

## Fengyuan Yang

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### Education

Johns Hopkins University, Baltimore, MD

Ph.D. in Physics, March, 2001

M. S. in Physics, May, 1998

University of Science and Technology of China, Hefei, P. R. China

B. A. in Physics, June, 1992

### Experience

Ohio State University (September, 2003 – present)

- Assistant Professor, Department of Physics.

Johns Hopkins University (April, 2001 – August, 2003)

- Associate Research Scientist, Materials Research Science and Engineering Center

Johns Hopkins University, Department of Physics and Astronomy (September, 1995 - March, 2001)

- Research Assistant, Advisor: Professor C. L. Chien. (June, 1998 - March, 2001)

### Publications

- (1). T. Henighan, A. Chen, G. Vieira, A. J. Hauser, F. Y. Yang, J. J. Chalmers, and R. Sooryakumar, "Mobile Magnetic Traps: Manipulation of magnetically labeled and unlabeled biological cells," *Biophysical J.* In press.
- (2). G. Vieira, T. Henighan, A. Chen, A. J. Hauser, F. Y. Yang, J. J. Chalmers, and R. Sooryakumar, "Magnetic Wire Traps and Programmable Manipulation of Biological Cells," *Phys. Rev. Lett.* **103**, 128101 (2009).
- (3). K. K. Wang, A. Chinchore, W. L. Lin, D. C. Ingram, A. R. Smith, A. J. Hauser, and F. Y. Yang, "Epitaxial growth of ferromagnetic delta-phase manganese gallium on semiconducting scandium nitride (001)," *J. Crystal Growth* **311**, 2265 (2009).
- (4). R. A. Ricciardo, A. J. Hauser, F. Y. Yang, H. Kim, W. Luc, P. M. Woodward, "Structural, magnetic, and electronic characterization of double perovskites  $\text{Bi}_x\text{La}_{2-x}\text{MnMO}_6$  ( $M = \text{Ni}, \text{Co}; x=0.25, 0.50$ )," *Mater. Res. Bull.* **44**, 239 (2009).
- (5). A. J. Hauser, J. Zhang, L. Mier, R. A. Ricciardo, P. M. Woodward, T. L. Gustafson, L. J. Brillson, and F. Y. Yang, "Characterization of Electronic Structure and Defect States of Thin Epitaxial  $\text{BiFeO}_3$  Films by UV-Vis Absorption and Cathodoluminescence Spectroscopies," *Appl. Phys. Lett.* **92**, 222901 (2008).
- (6). W. C. Liu, C. L. Mak, K. H. Wong, C. Y. Lo, S. W. Or, W. Zhou, A. Hauser, F. Y. Yang, and R. Sooryakumar, "Magnetoelectric and dielectric relaxation properties of the high Curie temperature composite  $\text{Sr}_{1.9}\text{Ca}_{0.1}\text{NaNb}_5\text{O}_{15}-\text{CoFe}_2\text{O}_4$ ," *J. Phys. D: Appl. Phys.* **41**, 125402 (2008).
- (7). X. W. Zhao and F. Y. Yang, "Synthesis of Epitaxial Silicon Nanowires on Si(111) Substrates Using Ultrahigh Vacuum Magnetron Sputtering," *J. Vac. Sci. Technol. B* **26**, 675 (2008).
- (8). T. R. Lemberger, I. Hetel, A. J. Hauser, and F. Y. Yang, "Superfluid density of superconductor-ferromagnet bilayers," *J. Appl. Phys.* **103**, 07C701 (2008).
- (9). X. P. Xie, X. W. Zhao, J. W. Knepper, F. Y. Yang, and R. Sooryakumar, "Evolution of magnetic domain reversal with temperature in Co/Pt multilayers observed by magneto-optical Kerr imaging," *Phys. Rev. B* **76**, 184433 (2007).
- (10). X. W. Zhao, A. J. Hauser, T. R. Lemberger, and F. Y. Yang, "Growth control of GaAs nanowires using pulsed laser deposition with arsenic over pressure," *Nanotechnology* **18**, 485608 (2007).
- (11). T. R. Lemberger, I. Hetel, J. W. Knepper, and F. Y. Yang, "Penetration depth study of very thin superconducting Nb films," *Phys. Rev. B* **76**, 094515 (2007).
- (12). E. D. Lu, D. C. Ingram, A. R. Smith, J. W. Knepper, F. Y. Yang, "Reconstruction control of magnetic properties during epitaxial growth of ferromagnetic  $\text{Mn}_{3.8}\text{Ga}$  on wurtzite GaN(0001)," *Phys. Rev. Lett.* **97**, 146101 (2006).

