

REFEREED JOURNAL PUBLICATIONS

*Over 95 refereed publications. Over 3900 citations. h-index 28
3 publications in Science, 10 in Nature journals, 5 in Phys. Rev. Lett, 4 in PNAS.*

96. "Exchange bias in a noncollinear spin system", Neil Campbell et al, in preparation.
95. "Symmetry Driven Magnetoelectric Coupling in (011) Oriented Piezoelectric Membrane Heterostructures" S. Lindemann et al, in preparation
94. "Controlling spin current polarization through non-collinear antiferromagnetism", T. Nan, C. X. Quintela, J. Irwin, G. Gurung, D. F. Shao, J. Gibbons, N. Campbell, K. Song, S. -Y. Choi, L. Guo, R. D. Johnson, P. Manuel, R. V. Chopdekar, I. Hallsteinsen, T. Tybell, P. J. Ryan, J. -W. Kim, Y. Choi, P. G. Radaelli, D. C. Ralph, E.Y. Tsymbal, M. S. Rzchowski & C. B. Eom
Nat. Comm. **11**, 4671 (2020). <https://doi.org/10.1038/s41467-020-17999-4>
93. "Superconductivity in undoped BaFe₂As₂ by tetrahedral geometry design", Jong-Hoon Kang, Jong-Woo Kim, Philip J. Ryan, Lin Xie, Lu Guo, Chris Sundahl, Jonathon Schad, Neil Campbell, Yesusa G. Collantes, Eric E. Hellstrom, Mark S. Rzchowski, and Chang-Beom Eom,
Proc. Nat. Acad. Sci. **117**, 21170 (2020) <https://doi.org/10.1073/pnas.2001123117>
92. "Epitaxial Antiperovskite/Perovskite Heterostructures for Materials Design" Camilo X. Quintela, Kyung Song, Ding-Fu Shao, Lin Xie, T. Nan, Tula R. Paudel, Neil Campbell, X.Q. Pan, Mark S. Rzchowski, Evgeny Y. Tsymbal, Si-Young Choi and Chang-Beom Eom,
Science Advances **6**, eaba4017 (2020). <https://doi.org/10.1126/sciadv.aba4017>
91. "Strain-driven disproportionation at a correlated oxide metal-insulator transition", T. H. Kim, T. R. Paudel, R. J. Green, K. Song, H.-S. Lee, S.-Y. Choi, J. Irwin, B. Noesges, L. J. Brillson, M. S. Rzchowski, G. A. Sawatzky, E. Y. Tsymbal, and C. B. Eom
Rev. B **101**, 121105(R) (2020). <https://doi.org/10.1103/PhysRevB.101.121105>
90. "Spontaneous Hall Effect enhanced by local Ir moments in epitaxial Pr₂Ir₂O₇ thin films", Lu Guo, Neil Campbell, Yongseong Choi, Jong-Woo Kim, Philip J. Ryan, Huaixun Huyan, Linze Li, Tianxiang Nan, Jong-Hong Kang, Chris Sundahl, Xiaoqing Pan, M.S. Rzchowski, C.B. Eom,
Phys Rev B **101**, 064509 (2020) <https://doi.org/10.1103/PhysRevB.101.104405>
89. "Charge density wave modulation in superconducting BaPbO₃/BaBiO₃ superlattices", DT Harris, NG Campbell, C. Di, J.M. Park, L. Luo, H. Zhou, G.Y. Kim, K. Song, S.Y. Choi, J. Wang, M.S. Rzchowski, C.B. Eom,
Phys Rev B **101**, 104405 (2020) <https://doi.org/10.1103/PhysRevB.101.064509>
88. "Heterogeneous integration of single-crystalline complex-oxide membranes", Hyun S. Kum, Hyungwoo Lee, Sungkyu Kim, Shane Lindemann, Wei Kong, Kuan Qiao, Peng Chen, Julian Irwin, June Hyuk Lee, Saien Xie, Shruti Subramanian, Jaewoo Shim, Sang-Hoon Bae, Chanyeol Choi, Luigi Ranno, Seungju Seo, Sangho Lee, Jackson Bauer, Huashan Li, Kyusang Lee, Joshua A. Robinson, Caroline A. Ross, Darrell G. Schlom, Mark S. Rzchowski, Chang-Beom Eom & Jeehwan Kim,
Nature **578**, 75 (2020). <https://doi.org/10.1038/s41586-020-1939-z>
