

PEER-REVIEWED JOURNAL ARTICLES (over 500)

1. R. Yuan, A. Kumar, S. Zhuang, N. Cucciniello, T. Lu, D. Xue, A. Penn, A. Mazza, Q. X. Jia, Y. Liu, D. Xue, J. Li, J.-M. Hu, J. LeBeau, and A. Chen, "Machine learning-enabled superior energy storage in ferroelectric films with a slush-like polar state," *Nano Lett.*, in press
2. M. Hellenbrand, B. Bakhit, H. Dou, M. Xiao, M. O. Hill, A. Chen, Q. X. Jia, H. Wang, and J. L. MacManus-Driscoll, "Uniform interface resistive switching and neuromorphic functionality in nanocomposite amorphous hafnium oxide," *Sci. Adv.*, in press
3. P. Roy, A. Carr, T. Zhou, B. Paudel, X. Wang, D. Chen, K. T. Kang, A. Pateras, Z. Corey, S. Lin, J. Zhu, M. V. Holt, J. Yoo, V. Zapf, H. Zeng, F. Ronning, Q. X. Jia, and A. Chen, "Origin of topological Hall-like feature in epitaxial SrRuO₃ thin films," *Adv. Electronic Mater.* **9**, 2300020 (2023).
4. S. Kunwar, C. B. Somodi, R. A. Lalk, B. X. Rutherford, Z. Corey, P. Roy, D. Zhang, M. Hellenbrand, M. Xiao, J. L. MacManus-Driscoll, Q. X. Jia, H. Wang, J. J. Yang, W. Nie, A. Chen, "An interface type memristive device for artificial synapse and neuromorphic computing," *Adv. Intell. Syst.* 2300035 (2023).
5. K. T. Kang, Z. J. Corey, J. Huang, Y. Sharma, B. Paudel, P. Roy, L. Collins, X. Wang, J. W. Lee, Y. S. Oh, Y. Kim, J. Yoon, J. Lee, H. Htoon, Q. X. Jia, and A. Chen, "Heterogeneous integration of freestanding bilayer oxide membranes for multiferroicity," *Adv. Sci.* **10**, 2207481 (2023).
6. H. Dou, M. Hellenbrand, M. Xiao, Z. Hu, S. Kunwar, A. Chen, J. L. MacManus-Driscoll, Q. X. Jia, H. Wang, "Engineering of grain boundaries in CeO₂ enabling tailorable resistive switching properties," *Adv. Electron. Mater.* **9**, 2201186 (2023).
7. S. Dhole, X. Wei, H. Hui, P. Roy, Z. Corey, Y. Wang, W. Nie, A. Chen, H. Zeng, and Q. X. Jia, "A facile aqueous solution route for the growth of chalcogenide perovskite BaZrS₃ films," *Photonics* **10**, 366 (2023).
8. S. Kunwar, C. B. Somodi, R. A. Lalk, B. X. Rutherford, Z. Corey, P. Roy, D. Zhang, M. Hellenbrand, M. Xiao, J. L. MacManus-Driscoll, Q. X. Jia, H. Wang, J. J. Yang, W. Nie, A. Chen, "Proton: A critical element for resistive switching in interface-type memristors," *Adv. Electron. Mater.*, **9**, 2200816 (2023).
9. S. Wei, P. Roy, X. Tong, H. Yue, M. Liu, H. N. Jaiswal, S. Shahi, Y. I. Gata, T. Butler, H. Li, Q. X. Jia, and F. Yao, "Two birds with one stone: prelithiated two-dimensional nanohybrids as high-performance anode materials for lithium-ion batteries," *ACS Appl. Mater. Interfaces* **14**, 35673 (2022).
10. E. Enriquez, P. Lu, L. Li, B. Zhang, H. Wang, Q. X. Jia, and A. Chen, "Reducing leakage current and enhancing polarization in multiferroic 3D super-nanocomposites by microstructure engineering," *Nanotechnology* **33**, 405604 (2022).
11. Y. Sharma, B. Paudel, A. Huon, A. M. Schneider, P. Roy, Z. Corey, R. Schoenemann, A. C. Jones, M. Jaime, D. A. Yarotski, T. Charlton, M. A. Fitzsimmons, Q. X. Jia, M. T. Pettes, P. Yang, and A. Chen, "Induced Ferromagnetism in epitaxial uranium dioxide thin films," *Adv. Sci.* **9**, 2203473 (2022).

12. Z. J. Corey, P. Lu, G. Zhang, Y. Sharma, B. X. Rutherford, S. Dhole, P. Roy, Y. Wu, H. Wang, A. Chen, Q. X. Jia “Structural and optical properties of high entropy (La,Lu,Y,Gd,Ce)AlO₃ perovskite thin films,” *Adv. Sci.* **9**, 2202671 (2022).
13. N. Cucciniello, D. Lee, H. Y. Feng, Z. Yang, M. Zhu, and Q. X. Jia, “Superconducting niobium nitride: a perspective from processing, microstructure, and superconducting properties for single photon detectors,” *J. Phys.: Condens. Matter* **34**, 374003 (2022).
14. D. Li, B. Zhu, D. Backes, L. S. Veiga, T.-L. Lee, H. Wang, Q. He, P. Roy, J. Zhang, J. Shi, A. Chen, P. A. van Aken, Q. X. Jia, S. S. Dhesi, D. O. Scanlon, K. H. L. Zhang, and W. Li, “Manipulating the metal-to-insulator transition and magnetic properties in manganite thin films via epitaxial strain,” *Phys. Rev. B* **105**, 165426 (2022).
15. H. Dou, N. Strkalj, Y. Zhang, J. L. MacManus-Driscoll, Q. X. Jia, and H. Wang, “Optical dielectric properties of HfO₂-based films,” *J. Vac. Sci. Technol. A* **40**, 033412 (2022).
16. O. G. Licata, J. Sarker, M. Bachhav, P. Roy, X. Wei, Z. Yang, N. Patibandla, H. Zeng, M. Zhu, Q. X. Jia, and B. Mazumder, “Correlation between thickness dependent nanoscale structural chemistry and superconducting properties of ultrathin epitaxial NbN films,” *Mater. Chem. Phys.* **282**, 125962 (2022).
17. P. Roy, S. Kunwar, D. Zhang, D. Chen, Z. Corey, B. Rutherford, H. Wang, J. L. MacManus-Driscoll, Q. X. Jia, and A. Chen, “Role of defect and power dissipation on Ferroelectric memristive switching,” *Adv. Electron. Mater.* **8**, 2101392 (2022).
18. S. Dhole, A. Chen, W. Nie, B. H. Park, and Q. X. Jia, “Strain engineering: a pathway for tunable functionalities of perovskite metal oxide films,” *Nanomaterials* **12**, 835 (2022). (*Invited review*)
19. Z. Corey, H. H. Han, K. T. Kang, X. Wang, R. A. Lalk, R. Paudel, P. Roy, Y. Sharma, J. Yoo, Q. X. Jia, and A. Chen, “The role of oxygen transfer in oxide heterostructures on functional properties,” *Adv. Mater. Interfaces* **9**, 2101867 (2022).
20. H. Dou, X. Gao, D. Zheng, S. Dhole, Z. Qi, B. Yang, M. N. Hasan, J. H. Seo, Q. X. Jia, M. Hellenbrand, J. L. MacManus-Driscoll, X. Zhang, and H. Wang, “Electroforming-free HfO₂/CeO₂ vertically aligned nanocomposite memristors with anisotropic dielectric response,” *ACS Appl. Electronic Mater.* **3**, 5278 (2021).
21. Y. Hu, S. Broderick, Z. Guo, A. T. N’Diaye, J. S. Bola, H. Malissa, C. Li, Q. Zhang, Y. Huang, Q. X. Jia, C. Boehme, Z. V. Vardeny, C. Zhou, and S. Ren, “Proton switching molecular magnetoelectricity,” *Nat. Commoun.* **12**, 4602 (2021).
22. R. Wu, D. Zhang, T. Maity, P. Lu, J. Yang, X. Gao, S. Zhao, X. Wei, H. Zeng, A. Kursumovic, G. Tian, W. Li, C. Yun, Y. Wang, Z. Ren, Z. Zhou, M. Liu, K. H. L. Zhang, Q. X. Jia, J. Yang, H. Wang, and J. L. MacManus-Driscoll, “Self-biased magnetoelectric switching at room temperature in three-phase ferroelectric-antiferromagnetic-ferrimagnetic nanocomposites,” *Nat. Electronics* **4**, 333 (2021).
23. Y. Zheng, Z. Feng, A. F. M. A. Uddin Bhuiyan, L. Meng, S. Dhole, Q. X. Jia, H. Zhao, and J. H. Seo, “Large-size free-standing single-crystal β -Ga₂O₃ membranes fabricated by hydrogen implantation and life-off,” *J. Mater. Chem. C* **9**, 6180 (2021).

24. X. Lü, C. Stoumpos, Q. Hu, X. Ma, D. Zhang, S. Guo, J. Hoffman, K. Bu, X. Guo, Y. Wang, C. Ji, H. Chen, H. Xu, Q. X. Jia, W. Yang, M. G. Kanatzidis, and H. K. Mao, “Regulating off-centering distortion maximizes photoluminescence in halide perovskites,” *National Sci. Rev.* **8**, nwaa288 (2021).
25. X. Wei, P. Roy, Z. Yang, D. Zhang, Z. He, P. Lu, O. Licata, H. Wang, B. Mazumder, N. Patibandla, Y. Cao, H. Zeng, M. Zhu, and Q. X. Jia, “Ultrathin epitaxial NbN superconducting films with high upper critical field grown at low temperature,” *Mater. Res. Lett.* **9**, 336 (2021).
26. Z. Yu, X. Wei, Y. Zheng, H. Hui, M. Bian, S. Dhole, J. H. Seo, Y. Y. Sun, Q. X. Jia, S. Zhang, and H. Zeng, “Chalcogenide perovskite BaZrS₃ thin-film electronic and optoelectronic devices by low temperature processing,” *Nano Energy* **85**, 105959 (2021).
27. C. Yun, Y. Wang, Z. Ren, Z. Zhou, M. Liu, K. H. L. Zhang, Q. X. Jia, J. Yang, H. Wang, and J. L. MacManus-Driscoll “High performance, electroforming-free, thin film memristors using ionic Na_{0.5}Bi_{0.5}TiO₃,” *J. Mater. Chem. C* **9**, 4522 (2021).
28. N. F. Haberkorn, Y. Y. Zhang, Z. X. Bi, B. H. Park, L. Civale, and Q. X. Jia, “Effect of Co₂N impurity on the superconducting properties of δ -MoN thin films grown by polymer assisted deposition,” *Mater. Chem. & Phys.* **259**, 124184 (2021).
29. A. Chen and Q. X. Jia, “A pathway to desired functionalities in vertically aligned nanocomposites related architectures,” *MRS Bulletin* **46**, 115 (2021).
30. Y. Chen, H. Zeng, P. Ma, G. Chen, J. Jian, X. Sun, X. Li, H. Wang, W. Yin, Q. X. Jia, and G. F. Zou, “Overcoming the anisotropic growth limitations of free-standing single-crystal halide perovskite films,” *Angew. Chem. Int. Ed.* **60**, 2629 (2021).
31. I.-S. Byun, D. Boukhvalov, S. Lee, W. Kim, J. Baik, H.-J. Shin, C. Lee, Y.-W. Son, Q. X. Jia, and B. H. Park, “Engineering ferromagnetic lines in graphene by local oxidation and hydrogenation using nanoscale lithography,” *J. Phys. D: Appl. Phys.* **54**, 074002 (2021).
32. E. Enriquez, Q. Li, P. Bowlan, P. Lu, B. Zhang, L. Li, H. Wang, A. J. Taylor, D. Yarotski, R. P. Prasankumar, S. V. Kalinin, Q. X. Jia, and A. Chen, “Induced ferroelectric phases in SrTiO₃ by a nanocomposite approach,” *Nanoscale* **12**, 18193 (2020).
33. A. Chen, W. Zhang, L. R. Dedon, D. Chen, F. Khatkhatay, J. L. MacManus-Driscoll, H. Wang, D. Yarotski, J. Chen, X. Gao, L. W. Martin, A. Roelofs, and Q. X. Jia, “Couplings of polarization with interfacial deep traps and Schottky interface controlled ferroelectric memristive switching,” *Adv. Funct. Mater.* **30**, 2000664 (2020).
34. E. Enriquez, G. Wang, Y. Shama, I. Sapkaya, Q. Wang, D. Chen, N. Winner, X. Gun, J. Dunwoody, J. T. White, A. Nelson, H. Xu, P. Dowden, E. R. Batista, H. Htoon, P. Yang, Q. X. Jia, and A. Chen, “Structural and optical properties of phase-pure UO₂, α -U₃O₈, and α -UO₃ epitaxial thin films grown by pulsed laser deposition,” *ACS Appl. Mater. & Interfaces* **12**, 35232 (2020).
35. X. Wei, H. Hui, S. Perera, A. Sheng, D. F. Watson, Y. Y. Sun, Q. X. Jia, S. Zhang, and H. Zeng, “Ti-alloying of BaZrS₃ chalcogenide perovskite for photovoltaics,” *ACS Omega* **5**, 18579 (2020).
36. R. Yuan, P. Lu, H. Han, D. Xue, A. Chen, Q. X. Jia, and T. Lookman, “Enhanced magnetocaloric performance in manganite bilayers,” *J. Appl. Phys.* **127**, 154102 (2020).

37. X. Wei, H. Hui, C. Zhao, C. Deng, M. Han, Z. Yu, A. Sheng, P. Roy, A. Chen, J. Lin, D. F. Watson, Y. Y. Sun, T. Thomay, S. Yang, Q. X. Jia, S. Zhang, and H. Zeng, "Realization of BaZrS₃ chalcogenide perovskite thin films for optoelectronics," *Nano Energy* **68**, 104317 (2020).
38. A. Chen, Y. Dai, A. Eshghinejad, Z. Liu, Z. C. Wang, J. Bowlan, E. Knall, L. Civale, J. L. MacManus-Driscoll, A. Taylor, R. Prasankumar, T. Lookman, J. Li, D. Yarotski, and Q. X. Jia, "Competing interface and bulk effects driven magnetoelectric coupling in vertically aligned nanocomposites," *Adv. Sci.* **6**, 1901000 (2019).
39. X. Lü, A. Chen, Y. Dai, B. Wei, H. Xu, J. Wen, N. Li, Y. Luo, E. Enriquez, Z. C. Wang, P. Dowden, W. Yang, Y. S. Zhao, and Q. X. Jia, "Metallic interface induced by electronic reconstruction in crystalline-amorphous bilayer oxide films," *Sci. Bulletin* **64**, 1567 (2019).
40. T. O. Farmer, E. Guo, R. D. Desautels, L. DeBeer-Schmitt, A. Chen, Z. Wang, Q. X. Jia, J. A. Borchers, D. A. Gilbert, B. Holladay, S. K. Sinha, and M. R. Fitzsimmons, "Nanoscale magnetization inhomogeneity within single phase nanopillars," *Phys. Rev. Mater.* **3**, 081401, (2019).
41. A. McDannald, S. Vijayan, J. Shi, A. Chen, Q. X. Jia, M. Aindow, and M. Jian, "Magnetic and tunable dielectric properties of DyCrO₃ thin films," *J. Mater. Sci.*, **54**, 8984 (2019).
42. A. Chen, Z. Harrell, P. Lu, E. Enriquez, L. Li, B. Zhang, P. Dowden, C. Chen, H. Wang, J. L. MacManus-Driscoll, and Q. X. Jia, "Strain enhanced functionality in a bottom-up approach enabled 3D super-nanocomposites," *Adv. Funct. Mater.* **29**, 1900442 (2019).
43. E. Choi, B. Zhu, A. D. Berardo, P. Lu, J. Feighan, K. H. Zhang, J. Robinson, H. Alpern, T. Shapira, O. Millo, Q. X. Jia, X. Sun, H. Wang, and J. L. MacManus-Driscoll, "3D strain-induced superconductivity in La₂CuO_{4+δ} using a simple vertically aligned nanocomposite approach," *Sci. Advances* **5**, 5532 (2019).
44. Y. S. Guan, G. Zhong, Y. Hu, A. F. Cannella, C. Li, N. Lee, Q. X. Jia, D. C. Lacy, and S. Q. Ren, "Magnetoelectric radical hydrocarbons," *Adv. Mater.* **31**, 1806263 (2019).
45. A. Chen, Q. Su, H. Han, E. Enriquez, and Q. X. Jia, "Metal oxide nanocomposites: a perspective from strain, defect, and interface," *Adv. Mater.* **31**, 1803241 (2019). ([Review](#))
46. W. C. Yang, Y. T. Xie, X. Sun, X. H. Zhang, K. Park, S. C. Xue, Y. L. Li, C. G. Tao, Q. X. Jia, Y. Losovyj, H. Wang, J. J. Heremans, and S. X. Zhang, "Stoichiometry control and electronic and transport properties of pyrochlore Bi₂Ir₂O₇ thin films," *Phys. Rev. Mater.* **2**, 114206 (2018).
47. S. Lee, C. Yoon, J. H. Lee, Y. S. Kim, M. J. Lee, W. Kim, J. Baik, Q. X. Jia, and B. H. Park, "Enhanced performance of field-effect transistors based on black phosphorus channels reduced by galvanic corrosion of Al overlayers," *ACS Appl. Mater. & Interfaces* **10**, 18895 (2018).
48. Y. M. Sheu, S. A. Trugman, A. Chen, Q. X. Jia, A. J. Taylor, and R. P. Prasankumar, "Unraveling thickness-dependent spin relaxation in colossal magnetoresistance manganite films," *Appl. Phys. Lett.* **113**, 012402 (2018).

49. B. Mace, Z. Harrell, X. Xu, C. L. Chen, E. Enriquez, A. Chen, and Q. X. Jia, "Correlation of structural and electrical properties of $\text{PrBaCo}_2\text{O}_{5+\delta}$ thin films at high temperature," *J. Materiomics* **4**, 51 (2018).
50. W. Pan, P. Lu, J. F. Ihlefeld, S. R. Lee, E. S. Choi, Y. Jiang, and Q. X. Jia, "Electrical-current-induced magnetic hysteresis in self-assembled vertically aligned $\text{La}_{2/3}\text{Sr}_{1/3}\text{MnO}_3:\text{ZnO}$ nanopillar composites," *Phys. Rev. Mater.* **2**, 021401(R) (2018).
51. B. Mace, Z. Harrell, C. L. Chen, E. Enriquez, A. Chen, and Q. X. Jia, "Role of temperature and oxygen content on structural and electrical properties of $\text{LaBaCo}_2\text{O}_{5+\delta}$ thin films," *Appl. Phys. Lett.* **112**, 073905 (2018).
52. W. Liang, M. Gao, C. Lu, Z. Zhang, C. H. Chan, L. Zhuge, J. Dai, H. Yang, C. L. Chen, B. H. Park, Q. X. Jia, and Y. Lin, "Enhanced metal-insulator transition performance in scalable vanadium dioxide thin films prepared using a moisture-assisted chemical solution approach," *ACS Appl. Mater. & Interfaces* **10**, 8341 (2018).
53. Q. Wang, A. P. Chen, E. J. Huo, M. A. Roldan, Q. X. Jia, and M. R. Fitzsimmons, "Upper limit for the effect of elastic bending stress on the saturation magnetization of $\text{La}_{0.8}\text{Sr}_{0.2}\text{MnO}_3$," *Phys. Rev. B.* **97**, 014437 (2018).
54. A. Chen, Q. Wang, M. R. Fitzsimmons, E. Enriquez, M. Weigand, Z. Harrell, B. McFarland, X. Lü, P. Dowden, J. L. MacManus-Driscoll, D. Yarotski, and Q. X. Jia, "Hidden interface driven exchange coupling in oxide heterostructures," *Adv. Mater.* **29**, 1700672 (2017).
55. X. Lü, H. Xu, and Q. X. Jia, "Pressure-induced dramatic changes in organometal halide perovskites," *Chem. Sci.* **8**, 6764 (2017). (*Perspective*)
56. Z. Li, E. Xu, Y. Losovyj, N. Li, A. Chen, B. Swartzentruber, N. Sinitsyn, J. Yoo, Q. X. Jia, and S. X. Zhang, "Surface oxidation and thermoelectric properties of indium-doped tin telluride nanowires," *Nanoscale* **9**, 13014 (2017).
57. W. C. Yang, Y. T. Xie, W. K. Zhu, K. Park, A. P. Chen, Y. Losovyj, Z. Li, H. Liu, M. Starr, J. A. Acosta, C. G. Tao, N. Li, Q. X. Jia, J. J. Heremans, and S. X. Zhang, "Epitaxial thin films of pyrochlore iridate $\text{Bi}_{2+x}\text{Ir}_{2-y}\text{O}_{7-\delta}$: structure, defects and transport properties," *Scientific Reports* **7**, 7740 (2017).
58. J. Lloyd-Hughes, C. D. W. Mosley, S. P. P. Jones, M. R. Lees, A. Chen, Q. X. Jia, E. M. Choi, and J. MacManus-Driscoll, "Colossal Terahertz magnetoresistance at room temperature in epitaxial $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ nanocomposites and single-phase thin films," *Nano Lett.* **17**, 2506 (2017).
59. E. Enriquez, A. Chen, Z. Harrell, P. Dowden, N. Koskelo, J. Roback, M. Janoscheck, C. L. Chen, and Q. X. Jia, "Oxygen vacancy-tuned physical properties in perovskite thin films with multiple B-site valence states," *Scientific Reports* **7**, 46184 (2017).
60. Z. Harrell, E. Enriquez, A. Chen, P. Dowden, B. Mace, X. Lü, Q. X. Jia, and C. L. Chen, "Oxygen content tailored magnetic and electronic properties in cobaltite double perovskite thin films," *Appl. Phys. Lett.* **110**, 093102 (2017).
61. T. Ahmed, A. Chen, D. A. Yarotski, S. T. Trugman, Q. X. Jia, and J. X. Zhu, "Magnetic, electronic, and optical properties of double perovskite $\text{Bi}_2\text{FeMnO}_6$," *APL Mater.* **5**, 035601 (2017).

