


14. G. P. Zhang, M. S. Si, Mitsuko Murakami, Y. H. Bai and T. F. George, Generating
high-order optical and spin harmonics from ferromagnetic monolayers, Nat. Comm. 9, 3031 (2018).


53. G. P. Zhang, David A. Strubbe, Steven G. Louie and Thomas F. George, First-principles prediction of optical second-order harmonic generation in the endohedral N@C$_{60}$ compound, Physical Review A 84, 023837 (2011).


57. G. P. Zhang, G. Lefkidis, W. Hübner and Y. Bai, Ultrafast demagnetization in ferromagnets and magnetic switching in nanoclusters when the number of photons is kept fixed, J. Applied Physics 109, 07D303 (2011). This paper has been selected for the April 2011 issue of Virtual Journal of Ultrafast Science.


Edited Books and Book Chapters


Selected proceedings

1. Normal mode analysis for a comparative study of relaxation processes of charge
transfer and photoexcitation in C_{60}.
G. P. Zhang, T. F. George and X. Sun, Atlanta, American Physical Society Meeting,

2. Ultrafast spin dynamics in ferromagnetic nickel
G. P. Zhang, W. Hübner, American Physical Society Meeting, Atlanta, March 20-26,
(1999).

3. A DMRG calculation of nonlinear optical susceptibility in conjugated polymers
G. P. Zhang and T. F. George, American Physical Society Meeting, Atlanta, March

4. Laser-induced ultrafast demagnetization in ferromagnetic metals
Wolfgang Hübner and G. P. Zhang, American Physical Society Meeting, Minneapolis,

5. First attempt to coherently control the laser-induced ultrafast demagnetization in
ferromagnetic nickel
G. P. Zhang and W. Hübner, American Physical Society Meeting, Minneapolis,

6. Electron correlation effects in conjugated polymers
G. P. Zhang and Thomas F. George, American Physical Society Meeting, Minneapolis,

7. Imaging oxygen orbital quantization axes in NaV_{2}O_{5} by polarized soft-X-ray spec-
troscopy

8. Correlation effects in NaV_{2}O_{5}: A soft X-ray study
Gerald Woods, Tom Callcott, G. P. Zhang, Jian He, David Mandrus and David

for nonlinear optics
G. P. Zhang and Thomas F. George, American Physical Society Meeting, Seattle,

10. Polarization dependent X-ray absorption spectroscopy of the TiO2 polymorphs
anatase (001) and Rutile (001)
D. L. Ederer, N. Ruzycki, T. Schuler, G. P. Zhang, T.A. Callcott, P. Nachimuthu,
and R. C. C. Perera, American Physical Society Meeting, Indianapolis, March 18-22,
(2002).

11. Distinctive electronic states in MgB_{2} measured by orbital resolved soft-x-ray spec-
troscopy

12. Electron correlation effects in resonant inelastic X-ray scattering of NaV_{2}O_{5}
13. Laser-induced ultrafast dynamics in C$_{60}$

14. An angle-resolved soft x-ray spectroscopy study of the electronic states of single crystal MgB$_2$

15. Laser-induced ultrafast dynamics in C$_{60}$ and electron correlation effects

16. Bipolar effects in hetero-electrodeposition in ZnSO$_4$ solution

17. Optical harmonic generation in C$_{60}$

18. Controlling vibrational excitations in C$_{60}$ by laser pulse durations,

19. Normal-mode selectivity in ultrafast Raman excitations in C$_{60}$

20. Ellipticity dependence of harmonic generation in C$_{60}$

21. Normal mode selectivity in ultrafast Raman excitations in C$_{60}$

22. Spatial dependence of high harmonic generation in hydrogen atom

23. Understanding laser-induced ultrafast demagnetization in ferromagnets: First-principles and two-level model investigation

24. Data parallel real symmetric eigensolver for Approximate Eigen-Solutions in SCF

25. Angle-resolved resonant inelastic X-ray scattering in NaV$_2$O$_5$
26. First-principles theory for femtomagnetism,
   G. P. Zhang and Yihua Bai, 20th Annual Workshop on Recent Developments in
   Electronic Structure Methods University of Illinois at Urbana-Champaign, June
   18-20, (2008)

27. Role of Orbital Angular Momentum in Femtomagnetism,
   G. P. Zhang and Thomas F. George, Frontiers in optics 2008 and Laser Science

28. Time-resolved and energy-dispersed spin manipulation in ferromagnets and clusters
under influence of femtosecond laser pulses
   G. P. Zhang, Y. Bai, T. Hartenstein, G. Lefkidis and W. Hübner, The 53rd Magneto

29. T31.00004 Total angular momentum conservation in laser-induced femtosecond magnetism
   G. P. Zhang, Yihua Bai and Thomas F. George, APS March Meeting March 16-20, 
   2009, Pittsburgh, Pennsylvania.

30. S1.00220 Second harmonic generation in N@C_{60} and P@C_{60}
   Megan Morris, Nicole Perigo and G. P. Zhang, APS March Meeting March 16-20, 
   2009, Pittsburgh, Pennsylvania.

