

Johnpierre Paglione

Professor of Physics

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Education

2004 Ph.D., Physics, University of Toronto, Canada
2001 M.Sc., Physics, University of Toronto, Canada
1999 B.Sc., Eng., Engineering Physics, Queen's University, Canada

Positions

2015-current Professor, Physics, University of Maryland
2013-2015 Associate Professor, Physics, University of Maryland
2008-2013 Assistant Professor, Physics, University of Maryland
2004-2008 NSERC* Postdoctoral Fellow, University of California, San Diego
1997-2000 Electrical Engineer, Celestica Inc., Toronto, Canada

Honors

2014 Moore Foundation EPIQS Initiative Materials Synthesis Investigator Award
2013 DOE Early Career Award
2012 Richard A. Ferrell Distinguished Faculty Fellowship – University of Maryland
2010 NSF Career Award
2006 Royal Society Short Visit Award – University of Cambridge, UK
2004 NSERC Postdoctoral Fellowship Award – University of California, San Diego
2002 NSERC Postgraduate Scholarship – University of Toronto
2001 Ontario Graduate Scholarship – University of Toronto
1999 E. F. Burton Fellowship – University of Toronto

Highlights

- Collaboration with Smithsonian Museum of Natural History highlighted in [Physics Today](#).
- Superconductivity pressure study referenced in [Nature News](#) article.
- Topological Kondo Insulator study highlighted by [APS Physics](#), [Nature](#) and [Scientific American](#).
- Discovery of superconductivity highlighted by [UMD News Desk](#) and [NIST Tech Beat](#).
- Neutron scattering study highlighted in [NIST-NCNR 2011 Annual Review](#).
- Nature publication reviewed in *News & Views* article by P. Grant, [Nature 476, 37 \(2011\)](#).
- Feature on iron-based superconductivity research in [Science News](#) and [Cosmos Magazine](#).
- Invited Review Article on field of iron-based superconductivity published in [Nature Physics](#).
- Rapid Communication on topological insulator study chosen as [Editor's Selection](#).
- Discovery of new superconductor featured in Journal of Physics "Labtalk" [News Feature](#).
- Science publication reviewed in *Commentary* article by P. Coleman, [Science 316, 1290 \(2007\)](#).

Funding

2014-19 [Moore Foundation](#): EPIQS Initiative Materials Synthesis Investigator Award
2014-19 [AFOSR](#): Exploration of Advanced Superconducting Materials
2013-18 [DOE-Early Career](#): Noncentrosymmetric Topological Superconductors
2013-14 [AFOSR-DURIP](#): Search for Superconductivity in Mineral-Based Compounds

* *Natural Sciences and Engineering Research Council of Canada*

- 2013-14 [ARO](#): Nonequilibrium Floquet States in Topological Kondo Insulators
 2010-15 [NSF-CAREER](#): MilliKelvin Magnetic Field-Angle-Resolved Probe of Quantum Materials
 2010-12 [NSF-MRSEC Seed](#): Synthesis and Exploration of Topological Insulators
 2009-14 [AFOSR-MURI](#) (co-PI): Broad-Based Search for New and Practical Superconductors
 2008-09 [USMD Nano-Bio Fund](#): Nanoscale and Low-Dimensional Magnetic Instabilities

Instruction

- 2014- PHYS 199M: *The Manhattan Project* (lecture - Marquee Course)
 2011-13 PHYS 375: *Electromagnetic Waves, Optics and Modern Physics* (lecture & laboratory)
 2009-11 PHYS 142: *Principles of Physics II* (lecture)
 2008-11 PHYS 276: *Electricity and Magnetism* (laboratory)

Service

- 2015 Appointments, Promotions and Tenure committee
 2014 Physics Appointments, Promotions and Tenure committee
 2012 Physics teaching interview committee
 2012,13,15 Physics salary/merit review committee
 2010 UMD campus ELMS software evaluation committee
 2010-12 CNAM Condensed Matter Physics Colloquium Committee
 2009,12-15 Physics Graduate Student Admissions Committee
 2008 CNAM Graduate Student Fellowship Search Committee

Professional Activities

- International Advisory Committee *M²S 2015 conference*, Geneva, Switzerland, 2015.
- Chair, *Superconductivity at 300mK and Beyond* International Workshop, College Park, MD, Nov. 2013.
- Member, Quantum Materials Program of the Canadian Institute for Advanced Research
- Program & Publications Committees, *M²S 2012 conference*, Washington, DC, July 2012.
- Editorial board, *ISRN Condensed Matter Physics*, Hindawi Publishing Corporation.
- Session chair, *PPHMF Conference*, NHMFL Tallahassee, FL, December 2010.
- Session chair, *American Physical Society March Meeting*, 2008-2012.
- Co-chair, *ICAM Workshop on Iron-Pnictide Superconductors*, College Park, MD, November 2008.
- Referee: Nature, Science, Physical Review, Journal of Physics, Physica.