62. Y. Li, W. Zhou, X. Chen, X. Lü, Z. Cui, S. Xin, L. Xue, Q. X. Jia, and J. B. Goodenough, "Mastering the interface for advanced all-solid-state lithium rechargeable batteries," *PNAS* **113**, 13313 (2016).
63. X. Lü, A. Chen, Y. Luo, P. Lu, Y. Dai, E. Enriquez, P. Dowden, H. Xu, P. G. Kotula, A. K. Azad, D. A. Yarotski, R. P. Prasankumar, A. J. Taylor, J. D. Thompson, and Q. X. Jia, "Conducting interface in oxide homojunction: Understanding of superior properties in black TiO₂," *Nano Lett.* **16**, 5751 (2016).
64. S. Cho, C. Yun, S. Tappertzhofen, A. Kursumovic, S. B. Lee, P. Lu, Q. X. Jia, M. Fan, J. Jian, H. Wang, S. Hofmann, and J. MacManus-Driscoll, "Self-assembled oxide films with tailored nanoscale ionic and electronic channels for controlled resistive switching," *Nat. Commun.* **7**, 12373 (2016).
65. A. Chen, H. Zhou, Y. Zhu, L. Li, W. Zhang, J. Narayan, H. Wang, and Q. X. Jia, "Stabilization new bismuth compounds in thin film form," *J. Mater. Res.* **31**, 3530 (2016). (*Invited paper*)
66. E. Enriquez, A. Chen, Z. Harrell, X. Lü, P. Dowden, N. Koskelo, M. Janoscheck, C. L. Chen, and Q. X. Jia, "Oxygen vacancy-driven evolution of structural and electrical properties in SrFeO_{3-δ} thin films and a method of stabilization," *Appl. Phys. Lett.* **109**, 141906 (2016).
67. X. Lü, Y. Wang, C. C. Stoumpos, Q. Hu, X. Guo, H. Chen, L. Yang, J. S. Smith, W. Yang, Y. Zhao, H. Xu, M. G. Kanatzidis, and Q. X. Jia, "Enhanced structural stability and photo responsiveness of CH₃NH₃SnI₃ perovskite via pressure-induced amorphization and recrystallization," *Adv. Mater.* **28**, 8663 (2016).
68. Y. Li, W. Zhou, S. Li, J. Zhu, X. Lü, Q. X. Jia, Y. S. Zhao, J. S. Zhou, and J. B. Goodenough, "Fluorine-doped antiperovskite electrolyte for all-solid-state Li-ion batteries," *Angew Chem. Int. Ed.*, **128**, 10119 (2016).
69. W. Zhang, M. Li, A. Chen, L. Li, Y. Y. Zhu, Z. Xia, P. Lu, P. Boullay, L. Wu, Y. Zhu, J. L. MacManus-Driscoll, Q. X. Jia, H. Zhou, J. Narayan, X. H. Zhang, and H. Y. Wang, "Two-dimensional layer oxide structures tailored by self-assembled layer stacking via interface strain," *ACS Appl. Mater. Interfaces* **8**, 16845 (2016).
70. E. Enriquez, Y. Y. Zhang, A. Chen, Z. Bi, Y. Wang, E. Fu, Z. Harrell, X. Lu, P. Dowden, H. Wang, C. L. Chen, and Q. X. Jia, "Epitaxial growth and physical properties of ternary nitride thin films by polymer-assisted deposition," *Appl. Phys. Lett.* **109**, 081907 (2016).
71. Q. Su, W. Zhang, P. Lu, S. Fang, F. Khatkhatay, J. Jian, L. Li, F. Chen, X. Zhang, J. MacManus-Driscoll, A. Chen, Q. X. Jia, and H. Wang, "Self-assembled magnetic metallic nanopillars in ceramic matrix with anisotropic magnetic and electrical transport properties," *ACS Appl. Mater. Interface* **8**, 20283 (2016).
72. T. Ahmed, A. Chen, B. McFarland, Q. Wang, H. Ohldag, R. Sandberg, Q. X. Jia, D. A. Yarotski, and J. X. Zhu, "Site-mixing effect on the XMCD spectrum in double perovskite Bi₂FeMnO₆," *Appl. Phys. Lett.* **108**, 242907 (2016).
73. A. Chen, J.-M. Hu, P. Lu, T. Yang, W. Zhang, L. Li, T. Ahmed, E. Enriquez, M. Weigand, Q. Su, H. Y. Wang, J. X. Zhu, J. L. MacManus-Driscoll, L. Q. Chen, D. Yarotski, and Q. X. Jia, "Role of scaffold network in controlling strain and functionalities of nanocomposite films," *Sci. Advances* **2**, 1600245 (2016).

74. L. Li, L. Sun, J. S. Gomez-Diaz, N. L. Hogan, P. Lu, F. Khtkhatay, W. Zhang, J. Jian, J. Huang, Q. Su, M. Fan, C. Jacob, J. Li, X. H. Zhang, Q. X. Jia, M. Sheldon, A. Alu, X. Li, and H. Y. Wang, "Self-assembled epitaxial Au-oxide vertically aligned nanocomposites for nanoscale metamaterials," *Nano Lett.* **16**, 3936 (2016).
75. E. M. Choi, J. E. Kleibeuker, T. Fix, J. Xiong, C. J. Kinane, D. Arena, S. Langridge, A. P. Chen, Z. X. Bi, J. H. Lee, H. Y. Wang, Q. X. Jia, M. G. Blamire, J. L. MacManus-Driscoll, "Interface-coupled BiFeO₃/BiMnO₃ superlattices with magnetic transition temperature up to 410 K," *Adv. Mater. Interfaces* **3**, 1500597 (2016).
76. A. Suwardi, B. Prasad, S. Lee, E. M. Choi, P. Lu, W. R. Zhang, L. G. Li, M. Blamire, Q. X. Jia, H. Y. Wang, K. Yao, and J. L. MacManus-Driscoll, "Turning antiferromagnetic Sm_{0.34}Sr_{0.66}MnO₃ into a 140 K ferromagnet using a nanocomposite strain tuning approach," *Nanoscale* **8**, 8083 (2016).
77. X. Lü, G. Wang, J. W. Howard, A. Chen, Y. Zhao, L. L. Daemen, and Q. X. Jia, "Antiperovskite Li₃OCl superionic conductor films for solid-state Li-ion batteries," *Adv. Sci.* **3**, 1500359 (2016).
78. S. Singh, J. Xiong, A. P. Chen, M. R. Fitzsimmons, and Q. X. Jia, "Field dependent magnetization of BiFeO₃ in ultrathin La_{0.7}Sr_{0.3}MnO₃/BiFeO₃ superlattice," *Phys. Rev. B* **92**, 224405 (2015).
79. I. MacLaren, B. Sala, S. M. L. Andersson, T. J. Pennycook, J. Xiong, Q. X. Jia, E. M. Choi, J. L. MacManus-Driscoll, "Strain localization in thin films of Bi(Fe,Mn)O₃ due to the formation of stepped Mn⁴⁺-rich antiphase boundaries," *Nanoscale Res. Lett.* **10**, 407 (2015).
80. S. M. Yang, S. Lee, J. Jian, W. Zhang, Q. X. Jia, H. Wang, T. W. Noh, S. V. Kalinin, and J. L. MacManus-Driscoll, "Strongly enhanced oxygen ion transport through samarium-doped CeO₂ nanopillars in nanocomposite films," *Nat. Commun.* **6**, 8588 (2015).
81. W. Zhang, M. Fan, L. Li, A. Chen, Q. Su, Q. X. Jia, J. L. MacManus-Driscoll, and H. Wang, "Heterointerface design and strain tuning in epitaxial BiFeO₃:CoFe₂O₄ nanocomposite films," *Appl. Phys. Lett.* **107**, 21290 (2015).
82. P. Lu, R. Romero, J. Ihlefeld, W. Pan, W. Zhang, H. Wang, and Q. X. Jia, "Atomic-scale EDS mapping for chemical imaging and quantification of interdiffusion in self-assembled vertically aligned nanocomposite thin films," *Microscopy and Microanalysis* **21**, 2249 (2015).
83. S. Lee, W. Zhang, F. Khatkhatay, H. Wang, Q. X. Jia, and J. L. MacManus-Driscoll, "Ionic conductivity increased by two orders of magnitude in micrometer-thick vertical yttria-stabilized ZrO₂ nanocomposite films," *Nano Lett.* **15**, 7362 (2015).
84. W. Zhang, L. Li, P. Lu, M. Fan, Q. Su, F. Khatkhatas, A. Chen, Q. X. Jia, X. Zhang, J. L. MacManus-Driscoll, and H. Wang, "Perpendicular exchange-bias magnetotransport at the vertical heterointerfaces in La_{0.7}Sr_{0.3}MnO₃:NiO nanocomposites," *ACS Appl. Mater. & Interfaces* **7**, 21646 (2015).
85. C. W. Nan and Q. X. Jia, "Obtaining ultimate functionalities in nanocomposites: Design, control, and fabrication," *MRS Bulletin* **40**, 719 (2015).

86. J. L. MacManus-Driscoll, A. Suwardi, A. Kursumovic, Z. Bi, C.-F. Tsai, H. Wang, Q. X. Jia, and Q. J. Lee, “New strain states and radical property tuning of metal oxides using a nanocomposite thin film approach,” *APL Mater.* **3**, 062507 (2015).
87. W. Zhang, A. Chen, J. Jian, Y. Zhu, L. Chen, P. Lu, Q. X. Jia, J. L. MacManus-Driscoll, X. Zhang, and H. Wang, “Strong perpendicular exchange bias in epitaxial $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3\text{:BiFeO}_3$ nanocomposite films through vertical interfacial coupling,” *Nanoscale* **7**, 13808 (2015).
88. S. Lee, W. Zhang, Q. X. Jia, H. Wang, and J. L. MacManus-Driscoll, “Strain tuning and strong enhancement of ionic conductivity in $\text{SrZrO}_3\text{-RE}_2\text{O}_3$ (RE = Sm, Eu, Gd, Dy, and Er) nanocomposite films,” *Adv. Funct. Mater.* **25**, 4328 (2015).
89. P. Jain, Q. Wang, M. Roldan, A. Glavic, V. Lauter, C. Urban, Z. Bi, T. Ahmed, J. Zhu, M. Varela, Q. X. Jia, and M. R. Fitzsimmons, “Synthetic magnetoelectric coupling in a nanocomposite multiferroic,” *Scientific Reports* **5**, 9089 (2015).
90. Y. Park, J. S. Choi, T. Choi, M. J. Lee, Q. X. Jia, M. Park, H. Lee, and B. H. Park, “Configuration of ripple domains and their topological defects formed under local mechanical stress on hexagonal monolayer graphene,” *Scientific Reports* **5**, 9390 (2015).
91. A. Chen, N. Poudyal, J. Xiong, J. P. Liu, and Q. X. Jia, “Modification of structure and magnetic anisotropy of epitaxial CoFe_2O_4 films by hydrogen reduction,” *Appl. Phys. Lett.* **106**, 111907 (2015).
92. Y. M. Sheu, S. A. Trugman, L. Yan, Q. X. Jia, A. J. Taylor, and R. P. Prasankumar, “Ultrafast optical manipulation of magnetoelectric coupling at a multiferroic interface,” *Nat. Commun.* **5**, 5832 (2014).
93. P. Lu, E. Roemro, S. Lee, J. L. MacManus-Driscoll, and Q. X. Jia, “Chemical quantification of atomic-scale EDS maps under thin specimen conditions,” *Microscopy & Microanalysis* **20**, 1782 (2014).
94. X. Lü, G. Wang, J. W. Howard, A. Chen, Y. Zhao, L. L. Daemen, and Q. X. Jia, “Li-rich antiperovskite Li_3OCl films with enhanced ionic conductivity,” *Chem. Commun.* **50**, 11520 (2014).
95. Q. Y. Lei, M. Golalikhani, D. Yang, W. Withanage, A. Rafti, J. Qiu, M. Hambe, E. Bauer, F. Ronning, Q. X. Jia, J. Weiss, E. Hellstrom, X. Wang, X. H. Chen, F. Williams, Q. Yang, D. Temple, and X. X. Xi, “Structural and transport properties of epitaxial $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ thin films on various substrates,” *Supercond. Sci. Technol.* **27**, 115010 (2014).
96. S. Lee, A. Sangle, P. Lu, A. Chen, W. Zhang, J. S. Lee, H. Wang, Q. X. Jia, and J. L. MacManus-Driscoll, “Novel electroforming-free nanoscaffold memristor with very high uniformity, tunability and density,” *Adv. Mater.* **26**, 6284 (2014).
97. J. A. Aguiar, P. P. Dholabhai, Z. Bi, Q. X. Jia, E. Fu, Y. Wang, T. Aoki, J. Zhu, A. Amit, and B. P. Uberuaga, “Probing defect-boundary interactions at oxide interfaces,” *J. Mater. Res.* **29**, 1699 (2014). (*Invited feature paper*)
98. E. M. Choi, T. Fix, A. Kursumovic, C. J. Kinane, D. Arena, S. L. Sahonta, Z. Bi, J. Xiong, L. Yan, J. S. Lee, H. Wang, S. Langridge, Y. M. Kim, A. Y. Borisevich, I. MacLaren, Q. M. Ramasse, M. G. Blamire, Q. X. Jia, and J. L. MacManus-Driscoll, “Room temperature

- ferrimagnetism and ferroelectricity in strained, thin films of $\text{BiFe}_{0.5}\text{Mn}_{0.5}\text{O}_3$,” *Adv. Funct. Mater.* **24**, 7478 (2014).
99. M. Staruch, K. Cil, H. Silva, J. Xiong, Q. X. Jia, and M. Jain, “Effect of Mn doping on the properties of sol-gel derived $\text{Pb}_{0.3}\text{Sr}_{0.7}\text{TiO}_3$ thin films,” *Ferroelectrics* **470**, 227 (2014).
 100. S. Singh, J. H. Haraldsen, J. Xiong, E. M. Choi, P. Lu, D. Yi, X. D. Wen, J. Liu, H. Wang, Z. Bi, P. Yu, M. R. Fitzsimmons, J. L. MacManus-Driscoll, R. Ramesh, A. V. Balatsky, J. X. Zhu, and Q. X. Jia, “Induced magnetization in $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3/\text{BiFeO}_3$ superlattices,” *Phys. Rev. Lett.* **113**, 047204 (2014).
 101. J. A. Aguiar, P. P. Dholabhai, Z. Bi, Q. X. Jia, E. G. Fu, Y. Q. Wang, T. Aoki, J. Zhu, A. Amit, and B. P. Uberuaga, “Linking interfacial step structure and chemistry with locally enhanced radiation-induced amorphization at oxide heterointerfaces,” *Adv. Mater. Interfaces* **1**, 1300142 (2014).
 102. A. Chen, M. Weigand, Z. Bi, W. Zhang, X. Lv, P. Dowden, H. Wang, J. L. MacManus-Driscoll, and Q. X. Jia, “Role of microstructure and strain on the magnetoresistance of nanocomposite films,” *Scientific Reports* **4**, 5426 (2014).
 103. R. Zhao, W. Li, J. H. Lee, E. M. Choi, Y. Liang, W. Zhang, R. Tang, H. Wang, Q. X. Jia, J. L. MacManus-Driscoll, and H. Yang, “Precise tuning of $(\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta})_{1-x}:(\text{BaZrO}_3)_x$ thin film nanocomposite structures,” *Adv. Funct. Mater.* **24**, 5240 (2014).
 104. J. Xiong, V. Matias, B. W. Tao, Y. R. Li, and Q. X. Jia, “Ferroelectric and ferromagnetic properties of epitaxial $\text{BiFeO}_3\text{-BiMnO}_3$ films on ion-beam-assisted deposited TiN buffered flexible Hastelloy,” *J. Appl. Phys.* **115**, 17D913 (2014).
 105. Y. Ji, Y. Zhang, M. Gao, Z. Yuan, Y. D. Xia, C. Q. Jin, B. W. Tao, C. L. Chen, Q. X. Jia, and Y. Lin, “Role of microstructures on the M1-M2 phase transition in epitaxial VO_2 thin films,” *Scientific Reports* **4**, 4854 (2014).
 106. Z. Bi, B. P. Uberuaga, L. J. Vernon, J. A. Aguiar, E. G. Fu, S. Zheng, S. Zhang, Y. Q. Wang, A. Misra, and Q. X. Jia, “Role of the interface on radiation damage in the $\text{SrTiO}_3/\text{LaAlO}_3$ heterostructure under Ne^{2+} ion irradiation,” *J. Appl. Phys.* **115**, 124315 (2014).
 107. Y. M. Sheu, S. A. Trugman, L. Yan, J. Qi, Q. X. Jia, A. J. Taylor, and R. P. Prasankumar, “Polaronic transport induced by competing interfacial magnetic order in a $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3/\text{BiFeO}_3$ heterostructure,” *Phys. Rev. X* **4**, 021001 (2014).
 108. A. Chen, Z. X. Bi, W. Zhang, J. Jian, Q. X. Jia, and H. Wang, “Textured metastable VO_2 (B) thin films on SrTiO_3 substrates with significantly enhanced conductivity,” *Appl. Phys. Lett.* **104**, 071909 (2014).
 109. P. C. Dowden, Z. Bi, and Q. X. Jia, “Method for controlling energy density for reliable pulsed laser deposition of thin films,” *Rev. Sci. Instrum.* **85**, 025111 (2014).
 110. W. Zhang, J. Jian, A. Chen, L. Jiao, F. Khatkhatay, L. Li, F. Chu, Q. X. Jia, J. L. MacManus-Driscoll, and H. Wang, “Strain relaxation and enhanced perpendicular magnetic anisotropy in $\text{BiFeO}_3:\text{CoFe}_2\text{O}_4$ vertically aligned nanocomposite thin films,” *Appl. Phys. Lett.* **104**, 062402 (2014).

111. Q. Su, W. Gong, D. Yoon, C. Jacob, Q. X. Jia, A. Manthiram, A. J. Jacobson, and H. Wang, "Interlayer effects on oxygen reduction kinetics in porous electrodes of $\text{La}_{0.5}\text{Sr}_{0.5}\text{CoO}_{3-\delta}$," *J. Electrochem. Soc.* **161**, F398 (2014).
112. W. Z. Liang, Z. Li, Z. X. Bi, T. X. Nan, H. Du, C. W. Nan, C. L. Chen, Q. X. Jia, and Y. Lin, "Role of the interface on the magnetoelectric properties of BaTiO_3 thin films deposited on polycrystalline Ni foils," *J. Mater. Chem. C*, **2**, 708 (2014).
113. T. M. McCleskey, P. Shi, E. Bauer, M. J. Highland, J. A. Eastman, Z. X. Bi, P. H. Fuoss, P. M. Baldo, W. Ren, B. L. Scott, A. K. Burrell, and Q. X. Jia, "Nucleation and growth of epitaxial metal-oxide films based on polymer-assisted deposition," *Chem. Soc. Rev.* **43**, 2141 (2014). (*Tutorial review*)
114. B. L. Scott, J. J. Joyce, T. D. Durakiewicz, R. L. Martin, T. M. McCleskey, E. Bauer, H. Luo, and Q. X. Jia, "High quality epitaxial thin films of actinide materials: advancing understanding of electronic structure of *f*-element materials," *Coord. Chem. Rev.* **266-267**, 137-154 (2014). (*Review article*)
115. W. Zhang, A. Chen, Z. X. Bi, Q. X. Jia, J. L. MacManus-Driscoll, and H. Wang, "Interfacial coupling in heteroepitaxial vertically aligned nanocomposite thin films: from lateral to vertical control," *Curr. Opin. Solid State Mater. Sci.* **18**, 6-18 (2014).
116. M. P. Paranthaman, T. Aytug, L. Stan, Q. X. Jia, C. Cantoni, and S. H. Wee, "Chemical solution derived planarization layers for highly aligned IBAD MgO templates," *Supercond. Sci. Technol.* **27**, 022002 (2014). (*Journal cover*)
117. R. E. Jilek, E. Bauer, A. K. Burrell, T. M. McCleskey, Q. X. Jia, B. L. Scott, M. F. Beaux, T. Durakiewicz, J. J. Joyce, K. D. Rector, J. Xiong, K. Gofryk, F. Ronning, and R. L. Martin, "Preparation of epitaxial uranium dicarbide thin films by polymer-assisted deposition," *Chem. Mater.* **25**, 4373-4377 (2013).
118. Q. Su, D. Yoon, Z. Sisman, F. Khatkhatay, Q. X. Jia, A. Manthiram, and H. Wang, "Vertically aligned nanocomposite $\text{La}_{0.8}\text{Sr}_{0.2}\text{MnO}_{3-\delta}/\text{Zr}_{0.92}\text{Y}_{0.08}\text{O}_{1.96}$ thin films as electrode/electrolyte interfacial layer for solid oxide reversible fuel cells," *Intl. J. Hydrogen Energy* **38**, 16320-16327 (2013).
119. P. Lu, M. Van Benthem, Q. X. Jia, "Chemical quantification of atomic-scale EDS maps under thin specimen conditions," *Microscopy and Microanalysis* **19** (S2), 1298 (2013).
120. Y. Y. Zhu, A. Chen, H. Zhou, W. Zhang, J. Narayan, J. L. MacManus-Driscoll, Q. X. Jia, and H. Wang, "Research updates: Epitaxial strain relaxation and associated interfacial reconstructions: The driving force for creating new structures with integrated functionality," *APL Mater.* **1**, 050702 (2013).
121. B. P. Uberuaga, E. Martinez, Z. Bi, M. Zhuo, Q. X. Jia, M. Nastasi, A. Misra, A. Caro, "Defect distributions and transport in nanocomposites: a theoretical perspective," *Mater. Res. Lett.* **1**, 193 (2013).
122. Y. Xu, G. Chen, E. Fu, M. Zhou, M. Dunwell, L. Fei, S. G. Deng, P. Andersen, Y. Q. Wang, Q. X. Jia, and H. M. Luo, "Nickel substituted LiMn_2O_4 cathode with durable high-rate capability for Li-ion batteries," *RSC Adv.* **3**, 18441-18445 (2013).