87. "Magnetoelectric Coupling by Piezoelectric Tensor Design", J. Irwin, S. Lindemann, W. Maeng, J. J. Wang, V. Vaithyanathan, J.M. Hu, L.Q. Chen, D.G. Schlom, C.B. Eom, M.S. Rzchowski,
Sci Rep **9**, 19158 (2019) <https://doi.org/10.1038/s41598-019-55139-1>
86. "Strain anisotropy and magnetic domain structures in multiferroic heterostructures: High-throughput finite-element and phase-field studies", Jian-Jun Wang, Tian-Nan Yang, Jacob A. Zorn, Emily Wang, Julian Irwin, Shane Lindemann, Mark S. Rzchowski, Jia-Mian Hu, Chang-Beom Eom, Long-Qing Chen,
Acta Materialia **176**, 73 (2019) <https://ssrn.com/abstract=3370249>
85. "Anisotropic spin-orbit torque generation in epitaxial SrIrO₃ by symmetry design", T. Nan, T. J. Anderson, J. Gibbons, K. Hwang, N. Campbell, H. Zhou, Y. Q. Dong, G. Y. Kim, D. F. Shao, T. R.

- Paudel, N. Reynolds, X. J. Wang, N. X. Sun, E. Y. Tsymbal, S. Y. Choi, M. S. Rzchowski, Yong Baek Kim, D. C. Ralph, and C. B. Eom, Proc. Nat. Acad. Sci. **116**, 16186 (2019). <https://doi.org/10.1073/pnas.1812822116>
84. "Isostructural metal-insulator transition in VO₂", D. Lee, B. Chung, Y. Shi, G.-Y. Kim, N. Campbell, F. Xue, K. Song, S.-Y. Choi, J. P. Podkaminer, T.H. Kim, P.J. Ryan, J.-W. Kim, T.R. Paudel, J.-H. Kang, J.W. Spinuzzi, D.A. Tenne, E.Y. Tsymbal, M. S. Rzchowski, L.Q. Chen, J. Lee, C. B. Eom, Science **362**, 1037 (2018). <https://www.doi.org/10.1126/science.aam9189>
83. "Control of Epitaxial BaFe₂As₂ Atomic Configurations with Substrate Surface Terminations" Jong-Hoon Kang, Lin Xie, Yi Wang, Hyungwoo Lee, Neil Campbell, Jianyi Jiang, Philip J. Ryan, David J. Keavney, Jung-Woo Lee, Tae Heon Kim, Xiaoqing Pan, Long-Qing Chen, Eric E. Hellstrom, Mark S. Rzchowski, Zi-Kui Liu, C.B. Eom, Nano Letters **18**, 6347 (2018) <https://doi.org/10.1021/acs.nanolett.8b02704>
82. "Unconventional ferromagnetism in epitaxial (111) LaNiO₃", Tomoya Asaba, Ziji Xiang, T. H. Kim, M. S. Rzchowski, C. B. Eom, and Lu Li, Phys. Rev. B **98**, 121105(R) (2018) <https://doi.org/10.1103/PhysRevB.98.121105>
81. "Observation of magnetic vortex pairs at room temperature in a planar α -Fe₂O₃/Co heterostructure" F. P. Chmiel, N. Waterfield Price, R. D. Johnson, A. D. Lamirand, J. Schad, G. van der Laan, D. T. Harris, J. Irwin, M. S. Rzchowski, C.-B. Eom & P. G. Radaelli, Nature Materials **17**, 581–585 (2018) <https://doi.org/10.1038/s41563-018-0101-x>
80. "Superconductivity-localization interplay and fluctuation magnetoresistance in epitaxial BaPb_{1-x}Bi_xO₃ thin films", D. T. Harris, N. Campbell, R. Uecker, M. Brützam, D. G. Schlom, A. Levchenko, M. S. Rzchowski, and C.-B. Eom, Phys. Rev. Materials **2**, 041801(R) (2018). <https://doi-org/10.1103/PhysRevMaterials.2.041801>
79. "Direct imaging of the electron liquid at oxide interfaces", Kyung Song, Sangwoo Ryu, Hyungwoo Lee, Tula R. Paudel, Christoph T. Koch, Bumsu Park, Ja Kyung Lee, Si-Young Choi, Young-Min Kim, Jong Chan Kim, Hu Young Jeong, Mark S. Rzchowski, Evgeny Y. Tsymbal, Chang-Beom Eom & Sang Ho Oh, Nature Nanotechnology **13**, 198 (2018) <https://doi.org/10.1038/s41565-017-0040-8>.
