Thomas Schrefl

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346
papers

9,501
h-index

84
g-index

369
ext. papers

10,311
avg, IF

5.97
L-index

#	Paper	IF	Citations
346	Remanence and coercivity in isotropic nanocrystalline permanent magnets. <i>Physical Review B</i> , 1994 , 49, 6100-6110	3.3	511
345	Exchange spring media for perpendicular recording. Applied Physics Letters, 2005, 87, 012504	3.4	306
344	Micromagnetic modelling - the current state of the art. <i>Journal Physics D: Applied Physics</i> , 2000 , 33, R13	5 ₃ R15	6 278
343	Grain-size dependence of remanence and coercive field of isotropic nanocrystalline composite permanent magnets. <i>Journal of Magnetism and Magnetic Materials</i> , 1996 , 153, 35-49	2.8	237
342	Scalable parallel micromagnetic solvers for magnetic nanostructures. <i>Computational Materials Science</i> , 2003 , 28, 366-383	3.2	223
341	High-coercivity ultrafine-grained anisotropic NdHeB magnets processed by hot deformation and the NdIIu grain boundary diffusion process. <i>Acta Materialia</i> , 2013 , 61, 6622-6634	8.4	209
340	Current-driven vortex oscillations in metallic nanocontacts. <i>Physical Review Letters</i> , 2008 , 100, 257201	7.4	190
339	Micromagnetic study of Bloch-point-mediated vortex core reversal. <i>Physical Review B</i> , 2003 , 67,	3.3	189
338	Exchange hardening in nano-structured two-phase permanent magnets. <i>Journal of Magnetism and Magnetic Materials</i> , 1993 , 127, L273-L277	2.8	188
337	Two- and three-dimensional calculation of remanence enhancement of rare-earth based composite magnets (invited). <i>Journal of Applied Physics</i> , 1994 , 76, 7053-7058	2.5	169
336	Understanding the microstructure and coercivity of high performance NdFeB-based magnets. <i>Scripta Materialia</i> , 2012 , 67, 536-541	5.6	158
335	Effect of Nd content on the microstructure and coercivity of hot-deformed Nd EeB permanent magnets. <i>Acta Materialia</i> , 2013 , 61, 5387-5399	8.4	154
334	Phase distribution and computed magnetic properties of high-remanent composite magnets. Journal of Magnetism and Magnetic Materials, 1995 , 150, 329-344	2.8	134
333	Grain size dependence of coercivity of hot-deformed NdHeB anisotropic magnets. <i>Acta Materialia</i> , 2015 , 82, 336-343	8.4	131
332	Micromagnetic simulations on the grain size dependence of coercivity in anisotropic Nd EeB sintered magnets. <i>Scripta Materialia</i> , 2014 , 89, 29-32	5.6	130
331	Overview of NdHeB magnets and coercivity (invited). Journal of Applied Physics, 1996, 79, 5029	2.5	125
330	A path method for finding energy barriers and minimum energy paths in complex micromagnetic systems. <i>Journal of Magnetism and Magnetic Materials</i> , 2002 , 250, 12-19	2.8	121