123. N. K. Brady, B. G. Perkins Jr, H. Y. Hwang, N. C. Brandt, D. Torchinsky, R. Singh, L. Yan, D. Trugman, S. A. Trugman, Q. X. Jia, A. J. Taylor, K. A. Nelson, and H. T. Chen, "Nonlinear high-temperature superconducting terahertz metamaterials," *New J. Phys.* **15**, 105016 (2013).
124. N. Haberkorn, Y. Y. Zhang, J. Kim, T. M. McCleskey, A. K. Burrell, R. F. DePaula, T. Tajima, Q. X. Jia, and L. Civale, "Upper critical magnetic field and vortex-free state in very thin epitaxial δ -MoN films grown by polymer-assisted deposition," *Supercond. Sci. Technol.* **26**, 105023 (2013).
125. T. A. Harriman, Z. Bi, Q. X. Jia, and D. A. Lucca, "Frequency shifts of E_2^{High} Raman mode due to residual stress in epitaxial ZnO thin films," *Appl. Phys. Lett.* **103**, 121904 (2013).
126. M. J. Zhuo, L. Yan, E. G. Fu, Y. Q. Wang, A. Misra, M. Nastasi, B. P. Uberuaga, and Q. X. Jia, "Phase transformations and defect clusters in single crystal SrTiO₃ irradiated at different temperatures," *J. Nuclear Mater.* **442**, 143-147 (2013).
127. A. Chen, W. Zhang, J. Jian, H. Wang, C.-F. Tsai, Q. Su, Q. X. Jia, and J. L. MacManus-Driscoll, "Role of boundaries on low-field magnetotransport properties of La_{0.7}Sr_{0.3}MnO₃-based nanocomposite thin films," *J. Mater. Res.* **28**, 1707-1714 (2013).
128. R. Singh, D. R. Chowdhury, J. Xiong, H. Yang, A. K. Azad, A. J. Taylor, Q. X. Jia, and H. T. Chen, "Influence of film thickness in THz active metamaterial devices: A comparison between superconductor and metal split-ring resonators," *Appl. Phys. Lett.* **103**, 061117 (2013).
129. Y. M. Sheu, S. A. Trugman, L. Yan, C. P. Chuu, Z. Bi, Q. X. Jia, A. J. Taylor, and R. P. Prasankumar, "Photoinduced stabilization and enhancement of the ferroelectric polarization in Ba_{0.1}Sr_{0.9}TiO₃/La_{0.7}Ca(Sr)_{0.3}MnO₃ thin film heterostructures," *Phys. Rev. B* **88**, 020101(R) (2013).
130. Y. H. Liu, J. Xiong, J. T. Haraldsen, L. Yan, A. V. Balatsky, Q. X. Jia, A. J. Taylor, and D. Yarotski, "Tuning the electronic properties of ultrathin La_{0.7}Sr_{0.3}MnO₃ films by interfacing with superconducting EuBa₂Cu₃O_{7- δ} ," *Phys. Rev. B.* **87**, 165140 (2013).
131. P. Lu, J. Xiong, M. Van Benthem, and Q. X. Jia, "Atomic-scale chemical quantification of oxide interfaces using energy dispersive x-ray spectroscopy," *Appl. Phys. Lett.* **102**, 173111 (2013).
132. A. Chen, Z. Bi, Q. X. Jia, J. L. MacManus-Driscoll, and H. Wang, "Microstructure, vertical strain control and tunable functionalities in self-assembled vertically aligned nanocomposite thin films," *Acta Materialia* **61**, 2783-2792 (2013).
133. A. Chen, W. Zhang, F. Khatkatay, Q. Su, C. F. Tsai, L. Chen, Q. X. Jia, J. L. MacManus-Driscoll, and H. Wang, "Magnetotransport properties of quasi-one-dimensional channeled vertically aligned heteroepitaxial nanomazes," *Appl. Phys. Lett.* **102**, 093114 (2013).
134. D. Bufford, Y. Liu, Y. Zhu, Z. Bi, Q. X. Jia, H. Wang, and X. Zhang, "Formation mechanisms of high-density growth twins in aluminum with high stacking-fault energy," *Mater. Res. Lett.* **1**, 51-60 (2013).
135. F. Rivadulla, Z. X. Bi, E. Bauer, B. R. Murias, J. M. Vila-Funqueirino, and Q. X. Jia, "Strain-induced ferromagnetism and magnetoresistance in epitaxial thin films of LaCoO₃ prepared by polymer assisted deposition," *Chem. Mater.* **25**, 55-58 (2013).

136. Z. B. Yang, T. Chen, R. X. He, H. P. Li, H. J. Lin, L. Li, G. F. Zou, Q. X. Jia, and H. S. Peng, "A novel carbon nanotube/polymer composite film for counter electrodes of dye-sensitized solar cells," *Polym. Chem.* **4**, 1680-1684 (2013).
137. Z. Bi, B. P. Uberuaga, E. G. Fu, Y. Q. Wang, N. Li, H. Y. Wang, A. Misra, and Q. X. Jia, "Radiation damage in heteroepitaxial BaTiO₃/SrTiO₃ thin films under Ne ion irradiation," *J. Appl. Phys.* **113**, 023513 (2013).
138. G. F. Zou, J. Zhao, H. M. Luo, T. M. McCleskey, A. K. Burrell, and Q. X. Jia, "Polymer-assisted deposition: a chemical solution route for a wide range of materials," *Chem. Soc. Rev.* **42**, 439-449 (2013). (*Tutorial review*)
139. A. Chen, H. H. Zhou, Z. Bi, Y. Zhu, Z. Luo, A. Bayraktaroglu, J. Phillips, E. M. Choi, J. L. MacManus-Driscoll, S. J. Pennycook, J. Narayan, Q. X. Jia, X. Zhang, and H. Wang, "A new class of room temperature multiferroic thin films with bismuth-based supercell structure," *Adv. Mater.* **25**, 1028-1032 (2013).
140. T. M. McCleskey, E. Bauer, Q. X. Jia, A. K. Burrell, B. L. Scott, S. D. Conradson, A. Mueller, L. Roy, X. D. Wen, G. E. Scuseria, and R. L. Martin, "Optical band gap of NpO₂ and PuO₂ from optical absorbance of epitaxial films," *J. Appl. Phys.* **13**, 013515 (2013).
141. R. Singh, J. Xiong, A. K. Azad, H. Yang, S. A. Trugman, Q. X. Jia, A. J. Taylor, and H. T. Chen, "Optical tuning and ultrafast dynamics of high-temperature superconducting terahertz metamaterials," *Nanophotonics* **1**, 117-123 (2012).
142. B. D. Gauntt, P. Lu, L. Yan, and Q. X. Jia, "Atomic resolution imaging of SmMnO₃/LaAlO₃ interfaces using AC-STEM," *Microscopy and Microanalysis* **18**, 410 (2012).
143. D. C. Iza, D. Munoz-Rojas, Q. X. Jia, B. Swartzentruber, and J. L. MacManus-Driscoll, "Tuning of defects in ZnO nanorod arrays used in bulk heterojunction solar cells," *Nanoscale Res. Lett.* **7**, 655 (2012).
144. A. Caviezel, U. Staub, S. L. Johnson, S. O. Mariager, E. Mohr-Vorobeva, G. Ingold, C. J. Milne, M. Garanourakis, V. Scagnoli, S. W. Huang, Q. X. Jia, S. W. Cheong, and P. Beaud, "Femtosecond dynamics of the structural transition in mixed valence manganites," *Phys. Rev. B.* **86**, 174105 (2012).
145. D. Bufford, Z. Bi, Q. X. Jia, H. Wang, and X. Zhang, "Nanotwins and stacking faults in high-strength epitaxial Ag/Al multilayer films," *Appl. Phys. Lett.* **101**, 223112 (2012).
146. S. X. Zhang, R. D. McDonald, A. Shekhter, Z. X. Bi, Y. Li, Q. X. Jia, and S. T. Picraux, "Magneto-resistance up to 60 Tesla in topological insulator Bi₂Te₃ thin films," *Appl. Phys. Lett.* **101**, 202403 (2012).
147. F. Song, A. Monsen, Z. S. Li, E. M. Choi, J. L. MacManus-Driscoll, J. Xiong, Q. X. Jia, W. Wahlstrom, J. W. Wells, "Extracting the near surface stoichiometry of BiFe_{0.5}Mn_{0.5}O₃ thin films: a finite element maximum entropy approach," *Surf. Sci.* **606**, 1771-1776 (2012).
148. S. X. Zhang, L. Yan, J. Qi, M. Zhuo, Y. Q. Wang, R. P. Prasankumar, Q. X. Jia, S. T. Picraux, "Epitaxial thin films of topological insulator Bi₂Te₃ with two-dimensional weak anti-localization effect grown by pulsed laser deposition," *Thin Solid Films* **520**, 6459-6462 (2012).

149. O. Lee, S. A. Harrington, A. Kursumovic, E. Defay, H. Wang, Z. Bi, C. F. Tsai, L. Yan, Q. X. Jia, and J. L. MacManus-Driscoll, "Extremely high tunability and low loss in nanoscaffold ferroelectric films," *Nano Lett.* **12**, 4311-4317 (2012).
150. J. Qi, L. Yan, H. D. Zhou, J.-X. Zhu, S. A. Trugman, A. J. Taylor, Q. X. Jia, and R. P. Prasankumar, "Coexistence of coupled magnetic phases in epitaxial TbMnO₃ films revealed by ultrafast optical spectroscopy," *Appl. Phys. Lett.* **101**, 122904 (2012).
151. V. F. Solovyov, Q. Li, W. Si, B. Maiorov, T. J. Haugan, J. L. MacManus-Driscoll, H. Yang, Q. X. Jia, and E. D. Specht, "Influence of defect-induced biaxial strain on flux pinning in thick YBa₂Cu₃O₇ layers," *Phys. Rev. B* **86**, 094511 (2012).
152. Y. D. Ji, T. S. Pan, Z. Bi, W. Z. Liang, Y. Zhang, H. Z. Zeng, Q. Y. Wen, H. W. Zhang, C. L. Chen, Q. X. Jia, and Y. Lin, "Epitaxial growth and metal-insulator transition of vanadium oxide thin films with controllable phases," *Appl. Phys. Lett.* **101**, 071902 (2012).
153. M. J. Zhuo, B. P. Uberuaga, L. Yan, E. G. Fu, R. M. Dickerson, Y. Q. Wang, A. Misra, M. Nastasi, and Q. X. Jia, "Radiation damage at the coherent anatase TiO₂/SrTiO₃ interface under Ne ion irradiation," *J. Nuclear Mater.* **429**, 177-184 (2012).
154. L. Yan, M. J. Zhou, Z. Wang, J. Yao, N. Haberkorn, S. Zhang, L. Civale, J. Li, D. Viehland, and Q. X. Jia, "Magnetoelectric properties of flexible BiFeO₃/Ni tapes," *Appl. Phys. Lett.* **101**, 012908 (2012).
155. D. Yarotski, E. G. Fu, L. Yan, Q. X. Jia, Y. Q. Wang, A. J. Taylor, and B. P. Uberuaga, "Characterization of irradiation damage distribution near TiO₂/SrTiO₃ interfaces using coherent acoustic phonon interferometry," *Appl. Phys. Lett.* **100**, 251603 (2012).
156. W. Liang, Y. Ji, T. Nan, J. Huang, Z. Bi, H. Zeng, H. Du, C. L. Chen, Q. X. Jia, and Y. Lin, "Growth dynamics of barium titanate thin films on polycrystalline Ni foils using polymer assisted deposition technique," *ACS Appl. Mater. & Interfaces* **4**, 2199-2203 (2012).
157. Y. M. Sheu, S. A. Trugman, Y. S. Park, S. Lee, H. Y. Yi, S. W. Cheong, Q. X. Jia, A. J. Taylor, and R. P. Prasankumar, "Ultrafast carrier dynamics and radiative recombination in multiferroic BiFeO₃," *Appl. Phys. Lett.* **100**, 242904 (2012).
158. E. G. Fu, Y. Q. Wang, G. F. Zou, J. Xiong, M. J. Zhuo, Q. M. Wei, J. K. Baldwin, Q. X. Jia, L. Shao, A. Misra, and M. Nastasi, "Irradiation induced changes in small angle grain boundaries in mosaic Cu thin films," *Appl. Phys. A* **108**, 121-126 (2012).
159. Y. Y. Zhang, F. Ronning, K. Gofryk, N. A. Mara, G. F. Zou, N. Haberkorn, H. Wang, E. Bauer, T. M. McCleskey, A. K. Burrell, L. Civale, Y. T. Zhu, and Q. X. Jia, "Aligned carbon nanotubes sandwiched in epitaxial NbC film for enhanced superconductivity," *Nanoscale* **4**, 2268-2271 (2012).
160. Q. Lin, Y. Xu, E. G. Fu, S. Baber, Z. Bao, L. Yu, S. G. Deng, J. Kundu, J. Hollingsworth, E. Bauer, T. M. McCleskey, A. K. Burrell, Q. X. Jia, and H. M. Luo, "Polymer-assisted chemical solution approach to YVO₄:Eu nanoparticle networks," *J. Mater. Chem.* **22**, 5835 (2012).
161. J. Bae, I. Hwang, Y. Jeong, S. O. Kang, S. Hong, J. Son, J. Choi, J. Park, M. J. Seong, Q. X. Jia, and B. H. Park, "Coexistence of bi-stable memory and mono-stable threshold resistance switching phenomena in amorphous NbOx films," *Appl. Phys. Lett.* **100**, 062902 (2012).

162. S. M. Baber, Q. L. Lin, G. F. Zou, N. Haberkorn, S. A. Baily, H. Wang, Z. Bi, H. Yang, S. Deng, S. Zollner, M. E. Hawley, L. Civale, E. Bauer, T. M. McCleskey, A. K. Burrell, Q. X. Jia, and H. M. Luo, "Magnetic properties of self-assembled epitaxial nanocomposite $\text{CoFe}_2\text{O}_4\text{:SrTiO}_3$ and $\text{CoFe}_2\text{O}_4\text{:MgO}$ films," *J. Phys. Chem. C* **115**, 25338-25342 (2011).
163. Y. Y. Zhang, N. Haberkorn, F. Ronning, H. Wang, N. A. Mara, M. Zhuo, C. Li, J. H. Lee, K. J. Blackmore, E. Bauer, A. K. Burrell, T. M. McCleskey, M. E. Hawley, R. K. Schulze, L. Civale, T. Tajima, and Q. X. Jia, "Structure and superconducting property of epitaxial δ -MoN films by a chemical solution method," *J. Am. Chem. Soc.* **133**, 20735-20737 (2011).
164. H. M. Luo, G. F. Zou, H. Wang, J. H. Lee, Y. Lin, H. Peng, Q. L. Lin, S. Deng, E. Bauer, T. M. McCleskey, A. K. Burrell, and Q. X. Jia, "Controlling crystal structure and oxidation state in molybdenum nitrides through epitaxial stabilization," *J. Phys. Chem. C* **115**, 17880-17883 (2011).
165. M. J. Zhuo, E. G. Fu, L. Yan, Y. Q. Wang, Y. Y. Zhang, R. M. Dickerson, B. P. Uberuaga, A. Misra, M. Nastasi, and Q. X. Jia, "Interface-enhanced defect absorption between epitaxial anatase TiO_2 film and single crystal SrTiO_3 ," *Scripta Materialia* **65**, 807-810 (2011).
166. S. A. Harrington, J. Zhai, S. Denev, V. Gopalan, H. Wang, Z. Bi, S. A. T. Redfern, S. H. Baek, C. W. Bark, C. B. Eom, Q. X. Jia, M. E. Vickers, and J. L. MacManus-Driscoll, "Thick lead-free ferroelectric films with high Curie temperatures through nanocomposite-induced strain," *Nat. Nanotechnology* **6**, 491-495 (2011).
167. I. S. Byun, D. Yoon, J. S. Choi, I. Hwang, D. H. Lee, M. J. Lee, T. Kawai, Y. W. Son, Q. X. Jia, H. Cheong, and B. H. Park, "Nanoscale lithography on monolayer graphene using hydrogenation and oxidation," *ACS Nano* **5**, 6417-6424 (2011).
168. A. Chen, Z. Bi, H. Hazariwala, X. Zhang, Q. Su, Li Chen, Q. X. Jia, J. L. MacManus-Driscoll, and H. Wang, "Microstructure, magnetic, and low-field magnetotransport properties of self-assembled $(\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3)_{0.5}\text{:}(\text{CeO}_2)_{0.5}$ vertically aligned nanocomposite thin films," *Nanotechnology* **22**, 315712 (2011).
169. B. S. Kang, L. Stan, I. O. Usov, J. K. Lee, T. A. Harriman, D. A. Lucca, R. F. DePaula, P. N. Arendt, M. Nastasi, J. L. MacManus-Driscoll, B. H. Park, and Q. X. Jia, "Strain mismatch induced tilted heteroepitaxial (000 l) hexagonal ZnO films on (001) cubic substrates," *Adv. Eng. Mater.* **13**, 1142-1145 (2011).
170. G. F. Zou, H. Luo, S. Baily, Y. Zhang, N. Haberkorn, J. Xiong, E. Bauer, T. McCleskey, A. Burrell, L. Civale, Y. T. Zhu, J. L. MacManus-Driscoll, and Q. X. Jia, "Highly aligned carbon nanotube forests coated by superconducting NbC," *Nat. Commun.* **2**, 248 (2011).
171. A. Chen, Z. Bi, C. F. Tsai, J. H. Lee, Q. Su, X. Zhang, Q. X. Jia, J. L. MacManus-Driscoll, and H. Wang, "Tunable low-field magnetoresistance in $(\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3)\text{:}(\text{ZnO})_{0.5}$ self-assembled vertically aligned nanocomposite thin films," *Adv. Funct. Mater.* **21**, 2423-2429 (2011).
172. W. Liu, X. H. Zhang, G. Xu, P. D. Bradford, X. Wang, H. B. Zhao, Y. Y. Zhang, Q. X. Jia, F. G. Yuan, Q. W. Li, Y. P. Qiu, and Y. T. Zhu, "Producing superior composites by winding carbon nanotubes onto a mandrel under a poly(vinyl alcohol) spray," *Carbon* **49**, 4786-4791 (2011).

173. A. S. Budiman, N. Li, Q. Wei, J. K. Baldwin, J. Xiong, H. Luo, D. Trugman, Q. X. Jia, N. Tamura, M. Kunz, K. Chen, and A. Misra, "Growth and structural characterization of epitaxial Cu/Nb multilayers," *Thin Solid Films* **519**, 4137-4143 (2011).
174. J. S. Lee, Y. M. Kim, J. H. Kwon, J. S. Sim, H. Shin, B. H. Sohn, and Q. X. Jia, "Multilevel data storage memory devices based on the controlled capacitive coupling of trapped electrons," *Adv. Mater.* **23**, 2064-2068 (2011).
175. B. H. Park, Y. R. Li, J. Xiong, and Q. X. Jia, "Dielectric properties of epitaxial $Ba_{1-x}Sr_xTiO_3$ films on MgO substrates," *Funct. Mater. Lett.* **4**, 41-44 (2011).
176. R. Singh, A. K. Azad, Q. X. Jia, A. J. Taylor, and H. T. Chen, "Thermal tunability in terahertz metamaterials fabricated on strontium titanate single crystal substrates," *Optics Lett.* **36**, 1230 (2011).
177. Q. Su, J. H. Lee, Z. Bi, B. Zhu, K. K. Shung, Q. Zhou, S. Takeuchi, B. H. Park, Q. X. Jia, and H. Wang, "Self-separated PZT thick films with bulk-like piezoelectric and electromechanical properties," *J. Mater. Res.* **26**, 1431-1435 (2011).
178. Z. Bi, A. Chen, H. Wang, E. Weal, J. L. MacManus-Driscoll, H. Luo, and Q. X. Jia, "Microstructure and magnetic properties of $(La_{0.7}Sr_{0.3}MnO_3)_{0.7}:(Mn_3O_4)_{0.3}$ nanocomposite thin films", *J. Appl. Phys.* **109**, 054302 (2011).
179. X. L. Li, J. D. Thompson, Y. Y. Zhang, C. I. Brady, G. F. Zou, N. H. Mack, D. Williams, J. G. Duque, Q. X. Jia, and S. K. Doorn, "Efficient synthesis of tailored magnetic carbon nanotubes via a noncovalent chemical route," *Nanoscale* **3**, 668-673 (2011).
180. E. M. Choi, S. Patnaik, E. Weal, S. L. Sahonta, H. Wang, Z. Bi, J. Xiong, M. G. Blamire, Q. X. Jia, and J. L. MacManus-Driscoll, "Strong room temperature magnetism in highly resistive strained thin films of $BiFe_{0.5}Mn_{0.5}O_3$," *Appl. Phys. Lett.* **98**, 012509 (2011).
181. P. Xu, S. H. Jeon, H. T. Chen, H. Luo, G. F. Zou, Q. X. Jia, M. Anghel, C. Teuscher, D. J. Williams, B. Zhang, X. J. Han, and H. L. Wang, "Facile synthesis and electrical properties of silver wires through chemical reduction by polyaniline," *J. Phys. Chem. C* **114**, 22147-22154 (2010).
182. P. D. Bradford, X. Wang, H. B. Zhao, J. P. Maria, Q. X. Jia, and Y. T. Zhu, "A novel approach to fabricate high volume fraction nanocomposites with long aligned carbon nanotubes," *Composites Sci. & Technol.* **70**, 1980-1985 (2010).
183. H. T. Chen, H. Yang, R. Singh, J. F. O'Hara, A. K. Azad, S. A. Trugman, Q. X. Jia, and A. J. Taylor, "Tuning the resonance in high-temperature superconducting terahertz metamaterials," *Phys. Rev. Lett.* **105**, 247402 (2010).
184. G. F. Zou, H. M. Luo, Y. Y. Zhang, J. Xiong, Q. Wei, M. Zhuo, J. Zhai, H. Wang, D. Williams, N. Li, E. Bauer, X. H. Zhang, T. M. McCleskey, Y. R. Li, A. K. Burrell, and Q. X. Jia, "A chemical solution approach for superconducting and hard epitaxial NbC film," *Chem. Commun.* **46**, 7837 (2010).
185. H. Zhao, P. D. Bradford, X. Wang, W. Liu, T. J. M. Luo, Q. X. Jia, Y. T. Zhu, and F. G. Yuan, "An intermetallic Fe-Zr catalyst used for growing long carbon nanotube arrays," *Mater. Lett.* **64**, 1947 (2010).

