

# 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	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
2	Thermal stability of the nanocrystalline Fe-Co-Hf-B-Cu alloy. Journal of Applied Physics, 1999, 85, 4424-4426.	1.1	85
3	Magnetic Properties of Ordered and Disordered Spinel-Phase Ferrimagnets. Journal of the American Ceramic Society, 1999, 82, 3342-3346.	1.9	82
4	Correction of Order Parameter Calculations for FePt Perpendicular Thin Films. IEEE Transactions on Magnetism, 2012, 48, 7-12.	1.2	74
5	L1 FePt-oxide columnar perpendicular media with high coercivity and small grain size. Journal of Applied Physics, 2008, 104, .	1.1	72
6	Fe <sub>3</sub> O <sub>4</sub> thin films sputter deposited from iron oxide targets. Journal of Applied Physics, 2003, 93, 7957-7959.	1.1	65
7	L10 FePt-MgO perpendicular thin film deposited by alternating sputtering at elevated temperature. Journal of Applied Physics, 2006, 99, 08F907.	1.1	55
8	Structure and magnetic properties of L10 CoPt(Ag/MgO,MgO) thin films. Journal of Applied Physics, 2000, 87, 6950-6952.	1.1	40
9	Stress dependence of soft, high moment and nanocrystalline FeCoB films. Journal of Applied Physics, 2002, 91, 8453.	1.1	40
10	Quantitative transmission electron microscopy analysis of multi-variant grains in present L1-FePt based heat assisted magnetic recording media. Journal of Applied Physics, 2014, 116, .	1.1	38
11	Epitaxial Ag templates on Si(001) for bicrystal CoCrTa media. Journal of Applied Physics, 1997, 81, 4370-4372.	1.1	35
12	The Role of Compositional Tuning of the Distributed Exchange on Magnetocaloric Properties of High-Entropy Alloys. Jom, 2017, 69, 2125-2129.	0.9	31
13	Unicrystal Co-alloy media on Si(110). Journal of Applied Physics, 1999, 85, 4723-4725.	1.1	30
14	The Third Law of Thermodynamics and low temperature phase stability. Progress in Materials Science, 2004, 49, 367-387.	16.0	30
15	Dependence of Co anisotropy constants on temperature, processing, and underlayer. Journal of Applied Physics, 2000, 87, 6884-6886.	1.1	26
16	Fabrication, Microstructure, Magnetic, and Recording Properties of Percolated Perpendicular Media. IEEE Transactions on Magnetism, 2007, 43, 693-697.	1.2	26
17	An investigation on the fine defect structure of CoCrTa/Cr magnetic thin films. Journal of Applied Physics, 1993, 73, 418-421.	1.1	25
18	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

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19	Multiple oxide content media for columnar grain growth in L1 FePt thin films. Applied Physics Letters, 2013, 102, .	1.5	20
20	Development of magnetic domains in hard ferromagnetic thin films of polytwinned microstructure. Journal of Applied Physics, 2002, 92, 7408-7414.	1.1	19
21	Characterization of Oxide Materials for Exchange Decoupling in Perpendicular Thin Film Media. IEEE Transactions on Magnetics, 2010, 46, 2260-2263.	1.2	19
22	Extrinsic paramagnetic Meissner effect in multiphase indium-tin alloys. Applied Physics Letters, 2006, 89, 111903.	1.5	16
23	Interplay of ordering and spinodal decomposition in the formation of ordered precipitates in binary fcc alloys: Role of second nearest-neighbor interactions. Philosophical Magazine, 2010, 90, 287-304.	0.7	16
24	The Third Law of Thermodynamics: Phase equilibria and phase diagrams at low temperatures. Acta Materialia, 2018, 145, 49-61.	3.8	16
25	Postannealing effects on magnetic properties and microstructure of CoCrPt/Ti perpendicular recording media. Journal of Applied Physics, 2003, 93, 8179-8181.	1.1	14
26	Diffusional Phase Transformations in the Solid State. , 2014, , 851-1020.		14
27	Magnetic Transformations and Phase Diagrams. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 2555-2569.	1.1	14
28	The utilization of boron nitride (BN) for granular L1-FePt HAMR media fabrication. Applied Physics Letters, 2021, 118, .	1.5	14
29	Origin of room temperature ferromagnetic moment in Rh-rich [Rh/Fe] multilayer thin films. Journal of Applied Physics, 2010, 107, 09E318.	1.1	12
30	Mössbauer analysis of compositional tuning of magnetic exchange interactions in high entropy alloys. AIP Advances, 2019, 9, 035329.	0.6	12
31	Effects of substrate bias on CoCrPt-SiO <sub>2</sub> magnetic recording media. Journal of Applied Physics, 2006, 99, 08C910.	1.1	11
32	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
33	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
34	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
35	Effects of substrate bias on magnetocrystalline anisotropy $K_u$ of CoPt thin films with increasing Pt content. Journal of Applied Physics, 2009, 105, 07A712.	1.1	10
36	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