329	Micromagnetic simulation of thermally activated switching in fine particles. <i>Journal of Magnetism and Magnetic Materials</i> , 2001 , 233, 296-304	2.8	108
328	Transition from single-domain to vortex state in soft magnetic cylindrical nanodots. <i>Journal of Magnetism and Magnetic Materials</i> , 2003 , 266, 155-163	2.8	105
327	Microstructure and temperature dependent of coercivity of hot-deformed NdHeB magnets diffusion processed with Prtu alloy. <i>Acta Materialia</i> , 2015 , 99, 297-306	8.4	103
326	Exchange-coupled perpendicular media. <i>Journal of Magnetism and Magnetic Materials</i> , 2009 , 321, 545-55	5 48	103
325	Time resolved micromagnetics using a preconditioned time integration method. <i>Journal of Magnetism and Magnetic Materials</i> , 2002 , 248, 298-311	2.8	102
324	Exchange spring recording media for areal densities up to 10Tbit/in2. <i>Journal of Magnetism and Magnetic Materials</i> , 2005 , 290-291, 551-554	2.8	98
323	The role of local anisotropy profiles at grain boundaries on the coercivity of Nd2Fe14B magnets. <i>Applied Physics Letters</i> , 2010 , 97, 232511	3.4	97
322	Domain structures and switching mechanisms in patterned magnetic elements. <i>Journal of Magnetism and Magnetic Materials</i> , 1997 , 175, 193-204	2.8	96
321	Magnetic domain wall propagation in nanowires under transverse magnetic fields. <i>Journal of Applied Physics</i> , 2008 , 103, 073906	2.5	90
320	Magnetization reversal in a novel gradient nanomaterial. <i>Physical Review Letters</i> , 2006 , 96, 077202	7.4	90
319	Correlation of microchemistry of cell boundary phase and interface structure to the coercivity of Sm(Co0.784Fe0.100Cu0.088Zr0.028)7.19 sintered magnets. <i>Acta Materialia</i> , 2017 , 126, 1-10	8.4	89
318	Changes of Ni biogeochemistry in the rhizosphere of the hyperaccumulator Thlaspi goesingense. <i>Plant and Soil</i> , 2005 , 271, 205-218	4.2	89
317	Modelling of exchange-spring permanent magnets. <i>Journal of Magnetism and Magnetic Materials</i> , 1998 , 177-181, 970-975	2.8	79
316	Exchange bias of polycrystalline antiferromagnets with perfectly compensated interfaces. <i>Physical Review B</i> , 2003 , 67,	3.3	79
315	Micromagnetic simulation of domain wall motion in magnetic nano-wires. <i>Journal of Magnetism and Magnetic Materials</i> , 2002 , 249, 181-186	2.8	78
314	Magnetization reversal of exchange-coupled and exchange-decoupled Nd-Fe-B magnets observed by magneto-optical Kerr effect microscopy. <i>Acta Materialia</i> , 2017 , 135, 68-76	8.4	69
313	Domain wall motion in nanowires using moving grids (invited). Journal of Applied Physics, 2002, 91, 6914	2.5	67
312	Nucleation fields of hard magnetic particles in 2D and 3D micromagnetic calculations. <i>Journal of Magnetism and Magnetic Materials</i> , 1994 , 138, 15-30	2.8	65

311	Coercivity enhancement of hot-deformed Ce-Fe-B magnets by grain boundary infiltration of Nd-Cu eutectic alloy. <i>Acta Materialia</i> , 2018 , 144, 884-895	8.4	62
310	Impact of different Nd-rich crystal-phases on the coercivity of NdHeB grain ensembles. <i>Scripta Materialia</i> , 2014 , 70, 35-38	5.6	61
309	The role of exchange and dipolar coupling at grain boundaries in hard magnetic materials. <i>Journal of Magnetism and Magnetic Materials</i> , 1993 , 124, 251-261	2.8	61
308	Interactive and cooperative magnetization processes in hard magnetic materials. <i>Journal of Magnetism and Magnetic Materials</i> , 1994 , 129, 66-78	2.8	60
307	Grain-size dependent demagnetizing factors in permanent magnets. <i>Journal of Applied Physics</i> , 2014 , 116, 233903	2.5	59
306	Coercivity and its thermal stability of Nd Fe B hot-deformed magnets enhanced by the eutectic grain boundary diffusion process. <i>Acta Materialia</i> , 2018 , 161, 171-181	8.4	58
305	Magnetic characteristics of ferromagnetic nanotube. <i>Journal of Magnetism and Magnetic Materials</i> , 2007 , 310, 2445-2447	2.8	54
304	Agility of vortex-based nanocontact spin torque oscillators. <i>Applied Physics Letters</i> , 2009 , 95, 192507	3.4	53
303	Reliability of Sharrocks equation for exchange spring bilayers. <i>Physical Review B</i> , 2007 , 75,	3.3	53
302	Numerical simulation of magnetization reversal in hard magnetic materials using a finite element method. <i>Journal of Magnetism and Magnetic Materials</i> , 1992 , 111, 105-114	2.8	53
301	Recent developments in hard magnetic bulk materials. <i>Journal of Physics Condensed Matter</i> , 2004 , 16, S455-S470	1.8	51
300	Thermally activated coercivity in core-shell permanent magnets. <i>Journal of Applied Physics</i> , 2015 , 117, 17A733	2.5	50
299	Modelling and simulation of processes in microfluidic devices for biomedical applications. <i>Computers and Mathematics With Applications</i> , 2012 , 64, 278-288	2.7	50
298	LaBonteß method revisited: An effective steepest descent method for micromagnetic energy minimization. <i>Journal of Applied Physics</i> , 2014 , 115, 17D118	2.5	49
297	Micromagnetics of rare-earth efficient permanent magnets. <i>Journal Physics D: Applied Physics</i> , 2018 , 51, 193002	3	48
296	Topologically protected vortex structures for low-noise magnetic sensors with high linear range. <i>Nature Electronics</i> , 2018 , 1, 362-370	28.4	48
295	Time-resolved zero field vortex oscillations in point contacts. <i>Applied Physics Letters</i> , 2009 , 95, 012507	3.4	46
294	Microwave-assisted three-dimensional multilayer magnetic recording. <i>Applied Physics Letters</i> , 2009 , 94, 232501	3.4	45

