

# David E Laughlin

## List of Publications by Year in descending order

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78  
papers

1,401  
citations

394286

19  
h-index

360920

35  
g-index

82  
all docs

82  
docs citations

82  
times ranked

1185  
citing authors

#	ARTICLE	IF	CITATIONS
1	High Entropy Alloys: Magnetocaloric Effects. , 2022, , 484-490.		1
2	Fabrication of FePt/FePt-BN/FePt-SiO <sub>x</sub> Granular Film for HAMR Media on Corning Lotus NXT Glass Substrate. IEEE Transactions on Magnetics, 2022, 58, 1-5.	1.2	3
3	Understanding the growth of high-aspect-ratio grains in granular L1-FePt thin-film magnetic media. APL Materials, 2022, 10, .	2.2	8
4	Construction of equilibrium phase diagrams: Some errors to be avoided. Progress in Materials Science, 2021, 120, 100715.	16.0	8
5	The utilization of boron nitride (BN) for granular L1-FePt HAMR media fabrication. Applied Physics Letters, 2021, 118, .	1.5	14
6	Understanding Magnetic Exchange Interactions by the Pressure Dependent Curie Temperature in FeCoNiCuMn High Entropy Alloys. Journal of Phase Equilibria and Diffusion, 2021, 42, 617-622.	0.5	2
7	Magnetic Transformations and Phase Diagrams. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 2555-2569.	1.1	14
8	Crystallization in three dimensions: Defect-driven topological ordering and the role of geometrical frustration. Physical Review B, 2019, 99, .	1.1	3
9	Mössbauer analysis of compositional tuning of magnetic exchange interactions in high entropy alloys. AIP Advances, 2019, 9, 035329.	0.6	12
10	Topological description of the solidification of undercooled fluids and the temperature dependence of the thermal conductivity of crystalline and glassy solids above approximately 50 K. Journal of Physics Condensed Matter, 2019, 31, 105701.	0.7	1
11	The Effect of <i>In situ</i> Magnetic Field on Magnetic Properties and Residual Stress of Fe-Based Amorphous Film. IEEE Transactions on Magnetics, 2018, 54, 1-8.	1.2	4
12	The Third Law of Thermodynamics: Phase equilibria and phase diagrams at low temperatures. Acta Materialia, 2018, 145, 49-61.	3.8	16
13	<i>SU</i> (2) orientational ordering in restricted dimensions: evidence for a BerezinskiĀ-Kosterlitz-Thouless transition of topological point defects in four dimensions. Journal of Physics Communications, 2018, 2, 075001.	0.5	2
14	The $\hat{\Gamma}_2$ Iron Controversy Revisited. Journal of Phase Equilibria and Diffusion, 2018, 39, 274-279.	0.5	5
15	Microstructure Analysis on Size Distribution During Film Growth in HAMR Media. IEEE Transactions on Magnetics, 2018, 54, 1-4.	1.2	2
16	A study of the determination of grain boundary diffusivity and energy through the thermally grown oxide ridges on a Fe-22Cr alloy surface. Philosophical Magazine, 2017, 97, 535-548.	0.7	4
17	Fabrication of bit patterned media using templated two-phase growth. APL Materials, 2017, 5, .	2.2	3
18	MgO-C interlayer for grain size control in FePt-C media for heat assisted magnetic recording. AIP Advances, 2017, 7, .	0.6	9