- (13). M. Robinson, Y. Au, J. W. Knepper, F. Y. Yang, and R. Sooryakumar, "Magnetic imaging of layer-by-layer reversal in Co/Pt multilayers with perpendicular anisotropy", *Phys. Rev. B* **73**, 224422 (2006).
- (14). V. S. Gornakov, Yu. P. Kabanov, O. A. Tikhomirov, and V. I. Nikitenko, S. V. Urazhdin, F. Y. Yang, and C. L. Chien, A. J. Shapiro and R. D. Shull, "Experimental study of the microscopic mechanisms of magnetization reversal in FeNi/FeMn exchange-biased ferromagnet/ antiferromagnet polycrystalline bilayers using the magneto-optical indicator film technique", *Phys. Rev. B* **73**, 184428 (2006).
- (15). J. W. Knepper and F. Y. Yang, "Oscillatory Interlayer Coupling in Co/Pt Multilayers with Perpendicular Anisotropy", *Phys. Rev. B* **71**, 224403 (2005).
- (16). F.Q. Zhu, F.Y. Yang, C.L. Chien, L. Ritchie, G. Xiao, G.H. Wu, "Magnetic and thermal properties of Ni-Mn-Ga shape memory alloy with Martensitic transition near room temperature", *J. Magn. Magn. Mater.* **288**, 79 (2005).
- (17). F. Y. Yang and C. L. Chien, "Oscillatory Exchange Bias due to an Antiferromagnet with Incommensurate Spin Density Wave", *Phys. Rev. Lett.* **90**, 147201 (2003).
- (18). F. Y. Yang, C. H. Shang, C. L. Chien, T. Ambrose, J. J. Krebs, G. A. Prinz, V. I. Nikitenko, V. S. Gornakov, A. J. Shapiro, and R. D. Shull, "Multi-Step Magnetic Switching in Single-Crystal (001)Co<sub>2</sub>MnGe Films", *Phys. Rev. B* **65**, 174410 (2002).
- (19). Y. Ji, G. J. Strijkers, F. Y. Yang, and C. L. Chien, "A comparison of two models for spin polarization measurements by Andreev reflection", *Phys. Rev. B* **64**, 224425 (2001).
- (20). Y. Ji, G. J. Strijkers, F. Y. Yang, C. L. Chien, J. M. Byers, A. Anguelouch, G. Xiao, and A. Gupta, "Determination of the Spin Polarization of Half-Metallic CrO<sub>2</sub> by Point Contact Andreev Reflection", *Phys. Rev. Lett.* **86**, 5585 (2001).
- (21). F. Y. Yang, G. J. Strijkers, K. Hong, D. H. Reich, C. L. Chien, and P. C. Searson, "Large Magnetoresistance and Lateral Finite Size Effect in Thin Lines of Bi Films made by Electrodeposition", *J. Appl. Phys.* **89**, 7206 (2001).
- (22). G. J. Strijkers, Y. Ji, F. Y. Yang, C. L. Chien, and J. M. Byers, "Andreev Reflections at Metal/Superconductor Point-Contacts: Measurement and Analysis", *Phys. Rev. B* **63**, 104510 (2001).
- (23). F. Y. Yang, C. L. Chien, X. W. Li, A. Gupta, and G. Xiao, "Critical-point behavior in Epitaxial CrO<sub>2</sub> Films", *Phys. Rev. B* **63**, 092403 (2001).
- (24). G. J. Strijkers, S. M. Zhou, F. Y. Yang, and C. L. Chien, "Magnetic characterization and modeling of exchange-bias artificial antiferromagnet FeMn/Co/Ru/Co", *Phys. Rev. B* **62**, 13896 (2000).
- (25). F. Y. Yang and C. L. Chien, "Spiraling spin structure in exchange-coupled antiferromagnetic layer", *Phys. Rev. Lett.* **85**, 2597 (2000).
- (26). F. Y. Yang, C. L. Chien, X. W. Li, A. Gupta, and G. Xiao, "Uniaxial Anisotropy and Switching Behavior in Epitaxial CrO<sub>2</sub> Films", *Appl. Phys. Lett.* **77**, 286 (2000).
- (27). F. Y. Yang, K. Liu, K. Hong, D. H. Reich, P. C. Searson, C. L. Chien, Y. Leprince-Wang, K. Yu-Zhang, and K. Han, "Shubnikov - de Haas Oscillations in Electrodeposited Single-Crystal Bismuth Films", *Phys. Rev. B* **61**, 6631 (2000).
- (28). F. Y. Yang, K. Liu, K. Hong, D. H. Reich, P. C. Searson, and C. L. Chien, "Large magnetoresistance in electrodeposited single-crystal bismuth thin films", *Science* **284**, 1335 (1999).
- (29). K. Hong, F. Y. Yang, K. Liu, D. H. Reich, C. L. Chien, P. C. Searson, F. F. Balakirev, and G. S. Boebinger, "Giant positive magnetoresistance of Bi nanowire arrays in high magnetic fields", *J. Appl. Phys.* **85**, 6184 (1999).
- (30). F. Y. Yang, K. Liu, C. L. Chien, and P. C. Searson, "Large magnetoresistance and finite-size effects in electrodeposited single-crystal Bi thin films", *Phys. Rev. Lett.* **82**, 3328 (1999).

### Invited Presentations

- (1). "Realizing Half Metallicity in Sr<sub>2</sub>FeMoO<sub>6</sub> Epitaxial Films: Roadblocks and Successes," American Physical Society March Meeting, Portland, 2010

### Patent

- F. Y. Yang, K. Liu, C. L. Chien, and P. C. Searson, "Bismuth thin films structure and method of construction", U.S. Patent # 6,358,392, March 19, 2002.