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293	Numerical methods for the stray-field calculation: A comparison of recently developed algorithms. <i>Journal of Magnetism and Magnetic Materials</i> , 2013 , 326, 176-185	2.8	44	
292	Influence of defect thickness on the angular dependence of coercivity in rare-earth permanent magnets. <i>Applied Physics Letters</i> , 2014 , 104, 182408	3.4	44	
291	Stress-based control of magnetic nanowire domain walls in artificial multiferroic systems. <i>Journal of Applied Physics</i> , 2011 , 109, 023915	2.5	44	
290	Effect of MgO underlayer misorientation on the texture and magnetic property of FePt¶ granular film. <i>Acta Materialia</i> , 2015 , 91, 41-49	8.4	43	
289	Role of twin and anti-phase defects in MnAl permanent magnets. Acta Materialia, 2017, 131, 48-56	8.4	41	
288	Micromagnetic study of pinning behavior in percolated media. <i>Journal of Applied Physics</i> , 2006 , 99, 08G	905	40	
287	Finite elements in numerical micromagnetics: Part I: granular hard magnets. <i>Journal of Magnetism and Magnetic Materials</i> , 1999 , 207, 45-65	2.8	40	
286	First order reversal curve studies of permanent magnets. <i>Journal of Applied Physics</i> , 2012 , 111, 07A728	2.5	39	
285	Microscopic reversal behavior of magnetically capped nanospheres. <i>Physical Review B</i> , 2010 , 81,	3.3	38	
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283	. IEEE Transactions on Magnetics, 1993, 29, 2878-2880	2	38	
282	Micromagnetic simulation of magnetizability of nanocomposite Nd EeB magnets. <i>Journal of Applied Physics</i> , 1998 , 83, 6262-6264	2.5	37	
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2 80	Thermal stability of graded exchange spring media under the influence of external fields. <i>Applied Physics Letters</i> , 2008 , 92, 173111	3.4	36	
279	Recording simulations on graded media for area densities of up to 1Tbitlh.2. <i>Applied Physics Letters</i> , 2007 , 91, 222502	3.4	36	
278	Microwave assisted magnetization reversal in composite media. <i>Applied Physics Letters</i> , 2009 , 94, 20250	9.4	35	
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276	Partitioning of the perpendicular write field into head and SUL contributions. <i>IEEE Transactions on Magnetics</i> , 2005 , 41, 3064-3066	2	34	