78. "Direct observation of a two-dimensional hole gas at oxide interfaces", H. Lee, N. Campbell, J. Lee, T. J. Asel, T. R. Paudel, H. Zhou, J. W. Lee, B. Noesges, J. Seo. B. Park, L. J. Brillson, S. H. Oh, E. Y. Tsymbal, M. S. Rzchowski, and C. B. Eom, Nature Mat. (2018) <https://doi.org/10.1038/s41563-017-0002-4>.
77. "Deterministic and robust room-temperature exchange coupling to monodomain multiferroic BiFeO₃/Co heterostructures", W. Saenrang, B.A. Davidson, F. Maccherozzi, J.P. Podkaminer, J. Irwin, R.D. Johnson, J.W. Freeland, J. Íñiguez, J.L. Schad, K. Reiersson, J.C. Frederick, C.A.F. Vaz, L. Howald, T.H. Kim, S. Ryu, M.v. Veenendaal, P.G. Radaelli, S.S. Dhesi, M.S. Rzchowski & C.B. Eom, Nature Comm. **8**, 1583 (2017) <https://doi.org/10.1038/s41467-017-01581-6>.
76. "In-situ probing of coupled atomic restructuring and metallicity of oxide heterointerfaces induced by polar adsorbates", S. Ryu, H. Zhou, T. R. Paudel, J. Irwin, J. P. Podkaminer, C. W. Bark, D. Lee, T. H. Kim, D. D. Fong, M. S. Rzchowski, E. Y. Tsymbal, C. B. Eom Appl. Phys. Lett. **111**, 141604 (2017).
75. "Epitaxial thin films of Dirac semimetal antiperovskite Cu₃PdN", C. X. Quintela, N. Campbell, D. F. Shao, J. Irwin, D. T. Harris, L. Xie, T. J. Anderson, N. Reiser, X. Q. Pan, E.Y. Tsymbal, M.S. Rzchowski, and C. B. Eom, APL Materials **5**, 096103 (2017) <https://doi.org/10.1063/1.4992006>
74. "Polar Metals by Geometric Design", T. H. Kim, D. Puggioni, Y. Yuan, L. Xie, H. Zhou, N. Campbell, P. J. Ryan, Y. Choi, J.-W. Kim, J. R. Patzner, S. Ryu, J. P. Podkaminer, J. Irwin, Y. Ma, C. J. Fennie, M. S. Rzchowski, X. Q. Pan, V. Gopalan, J. M. Rondinelli & C. B. Eom, Nature **533**, 68 (2016) <https://doi.org/10.1038/nature17628>

73. "Reversible tuning of two-dimensional electron gases in oxide heterostructures by chemical surface modification", H. Lee, N. Campbell, S. Ryu, W. Chang, J. Irwin, S. Lindemann, M. K. Mahanthappa, M. S. Rzchowski and C. B. Eom, *Appl. Phys. Lett* **109**, 191604 (2016)
72. "Metastable honeycomb SrTiO₃/SrIrO₃ heterostructures", Anderson, T.J.; Ryu, S.; Zhou, H.; Xie, L.; Podkaminer, J.P.; Ma, Y.; Irwin, J.; Pan, X.Q.; Rzchowski, M.S.; Eom, C.B., *Appl. Phys. Lett* **15**, 151604 (2016).
71. "Visualization of dielectric constant-electric field-temperature phase maps for imprinted relaxor ferroelectric thin films" Frederick, J.C.; Kim, T.H.; Maeng, W.; Brewer, A.A.; Podkaminer, J.P.; Saenrang, W.; Vaithyanathan, V.; Li, F.; Chen, L.-Q.; Schlom, D.G.; Trolrier-McKinstry, S.; Rzchowski, M.S.; Eom, C.B, *Appl. Phys. Lett* **13**, 132902 (2016)
70. "Crystalline symmetry controlled magnetic switching in epitaxial (111) La_{0.7}Sr_{0.3}MnO₃ thin films", I. Hallsteinsen, E. Folven, F. K. Olsen, R. V. Chopdekar, M. S. Rzchowski, C. B. Eom, J. K. Grepstad, T. Tybell, *APL Mater.* **3**, 062501 (2015).
