

Michael J. Naughton

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Education Boston University, Ph.D. Physics 1986
St. John Fisher College, B.S. Physics 1979

Professional

Ferris Professor Boston College, 09/2008 – present
Chairman Department of Physics, Boston College, 11/2006 – present
CTO Solasta Inc., Newton, MA, 2006 – 2010
Assoc. VP Research Boston College, interim: 08/2005 – 11/2006
Professor Department of Physics, Boston College, 1998 – present
Professor Department of Physics, State University of New York at Buffalo, 1998
Visiting Scientist National High Magnetic Field Laboratory, Tallahassee, Florida, 1996
Visiting Scientist Service National de Champs Magnetique Pulses, Toulouse, France 1995
Associate Professor Department of Chemistry, State University of New York at Buffalo, 1993
Associate Professor Department of Physics, State University of New York at Buffalo, 1993
Assistant Professor Department of Physics, State University of New York at Buffalo, 1988
Post-Doc Department of Physics, University of Pennsylvania, 1986-1988

Thesis and Post-Doc Advisors

James S. Brooks (Ph.D.) and Paul M. Chaikin (post-doc)

Honors & Awards

Young Investigator Award, National Science Foundation, 1992
Fellow, American Physical Society, 2003
Distinguished Research Award, Boston College, 2005
Nanotech Briefs, Nano⁵⁰, 2006
Ignite Clean Energy, MIT Enterprise Forum (2nd place), 2006
Karl Herzfeld Memorial Lecturer, Catholic University, 2011

Professional Activities

Member, American Physical Society, American Chemical Society, Materials Research Society,
Society for Neuroscience
Founder, Solasta Inc.
Founder, Tau Sensors LLC
Executive Committee, American Physical Society, Division of Condensed Matter Physics, 1998-2002
Chairman, inaugural National High Magnetic Field Laboratory Users' Committee, 1995-1998
Organizer, American Physical Society New England Section Annual Meeting, *Energy Matters*, 2014
Organizer, Near-field Nanophotonics Workshop, Boston College, 2014
Member, External Academic Review Committee, University of Vermont Department of Physics, 2014
Member, Review Committee, Research Core in Interdisciplinary Science, Okayama University, 2012-2014
Participant, Ignatian Colleagues Program, 2012-2014
Proposal Reviewer, National Science Foundation, Dept. of Energy, National Institutes of Health
Member, Scientific Advisory Board, Bloo Solar, Sacramento, CA
Member, Scientific Advisory Board, NBD Nanotechnologies, Boston, MA

Publications

Updated December, 2016

(H-Index: 43, i10-index: 93, citations: ~6,100, 211 publications, including 22 issued patents)

Links to PubMed [here](#).

Under Review

- *Nanocrystalline silicon thin films with europium dopants for photovoltaic applications*, M.J. Naughton, Y. Yakymenko, V. Koval, I. Baryakhtar, M.J. Burns, Y. Yasievich, A. Ivashchuk, S. Voloshko, S. Sidorenko and A. Oleshkevich
- *From Airy to Abbe: A parametric study of the focusing of scalar spherical waves*, Yitzi M. Calm, Juan M. Merlo, Michael J. Burns and Michael J. Naughton

Published

1. *Wireless communication system via nanoscale plasmonic antennas*, Juan M. Merlo, Nathan T. Nesbitt, Yitzi M. Calm, Aaron H. Rose, Luke D'Imperio, Chaobin Yang, Michael J. Burns, Krzysztof Kempa and Michael J. Naughton, *Scientific Reports* **6**, 31710 (2016).
[doi:10.1038/srep31710](https://doi.org/10.1038/srep31710)
2. *Shielded coaxial optrode arrays for neurophysiology*, J.R. Naughton, J. Varela, M.J. Burns, T.C. Chiles, J.P. Christianson and M. J. Naughton, *Frontiers in Neuroscience* **10**, 252 (2016).
[doi:10.3389/fnins.2016.00252](https://doi.org/10.3389/fnins.2016.00252)
3. *Effects of geometry on drift-limited solar cells*, T. Kirkpatrick, M.J. Burns and M.J. Naughton, *Physica Status Solidi B* **253** (8), 1653–1659 (2016).
[doi:10.1002/pssb.201552412](https://doi.org/10.1002/pssb.201552412)
4. *Roadmap on optical energy conversion*, S. Boriskina, M.A. Green, K. Catchpole, E. Yablonovitch, M.C. Beard, Y. Okada, S. Lany, T. Gershon, A. Zakutayev, M. Tahersima, V.J. Sorger, M.J. Naughton, K. Kempa, M. Dagenais, Y. Yao, L. Xu, X. Sheng, N.D. Bronstein, J.A. Rogers, A.P. Alivisatos R.G. Nuzzo, J.M. Gordon, D.M. Wu, M.D. Wisser, A. Salleo, J., Dionne, P. Bermel, J.-J. Greffet, I. Celanovic, M. Soljacic, A. Manor, C. Rotschild, A. Raman, L. Zhu, S. Fan, G. Chen, *Journal of Optics* **18**, 073004 (2016).
[doi:10.1088/2040-8978/18/7/073004](https://doi.org/10.1088/2040-8978/18/7/073004)
5. *Aluminum nanowire arrays via directed assembly*, N. Nesbitt, J.M. Merlo and M.J. Naughton, *Nano Letters* **15**, 7294-7299 (2015).
[doi:10.1021/acs.nanolett.5b02408](https://doi.org/10.1021/acs.nanolett.5b02408)
6. *Toward a hot electron plasmonic solar cell*, J. Kong, A. H. Rose, C. Yang, J. M. Merlo, M. J. Burns, M. J. Naughton, and K. Kempa, *Optics Express* **23** (19), A1087-A1095 (2015).
[doi:10.1364/OE.23.0A1087](https://doi.org/10.1364/OE.23.0A1087)
7. *A nanocoaxial-based electrochemical sensor for the detection of cholera toxin*, M.M. Archibald, B. Rizal, M. Rossi, T. Connolly, M.J. Burns, M.J. Naughton and T.C. Chiles, *Biosensors and Bioelectronics* **74**, 406-410 (2015).
[doi:10.1016/j.bios.2015.06.069](https://doi.org/10.1016/j.bios.2015.06.069) PMID: 26164012
8. *Spectroscopic evidence for negative compressibility of a quasi-three-dimensional spin-orbit correlated electron system*, J. He, T. Hogan, T.R. Mion, H. Hafiz, Y. He, S.-K. Mo, C. Dhital, X. Chen, Q. Lin, Y. Zhang, M. Hashimoto, H. Pan, D.H. Lu, M. Arita, K. Shimada, R.S. Markiewicz, Z. Wang, K. Kempa, M.J. Naughton, A. Bansil, S.D. Wilson and R-H. He, *Nature Materials* **14**, 577-582 (2015).
[doi:10.1038/nmat4273](https://doi.org/10.1038/nmat4273), PMID: 25915033
9. *Analytical device physics framework for non-planar solar cells*, T. Kirkpatrick, M.J. Burns and M.J. Naughton, *Solar Energy Materials and Solar Cells* **133**, 229-239 (2015).
[doi:10.1016/j.solmat.2014.10.025](https://doi.org/10.1016/j.solmat.2014.10.025)
10. *Embedded metal nanopatterns as a general scheme for enhanced broadband light absorption*, F. Ye, M.J. Burns and M.J. Naughton, *Physica Status Solidi (A)* **212**, 561-565 (2015).
[doi:10.1002/pssa.201431544](https://doi.org/10.1002/pssa.201431544)