186. G. Sheng, Y. L. Li, J. X. Zhang, S. Choudhury, Q. X. Jia, V. Gopalan, D. G. Schlom, Z. K. Liu, and L. Q. Chen, "Phase transitions and domain stabilities in biaxially strained (001) SrTiO₃ epitaxial thin films," *J. Appl. Phys.* **108**, 084113 (2010).
187. J. Xiong, V. Matias, H. Wang, J. Y. Zhai, B. Maiorov, D. Trugman, B. W. Tao, Y. R. Li, and Q. X. Jia, "Much simplified IBAD-TiN template for high performance coated conductors," *J. Appl. Phys.* **108**, 083903 (2010).
188. Z. Bi, O. Anderoglu, X. Zhang, J. L. MacManus-Driscoll, H. Yang, Q. X. Jia, and H. Wang, "Nanoporous thin films with controllable nanopores processed from vertically aligned nanocomposites," *Nanotechnology* **21**, 285606 (2010).
189. G. Sheng, Y. L. Li, J. X. Zhang, S. Choudhury, Q. X. Jia, V. Gopalan, D. G. Schlom, Z. K. Liu, and L. Q. Chen, "A modified Landau-Devonshire thermodynamic potential for strontium titanate," *Appl. Phys. Lett.* **96**, 232902 (2010).
190. M. Staruch, L. Stan, F. Ronning, J. D. Thompson, Q. X. Jia, J. Yoon, H. Wang, and M. Jain, "Magnetotransport properties of epitaxial Pr_{0.5}Ca_{0.5}MnO₃ films grown by a solution technique," *J. Magnetism and Magnetic Mater.* **322**, 2708-2711 (2010).
191. H. B. Zhao, Y. Y. Zhang, P. D. Bradford, Q. Zhou, Q. X. Jia, F. G. Yuan, and Y. T. Zhu, "Carbon nanotube yarn strain sensors," *Nanotechnology* **21**, 305502 (2010).
192. H. M. Luo, H. Wang, G. F. Zou, E. Bauer, T. M. McCleskey, A. K. Burrell, and Q. X. Jia, "A review of epitaxial metal-nitride films by polymer-assisted deposition," *Trans. Electrical & Electronic Mater.* **11**, 54-60 (2010). (*Invited article*)
193. Y. Y. Zhang, C. J. Sheehan, J. Y. Zhai, G. F. Zou, H. M. Luo, J. Xiong, Y. T. Zhu, and Q. X. Jia, "Polymer-embedded carbon nanotube ribbons for stretchable conductors," *Adv. Mater.* **22**, 3027-3031 (2010).
194. S. Baber, M. Zhou, Q. L. Lin, M. Naalla, Q. X. Jia, Y. Lu, and H. M. Luo, "Nanoconfined surfactant templated electrodeposition to porous hierarchical nanowires and nanotubes," *Nanotechnology* **21**, 165603 (2010).
195. Y. Lin, C. Dai, Y. R. Li, X. Chen, C. L. Chen, A. Bhalla, and Q. X. Jia, "Strain relaxation in epitaxial (Pb,Sr)TiO₃ thin films on NdGaO₃ substrates," *Appl. Phys. Lett.* **96**, 102901 (2010).
196. G. F. Zou, H. Wang, N. Mara, H. Luo, N. Li, Z. F. Di, E. Bauer, Y. Q. Wang, T. M. McCleskey, A. K. Burrell, X. Zhang, M. Nastasi, and Q. X. Jia, "Chemical solution deposition of epitaxial carbide films," *J. Am. Chem. Soc.* **132**, 2516-2517 (2010).
197. S. C. Wimbush, J. H. Durrell, C. F. Tsai, H. Wang, Q. X. Jia, M. G. Blamire, and J. L. MacManus-Driscoll, "Enhanced critical current in YBa₂Cu₃O_{7-δ} thin films through pinning by ferromagnetic YFeO₃ nanoparticles," *Supercond. Sci. Technol.* **23**, 045019 (2010).
198. G. F. Zou, M. K. Jain, H. Yang, Y. Y. Zhang, D. Williams, and Q. X. Jia, "Recyclable and electrically conducting carbon nanotube composite films," *Nanoscale* **2**, 418-422 (2010).
199. H. Yang, Y. Q. Wang, H. Wang, and Q. X. Jia, "Oxygen concentration and its effect on the leakage current in BiFeO₃ thin films," *Appl. Phys. Lett.* **96**, 012909 (2010).
200. L. Stan, B. W. Tao, T. G. Holesinger, H. Yang, D. M. Feldmann, B. Maiorov, S. A. Baily, L. Civale, R. F. DePaula, Y. R. Li, and Q. X. Jia, "The role of thermally and chemically stable

- composite $\text{Y}_2\text{O}_3:\text{Al}_2\text{O}_3$ in the development of $\text{YBa}_2\text{Cu}_3\text{O}_7$ films on metal substrates,” *Supercond. Sci. Technol.* **23**, 045012 (2010).
201. G. F. Zou, H. Luo, F. Ronning, B. Sun, T. M. McCleskey, A. K. Burrell, E. Bauer, and Q. X. Jia, “Facile chemical solution deposition of high-mobility epitaxial germanium films on silicon,” *Angew. Chem. Int. Ed.* **49**, 1782-1785 (2010).
 202. L. Stan, Y. Chen, X. Xiong, T. G. Holesinger, B. Maiorov, D. M. Feldmann, L. Civale, R. F. DePaula, V. Selvamanickam, and Q. X. Jia, “Investigation of $(\text{Y,Ga})\text{Ba}_2\text{Cu}_3\text{O}_{7-\delta}$ grown by MOCVD on a simplified IBAD MgO template,” *Supercond. Sci. Technol.* **23**, 014011 (2010).
 203. U. Ugurlu, D. M. Feldmann, Q. X. Jia, and T. G. Holesinger, “Microstructural characterization of $\text{Ba}_{0.6}\text{Sr}_{0.4}\text{TiO}_3\text{-MgO}$ Composite Thin films,” *Microscopy and Microanalysis* **15**, 1008 (2009).
 204. H. Yang, H. Wang, B. Maiorov, J. Lee, D. Talbayev, M. J. Hinton, D. M. Feldmann, J. L. MacManus-Driscoll, A. J. Taylor, L. Civale, T. R. Lemberger, and Q. X. Jia, “Self-assembled multilayers and enhanced superconductivity in $(\text{YBa}_2\text{Cu}_3\text{O}_{7-x})_{0.5}:(\text{BaZrO}_3)_{0.5}$ nanocomposite films,” *J. Appl. Phys.* **106**, 093914 (2009).
 205. Z. Bi, J. W. Lee, H. Wang, H. Yang, Q. X. Jia, and J. L. MacManus-Driscoll, “Tunable lattice strain in vertically aligned nanocomposite $(\text{BiFeO}_3)_x(\text{Sm}_2\text{O}_3)_{1-x}$ thin films,” *J. Appl. Phys.* **106**, 094309 (2009).
 206. P. Beaud, S. L. Johnson, E. Vorobeva, U. Staub, C. J. Milne, Q. X. Jia, and G. Ingold, “An ultrafast structural phase transition driven by photo-induced melting of charge and orbital order,” *Phys. Rev. Lett.* **103**, 155702 (2009).
 207. H. Peng, X. M. Sun, F. J. Cai, X. Chen, G. P. Liao, D. Y. Chen, Q. W. Li, Y. F. Lu, Y. T. Zhu, and Q. X. Jia, “Electrochromatic carbon nanotube/polydiacetylene nanocomposite fibers,” *Nat. Nanotechnology* **4**, 738-741 (2009).
 208. Y. Y. Zhang, L. Stan, P. Xu, H. L. Wang, S. K. Doorn, H. Htoon, Y. T. Zhu, and Q. X. Jia, “A double-layered carbon nanotube array with super-hydrophobicity,” *Carbon* **47**, 3332-3336 (2009).
 209. S. R. Foltyn, H. Wang, L. Civale, B. Maiorov, and Q. X. Jia, “The role of interfacial defects in enhancing the critical current density of $\text{YBa}_2\text{Cu}_3\text{O}_7$ coatings,” *Supercond. Sci. Technol.* **22**, 125002 (2009).
 210. Y. Y. Zhang, G. F. Zou, S. K. Doorn, H. Htoon, L. Stan, M. E. Hawley, C. J. Sheehan, Y. T. Zhu, and Q. X. Jia, “Tailoring the morphology of carbon nanotube arrays: from spinnable forests to undulating foams,” *ACS Nano* **3**, 2157-2162 (2009).
 211. H. Wang, S. R. Foltyn, L. Civale, B. Maiorov, and Q. X. Jia, “Attenuation of interfacial pinning enhancement in YBCO using PrBCO buffer layer,” *Physica C* **469**, 2033-2036 (2009).
 212. H. Zhou, B. Maiorov, S. A. Baily, P. C. Dowden, J. A. Kennison, L. Stan, T. G. Holesinger, Q. X. Jia, S. R. Foltyn, and L. Civale, “Thickness dependence of critical current density in $\text{YBa}_2\text{Cu}_3\text{O}_7$ films with BaZrO_3 and Y_2O_3 addition,” *Supercond. Sci. Technol.* **22**, 085013/6 (2009).

213. H. M. Luo, H. Wang, Z. X. Bi, G. F. Zou, T. M. McCleskey, A. K. Burrell, E. Bauer, M. E. Hawley, Y. Lin, S. A. Baily, L. Civale, Y. Q. Wang, and Q. X. Jia, "Highly conductive layered ternary transition metal-nitride films," *Angew. Chem. Int. Ed.* **48**, 1490-1493 (2009).
214. A. Fouchet, H. Wang, H. Yang, J. Yoon, Q. X. Jia, and J. L. MacManus-Driscoll, "Spontaneous ordering, strain control and multifunctionality in vertical nanocomposite heteroepitaxial films," *IEEE Trans. Ultrasonics, Ferroelectrics, and Frequency Control* **56**, 1534-1538 (2009).
215. H. Yang, H. Wang, J. Yoon, Y. Q. Wang, M. Jain, D. M. Feldmann, P. C. Dowden, J. L. MacManus-Driscoll, and Q. X. Jia, "Vertical interface effect on the physical properties of self-assembled nanocomposite epitaxial films," *Adv. Mater.* **21**, 3794-3798 (2009).
216. H. M. Luo, Y. Lin, H. Wang, J. H. Lee, N. A. Suvorova, A. H. Mueller, A. K. Burrell, T. M. McCleskey, E. Bauer, I. O. Usov, M. E. Hawley, T. G. Holesinger, and Q. X. Jia, "A chemical solution approach to epitaxial metal nitride thin films," *Adv. Mater.* **21**, 193-197 (2009).
217. G. F. Zou, H. Yang, M. Jain, H. H. Zhou, D. Williams, M. Zhou, T. M. McCleskey, A. K. Burrell, and Q. X. Jia, "Vertical connection of carbon nanotubes to silicon at room temperature using a chemical route," *Carbon* **47**, 933-937 (2009).
218. S. C. Wimbush, M. Li, M. E. Cickers, B. Maiorov, D. M. Feldmann, Q. X. Jia, and J. L. MacManus-Driscoll, "Interfacial strain-induced oxygen disorder as the cause of enhanced critical current density in superconducting thin films," *Adv. Funct. Mater.* **19**, 835-841 (2009).
219. L. Stan, D. M. Feldmann, I. O. Usov, T. G. Holesinger, B. Maiorov, L. Civale, R. F. DePaula, P. C. Dowden, and Q. X. Jia, "Composite $Y_2O_3-Al_2O_3$ as a diffusion barrier/nucleation layer for HTS coated conductors based on IBAD-MgO," *IEEE Trans. Appl. Supercond.* **19**, 3459-3462 (2009).
220. Y. L. Li, S. Y. Hu, S. Choudhury, M. I. Baskes, A. Saxena, T. Lookman, Q. X. Jia, D. G. Schlom, and L. Q. Chen, "Influence of interfacial dislocations on hysteresis loops of ferroelectric films," *J. Appl. Phys.* **104**, 104110 (2008).
221. E. Bauer, A. H. Mueller, I. Usov, N. Suvorova, M. T. Janicke, G. I. N. Waterhouse, M. R. Waterland, Q. X. Jia, A. K. Burrell, and T. M. McCleskey, "Chemical solution route to conformal phosphor coatings on nanostructures," *Adv. Mater.* **20**, 4704-4707 (2008).
222. M. Jain, E. Bauer, Y. Lin, H. Wang, A. K. Burrell, T. M. McCleskey, and Q. X. Jia, "BaTiO₃-related ferroelectric thin films by polymer assisted deposition," *Integrated Ferroelectrics* **100**, 132-139 (2008).
223. J. L. MacManus-Driscoll, P. Zerrer, H. Wang, H. Yang, J. Yoon, S. R. Foltyn, M. G. Blamire, and Q. X. Jia, "Spontaneous ordering, strain control and manipulation in vertical nanocomposite heteroepitaxial films," *Nat. Mater.* **7**, 314-320 (2008).
224. S. Choudhury, J. X. Zhang, Y. L. Li, L. Q. Chen, Q. X. Jia, and S. V. Kalinin, "Effect of ferroelastic twin walls on local polarization switching: phase-field modeling," *Appl. Phys. Lett.* **93**, 162901 (2008).
225. G. Sheng, J. X. Zhang, Y. L. Li, S. Choudhury, Q. X. Jia, Z. K. Liu, and L. Q. Chen, "Misfit strain – misfit strain diagram of epitaxial BaTiO₃ thin films: thermodynamic calculations and phase-field simulations," *Appl. Phys. Lett.* **93**, 232904 (2008).

226. L. Stan, T. G. Holesinger, B. Maiorov, Y. Chen, D. M. Feldmann, I. O. Usov, R. F. DePaula, V. Selvamanickam, L. Civale, S. R. Foltyn, and Q. X. Jia, "Structural and superconducting properties of (Y,Ga)Ba₂Cu₃O₇, grown by MOCVD on samarium zirconate buffered IBAD-MgO," *Supercond. Sci. Technol.* **21**, 105023 (2008).
227. H. M. Luo, Y. Lin, H. Wang, C. Y. Chou, N. Suvorova, M. E. Hawley, A. H. Mueller, F. Ronning, E. Bauer, A. K. Burrell, T. M. McCleskey, and Q. X. Jia, "Epitaxial GaN thin films prepared by polymer-assisted deposition," *J. Phys. Chem. C* **112**, 20535-20538 (2008).
228. G. Sheng, J. X. Zhang, Y. L. Li, S. Choudhury, Q. X. Jia, Z. K. Liu, and L. Q. Chen, "Domain stability of PbTiO₃ thin films under anisotropic misfit strains: phase-field simulations," *J. Appl. Phys.* **104**, 054105 (2008).
229. J. S. Lee and Q. X. Jia, "Comparative study of reliability issues in La-doped bismuth titanate thin films according to the bottom electrode materials," *Electronic Mater. Lett.* **4**, 95 (2008).
230. H. S. Jung, J. K. Lee, J. Lee, B. S. Kang, Q. X. Jia, and M. Nastasi, "Strain relaxation in sol-gel grown epitaxial anatase thin films," *J. Phys. Chem. C* **112**, 4205-4208 (2008).
231. H. Yang, H. Wang, G. F. Zou, M. Jain, N. A. Suvorova, D. M. Feldmann, P. C. Dowden, R. F. DePaula, J. L. MacManus-Driscoll, A. J. Taylor, and Q. X. Jia, "Leakage mechanisms of self-assembled (BiFeO₃)_{0.5}:(Sm₂O₃)_{0.5} nanocomposite films," *Appl. Phys. Lett.* **93**, 142904 (2008).
232. H. M. Luo, H. Wang, Z. X. Bi, D. M. Feldmann, Y. Q. Wang, A. K. Burrell, T. M. McCleskey, E. Bauer, M. E. Hawley, and Q. X. Jia, "Epitaxial ternary nitride thin films prepared by a chemical solution method," *J. Am. Chem. Soc.* **130**, 15224-15225 (2008).
233. G. F. Zou, M. Jain, H. H. Zhou, H. M. Luo, S. A. Baily, L. Civale, E. Bauer, T. M. McCleskey, A. K. Burrell, and Q. X. Jia, "Ultrathin epitaxial superconducting niobium nitride films grown by a chemical solution technique," *Chem. Commun.* **45**, 6022-6024 (2008).
234. L. Shao, Z. Di, Y. Lin, Q. X. Jia, Y. Q. Wang, M. Nastasi, P. E. Thompson, N. D. Theodore, and P. K. Chu, "The role of strain in hydrogenation induced cracking in Si/Si_{1-x}Ge_x/Si structures," *Appl. Phys. Lett.* **93**, 041909 (2008).
235. H. S. Peng, D. Y. Chen, J. Y. Huang, S. B. Chikkannanavar, J. Hanisch, M. Jain, D. E. Peterson, S. K. Doorn, Y. F. Lu, Y. T. Zhu, and Q. X. Jia, "Strong and ductile colossal carbon tubes with walls of rectangular macro-pores," *Phys. Rev. Lett.* **101**, 145501 (2008). Featured by *naturenews* <http://www.nature.com/news/2008/081010/full/news.2008.1164.html>
236. H. S. Peng, M. Jain, D. E. Peterson, Y. T. Zhu, and Q. X. Jia, "Composite carbon nanotube/silica fibers with improved mechanical strengths and electrical conductivities," *Small* **4**, 1964-1967 (2008).
237. M. Jain, E. Bauer, F. Ronning, M. F. Hundley, L. Civale, H. Wang, B. Maiorov, A. K. Burrell, T. M. McCleskey, S. R. Foltyn, R. F. DePaula, and Q. X. Jia, "Mixed-valence perovskite thin films by polymer-assisted deposition," *J. Am. Ceram. Soc.* **91**, 1858-1863 (2008). (*Invited article*)
238. H. M. Luo, Y. Lin, S. A. Baily, H. Wang, M. E. Hawley, T. M. McCleskey, A. K. Burrell, E. Bauer, L. Civale, and Q. X. Jia, "Silica nanoparticles-oxide composite epitaxial thin films," *Angew. Chem. Int. Ed.* **47**, 5768-5771 (2008).

239. J. X. Zhang, Y. L. Li, S. Choudhury, L. Q. Chen, Y. H. Chu, F. Zavaliche, M. P. Cruz, R. Ramesh, and Q. X. Jia, "Computer simulation of ferroelectric domain structures in epitaxial BiFeO₃ thin films," *J. Appl. Phys.* **103**, 094111 (2008).
240. H. S. Jung, J. K. Lee, J. Lee, B. S. Kang, Q. X. Jia, M. Nastasi, J. H. Noh, C. M. Cho, and S. H. Yoon, "Mobility enhanced photoactivity in sol-gel grown epitaxial anatase TiO₂ films," *Langmuir* **24**, 2695-2698 (2008)
241. S. Choudhury, Y. L. Li, L. Q. Chen, and Q. X. Jia, "Strain effect on coercive field of epitaxial barium titanate thin films," *Appl. Phys. Lett.* **92**, 142907 (2008).
242. A. K Burrell, T. M. McCleskey, and Q. X. Jia, "Polymer assisted deposition," *Chem. Commun.* **11**, 1271 (2008). (*Feature article*)
243. N. A. Suvorova, I. O. Usov, L. Stan, R. F. DePaula, A. M. Dattelbaum, Q. X. Jia, A. A. Suvorova, "Structural and optical properties of ZnO thin films by rf magnetron sputtering with rapid thermal annealing," *Appl. Phys. Lett.* **92**, 141911 (2008).
244. A. Soukiassian, W. Tian, V. Vaithyanathan, J. H. Haeni, L. Q. Chen, X. X. Xi, D. G. Schlom, D. A. Tenne, H. P. Sun, X. Q. Pan, K. J. Choi, C. B. Eom, Y. L. Li, Q. X. Jia, C. Constantin, R. M. Feenstra, M. Bernhagen, P. Reiche, and R. Uecker, "Growth of nanoscale BaTiO₃/SrTiO₃ superlattices by molecular-beam epitaxy," *J. Mater. Res.* **23**, 1417-1432 (2008).
245. H. S. Peng, M. Jain, Q. W. Li, D. E. Peterson, Y. T. Zhu, and Q. X. Jia, "Vertically-aligned pearl-like carbon nanotube arrays for fiber spinning," *J. Am. Chem. Soc.* **130**, 1130 (2008).
246. H. Yang, H. M. Luo, H. Wang, I. O. Usov, N. A. Suvorova, M. Jain, D. M. Feldmann, P. C. Dowden, R. F. DePaula, and Q. X. Jia, "Rectifying current-voltage characteristics of BiFeO₃/Nb-doped SrTiO₃ heterojunction," *Appl. Phys. Lett.* **92**, 102113 (2008).
247. H. M. Luo, A. H. Mueller, T. M. McCleskey, A. K. Burrell, E. Bauer, and Q. X. Jia, "Structural and photoelectrochemical properties of BiVO₄ thin films," *J. Phys. Chem. C* **112**, 6099-6102 (2008).
248. H. Zhou, B. Maiorov, H. Wang, J. L. MacManus-Driscoll, T. G. Holesinger, L. Civale, Q. X. Jia, and S. R. Foltyn, "Improved microstructure and enhanced low-field J_c in (Y_{0.67}Eu_{0.33})Ba₂Cu₃O_{7-δ} films," *Supercond. Sci. Technol.* **21**, 025001 (2008).
249. H. Yang, H. Wang, H. M. Luo, D. M. Feldmann, P. C. Dowden, R. F. DePaula, and Q. X. Jia, "Structural and dielectric properties of epitaxial Sm₂O₃ thin films," *Appl. Phys. Lett.* **92**, 062905 (2008).
250. Y. L. Li, S. Y. Hu, D. A. Tenne, A. Soukiassian, D. G. Schlom, L. Q. Chen, X. X. Xi, K. J. Choi, C. B. Eom, A. Saxena, T. Lookman, and Q. X. Jia, "Interfacial coherency and ferroelectricity of BaTiO₃/SrTiO₃ superlattice films," *Appl. Phys. Lett.* **91**, 252904 (2007).
251. H. M. Luo, H. Yang, S. A. Baily, O. Ugurlu, M. Jain, M. Hawley, T. M. McCleskey, A. K. Burrell, E. Bauer, L. Civale, T. G. Holesinger, and Q. X. Jia, "Self-assembled epitaxial nanocomposite BaTiO₃-NiFe₂O₄ films prepared by polymer-assisted deposition," *J. Am. Chem. Soc.* **129**, 14132-14133 (2007).
252. Q. W. Li, Y. Li, X. F. Zhang, S. B. Chikkannavar, Y. H. Zhao, A. M. Dangelwicz, L. X. Zheng, S. K. Doorn, Q. X. Jia, D. E. Peterson, P. N. Arendt, and Y. T. Zhu, "Structure-

- dependent electronic properties of carbon nanotube fibers,” *Adv. Mater.* **19**, 3358-3363 (2007).
- 253.** B. J. Talor, D. J. Scanderbeg, M. B. Maple, C. Kwon, and Q. X. Jia, “Role of quantum fluctuations in the vortex solid to vertex liquid transition of type-II superconductors,” *Phys. Rev. B.* **76**, 014518 (2007).
- 254.** J. S. Lee, B. S. Kang, and Q. X. Jia, “Data retention characteristics of $\text{Bi}_{3.25}\text{La}_{0.75}\text{Ti}_3\text{O}_{12}$ thin films on conductive SrRuO_3 electrodes,” *Appl. Phys. Lett.* **91**, 142901 (2007).
- 255.** V. A. Maroni, Y. Li, D. M. Feldmann, and Q. X. Jia, “Correlation between cation disorder and flux pinning in the YBCO coated conductor,” *J. Appl. Phys.* **102**, 113909 (2007).
- 256.** A. K Burrell, T. M. McCleskey, P. Shukla, H. Wang, T. Durakiewicz, D. P. Moore, C. G. Olson, J. J. Joyce, and Q. X. Jia, “Controlling oxidation states in uranium oxides through epitaxial stabilization,” *Adv. Mater.* **19**, 3559-3563 (2007).
- 257.** H. M. Luo, M. Jain, T. M. McCleskey, E. Bauer, A. K. Burrell, and Q. X. Jia, “Optical and structural properties of single crystal epitaxial p-type transparent oxide thin films,” *Adv. Mater.* **19**, 3604-3607 (2007).
- 258.** D. M. Feldmann, O. Ugurlu, B. Maiorov, L. Stan, T. Holesinger, L. Civale, S. R. Foltyn, and Q. X. Jia, “Influence of growth temperature on critical current and magnetic flux pinning structures in $\text{YBa}_2\text{Cu}_3\text{O}_7$,” *Appl. Phys. Lett.* **91**, 162501 (2007).
- 259.** J. L. MacManus-Driscoll, A. Kursumovic, B. Maiorov, L. Civale, Q. X. Jia, S. R. Foltyn, and H. Wang, “ $\text{YBa}_2\text{Cu}_3\text{O}_7$ coated conductor grown by hybrid liquid phase epitaxy,” *IEEE. Trans. Appl. Supercond.* **17**, 2537-2541 (2007).
- 260.** Y. L. Li, S. Y. Hu, D. A. Tenne, A. Soukiassian, D. G. Schlom, X. X. Xi, K. J. Choi, C. B. Eom, A. Saxena, T. Lookman, Q. X. Jia, and L. Q. Chen, “Prediction of ferroelectricity in $\text{BaTiO}_3/\text{SrTiO}_3$ superlattice with domains,” *Appl. Phys. Lett.* **91**, 112914 (2007).
- 261.** L. X. Zheng, X. F. Zhang, Q. W. Li, S. B. Chikkannan, Y. Li, Y. H. Zhao, X. Z. Liao, Q. X. Jia, S. K. Doorn, D. E. Peterson, and Y. T. Zhu, “Carbon-nanotube cotton for large-scale fibers,” *Adv. Mater.* **19**, 2567-2570 (2007).
- 262.** H. Yang, M. Jain, N. A. Suvorova, H. Zhou, H. M. Luo, P. C. Dowden, R. F. DePaula, D. M. Feldmann, S. R. Foltyn, and Q. X. Jia, “Temperature dependent leakage mechanism of $\text{Pt}/\text{BiFeO}_3/\text{SrRuO}_3$ thin film capacitors,” *Appl. Phys. Lett.* **91**, 072911 (2007).
- 263.** X. Li, M. W. Rupich, T. Kodenkandath, Y. Huang, W. Zhang, E. Siegal, D. T. Verbelyi, U. Schoop, N. Nguyen, C. Thieme, Z. Chen, D. M. Feldman, D. C. Larbalestier, T. G. Holesinger, L. Civale, Q. X. Jia, V. Maroni, and M. V. Rane, “High critical current YBCO films prepared by an MOD process on RABiTs templates,” *IEEE. Trans. Appl. Supercond.* **17**, 3553-3556 (2007).
- 264.** M. Jain, N. K. Karan, H. Wang, J. Yoon, R. S. Katiyar, A. S. Bhalla, and Q. X. Jia, “High tunability of lead strontium titanate thin films using conductive LaNiO_3 electrodes,” *Appl. Phys Lett.* **91**, 072908 (2007).
- 265.** H. M. Luo, M. Jain, S. A. Baily, R. F. DePaula, P. C. Dowden, and Q. X. Jia, “Structural and ferromagnetic properties of epitaxial SrRuO_3 films by a chemical solution deposition,” *J. Phys. Chem. B.* **111**, 7497- 7500 (2007).