69. "Creation of a two-dimensional electron gas and conductivity switching of nanowires at the LaAlO₃/SrTiO₃ interface grown by 90deg off-axis sputtering", J. P. Podkaminer, T. Hernandez, M. Huang, S. Ryu, C. W. Bark, S. H. Baek, J. C. Frederick, T. H. Kim, K. H. Cho, J. Levy, M.S. Rzchowski, C.B. Eom, *Appl. Phys. Lett* **103**, 071604 (2013).
68. "Spin Structure in an Interfacially Coupled Epitaxial Ferromagnetic Oxide Heterostructure", X. Ke, L. J. Belenky, V. Lauter, H. Ambaye, C. W. Bark, C.B. Eom, and M.S. Rzchowski, *Phys. Rev. Lett.* **110**, 237201 (2013).
67. "Surface stability of epitaxial La_{0.7}Sr_{0.3}MnO₃ thin films on (111)-oriented SrTiO₃", I. Hallsteinsen, J. E. Boschker, M. Nord, S. Lee, M. Rzchowski, P. E. Vullum, J. K. Grepstad, R. Holmestad, C. B. Eom, and T. Tybell, *J. Appl. Phys.* **113**, 183512 (2013)
66. "Reactive sputtering of (Co,Fe) nitride thin films on TiN-buffered Si", H. Xiang, F.-Y. Shi, M.S. Rzchowski, P.M. Voyles, Y.A. Chang, *Appl. Phys.* **A110**, 487 (2013).
65. "Switchable Induced Polarization in LaAlO₃/SrTiO₃ Heterostructures", C W Bark, P Sharma, Y Wang, S H Baek, S Lee, S Ryu, C M Folkman, T R Paudel, A Kumar, S V Kalinin, A Sokolov, E Y Tsybmal, M S Rzchowski, A Gruverman, and C B Eom, *Nano Lett.* **12**, 1765 (2012).
64. "Giant piezoelectricity in PMN-PT thin films: Beyond PZT", S. H. Baek, M.S. Rzchowski, V.A. Aksyuk, *MRS Bulletin (Spec Issue on thin-film piezoelectric MEMS)* **37**, 1022 (2012).
63. "Inverse TMR in a nominally symmetric CoFe/AlO_x/CoFe junction induced by interfacial Fe₃O₄ investigated by STEM-EELS", Fengyuan Shi, Hua Xiang, J Joshua Yang, M S Rzchowski, Y A Chang, and P M Voyles, *J. Magn. Magn. Mater.* **324**, 1837 (2012).
62. "Localization of two-dimensional electron gas in LaAlO₃/SrTiO₃ heterostructures", T Hernandez, C W Bark, D A Felker, C B Eom, and M S Rzchowski, *Phys. Rev. Rapid Comm.* **B85**, 161407 (2012).
61. "Enhancement of Ferroelectric Polarization Stability by Interface Engineering", H. Lu, X. Liu, J. D. Burton, C.-W. Bark, Y. Wang, Y. Zhang, D. J. Kim, A. Stamm, P. Lukashev, D. A. Felker, C. M. Folkman,

- P. Gao, M. S. Rzchowski, X. Q. Pan, C.-B. Eom, E. Y. Tsybal, and A. Gruverman, *Adv. Mat.* **24**, 1209 (2012).
60. "Giant piezoelectricity on Si for hyper-active MEMS", S. H. Baek, J. Park, D. M. Kim, D. A. Felker, V. Aksyuk, S. D. Bu, R. R. Das, J. Lettieri, V. Vaithyanathan, N. B. Gharb, S. S. N. Bharadwaja, Y. B. Chen, H. P. Sun, V. Nagarajan, J. Ouyang, A. Stanishevsky, D.J. Kreft, H.W. Jang, S. K. Streiffer, R. Ramesh, X.Q. Pan, S. Trolier-McKinstry, D.G. Schlom, M.S. Rzchowski, R.H. Blick, C.B. Eom, *Science* **334**, 958 (2011).