31. K1.00076 Laser-induced orbital and spin excitations in ferromagnets: Insights from
   a two-level system
   G. P. Zhang and Yihua Bai, APS March Meeting March 16-20, 2009, Pittsburgh,
   Pennsylvania.

32. K1.00011: Numerical Analysis of EKG Data, Kelly Loman and G. P. Zhang, APS
   March Meeting, Volume 55, Number 2, March 1519, 2010; Portland, Oregon.

33. A33.00011: Theoretical foundation of the time-resolved magneto-optical Kerr effect
   for femtosecond magnetism, G. P. Zhang, Wolfgang Hübner, Georg Lefkidis, Yihua
   Bai, and Thomas F. George, APS March Meeting, Volume 55, Number 2, March
   1519, 2010; Portland, Oregon.

34. S1.00091: Manifestation of electron-electron interactions in time-resolved ultrafast
   pump-probe spectroscopy in C_{60}, G. P. Zhang and Thomas F. George, APS March
   Meeting, Volume 55, Number 2, March 1519, 2010; Portland, Oregon.

35. BC-02: Ultrafast demagnetization in ferromagnets and magnetic switching in nanoclusters
   when the number of photons is kept fixed. G. Zhang, G. Lefkidis and W.
   Hübner, The 55th Magnetism and Magnetic Materials Conference, Nov 14, 2010 -
   Nov 18, 2010, Hyatt Regency, Atlanta.

36. J19.00012: First-principles calculation of the photon-shortage mystery in femtosecond
   magnetism, G. P. Zhang, Mingsu Si, Yihua Bai, and T. F. George, APS March
   Meeting, March 2125, 2011; Dallas, Texas.

37. K1.00035: Time-resolved Four-terminal probe of ion transport in Schefflera leaves,
   Nicole Perigo and G. P. Zhang, APS March Meeting, March 2125, 2011; Dallas,
   Texas.

38. K1.00010 Electrocardiogram analysis through time discrete Fourier transform, Cameron
   Lancaster and G. P. Zhang, APS March Meeting, March 2125, 2011; Dallas, Texas.


43. V1.00242 Laser-induced coherent population trapping in C$_{60}$, G. P. Zhang and T. F. George, APS March Meeting 2013 Volume 58, Number 1, MondayFriday, March 18-22, 2013; Baltimore, Maryland.


45. W16.00011 Current understanding of the laser-induced ultrafast (de)magnetization process, Guoping Zhang, Mingqiang Gu, M.S. Si, T.F. George and Xiaoshan Wu, APS March Meeting 2013 Volume 58, Number 1, MondayFriday, March 18-22, 2013; Baltimore, Maryland.


47. H1.00024 Superatomic Molecular Orbitals of C60: First-Principles calculation, Jason Bonacum, Guo-Ping Zhang and Kyle Drake, APS March Meeting 2014 Volume 58, Volume 59, Number 1, MondayFriday, March 37, 2014; Denver, Colorado.

48. A3.00006 Density functional calculation of superatomic molecular orbitals in C60: First truly converged results on a real grid mesh, Kyle Drake, Jason Bonacum and Guo-Ping Zhang, APS March Meeting 2014 Volume 58, Volume 59, Number 1, MondayFriday, March 37, 2014; Denver, Colorado.

49. A3.00010 Effects of Memantine and Oleocanthal on Alzheimer’s Disease, Mariyam Houston, Jason Bonacum and Guoping Zhang, APS March Meeting 2014 Volume 58, Volume 59, Number 1, MondayFriday, March 37, 2014; Denver, Colorado.

50. Z8.00004 Dependence of the demagnetization time on the exchange interaction and spin moment, Guoping Zhang, Thomas F. George and Mingsu Si, APS March Meeting 2014 Volume 58, Volume 59, Number 1, MondayFriday, March 37, 2014; Denver, Colorado.

51. S6.00011 : Spin polarization at the interface of LaMnO3 and Si heterostructure, Huiping Zhu, Guoping Zhang and Xiaoshan Wu, APS March Meeting 2014 Volume 58, Volume 59, Number 1, MondayFriday, March 37, 2014; Denver, Colorado.

52. F8.00005: Manipulating femtosecond magnetism through pressure: First-principles
calculations, Mingsu Si and Guoping Zhang, APS March Meeting 2014 Volume 58, Volume 59, Number 1, MondayFriday, March 37, 2014; Denver, Colorado.


55. J29.00008: A look at the Dynamics of Ultrafast Magnetization Reversal, Chris Rodgers and Guoping Zhang, APS March Meeting 2015 Volume 60, Number 1, MondayFriday, March 26, 2015; San Antonio, Texas.

56. H1.00141: Exchange interaction reduction as a precursor to laser-induced demagnetization in ferromagnets, Guoping Zhang, Yihua Bai, and Thomas F. George, APS March Meeting 2015 Volume 60, Number 1, MondayFriday, March 26, 2015; San Antonio, Texas.