11. *Stress-induced growth of aluminum nanowires with a range of cross-sections*, F. Ye, M.J. Burns, G. McMahon, S. Shepard and M.J. Naughton, *Physica Status Solidi (A)* **212**, 566-572 (2015).
[doi:10.1002/pssa.201431618](https://doi.org/10.1002/pssa.201431618)
12. *Nanocoaxes for optical and electronic devices* (Invited Critical Review), B. Rizal, J.M. Merlo, M.J. Burns, T.C. Chiles and M.J. Naughton, *Analyst* **140**, 39-58 (2015). (JOURNAL COVER).
[doi:10.1039/c4an01447b](https://doi.org/10.1039/c4an01447b), PMID: 25279400
13. *Structured metal thin film as an asymmetric color filter: the forward and reverse plasmonic halos*, F. Ye, M.J. Burns and M.J. Naughton, *Scientific Reports* **4**, 7267 (2014) (5 pp).
[doi:10.1038/srep07267](https://doi.org/10.1038/srep07267)
14. *Leakage radiation microscope for observation of non-transparent samples*, J.M. Merlo, F. Ye, M.J. Burns and M.J. Naughton, *Optics Express* **22**, 22895-22904 (2014). Selected by the Optical Society of America Editors for Virtual Journal for Biomedical Optics (VJBO).
[doi:10.1364/OE.22.022895](https://doi.org/10.1364/OE.22.022895), PMID: 25321760
15. *Symmetry-broken metamaterial absorbers as reflectionless directional couplers for surface plasmon polaritons in the visible range*, F. Ye, M.J. Burns and M.J. Naughton, *Advanced Optical Materials* **2**, 957-965 (2014). (JOURNAL FRONTISPIECE).
[doi:10.1002/adom.201400080](https://doi.org/10.1002/adom.201400080)
16. *Near-field observation of light propagation in nanocoax waveguides*, J.M. Merlo, B. Rizal, Fan Ye, M.J. Burns and M.J. Naughton, *Optics Express* **22**, 14148-54 (2014).
[doi:10.1364/OE.22.014148](https://doi.org/10.1364/OE.22.014148), PMID: 24977513
17. *Nanoscope based on nanowaveguides*, A.H. Rose, B.M. Wirth, R.E. Hatem, A.P. Rashed Ahmed, M.J. Burns, M.J. Naughton and K. Kempa, *Optics Express* **22**, 5228-5233 (2014).
[doi:10.1364/OE.22.005228](https://doi.org/10.1364/OE.22.005228), PMID: 24663862
18. *Optical and electrical mappings of surface plasmon cavity modes* (Invited Review), F. Ye, J. M. Merlo, M.J. Burns and M.J. Naughton, *Nanophotonics* **3**, 33-49 (2014).
[doi:10.1515/nanoph-2013-0038](https://doi.org/10.1515/nanoph-2013-0038)
19. *Angular magnetoresistance oscillations in the quasi-one dimensional conductor (DMET)₂I₃*, P. Dhakal and M.J. Naughton, Annual Journal of Central Department of Physics AJCDP2014, Tribhuvan University, Kirtipur, Nepal (2014).
20. *Nanocoax-based electrochemical sensor*, B. Rizal, M.M. Archibald, T. Connolly, S. Shepard, M.J. Burns, T.C. Chiles and M.J. Naughton, *Analytical Chemistry* **85**, 10040-10044 (2013).
[doi:10.1021/ac402441x](https://doi.org/10.1021/ac402441x), PMID: 24090275
21. *Plasmonic halos: Optical surface plasmon circular drumhead modes*, F. Ye, M.J. Burns and M.J. Naughton, *Nano Letters* **13**, 519-523 (2013).
[doi:10.1021/nl303955x](https://doi.org/10.1021/nl303955x), PMID: 23249310
22. *Imprint-templated nanocoaxial array architecture*, B. Rizal, F. Ye, P. Dhakal, T.C. Chiles, S. Shepard, G. McMahon, M.J. Burns and M.J. Naughton, in "Nano-Optics for Enhancing Light-Matter Interactions on a Molecular Scale", NATO Science for Peace and Security Series B: Physics and Biophysics, Vol. XIX, pp 359-372 (2013).
[doi:10.1007/978-94-007-5313-6_18](https://doi.org/10.1007/978-94-007-5313-6_18)
23. *Embedded metal nanopatterns for near-field scattering-enhanced optical absorption*, F. Ye, M.J. Burns and M.J. Naughton, *Physica Status Solidi (A)* **209**, 1829-1834 (2012). (JOURNAL COVER).
[doi:10.1002/pssa.201228459](https://doi.org/10.1002/pssa.201228459)
24. *Angular magnetoresistance effects in the molecular organic conductor (DMET)₂I₃*, P. Dhakal, H. Yoshino, J-I. Oh, K. Kikuchi and M.J. Naughton, *Synthetic Metals* **162**, 1381-1385 (2012) (JOURNAL COVER).
[doi:10.1016/j.synthmet.2012.05.021](https://doi.org/10.1016/j.synthmet.2012.05.021)
25. *Ultrasensitive chemical detection using a nanocoax sensor*, H. Zhao, B. Rizal, G. McMahon, H. Wang, P. Dhakal, T. Kirkpatrick, Z. Ren, T.C. Chiles, M.J. Naughton and D. Cai, *ACS Nano* **6**, 3171-3178 (2012).
[doi:10.1021/nn205036e](https://doi.org/10.1021/nn205036e), PMID: 22393880

26. *High resolution scanning electron microscopy of surface functionalized nanocoax biosensors*, G. McMahon, B. Rizal, M.J. Burns, T.C. Chiles, M. Archibald, M.J. Naughton, S. Shepard, N. Erdman and N. Kikuchi, *Microscopy and Microanalysis* **18** (S2), 276-277 (2012).
[doi:10.1017/S1431927612003236](https://doi.org/10.1017/S1431927612003236)
27. *Embedded metallic nanopatterns for enhanced optical absorption*, F. Ye, M.J. Burns and M.J. Naughton, *Proc. of SPIE* **8111**, 811103 (2011).
[doi:10.1117/12.892618](https://doi.org/10.1117/12.892618)
28. *Upper critical field in the molecular organic superconductor (DMET)₂I₃*, P. Dhakal, H. Yoshino, J.I. Oh, K. Kikuchi and M.J. Naughton, *Physical Review B* **83**, 014505 (2011).
[doi:10.1103/PhysRevB.83.014505](https://doi.org/10.1103/PhysRevB.83.014505)
29. *Nanocoax solar cells based on aligned multiwalled carbon nanotube arrays*, T. Paudel, J. Rybczynski, Y.T. Gao, Y.C. Lan, Y. Peng, K. Kempa, M.J. Naughton and Z.F. Ren, *Physica Status Solidi (A)* **208**, 924-927 (2011). (JOURNAL COVER).
[doi:10.1002/pssa.201026781](https://doi.org/10.1002/pssa.201026781)
30. *Innovative back reflectors and nanostructures for photocurrent enhancement in thin film amorphous silicon solar cells*, C. Eminian, F.-J. Haug, O. Cubero, X. Niquille, C. Ballif, N. Argenti, J. Rybczynski, Y. Gao, W. Gao, K. Kempa, Z.F. Ren and M.J. Naughton, *Proc. 25th European Photovoltaic Solar Energy Conf.* 2767-2770 (2011).
[doi:10.4229/25thEUPVSEC2010-3CO.12.3](https://doi.org/10.4229/25thEUPVSEC2010-3CO.12.3)
31. *Observation and simulation of all angular magnetoresistance oscillation effects in the quasi-one-dimensional organic conductor (DMET)₂I₃*, P. Dhakal, H. Yoshino, J-I Oh, K. Kikuchi and M.J. Naughton, *Physical Review Letters* **105**, 067201 (2010).
[doi:10.1103/PhysRevLett.105.067201](https://doi.org/10.1103/PhysRevLett.105.067201) PMID: 20868001
32. *Efficient nanocoax-based solar cells*, M.J. Naughton, K. Kempa, Z.F. Ren, Y. Gao, J. Rybczynski, N. Argenti, W. Gao, Y. Wang, Y. Peng, J.R. Naughton, G. McMahon, T. Paudel, Y.C. Lan, M.J. Burns, A. Shepard, M. Clary, C. Ballif, F.-J. Haug, T. Söderström, O. Cubero and C. Eminian, *Physica Status Solidi RRL* **4**, 181-183 (2010). (JOURNAL COVER).
[doi:10.1002/pssr.201004154](https://doi.org/10.1002/pssr.201004154)
33. *A molecular-imprint nanosensor for ultrasensitive detection of proteins*, D. Cai, L. Ren, H. Zhao, C. Xu, L. Zhang, Y. Yu, H. Wang, Y. Lan, M.F. Roberts, J.H. Chuang, M.J. Naughton, Z.F. Ren and T.C. Chiles, *Nature Nanotechnology* **5**, 597-601 (2010).
[doi:10.1038/nnano.2010.114](https://doi.org/10.1038/nnano.2010.114), PMID: 20581835
34. *Direct-write, focused ion beam deposited, 7 K superconducting C-Ga-O nanowire*, P. Dhakal, G. McMahon, S. Shepard, T. Kirkpatrick, J.I. Oh and M.J. Naughton, *Applied Physics Letters* **96**, 262511 (2010).
[doi:10.1063/1.3458863](https://doi.org/10.1063/1.3458863)
35. *FIB-deposited carbon-based superconducting nanowires with $T_c \sim 7$ K*, P. Dhakal, G. McMahon, L. Norris, J.I. Oh and M.J. Naughton, *Mater. Res. Soc. Symp. Proc.* **1206**, M16-09 (2010).
[doi:10.1557/PROC-1206-M16-09](https://doi.org/10.1557/PROC-1206-M16-09)
36. *Hot electron effect in nanoscopically thin photovoltaic junctions*, K. Kempa, M.J. Naughton, Z.F. Ren, A. Herczynski, T. Kirkpatrick, J. Rybczynski and Y. Gao, *Applied Physics Letters* **95**, 233121 (2009).
[doi:10.1063/1.3267144](https://doi.org/10.1063/1.3267144)
37. *Applications of multibeam SEM/FIB instrumentation in the Integrated Sciences*, G. McMahon, J. Rybczynski, Y. Wang, Y. Gao, D. Cai, P. Dhakal, N. Argenti, K. Kempa, Z.F. Ren, N. Erdman and M.J. Naughton, *Microscopy Today*, pp. 34-38 (July, 2009).
[doi:10.1017/S1551929509000133](https://doi.org/10.1017/S1551929509000133)
38. *Application of dual beam FIB to the metrology of nanostructured photovoltaic devices*, G. McMahon, J. Rybczynski, Y. Wang, Y. Gao, N. Argenti, K. Kempa, Z.F. Ren and M.J. Naughton, *Microscopy and Microanalysis* **15**, 1392-1393 (2009).
[doi:10.1017/S1431927609097244](https://doi.org/10.1017/S1431927609097244)
39. *In-situ electrical measurements of vertically aligned nanostructures*, G. McMahon, T. Paudel Z.F. Ren and M.J. Naughton, *Microscopy and Microanalysis* **15** (S2), 708-709 (2009).