Invited Presentations

- *Symposium on Quantum Materials Synthesis: Grand Challenges and Opportunities*, NYC, Aug 2015.
- *2015 APS Mid-Atlantic Section Meeting* (decl.), Morgan, WV, October 2015.
- *DOE Expt. Condensed Matter Physics PI Meeting*, Gaithersburg, MD, September 2015.
- *11th Int. Conf. on Materials & Mechanisms of Superconductivity*, Geneva, Switzerland, August 2015.
- *Gordon and Betty Moore Foundation EPiQS Annual Investigator Symposium*, August 2015.
- *20th International Conference on Magnetism* (decl.), Barcelona, Spain, July 2015.
- *11th ACS-CMCEE Symposia* (decl.), Vancouver, Canada, June 2015.
- *Superstripes 2015 International Conference* (decl.), Ischia, Italy, June 2015.
- *Conference on Strongly Correlated Topological Insulators: SmB₆ and Beyond*, Ann Arbor, MI, June 2015.
- *NSF Workshop on Emerging Frontiers in Experimental Condensed Matter*, Arlington, VA, May 2015.
- *Int. Workshop on Heavy Fermions and Quantum Phase Transitions* (decl.), Hangzhou, China, Apr 2015.
- *59th Annual Magnetism & Magnetic Materials Conference*, Honolulu, HI, November 2014.
- *Int. Workshop on Physics and Chemistry of Novel Superconductors* (decl.), Okayama, Japan, Nov. 2014.
- *European Materials Research Society 2014 Fall Meeting*, Warsaw, Poland, September 2014.
- *Materials for Quantum Technologies Workshop*, St. Andrews, Scotland, August 2014.
- *2nd International Conf. on Multi-Condensate Superconductors and Superfluids*, Italy, June 2014.

- *13th International Ceramics Conference- 6th Forum on New Materials*, Italy, June 2014.
- *Workshop on SmB₆ and Related Problems*, Vancouver, Canada, May 2014.
- *American Physical Society March Meeting*. Denver, CO, March 2014.
- *International Workshop on Superconductivity (declined)*, Okayama, Japan, December 2013.
- *CIFAR Quantum Materials Program Meeting*, Vancouver, Canada, October 2013.
- *International Workshop on Fe-based High-Tc Superconductors*, Riverhead, NY, September 2013.
- *International Materials Research Conference XX*, Cancun, Mexico, August 2013.
- *International Conference on Quantum Complex Matter (declined)*, Ischia, Italy, May 2013.
- *3rd US-China Workshop on Superconductivity*, Hong Kong, January 2013.
- *Electronic States Induced by Electric or Optical Impacts (declined)*, Orsay, France, Sept. 2012
- *10th Int. Conf. on Materials & Mechanisms of Superconductivity*, Washington, DC, July 2012.
- *3rd Int. Conference on Superconductivity and Magnetism (declined)*, Istanbul, Turkey, May 2012.
- *2nd US-China Workshop on Superconductivity*, Santa Barbara, CA, December 2011.
- *International Materials Research Conference XX*, Cancun, Mexico, August 2011.
- *Institut d'Etudes Scientifiques de Cargèse*, France, July 2011.
- *American Physical Society March Meeting*. Dallas, TX, March 2011.
- *Aspen Center for Physics Conference on Pnictides and Cuprates*, Aspen, CO, January 2011.
- *Physical Properties at High Magnetic Fields conference*, NHMFL Tallahassee, FL, Dec. 2010.
- *US-China Workshop on Novel Superconductors*, Institute of Physics, Beijing, China, Sept. 2010.
- *UCSD Workshop on Correlated Electron Physics*, San Diego, CA, June 2010.
- *CIFAR Quantum Materials Program – Summer School Workshop*, Montréal, Canada, May 2010.
- *14th US-Japan Workshop on Advanced Superconductors*, NHMFL Tallahassee, FL, Dec. 2009.
- *IEEE TIC-STH Conference*, Toronto, Canada, September 2009.
- *Gordon Research Conference on Correlated Electron Systems*, Biddeford, ME, June 2008.
- *European Physical Society 20th General CMD Conference*, Prague, Czech Rep., July 2004.
- *Trieste Workshop on Novel States and Phase Transitions in Highly Correlated Matter*, Italy, July 2004.
- *Lorentz Center Workshop on Emerging Issues in Heavy Fermion Materials*, Netherlands, July 2004.
- *American Physical Society March Meeting*. Montréal, Canada, March 2004.