275	Microstructure of a Dy-free Nd-Fe-B sintered magnet with 2 T coercivity. <i>Acta Materialia</i> , 2018 , 156, 146	-8.547	33
274	Exchange coupled composite bit patterned media. <i>Applied Physics Letters</i> , 2010 , 97, 082501	3.4	33
273	Nucleation of reversed domains at grain boundaries. <i>Journal of Applied Physics</i> , 1993 , 73, 6510-6512	2.5	33
272	Micromagnetic calculation of spin wave propagation for magnetologic devices. <i>Journal of Applied Physics</i> , 2008 , 103, 07E735	2.5	32
271	Mobile atom traps using magnetic nanowires. <i>Applied Physics Letters</i> , 2006 , 89, 014102	3.4	32
270	Nonlinear conjugate gradient methods in micromagnetics. AIP Advances, 2017, 7, 045310	1.5	30
269	Anisotropic, single-crystalline SmFe12-based microparticles with high roundness fabricated by jet-milling. <i>Journal of Alloys and Compounds</i> , 2019 , 804, 155-162	5.7	30
268	Optimization of exchange spring perpendicular recording media. <i>IEEE Transactions on Magnetics</i> , 2005 , 41, 3166-3168	2	30
267	Computational approaches to thermally activated fast relaxation. <i>IEEE Transactions on Magnetics</i> , 1998 , 34, 1839-1844	2	30
266	Simulation of magnetization reversal in polycrystalline patterned Co elements. <i>Journal of Applied Physics</i> , 1999 , 85, 6169-6171	2.5	30
265	Breaking the thermally induced write error in heat assisted recording by using low and high Tc materials. <i>Applied Physics Letters</i> , 2013 , 102, 162405	3.4	29
264	Dynamic micromagnetics of nanocomposite NdFeB magnets. <i>Journal of Applied Physics</i> , 1997 , 81, 5567-5	5 5 569	29
263	Angular dependence of the switching field in patterned magnetic elements. <i>Journal of Applied Physics</i> , 2005 , 97, 10J705	2.5	29
262	Finite element modeling of nanocomposite magnets. <i>IEEE Transactions on Magnetics</i> , 1999 , 35, 3223-327	2 <u>.</u> 8	29
261	Replacement and Original Magnet Engineering Options (ROMEOs): A European Seventh Framework Project to Develop Advanced Permanent Magnets Without, or with Reduced Use of, Critical Raw Materials. <i>Jom</i> , 2015 , 67, 1306-1317	2.1	28
260	Coercivity and remanence in self-assembled FePt nanoparticle arrays. <i>Journal of Applied Physics</i> , 2003 , 93, 7041-7043	2.5	28
259	Magnetic interactions and reversal behavior of Nd2Fe14B particles diluted in a Nd matrix. <i>Physical Review B</i> , 2002 , 66,	3.3	28
258	Switchable Cell Trapping Using Superparamagnetic Beads. <i>IEEE Magnetics Letters</i> , 2010 , 1, 1500104-150	0.1604	27

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256	Fast boundary methods for magnetostatic interactions in micromagnetics. <i>IEEE Transactions on Magnetics</i> , 2003 , 39, 2513-2515	2	27
255	Micromagnetics simulation of high energy density permanent magnets. <i>IEEE Transactions on Magnetics</i> , 2000 , 36, 3282-3284	2	27
254	Thermal Activation in Permanent Magnets. <i>Jom</i> , 2015 , 67, 1350-1356	2.1	26
253	Direct calculation of the attempt frequency of magnetic structures using the finite element method. <i>Journal of Applied Physics</i> , 2012 , 111, 093917	2.5	26
252	The effect of trapping superparamagnetic beads on domain wall motion. <i>Applied Physics Letters</i> , 2010 , 96, 192503	3.4	25
251	Three-dimensional micromagnetic finite element simulations including eddy currents. <i>Journal of Applied Physics</i> , 2005 , 97, 10E311	2.5	25
250	Multiscale model approaches to the design of advanced permanent magnets. <i>Scripta Materialia</i> , 2018 , 148, 56-62	5.6	24
249	Micromagnetics of shape anisotropy based permanent magnets. <i>Journal of Magnetism and Magnetic Materials</i> , 2014 , 363, 121-124	2.8	24
248	High energy product in Battenberg structured magnets. <i>Applied Physics Letters</i> , 2014 , 105, 192401	3.4	23
247	Effect of the anisotropy distribution on the coercive field and switching field distribution of bit patterned media. <i>Journal of Applied Physics</i> , 2009 , 106, 103913	2.5	23
246	A higher order FEM-BEM method for the calculation of domain processes in magnetic nano-elements. <i>IEEE Transactions on Magnetics</i> , 1997 , 33, 4182-4184	2	23
245	Realization of the manipulation of ultracold atoms with a reconfigurable nanomagnetic system of domain walls. <i>Nano Letters</i> , 2012 , 12, 4065-9	11.5	22
244	Calculation of coercivity of magnetic nanostructures at finite temperatures. <i>Physical Review B</i> , 2011 , 84,	3.3	22
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242	Dynamic micromagnetic write head fields during magnetic recording in granular media. <i>IEEE Transactions on Magnetics</i> , 2004 , 40, 2341-2343	2	22
241	Cell size corrections for nonzero-temperature micromagnetics. <i>Journal of Applied Physics</i> , 2005 , 97, 10E	3 <u>0</u> 9	22
240	Micromagnetic simulation of antiferromagnetic/ferromagnetic structures. <i>IEEE Transactions on Magnetics</i> , 2002 , 38, 2397-2399	2	22