[doi:10.1017/S1431927609097256](https://doi.org/10.1017/S1431927609097256)

40. *Discretely guided electromagnetic effective medium*, K. Kempa, X. Wang, Z.F. Ren and M.J. Naughton, Applied Physics Letters **92**, 043114 (2008).
[doi:10.1063/1.2839320](https://doi.org/10.1063/1.2839320)
41. *La Tour des Sels de Bechgaard*, S. E. Brown, P. M. Chaikin and M.J. Naughton, Chapter in “The Physics of Organic Superconductors and Conductors Series: Springer Series in Materials Science”, Vol. **110**, pp. 49-87, A.G. Lebed, Editor (2008).
ISBN: 978-3-540-76667-4, [doi:10.1007/978-3-540-76672-8_5](https://doi.org/10.1007/978-3-540-76672-8_5)
42. *Subwavelength transmission line for visible light*, J. Rybczynski, K. Kempa, A. Herczynski, Y. Wang, M.J. Naughton, Z.F. Ren, Z.P. Huang and M. Giersig, Applied Physics Letters **90**, 021104 (2007).
[doi:10.1063/1.2430400](https://doi.org/10.1063/1.2430400)
43. *Enhanced ductile behavior of tensile-elongated individual double- and triple-walled carbon nanotubes at high temperatures*, J.Y. Huang, S. Chen, Z.F. Ren, Z. Wang, K. Kempa, M.J. Naughton, G. Chen and M.S. Dresselhaus, Physical Review Letters **98**, 185501 (2007).
[doi:10.1103/PhysRevLett.98.185501](https://doi.org/10.1103/PhysRevLett.98.185501)
44. *Reply to Comment on “Field-enhanced diamagnetism in the pseudogap state of the cuprate $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ Superconductor in an intense magnetic field,”* N.P. Ong, Y. Wang, L. Li and M.J. Naughton, Physical Review Letters **98**, 119702 (2007).
[doi:10.1103/PhysRevLett.98.119702](https://doi.org/10.1103/PhysRevLett.98.119702)
45. *Magnetization, Nernst effect and vorticity in the cuprates*. L. Li, Y. Wang, M.J. Naughton, S. Komiyama, S. Ono, Y. Ando and N.P. Ong, Journal of Magnetism and Magnetic Materials **310**, 460-466 (2007).
[doi:10.1016/j.jmmm.2006.10.535](https://doi.org/10.1016/j.jmmm.2006.10.535)
46. *Depairing field, onset temperature and the nature of the transition in cuprates*, Lu Li, Yayu Wang, J.G. Checkelsky, M.J. Naughton, S. Komiyama, S. Ono, Y. Ando and N.P. Ong, Physica C **460**, 48-51 (2007).
[doi:10.1016/j.physc.2007.03.298](https://doi.org/10.1016/j.physc.2007.03.298)
47. *Selective functionalization of 3-D polymer microstructures*, R.A. Farrer, C.N. LaFratta, L. Li, J. Praino, M.J. Naughton, B.E.A. Saleh, M.C. Teich and J.T. Fourkas, Journal of the American Chemical Society **128**, 1796-1797 (2006).
[doi:10.1021/ja0583620](https://doi.org/10.1021/ja0583620) PMID: 16464071
48. *Unconventional superconductivity in a quasi-one-dimensional system $(\text{TMTSF})_2\text{X}$* , I.J. Lee, S.E. Brown and M.J. Naughton, Journal of the Physical Society of Japan **75**, 051011 (2006).
[doi:10.1143/JPSJ.75.051011](https://doi.org/10.1143/JPSJ.75.051011)
49. *Interference effects due to commensurate electron trajectories and topological crossovers in $(\text{TMTSF})_2\text{ClO}_4$* , H.I. Ha, A.G. Lebed and M.J. Naughton, Physical Review B **73**, 033107 (2006).
[doi:10.1103/PhysRevB.73.033107](https://doi.org/10.1103/PhysRevB.73.033107)
50. *Unconventional field dependence of magnetoresistance of $(\text{TMTSF})_2\text{ClO}_4$ studied by 46-T pulsed magnetic field system*, H. Yoshino, Z. Bayindir, J. Roy, B. Shaw, H.I. Ha, A.G. Lebed and M.J. Naughton, Journal of Low Temperature Physics **142**, 319-322 (2006).
[doi:10.1007/s10909-006-9181-0](https://doi.org/10.1007/s10909-006-9181-0)
51. *Pulsed field studies of angular dependence of unconventional magnetoresistance in $(\text{TMTSF})_2\text{ClO}_4$* , H. Yoshino, Z. Bayindir, J. Roy, B. Shaw, H.I. Ha, A.G. Lebed and M.J. Naughton, AIP Conference Proceedings **850**, 1542-1543 (2006).
[doi:10.1063/1.2355292](https://doi.org/10.1063/1.2355292)
52. *High field FISDW state in the organic superconductor $(\text{DMET-TSeF})_2\text{I}_3$* , K. Oshima, M.J. Naughton, E. Ohmichi, T. Osada and R. Kato, AIP Conference Proceedings **850**, 623-624 (2006).
[doi:10.1063/1.2354864](https://doi.org/10.1063/1.2354864)
53. *Low temperature study of the mixed donor system $(\text{TMTSF})_{1-x}\text{TMTTF}_x)_2\text{PF}_6$: Crystal structure, ESR and transport property*, K. Oshima, T. Kambe, M.J. Naughton, K. Kato and H. Kobayashi, Journal of Low Temperature Physics **142**, 551-554 (2006).
[doi:10.1007/BF02679567](https://doi.org/10.1007/BF02679567)