Invited Seminars/Colloquia

- *Rutgers University*, Piscataway, NJ, Spring 2016.
- *Columbia University*, New York, NY, December 2015.
- *University of California, Riverside*, Riverside, CA, April 2014.
- *NIST Center for Neutron Research*, Gaithersburg, MD, April 2014.
- *University of California, Riverside*, Riverside, CA, April 2014.
- *University of Colorado, Boulder*, Boulder, CO, February 2014.
- *University of California, Los Angeles*, Los Angeles, CA, February 2014.
- *California Institute of Technology*, Pasadena, CA, February 2014.
- *Johns Hopkins University*, Baltimore, MD, November 2013.
- *Princeton University*, Princeton, NJ, February 2013.
- *Cornell University*, Ithaca, NY, Fall 2012.
- *University of British Columbia*, Vancouver, Canada, May 2012.
- *College of William & Mary*, Williamsburg, VA, November 2011.
- *Rutgers University*, Piscataway, NJ, April 2011.
- *Georgetown University*, Washington, DC, March 2011.
- *California Institute of Technology*, Pasadena, CA, February 2011.
- *Rice University*, Houston, TX, November 2010.
- *Johns Hopkins University*, Baltimore, MD, Fall 2009.
- *University of Waterloo*, Waterloo, Canada, December 2008.
- *NSA Laboratory for Physical Sciences*, College Park, MD, December 2008.
- *NIST Center for Neutron Research*, Gaithersburg, MD, July 2008.

- *California Institute of Technology*, Pasadena, CA, May 2007.
- *Temple University*, Philadelphia, PA, April 2007.
- *University of California, Davis*, Davis, CA, March. 2007.
- *University of Ontario Institute of Technology*, Oshawa, Canada, February 2007.
- *Louisiana State University*, Baton Rouge, LA, February 2007.
- *University of Maryland*, College Park, MD, January 2007.

Book Chapters

- J. Paglione, N.P. Butch, "Growth of Topological Insulator Materials", in "Topological Insulators - Fundamentals and Perspectives", eds. F. Ortmann, S. Valenzuela, S. Roche (Wiley-VCH), 2014.