266. J. S. Lee and Q. X. Jia, "Epitaxial growth and anisotropic dielectric properties of La-doped $\text{Bi}_4\text{Ti}_3\text{O}_{12}$ thin films," *Solid State Phenomena* **124-126**, 177-180 (2007).
267. S. R. Foltyn, L. Civale, J. L. MacManus-Driscoll, Q. X. Jia, B. Maiorov, H. Wang, and M. Maley, "Materials science challenges for high-temperature superconducting wire," *Nat. Mater.* **6**, 631-642 (2007). (*Review article*)
268. B. Maiorov, Q. X. Jia, H. Zhou, H. Wang, Y. Li, A. Kursunovic, J. L. MacManus-Driscoll, T. Haugan, P. N. Barnes, S. R. Foltyn, and L. Civale, "Effects of the variable Lorentz force on the critical current in anisotropic superconducting thin films," *IEEE. Trans. Appl. Supercond.* **17**, 3697-3700 (2007).
269. M. Krishnamurthi, M. Ramirez, S. Denev, V. Semak, T. Lehecka, J. Thomas, Q. X. Jia, and V. Gopalan, "Two dimensional dynamic focusing of laser by electro-optic ferroelectric domain lenses," *Appl. Phys. Lett.* **90**, 201106 (2007).
270. Q. X. Jia, H. Wang, Y. Lin, Y. Li, C. Wetteland, G. W. Brown, M. Hawley, B. Maiorov, S. R. Foltyn, L. Civale, P. N. Arendt, and J. L. MacManus-Driscoll, "Microstructural evolution with the change in thickness of superconducting films," *IEEE. Trans. Appl. Supercond.* **17**, 3243-3246 (2007).
271. T. G. Holesinger, Q. X. Jia, P. Dowden, S. Kreiskott, B. Maiorov, L. Civale, and B. Gibbons, "Ultra-fine multilayers of complex metal-oxide films," *Adv. Mater.* **19**, 1917-1920 (2007).
272. M. Jain, Y. Lin, P. Shukla, Y. Li, H. Wang, M. F. Hundley, A. K. Burrell, T. M. McCleskey, S. F. Foltyn, and Q. X. Jia, "Ferroic metal-oxide films grown by polymer assisted deposition," *Thin Solid Films* **515**, 6411-6415 (2007).
273. H. Claus, B. Ma, A. P. Paulikas, R. Nikolova, B. W. Veal, Q. X. Jia, U. Welp, and K. E. Gray, "Critical current of grain boundaries in $\text{YBa}_2\text{Cu}_3\text{O}_x$ bicrystal films as a function of oxygen concentration," *Phys. Rev. B.* **76**, 014529 (2007).
274. H. L. Wang, W. Li, Q. X. Jia, and E. Akhodos, "Tailoring conducting polymer chemistry for the chemical deposition of metal particles and clusters," *Chem. Mater.* **19**, 520-525 (2007).
275. H. Yang, N. A. Suvorova, M. Jain, B. S. Kang, Y. Li, R. F. DePaula, Q. X. Jia, and C. J. Lu, "Effective thickness and dielectric constant of interfacial layer at $\text{Pt}/\text{Bi}_{3.25}\text{Nd}_{0.75}\text{TiO}_3/\text{SrRuO}_3$ interfaces," *Appl. Phys. Lett.* **90**, 232909 (2007).
276. X. Zhang, Q. Li, Yi Tu, Y. Li, Y. Coulter, L. Zheng, Y. Zhao, Q. X. Jia, D. Peterson, and Y. T. Zhu, "Strong carbon nanotube fiber spun from long CNT array," *Small* **3**, 244-248 (2007).
277. J. X. Zhang, Y. L. Li, F. Zavaliche, Q. X. Jia, D. G. Schlom, R. Ramesh, and L. Q. Chen, "Phase-field model for epitaxial ferroelectric and magnetic nanocomposite thin films," *Appl. Phys. Lett.* **90**, 052909 (2007).
278. H. S. Kang, S. S. Pang, J. W. Kim, G. H. Kim, J. H. Kim, S. Y. Lee, Y. Li, H. Wang, and Q. X. Jia, "The role of a ZnO buffer layer in the growth of ZnO thin film on Al_2O_3 substrate," *Superlattices and Microstructures* **40**, 501-506 (2006).
279. A. Vasudevarao, A. Kumar, L. Tian, J. H. Haeni, Y. L. Li, C. J. Eklund, Q. X. Jia, R. Uecker, P. Reiche, K. Rabe, L. Q. Chen, D. G. Schlom, and V. Gopalan, "Mutiferroic domain dynamics in strained strontium titanate," *Phys. Rev. Lett.* **97**, 257602 (2006).

280. X. Qi, P. S. Roberts, N. D. Mathur, J. S. Lee, S. Flyn, Q. X. Jia, and J. L. MacManus-Driscoll, "Multi-Ferroic BiFeO₃ films prepared by liquid phase epitaxy and solgel methods," *Adv. Dielectric, Piezoelectric & Ferroelectric Thin Films* **162**, 69 (2006).
281. M. Jain, B. S. Kang, and Q. X. Jia, "Effect of conductive LaNiO₃ electrode on the structural and ferroelectric properties of Bi_{3.25}La_{0.75}Ti₃O₁₂ film," *Appl. Phys. Lett.* **89**, 242903 (2006).
282. C. A. Meserole, G. F. Fisher, D. J. Hilton, Q. X. Jia, R. D. Averitt, D. J. Funk, and A. J. Taylor, "Fe (001) thin films for x-ray diffraction and terahertz emission studies," *J. Vac. Sci. Technol. A* **24**, 1509-1513 (2006).
283. H. Wang, S. R. Foltyn, P. N. Arendt, Q. X. Jia, and X. Zhang, "Identification of the misfit dislocations at YBa₂Cu₃O_{7-δ}/SrTiO₃ interface using Moiré fringe contrast," *Physica C* **444**, 1-4 (2006).
284. J. -K. Lee, Y. Lin, Q. X. Jia, T. Hochbauer, H. S. Jung, L. Shao, A. Misra, and M. Nastasi, "Role of strain in the blistering of hydrogen-implanted silicon," *Appl. Phys. Lett.* **89**, 101901 (2006).
285. J. L. MacManus-Driscoll, B. Maiorov, J. Durrell, S. R. Foltyn, Q. X. Jia, L. Civale, H. Wang, A. Kursumovic, and D. E. Peterson, "Guidelines for optimizing random and correlated pinning in RE-based superconducting films," *Supercond. Sci. Technol.* **19**, S55-S59 (2006).
286. M. Jain, Y. Li, M. F. Hundley, M. Hawley, B. Maiorov, I. H. Campbell, L. Civale, Q. X. Jia, P. Shukla, A. K. Burrell, and T. M. McCleskey, "Magnetoresistance in polymer assisted deposited Sr- and Ca-doped lanthanum manganite films," *Appl. Phys. Lett.* **88**, 232510 (2006).
287. H. S. Kang, J. W. Kim, J. H. Kim, S. Y. Lee, Y. Li, J. S. Lee, J. K. Lee, M. A. Nastasi, S. A. Crooker, and Q. X. Jia, "Optical property and stokes' shift in Zn_{1-x}Cd_xO thin films depending on Cd content," *J. Appl. Phys.* **99**, 066113 (2006).
288. W. Li, Q. X. Jia, and H. L. Wang, "Facile synthesis of metal nanoparticles using conducting polymer colloids," *Polymer* **47**, 23-26 (2006).
289. D. A. Tenne, A. Bruchhausen, N. D. Lanzillotti-Kimura, A. Fainstein, R. S. Katiyar, A. Cantarero, A. Soukiassian, V. Vaithyanathan, J. H. Haeni, W. Tian, D. G. Schlom, K. J. Choi, D. M. Kim, C. B. Eom, H. P. Sun, X. Q. Pan, Y. L. Li, L. Q. Chen, Q. X. Jia, S. M. Nakhmanson, K. M. Rabe, and X. X. Xi, "Probing Nanoscale ferroelectricity by ultraviolet Raman spectroscopy," *Science* **313**, 1614-1616 (2006).
290. J.-K. Lee, R. E. Muenchausen, J.-S. Lee, Q. X. Jia, M. Nastasi, J. Valdez, K. Sickafus, B. L. Bennett, D. W. Cooke, and S.Y. Lee, "Structure and optical properties of Lu₂SiO₅:Ce phosphor thin films," *Appl. Phys. Lett.* **89**, 101905 (2006).
291. M. Jain, P. Shukla, Y. Li, M. Hawley, M. F. Hundley, A. K. Burrell, T. M. McCleskey, and Q. X. Jia, "High magnetoresistance near room temperature in La_{0.67}Ca_{0.33}MnO₃/La_{0.66}Sr_{0.33}MnO₃ multilayered films prepared by a solution technique," *Adv. Mater.* **18**, 2695-2698 (2006).
292. W. Tian, J. C. Jiang, X. Q. Pan, J. H. Haeni, Y. L. Li, L. Q. Chen, D. G. Schlom, J. B. Neaton, K. M. Rabe, and Q. X. Jia, "Structural evidence for enhanced polarization in a commensurate short-period BaTiO₃/SrTiO₃ superlattice," *Appl. Phys. Lett.* **89**, 092905 (2006).

- 293.** H. Wang, B. Maiorov, L. Civale, J. L. MacManus-Driscoll, Q. X. Jia, P. N. Arendt, S. R. Foltyn, A. Serquis, and X. Zhang, "Microstructure and transport properties of Y-rich $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ thin films," *J. Appl. Phys.* **100**, 053904 (2006).
- 294.** Y. L. Li, S. Choudhury, J. H. Haeni, M. D. Biegalski, A. Vasudevarao, A. Sharan, H. Z. Ma, J. Levy, V. Gopalan, S. Trolier-McKinstry, D. G. Schlom, Q. X. Jia, and L. Q. Chen, "Phase transition and domain structures in strained pseudocubic (100) SrTiO_3 thin films," *Phys. Rev. B.* **73**, 184112 (2006).
- 295.** W. Choi, B. S. Kang, Q. X. Jia, V. Matias, and A. T. Findikoglu, "Dielectric properties of <001>-oriented (Ba,Sr) TiO_3 thin films on polycrystalline metal tapes using biaxially oriented $\gamma\text{-Al}_2\text{O}_3/\text{MgO}$ buffer layers," *Appl. Phys. Lett.* **88**, 062907 (2006).
- 296.** P. Shukla, E. M. Minogue, T. M. McCleskey, Q. X. Jia, Y. Lin, P. Lu, and A. K Burrell, "Conformal coating of nanoscale features of microporous anodiscTM membranes with zirconium and titanium oxide," *Chem. Commun.* **8**, 847-849 (2006).
- 297.** H. S. Kang, S. H. Lim, J. W. Kim, H. W. Chang, G. H. Kim, J. H. Kim, S. Y. Lee, Y. Li, J. S. Lee, J. K. Lee, M. A. Nastasi, S. A. Crooker, and Q. X. Jia, "Exciton localization and stokes' shift in $\text{Zn}_{1-x}\text{Cd}_x\text{O}$ thin films depending on chemical composition," *J. Crystal Growth* **287**, 23-26 (2006).
- 298.** L. Shao, Y. Lin, J. G. Swadener, J. K. Lee, Q. X. Jia, Y. Q. Wang, M. Nastasi, P. E. Thompson, N. D. Theodore, T. L. Alford, J. W. Mayer, P. Chen, and S. S. Lau, "H-induced platelet crack formation in hydrogenated epitaxial $\text{Si}/\text{Si}_{0.98}\text{B}_{0.02}/\text{Si}$ structures," *Appl. Phys. Lett.* **88**, 021901 (2006).
- 299.** B. S. Kang, H. Wang, Y. Li, J. L. MacManus-Driscoll, Q. X. Jia, I. Mihut, and J. B. Betts, "Low field magneto-transport properties of $(\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3)_{0.5}:(\text{ZnO})_{0.5}$ nanocomposite films grown via pulsed laser deposition," *Appl. Phys. Lett.* **88**, 192514 (2006).
- 300.** H. Wang, S. R. Foltyn, P. N. Arendt, Q. X. Jia, Y. Li, and X. Zhang, "Thickness effects of SrTiO_3 buffer layers on superconducting properties of $\text{YBa}_2\text{Cu}_3\text{O}_7$ coated conductors," *Physica C* **433**, 43-49 (2005).
- 301.** L. Shao, Y. Lin, J. W. Swadener, J. K. Lee, Q. X. Jia, Y. Q. Wang, M. Nastasi, P. E. Thompson, N. D. Theodore, T. L. Alford, J. W. Mayer, P. Chen, and S. S. Lau, "Strained-facilitated process for the lift-off of a Si layer of less than 20 nm thickness," *Appl. Phys. Lett.* **87**, 251907 (2005).
- 302.** A. Kursumovic, J. E. Evetts, J. L. MacManus-Driscoll, B. Maiorov, L. Civale, H. Wang, Q. X. Jia, and S. R. Foltyn, "High critical current densities in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ films grown at high rates by hybrid liquid phase epitaxy," *Appl. Phys. Lett.* **87**, 252507 (2005).
- 303.** Y. Lin, J. Xie, H. Wang, Y. Li, C. Chavez, S. Y. Lee, S. R. Foltyn, S. A. Crooker, A. K. Burrell, T. M. McCleskey, and Q. X. Jia, "Green luminescent zinc oxide films prepared by polymer-assisted deposition with rapid thermal process," *Thin Solid Films* **492**, 101-104 (2005).
- 304.** S. R. Foltyn, H. Wang, L. Civale, Q. X. Jia, P. N. Arendt, B. Maiorov, Y. Li, M. P. Maley, and J. L. MacManus-Driscoll, "Overcoming the barrier to 1000 A/cm-width superconducting coatings," *Appl. Phys. Lett.* **87**, 162505 (2005).

305. L. Shao, Y. Lin, J. K. Lee, Q. X. Jia, Y. Q. Wang, M. Nastasi, P. E. Thompson, N. D. Theodore, P. K. Chu, T. L. Alford, J. W. Mayer, P. Chen, and S. S. Lau, "Plasma hydrogenation of strained Si/SiGe/Si heterostructure for layer transfer without ion implantation," *Appl. Phys. Lett.* **87**, 091902 (2005).
306. Y. Lin, H. Wang, B. Maiorov, M. Hawley, C. J. Wetteland, P. N. Arendt, S. R. Foltyn, L. Civale, and Q. X. Jia, "Comparative study on microstructural properties for $\text{YBa}_2\text{Cu}_3\text{O}_7$ films on single crystal and Ni-based metal substrates," *J. Mater. Res.* **20**, 2055-2060 (2005).
307. A. Ayala, T. G. Holesinger, P. G. Clem, V. Matias, Q. X. Jia, H. Wang, S. R. Foltyn, and B. J. Gibbons, "Synthesis and characterization of Cu-doped SrTiO_3 powders and sol-gel processed buffer layers on IBAD MgO templates," *IEEE Trans. Appl. Supercond.* **15**, 2703-2706 (2005).
308. Y. Lin, H. Wang, M. E. Hawley, S. R. Foltyn, and Q. X. Jia, "The effect of growth rates on the microstructures of $\text{EuBa}_2\text{Cu}_3\text{O}_{7-x}$ films on SrTiO_3 substrates," *Appl. Phys. Lett.* **86**, 192508 (2005).
309. D. Lim, K. Thorsmølle, R. D. Averitt, A. J. Taylor, Q. X. Jia, K. H. Ahn, M. J. Graf, and S. A. Trugman, "Coherent optical and acoustic phonon generation correlated to charge ordering phase transition in $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$," *Phys. Rev. B* **71**, 1434403 (2005).
310. A. T. Findikoglu, W. Choi, V. Matias, T. G. Holesinger, Q. X. Jia, and D. E. Peterson, "Well-oriented, high-carrier-mobility silicon thin films on non-single-crystalline substrates," *Adv. Mater.* **17**, 1527-1531 (2005).
311. Q. X. Jia, B. Maiorov, H. Wang, Y. Lin, S. R. Foltyn, L. Civale, and J. L. MacManus-Driscoll, "Comparative study of $\text{REBa}_2\text{Cu}_3\text{O}_7$ films for coated conductors," *IEEE Trans. Appl. Supercond.* **15**, 2723-2726 (2005).
312. B. S. Kang, J. S. Lee, L. Stan, R. F. DePaula, P. D. Arendt, and Q. X. Jia, "Ferromagnetic properties of epitaxial SrRuO_3 thin films grown on SiO_2/Si using bi-axially oriented MgO as templates," *Appl. Phys. Lett.* **86**, 072511 (2005).
313. Y. Lin, X. Chen, S. W. Liu, C. L. Chen, J. S. Lee, Y. Li, Q. X. Jia, and A. Bhalla, "Epitaxial nature and anisotropic dielectric properties of $(\text{Pb,Sr})\text{TiO}_3$ thin films on NdGaO_3 substrates," *Appl. Phys. Lett.* **86**, 142902 (2005).
314. B. Maiorov, B. J. Gibbons, S. Kreiskott, V. Matias, Q. X. Jia, T. G. Holesinger, and L. Civale, "Influence of tilted geometries on the critical current in superconducting thin films," *IEEE Trans. Appl. Supercond.* **15**, 2582-2585 (2005).
315. H. Wang, X. Z. Liao, X. Zhang, S. R. Foltyn, P. N. Arendt, J. L. MacManus-Driscoll, Y. T. Zhu, H. F. Xu, and Q. X. Jia, "Effect of Eu interfacial mobility on the growth of epitaxial $\text{EuBa}_2\text{Cu}_3\text{O}_7$ films," *Appl. Phys. Lett.* **86**, 101912 (2005).
316. J. L. MacManus-Driscoll, S. R. Foltyn, B. Maiorov, Q. X. Jia, H. Wang, A. Serquis, L. Civale, Y. Lin, M. E. Hawley, M. P. Maley, and D. E. Peterson, "Rare earth ion size effects and enhanced critical current densities in $\text{Y}_{2/3}\text{Sm}_{1/3}\text{Ba}_2\text{Cu}_3\text{O}_{7-x}$ coated conductors," *Appl. Phys. Lett.* **86**, 032505 (2005).