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37	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
38	Highly Ordered FePt $L1_0$ Thin Films With Small Grains on RuAl Seed Layers. IEEE Transactions on Magnetics, 2011, 47, 81-86.	1.2	9
39	The Role of Atmosphere on Phase Transformations and Magnetic Properties of Ulvospinel. IEEE Transactions on Magnetics, 2013, 49, 4273-4276.	1.2	9
40	MgO-C interlayer for grain size control in FePt-C media for heat assisted magnetic recording. AIP Advances, 2017, 7, .	0.6	9
41	Grain size reduction for perpendicular magnetic recording media using an Ar-ion etched Ru seedlayer. Applied Physics Letters, 2008, 93, 102511.	1.5	8
42	Construction of equilibrium phase diagrams: Some errors to be avoided. Progress in Materials Science, 2021, 120, 100715.	16.0	8
43	Understanding the growth of high-aspect-ratio grains in granular $L1_0$ -FePt thin-film magnetic media. APL Materials, 2022, 10, .	2.2	8
44	Control of resputtering in biased CoCrPt/SiO <sub>2</sub> media to enhance grain decoupling and grain size distribution. Journal of Applied Physics, 2008, 103, 07F541.	1.1	7
45	Topology and elemental distribution in Co alloy:oxide perpendicular media. Journal of Applied Physics, 2009, 105, 07B739.	1.1	7
46	Nucleation and growth model for {110}- and {111}-truncated nanoparticles. Journal of Materials Research, 2015, 30, 3011-3019.	1.2	6
47	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
48	Investigation of (Fe,Co)NbB-Based Nanocrystalline Soft Magnetic Alloys by Lorentz Microscopy and Off-Axis Electron Holography. Microscopy and Microanalysis, 2015, 21, 498-509.	0.2	5
49	Determination of Pressure Effects on the $\hat{\epsilon}$ $\hat{\alpha}$ $\hat{\beta}$ Phase Transition and Size of Fe in Nd-Fe-B Spring Exchange Magnets. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 5002-5010.	1.1	5
50	The $\hat{\epsilon}$ Iron Controversy Revisited. Journal of Phase Equilibria and Diffusion, 2018, 39, 274-279.	0.5	5
51	Microstructural characterization of ordered nickel silicide structures grown on (111) nickel silicide films. Journal of Materials Research, 1996, 11, 904-911.	1.2	4
52	The Development and Characterization of Crystallographic Texture in thin films for Magnetic Recording. Materials Research Society Symposia Proceedings, 1997, 475, 107.	0.1	4
53	Microstructure and magnetic properties of perpendicular media with reduced grain size. Journal of Applied Physics, 2009, 105, 07B707.	1.1	4
54	Effect of RuAl and TiN Underlayers on Grain Morphology, Ordering, and Magnetic Properties of FePt-SiO <sub>x</sub> Thin Films. IEEE Transactions on Magnetics, 2013, 49, 3663-3666.	1.2	4

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55	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
56	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
57	Co-7% Ir Soft Magnetic Intermediate Layer for Perpendicular Media. IEEE Transactions on Magnetics, 2010, 46, 2278-2281.	1.2	3
58	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
59	Fabrication of bit patterned media using templated two-phase growth. APL Materials, 2017, 5, .	2.2	3
60	Crystallization in three dimensions: Defect-driven topological ordering and the role of geometrical frustration. Physical Review B, 2019, 99, .	1.1	3
61	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
62	Electron Diffraction Investigation of Crystallographic Texture of Thin Films. Materials Research Society Symposia Proceedings, 1999, 562, 105.	0.1	2
63	Diffusion in Co <sub>90</sub> Fe <sub>10</sub> /Ru multilayers. Journal of Applied Physics, 2003, 94, 993-1000.	1.1	2
64	Structural and Magnetic Properties of $\text{Fe}_{1-x}\text{Ti}_x\text{O}_4$ and $\text{Fe}_{1-x}\text{Ti}_x\text{O}_2$ .		

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73	Epitaxial Co/NiAl Thin Film Growth on Si Substrates. Materials Research Society Symposia Proceedings, 1999, 562, 333.	0.1	0
74	Epitaxial Co/NiAl Thin Film Growth on Si Substrates. Materials Research Society Symposia Proceedings, 1999, 577, 359.	0.1	0
75	C-Axis Perpendicularly Oriented Barium Ferrite Thin Film Media On Silicon Substrate. Materials Research Society Symposia Proceedings, 1999, 577, 605.	0.1	0
76	C-Axis Perpendicularly Oriented Barium Ferrite Thin Film Media on Silicon Substrate. Materials Research Society Symposia Proceedings, 1999, 562, 289.	0.1	0
77	CoCrPt/SiO <sub>2</sub> granular-type longitudinal media on Ru underlayer for sputtered tape applications. Journal of Applied Physics, 2008, 103, 07F545.	1.1	0
78	Control of Texture in Polycrystalline Thin Films Used as Data Storage Media. Ceramic Transactions, 0, , 47-56.	0.1	0