54. *Probing the transport properties of each individual wall within a multiwall carbon nanotubes by electric breakdown*, S. Chen, J.Y. Huang, Z.F. Ren, Z.Q. Wang, K. Kempa, M.J. Naughton, G. Chen and M.S. Dresselhaus, *Microscopy and Microanalysis* **12**, 488-489 (2006).
[doi:10.1017/S143192760606260X](https://doi.org/10.1017/S143192760606260X)
55. *Aligned ultralong ZnO nanobelts and their enhanced field emission*, W.Z. Wang, B.Q. Zeng, J. Yang, B. Poudel, M.J. Naughton and Z.F. Ren, *Advanced Materials* **18**, 3275-3278 (2006).
[doi:10.1002/adma.200601274](https://doi.org/10.1002/adma.200601274)
56. *Pulsed magnetic field study of unconventional magnetoresistance of Q1D superconductors (TMTSF)₂ClO₄ and (DMET)₂I₃*, H. Yoshino, Z. Bayindir, J. Roy, B. Shaw, H-I. Ha, A.G. Lebed, M.J. Naughton, K. Kikuchi, H. Nishikawa and K. Murata, *Journal of Physics: Conference Series* **51**, 339-342 (2006).
[doi:10.1088/1742-6596/51/1/079](https://doi.org/10.1088/1742-6596/51/1/079)
57. *Field-enhanced diamagnetism in the pseudogap state of the cuprate Bi₂Sr₂CaCu₂O_{8+δ} superconductor in an intense magnetic field*, Y. Wang, L. Li, M.J. Naughton, G. Gu and N.P. Ong, *Physical Review Letters* **95**, 247002 (2005).
[doi:10.1103/PhysRevLett.95.247002](https://doi.org/10.1103/PhysRevLett.95.247002)
58. *Strongly nonlinear magnetization above T_c in Bi₂Sr₂CaCu₂O_{8+δ}*, L. Li, Y. Wang, M.J. Naughton, S. Ono, Y. Ando and N.P. Ong, *Europhysics Letters* **72**, 451-457 (2005).
[doi:10.1209/epl/i2005-10254-4](https://doi.org/10.1209/epl/i2005-10254-4)
59. *Low-dimensional phonon specific heat of titanium dioxide nanotubes*, C. Dames, G. Chen, B. Poudel, W.Z. Wang, J.Y. Huang, Z.F. Ren, Y. Sun, J.I. Oh, C. Opeil, S.J. and M.J. Naughton, *Applied Physics Letters* **87**, 031901 (2005).
[doi:10.1063/1.1990269](https://doi.org/10.1063/1.1990269)
60. *Three-dimensional micro- and nanofabrication with multiphoton absorption*, C.N. LaFratta, R. Farrer, T. Baldacchini, J. Znovena, D. Lim, A-C. Pons, J Pons, K. O'Malley, Z. Bayindir, M.J. Naughton, B.E.A. Saleh, M. C. Teich and J.T. Fourkas, *MRS Symp. Proc.* **850**, 199-204 (2005).
[doi:10.1557/PROC-850-MM4.5](https://doi.org/10.1557/PROC-850-MM4.5)
61. *Multiphoton laser direct writing of two-dimensional silver structures*, T. Baldacchini, A.C. Pons, J. Pons, C.N. LaFratta, J.T. Fourkas, Y. Sun and M.J. Naughton, *Optics Express* **13**, 1275-1280 (2005).
[doi:10.1364/OPEX.13.001275](https://doi.org/10.1364/OPEX.13.001275) PMID: 19495000
62. *Angular magnetoresistance oscillations in organic conductors*, A.G. Lebed, H.I. Ha and M.J. Naughton, *Physical Review B* **71**, 132504 (2005).
[doi:10.1103/PhysRevB.71.132504](https://doi.org/10.1103/PhysRevB.71.132504)
63. *Coexistence of spin triplet superconductivity and antiferromagnetism probed by simultaneous NMR and electrical transport in a quasi-one-dimensional system (TMTSF)₂PF₆*, I.J. Lee, S.E. Brown, M.J. Naughton and P.M. Chaikin, *Physical Review Letters* **94**, 197001 (2005).
[doi:10.1103/PhysRevLett.94.197001](https://doi.org/10.1103/PhysRevLett.94.197001)
64. *Polymer microcantilevers fabricated via multiphoton absorption polymerization*, Z. Bayindir, Y. Sun, M.J. Naughton, C.N. LaFratta, T. Baldacchini, J.T. Fourkas, J. Stewart, B.E.A. Saleh and M.C. Teich, *Applied Physics Letters* **86**, 064105 (2005).
[doi:10.1063/1.1863414](https://doi.org/10.1063/1.1863414)
65. *Toward the fabrication of hybrid polymer/metal three-dimensional microstructures*, T. Baldacchini, C. LaFratta, R. Farrer, A.C. Pons, J. Pons, M.J. Naughton, B.E.A. Saleh, M.C. Teich and J.T. Fourkas, *Springer Series in Chemical Physics* **79** (Ultrafast Phenomena XIV), 807-809 (2005).
[doi:10.1007/3-540-27213-5_246](https://doi.org/10.1007/3-540-27213-5_246)
66. *Magic angle effects and angular magnetoresistance oscillations as dimensional crossovers*, A.G. Lebed, N.N. Bagmet and M.J. Naughton, *Physical Review Letters* **93**, 157006 (2004).
[doi:10.1103/PhysRevLett.93.157006](https://doi.org/10.1103/PhysRevLett.93.157006)
67. *Magnetic determination of H_{c2} under accurate alignment in (TMTSF)₂ClO₄*, J.I. Oh and M.J. Naughton, *Physical Review Letters* **92**, 67001 (2004).
[doi:10.1103/PhysRevLett.92.067001](https://doi.org/10.1103/PhysRevLett.92.067001)