57. Z22.00009 : Optical detection of highly delocalized superorbitals in fullerenes, Guoping Zhang, Yihua Bai, and Thomas F. George, APS March Meeting 2015 Volume 60, Number 1, MondayFriday, March 26, 2015; San Antonio, Texas.

58. L18.00006 : A simple and effective theory for all-optical helicity-dependent spin switching, Guoping Zhang, Yihua Bai, Thomas F George, APS March Meeting 2016 Volume 60, Number 1, MondayFriday, March 1418, 2016; Baltimore, Maryland.

59. T1.00041 : Time-dependent Liouville density functional theory for laser-induced ultrafast demagnetization in ferromagnets, Guoping Zhang, Yihua Bai, Thomas F George, APS March Meeting 2016 Volume 60, Number 1, MondayFriday, March 1418, 2016; Baltimore, Maryland.

60. F7.00004 : All-Optical Helicity Dependent Spin Switching in a Many-Spin System, Tanner Latta and G. P. Zhang, APS March Meeting 2016 Volume 60, Number 1, MondayFriday, March 1418, 2016; Baltimore, Maryland.

61. B7.00008 : Olive Oil and its Potential Effects on Alzheimer’s Disease, Shan Antony and G. P. Zhang, APS March Meeting 2016 Volume 60, Number 1, MondayFriday, March 1418, 2016; Baltimore, Maryland.


64. A47.00008 : A powerful and alternative model for all-optical spin switching, G. P. Zhang, Yihua Bai and Thomas F George, APS March Meeting 2017 Volume 62, Number 4 MondayFriday, March 1317, 2017; New Orleans, Louisiana.

65. UMC2017, Oct. 2017, Kaiserslautern, Germany
66. 62nd Annual Conference on Magnetism and Magnetic Materials. MMM2017, Pittsburgh, PA, Nov. 6 – No. 10, 2017


70. Laser-induced ultrafast demagnetization, 59th Sanibel Symposium in Honor of Klaus Ruedenberg, St. Simons, Island, GA Feb 17- Feb 22, 2019

71. G70.00150: Effect of electron transport on demagnetization on the shortest time scale, G. P. Zhang, Y. Bai, T. Jenkins and T. F. George, APS March Meeting 2019, March 48; Boston, Massachusetts


73. E68.00014: Membrane Simulations with Amyloid Beta, Tyler Jenkins and G. P. Zhang, APS March Meeting 2019, March 48; Boston, Massachusetts.


75. L41.00002 Unification of ultrafast demagnetization and switching, MondayFriday, March 26, 2020; Denver, Colorado

76. M71.00405 High-order harmonics generated from a quasi-one-dimensional hexagonal solid, MondayFriday, March 26, 2020; Denver, Colorado
Selected Invited talks

1. Electron correlation effects in Resonant inelastic x-ray scattering of NaV$_2$O$_5$
   NIST, Jan. 9 (2001).
2. Electron correlation effect in NaV$_2$O$_5$ revealed by soft x-ray spectroscopy
   Tulane University, Jan. 22 (2001).
3. Polymer Valley: A new era for nonlinear optics
   Akron University, Ohio, Mar. (2001).
4. Laser-induced ultrafast demagnetization in ferromagnetic metals
   Oak Ridge National Laboratory, July (2001).
5. Soft X-ray spectroscopy of NaV$_2$O$_5$
6. Laser-induced ultrafast demagnetization in ferromagnetic metals
7. Femtomagnetism
8. New opportunities in high frequency region and ultrafast time scale
   Georgia State University, Mar. (2003).
9. Laser-induced ultrafast dynamics in C$_{60}$
10. Ultrafast dynamics in C$_{60}$.
    Department of Chemistry, Indiana State University, Mar. (2005).
11. Optical harmonic generation in C$_{60}$
    University of Kansas, Mar. (2006).
12. Laser-induced ultrafast magnetization in nano-ferromagnets
13. High harmonic generation in C$_{60}$
    Ball State University, Sept. (2008).
14. High harmonic generation: Generating high energy photons from C$_{60}$. Invited talk
    at Symposium on Nanotechnology for Public Health, Environment, and Energy,
    Washington University, St. Louis, September 24-25 (2009).
15. Harmonic generation in C$_{60}$ and its derivatives: From high to low. National Taiwan
16. Femtomagnetism: Laser-induced femtosecond magnetization in ferromagnets, Center
    for Quantum Science and Engineering (CQSE), National Taiwan University, Oct.
    9, (2009).
17. High order harmonic generation in C$_{60}$. Fudan University, China, Jan. 5, (2010).
18. Magnetism on femtosecond time scale, Tongji University, Shanghai (2012).
19. A proposal for the coherent population trapping in C$_{60}$, Fudan University (2012).

22. Laser-induced femtosecond demagnetization, University of Louisville, April (2014).

23. Exchange correlation change induced by laser pulses, Nanjing University, May (2014).


25. Superatomic molecular orbitals in C60 and derivatives, Ball State University (2016).

26. All-optical spin switching, University of Louisville, April (2016).