Crystal Growth, 2020, 545, 125740.	1.5	3
22	The influence of AlN buffer layer on the growth of self-assembled GaN nanocolumns on graphene. Scientific Reports, 2020, 10, 853.	3.3	8
23	Broadband infrared and THz transmitting silicon core optical fiber. Optical Materials Express, 2020, 10, 2491.	3.0	13
24	Relationship between Al-Ni intermetallic Phases and Bond Strength in Roll Bonded Steel-Aluminum Composites with Nickel Interlayers. Metals, 2019, 9, 827.	2.3	6
25	Silicon-Carbon composite anodes from industrial battery grade silicon. Scientific Reports, 2019, 9, 14814.	3.3	75
26	Critically testing olivineâ€hosted putative martian biosignatures in the Yamato 000593 meteoriteâ€"Geobiological implications. Geobiology, 2019, 17, 691-707.	2.4	2
27	Inside the electrode: Looking at cycling products in Li/O2 batteries. Journal of Power Sources, 2019, 414, 130-140.	7.8	28
28	GaN/AlGaN Nanocolumn Ultraviolet Light-Emitting Diode Using Double-Layer Graphene as Substrate and Transparent Electrode. Nano Letters, 2019, 19, 1649-1658.	9.1	39
29	Epitaxial K _{0.5} Na _{0.5} NbO ₃ thin films by aqueous chemical solution deposition. Royal Society Open Science, 2019, 6, 180989.	2.4	17
30	An analytical framework for modelling intermetallic compound (<scp>IMC</scp>) formation and optimising bond strength in aluminiumâ€steel welds. Material Design and Processing Communications, 2019, 1, e57.	0.9	14
31	Alumina Scale Composition and Growth Rate in Distribution Pipes. Minerals, Metals and Materials Series, 2019, , 697-706.	0.4	1
32	Î²- and Î´-Al-Fe-Si intermetallic phase, their intergrowth and polytype formation. Journal of Alloys and Compounds, 2019, 780, 917-929.	5.5	27
33	Effect of Mn and cooling rates on Î±-, Î²- and Î´-Alâ€"Feâ€"Si intermetallic phase formation in a secondary Alâ€"Si alloy. Materialia, 2019, 5, 100198.	2.7	57
34	Reversibility of metal-hydride anodes in all-solid-state lithium secondary battery operating at room temperature. Solid State Ionics, 2018, 317, 263-267.	2.7	21
35	Understanding Capacity Fading of MgH₂ Conversion-Type Anodes via Structural Morphology Changes and Electrochemical Impedance. Journal of Physical Chemistry C, 2018, 122, 8750-8759.	3.1	12
36	Solvent-Controlled Charge Storage Mechanisms of Spinel Oxide Electrodes in Mg Organohaloaluminate Electrolytes. Nano Letters, 2018, 18, 763-772.	9.1	17

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37	High capacity Mg batteries based on surface-controlled electrochemical reactions. Nano Energy, 2018, 48, 227-237.	16.0	35
38	High Interfacial Charge Storage Capability of Carbonaceous Cathodes for Mg Batteries. ACS Nano, 2018, 12, 2998-3009.	14.6	26
39	Selective area growth of AlGaN nanopyramid arrays on graphene by metal-organic vapor phase epitaxy. Applied Physics Letters, 2018, 113, .	3.3	16
40	Orientation relationship between Î²-Si 3 N 4 and Si in multicrystalline silicon ingots for PV applications. Journal of Crystal Growth, 2018, 495, 14-19.	1.5	1
41	Nonlinear optical response and structural properties of MBE-grown Fe:ZnS films. Optical Materials Express, 2018, 8, 356.	3.0	9
42	Multi-scale Modelling of Titanium Diboride Degradation Using Crystal Elasticity Model and Density Functional Theory. Minerals, Metals and Materials Series, 2018, , 1329-1336.	0.4	0
43	Atomap: a new software tool for the automated analysis of atomic resolution images using two-dimensional Gaussian fitting. Advanced Structural and Chemical Imaging, 2017, 3, 9.	4.0	159
44	Morphology effects in MgH2 anode for lithium ion batteries. International Journal of Hydrogen Energy, 2017, 42, 22551-22556.	7.1	18
45	Quantitative strain analysis of InAs/GaAs quantum dot materials. Scientific Reports, 2017, 7, 45376.	3.3	17
46	Flame spray pyrolysis of tin oxide-based Pt catalysts for PEM fuel cell applications. MRS Advances, 2017, 2, 1505-1510.	0.9	4
47	Bandgap measurement of high refractive index materials by off-axis EELS. Ultramicroscopy, 2017, 182, 92-98.	1.9	3