#	ARTICLE	IF	CITATIONS
19	The Role of Compositional Tuning of the Distributed Exchange on Magnetocaloric Properties of High-Entropy Alloys. <i>Jom</i> , 2017, 69, 2125-2129.	0.9	31
20	Nucleation and growth model for {110}- and {111}-truncated nanoparticles. <i>Journal of Materials Research</i> , 2015, 30, 3011-3019.	1.2	6
21	Investigation of (Fe,Co)NbB-Based Nanocrystalline Soft Magnetic Alloys by Lorentz Microscopy and Off-Axis Electron Holography. <i>Microscopy and Microanalysis</i> , 2015, 21, 498-509.	0.2	5
22	Determination of Pressure Effects on the $\hat{L} \hat{\alpha} \hat{\alpha}' \hat{\beta}^3$ Phase Transition and Size of Fe in Nd-Fe-B Spring Exchange Magnets. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015, 46, 5002-5010. <a href="#">Magnetic Properties of <math>\text{Fe}_{1-x}\text{Zr}_x\text{TiO}_4</math> (x=0.05, 0.1, 0.2, 0.3, 0.4)</a>	1.1	5
23			

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37	Topology and elemental distribution in Co alloy:oxide perpendicular media. Journal of Applied Physics, 2009, 105, 07B739.	1.1	7
38	The surprising role of magnetism on the phase stability of Fe (Ferro). Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2009, 33, 3-7.	0.7	25
39	Grain size reduction for perpendicular magnetic recording media using an Ar-ion etched Ru seedlayer. Applied Physics Letters, 2008, 93, 102511.	1.5	8
40	L1 FePt-oxide columnar perpendicular media with high coercivity and small grain size. Journal of Applied Physics, 2008, 104, .	1.1	72
41	Control of resputtering in biased CoCrPt-SiO2 media to enhance grain decoupling and grain size distribution. Journal of Applied Physics, 2008, 103, 07F541.	1.1	7
42	CoCrPt-SiO2 granular-type longitudinal media on Ru underlayer for sputtered tape applications. Journal of Applied Physics, 2008, 103, 07F545.	1.1	0
43	Epitaxial growth of lead zirconium titanate thin films on Ag buffered Si substrates using rf sputtering. Applied Physics Letters, 2007, 90, 172903.	1.5	9
44	Fabrication, Microstructure, Magnetic, and Recording Properties of Percolated Perpendicular Media. IEEE Transactions on Magnetics, 2007, 43, 693-697.	1.2	26
45	The Effects of Post-Annealing on the Microstructure and Magnetic Properties of Percolated Perpendicular Media. IEEE Transactions on Magnetics, 2007, 43, 2136-2138.	1.2	9
46	Extrinsic paramagnetic Meissner effect in multiphase indium-tin alloys. Applied Physics Letters, 2006, 89, 111903.	1.5	16
47	L10 FePt-MgO perpendicular thin film deposited by alternating sputtering at elevated temperature. Journal of Applied Physics, 2006, 99, 08F907.	1.1	55
48	Effects of substrate bias on CoCrPt-SiO2 magnetic recording media. Journal of Applied Physics, 2006, 99, 08G910.	1.1	11
49	The Third Law of Thermodynamics and low temperature phase stability. Progress in Materials Science, 2004, 49, 367-387.	16.0	30
50	Diffusion in Co90Fe10/Ru multilayers. Journal of Applied Physics, 2003, 94, 993-1000.	1.1	2
51	Fe3O4 thin films sputter deposited from iron oxide targets. Journal of Applied Physics, 2003, 93, 7957-7959.	1.1	65
52	Recording properties of CoCrPt tape media sputter-deposited at room temperature on polymeric substrates. Journal of Applied Physics, 2003, 93, 7783-7785.	1.1	5
53	Interdiffusion in CoFe/Cu multilayers and its application to spin-valve structures for data storage. Journal of Applied Physics, 2003, 94, 1001-1006.	1.1	10
54	Postannealing effects on magnetic properties and microstructure of CoCrPt/Ti perpendicular recording media. Journal of Applied Physics, 2003, 93, 8179-8181.	1.1	14