 59. "Metallic and Insulating Oxide Interfaces Controlled by Electronic Correlations", H. W. Jang, D. A. Felker, C. W. Bark, Y. Wang, M. K. Niranjana, C. T. Nelson, Y. Zhang, D. Su, C. M. Folkman, S. H. Baek, S. Lee, K. Janicka, Y. Zhu, X. Q. Pan, D. D. Fong, E. Y. Tsybal, M. S. Rzchowski, C. B. Eom, *Science* **331**, 886 (2011).
 58. "Tailoring a two-dimensional electron gas at the $\text{LaAlO}_3/\text{SrTiO}_3$ (001) interface by epitaxial strain", C W Bark, D A Felker, Y Wang, Y Zhang, H W Jang, C M Folkman, J W Park, S H Baek, H Zhou, D D Fong, X Q Pan, E Y Tsybal, M S Rzchowski, and C B Eom, *P. Natl. Acad. Sci. USA* **108**, 4729 (2011).
 57. "Synthesis of Fe_3O_4 thin films by selective oxidation with controlled oxygen chemical potential", H Xiang, F Y Shi, C. Zhang, M S Rzchowski, P M Voyles, and Y A Chang, *Scripta Mater.* **65**, 739 (2011).
 56. "Epitaxial growth and thermal stability of Fe_4N film on TiN buffered Si(001) substrate", H Xiang, F Y Shi, M S Rzchowski, P M Voyles, and Y A Chang, *J. Appl. Phys.* **109**, 07E126 (2011).
 55. "Phase-incoherent superconducting pairs in the normal state of $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ", Goutam Sheet, Manan Mehta, D. A. Dikin, S. Lee, C. W. Bark, J. Jiang, J. D. Weiss, E. E. Hellstrom, M. S. Rzchowski, C. B. Eom, and V. Chandrasekhar, *Phys. Rev. Lett.* **105**, 167003 (2010).
 54. "Creation of a two-dimensional electron gas at an oxide interface on silicon", J.W. Park, D.F. Bogorin, C. Cen, D.A. Felker, Y. Zhang, C.T. Nelson, C.W. Bark, C.M. Folkman, X.Q. Pan, M. S. Rzchowski, J. Levy and C. B. Eom, *Nature Communications* **1**, **94** (2010).
 53. "Conductance asymmetry in point-contacts on epitaxial thin films of $\text{Ba}(\text{Fe}_{0.92}\text{Co}_{0.08})_2\text{As}_2$ ", M. Mehta, G Sheet, D. A Dikin, S Lee, C. W Bark, J Jiang, J. D Weiss, E. E Hellstrom, M. S Rzchowski, C. B Eom, V Chandrasekhar, *Appl. Phys. Lett.* **97**, 012503 (2010).
 52. "Ferroelastic switching for nanoscale non-volatile magnetoelectric devices", S. H Baek, H. W Jang, C. M Folkman, Y. L Li, B Winchester, J. X Zhang, Q He, Y. H Chu, C. T Nelson, M. S Rzchowski, X. Q Pan, R Ramesh, L. Q Chen, C. B Eom, *Nature Materials* **9**, 309 (2010).
 51. "Epitaxial growth and magnetic properties of Fe_3O_4 films on TiN buffered Si(001), Si(110), and Si(111) substrates", Hua Xiang, Fengyuan Shi, Mark S. Rzchowski, Paul M. Voyles, and Y. Austin Chang, *Appl. Phys. Lett.* **97**, 092508 (2010).
 50. "Growth of MgB_2 Thin Films In Situ by RF Magnetron Sputtering With a Pocket Heater", anghan Lee, Ke Chen, Seung Hyup Baek, Wenqing Dai, Brian H Moeckly, Qi Li, Xiaoxing Xi, Mark S Rzchowski, C.

- B. Eom,
IEEE T Appl Supercon, **19**, 2811 (2009).
49. "Effect of tetragonal lattice distortion of $\text{Co}_{70}\text{Fe}_{30}$ on the tunneling magnetoresistance of AlO_x based magnetic tunnel junction", C. -X Ji, J. J Yang, A. K Bengtson, D Morgan, H Xiang, M. S Rzczowski, Y. A Chang, Appl Phys A-Mater **97**, 73 (2009).