239	Micromagnetic modeling of soft underlayer magnetization processes and fields in perpendicular magnetic recording. <i>IEEE Transactions on Magnetics</i> , 2002 , 38, 1670-1675	2	22
238	Database of novel magnetic materials for high-performance permanent magnet development. <i>Computational Materials Science</i> , 2019 , 168, 188-202	3.2	21
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236	On the limits of coercivity in permanent magnets. <i>Applied Physics Letters</i> , 2017 , 111, 072404	3.4	21
235	Finite-element analysis on cantilever beams coated with magnetostrictive material. <i>IEEE Transactions on Magnetics</i> , 2006 , 42, 283-288	2	21
234	Reversible magnetization processes and energy density product in SmtoFe and Smto/Co bilayers. <i>Journal of Applied Physics</i> , 2003 , 93, 6489-6491	2.5	21
233	Reversal modes, thermal stability and exchange length in perpendicular recording media. <i>IEEE Transactions on Magnetics</i> , 2001 , 37, 1664-1666	2	21
232	Preparation, Characterization, and Modeling of Ultrahigh Coercivity Sm t o Thin Films. <i>Advanced Electronic Materials</i> , 2015 , 1, 1500009	6.4	20
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230	Micromagnetic modelling and magnetization processes. <i>Journal of Magnetism and Magnetic Materials</i> , 2004 , 272-276, 641-646	2.8	20
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226	Numerical and analytical study of fast precessional switching. <i>Journal of Applied Physics</i> , 2004 , 95, 7055	- <u>7</u> 057	19
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224	Reduction of critical current density for out-of-plane mode oscillation in a mag-flip spin torque oscillator using highly spin-polarized Co2Fe(Ga0.5Ge0.5) spin injection layer. <i>Applied Physics Letters</i> , 2016 , 108, 072403	3.4	19
223	Micromagnetic simulation of exchange coupled ferri-/ferromagnetic heterostructures. <i>Journal of Magnetism and Magnetic Materials</i> , 2015 , 381, 28-33	2.8	18
222	Dependence of Transverse Domain Wall Dynamics on Permalloy Nanowire Dimensions. <i>IEEE Transactions on Magnetics</i> , 2010 , 46, 1135-1138	2	18