Publications

1. P. Syers, **J. Paglione**, "Toward insulating behavior in stoichiometric topological insulator Bi_2Se_3 ", *under review* ([arXiv:1412.1422](https://arxiv.org/abs/1412.1422)).
2. C.K.H. Borg, X. Zhou, C. Eckberg, D.J. Campbell, S.R. Saha, **J. Paglione**, E.E. Rodriguez, "Strong anisotropy in nearly ideal-tetrahedral superconducting FeS single crystals", ([arXiv:1512.01245](https://arxiv.org/abs/1512.01245)).
3. Y. Wang, K. Wang, J. Reutt-Robey, **J. Paglione**, M.S. Fuhrer, "Breakdown of compensation and persistence of non-saturating magnetoresistance in WTe_2 thin flakes", ([arXiv:1509.03623](https://arxiv.org/abs/1509.03623)).
4. J. Paglione, M.A. Tanatar, J.Ph. Reid, H. Shakeripour, C. Petrovic, L. Taillefer, "Quantum critical quasiparticle scattering within the superconducting state of CeCoIn_5 ", *submitted* ([arxiv:1406.0031](https://arxiv.org/abs/1406.0031)).
5. Y. Nakajima, P. Syers, X. Wang, R. Wang, **J. Paglione**, "One-dimensional edge state transport in a topological Kondo insulator", *Nature Physics* ([nphys3555](https://doi.org/10.1038/nphys3555)).
6. H. Baek, J. Ha, D. Zhang, B. Natarajan, J.P. Winterstein, R. Sharma, R. Hu, K. Wang, S. Ziemak, **J. Paglione**, Y. Kuk, N.B. Zhitenev, J.A. Stroscio "Creating nanostructured superconductors on demand by local current annealing", *Phys. Rev. B* **92**, 094510 (2015).
7. J.W. Lynn, X. Zhou, C.K.H. Borg, S.R. Saha, **J. Paglione**, E.E. Rodriguez, "Neutron investigation of the magnetic scattering in an iron-based ferromagnetic superconductor", *Phys. Rev. B* **92**, 060510(R) (2015).
8. X.F. Wang, C. Roncaioli, C. Eckberg, H. Kim, J. Yong, Y. Nakajima, S.R. Saha, P.Y. Zavalij, **J. Paglione**, "Tunable electronic anisotropy in single-crystal $\text{A}_2\text{Cr}_3\text{As}_3$ ($\text{A} = \text{K}, \text{Rb}$) quasi-one-dimensional superconductors", *Phys. Rev. B* **92**, 020508(R) (2015).
9. Y. Nakajima, R. Hu, K. Kirshenbaum, A. Hughes, P. Syers, X. Wang, K. Wang, R. Wang, S. R. Saha, D. Pratt, J.W. Lynn, **J. Paglione**, "Topological RPdBi half-Heusler semimetals: a new family of non-centrosymmetric magnetic superconductors", *Science Advances* **1**, e1500242 (2015).
10. Y. Nakajima, R. Wang, T. Metz, X. Wang, L. Wang, H. Cynn, S.T. Weir, J.R. Jeffries, **J. Paglione**, "High-temperature superconductivity stabilized by electron-hole interband coupling in collapsed tetragonal phase of KFe_2As_2 under high pressure", *Phys. Rev. B* **91**, 060508 (2015).
11. P. Syers, D. Kim, M.S. Fuhrer, **J. Paglione**, "Tuning bulk and surface conduction in topological Kondo insulator SmB_6 ", *Phys. Rev. Lett.* **114**, 096601 (2015).
12. S. Ziemak, K. Kirshenbaum, S. R. Saha, R. Hu, **J. Paglione**, J.-Ph. Reid, R. Gordon, L. Taillefer, A. Ignatov, D. Kolchmeyer, G. Blumberg, D. Evtushinsky, S. Thirupathiah, and S. V. Borisenko, "Isotropic multi-gap superconductivity in $\text{BaFe}_{2-x}\text{Pt}_x\text{As}_2$ from thermal transport and spectroscopic measurements," *invited article for focus issue – Super. Sci. Tech* **28**, 014004 (2015).
13. J.R. Jeffries N. P. Butch, M. J. Lipp, J. A. Bradley, K. Kirshenbaum, S. R. Saha, **J. Paglione**, C. Kenney-Benson, Y. Xiao, P. Chow, W. J. Evans, "Parallel suppression of superconductivity and Fe moment in the collapsed tetragonal phase of $\text{Ca}_{0.67}\text{Sr}_{0.33}\text{Fe}_2\text{As}_2$ under pressure", *Phys. Rev. B* **90**, 144506 (2014).