 48. "Tunneling Electroresistance Effect in Ferroelectric Tunnel Junctions at the Nanoscale", A Gruverman, D Wu, H Lu, Y Wang, H. W Jang, C. M Folkman, M. Ye Zhuravlev, D Felker, M Rzczowski, C. -B Eom, E.Y Tsybal, Nano Letters **9**, 3539 (2009).
 47. "Growth and physical property of epitaxial $\text{Co}_{70}\text{Fe}_{30}$ thin film on Si substrate via TiN buffer", C.-X. Ji, Feng Lu, Y. Austin Chang, J. Joshua Yang, M. S. Rzczowski, Appl. Phys. Lett. **92**, 022504 (2008).
 46. "Strain-induced polarization rotation in epitaxial (001) BiFeO_3 thin films", H.W. Jang, S.H. Baek, D. Ortiz, C. M. Folkman, R.R. Das, Y.H. Chu, P. Shafer, J.X. Zhang, S. Choudhury, V. Vaithyanathan, Y.B. Chen, D.A. Felker, M D. Biegalski, M.S. Rzczowski, X. Q. Pan, D.G. Schlom, L.Q. Chen, R. Ramesh, C. B. Eom, Phys. Rev. Lett. **101**, 107602 (2008)
 45. "Influence of symmetry mismatch on heteroepitaxial growth of perovskite thin films", D.L. Proffit, H.W. Jang, S. Lee, C.T. Nelson, X. Q. Pan, M. S. Rzczowski, C. B. Eom. Appl. Phys. Lett. **93**, 111912 (2008).
 44. "Over 70% TMR at room temperature for a CoFe and AlO_x based magnetic tunnel junction", J.J. Yang, C.-X. Ji, Y.A. Chang, X. Ke, M.S. Rzczowski, Appl. Phys. Lett. **89**, 202502 (2006)
 43. "Synthesis and ferroelectric properties of epitaxial BiFeO_3 thin films grown by sputtering", R.R. Das, D.M. Kim, S.H. Baek, C.B. Eom, F. Zavaliche, S.Y. Yang, R. Ramesh, Y.B. Chen, X.Q. Pan, X. Ke, M.S. Rzczowski, S.K. Streiffer, Appl. Phys. Lett. **88**, 242904 (2006)
 42. "Epitaxial $\text{La}_{0.67}\text{Sr}_{0.33}\text{MnO}_3/\text{La}_{0.67}\text{Ba}_{0.33}\text{MnO}_3$ superlattices", L.J. Belenky, X. Ke, M.S. Rzczowski, C.B. Eom, Journ. Appl. Phys. **97**, 10J107 (2005).
 41. "Epitaxial Magnetic Perovskite Nanostructures", D. Ruzmetov, Y. Seo, L.J. Belenky, D.M. Kim, X. Ke, H. Sun, V. Chandrasekhar, C.B. Eom, M.S. Rzczowski, X. Pan, Adv. Mat **17** 2869(2005)
 40. Antiferromagnetic exchange-bias in epitaxial ferromagnetic $\text{La}_{0.67}\text{Sr}_{0.33}\text{MnO}_3/\text{SrRuO}_3$ bilayers X. Ke, L.J. Belenky, and C.B. Eom, M.S. Rzczowski, Journ. App. Phys. **97**, 10K115 (2005).
 39. "Positive exchange bias in ferromagnetic $\text{LaSrMnO}_3/\text{SrRuO}_3$ bilayers", X. Ke, M.S. Rzczowski, L.J. Belenky, and C.B. Eom, Appl. Phys. Lett. **84**, 5458 (2004).
 38. " MgB_2 gap determination by scanning tunneling spectroscopy" T.W. Heitmann, M.S. Rzczowski, R.J. Cava, K.A. Regan, N. Rogado, M.A. Hayward, T. He, J.S. Slusky, P. Khalifah, M. Haas, S.D. Bu, D.M. Kim, J.H. Choi, J. Giencke, C.B. Eom Sup. Sci. Tech. **17**, 237 (2004).

37. "Electronic inhomogeneity at magnetic domain walls in strongly-correlated systems"
M.S. Rzchowski and R. Joynt,
Europhys. Lett. **67**, 287 (2004).