68. *Acrylic-based resin with favorable properties for three-dimensional two-photon polymerization*, T. Baldacchini, C. LaFratta, R.A. Farrer, M.C. Teich, B.E.A. Saleh, M.J. Naughton and J.T. Fourkas, *Journal of Applied Physics* **95**, 6072-6076 (2004).
[doi:10.1063/1.1728296](https://doi.org/10.1063/1.1728296)
69. *Replication of two-photon-polymerized structures with extremely high aspect ratios and large overhangs*, C. LaFratta, T. Baldacchini, R.A. Farrer, M.C. Teich, B.E.A. Saleh, M.J. Naughton and J.T. Fourkas, *Journal of Physical Chemistry B* **108**, 11256-11258 (2004).
[doi:10.1021/jp048525r](https://doi.org/10.1021/jp048525r)
70. *Crossover from anomalous to conventional antiferromagnetism in Pd-doped UPt_3 studied via cantilever magnetometry*, C. P. Opeil, A. de Visser, M.J. Naughton and M.J. Graf, *Journal of Magnetism and Magnetic Materials* **272-276**, 244-245 (2004).
[doi:10.1016/j.jmmm.2003.11.100](https://doi.org/10.1016/j.jmmm.2003.11.100)
71. *Magic angle, AMRO and interference effects in layered conductors*, A.G. Lebed, N.N. Bagmet and M.J. Naughton, *Journal de Physique IV France* **114**, 77-80 (2004).
[doi:10.1051/jp4:2004114014](https://doi.org/10.1051/jp4:2004114014)
72. *Physical characterization of two-photon-fabricated polymer cantilevers*, Z. Bayindir, Y. Sun, C. LaFratta, T. Baldacchini, J.T. Fourkas and M.J. Naughton, *MRS Symposium Proceedings EXS-2 (Nontraditional Approaches to Patterning)*, 163-165 (2004).
73. *Fabrication and metallization of three-dimensional microstructures*, T. Baldacchini, C. LaFratta, R. Farrer, A.C. Pons, J. Pons, Z. Bayindir, M.J. Naughton, B.E.A. Saleh, M.C. Teich, and J.T. Fourkas, *MRS Symposium Proceedings EXS-2 (Nontraditional Approaches to Patterning)*, 159-161 (2004).
74. *Interference commensurate oscillations in Q1D conductors*, A.G. Lebed and M.J. Naughton, *Physical Review Letters* **91**, 187003 (2003).
[doi:10.1103/PhysRevLett.91.187003](https://doi.org/10.1103/PhysRevLett.91.187003)
75. *Individual free-standing carbon nanofibers addressable on the 50 nm scale*, J. Moser, R. Panepucci, Z.P. Huang, W. Li, Z.F. Ren, A. Usheva and M.J. Naughton, *Journal of Vacuum Science and Technology B* **21**, 1004-1007 (2003).
[doi:10.1116/1.1572164](https://doi.org/10.1116/1.1572164)
76. *Zero bias conductance peak in an S-N-S weak link bicrystal of the triplet superconductor $(TMTSF)_2ClO_4$* , H.I. Ha, J.I. Oh, J. Moser and M.J. Naughton, *Synthetic Metals* **137**, 1215-1216 (2003).
[doi:10.1016/S0379-6779\(02\)01050-0](https://doi.org/10.1016/S0379-6779(02)01050-0)
77. *Unconventional superconductivity in $(TMTSF)_2ClO_4$* , G.M. Luke, M.T. Rovers, A. Fukaya, I.M. Gat, M.I. Larkin, A. Savici, Y.J. Uemura, K.M. Kojima, P.M. Chaikin, I.J. Lee and M.J. Naughton, *Physica B* **326**, 378-380 (2003).
[doi:10.1016/S0921-4526\(02\)01634-4](https://doi.org/10.1016/S0921-4526(02)01634-4)
78. *Evidence from ^{77}Se Knight shifts for triplet superconductivity in $(TMTSF)_2PF_6$* , I.J. Lee, D.S. Chow, W.G. Clark, J. Strouse, M.J. Naughton, P.M. Chaikin and S.E. Brown, *Physical Review B* **68**, 092510 (2003).
[doi:10.1103/PhysRevB.68.092510](https://doi.org/10.1103/PhysRevB.68.092510)
79. *Efficient multiphoton polymerization for the fabrication of 3-dimensional microstructures*, T. Baldacchini, R.A. Farrer, J. Moser, J.T. Fourkas and M.J. Naughton, *Synthetic Metals* **135-136**, 11-12 (2003).
[doi:10.1016/S0379-6779\(02\)01024-X](https://doi.org/10.1016/S0379-6779(02)01024-X)
80. *On the angular dependences of the superconducting and normal state properties of the Bechgaard salts: Triplet superconductivity, enhanced H_{c2} near the S-I boundary, giant Nernst effect at Lebed magic angles*, W. Wu, I.J. Lee, S.E. Brown, M.J. Naughton and P.M. Chaikin, *Synthetic Metals* **137**, 1305-1307 (2003).
[doi:10.1016/S0379-6779\(02\)00991-8](https://doi.org/10.1016/S0379-6779(02)00991-8)
81. *Triplet superconductivity and stripes? in $(TMTSF)_2PF_6$* , I.J. Lee, S.E. Brown, W.G. Clark, W. Kang, M.J. Naughton and P.M. Chaikin, *Synthetic Metals* **133-134**, 33-36 (2003).
[doi:10.1016/S0379-6779\(02\)00419-8](https://doi.org/10.1016/S0379-6779(02)00419-8)
82. *Synthesis and properties of the superconductor $RuSr_2GdCu_2O_8$* , D.Z. Wang, H.I. Ha, J.I. Oh, J. Moser, J.G. Wen, Z.F. Ren and M.J. Naughton, *Physica C* **384**, 137-142 (2003).
[doi:10.1016/S0921-4534\(02\)01800-2](https://doi.org/10.1016/S0921-4534(02)01800-2)

83. *YY1-AAV P5 promoter interaction results in a significant change of electronic context as measured by capacitance*, C.C. Choi, N. Sabaurin, M.J. Naughton, J. Moser, K. Blagoev and A. Usheva, *Biophysical Chemistry* **103**, 109-115 (2003).
[doi:10.1016/S0301-4622\(02\)00236-3](https://doi.org/10.1016/S0301-4622(02)00236-3) PMID: 12568934
84. *Fermi surface interference effects and angular magnetic oscillations in Q1D conductors*, A.G. Lebed and M.J. Naughton, *Journal de Physique IV France* **12**, Pr9/369-372 (2002).
[doi:10.1051/jp4:20020440](https://doi.org/10.1051/jp4:20020440)
85. *Multiphoton photopolymerization with a Ti-sapphire oscillator*, T. Baldacchini, R. Ferrer, H. Chen, M. Previte, J. Moser, M.J. Naughton and J.T. Fourkas, *Proceedings of SPIE* **4633**, "Commercial and Biomedical Applications of Ultrafast and Free Electron Lasers" p.136-144 (2002).
[doi:10.1117/12.461373](https://doi.org/10.1117/12.461373)
86. *Intersubband transport in quantum wells in strong magnetic fields mediated by single- and two-electron scattering*, K. Kempa, Y. Zhou, J. Engelbrecht, P. Bakshi, H. I. Ha, J. Moser, M.J. Naughton, J. Ulrich, G. Strasser and K. Unterrainer, *Physical Review Letters* **88**, 226803 (2002).
[doi:10.1103/PhysRevLett.88.226803](https://doi.org/10.1103/PhysRevLett.88.226803)
87. *Critical field enhancement near a superconductor-insulator transition*, I.J. Lee, M.J. Naughton and P.M. Chaikin, *Physical Review Letters* **88**, 207002 (2002).
[doi:10.1103/PhysRevLett.88.207002](https://doi.org/10.1103/PhysRevLett.88.207002)
88. *Angular dependent upper critical field studies of (TMTSF)₂PF₆*, I.J. Lee, P.M. Chaikin and M.J. Naughton, *Physical Review B-Rapid Communications* **65**, 180502(R) (2002).
[doi:10.1103/PhysRevB.65.180502](https://doi.org/10.1103/PhysRevB.65.180502)
89. *H_{c2} enhancement and giant Nernst effect in (TMTSF)₂PF₆*, I.J. Lee, W. Wu, M.J. Naughton and P.M. Chaikin, *Journal de Physique IV* **12**, Pr9/189-195 (2002).
[doi:10.1051/jp4:20020393](https://doi.org/10.1051/jp4:20020393)
90. *Triplet superconductivity in an organic superconductor probed by NMR Knight shift*, I.J. Lee, S.E. Brown, W.G. Clark, M.J. Strouse, M.J. Naughton, W. Kang and P.M. Chaikin, *Physical Review Letters* **88**, 017004 (2001).
[doi:10.1103/PhysRevLett.88.017004](https://doi.org/10.1103/PhysRevLett.88.017004)
91. *Synthesis and characterization of heavily overdoped Tl₂Ba₂CuO_{6+δ} thin films*, D.Z. Wang, H.I. Ha, S.X. Yang, J.I. Oh, J.G. Wen, M.J. Naughton and Z.F. Ren, *Physica C* **355**, 251-256 (2001).
[doi:10.1016/S0921-4534\(01\)00031-4](https://doi.org/10.1016/S0921-4534(01)00031-4)
92. *Exceeding the Pauli limit in (TMTSF)₂PF₆*, I.J. Lee, P.M. Chaikin and M.J. Naughton, *Physica B* **294-295**, 413-417 (2001).
[doi:10.1016/S0921-4526\(00\)00689-X](https://doi.org/10.1016/S0921-4526(00)00689-X)
93. *Interlayer decoupling, Lebed magic angle magnetoresistance and triplet superconductivity in (TMTSF)₂PF₆*, E. I. Chashechkina, I. J. Lee, S. E. Brown, D.S. Chow, W.G. Clark, M.J. Naughton and P.M. Chaikin, *Synthetic Metals* **119**, 13-18 (2001).
[doi:10.1016/S0379-6779\(00\)01518-6](https://doi.org/10.1016/S0379-6779(00)01518-6)
94. *The superconducting state in (TMTSF)₂PF₆ in high magnetic field*, I.J. Lee, M.J. Naughton and P.M. Chaikin, *Synthetic Metals* **120**, 915-916 (2001).
[doi:10.1016/S0379-6779\(00\)01027-4](https://doi.org/10.1016/S0379-6779(00)01027-4)
95. *Triplet quasi-one-dimensional superconductors*, S.E. Brown, M.J. Naughton, I.J. Lee, E.I. Chashechkina and P.M. Chaikin, Chapter 11 in "More Is Different: Fifty Years of Condensed Matter Physics", pp. 151-172, Edited by N.P. Ong and R.N. Bhatt (Princeton 2001).
<http://press.princeton.edu/titles/7103.html>
96. *Fabrication of freestanding carbon nanotube arrays in large scale*, Z.P. Huang, J. Moser, M. Sennett, H. Gibson, M.J. Naughton, J.G. Wen and Z.F. Ren, *Proc. Mat. Res. Soc. Symp.* **633**, A13.22 (2001).
[doi:10.1557/PROC-633-A13.22](https://doi.org/10.1557/PROC-633-A13.22)
97. *Exceeding the Pauli paramagnetic limit in the critical field of (TMTSF)₂PF₆*, I.J. Lee, P.M. Chaikin and M.J. Naughton, *Physical Review B-Rapid Communications* **62**, R14669-72 (2000).
[doi:10.1103/PhysRevB.62.R14669](https://doi.org/10.1103/PhysRevB.62.R14669)