14. M.T. Edmonds, J.T. Hellerstedt, A. Tadich, A. Schenk, K.M. O'Donnell, J. Tosado, N.P. Butch, P. Syers, **J. Paglione**, M.S. Fuhrer, "Stability and Surface Reconstruction of Topological Insulator Bi₂Se₃ on Exposure to Atmosphere", *J. Phys. Chem. C*, **118**, 20413 (2014).
15. M.T. Edmonds, J.T. Hellerstedt, A. Tadich, A. Schenk, K.M. O'Donnell, J. Tosado, N.P. Butch, P. Syers, **J. Paglione**, M.S. Fuhrer, "Air-Stable Electron Depletion of Bi₂Se₃ Using Molybdenum Trioxide into the Topological Regime", *ACS Nano* **8**, 6400 (2014).
16. S.R. Saha T. Drye, S.K. Goh, L.E. Klintberg, J.M. Silver, F.M. Grosche, M. Sutherland, T.J.S. Munsie, G.M. Luke, D. K. Pratt, J. W. Lynn, **J. Paglione**, "Segregation of antiferromagnetism and high-temperature superconductivity in Ca_{1-x}La_xFe₂As₂", *Phys. Rev. B* **89**, 134516 (2014).
17. J.P.A. Makongo, N.-T. Suen, S. Guo, S. Saha, R. Greene, **J. Paglione**, S. Bobev, "The RELi_xSn₂ (RE=La–Nd, Sm, and Gd; 0≤x<1) series revisited. Synthesis, crystal chemistry, and magnetic susceptibilities", *J. Solid State Chem.* **211**, 95 (2014).
18. D. Kim, P. Syers, N.P. Butch, **J. Paglione**, M.S. Fuhrer, "Ambipolar Surface State Thermoelectric Power of Topological Insulator Bi₂Se₃", *Nano Lett.* **14**, 1701 (2014).
19. M. Dumont, M. F. Dumont, H. A. Hoffman, P. R. S. Yoon, L. S. Conklin, S. R. Saha, **J. Paglione**, R. W. Sze, R. Fernandes, "Biofunctionalized Gadolinium-Containing Prussian Blue Nanoparticles as Multimodal Molecular Imaging Agents", *Bioconjugate Chem.* **25**, 129 (2014).
20. Z.-H. Zhu, A. Nicolaou, G. Levy, N. P. Butch, P. Syers, X. F. Wang, **J. Paglione**, G. A. Sawatzky, I. S. Elfimov, A. Damascelli, "Polarity-driven surface metallicity in SmB₆", *Phys. Rev. Lett.* **111**, 216402 (2013).
21. K. Kirshenbaum, P. S. Syers, A. P. Hope, N. P. Butch, J. R. Jeffries, S. T. Weir, J. J. Hamlin, M. B. Maple, Y. K. Vohra, **J. Paglione**, " Pressure-induced unconventional superconductivity in topological insulator Bi₂Se₃", *Phys. Rev. Lett.* **111**, 087001 (2013).
22. G. M. Darone, B. Hmiel, J. Zhang. S. Saha, K. Kirshenbaum, R. Greene, **J. Paglione**, S. Bovev, "Rare-earth metal gallium silicides via the gallium self-flux method. Synthesis, crystal structures, and magnetic properties of RE(Ga_{1-x}Si_x)₂ (RE=Y, La-Nd, Sm, Gd-Yb, Lu)", *J. Solid State Chem.* **201**, 191 (2013).
23. Z.H. Zhu, C.N. Veenstra, G. Levy, A. Ubaldini, P. Syers, N.P. Butch, **J. Paglione**, M.W. Haverkort, I.S. Elfimov, A. Damascelli, "Layer-by-layer entangled spin-orbital texture of the topological surface state in Bi₂Se₃", *Phys. Rev. Lett.* **110**, 216401 (2013).
24. D. Kim, P. Syers, N. P. Butch, **J. Paglione**, M. S. Fuhrer, "Coherent Topological Transport on the Surface of Bi₂Se₃", *Nature Communications* **4**, 2040 (2013).
25. L. Ma, G. F. Ji, J. Dai, S. R. Saha, **J. Paglione**, W. Yu, "Quenched Fe Moment in the Collapsed Tetragonal Phase of Ca_{1-x}Pr_xFe₂As₂", *Chin. Phys. B* **22**, 057401 (2013).
26. X. Zhang, N.P. Butch, P. Syers, S. Ziemak, R. L. Greene, **J. Paglione**, "Hybridization, Inter-Ion Correlation, and Surface States in the Kondo Insulator SmB₆", *Phys. Rev. X* **3**, 011011 (2013).
27. H. Gretarsson, S. R. Saha, T. Drye, **J. Paglione**, J. Kim, D. Casa, T. Gog, W. Wu, S. R. Julian, Y.-J. Kim, "Spin-State Transition in the Fe Pnictides", *Phys. Rev. Lett.* **110**, 047003 (2013).
28. B. Fauqué, N. P. Butch, P. Syers, **J. Paglione**, S. Wiedmann, A. Collaudin, B. Grena, U. Zeitler, K. Behnia, "Magnetothermoelectric properties of Bi₂Se₃", *Phys. Rev. B* **87**, 035133 (2013).
29. K. Kirshenbaum, S. R. Saha, S. Ziemak, T. Drye, **J. Paglione**, "Universal pair-breaking in transition metal-substituted iron-pnictide superconductors", *Phys. Rev. B* **86**, 140505R (2012).
30. D. Kim, Q. Li, P. Syers, N.P. Butch, **J. Paglione**, S. Das Sarma, M.S. Fuhrer, "Intrinsic Electron-Phonon Resistivity in Bi₂Se₃ in the Topological Regime", *Phys. Rev. Lett* **109**, 166801 (2012).
31. J. Zhang, B. Hmiel, A. Antonelli, P. H. Tobash, S. Bobev, S. Saha, K. Kirshenbaum, R. L. Greene, **J. Paglione**, "New rare-earth metal germanides with bismuth substitution. Synthesis, structural variations, and magnetism of the RE[BixGe_{1-x}]₂ (RE=Y, Pr, Nd, Sm, Gd–Tm, Lu) compounds", *J. Solid State Chem.* **196**, 586 (2012).
32. K. Kirshenbaum, N. P. Butch, S. R. Saha, P. Y. Zavaliy, B. G. Ueland, J. W. Lynn, **J. Paglione**, "Tuning magnetism in FeAs-based materials via tetrahedral structure", *Phys. Rev. B* **86**, 060504R (2012).