48	Atomap - Automated Analysis of Atomic Resolution STEM Images. Microscopy and Microanalysis, 2017, 23, 426-427.	0.4	1
49	Strategy for reliable strain measurement in InAs/GaAs materials from high-resolution Z-contrast STEM images. Journal of Physics: Conference Series, 2017, 902, 012021.	0.4	2
50	Atomic resolution imaging of beryl: an investigation of the nanoâ€channel occupation. Journal of Microscopy, 2017, 265, 245-250.	1.8	9
51	Methodology to Improve Strain Measurement in III-V Semiconductors Materials. Microscopy and Microanalysis, 2017, 23, 1416-1417.	0.4	0
52	Assessing electron beam sensitivity for SrTiO3 and La0.7Sr0.3MnO3 using electron energy loss spectroscopy. Ultramicroscopy, 2016, 169, 98-106.	1.9	17
53	Vanadium Substitution in Li₂MnSiO₄/C as Positive Electrode for Li Ion Batteries. Journal of Physical Chemistry C, 2016, 120, 11359-11371.	3.1	20
54	Sponge-Like Porous Manganese(II,III) Oxide as a Highly Efficient Cathode Material for Rechargeable Magnesium Ion Batteries. Chemistry of Materials, 2016, 28, 6459-6470.	6.7	83

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55	Compositional and structural properties of pulsed laser-deposited ZnS:Cr films. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	1
56	Effect of Polar (111)-Oriented SrTiO₃ on Initial Perovskite Growth. Crystal Growth and Design, 2016, 16, 2357-2362.	3.0	32
57	Structural investigation of epitaxial LaFeO₃thin films on (111) oriented SrTiO₃by transmission electron microscopy. Journal of Physics: Conference Series, 2015, 644, 012002.	0.4	9
58	Materials Development Aided by Atomic-Resolution Electron Microscopy. Microscopy and Microanalysis, 2015, 21, 1515-1516.	0.4	0
59	Effect of Sb Segregation on Conductance and Catalytic Activity at Pt/Sb-Doped SnO₂ Interface: A Synergetic Computational and Experimental Study. ACS Applied Materials & Interfaces, 2015, 7, 27782-27795.	8.0	19
60	Titanium uptake and incorporation into silica nanostructures by the diatom Pinnularia sp. (Bacillariophyceae). Journal of Applied Phycology, 2015, 27, 777-786.	2.8	22
61	Structural phases driven by oxygen vacancies at the La0.7Sr0.3MnO3/SrTiO3 hetero-interface. Applied Physics Letters, 2015, 106, .	3.3	42
62	Impact of excess phosphorus doping and Si crystalline defects on Ag crystallite nucleation and growth in silver screenâ€printed Si solar cells. Progress in Photovoltaics: Research and Applications, 2015, 23, 367-375.	8.1	23
63	Abiotic and candidate biotic micro-alteration textures in subseafloor basaltic glass: A high-resolution in-situ textural and geochemical investigation. Chemical Geology, 2015, 410, 124-137.	3.3	13
64	The interface of a-SiNx:H and Si: Linking the nano-scale structure to passivation quality. Solar Energy Materials and Solar Cells, 2014, 120, 311-316.	6.2	8
65	Using (S)TEM Techniques to Study Energy Related Materials at the Nanoscale. Microscopy and Microanalysis, 2014, 20, 414-415.	0.4	0
66	Mapping structural gradients in isotactic polypropylene using scanning wide-angle X-ray scattering. Polymer, 2013, 54, 1867-1875.	3.8	8
67	Surface stability of epitaxial La0.7Sr0.3MnO3 thin films on (111)-oriented SrTiO3. Journal of Applied Physics, 2013, 113, .	2.5	31
68	Prediction of elastic properties of nanofibrillated cellulose from micromechanical modeling and nano-structure characterization by transmission electron microscopy. Cellulose, 2013, 20, 761-770.	4.9	25
69	3D aligned-carbon-nanotubes@Li2FeSiO4 arrays as high rate capability cathodes for Li-ion batteries. Nanotechnology, 2013, 24, 435703.	2.6	12
70	Characterization of aâ€SiN_x:H layer: Bulk properties, interface with Si and solar cell efficiency. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 658-668.	1.8	10
71	Crystalline Al_{1â€‰â^'â€‰}_xTi_xphases in the hydrogen cycled NaAlH₄â€‰+â€‰0.02TiCl₃system. Philosophical Magazine, 2013, 93, 1080-1094.	1.6	6