98. *High-field magnetization of $\text{HgBa}_2\text{Ca}_2\text{Cu}_3\text{O}_x$: Fluctuations, scaling and the crossing point*, M.J. Naughton, *Physical Review B* **61**, 1605-1609 (2000).
doi:10.1103/PhysRevB.61.1605
99. *Evidence for fast oscillations vanishing at the spin-density-wave-metal transition in Bechgaard salts*, D. Vignolles, J-P. Ulmet, A. Audouard, M.J. Naughton and J-M. Fabre, *Physical Review B* **61**, 8913-8916 (2000).
doi:10.1103/PhysRevB.61.8913
100. *High-field magnetization of the spin-Peierls compound $(\text{TMTTF})_2\text{PF}_6$* , S.E. Brown, W.G. Clark, B. Avali, D. Hall, M.J. Naughton, D.J. Tantillo and C.A. Merlic, *Physical Review B* **60**, 6270-6272 (1999).
doi:10.1103/PhysRevB.60.6270
101. *Transitions in $\text{Sr}_2\text{Ru}_x\text{Ir}_{1-x}\text{O}_4$ compounds studied by the ^{99}Ru Mossbauer effect*, M. DeMarco, D. Graf, J. Rijssenbeek, R.J. Cava, D.Z. Wang, Y. Tu, Z.F. Ren, J.H. Wang, M. Haka, S. Toorongian, M.J. Leone and M.J. Naughton, *Physical Review B* **60**, 7570-7574 (1999).
doi:10.1103/PhysRevB.60.7570
102. *High field magnetoresistance and fast oscillations in Bechgaard salts*, D. Vignolles, J.P. Ulmet, M.J. Naughton and J.M. Fabre, *Synthetic Metals* **103**, 1987-1988 (1999).
doi:10.1016/S0379-6779(98)00913-8
103. *Flux jump avalanches in torque studies of single crystal $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$* , A.P. Hope, M.J. Naughton, D.A. Gajewski and M.B. Maple, *Physica C* **320**, 147-153 (1999).
doi:10.1016/S0921-4534(99)00353-6
104. *Torque anisotropy in λ - $(\text{BEDT-TSF})_2\text{FeCl}_4$* , J.I. Oh, M.J. Naughton, T. Courcet, I. Malfant, P. Cassoux, M. Tokumoto, H. Akutsu, H. Kobayashi and A. Kobayashi, *Synthetic Metals* **103**, 1861-1864 (1999).
doi:10.1016/S0379-6779(99)80008-3
105. *Angular oscillations in the low pressure metallic state of $(\text{TMTSF})_2\text{PF}_6$* , I.J. Lee and M.J. Naughton, *Synthetic Metals* **103**, 2145-2146 (1999).
doi:10.1016/S0379-6779(98)00608-0
106. *Detection of non-metallic landmines using shock impulses and MEMS sensors*, M.J. Naughton, R. Shelton, S. Sen and M. Manciú, *The Second International Conference on the Detection of Abandoned Land Mines*, IEE Conference Publication **458**, 249-252 (1998).
doi:10.1049/cp:19980730
107. *Metallic state of $(\text{TMTSF})_2\text{PF}_6$ at low pressure*, I.J. Lee and M.J. Naughton, *Physical Review B - Rapid Communications* **58**, 13343-13346 (1998).
doi:10.1103/PhysRevB.58.R13343
108. *Superconductivity in Quasi-One Dimensional Molecular Conductors*, I.J. Lee and M.J. Naughton, Chapter in "The Superconducting State In Magnetic Fields: Special Topics and New Trends", C.A.R. Sà de Melo, Ed. (Series on Directions in Condensed Matter Physics - Vol. **13**, World Scientific, 1998).
doi:10.1142/9789812816559_0014
109. *A distributed network-based course in organic molecular conductors*, J.S. Lee, M.B. Preiss, G. Li, J. Musfeldt, K.P. Mooney, M.J. Naughton, C. Rivera, L. Mihaly and P. Naughton, *Journal of Materials Education* **20 (1&2)**, 91-98 (1998).
<http://www.unt.edu/ICME/Volume-20-1-2.html>
110. *Field-induced electronic phase transitions in high magnetic fields*, P.M. Chaikin, E.I. Chashechkina, I.J. Lee and M.J. Naughton, *Journal of Physics: Condensed Matter* **10**, 11301-11314 (1998).
doi:10.1088/0953-8984/10/49/019
111. *Room-temperature and low-temperature crystallographic study of the ambient pressure organic superconductor $(\text{Bisethylenedithiotetrathiofulvalene})_4\text{Hg}_{2.89}\text{Br}_8$* , R. Li, V. Petricek, G. Yang, P. Coppens and M.J. Naughton, *Chemistry of Materials* **10**, 1521-1529 (1998).
doi:10.1021/cm9706457

112. *First observation of fast oscillations on the magnetoresistance of the Bechgaard salt (TMTSF)₂SbF₆*, D. Vignolles, J.P. Ulmet, M.J. Naughton, L. Binet and J.M. Fabre, *Physical Review B* **58**, 14476-14480 (1998).
doi:10.1103/PhysRevB.58.14476
113. *Effective electrons and angular oscillations in quasi-1D conductors*, I.J. Lee and M.J. Naughton, *Physical Review B* **57**, 7423-7426 (1998).
doi:10.1103/PhysRevB.57.7423
114. *Interplay between chains of S=5/2 localised spins and two dimensional sheets of organic donors in the synthetically-built magnetic multilayer λ -(BEDT-TSF)₂FeCl₄*, L. Brossard, R. Clerac, C. Coulon, M. Tokumoto, T. Ziman, D.K. Petrov, V.N. Laukhin, M.J. Naughton, A. Audouard, F. Goze, A. Kobayashi, H. Kobayashi and P. Cassoux, *European Physics Journal* **B1**, 439-452 (1998).
doi:10.1007/s100510050207
115. *Anomalous behavior in the torque due to the Lorentz force in high T_c superconductors*, O.H. Chung and M.J. Naughton, *Journal of the Korean Physical Society* **33**, 584-588 (1988).
<http://www.kps.or.kr/jkps/downloadPdf.asp?articleuid=%7BB05C7BE1-1BEF-48A0-AB7E-FF7E04E18BCC%7D>
116. *Demonstration of cantilever magnetometry in pulsed magnetic fields*, M.J. Naughton, J.P. Ulmet, N. Narjis, S. Askenazy, M. Chaparala and R. Richter, *Physica B* **246-247**, 125-128 (1998).
doi:10.1016/S0921-4526(98)00038-6
117. *Cantilever magnetometry in pulsed magnetic fields*, M.J. Naughton, J.P. Ulmet, A. Narjis, S. Askenazy, M.V. Chaparala and A.P. Hope, *Review of Scientific Instruments* **68**, 4061-4065 (1997).
doi:10.1063/1.1148347
118. *Anisotropy of the upper critical field in (TMTSF)₂PF₆*, I.J. Lee, M.J. Naughton, G.M. Danner and P.M. Chaikin, *Physical Review Letters* **78**, 3555-3558 (1997).
doi:10.1103/PhysRevLett.78.3555
119. *High-field magnetoresistance of the Bechgaard salt (TMTSF)₂AsF₆: Fast oscillations and spin-density-wave transition*, J.P. Ulmet, A. Narjis, M.J. Naughton and J.M. Fabre, *Physical Review B* **55**, 3024-3029 (1997).
doi:10.1103/PhysRevB.55.3024
120. *Angular dependent magnetization studies of α -(BEDT-TTF)₂KHg(SCN)₄*, I.J. Lee, M.J. Naughton, J.S. Brooks, S. Valfells, S. Uji, M. Tokumoto, N. Kinoshita, T. Kinoshita and Y. Tanaka, *Synthetic Metals* **86**, 2039-2040 (1997).
doi:10.1016/S0379-6779(97)81016-8
121. *Critical fields and magnetoresistance in the molecular superconductors (TMTSF)₂X*, M.J. Naughton, I.J. Lee, P.M. Chaikin and G.M. Danner, *Synthetic Metals* **85**, 1481-1485 (1997).
doi:10.1016/S0379-6779(96)04440-2
122. *Simultaneous dHvA and SdH studies of α -(BEDT-TTF)₂TlHg(SeCN)₄*, I.J. Lee, V.N. Laukhin, D.K. Petrov, M. Chaparala, N. Kushch and M.J. Naughton, *Synthetic Metals* **85**, 1559-1560 (1997).
doi:10.1016/S0379-6779(97)80347-5
123. *Fast oscillations in (TMTSF)₂X*, M.J. Naughton, J.P. Ulmet, I.J. Lee and J.M. Fabre, *Synthetic Metals* **85**, 1531-1532 (1997).
doi:10.1016/S0379-6779(97)80334-7
124. *High field magnetoresistance and fast oscillations in the Bechgaard salt (TMTSF)₂AsF₆*, J.P. Ulmet, A. Narjis, S. Askenazy, M.J. Naughton and J.M. Fabre, *Synthetic Metals* **86**, 2075-2076 (1997).
doi:10.1016/S0379-6779(97)81034-X
125. *Vortex state resistance near parallel orientation in layered superconductors*, M. Chaparala, O.H. Chung, Z.F. Ren, M. White, P. Coppens, J.H. Wang, A.P. Hope and M.J. Naughton, *Physical Review* **B53**, 5818-5825 (1996).
doi:10.1103/PhysRevB.53.5818