33. T. Drye, S.R. Saha, P. Zavalij, **J. Paglione**, "Rare earth doping of lattice-tuned (Sr,Ca)Fe₂As₂ solid solutions", *invited article for focus issue – Supercond. Sci. Tech.* **25** 084014 (2012).
34. C. Ojeda-Aristizabal, M. S. Fuhrer, N. P. Butch, **J. Paglione**, I. Appelbaum, "Towards spin injection from silicon into topological insulators: Schottky barrier between Si and Bi₂Se₃", *Appl. Phys. Lett.* **101**, 023102 (2012).
35. N. P. Butch, K. Jin, K. Kirshenbaum, R. L. Greene, **J. Paglione**, "Quantum critical scaling at the edge of Fermi liquid stability in a cuprate superconductor", *Proc. Nat. Acad. Sci.* **109**, 8440 (2012).
36. D. Kim, S. Cho, N.P. Butch, P. Syers, K. Kirshenbaum, **J. Paglione**, M.S. Fuhrer, "Surface conduction of topological Dirac electrons in bulk insulating Bi₂Se₃", *Nature Physics* **8**, 460 (2012).
37. J. R. Jeffries, N. P. Butch, K. Kirshenbaum, S. R. Saha, S. T. Weir, Y. K. Vohra, **J. Paglione**, "Suppression of magnetism and development of superconductivity within the collapsed tetragonal phase of Ca_{0.67}Sr_{0.33}Fe₂As₂ at high pressure", *Phys. Rev. B* **85**, 185401 (2012).
38. S.R. Saha, N.P. Butch, T. Drye, J. Magill, S. Ziemak, K. Kirshenbaum, P.Y. Zavalij, J.W. Lynn, **J. Paglione**, "Structural collapse and 45 K superconductivity in electron-doped CaFe₂As₂", *Phys. Rev. B* **85**, 024525 (2012).
39. S. Cho, D. Kim, P. Syers, N.P. Butch, **J. Paglione**, M.S. Fuhrer, "Topological Insulator Quantum Dot with Tunable Barriers", *Nano Letters* **12**, 469 (2012).
40. J.J. Hamlin, J.R. Jeffries, N.P. Butch, P. Syers, D.A. Zocco, S.T. Weir, Y.K. Vohra, **J. Paglione**, M.B. Maple, "High pressure transport properties of the topological insulator Bi₂Se₃", *J. Phys.: Condens. Matt.* **24**, 035602 (2012).
41. S. Bobev, T.-S. You, N.-T. Suen, S.R. Saha, R.L. Greene, **J. Paglione**, "Synthesis, Structure, Chemical Bonding, and Magnetism of the Series RELiGe₂ (RE = La–Nd, Sm, Eu)", *Inorganic Chemistry* **51**, 620 (2012).
42. N.P. Butch, P. Syers, K. Kirshenbaum, A.P. Hope, **J. Paglione**, "Superconductivity in the topological semimetal YPtBi", *Phys. Rev. B* **84**, 220504(R) (2011).
43. V. Bhatia, E.E. Rodriguez, N.P. Butch, **J. Paglione**, M.A. Green, "Phase separation and superconductivity in Fe_{1+x}Te_{0.5}Se_{0.5}", *Chemical Communications* **47**, 11297 (2011).
44. Z.-H. Zhu, G. Levy, B. Ludbrook, C.N. Veenstra, J.A. Rosen, R. Comin, D. Wong, P. Dosanjh, A. Ubal dini, P. Syers, N.P. Butch, **J. Paglione**, I. S. Elfimov, A. Damascelli, "Rashba spin-splitting control at the surface of the topological insulator Bi₂Se₃", *Physical Review Letters* **106**, 186405 (2011).