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55	In-situ Lorentz TEM Observation of Magnetization Process in Fe-Pd Alloy. Microscopy and Microanalysis, 2003, 9, 480-481.	0.2	1
56	Controlling the magnetic properties of CoCrPt thin films by means of thin hexagonal-close-packed intermediate layers. Journal of Applied Physics, 2002, 91, 7065.	1.1	10
57	Stress dependence of soft, high moment and nanocrystalline FeCoB films. Journal of Applied Physics, 2002, 91, 8453.	1.1	40
58	Development of magnetic domains in hard ferromagnetic thin films of polytwinned microstructure. Journal of Applied Physics, 2002, 92, 7408-7414.	1.1	19
59	Improvement of preferred orientation of NiAl/CrMn underlayers deposited on prebaked tape substrates. Journal of Applied Physics, 2002, 91, 8736.	1.1	1
60	Effects of Ag underlayers on the microstructure and magnetic properties of epitaxial FePt thin films. Journal of Applied Physics, 2001, 89, 7068-7070.	1.1	219
61	Dependence of Co anisotropy constants on temperature, processing, and underlayer. Journal of Applied Physics, 2000, 87, 6884-6886.	1.1	26
62	Structure and magnetic properties of L10 CoPt(Ag/MgO,MgO) thin films. Journal of Applied Physics, 2000, 87, 6950-6952.	1.1	40
63	Thermal stability of the nanocrystalline Fe-Co-Hf-B-Cu alloy. Journal of Applied Physics, 1999, 85, 4424-4426.	1.1	85
64	Unicrystal Co alloy media on Si(110). Journal of Applied Physics, 1999, 85, 4723-4725.	1.1	30
65	Electron Diffraction Investigation of Crystallographic Texture of Thin Films. Materials Research Society Symposia Proceedings, 1999, 562, 105.	0.1	2
66	Epitaxial Co/NiAl Thin Film Growth on Si Substrates. Materials Research Society Symposia Proceedings, 1999, 562, 333.	0.1	0
67	Epitaxial Co/NiAl Thin Film Growth on Si Substrates. Materials Research Society Symposia Proceedings, 1999, 577, 359.	0.1	0
68	C-Axis Perpendicularly Oriented Barium Ferrite Thin Film Media On Silicon Substrate. Materials Research Society Symposia Proceedings, 1999, 577, 605.	0.1	0
69	C-Axis Perpendicularly Oriented Barium Ferrite Thin Film Media on Silicon Substrate. Materials Research Society Symposia Proceedings, 1999, 562, 289.	0.1	0
70	Magnetic Properties of Ordered and Disordered Spinel Phase Ferrimagnets. Journal of the American Ceramic Society, 1999, 82, 3342-3346.	1.9	82
71	The Effects of Substrate Preheating and Post-Deposition Annealing on CrMn/CoCrPt/CrMn/NiAl Films. Materials Research Society Symposia Proceedings, 1998, 517, 217.	0.1	10
72	Epitaxial Ag templates on Si(001) for bicrystal CoCrTa media. Journal of Applied Physics, 1997, 81, 4370-4372.	1.1	35

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73	The Development and Characterization of Crystallographic Texture in thin films for Magnetic Recording. Materials Research Society Symposia Proceedings, 1997, 475, 107.	0.1	4
74	Microstructural characterization of ordered nickel silicide structures grown on (111) nickel silicide films. Journal of Materials Research, 1996, 11, 904-911.	1.2	4
75	An investigation on the fine defect structure of CoCrTa/Cr magnetic thin films. Journal of Applied Physics, 1993, 73, 418-421.	1.1	25
76	Re-Examination of Al $L_{10}$ Ordering: Generalized Bragg-Williams Model with Elastic Relaxation. Solid State Phenomena, 0, 172-174, 608-617.	0.3	3
77	Control of Texture in Polycrystalline Thin Films Used as Data Storage Media. Ceramic Transactions, 0, , 47-56.	0.1	0
78	Experimental Study of Structural Zone Model for Composite Thin Films in Magnetic Recording Media Application. Ceramic Transactions, 0, , 161-168.	0.1	1