126. *AC susceptibility and microstructure of alkali doped polycrystalline YBCO HTSC materials*, A. Veneva, D.K. Petrov, P. Dittrich and M.J. Naughton, *Physica C* **271**, 230-234 (1996).
doi:10.1016/S0921-4534(96)00560-6
127. *Superconducting epitaxial $Tl_2Ba_2CuO_{6+\delta}$ thin films on $SrTiO_3$ with tetragonal lattice and continuously adjustable critical temperature*, C.A. Wang, Z.F. Ren, J.H. Wang, D.K. Petrov, M.J. Naughton, W.Y. Yu and A. Petrou, *Physica C* **262**, 98-102 (1996).
doi:10.1016/0921-4534(96)00193-1
128. *Anion-ordering effects in the non-centrosymmetric anion salt $(TMTSF)_2ClO_4$ in magnetic fields*, O.H. Chung and M.J. Naughton, *Journal of the Korean Physical Society* **29** (2), 209-212 (1996).
link
129. *Revisiting the superconducting phase diagram of $(TMTSF)_2ClO_4$* , I.J. Lee, A.P. Hope, M.J. Leone and M.J. Naughton, *Synthetic Metals* **70**, 747-750 (1995).
doi:10.1016/0379-6779(94)02636-D
130. *Magnetization studies of the Haldane gap material $TMNIN$* , G.E. Granroth, L.K. Chou, W.W. Kim, M. Chaparala, M.J. Naughton, E. Haanappel, A. Lacerda, D. Rickel, D.R. Talham and M.W. Meisel, *Physica B* **211**, 208-212 (1995).
doi:10.1016/0921-4526(94)00987-7
131. *Electrically Conducting Polymers and Organic Materials*, M.J. Naughton, Chapter in "Materials for Electronic Packaging", Edited by D.D.L. Chung (Butterworth-Heinemann, Boston, 1995).
ISBN: 0-7506-9314-2
132. *Plasma fabrication of $BiSrCaCuO$ superconductive films and nonsuperconductive $NiFeO$ hybrid devices*, C.Q. Shen, K.D. Vuong, J.A.A. Williams, A. Leone, J. Fagan, R.L. Snyder, X.W. Wang, M. DeMarco, J. Stuckey, D. Petrov and M.J. Naughton, *Applied Superconductivity* **3**, 67-72 (1995).
doi:10.1016/0964-1807(95)00034-3
133. *Resistance peak at parallel orientation in $(BEDT-TTF)_2Cu(NCS)_2$* , A.P. Hope, I.J. Lee and M.J. Naughton, *Applied Superconductivity* **2**, 645-650 (1994).
doi:10.1016/0964-1807(94)90061-2
134. *Break junction tunneling in high temperature superconductors*, D.K. Petrov, Z.F. Ren, C.A. Wang, J.H. Wang and M.J. Naughton, *Applied Superconductivity* **2**, 729-734 (1994).
doi:10.1016/0964-1807(94)90073-6
135. *Search for novel reentrant superconductivity at high magnetic field in a quasi-one-dimensional organic superconductor*, I.J. Lee, A.P. Hope, M.J. Leone and M.J. Naughton, *Applied Superconductivity* **2**, 753-758 (1994).
doi:10.1016/0964-1807(94)90077-9
136. *Preface, Proceedings of the 7th Conference on Superconductivity and its Applications*, M.J. Naughton, *Applied Superconductivity* **2** (10-12), 621 (1994).
doi:10.1016/0964-1807(94)90057-4
137. *Mossbauer and magnetization studies of nickel ferrites*, M. DeMarco, X. Wang, S. Bayya, R.L. Snyder, M. White and M.J. Naughton, *Journal of Applied Physics* **73**, 2245 (1993).
doi:10.1063/1.352672
138. *High resolution angular studies of layered superconductors*, O.H. Chung, M. Chaparala and M.J. Naughton, in *Superconductivity and its Applications*, H.S. Kwok, D.T. Shaw and M.J. Naughton, Eds., A.I.P. Conference Proceedings **273**, 212-218 (1993).
doi:10.1063/1.43611
139. *Capacitance platform magnetometer for thin film and small crystal superconductor studies*, M. Chaparala, O.H. Chung and M.J. Naughton, in *Superconductivity and its Applications*, H.S. Kwok, D.T. Shaw and M.J. Naughton, Eds., A.I.P. Conference Proceedings **273**, 407-413 (1993).
doi:10.1063/1.43588