317. Y. Lin, H. Wang, M. Hawley, S. R. Foltyn, and Q. X. Jia, "Microstructural study of $\text{EuBa}_2\text{Cu}_3\text{O}_7$ films by high-resolution x-ray diffraction," *IEEE Trans. Appl. Supercond.* **15**, 2731-2734 (2005).
318. X. Qi, M. Wei, Y. Lin, Q. X. Jia, D. Zhi, J. Dho, M. Blamire, and J. L. MacManus-Driscoll, "High-resolution x-ray diffraction and transmission electron microscopy of multiferroic BiFeO_3 thin films," *Appl. Phys. Lett.* **86**, 071913 (2005).
319. T. Park, Z. Nussinov, K. R. A. Hazzard, V. A. Sidorov, A. V. Balatsky, J. L. Sarrao, S. W. Cheong, M. F. Hundley, J. S. Lee, Q. X. Jia, and J. D. Thompson, "Novel dielectric anomaly in the hole-doped $\text{La}_2\text{Cu}_{1-x}\text{Li}_x\text{O}_4$ and $\text{La}_{2-x}\text{Sr}_x\text{NiO}_4$ insulators: signature of an electronic glassy state," *Phys. Rev. Lett.* **94**, 017002 (2005).
320. X. Qi, J. Dho, M. Blamire, Q. X. Jia, J. S. Lee, S. R. Foltyn, and J. L. MacManus-Driscoll, "Epitaxial growth of BiFeO_3 thin films by LPE and sol-gel methods," *J. Magnetism & Magnetic Mater.* **283**, 415-421 (2004).
321. L. X. Zheng, M. J. O'Connell, S. K. Doorn, X. Z. Liao, Y. H. Zhao, E. A. Akhadorov, M. A. Hoffbauer, B. J. Roop, Q. X. Jia, R. C. Dye, D. E. Peterson, S. M. Huang, J. Liu, and Y. T. Zhu, "Ultralong single-wall carbon nanotubes," *Nat. Mater.* **3**, 673-676 (2004).
322. Y. Lin, H. Wang, M. E. Hawley, S. R. Foltyn, Q. X. Jia, G. E. Collis, A. K. Burrell, and T. M. McCleskey, "Epitaxial growth of Eu_2O_3 thin films on LaAlO_3 substrates by polymer-assisted deposition," *Appl. Phys. Lett.* **85**, 3426-3428 (2004).
323. B. S. Kang, J. S. Lee, L. Stan, J. K. Lee, R. F. DePaula, P. N. Arendt, M. Nastasi, and Q. X. Jia, "Dielectric properties of epitaxial $\text{Ba}_{0.6}\text{Sr}_{0.4}\text{TiO}_3$ films on SiO_2/Si using bi-axially oriented ion-beam-assisted-deposited MgO as templates," *Appl. Phys. Lett.* **85**, 4702-4704 (2004).
324. Y. Lin, J. S. Lee, H. Wang, Y. Li, S. R. Foltyn, Q. X. Jia, G. Collis, A. K. Burrell, and T. M. McCleskey, "Structural and dielectric properties of epitaxial $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$ films grown on LaAlO_3 substrates by polymer-assisted deposition," *Appl. Phys. Lett.* **85**, 5007-5009 (2004).
325. H. Wang, S. R. Foltyn, P. N. Arendt, Q. X. Jia, J. L. MacManus-Driscoll, L. Stan, Y. Li, X. Zhang, and P. C. Dowden, "Microstructure of SrTiO_3 buffer layers and its effects on superconducting properties of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ coated conductors," *J. Mater. Res.* **19**, 1869-1875 (2004).
326. D. W. Reagor, S. Y. Lee, Y. Li, and Q. X. Jia, "Work function of the mixed-valent manganese perovskites," *J. Appl. Phys.* **95**, 7971-7975 (2004).
327. S. Y. Lee, Y. Li, Jang-Sik Lee, J. K. Lee, M. Nastasi, S. A. Crooker, Q. X. Jia, H. S. Kang, and J. S. Kang, "Effects of chemical composition on the optical properties of $\text{Zn}_{1-x}\text{Cd}_x\text{O}$ thin films," *Appl. Phys. Lett.* **85**, 218-220 (2004).
328. J. L. MacManus-Driscoll, S. R. Foltyn, Q. X. Jia, H. Wang, A. Serquis, B. Maiorov, L. Civale, Y. Lin, M. E. Hawley, M. P. Maley, and D. E. Peterson, "Systematic enhancement of in-field critical current density with rare-earth ion size variance in superconducting rare-earth barium cuprate films," *Appl. Phys. Lett.* **84**, 5329-5331 (2004).

329. J. S. Lee, B. S. Kang, Y. Lin, Y. Li, and Q. X. Jia, "Anisotropic dielectric properties in epitaxial $\text{Bi}_{3.25}\text{La}_{0.75}\text{Ti}_3\text{O}_{12}$ thin films along different crystal directions," *Appl. Phys. Lett.* **85**, 2586-2588 (2004).
330. L. Civale, B. Maiorov, A. Serquis, J. O. Willis, J. Y. Coulter, H. Wang, Q. X. Jia, P. N. Arendt, J. L. MacManus-Driscoll, M. P. Maley, and S. R. Foltyn, "Angular dependent vortex pinning mechanisms in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ coated conductors and thin films," *Appl. Phys. Lett.* **84**, 2121-2123 (2004).
331. J. L. MacManus-Driscoll, S. R. Foltyn, Q. X. Jia, H. Wang, A. Serquis, L. Civale, B. Maiorov, M. E. Hawley, M. P. Maley, and D. E. Peterson, "Strongly enhanced flux pinning in BaZrO_3 -doped $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ coated conductors," *Nat. Mater.* **3**, 439-443 (2004).
332. H. Wang, Q. X. Jia, S. R. Foltyn, P. N. Arendt, X. Zhang, B. J. Gibbons, and M. F. Hundley, "Microstructures and properties of epitaxial $\text{Nd}_{0.67}\text{Sr}_{0.33}\text{MnO}_3$ thin films on single crystal LaAlO_3 ," *Appl. Phys. Lett.* **84**, 1147-1149 (2004).
333. J. S. Lee, Y. Li, Y. Lin, S. Y. Lee, and Q. X. Jia, "Hydrogen-induced degradation in epitaxial and polycrystalline in $(\text{Ba,Sr})\text{TiO}_3$ thin films," *Appl. Phys. Lett.* **84**, 3825-3827 (2004).
334. Y. Lin, X. Chen, S. W. Liu, C. L. Chen, J. S. Lee, Y. Li, Q. X. Jia, and A. Bhalla, "Anisotropic in-plane strains in $(\text{Pd,Sr})\text{TiO}_3$ thin films on the NdGaO_3 substrate," *Appl. Phys. Lett.* **84**, 577-579 (2004).
335. E. L. Brosha, R. Mukundan, D. R. Brown, Q. X. Jia, R. Lujan, and F. H. Garzon, "Techniques for the thin film growth of $\text{La}_{1-x}\text{Sr}_x\text{CrO}_3$ for solid state ionic devices," *Solid State Ionics*, **166**, 425-440 (2004).
336. Y. T. Zhu, G. W. Egeland, Y. Li, Q. X. Jia, J. Gallegos, A. Serquis, X. Z. Liao, D. E. Peterson, R. C. Dye, B. J. Roop, and M. A. Hoffbauer, "Formation of pile networks by long carbon nanotubes from decomposition of CO on Co-Mo film," *J. Nanosci. Nanotech.* **4**, 189-191 (2004).
337. L. Civale, B. Maiorov, A. Serquis, S. R. Foltyn, Q. X. Jia, P. N. Arendt, H. Wang, J. O. Willis, J. Y. Coulter, T. G. Holesinger, J. L. MacManus-Driscoll, M. W. Rupich, W. Zhang, and X. Li, "Influence of crystalline texture on vortex pinning near the *ab* plane in $\text{YBa}_2\text{Cu}_3\text{O}_7$ thin films and coated conductors," *Physica C* **412-414**, 976-982 (2004).
338. L. Civale, B. Maiorov, A. Serquis, J. O. Willis, J. Y. Coulter, H. Wang, Q. X. Jia, P. N. Arendt, M. Jaime, J. L. MacManus-Driscoll, M. P. Maley, and S. R. Foltyn, "Understanding high critical currents in $\text{YBa}_2\text{Cu}_3\text{O}_7$ thin films and coated conductors," *J. Low Temp. Phys.* **135**, 87-98 (2004).
339. Q. X. Jia, T. M. McCleskey, A. K. Burrell, Y. Lin, G. Collis, H. Wang, A. D. Q. Li, and S. R. Foltyn, "Polymer-assisted deposition of metal-oxide films," *Nat. Mater.* **3**, 529-532 (2004).
340. J. S. Lee, Q. X. Jia, J. H. Park, S. K. Joo, W. S. Yang, N. K. Kim, S. J. Yeom, and J. S. Roh, "Low temperature processing and characterization of metal-organic decomposition derived $\text{SrBi}_2(\text{Ta,Nb})_2\text{O}_9$ thin films by low energy accelerated ion bombardment," *J. Am. Ceramic Soc.* **87**, 720-723 (2004).

341. P. N. Arendt, S. R. Foltyn, L. Civale, R. E. DePaula, P. C. Dowden, J. R. Groves, T. G. Holesinger, Q. X. Jia, S. Kreiskott, L. Stan, I. Usov, H. Wang, and J. Y. Coulter, "High critical current YBCO coated conductors based on IBAD MgO," *Physica C* **412-414**, 795-800 (2004).
342. K. Venkataraman, A. J. Kropf, C. U. Segre, Q. X. Jia, A. Goyal, S. Chattopadhyay, and V. A. Maroni, "Detection of interfacial strain and phase separation in $\text{MBa}_2\text{Cu}_3\text{O}_7$ thin films using Raman spectroscopy and x-ray diffraction space mapping," *Physica C* **402**, 1-16 (2004).
343. J. S. Lee, H. Wang, S. Y. Lee, S. R. Foltyn, and Q. X. Jia, "Lateral epitaxial growth of $(\text{Ba,Sr})\text{TiO}_3$ thin films," *Appl. Phys. Lett.* **83**, 5494-5496 (2003).
344. C. Kwon, L. B. Wang, S. Seo, B. H. Park, and Q. X. Jia, "Spatial distribution analysis of critical temperature in epitaxial Y-Ba-Cu-O film using variable temperature scanning laser microscopy," *IEEE Trans. Appl. Supercond.* **13**, 2894-22896 (2003).
345. X. Z. Liao, A. Serquis, Q. X. Jia, D. E. Peterson, Y. T. Zhu, and H. F. Xu, "Relationship between catalyst composition and carbon morphology," *Microscopy and Microanalysis* **9**, 328 (2003).
346. P. Lu, J. S. Lee, and Q. X. Jia, "Microstructural properties of $\text{Ba}_{0.6}\text{Sr}_{0.4}\text{TiO}_3/\text{RuO}_2$ multilayers grown on MgO and YSZ by pulsed laser deposition," *Integrated Ferroelectrics* **55**, 965-972 (2003).
347. A. Serquis, X. Z. Liao, J. Y. Huang, Q. X. Jia, D. E. Peterson, and Y. T. Zhu, "Co-Mo catalyzed growth of multi-wall carbon nanotubes from CO decomposition," *Carbon* **41**, 2635-2641 (2003).
348. L. B. Wang, M. B. Proce, C. Kwon, and Q. X. Jia, "Variable temperature scanning laser microscopy of wider width high temperature superconducting films," *IEEE Trans. Appl. Supercond.* **13**, 2611-2613 (2003).
349. J. Y. Huang and Q. X. Jia, "Structural properties of SrWO_4 films synthesized by pulsed laser deposition," *Thin Solid Films* **444**, 95-98 (2003).
350. Q. X. Jia, S. R. Foltyn, H. Wang, P. N. Arendt, T. Holesinger, Y. Li, and M. Hawley, "Role of a superconducting seed layer on the structural and transport properties of $\text{EuBa}_2\text{Cu}_3\text{O}_7$ films," *Appl. Phys. Lett.* **83**, 1388-1390 (2003).
351. J. S. Lee, S. Y. Lee, and Q. X. Jia, "Lateral epitaxial growth of $\text{Ba}_{0.6}\text{Sr}_{0.4}\text{TiO}_3$ thin films," *Integrated Ferroelectrics* **55**, 933-938 (2003).
352. Q. X. Jia, S. R. Foltyn, P. N. Arendt, T. Holesinger, J. R. Groves, and M. Hawley, "Growth and characterization of SrRuO_3 buffer layer on MgO template for coated conductors," *IEEE Trans. Appl. Supercond.* **13**, 2655-2657 (2003).
353. S. R. Foltyn, P. N. Arendt, Q. X. Jia, H. Wang, J. L. MacManus-Driscoll, S. Kreiskott, R. F. DePaula, L. Stan, J. R. Groves, and P. C. Dowden, "Strongly-coupled critical current density values achieved in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ coated conductors with crystal-like texture," *Appl. Phys. Lett.* **82**, 4519-4521 (2003).
354. L. S. Li, A. D. Q. Li, and Q. X. Jia, "Effects of self-assembled multilayers on the evolution of surface physical properties of indium-tin-oxide," *Appl. Surf. Sci.* **219**, 199-202 (2003).

355. H. S. Jhon, C. H. Jeon, K. B. Han, M. S. Sik, J. G. Yook, Q. X. Jia, and S. Y. Lee, "Realization of HTS trisection band pass filter," *IEEE Trans. Appl. Supercond.* **13**, 294-296 (2003).
356. D. B. Jan, J. Y. Coulter, M. E. Hawley, L. N. Bulaevskii, M. P. Maley, Q. X. Jia, B. B. Maranville, F. Hellman, and X. Q. Pan, "Flux pinning enhancement in ferromagnetic and superconducting thin film multilayer," *Appl. Phys. Lett.* **82**, 778-780 (2003).
357. X. Z. Liao, A. Serquis, Q. X. Jia, D. E. Peterson, Y. T. Zhu, and F. F. Xu, "Effect of catalyst composition on carbon nanotube growth," *Appl. Phys. Lett.* **82**, 2694-2696 (2003).
358. J. R. Groves, P. N. Arendt, S. R. Foltyn, Q. X. Jia, T. G. Holesinger, L. A. Emmert, R. F. DePaula, P. C. Dowden, and L. Stan, "Improvement of IBAD MgO template layers on metallic substrates for YBCO HTS deposition," *IEEE Trans. Appl. Supercond.* **13**, 2651-2654 (2003).
359. B. H. Park and Q. X. Jia, "Enhanced dielectric properties of (Ba,Sr)TiO₃ thin films applicable to tunable microwave devices," *Jpn. J. Appl. Phys.* **41**, 7222-7225(2002).
360. J. R. Groves, P. N. Arendt, S. R. Foltyn, Q. X. Jia, T. G. Holesinger, H. Kung, R. F. DePaula, P. C. Dowden, E. J. Peterson, L. Stan, and L. A. Emmert, "Recent progress in continuously processed IBAD-MgO template meters for HTS applications," *Physica C.* **382**, 43-47 (2002).
361. Q. X. Jia, S. R. Foltyn, P. N. Arendt, J. R. Groves, T. G. Holesinger, M. E. Hawley, and P. Lu, "Role of SrRuO₃ buffer layer on the superconducting properties of YBa₂Cu₃O₇ films grown on polycrystalline metal-alloy using a biaxially oriented MgO template," *Appl. Phys. Lett.* **81**, 4571-4573 (2002).
362. B. E. Klein, S. Seo, C. Kwon, B. H. Park, and Q. X. Jia, "Imaging transport current distribution in high temperature superconductors using room temperature scanning laser microscope," *Rev. Scientific Instruments* **73**, 3692-3694 (2002).
363. Q. X. Jia, S. R. Foltyn, J. Y. Coulter, J. F. Smith, and M. P. Maley, "Characterization of superconducting SmBa₂Cu₃O₇ films grown by pulsed laser deposition," *J. Mater. Res.* **17**, 2599-2603 (2002).
364. R. D. Avert, V. K. Thorsmolle, Q. X. Jia, S. A. Trugman, and A. J. Taylor, "Nonequilibrium superconductivity in Y_{1-x}Pr_xBa₂Cu₃O₇ thin films," *Physica B* **312-313**, 86-87 (2002).
365. Q. X. Jia, J. R. Groves, P. N. Arendt, P. Lu, and F. Miranda, "Monolithic integration of superconducting YBCO and dielectric SrTiO₃ films on polycrystalline ferrites," *Integrated Ferroelectrics* **42**, 71-78 (2002).
366. Q. X. Jia, B. H. Park, B. J. Gibbons, J. Y. Huang, and P. Lu, "Dielectric response and structural properties of TiO₂-doped Ba_{0.6}Sr_{0.4}TiO₃ films," *Appl. Phys. Lett.* **81**, 114-116 (2002).
367. A. T. Findikoglu, R. Camassa, G. Lythe, and Q. X. Jia, "Dielectric nonlinearity and stochastic effects in strontium titanate," *Appl. Phys. Lett.* **80**, 3391-3393 (2002).
368. L. S. Li, Q. X. Jia, and A. D. Q. Li, "Effects of organic self-assembled polymer and metal phthalocyanine multilayers on the surface photovoltaic properties of indium tin oxide and titanium oxide," *Chem. Mater.* **14**, 1159-1165 (2002).

- 369.** D. B. Jan, Q. X. Jia, M. E. Hawley, G. W. Browne, H. P. Sun, and X. Q. Pan, “*In-vacuo* pulsed laser ablation of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ target for the formation of Y_2O_3 nanostructures,” *J. Mater. Res.* **17**, 697-700 (2002).
- 370.** J. Y. Huang, B. H. Park, D. Jan, X. Q. Pan, Y. T. Zhu, and Q. X. Jia, “High-resolution transmission electron microscopic study of defects and interfaces in epitaxial TiO_2 films on sapphire and LaAlO_3 ,” *Phil. Mag. A.* **82**, 735-749 (2002).
- 371.** Q. X. Jia, S. R. Foltyn, P. N. Arendt, and J. F. Smith, “High-temperature superconducting thick films with enhanced supercurrent carrying capability,” *Appl. Phys. Lett.* **80**, 1601-1603 (2002).
- 372.** B. H. Park, J. Y. Huang, L. S. Li, and Q. X. Jia, “Role of atomic arrangements at interfaces on the phase control of epitaxial TiO_2 films,” *Appl. Phys. Lett.* **80**, 1174-1176 (2002).
- 373.** B. H. Park, E. J. Peterson, J. Lee, X. Zeng, W. Si, X. X. Xi, and Q. X. Jia, “Dielectric properties of $\text{Ba}_{0.6}\text{Sr}_{0.4}\text{TiO}_3$ thin films with various strain states,” *Integrated Ferroelectrics* **39**, 1221-1230 (2001).
- 374.** B. H. Park, L. S. Li, B. J. Gibbons, J. Y. Huang, and Q. X. Jia, “Photovoltaic response and dielectric properties of epitaxial anatase- TiO_2 films grown on conductive $\text{La}_{0.5}\text{Sr}_{0.5}\text{CoO}_3$ electrodes,” *Appl. Phys. Lett.* **79**, 2797-2799 (2001).
- 375.** H. P. Sun, X. Q. Pan, D. B. Jan, and Q. X. Jia, “Transmission electron microscopy study of Y_2O_3 nanotips grown on LaAlO_3 ,” *Microscopy and Microanalysis* **7**, 320 (2001).
- 376.** D. A. Scrymgeour, Y. Barad, V. Gopalan, K. T. Gahagan, Q. X. Jia, T. E. Mitchell, and J. M. Robinson, “Large-angle electro-optic laser scanner on LiTaO_3 fabricated by *in-situ* monitoring of ferroelectric-domain micropatterning,” *Appl. Optics* **40**, 6236-6241 (2001).
- 377.** Q. X. Jia, P. N. Arendt, S. R. Foltyn, T. G. Holesinger, and R. F. DePaula, “Superconducting YBCO films on polycrystalline yttrium-iron-garnet using IBAD-YSZ as a template,” *IEEE Trans. Appl. Supercond.* **11**, 3489-3492 (2001).
- 378.** B. J. Gibbons, B. H. Park, Y. Gim, Y. Fan, A. T. Findikoglu, D. W. Reagor, and Q. X. Jia, “Structure, processing, and property relationships in tunable rf and microwave devices,” *Integrated Ferroelectrics* **39**, 1211-1220 (2001).
- 379.** H. Kung, J. P. Hirth, S. R. Foltyn, P. N. Arendt, Q. X. Jia, and M. P. Maley, “A comparison of [001] low-angle tilt grain boundaries of (100) and (110) grain boundary planes in $\text{YBa}_2\text{Cu}_3\text{O}_7$ coated conductors,” *Physica C* **357–360**, 959-966 (2001).
- 380.** J. R. Groves, P. N. Arendt, S. R. Foltyn, Q. X. Jia, T. G. Holesinger, H. Kung, E. J. Peterson, R. F. DePaula, P. C. Dowden, L. Stan, and L. A. Emmert, “High critical current density $\text{YBa}_2\text{Cu}_3\text{O}_7$ thick films using ion beam assisted deposition MgO bi-axially oriented template layers on nickel-based superalloy substrates,” *J. Mater. Res.* **16**, 2175-2178 (2001).
- 381.** B. H. Park, J. Lee, E. J. Peterson, X. Zeng, W. Si, X. X. Xi, and Q. X. Jia, “Effects of very thin strain layers on dielectric properties of epitaxial $\text{Ba}_{0.6}\text{Sr}_{0.4}\text{TiO}_3$ films,” *Appl. Phys. Lett.* **78**, 533-535 (2001).

- 382.** H. Kung, J. P. Hirth, S. R. Foltyn, P. N. Arendt, Q. X. Jia, and M. P. Maley, "On the dissociation of grain boundary dislocations in $\text{YBa}_2\text{Cu}_3\text{O}_{y-\delta}$ coated conductors," *Phil. Mag. Lett.* **81**, 85-93 (2001).
- 383.** B. J. Gibbons, Y. Fan, A. T. Findikoglu, Q. X. Jia, and D. W. Reagor, "Effects of ozone assisted deposition on the dielectric properties of 90° off-axis rf-magnetron sputtered SrTiO_3 ," *J. Vac. Sci. Technol. A* **19**, 56-61 (2001).
- 384.** T. G. Holesinger, S. R. Foltyn, P. N. Arendt, Q. X. Jia, J. F. Smith, P. C. Dowden, R. F. DePaula, and J. R. Groves, "Microstructural development in $\text{YBa}_2\text{Cu}_3\text{O}_y$ coated conductors based on ion-beam-assisted deposition of YSZ buffer layers," *IEEE Trans. Appl. Supercond.* **11**, 3359-3364 (2001).
- 385.** Q. X. Jia and P. Lu, "Microstructure of hetero-epitaxially grown RuO_2 thin films on MgO by pulsed laser deposition," *Phil. Mag. B* **81**, 141-149 (2001).
- 386.** A. T. Findikoglu, Q. X. Jia, and S. F. Hahn, "Dynamic time expansion and compression using nonlinear waveguides," *Appl. Phys. Lett.* **77**, 3645-3647 (2000).
- 387.** H. Kung, J. P. Hirth, S. R. Foltyn, P. N. Arendt, Q. X. Jia, and M. P. Maley, "TEM characterization of grain boundary structure in YBCO coated conductors," *Microscopy and Microanalysis* **6**, 394 (2000).
- 388.** S. R. Foltyn, P. N. Arendt, R. F. DePaula, P. C. Dowden, J. Y. Coulter, J. R. Groves, L. N. Haussamen, L. P. Winston, Q. X. Jia, and M. P. Maley, "Development of meter-long YBCO coated conductors produced by ion beam assisted deposition and pulsed laser deposition," *Physica C* **341**, 2305-2308 (2000).
- 389.** C. J. Lu, Z. L. Wang, K. H. Kuo, C. Kwon, and Q. X. Jia, "Lattice mismatch in growth and properties of epitaxial colossal magnetoresistance $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$ thin films," *J. Appl. Phys.* **88**, 4032-4043 (2000).
- 390.** B. H. Park, Y. Fan, Y. Gim, and Q. X. Jia, "High nonlinearity of $\text{Ba}_{0.6}\text{Sr}_{0.4}\text{TiO}_3$ films hetero-epitaxially grown on MgO substrates," *Appl. Phys. Lett.* **77**, 2587-2589 (2000).
- 391.** H. Jiang, W. Hu, S. Liang, V. Foflyguine, J. Zhao, Q. X. Jia, J. R. Groves, P. Arendt, F. Miranda, A. Drehman, S. Wang, and P. Yip, "High quality $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$ films grown by MOCLD and novel ferroelectric/ferrite structures for dual-tuning microwave devices," *Integrated Ferroelectrics* **28**, 63-79 (2000).
- 392.** J. O. Willis, P. N. Arendt, S. R. Foltyn, Q. X. Jia, J. R. Groves, R. F. DePaula, P. C. Dowden, E. J. Peterson, T. G. Holesinger, J. Y. Coulter, M. Ma, M. P. Maley, and D. E. Peterson, "Advances in YBCO coated conductor technology," *Physica C* **335**, 73-77 (2000).
- 393.** T. G. Holesinger, S. R. Foltyn, P. N. Arendt, H. Kung, Q. X. Jia, E. J. Peterson, J. F. Smith, R. M. Dickerson, P. C. Dowden, R. F. DePaula, J. R. Groves, and J. Y. Coulter, "The microstructure of continuously processed $\text{YBa}_2\text{Cu}_3\text{O}_y$ coated conductors with underlying CeO_2 and IBAZ YSZ buffer layers," *J. Mater. Res.* **15**, 1110-1119 (2000).
- 394.** C. C. Battle, S. Kim, V. Gopalan, K. Barkoccy, M. C. Gupta, Q. X. Jia, and T. E. Mitchell, "Ferroelectric domain reversal in congruent LiTaO_3 crystals at elevated temperatures," *Appl. Phys. Lett.* **76**, 2436-2438 (2000).

