

Aiden A Martin

List of Publications by Year in descending order

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46
papers

1,623
citations

430754

18
h-index

289141

40
g-index

47
all docs

47
docs citations

47
times ranked

1560
citing authors

#	ARTICLE	IF	CITATIONS
1	Dynamics of pore formation during laser powder bed fusion additive manufacturing. <i>Nature Communications</i> , 2019, 10, 1987.	5.8	408
2	Controlling interdependent meso-nanosecond dynamics and defect generation in metal 3D printing. <i>Science</i> , 2020, 368, 660-665.	6.0	291
3	An instrument for <i>in situ</i> time-resolved X-ray imaging and diffraction of laser powder bed fusion additive manufacturing processes. <i>Review of Scientific Instruments</i> , 2018, 89, 055101.	0.6	123
4	Ultrafast dynamics of laser-metal interactions in additive manufacturing alloys captured by <i>in situ</i> X-ray imaging. <i>Materials Today Advances</i> , 2019, 1, 100002.	2.5	105
5	Fluorescent TiO ₂ powders prepared using a new perylene diimide dye: Applications in latent fingerprint detection. <i>Forensic Science International</i> , 2007, 173, 154-160.	1.3	85
6	Subsurface Cooling Rates and Microstructural Response during Laser Based Metal Additive Manufacturing. <i>Scientific Reports</i> , 2020, 10, 1981.	1.6	64
7	Laser-Induced Keyhole Defect Dynamics during Metal Additive Manufacturing. <i>Advanced Engineering Materials</i> , 2019, 21, 1900455.	1.6	45
8	Subtractive 3D Printing of Optically Active Diamond Structures. <i>Scientific Reports</i> , 2014, 4, 5022.	1.6	34
9	Localized chemical switching of the charge state of nitrogen-vacancy luminescence centers in diamond. <i>Applied Physics Letters</i> , 2014, 105, .	1.5	33
10	Role of Activated Chemisorption in Gas-Mediated Electron Beam Induced Deposition. <i>Physical Review Letters</i> , 2012, 109, 146103.	2.9	32
11	Electron beam induced chemical dry etching and imaging in gaseous NH ₃ environments. <i>Nanotechnology</i> , 2012, 23, 375302.	1.3	28
12	Maskless milling of diamond by a focused oxygen ion beam. <i>Scientific Reports</i> , 2015, 5, 8958.	1.6	25
13	Cooling dynamics of two titanium alloys during laser powder bed fusion probed with <i>in situ</i> X-ray imaging and diffraction. <i>Materials and Design</i> , 2020, 195, 108987.	3.3	25
14	Dynamic Surface Site Activation: A Rate Limiting Process in Electron Beam Induced Etching. <i>ACS Applied Materials & Interfaces</i> , 2013, 5, 8002-8007.	4.0	21
15	Submicrosecond Aggregation during Detonation Synthesis of Nanodiamond. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 5286-5293.	2.1	21
16	Dynamic Pattern Formation in Electron-Beam-Induced Etching. <i>Physical Review Letters</i> , 2015, 115, 255501.	2.9	20
17	Laser-metal interaction dynamics during additive manufacturing resolved by detection of thermally-induced electron emission. <i>Communications Materials</i> , 2020, 1, .	2.9	19
18	Pressure dependence of the laser-metal interaction under laser powder bed fusion conditions probed by <i>in situ</i> X-ray imaging. <i>Additive Manufacturing</i> , 2020, 32, 101084.	1.7	19