36. "Flux-flow of Abrikosov-Josephson vortices along grain-boundaries in high-temperature superconductors", A. Gurevich, M.S. Rzchowski, G. Daniels, S. Patnaik, B.M. Hinaus, F. Carillo, F. Tafuri, and D.C. Larbalestier, Phys. Rev. Lett. **88**, 97001 (2002).
35. "Supercurrent peaks in planar high- T_c Josephson junctions"
M.S. Rzchowski and B.A. Davidson,
Phys. Rev. B **62**, 12455 (2000).
34. "Simple and inexpensive classroom demonstrations of nuclear magnetic resonance and magnetic resonance imaging", J.A. Olson, K.J. Nordell, M.A. Chesnik, M.S. Rzchowski, S.M. Condren, C.R. Landis, G.C. Lisensky, and A.B. Ellis,
J. Chem. Ed. **77**, 882 (2000).
33. "Bias dependence of magnetic tunnel junctions"
M.S. Rzchowski and X.W. Wu,
Phys. Rev. B **61**, 5884 (2000).
32. "Strain-induced magnetic properties of PrSrMnO thin films"
X.W. Wu, M.S. Rzchowski, H.S. Wang, and Qi Li,
Phys. Rev. B **61**, 501 (2000).
31. "Temperature and magnetic-field dependent transport anisotropies in LaCaMnO films"
J. O'Donnell, J.N. Eckstein, M.S. Rzchowski,
Appl. Phys. Lett., **76**, 218 (2000).
30. "Observation of strong to Josephson-coupled crossover in 10° YBa₂Cu₃O_x bicrystal junctions"
R.D Redwing, B.M. Hinaus, M.S. Rzchowski, N.F. Heinig, B.A. Davidson, and J.E. Nordman
Appl. Phys. Lett., **75**, 3171 (1999).
29. "Dynamic properties and nonequilibrium processes in e-beam scribed YBCO Josephson junctions",
B.A. Davidson, B.M. Hinaus, M.S. Rzchowski, K. Siangchew, M. Libera
Appl. Phys. Lett., **73**, 1290 (1998).
28. "Magnetoelastic coupling and magnetic anisotropies in LaCaMnO thin films"
J. O'Donnell, M.S. Rzchowski, J.N. Eckstein, and I. Bozovic
Appl. Phys. Lett., **72**, 1775 (1998).
27. "Microscopic barrier properties in electron-beam scribed YBCO Josephson junctions"
B.A. Davidson, J.E. Nordman, B.M. Hinaus, M.S. Rzchowski, K. Siangchew, M. Libera
Appl. Supercon. 5, 277 (1997).
26. "Critical current measurements in planar Josephson junctions"
M.S. Rzchowski and B.M. Hinaus, Appl. Phys. Lett. **71**, 3010 (1997).
25. "Nature of the Josephson barrier in electron-beam written YBCO Josephson junctions"
B.M. Hinaus, M.S. Rzchowski, B.A. Davidson, J.E. Nordman, K. Siangchew, and M. Libera
Phys. Rev. B **56**, 10828 (1997).
24. "Flux penetration in thin-film YBCO bi-crystal substrate Josephson junctions"
B.M. Hinaus, R. Redwing, and M.S. Rzchowski,
Appl. Phys. Lett. **70**, 517 (1997).

23. "Phase transitions in a *kagomé* lattice of Josephson-junctions"
M.S. Rzchowski,
Phys. Rev. **B55**, 11745 (1997).
22. "Low-field hysteresis in tetragonal LaCaMnO thin films"
J. O'Donnell, M. Onellion, M.S. Rzchowski, J.N. Eckstein, and I. Bozovic
Phys. Rev. **B55**, 5873 (1997).
21. "Anisotropic properties of MBE-grown colossal magnetoresistance manganite thin films"
J. O'Donnell, M. Onellion, M.S. Rzchowski, J.N. Eckstein, and I. Bozovic.
J. Appl. Phys. **81**, 4961 (1997).
20. "Extrapolation procedures in high- T_c gap-function experiments"
M.S. Rzchowski and B.M. Hinaus, Physica C **273**, 289 (1997).
19. "Magnetoresistance scaling in MBE-grown LaCaMnO thin films"
J. O'Donnell, M. Onellion, M.S. Rzchowski, J.N. Eckstein, and I. Bozovic
Phys. Rev. **B54**, R6841 (1996).