- 395.** C. Kwon, L. R. Kinder, Y. Fan, Y. Gim, A. T. Findikoglu, J. F. Bingert, J. Y. Coulter, S. R. Foltyn, D. E. Peterson, and Q. X. Jia, "Improved superconducting properties of $\text{SmBa}_2\text{Cu}_3\text{O}_7$ films using $\text{YBa}_2\text{Cu}_3\text{O}_7$ buffer layer," *Phil. Mag. B* **80**, 45-51 (2000).
- 396.** A. T. Findikoglu, Q. X. Jia, D. W. Reagor, C. Kwon, and K. O. Rasmussen, "Electrodynamical properties of single-crystal and thin-film strontium titanate," *Integrated Ferroelectrics* **28**, 193-200 (2000).
- 397.** R. S. Aga, S. Yan, Y. Xie, S. Han, J. Z. Wu, Q. X. Jia, and C. Kwon, "Microwave surface resistance of $\text{HgBa}_2\text{CaCu}_2\text{O}_{6+\delta}$ thin films," *Appl. Phys. Lett.* **76**, 1606-1608 (2000).
- 398.** Y. Gim, T. Hudson, Y. Fan, C. Kwon, A. T. Findikoglu, B. J. Gibbons, B. H. Park, and Q. X. Jia, "Microstructure and dielectric properties of $\text{Ba}_{1-x}\text{Sr}_x\text{TiO}_3$ films grown on LaAlO_3 substrates," *Appl. Phys. Lett.* **77**, 1200-1202 (2000).
- 399.** Q. X. Jia, "Growth and application of conductive ruthenium oxide films," *Recent Res. Devel. Appl. Phys.* **2**, 629-636 (1999).
- 400.** C. Kwon, L. R. Kinder, Y. Gim, J. Y. Coulter, M. P. Maley, S. R. Foltyn, and Q. X. Jia, "Fabrication and characterization of $\text{REBa}_2\text{Cu}_3\text{O}_7$ (RE = Y, Er, Sm, and Nd) films," *IEEE Trans. Appl. Supercond.* **9**, 1575-1578 (1999).
- 401.** X. F. Zhang, H. J. Kung, S. R. Foltyn, Q. X. Jia, E. J. Peterson, and D. E. Peterson, "Speeding up film deposition rate: its effects on microstructures of $\text{YBa}_2\text{Cu}_3\text{O}_y$ superconducting thick films," *J. Mater. Res.* **14**, 1204-1211 (1999).
- 402.** V. Gopalan, A. Itagi, S. Gerstl, P. Swart, Q. X. Jia, T. E. Mitchell, T. E. Schlesinger, and D. D. Stancil, "Ferroelectric domain kinetics congruent LiTaO_3 ," *Integrated Ferroelectrics*, **27**, 1181-1190 (1999).
- 403.** S. R. Foltyn, Q. X. Jia, P. N. Arendt, L. R. Kinder, Y. Fan, and J. F. Smith, "Relationship between film thickness and the critical current of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ coated conductors," *Appl. Phys. Lett.* **75**, 3692-3694 (1999).
- 404.** J. P. Zhou, J. T. McDevitt, J. S. Zhou, H. Q. Yin, J. B. Goodenough, Y. Gim, and Q. X. Jia, "Effect of tolerance factor and local distortion on magnetic properties of the perovskite manganites," *Appl. Phys. Lett.* **75**, 1146-1148 (1999).
- 405.** S. R. Foltyn, P. N. Arendt, P. C. Dowden, R. F. DePaula, J. R. Groves, J. Y. Coulter, Q. X. Jia, M. P. Maley, and D. E. Peterson, "High- T_c coated conductors - performance of meter-long YBCO/IBAD flexible tapes," *IEEE Trans. Appl. Supercond.* **9**, 1519-1522 (1999).
- 406.** P. Lu, S. He, F. X. Li, and Q. X. Jia, "Epitaxial growth and structural properties of conductive RuO_2 thin films," *Integrated Ferroelectrics* **26**, 839-853 (1999).
- 407.** J. S. Ahn, J. Bak, H. S. Choi, T. W. Noh, J. E. Han, Y. Bang, J. H. Cho, and Q. X. Jia, "Structural evolution in $(\text{Ca,Sr})\text{RuO}_3$ near the Mott-Hubbard transition," *Phys. Rev. Lett.* **82**, 5321-5324 (1999).
- 408.** V. Gopalan, S. Gerstl, A. Itagi, T. E. Mitchell, Q. X. Jia, T. E. Schlesinger, and D. D. Stancil, "In-situ video measurement of 180° domain mobility in congruent LiTaO_3 using electro-optic imaging microscopy," *J. Appl. Phys.* **86**, 1638-1646 (1999).

409. Q. X. Jia, C. Kwon, and P. Lu, "Structural properties of $\text{Ba}_{0.6}\text{Sr}_{0.4}\text{TiO}_3$ thin films on epitaxial RuO_2 electrodes," *Integrated Ferroelectrics*, **24**, 57-63 (1999).
410. A. T. Findikoglu, Q. X. Jia, C. Kwon, D. W. Reagor, K. O. Rasmussen, A. R. Bishop, N. Gronbech-Jensen, and G. Kaduchak, "Comparative study of broadband electrodynamic properties of single-crystal and thin film strontium titanate," *Appl. Phys. Lett.* **75**, 4189-4191 (1999).
411. A. T. Findikoglu, D. W. Reagor, K. Ø. Rasmussen, A. R. Bishop, N. Gronbech-Jensen, Q. X. Jia, Y. Fan, and C. Kwon, "Electrodynamic properties of coplanar waveguides made from high-temperature superconducting $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ electrodes on nonlinear dielectric SrTiO_3 substrates," *J. Appl. Phys.* **86**, 1558-1568 (1999).
412. V. Gopalan, K. T. Gahagan, M. Kawas, Q. X. Jia, J. M. Robinson, T. E. Mitchell, T. E. Schlesinger, and D. D. Stancil, "Integration of electro-optic lenses and scanners on ferroelectric LiTaO_3 ," *Integrated Ferroelectrics*, **25**, 371-376 (1999).
413. V. Gopalan, Q. X. Jia, and T. E. Mitchell, "In-situ video observation of 180° domain kinetics in congruent LiNbO_3 crystals," *Appl. Phys. Lett.* **75**, 2482-2484 (1999).
414. A. T. Findikoglu, D. W. Reagor, K. O. Rasmussen, A. R. Bishop, N. Gronbech-Jensen, Q. X. Jia, Y. Fan, and C. Kwon, "Pulse-shaping using nonlinear dielectric SrTiO_3 ," *Appl. Phys. Lett.* **74**, 1770-1772 (1999).
415. J. P. Zhou, C. E. Jones, J. T. McDevitt, Y. Gim, J. B. Goodenough, C. Kwon, and Q. X. Jia, "Improved J_c of bilayer $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ thin film structures," *IEEE Trans. Appl. Supercond.* **9**, 2002-2005 (1999).
416. K. T. Gahagan, V. Gopalan, J. M. Robinson, Q. X. Jia, and T. E. Mitchell, "Integrated electro-optic lens/scanner in LiTaO_3 single crystal," *Appl. Optics* **38**, 1186-1190 (1999).
417. Y. Gim, K. T. Gahagan, C. Kwon, M. Hawley, V. Gopalan, J. M. Robinson, T. E. Mitchell, and Q. X. Jia, "Growth of LiNbO_3 films on single crystal sapphire substrates using pulsed laser deposition," *Integrated Ferroelectrics* **25**, 431-442 (1999).
418. P. Lu, Q. X. Jia, and A. T. Findikoglu, "Effects of homo-epitaxial LaAlO_3 layer on microstructural and microwave properties of SrTiO_3 films grown on LaAlO_3 substrates," *Thin Solid Films* **348**, 38-43 (1999).
419. Q. X. Jia, J. R. Groves, P. Arendt, Y. Fan, A. T. Findikoglu, S. R. Foltyn, H. Jiang, and F. A. Miranda, "Integration of nonlinear dielectric barium strontium titanate with polycrystalline yttrium iron garnet," *Appl. Phys. Lett.* **74**, 1564-1566 (1999).
420. L. Kinder, I. L. Grigorov, C. Kwon, Q. X. Jia, L. Luo, and J. Zhao, "Growth and characterization of $\text{Ba}_{0.6}\text{Sr}_{0.4}\text{TiO}_3$ thin films on Si with Pt electrodes," *J. Vac. Sci. Technol. A* **17**, 2148-2150 (1999).
421. P. Lu, S. He, F. X. Li, and Q. X. Jia, "Epitaxial growth of RuO_2 thin films by metal-organic chemical vapor deposition," *Thin Solid Films* **340**, 140-144 (1999).
422. Q. X. Jia, Y. Fan, C. Kwon, C. Mombourquette, D. Reagor, R. Cantor, J. P. Zhou, Y. Gim, C. Jones, J. T. McDevitt, and J. B. Goodenough, "Development of ramp edge SNS junctions

- using highly stable normal-metal barrier materials,” *IEEE Trans. Appl. Supercond.* **9**, 3374-3377 (1999).
- 423.** D. Li, A. R. Bishop, Y. Gim, X. B. Shi, M. R. Fitzsimmons, and Q. X. Jia, “Conduction properties of metal/organic monolayer/semiconductor heterostructures,” *Appl. Phys. Lett.* **73**, 2645-2647 (1998).
- 424.** A. T. Findikoglu, Q. X. Jia, D. Reagor, Y. Fan, G. D. Lythe, R. A. Camassa, D. Cai, N. Gronbech-Jensen, and A. R. Bishop, “New potential applications of nonlinear dielectrics: microwave solitons and stochastic resonance,” *Integrated Ferroelectrics* **22**, 779-788 (1998).
- 425.** Q. X. Jia, D. Reagor, Y. Fan, and C. Mombourquette, “Development of ramp-edge SNS Josephson junctions and SQUIDs,” *Mater. Sci. Eng. B* **56**, 95-99 (1998).
- 426.** C. Kwon, Q. X. Jia, Y. Fan, M. F. Hundley, and D. W. Reagor, “Observation of spin-dependent tunneling and large magnetoresistance in $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3/\text{SrTiO}_3/\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ ramp-edge junctions,” *J. Appl. Phys.* **83**, 7052-7054 (1998).
- 427.** Y. Son, S. H. Bang, J. H. Cho, and Q. X. Jia, “Characteristics of $\text{SrBi}_2\text{Ta}_2\text{O}_9$ thin films on (100) LaAlO_3 and $\text{Pt/Ti/SiO}_2/\text{Si}$,” *J. Korean Phys. Soc.* **32**, S1521-1524 (1998).
- 428.** Q. X. Jia, J. M. Roper, P. N. Arendt, S. R. Foltyn, Y. Fan, and J. R. Groves, “Oriented conductive oxide electrodes on SiO_2/Si ,” *Integrated Ferroelectrics* **22**, 397-406 (1998).
- 429.** C. Kwon, Y. Gim, Y. Fan, M. F. Hundley, J. M. Roper, P. N. Arendt, and Q. X. Jia, “Effect of in-plane epitaxy on magneto-transport properties of $(\text{La}_{0.5}\text{Sr}_{0.5})\text{CoO}_3$ thin films,” *Appl. Phys. Lett.* **73**, 695-697 (1998).
- 430.** Q. X. Jia, A. T. Findikoglu, P. N. Arendt, S. R. Foltyn, J. M. Roper, J. R. Groves, J. Y. Coulter, Y. Q. Li, and G. F. Dionne, “Superconducting $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ thin films on polycrystalline ferrite for magnetically tunable microwave components,” *Appl. Phys. Lett.* **72**, 1763-1765 (1998).
- 431.** V. Gopalan, T. E. Mitchell, Q. X. Jia, J. M. Robinson, M. Kawas, T. E. Schlesinger, and D. D. Stancil, “Ferroelectrics as a versatile solid state platform for integrated optics,” *Integrated Ferroelectrics* **22**, 985-991 (1998).
- 432.** Q. X. Jia, A. T. Findikoglu, D. Reagor, and P. Lu, “Improvement in performance of electrically tunable devices based on nonlinear dielectric SrTiO_3 using homo-epitaxial LaAlO_3 interlayer,” *Appl. Phys. Lett.* **73**, 897-899 (1998).
- 433.** Q. X. Jia, P. Arendt, J. R. Groves, Y. Fan, and S. R. Foltyn, “Role of yttria-stabilized zirconia produced by ion-beam-assisted-deposition on the properties of RuO_2 on SiO_2/Si ,” *J. Mater. Res.* **13**, 2461-2464 (1998).
- 434.** Q. X. Jia, F. Yan, C. Mombourquette, and D. Reagor, “Directly-coupled DC SQUID magnetometers based on edge-geometry $\text{Ag:YBa}_2\text{Cu}_3\text{O}_{7-x}/\text{PrBa}_2\text{Cu}_3\text{O}_{7-x}/\text{Ag:YBa}_2\text{Cu}_3\text{O}_{7-x}$ junctions,” *Appl. Phys. Lett.* **72**, 3068-3070 (1998).
- 435.** J. Zhou, J. T. McDevitt, and Q. X. Jia, “Improved N-layer materials for high- T_c SNS junctions and SQUID sensors,” *Appl. Phys. Lett.* **72**, 848-850 (1998).

436. V. Gopalan, T. E. Mitchell, K. E. Sickafus, and Q. X. Jia, "Real-time study of kinetics of 180° domains in congruent LiTaO₃ under an external field," *Integrated Ferroelectrics* **22**, 925-929 (1998).
437. J. H. Cho, S. H. Bang, J. Y. Son, and Q. X. Jia, "Control of epitaxial growth for SrBi₂Ta₂O₉ thin films," *Appl. Phys. Lett.* **72**, 665-667 (1998).
438. P. Lu, F. Chu, Q. X. Jia, and T. E. Mitchell, "Microstructural characteristics of conductive SrRuO₃ thin films formed by pulsed-laser deposition," *J. Mater. Res.* **13**, 2302-2307 (1998).
439. Q. X. Jia, J. L. Smith, L. H. Chang, and W. A. Anderson, "Characteristics of BaTiO₃ thin films on Si deposited by rf magnetron sputtering," *Phil. Mag. B* **77**, 163-175 (1998).
440. Q. X. Jia, A. T. Findikoglu, R. Zhou, S. R. Foltyn, X. D. Wu, J. L. Smith, Q. Wang, D. F. Evans, and W. L. Gladfelter, "Structural and dielectric properties of Ba_{0.5}Sr_{0.5}TiO₃ thin films with an epi-RuO₂ bottom electrode," *Integrated Ferroelectrics* **19**, 111-119 (1998).
441. C. L. Chen, Q. X. Jia, Y. C. Lu, J. L. Smith, and T. E. Mitchell, "Hetero-epitaxial growth of RuO₂ thin films on α -Al₂O₃ substrates with CeO₂ buffer layers by pulsed laser deposition," *J. Vac. Sci. Technol. A* **16**, 2725-2727 (1998).
442. C. Kwon, Q. X. Jia, Y. Fan, M. F. Hundley, D. W. Reagor, J. Y. Coulter, and D. E. Peterson, "Large magnetoresistance in La_{0.7}Ca_{0.3}MnO₃/SrTiO₃/La_{0.7}Ca_{0.3}MnO₃ ramp-edge junctions," *Appl. Phys. Lett.* **72**, 486-488 (1998).
443. Q. X. Jia, P. N. Arendt, J. R. Groves, and S. R. Foltyn, "Biaxially oriented conductive La_{0.5}Sr_{0.5}CoO₃ thin films on SiO₂/Si," *J. Vac. Sci. Technol. A* **16**, 1380-1383 (1998).
444. D. Reagor, Y. Fan, C. Mombourquette, Q. X. Jia, and L. Stolarczyk, "A high temperature superconducting receiver for low frequency radio waves," *IEEE Trans. Appl. Supercond.* **7**, 3845-3849 (1997).
445. S. R. Foltyn, E. J. Peterson, J. Y. Coulter, P. N. Arendt, Q. X. Jia, P. C. Dowden, M. P. Maley, X. D. Wu, and D. E. Peterson, "Influence of deposition rate on the properties of thick YBa₂Cu₃O_{7- δ} films produced by pulsed laser deposition," *J. Mater. Res.* **12**, 2941-2946 (1997).
446. M. E. Hawley, C. D. Adams, P. N. Arendt, E. L. Brosha, F. H. Garzon, R. J. Houlton, M. F. Hundley, R. H. Heffner, Q. X. Jia, J. Neumeier, and X. D. Wu, "CMR films' structure as a function of growth and processing," *J. Crystal Growth* **174**, 455-463 (1997).
447. A. T. Findikoglu, P. N. Arendt, S. R. Foltyn, J. R. Groves, Q. X. Jia, E. J. Peterson, L. Bulaevskii, M. P. Maley, and D. W. Reagor, "Power-dependent microwave properties of superconducting YBa₂Cu₃O_{7-x} films on buffered polycrystalline substrates," *Appl. Phys. Lett.* **70**, 3293-3295 (1997).
448. J. Zhou, R. K. Lo, J. T. McDevitt, J. Tavalcchio, M. G. Forrester, B. D. Hunt, Q. X. Jia, and D. Reagor, "Development of a reliable materials base for superconducting electronics," *J. Mater. Res.* **12**, 2958-2975 (1997).
449. Q. X. Jia, S. R. Foltyn, M. Hawley, and X. D. Wu, "Pulsed laser deposition of conductive SrRuO₃ thin films," *J. Vac. Sci. Technol. A* **15**, 1080-1083 (1997).

450. A. T. Findikoglu, Q. X. Jia, and D. W. Reagor, "Superconductor/nonlinear-dielectric bilayers for tunable and adaptive microwave devices," *IEEE Trans. Appl. Supercond.* **7**, 2925-2928 (1997).
451. Q. X. Jia, D. Reagor, C. Mombourquette, Y. Fan, J. Decker, and P. D'Alessandris, "Stability of dc SQUIDS fabricated using ramp-edge superconductor/normal-metal/superconductor technology," *Appl. Phys. Lett.* **71**, 1721-1723 (1997).
452. Q. X. Jia, H. H. Kung, and X. D. Wu, "Heteroepitaxial growth of $\text{Ba}_{0.5}\text{Sr}_{0.5}\text{TiO}_3$ thin films on Si with conductive metallic SrRuO_3 as a bottom electrode," *Thin Solid Films* **299**, 115-118 (1997).
453. Q. X. Jia, D. W. Reagor, X. D. Wu, C. Mombourquette, S. R. Foltyn, and D. E. Peterson, "Characterization of ramp edge-geometry $\text{Ag:YBa}_2\text{Cu}_3\text{O}_{7-x}/\text{PrBa}_2\text{Cu}_3\text{O}_{7-x}/\text{Ag:YBa}_2\text{Cu}_3\text{O}_{7-x}$ junctions and DC SQUIDS," *IEEE Trans. Appl. Supercond.* **7**, 3005-3008 (1997).
454. L. Smilowitz, Q. X. Jia, X. Yang, D. Q. Li, D. McBranch, S. J. Buelow, and J. M. Robinson, "Imaging nanometer-thick patterned self-assembled monolayers via 2nd-harmonic generation microscopy," *J. Appl. Phys.* **81**, 2051-2054 (1997).
455. A. T. Findikoglu, Q. X. Jia, X. D. Wu, and D. W. Reagor, "Paraelectric thin films for microwave applications," *Integrated Ferroelectrics* **15**, 163-171 (1997).
456. Q. X. Jia, D. S. Zhou, S. R. Foltyn, X. D. Wu, A. T. Findikoglu, and J. L. Smith, "Microstructure of $\text{Ba}_{0.5}\text{Sr}_{0.5}\text{TiO}_3$ thin films on (100) LaAlO_3 with SrRuO_3 as electrodes," *Phil. Mag. B* **75**, 261-269 (1997).
457. A. T. Findikoglu, P. N. Arendt, J. R. Groves, S. R. Foltyn, E. J. Peterson, D. W. Reagor, and Q. X. Jia, "Microwave surface resistance of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ films on polycrystalline alumina and Ni-based alloy substrates with ion-beam-assisted-deposited buffer layers," *IEEE Trans. Appl. Supercond.* **7**, 1232-1235 (1997).
458. Q. X. Jia, A. T. Findikoglu, R. Zhou, S. R. Foltyn, and X. D. Wu, "Structural characterization of $\text{Ba}_{0.5}\text{Sr}_{0.5}\text{TiO}_3$ on RuO_2 prepared by pulsed laser deposition," *Integrated Ferroelectrics* **14**, 167-172 (1997).
459. A. T. Findikoglu, S. R. Foltyn, P. N. Arendt, J. R. Groves, Q. X. Jia, E. J. Peterson, X. D. Wu, and D. W. Reagor, "Microwave surface resistance of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ films on polycrystalline ceramic substrates with textured buffer layers," *Appl. Phys. Lett.* **69**, 1626-1628 (1996).
460. H. Safar, S. R. Foltyn, Q. X. Jia, and M. P. Maley, "Bose glass vortex phase transition in twinned $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ superconductors," *Phil. Mag. B* **74**, 647-654 (1996).
461. F. Chu, Q. X. Jia, G. Landrum, X. D. Wu, M. Hawley, and T. E. Mitchell, "Microstructures and electrical properties of SrRuO_3 thin films on LaAlO_3 substrates," *J. Electronic Mater.* **25**, 1754-1759 (1996).
462. A. T. Findikoglu, Q. X. Jia, X. D. Wu, G. J. Chen, T. Venkatesan, and D. W. Reagor, "Tunable and adaptive bandpass filter using nonlinear dielectric thin film of SrTiO_3 ," *Appl. Phys. Lett.* **68**, 1651-1653 (1996).