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220	Magnetization reversal in granular nanowires. <i>IEEE Transactions on Magnetics</i> , 2002 , 38, 2580-2582	2	18
219	Micromagnetic modelling of nanocrystalline magnets and structures. <i>Journal of Magnetism and Magnetic Materials</i> , 1999 , 203, 28-32	2.8	18
218	Micromagnetic finite element simulation of nanocrystalline Fe/Nd2Fe14B/Fe3B magnets. <i>Journal of Magnetism and Magnetic Materials</i> , 2014 , 365, 45-50	2.8	17
217	Magnetization reversal processes of single nanomagnets and their energy barrier. <i>Journal of Magnetism and Magnetic Materials</i> , 2010 , 322, 3771-3776	2.8	17
216	Finite element micromagnetic simulations with adaptive mesh refinement. <i>Journal of Applied Physics</i> , 1997 , 81, 4082-4084	2.5	17
215	Auto-oscillation threshold and line narrowing in MgO-based spin-torque oscillators. <i>Europhysics Letters</i> , 2009 , 87, 57001	1.6	16
214	TEM-analysis of Sm(Co,Fe,Cu,Zr)z magnets for high-temperature applications. <i>Journal of Magnetism and Magnetic Materials</i> , 2002 , 242-245, 1353-1355	2.8	16
213	Permanent magnets [New microstructural aspects. Scripta Metallurgica Et Materialia, 1995, 33, 1781-17	91	16
212	Relationship between the thermal stability of coercivity and the aspect ratio of grains in Nd-Fe-B magnets: Experimental and numerical approaches. <i>Acta Materialia</i> , 2020 , 183, 408-417	8.4	16
211	Magnetization reversal of FePt based exchange coupled composite media. <i>Acta Materialia</i> , 2016 , 111, 47-55	8.4	15
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209	Multiscale micromagnetic simulation of giant magnetoresistance read heads. <i>Journal of Applied Physics</i> , 2006 , 99, 08S303	2.5	15
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207	Searching the weakest link: Demagnetizing fields and magnetization reversal in permanent magnets. <i>Scripta Materialia</i> , 2018 , 154, 253-258	5.6	15
206	Atomistic spin dynamics simulations of the MnAl Ephase and its antiphase boundary. <i>Physical Review B</i> , 2017 , 96,	3.3	14
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202	Micromagnetic simulation of domain structures in patterned magnetic tunnel junctions. <i>Journal of Applied Physics</i> , 2001 , 89, 7000-7002	2.5	14
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2 00	Mesh refinement in FE-micromagnetics for multi-domain Nd2Fe14B particles. <i>Journal of Magnetism and Magnetic Materials</i> , 1999 , 196-197, 933-934	2.8	14
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197	Validation of the transition state theory with Langevin-dynamics simulations. <i>Journal of Applied Physics</i> , 2010 , 108, 033915	2.5	13
196	Thermally induced adjacent track erasure in exchange spring media. <i>Applied Physics Letters</i> , 2008 , 92, 142505	3.4	13
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186	Numerical micromagnetic simulation of FePt nanoparticles with multiple easy axes. <i>Journal of Magnetism and Magnetic Materials</i> , 2004 , 272-276, 1524-1525	2.8	12

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184	Influence of eddy current on magnetization processes in submicrometer permalloy structures. <i>IEEE Transactions on Magnetics</i> , 2005 , 41, 3097-3099	2	12
183	Micromagnetic simulation of domain wall pinning and domain wall motion. <i>Computational Materials Science</i> , 2002 , 25, 540-546	3.2	12
182	Extracting local nucleation fields in permanent magnets using machine learning. <i>Npj Computational Materials</i> , 2020 , 6,	10.9	12
181	Magnetization reversal process of anisotropic hot-deformed magnets observed by magneto-optical Kerr effect microscopy. <i>Journal of Alloys and Compounds</i> , 2019 , 771, 51-59	5.7	12
180	Angle dependence of the switching field of recording media at finite temperatures. <i>Journal of Applied Physics</i> , 2011 , 110, 103906	2.5	11
179	Transverse Field-Induced Nucleation Pad Switching Modes During Domain Wall Injection. <i>IEEE Transactions on Magnetics</i> , 2010 , 46, 963-967	2	11
178	Magnetic properties and microstructure of thin-film media. <i>Journal of Magnetism and Magnetic Materials</i> , 1997 , 175, 137-147	2.8	11
177	Fast reversal dynamics in perpendicular magnetic recording media with soft underlayer. <i>Journal of Applied Physics</i> , 2002 , 91, 8662	2.5	11
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