45. K. Jin, N.P. Butch, K. Kirshenbaum, **J. Paglione** and R.L. Greene, "Link between spin fluctuations and electron pairing in copper oxide superconductors." *Nature* **476**, 73 (2011).
46. **J. Paglione**, "Iron-based superconductors: a new generation of high-T_c materials." *Physics in Canada* **67**, 85 (2011).
47. E.E. Rodriguez, C. Stock, P.-Y. Hsieh, N.P. Butch, **J. Paglione**, M.A. Green, "Interstitial Iron Controlled Superconductivity in Fe_{1+x}Te_{0.7}Se_{0.3}." *Chemical Science* **2**, 1782 (2011).
48. M. Dreyer, M. Gubrud, S.R. Saha, N.P. Butch, K. Kirshenbaum, **J. Paglione**, "Sr adatoms on As bridge positions on SrFe₂As₂ observed by scanning tunneling microscopy at 4.2 K", *Journal of Physics: Condensed Matter* **23** 265702 (2011).
49. N. Kumar, B.A. Ruzicka, N.P. Butch, P. Syers, K. Kirshenbaum, **J. Paglione**, H. Zhao, "Spatially resolved femtosecond pump-probe study of topological insulator Bi₂Se₃." *Physical Review B* **83**, 235306 (2011).
50. P.L. Bach, S.R. Saha, K. Kirshenbaum, **J. Paglione**, R.L. Greene, "High temperature resistivity in the iron pnictides and electron-doped cuprates", *Physical Review B* **83**, 212506 (2011).
51. J.R. Jeffries, N.P. Butch, H. Cynn, S.R. Saha, K. Kirshenbaum, S.T. Weir, Y.K. Vohra, **J. Paglione**, "The interplay between magnetism, structure, and strong electron-phonon coupling in binary FeAs under pressure." *Phys. Rev. B* **83**, 134520 (2011).
52. E. E. Rodriguez, C. Stock, K. Krycka, C. F. Majkrzak, K. Kirshenbaum, N. P. Butch, S. R. Shanta, **J. Paglione**, M. A. Green, "Non-collinear spin-density wave antiferromagnetism in FeAs." *Phys. Rev. B* **83**, 134438 (2011).
53. S. Cho, N.P. Butch, **J. Paglione**, M.S. Fuhrer, "Insulating Behavior in Ultrathin Bismuth Selenide Field Effect Transistors." *Nano Lett.* **11**, 1925 (2011).

54. L. Shu, R.E. Baumbach, M. Janoschek, E. Gonzales, K. Huang, T.A. Sayles, **J. Paglione**, J. O' Brien, J.J. Hamlin, D.A. Zocco, P.-C. Ho, C.A. Mc Elroy, M.B. Maple, "Correlated electron state in $Ce_{1-x}Yb_xCoIn_5$ stabilized by cooperative valence fluctuations." *Phys. Rev. Lett.* **106**, 156403 (2011).
55. S. Chi, J.W Lynn, Y. Chen, W. Ratcliff, B.G. Ueland, N.P. Butch, S.R. Saha, K. Kirshenbaum, **J. Paglione**, "Nitrogen contamination in elastic neutron scattering." *Meas. Sci. Tech.* **22**, 047001 (2011).
56. S.R. Saha, K. Kirshenbaum, N.P. Butch, P.Y. Zavalij, **J. Paglione**. "Uniform chemical pressure effect in solid solutions $Ba_{1-x}Sr_xFe_2As_2$ and $Sr_{1-x}Ca_xFe_2As_2$." *J. Phys.: Conf. Ser.* **273**, 012104 (2011).
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