Alexander J Melville

List of Publications by Year in Descending Order

44 papers	3,052 citations	21 h-index	47 g-index
47 ext. papers	3,605 ext. citations	10.5 avg, IF	4.32 L-index

#	Paper	IF	Citations
44	Hexagonal boron nitride as a low-loss dielectric for superconducting quantum circuits and qubits.. *Nature Materials*, **2022**,	27	4
43	Improving qubit coherence using closed-loop feedback.. *Nature Communications*, **2022**, 13, 1932	17.4	0
42	Direct observation of polarization-induced two-dimensional electron/hole gases at ferroelectric-insulator interface. *Npj Quantum Materials*, **2021**, 6,	5	3
41	Microwave Package Design for Superconducting Quantum Processors. *PRX Quantum*, **2021**, 2,	6.1	9
40	Realization of High-Fidelity CZ and ZZ-Free iSWAP Gates with a Tunable Coupler. *Physical Review X*, **2021**, 11,	9.1	19
39	Multi-level quantum noise spectroscopy. *Nature Communications*, **2021**, 12, 967	17.4	4
38	Characterizing and Optimizing Qubit Coherence Based on SQUID Geometry. *Physical Review Applied* , **2020**, 13,	4.3	15
37	Exploring the intrinsic limit of the charge-carrier-induced increase of the Curie temperature of Lu- and La-doped EuO thin films. *Physical Review Materials*, **2020**, 4,	3.2	3
36	Universal Nonadiabatic Control of Small-Gap Superconducting Qubits. *Physical Review X*, **2020**, 10,	9.1	4
35	Generating spatially entangled itinerant photons with waveguide quantum electrodynamics. *Science Advances*, **2020**, 6,	14.3	9
34	Solid-state qubits integrated with superconducting through-silicon vias. *Npj Quantum Information*, **2020**, 6,	8.6	18
33	Waveguide quantum electrodynamics with superconducting artificial giant atoms. *Nature*, **2020**, 583, 775-779	50.4	40
32	Making EuO multiferroic by epitaxial strain engineering. *Communications Materials*, **2020**, 1,	6	11
31	Comparison of dielectric loss in titanium nitride and aluminum superconducting resonators. *Applied Physics Letters*, **2020**, 117, 124004	3.4	9
30	Impact of ionizing radiation on superconducting qubit coherence. *Nature*, **2020**, 584, 551-556	50.4	47
29	Determining Interface Dielectric Losses in Superconducting Coplanar-Waveguide Resonators. *Physical Review Applied*, **2019**, 12,	4.3	33
28	Silicon Hard-Stop Spacers for 3D Integration of Superconducting Qubits **2019**,		3

27	Analysis and mitigation of interface losses in trenched superconducting coplanar waveguide resonators. *Applied Physics Letters*, **2018**, 112, 062601	3.4	53
26	3D integrated superconducting qubits. *Npj Quantum Information*, **2017**, 3,	8.6	81
25	Coherent Coupled Qubits for Quantum Annealing. *Physical Review Applied*, **2017**, 8,	4.3	43
24	Giant Resistive Switching via Control of Ferroelectric Charged Domain Walls. *Advanced Materials*, **2016**, 28, 6574-80	24	61
23	Size Effect on Spontaneous Flux-closure Domains in BiFeO 3 Thin Films. *Microscopy and Microanalysis*, **2016**, 22, 1596-1597	0.5	2
22	Ultrafast optical tuning of ferromagnetism via the carrier density. *Nature Communications*, **2015**, 6, 6724	17.4	40
21	High-quality EuO thin films the easy way via topotactic transformation. *Nature Communications*, **2015**, 6, 7716	17.4	35
20	Hetero-epitaxial EuO interfaces studied by analytic electron microscopy. *Applied Physics Letters*, **2014**, 104, 091601	3.4	21
19	Mechanical and Electrical Control of Charged Domain Walls in Ferroelectric Materials. *Microscopy and Microanalysis*, **2014**, 20, 1546-1547	0.5	
18	Atomic scale structure changes induced by charged domain walls in ferroelectric materials. *Nano Letters*, **2013**, 13, 5218-23	11.5	52
17	BiFeO3 domain wall energies and structures: a combined experimental and density functional theory+U study. *Physical Review Letters*, **2013**, 110, 267601	7.4	49
16	Influence of chemical doping on the magnetic properties of EuO. *Physical Review B*, **2013**, 87,	3.3	23
15	Effect of film thickness and biaxial strain on the curie temperature of EuO. *Applied Physics Letters*, **2013**, 102, 062404	3.4	20
14	Nanosession: Multiferroics - High Transition Temperatures **2013**, 347-355		
13	Epitaxial growth of europium monoxide on diamond. *Applied Physics Letters*, **2013**, 103, 222402	3.4	7
12	Temperature dependence of the electronic structure and Fermi-surface reconstruction of Eu(1-x)Gd(x)O through the ferromagnetic metal-insulator transition. *Physical Review Letters*, **2012**, 108, 267003	7.4	13
11	Lutetium-doped EuO films grown by molecular-beam epitaxy. *Applied Physics Letters*, **2012**, 100, 222101	3.4	26
10	Domain dynamics during ferroelectric switching. *Science*, **2011**, 334, 968-71	33.3	277

9	Spontaneous vortex nanodomain arrays at ferroelectric heterointerfaces. *Nano Letters*, **2011**, 11, 828-34	11.5	365
8	Influence of the substrate temperature on the Curie temperature and charge carrier density of epitaxial Gd-doped EuO films. *Applied Physics Letters*, **2011**, 98, 102110	3.4	17
7	Low thermal conductivity of CsBiNb2O7 epitaxial layers. *Applied Physics Letters*, **2010**, 96, 121903	3.4	21
6	Probing mixed tetragonal/rhombohedral-like monoclinic phases in strained bismuth ferrite films by optical second harmonic generation. *Applied Physics Letters*, **2010**, 97, 112903	3.4	33
5	Is there an intrinsic limit to the charge-carrier-induced increase of the Curie temperature of EuO?. *Physical Review Letters*, **2010**, 105, 257206	7.4	47
4	Optical properties of quasi-tetragonal BiFeO3 thin films. *Applied Physics Letters*, **2010**, 96, 131907	3.4	133
3	Surface, bulk, and interface electronic states of epitaxial BiFeO3 films. *Journal of Vacuum Science & Technology B*, **2009**, 27, 2012		16
2	Photovoltaic effects in BiFeO3. *Applied Physics Letters*, **2009**, 95, 062909	3.4	429
1	A strain-driven morphotropic phase boundary in BiFeO3. *Science*, **2009**, 326, 977-80	33.3	956