18. "SNS behavior of Josephson junctions scribed in YBCO by a high-brightness electron source"
B.A. Davidson, J.E. Nordman, B.M. Hinaus, M.S. Rzchowski, K. Siangchew, and M. Libera,
Appl. Phys. Lett. **68**, 3811 (1996).
17. "Anisotropic magnetoresistance in tetragonal LaCaMnO thin films"
J.N. Eckstein, I. Bozovic, J. O'Donnell, M. Onellion, and M.S. Rzchowski,
Appl. Phys. Lett. **69**, 1312 (1996).
16. "Phase sensitive tunneling measurements in a bulk YBCO dc SQUID"
B.M. Hinaus, M.S. Rzchowski, N. Heinig, and X.Y. Cai,
Phys. Rev. **B54**, 6770 (1996).
15. "Phase transitions in Josephson-junction arrays with long-range interaction"
L.L. Sohn, M.S. Rzchowski, J.U. Free, and M. Tinkham,
Phys. Rev. B **47**, 967 (1993).
14. "AC and DC properties of Josephson-junction arrays with long-range interaction"
L.L. Sohn, M.T. Tuominen, M.S. Rzchowski, J.U. Free, and M. Tinkham,
Phys. Rev. B **47**, 975 (1993).
13. "Magnetic-field-dependent surface resistance and 2-level critical state model for granular superconductors", L. Ji, M.S. Rzchowski, N. Anand, and M. Tinkham,
Phys. Rev. B **47**, 470 (1993).

12. "The effect of current direction on the dynamics of Josephson-junction arrays"
L. L. Sohn, M. S. Rzchowski, J. U. Free, M. Tinkham, C. J. Lobb Phys.
Rev. B **45**, 3003 (1992).
11. "Frequency dependence of Shapiro steps in Josephson junction arrays"
M. S. Rzchowski, L. L. Sohn, and M. Tinkham,
Phys. Rev. B **43**, 8682 (1991) Rapid Comm.
10. "Absence of fractional giant Shapiro steps in diagonal Josephson junction arrays"
L. L. Sohn, M. S. Rzchowski, J. U. Free, S. P. Benz, M. Tinkham, and C. J. Lobb,
Phys. Rev. B **44**, 925 (1991) Rapid Comm.
9. "Vortex-defect interactions in Josephson-junction arrays"
M. Cohn, M. S. Rzchowski, S. P. Benz, and C. J. Lobb,
Phys. Rev. B **43**, 12823 (1991).
8. "Critical currents in frustrated two-dimensional Josephson arrays"
S. P. Benz, M. S. Rzchowski, M. Tinkham, and C. J. Lobb,
Phys. Rev. B **42**, 6165 (1990).
7. "Microwave surface resistance and vortices in high- T_c superconductors:
Observation of flux pinning and flux creep" L. Ji, M. S. Rzchowski, and M. Tinkham,
Phys. Rev. B **42**, 4838 (1990) Rapid Comm.
6. "Vortex pinning in Josephson junction arrays"
M. S. Rzchowski, S. P. Benz, C. J. Lobb, and M. Tinkham,
Phys. Rev. B **42**, 2041 (1990).
5. "Dynamical simulations of fractional giant Shapiro steps in 2D Josephson arrays"
J. U. Free, S. P. Benz, M. S. Rzchowski, M. Tinkham, C. J. Lobb and M. Octavio,
Phys. Rev. B **41**, 7267 (1990) Rapid Comm.
4. "Fractional giant shapiro steps and spatially-correlated phase motion in 2D Josephson arrays"
S. P. Benz, M. S. Rzchowski, M. Tinkham, and C. J. Lobb,
Phys. Rev. Lett., **64**, 693 (1990).
3. "Magnetic field, temperature, and power dependent microwave absorption in $YBa_2Cu_3O_7$ "
Q. Li, K.W. Rigby, and M.S. Rzchowski,
Phys. Rev. B **39**, 6607 (1989).
2. "Properties of random fields outside a metal surface and their effect on TOF spectroscopy"
M. S. Rzchowski and J. R. Henderson,
Phys. Rev. A **38**, 4622 (1988).
1. "Use of a distributed processing data-acquisition system to control an acoustic spectrometer"
K.S. Pickens, M.S. Rzchowski, and D.I. Bolef
Rev. Sci. Inst., **54**, 710 (1983).