72	Domain relaxation in La0.7Sr0.3MnO3/SrTiO3 thin films due to declamping. Microscopy and Microanalysis, 2012, 18, 1868-1869.	0.4	0

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73	Hydrogen Absorption Kinetics of the Transition-Metal-Chloride-Enhanced NaAlH4 System. Journal of Physical Chemistry C, 2012, 116, 14205-14217.	3.1	28
74	The location of Ti containing phases after the completion of the NaAlH4+xTiCl3 milling process. Journal of Alloys and Compounds, 2012, 513, 597-605.	5.5	18
75	Functionality of the nanoscopic crystalline Al/amorphous Al50Ti50 surface embedded composite observed in the NaAlH4+xTiCl3 system after milling. Journal of Alloys and Compounds, 2012, 514, 163-169.	5.5	14
76	Amorphous Al1â^'xTix, Al1â^'xVx, and Al1â^'xFex phases in the hydrogen cycled TiCl3, VCl3 and FeCl3 enhanced NaAlH4 systems. Journal of Alloys and Compounds, 2012, 521, 112-120.	5.5	15
77	A structural review of nanoscopic Al1â^'xTMx phase formation in the TMCln enhanced NaAlH4 system. Journal of Alloys and Compounds, 2012, 527, 16-24.	5.5	12
78	Hydrogen absorption kinetics and structural features of NaAlH4 enhanced with transition-metal and Ti-based nanoparticles. International Journal of Hydrogen Energy, 2012, 37, 15175-15186.	7.1	21
79	Formation of ZnO Nanosheets Grown by Catalyst-Assisted Pulsed Laser Deposition. Crystal Growth and Design, 2011, 11, 5298-5304.	3.0	19
80	Structural and electronic properties of silver/silicon interfaces and implications for solar cell performance. Physical Review B, 2011, 83, .	3.2	32
81	TEM characterization of pure and transition metal enhanced NaAlH4. Journal of Alloys and Compounds, 2011, 509, 281-289.	5.5	30
82	Preparation of Silicon Nanostructures for Lithium Ion Battery Anodes. ECS Transactions, 2011, 35, 149-158.	0.5	9
83	Positioning effects on quantum dot solar cells grown by molecular beam epitaxy. Applied Physics Letters, 2010, 96, .	3.3	41
84	Characterization of ZnO Nanostructures Grown by Pulsed Laser Deposition. Materials Research Society Symposia Proceedings, 2009, 1174, 115.	0.1	0
85	Observations of nanoscopic, face centered cubic Ti and TiH x. Applied Physics A: Materials Science and Processing, 2009, 94, 787-793.	2.3	12
86	Backscatter Electron Imaging and Electron Backscatter Diffraction Characterization of LaCoO₃ During In Situ Compression. Journal of the American Ceramic Society, 2009, 92, 732-737.	3.8	3
87	Thermal and mechanical properties of LaNbO4-based ceramics. Ceramics International, 2009, 35, 2877-2883.	4.8	57
88	Structural properties of the nanoscopic Al85Ti15 solid solution observed in the hydrogen-cycled NaAlH4+ 0.1TiCl3 system. Acta Materialia, 2008, 56, 4691-4701.	7.9	30
89	TEM observations of rhombohedral and monoclinic domains in LaCoO₃-based ceramics. Philosophical Magazine, 2008, 88, 1187-1208.	1.6	21
90	Transmission electron microscopy characterization of NaAlH₄. Journal of Physics: Conference Series, 2008, 126, 012015.	0.4	2

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91	Monoclinic Ferroelastic Domains in LaCoO₃â€Based Perovskites. Advanced Materials, 2007, 19, 4399-4403.	21.0	51
92	Grain boundary analysis and secondary phases in LaCoO3-based perovskites. Journal of Materials Science, 2007, 42, 6267-6273.	3.7	4
93	In situ synchrotron X-ray diffraction of ferroelastic La0.8Ca0.2CoO3 ceramics during uniaxial compression. Acta Materialia, 2006, 54, 2615-2624.	7.9	24
94	Mechanical properties of mixed conducting La0.5Sr0.5Fe1â^'x Co x O3â^'Î´ (0â‰¤xâ‰¤1) materials. Journal of Solid State Electrochemistry, 2006, 10, 635-642.	2.5	32
95	Electronic properties of polycrystalline LaFeO. Part I: Experimental results and the qualitative role of Schottky defects. Solid State Ionics, 2005, 176, 2783-2790.	2.7	50
96	Stress-Strain Behavior During Compression of Polycrystalline La1-xCaxCoO3 Ceramics. Journal of the American Ceramic Society, 2005, 88, 726-730.	3.8	35