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19	Cryogenic Electron Beam Induced Chemical Etching. ACS Applied Materials & Interfaces, 2014, 6, 18457-18460.	4.0	18
20	Optical properties of implanted Xe color centers in diamond. Optics Communications, 2018, 411, 182-186.	1.0	16
21	The impact of nano-bubbles on the laser performance of hafnia films deposited by oxygen assisted ion beam sputtering method. Applied Physics Letters, 2019, 115, .	1.5	16
22	A combined numerical and experimental study to elucidate primary breakup dynamics in liquid metal droplet-on-demand printing. Physics of Fluids, 2020, 32, .	1.6	16
23	Versatile method for template-free synthesis of single crystalline metal and metal alloy nanowires. Nanoscale, 2016, 8, 2804-2810.	2.8	15
24	Electron beam induced etching of carbon. Applied Physics Letters, 2015, 107, .	1.5	14
25	A mesoscopic digital twin that bridges length and time scales for control of additively manufactured metal microstructures. JPhys Materials, 2021, 4, 034012.	1.8	14
26	Study of narrowband single photon emitters in polycrystalline diamond films. Applied Physics Letters, 2014, 105, .	1.5	12
27	The role of Frenkel defect diffusion in dynamic annealing in ion-irradiated Si. Scientific Reports, 2017, 7, 39754.	1.6	12
28	Microcrack mitigation during laser scanning of tungsten via preheating and alloying strategies. Additive Manufacturing, 2021, 46, 102158.	1.7	11
29	Enhanced mechanical performance via laser induced nanostructure formation in an additively manufactured lightweight aluminum alloy. Applied Materials Today, 2021, 22, 100972.	2.3	10
30	Fabrication of a single sub-micron pore spanning a single crystal (100) diamond membrane and impact on particle translocation. Carbon, 2017, 122, 319-328.	5.4	9
31	Thermal history and high-speed optical imaging of overhang structures during laser powder bed fusion: A computational and experimental analysis. Additive Manufacturing, 2022, 53, 102669.	1.7	9
32	Electron Beam Controlled Restructuring of Luminescence Centers in Polycrystalline Diamond. ACS Applied Materials & Interfaces, 2014, 6, 10367-10372.	4.0	8
33	Role of knock-on in electron beam induced etching of diamond. Carbon, 2020, 164, 51-58.	5.4	8
34	Formation of high purity uranium via laser induced thermal decomposition of uranium nitride. Materials and Design, 2020, 192, 108706.	3.3	8
35	A laser powder bed fusion system for operando synchrotron x-ray imaging and correlative diagnostic experiments at the Stanford Synchrotron Radiation Lightsource. Review of Scientific Instruments, 2022, 93, 043702.	0.6	6
36	Ultra-high aspect ratio pores milled in diamond via laser, ion and electron beam mediated processes. Diamond and Related Materials, 2020, 105, 107806.	1.8	5

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37	Rapid feedback of chemical vapor deposition growth mechanisms by operando X-ray diffraction. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2018, 36, 020601.	0.6	4
38	Laser-induced thermal decomposition of uranium triiodide and ammonium uranium fluoride. Journal of Radioanalytical and Nuclear Chemistry, 2021, 329, 1427-1437.	0.7	4
39	Radiation-Induced Damage and Recovery of Ultra-Nanocrystalline Diamond: Toward Applications in Harsh Environments. ACS Applied Materials & Interfaces, 2017, 9, 39790-39794.	4.0	2
40	Gas-mediated charged particle beam processing of nanostructured materials. , 2014, , .		1
41	Gas-Mediated Electron Beam Induced Etching - From Fundamental Physics to Device Fabrication. Microscopy and Microanalysis, 2014, 20, 364-365.	0.2	1
42	Formation of Dynamic Topographic Patterns During Electron Beam Induced Etching of Diamond. Microscopy and Microanalysis, 2017, 23, 2264-2265.	0.2	1
43	Formation mechanisms of boron oxide films fabricated by large-area electron beam-induced deposition of trimethyl borate. Beilstein Journal of Nanotechnology, 2018, 9, 1282-1287.	1.5	1
44	Direct-write electron beam fabrication of optically active diamond nanostructures. , 2014, , .		0
45	Interdisciplinary X-Ray Microanalysis: From Planets and Comets to Artifacts and Fine Art. Microscopy and Microanalysis, 2014, 20, 716-717.	0.2	0
46	Exposure and analysis of microparticles embedded in silica aerogel keystones using NF ₃ -mediated electron beam-induced etching and energy-dispersive X-ray spectroscopy. Meteoritics and Planetary Science, 2016, 51, 1223-1232.	0.7	0