463. M. F. Hundley, J. J. Neumeier, R. H. Heffner, Q. X. Jia, X. D. Wu, and J. D. Thompson, "Transport and magnetism correlations in thin-film ferromagnetic oxides," *J. Appl. Phys.* **79**, 4535-4537 (1996).
464. Q. X. Jia, D. Reagor, H. Kung, M. Hawley, C. Mombourquette, S. R. Foltyn, X. D. Wu, and D. E. Peterson, "High temperature superconductor edge-geometry SNS junctions with engineered normal-metal layers," *Supercond. Sci. Technol.* **9**, 985-990 (1996).
465. Q. X. Jia, F. Chu, X. D. Wu, M. Hawley, J. H. Cho, A. T. Findikoglu, S. R. Foltyn, J. L. Smith, and T. E. Mitchell, "Characteristics of conductive SrRuO₃ thin films with different microstructures," *J. Mater. Res.* **11**, 2263-2268 (1996).
466. J. H. Cho, Q. X. Jia, X. D. Wu, S. R. Foltyn, and M. P. Maley, "Magnetotransport properties of SrRuO₃ epitaxial thin films on (100) LaAlO₃: presence of localized magnetic moments," *Phys. Rev. B* **54**, 37-40 (1996).
467. P. Tiwari, X. D. Wu, S. R. Foltyn, R. E. Muenchausen, P. N. Arendt, I. Campbell, Q. X. Jia, D. E. Peterson, and T. E. Mitchell, "Study of high-quality epitaxial YBCO thin films grown directly on Y-cut LiNbO₃," *J. Electronic Mater.* **25**, 131-135 (1996).
468. J. P. Zheng, T. R. Jow, Q. X. Jia, and X. D. Wu, "Proton insertion into ruthenium oxide film prepared by pulsed laser deposition," *J. Electrochem. Soc.* **143**, 1068-1070 (1996).
469. P. Tiwari, X. D. Wu, S. R. Foltyn, I. H. Campbell, Q. X. Jia, R. E. Muenchausen, D. E. Peterson, and T. E. Mitchell, "Synthesis of low resistivity complex oxides on MgO using Pt as buffer layer," *J. Electronic Mater.* **25**, 51- 55 (1996).
470. Q. X. Jia, S. G. Song, J. H. Cho, X. D. Wu, S. R. Foltyn, A. T. Findikoglu, and J. L. Smith, "Epitaxial growth highly conductive RuO₂ thin films on Si," *Appl. Phys. Lett.* **68**, 1069-1071 (1996).
471. Q. X. Jia, X. D. Wu, D. W. Reagor, S. R. Foltyn, C. Mombourquette, and D. E. Peterson, "Edge-geometry dc SNS SQUIDS using Ag-doped YBa₂Cu₃O_{7-x} electrodes," *Electron. Lett.* **32**, 499-501 (1996).
472. Q. X. Jia, S. G. Song, X. D. Wu, and S. R. Foltyn, "Role of substrates for heteroepitaxial growth of conductive RuO₂ thin films," *J. Vac. Sci. Technol. A* **14**, 1107-1110 (1996).
473. A. T. Findikoglu, Q. X. Jia, D. W. Reagor, and X. D. Wu, "Tunable microwave mixing in nonlinear dielectric thin films of SrTiO₃ and Ba_{0.5}Sr_{0.5}TiO₃," *Electron. Lett.* **31**, 1814-1815 (1995).
474. M. F. Hundley, M. Hawley, R. H. Heffner, Q. X. Jia, J. J. Neumeier, J. Tesmer, J. D. Thompson, and X. D. Wu, "Transport-magnetism correlations in the ferromagnetic oxide La_{0.7}Ca_{0.3}MnO₃," *Appl. Phys. Lett.* **67**, 860-862 (1995).
475. Q. X. Jia, S. G. Song, X. D. Wu, and S. R. Foltyn, "Deposition and characterization of crystalline conductive RuO₂ thin films," *J. Mater. Res.* **10**, 2401-2403 (1995).
476. A. T. Findikoglu, Q. X. Jia, D. Reagor, I. H. Campbell, C. B. Mombourquette, D. McMurry, and X. D. Wu, "Electrically tunable coplanar transmission line resonators using YBa₂Cu₃O_{7-x}/SrTiO₃ bilayers," *Appl. Phys. Lett.* **66**, 3674-3676 (1995).

477. Q. X. Jia, X. D. Wu, D. W. Reagor, S. R. Foltyn, R. J. Houlton, P. Tiwari, C. Mombourquette, I. H. Campbell, F. Garzon, and D. E. Peterson, "Superconductor $\text{GdBa}_2\text{Cu}_3\text{O}_{7.8}$ edge junctions with lattice matched $\text{Y}_{0.6}\text{Pr}_{0.4}\text{Ba}_2\text{Cu}_3\text{O}_{7.8}$ barriers," *J. Appl. Phys.* **78**, 2871-2873 (1995).
478. Q. X. Jia, X. D. Wu, S. R. Foltyn, A. T. Findikoglu, P. Tiwari, J. P. Zheng, and T. R. Jow, "Heteroepitaxial growth of highly conductive metal-oxide RuO_2 thin films by pulsed laser deposition," *Appl. Phys. Lett.* **67**, 1677-1679 (1995).
479. Q. X. Jia, X. D. Wu, D. S. Zhou, S. R. Foltyn, P. Tiwari, D. E. Peterson, and T. E. Mitchell, "Deposition of epitaxial YSZ on single-crystal Si and subsequent growth of an amorphous SiO_2 interlayer," *Phil. Mag. Lett.* **72**, 385-391 (1995).
480. T. C. Pluym, R. E. Muenchausen, P. N. Arendt, X. D. Wu, F. M. Mueller, I. H. Campbell, Q. X. Jia, M. E. Hawley, E. J. Peterson, P. Tiwari, and W. L. Holstein, "Superconducting $\text{Tl}_2\text{Ba}_2\text{CaCu}_2\text{O}_8$ thin films prepared by post-annealing in a two-zone furnace," *IEEE Trans. Appl. Supercond.* **5**, 1339-1342 (1995).
481. P. Tiwari, X. D. Wu, S. R. Foltyn, R. E. Muenchausen, P. N. Arendt, I. H. Campbell, Q. X. Jia, D. E. Peterson, T. E. Mitchell, D. Face, and D. B. Laubacher, "High quality epitaxial YBCO thin films directly on LiNbO_3 ," *Phil. Mag. B* **71**, 903-912 (1995).
482. X. D. Wu, S. R. Foltyn, P. Arendt, J. Townsend, I. H. Campbell, P. Tiwari, Q. X. Jia, J. O. Willis, M. P. Maley, J. Y. Coulter, and D. E. Peterson, "Preparation of high quality $\text{YBa}_2\text{Cu}_3\text{O}_{7.8}$ thick films on flexible Ni-based alloy substrates with textured buffer layers," *IEEE Trans. Appl. Supercond.* **5**, 2001-2006 (1995).
483. Q. X. Jia, K. Ebihara, and T. Ikegami, "Analytical solution for solar cell model parameters from illuminated current-voltage characteristics," *Phil. Mag. B* **72**, 375-382 (1995).
484. A. T. Findikoglu, Q. X. Jia, D. W. Reagor, and X. D. Wu, "Electrical characteristics of coplanar waveguide devices incorporating non-linear dielectric thin films of SrTiO_3 and $\text{Ba}_{0.5}\text{Sr}_{0.5}\text{TiO}_3$," *Micro. Opt. Tech. Lett.* **9**, 306-310 (1995).
485. S. Fleshler, M. P. Maley, Q. X. Jia, X. D. Wu, and A. Lacerda, "Transport properties of $\text{Tl}_2\text{Ba}_2\text{CaCu}_2\text{O}_8$ meander lines in high magnetic field," *IEEE Trans. Appl. Supercond.* **5**, 1541-1544 (1995).
486. Q. X. Jia, D. S. Zhou, X. D. Wu, S. R. Foltyn, P. Tiwari, and T. E. Mitchell, "Characterization of $\text{Ba}_{0.5}\text{Sr}_{0.5}\text{TiO}_3$ thin film capacitors produced by pulsed laser deposition," *Integrated Ferroelectrics* **10**, 73-79 (1995).
487. R. J. Houlton, D. W. Reagor, M. E. Hawley, K. N. Springer, Q. X. Jia, C. B. Mombourquette, F. H. Garzon, and X. D. Wu, "Development of materials for high temperature superconductor Josephson junctions," *IEEE Trans. Appl. Supercond.* **5**, 1639-1642 (1995).
488. Q. X. Jia, J. P. Zheng, H. S. Kwok, and W. A. Anderson, "Indium tin oxide on InP by pulsed laser deposition," *Thin Solid Films* **258**, 260-263 (1995).
489. Q. X. Jia, X. D. Wu, S. R. Foltyn, and P. Tiwari, "Structural and electrical properties of $\text{Ba}_{0.5}\text{Sr}_{0.5}\text{TiO}_3$ thin films with conductive SrRuO_3 bottom electrodes," *Appl. Phys. Lett.* **66**, 2197-2199 (1995).

490. Q. X. Jia, X. D. Wu, S. R. Foltyn, D. Reagor, M. Hawley, K. N. Springer, P. Tiwari, C. Mombourquette, R. J. Houlton, I. H. Campbell, and D. E. Peterson, "Fabrication and characterization of high temperature superconductor Josephson junctions with a novel device design," *IEEE Trans. Appl. Supercond.* **5**, 2103-2106 (1995).
491. Q. X. Jia, J. Yi, L. H. Chang, and W. A. Anderson, "Low leakage current BaTiO₃ thin film capacitors using a multilayer construction," *Thin Solid Films* **259**, 264-269 (1995).
492. Q. X. Jia, L. H. Chang, K. K. Ho, and W. A. Anderson, "Nanolayer structure of ferroelectric thin film capacitors using magnetron sputtering," *Ferroelectrics* **166**, 111-117 (1995).
493. Q. X. Jia, H. Y. Lee, E. Ma, W. A. Anderson, and F. M. Collins, "Stable thin film resistors using multilayer structure," *J. Mater. Res.* **10**, 1523-1528 (1995).
494. D. Reagor, R. Houlton, K. Springer, M. Hawley, Q. X. Jia, C. Mombourquette, F. Garzon, and X. D. Wu, "Development of HTS junctions and SQUIDS using low deposition temperature YBa₂Cu₃O_{7-x} barriers," *Appl. Phys. Lett.* **66**, 2280-2282 (1995).
495. P. Tiwari, X. D. Wu, S. R. Foltyn, Q. X. Jia, I. H. Campbell, P. N. Arendt, R. E. Muenchausen, T. E. Mitchell, and J. Narayan, "Synthesis of epitaxial Pt on (100) Si using TiN buffer layer by pulsed laser deposition," *Appl. Phys. Lett.* **65**, 2693-2695 (1994).
496. Q. X. Jia, D. W. Reagor, S. R. Foltyn, M. Hawley, C. Mombourquette, and X. D. Wu, "Superconducting YBa₂Cu₃O_{7-x} based edge junctions with Y_{0.7}Ca_{0.3}Ba₂Cu₃O_{7-x} barriers," *Physica C* **228**, 160-164 (1994).
497. Q. X. Jia, L. H. Chang, and W. A. Anderson, "Observation of different polarity of charges in metal/ferroelectric/semiconductor structures," *Ferroelectrics* **160**, 1-7 (1994).
498. Q. X. Jia, L. H. Chang, and W. A. Anderson, "Surface and interface properties of ferroelectric BaTiO₃ thin films on Si using RuO₂ as an electrode," *J. Mater. Res.* **9**, 2561-2565 (1994).
499. Q. X. Jia, X. D. Wu, D. Reagor, S. R. Foltyn, C. Mombourquette, P. Tiwari, I. H. Campbell, R. J. Houlton, and D. E. Peterson, "High temperature superconductor Josephson junctions with a gradient Pr-doped Y_{1-x}Pr_xBa₂Cu₃O_{7-δ} (x = 0.1, 0.3, 0.5) as barriers," *Appl. Phys. Lett.* **65**, 2866-2868 (1994).
500. Q. X. Jia, L. H. Chang, and W. A. Anderson, "Interactions between ferroelectric BaTiO₃ and Si," *J. Electronic Mater.* **23**, 551-556 (1994).
501. Q. X. Jia, K. Ebihara, T. Ikegami, and W. A. Anderson, "Metal/TaN(~5 nm)/Si diode fabricated by DC magnetron sputtering," *Appl. Phys. A* **58**, 487-491 (1994).
502. Q. X. Jia and W. A. Anderson, "Epitaxial growth of BaF₂ on (100) InP by radio frequency magnetron sputtering," *Thin Solid Films* **245**, 60-63 (1994).
503. Q. X. Jia, Z. Q. Shi, J. Yi, and W. A. Anderson, "Effect of barrier layers on BaTiO₃ thin film capacitors on Si substrates," *J. Electronic Mater.* **23**, 53-56 (1994).
504. Q. X. Jia, K. L. Jiao, W. A. Anderson, and F. M. Collins, "Microstructural analysis and modeling of RuO₂ thin film resistors," *Mater. Sci. Eng. B* **20**, 301-307 (1993).
505. Z. Q. Shi, Q. X. Jia, and W. A. Anderson, "Development and fabrication of thin film BaTiO₃ capacitors using radio frequency magnetron sputtering," *J. Vac. Sci. Technol. A* **11**, 1411-1413 (1993).

506. K. L. Jiao, Q. X. Jia, and W. A. Anderson, "Stability of RuO₂ thin film resistors," *Thin Solid Films* **227**, 59-65 (1993).
507. Q. X. Jia, K. L. Jiao, W. A. Anderson, and F. M. Collins, "On the nature of zero temperature coefficient of resistance of RuO₂ thin film resistor formation using *in-situ* annealing," *J. Vac. Sci. Technol. A* **11**, 1052-1055 (1993).
508. Q. X. Jia, K. L. Jiao, W. A. Anderson, and F. M. Collins, "Development and fabrication of stable RuO₂ thin film resistors," *Mater. Sci. Eng. B* **18**, 220-225 (1993).
509. Q. X. Jia, Z. Q. Shi, and W. A. Anderson, "BaTiO₃ thin film capacitors deposited by RF magnetron sputtering," *Thin Solid Films* **209**, 230-239 (1992).
510. Z. Q. Shi, Q. X. Jia, and W. A. Anderson, "Electrical and dielectric properties of thin film BaTiO₃ capacitor deposited by RF magnetron sputtering," *J. Vac. Sci. Technol. A* **10**, 733-736 (1992).
511. Q. X. Jia, S. Y. Lee, W. A. Anderson, and D. T. Shaw, "Preservation of substrate crystal and enhancement of YBa₂Cu₃O_{7-x} thin film growth using YSZ/Si₃N₄ as a buffer layer," *Physica C* **190**, 266-270 (1992).
512. Q. X. Jia, Z. Q. Shi, S. Y. Lee, W. A. Anderson, and D. T. Shaw, "Surface and interface properties of superconducting YBa₂Cu₃O_{7-x} thin films on GaAs using YSZ/Si₃N₄ as a buffer layer," *J. Vac. Sci. Technol. A* **10**, 1544-1546 (1992).
513. Q. X. Jia and W. A. Anderson, "High temperature superconducting YBa₂Cu₃O_{7-x} thin films on metallic substrates grown *in situ* by off-axis sputtering," *Appl. Phys. Lett.* **60**, 2689-2691 (1992).
514. Q. X. Jia and W. A. Anderson, "Conducting metallic oxide contacts on superconducting YBa₂Cu₃O_{7-x} thin films," *IEEE Trans. Comp. Hybrids, Manuf. Technol.* **15**, 121-125 (1992).
515. Z. Q. Shi, Q. X. Jia, and W. A. Anderson, "High performance barium titanate capacitors with double layer structure," *J. Electronic Mater.* **20**, 939-944 (1991).
516. S. Y. Lee, Q. X. Jia, W. A. Anderson, and D. T. Shaw, "*In situ* laser deposition of superconducting YBa₂Cu₃O_{7-x} thin films on GaAs substrates," *J. Appl. Phys.* **70**, 7170-7172 (1991).
517. Q. X. Jia, K. L. Jiao, and W. A. Anderson, "Interactions between superconducting YBa₂Cu₃O_{7-x} and silicon using different buffer layers," *J. Appl. Phys.* **70**, 3364-3366 (1991).
518. Q. X. Jia, S. Y. Lee, W. A. Anderson, and D. T. Shaw, "Role of barrier layers for superconducting YBa₂Cu₃O_{7-x} thin films on GaAs substrates," *Appl. Phys. Lett.* **59**, 1120-1122 (1991).
519. Q. X. Jia, Z. Q. Shi, K. L. Jiao, W. A. Anderson, and F. M. Collins, "Reactively sputtered RuO₂ thin film resistor with near zero TCR," *Thin Solid Films* **196**, 29-34 (1991).
520. Q. X. Jia and W. A. Anderson, "Sputter deposition of YBa₂Cu₃O_{7-x} films on Si at 500 °C with conducting metallic oxide as a buffer layer," *Appl. Phys. Lett.* **57**, 304-306 (1990).

521. Q. X. Jia, W. A. Anderson, J. P. Zheng, Y. Z. Zhu, S. Patel, H. S. Kwok, and D. T. Shaw, "Characterization of the Ag/YBa₂Cu₃O_{7-x} contact in thin films," *J. Appl. Phys.* **68**, 6336-6340 (1990).
522. Q. X. Jia and W. A. Anderson, "Passivation of superconducting YBa₂Cu₃O_{7-x} thin films by a wet fluoride vapor method," *J. Appl. Phys.* **67**, 2528-2531 (1990).
523. Q. X. Jia and W. A. Anderson, "Effect of thermal treatment on the properties of YBa₂Cu₃O_{7-x} thin films with multilayer Al/Cr/Yb metals as Ohmic contact electrodes," *J. Electronic Mater.* **19**, 443-447 (1990).
524. Q. X. Jia and W. A. Anderson, "Low resistance contacts to Y-Ba-Cu-O thin films," *J. Phys. D* **22**, 1565-1567 (1989).
525. Q. X. Jia and W. A. Anderson, "Characterization of hydrofluoric acid treated Y-Ba-Cu-O oxides," *J. Mater. Res.* **4**, 1320-1325 (1989).
526. Q. X. Jia and W. A. Anderson, "SiO₂ and Si₃N₄ passivation layers on Y-Ba-Cu-O thin films," *J. Appl. Phys.* **66**, 452-454 (1989).
527. Q. X. Jia, D. Ren, and W. A. Anderson, "Reproducible technique for deposition of Y-Ba-Cu-O thin films," *Int. J. Modern Phys. B* **3**, 743-749 (1989).
528. X. M. Liu, Q. X. Jia, and E. K. Liu, "High efficiency MIS/IL silicon solar cells with silicon oxynitride as ultra-thin tunneling films," *Solar Energy Mater.* **17**, 257-263 (1988).
529. Q. X. Jia, W. A. Anderson, E. K. Liu, and S. L. Zhang, "A novel approach for evaluating the series resistance of solar cells," *Solar Cells* **25**, 311-318 (1988).
530. Q. X. Jia and E. K. Liu, "A method for the direct measurement of the solar cell junction ideality factor," *Solar Cells* **22**, 15-21 (1987).
531. Q. X. Jia and E. K. Liu, "Analytical approach towards the diode quality factor of solar cells under illumination conditions," *Solid State Electron.* (in Chinese) **9**, 298-303 (1989).
532. Q. X. Jia and E. K. Liu, "Improved short wavelength response silicon solar cells fabricated through mask layer diffusion," *Semiconductor Opto-Electronics* (in Chinese) **9**, 76-78 (1988).
533. E. K. Liu and Q. X. Jia, "New processing to form AR and BSF simultaneously for high efficiency silicon solar cells," *J. Electron. Science* (in Chinese) **10**, 285-288 (1988).
534. Q. X. Jia and E. K. Liu, "High efficiency silicon solar cells - a review," *New Energy Source* (in Chinese) **9**, 1-7 (1988).
535. Q. X. Jia, X. M. Liu, and E. K. Liu, "MIS diode with ultra-thin SiO₂ as tunneling layer treated by NH₃ at low temperature and pressure," *Semiconductor Technol.* (in Chinese) **3**, 28-31 (1988).
536. X. M. Liu, E. K. Liu, and Q. X. Jia, "High efficiency MIS/IL and MINP silicon solar cells with silicon nitride as AR layers," *Acta Energiae Solaris Sinica* (in Chinese) **9**, 127-132 (1988).
537. E. K. Liu, Q. X. Jia, and H. Deng, "Limiting factor of open circuit voltage for MINP solar cells," *J. Xian Jiaotong Univ.* (in Chinese) **22**, 1-8 (1988).

538. X. Y. Wang, E. K. Liu, and Q. X. Jia, "High open circuit voltage MINP solar cells," *J. Semiconductor* (in Chinese) **3**, 19-23 (1987).
539. S. L. Zhang, X. M. Liu, Q. X. Jia, and E. K. Liu, "Characterization of Si₃N₄ thin films deposited by LPCVD and PECVD," *Semiconductor Technol.* (in Chinese) **4**, 26-29 (1987).
540. Q. X. Jia and E. K. Liu, "A new method for the direct measurement of diode quality factor of solar cells," *Acta Energiae Solaris Sinica* (in Chinese) **8**, 196-200 (1987).
541. E. K. Liu, Q. X. Jia, and C. C. Zhu, "Study of high efficiency MINP silicon solar cells," *Semiconductor Opto-Electronics* (in Chinese) **7**, 72-74 (1986).
542. Q. X. Jia, S. L. Zhang, and W. S. Wang, "Studies of double-diffusion for improving the characteristics of silicon solar cells," *Bull. Mater. Energy System* (in Chinese) **4**, 53-56 (1986).
543. Q. X. Jia, C. C. Zhu, and E. K. Liu, "High efficiency ion-implanted silicon solar cells," *Solar Energy Res. Application* (in Chinese) **2**, 31-33 (1986).