140. *Crystal structure and conductivity of a new phase of γ -(BEDT-TTF)₂PF₆*, X. Bu, I. Cisarova, P. Coppens, B. Lederle and M.J. Naughton, *Acta Crystallographica* **C48**, 516-519 (1992).
doi:10.1107/S0108270191009320
141. *Structure of (BEDT-TTF)₂N(CN)₂*, X. Bu, P. Coppens, B. Lederle and M.J. Naughton, *Acta Crystallographica* **C48**, 1560-1561 (1992).
doi:10.1107/S0108270192005262
142. *Commensurate fine structure in angular-dependent studies of (TMTSF)₂ClO₄*, M.J. Naughton, O.H. Chung, M. Chaparala, X. Bu and P. Coppens, *Physical Review Letters* **67**, 3712-3715 (1991).
doi:10.1103/PhysRevLett.67.3712
143. *Structure and properties of a new κ -phase organic metal, (BEDT-TTF)₂Cu₂(CN)₃*, X. Bu, A. Frost-Jensen, R. Allendoerfer, P. Coppens, B. Lederle and M.J. Naughton, *Solid State Communications* **79**, 1053-1057 (1991).
doi:10.1016/0038-1098(91)90009-K
144. *Structure and conductivity of a new phase of β -(BEDT-TTF)CuCl₂*, X. Bu, P. Coppens, B. Lederle and M.J. Naughton, *Acta Crystallographica* **C47**, 2082-2085 (1991).
doi:10.1107/S010827019100505X
145. *Oxygen removal by hydrogen gas in ⁵⁷Fe-doped YBa₂Cu₃O₇*, M. DeMarco, M. Qi, J.H. Wang, M. Chaparala and M.J. Naughton, *Solid State Communications* **78**, 385-389 (1991).
doi:10.1016/0038-1098(91)90689-S
146. *Growth of superconducting single crystals of Tl₂Ba₂Ca_{n-1}Cu_nO_y in a convenient way*, Z. Ren, M.J. Naughton, P. Lee and J.H. Wang, *Journal of Crystal Growth* **112**, 587-590 (1991).
doi:10.1016/0022-0248(91)90339-7
147. *On the fast oscillations and FISDW reentrance in (TMTSF)₂ClO₄*, M.J. Naughton and G. Montambaux, *Synthetic Metals* **41-43**, 3995-3998 (1991).
doi:10.1016/0379-6779(91)91728-S
148. *Iron substitution in Y₂BaCuO₅ and YBa₂Cu₃O_{7-y}*, M. DeMarco, G. Trbovich, X.W. Wang, J. Hao, M. White and M.J. Naughton, *Journal of Applied Physics* **69**, 4886-4888 (1991).
doi:10.1063/1.348213
149. *Angular dependence of the magnetoresistance in (TMTSF)₂ClO₄*, M.J. Naughton, O.H. Chung, L. Chiang, S.T. Hannahs and J.S. Brooks, *Materials Research Society Symposium* **173**, 257-262 (1990).
doi:10.1557/PROC-173-257
150. *Structure and conductivity of (BEDT-TTF)₂HgBr₄TCE*, X. Bu, P. Coppens and M.J. Naughton, *Acta Crystallographica* **C46**, 1609-1612 (1990).
doi:10.1107/S0108270189013569
151. *Magnetic evidence for reentrant field-induced spin density waves*, M.J. Naughton, R.V. Chamberlin, X. Yan, P.M. Chaikin and L.Y. Chiang, *Materials Research Society Symposium* **173**, 227-232 (1990).
doi:10.1557/PROC-173-227
152. *Sn and Fe Mossbauer spectra of YBaCu(O,N)*, M. DeMarco, X. Wang and M.J. Naughton, *Materials Research Society Symposium* **169**, 1025-1028 (1990).
doi:10.1557/PROC-169-1025
153. *Mossbauer Effect Studies in YBa₂Cu₃Sn_yO_{7-x}*, M. DeMarco, G. Trbovich, X. Wang and M.J. Naughton, in *Superconductivity and Applications*, Edited by H. Kwok, Y. Kao and D. Shaw (Plenum, New York) 419-423 (1990).
ISBN: 088318835X 9780883188354
154. *Reentrant phase diagram in the field-induced spin density wave state*, M.J. Naughton, R.V. Chamberlin, X. Yan, L.Y. Chiang, S.Y. Hsu and P.M. Chaikin, *Synthetic Metals* **29**, F327-F334 (1989).
doi:10.1016/0379-6779(89)90918-1
155. *Phase boundary and magnetization in field-induced spin-density-wave systems*, G. Montambaux, M.J. Naughton, R.V. Chamberlin, X. Yan, P.M. Chaikin and M. Ya Azbel, *Physical Review B* **39**, 885-888 (1989).

- doi:[10.1103/PhysRevB.39.885](https://doi.org/10.1103/PhysRevB.39.885)
156. *Orientational anisotropy of the upper critical field in single crystal $YBa_2Cu_3O_7$ and $Bi_{2.2}CaSr_{1.9}Cu_2O_{8+x}$* , M.J. Naughton, R.C. Yu, P.K. Davies, J.E. Fischer, R.V. Chamberlin, Z.Z. Wang, T.W. Jing, N.P. Ong and P.M. Chaikin, *Physical Review B* **38**, 9280-9283 (1988).
doi:[10.1103/PhysRevB.38.9280](https://doi.org/10.1103/PhysRevB.38.9280)
 157. *Reentrant field-induced spin-density waves*, M.J. Naughton, R.V. Chamberlin, X. Yan, L.Y. Chiang, S.Y. Hsu and P.M. Chaikin, *Physical Review Letters* **61**, 621-624 (1988).
doi:[10.1103/PhysRevLett.61.621](https://doi.org/10.1103/PhysRevLett.61.621)
 158. *Observations on the thermopower in high T_c superconductors*, R.C. Yu, M.J. Naughton, X. Yan, P. Chaikin, J. Stuart, P.K. Davies, *Physical Review B* **37**, 7963-7966, (1988).
doi:[10.1103/PhysRevB.37.7963](https://doi.org/10.1103/PhysRevB.37.7963)
 159. *The extreme quantum limit of a quasi-two dimensional organic conductor*, R.V. Chamberlin, M.J. Naughton, S.Y. Hsu, L.Y. Chaing and P.M. Chaikin, *Physical Review Letters* **60**, 1189-1192 (1988).
doi:[10.1103/PhysRevLett.60.1189](https://doi.org/10.1103/PhysRevLett.60.1189)
 160. *Reply to Comment*, R.V. Chamberlin, M.J. Naughton, S.Y. Hsu, L.Y. Chaing and P.M. Chaikin, *Physical Review Letters* **61**, 2277 (1988).
doi:[10.1103/PhysRevLett.61.2277](https://doi.org/10.1103/PhysRevLett.61.2277)
 161. *Angular dependence of field induced transitions and rapid oscillations in $(TMTSF)_2ClO_4$* , X. Yan, M.J. Naughton, L.Y. Chiang, S.Y. Hsu and P.M. Chaikin, *Solid State Communications* **66**, 905-908 (1988).
doi:[10.1016/0038-1098\(88\)90536-4](https://doi.org/10.1016/0038-1098(88)90536-4)
 162. *On the SdH^* oscillations in $(TMTSF)_2ClO_4$* , X. Yan, M.J. Naughton, L.Y. Chiang and P.M. Chaikin, *Synthetic Metals* **27**, B145-B150 (1988).
doi:[10.1016/0379-6779\(88\)90137-3](https://doi.org/10.1016/0379-6779(88)90137-3)
 163. *A potpourri of magnetic field effects $(TMTSF)_2ClO_4$* , P.M. Chaikin, M. Ya. Azbel, M.J. Naughton, R.V. Chamberlin, X. Yan and L.Y. Chiang, *Synthetic Metals* **27**, B163-B173 (1988).
doi:[10.1016/0379-6779\(88\)90140-3](https://doi.org/10.1016/0379-6779(88)90140-3)
 164. *$(TMTSF)_2ClO_4$ in the extreme quantum limit*, R.V. Chamberlin, M.J. Naughton, X. Yan and P.M. Chaikin, *Synthetic Metals* **27**, B41-B48 (1988).
doi:[10.1016/0379-6779\(88\)90122-1](https://doi.org/10.1016/0379-6779(88)90122-1)
 165. *Transport properties of high T_c superconductors and the influence of fluorine substitution*, R.C. Yu, X. Yan, M.J. Naughton, J. Stuart, P.M. Chaikin and P.K. Davies, *Proceedings of the Drexel International Conference on High Temperature Superconductivity (Progress in High Temperature Superconductivity)*, vol. 3, ed. by S. M. Bose and S. D. Tyagi, (World Scientific Publishing Co., Singapore, 1988).
ISBN: 9971504103
 166. *Fluorination of superconducting $Ba_2YCu_3O_{9-\delta}$* , P.K. Davies, J.A. Stuart, D. White, C. Lee, P.M. Chaikin and M.J. Naughton, R.C. Yu, R.L. Ehrenkauffer, *Solid State Communications* **64**, 1441-1444 (1987).
doi:[10.1016/0038-1098\(87\)90354-1](https://doi.org/10.1016/0038-1098(87)90354-1)
 167. *Small sample magnetometers for simultaneous magnetic and resistive measurements at low temperature and high magnetic fields*, J.S. Brooks, M.J. Naughton, Y.P. Ma, P.M. Chaikin and R.V. Chamberlin, *Review of Scientific Instruments* **58**, 117-121 (1987).
doi:[10.1063/1.1139552](https://doi.org/10.1063/1.1139552)
 168. *Critical fields in $La_{0.925}Ba_{0.075}CuO_4$* , M.J. Naughton, P.M. Chaikin, C.W. Chu, P. Hor and R. Meng, *Solid State Communications* **62**, 531-533 (1987).
doi:[10.1016/0038-1098\(87\)91079-9](https://doi.org/10.1016/0038-1098(87)91079-9)
 169. *Rapid oscillations in an bis-tetramethyltetraselenafulvalene perchlorate: Possibility of a new type of quantum oscillation?*, X. Yan, M.J. Naughton, R.V. Chamberlin, S.Y. Hsu, L.Y. Chiang, J.S. Brooks and P.M. Chaikin, *Physical Review* **B36**, 1799-1802 (1987).
doi:[10.1103/PhysRevB.36.1799](https://doi.org/10.1103/PhysRevB.36.1799)
 170. *High field behavior of $(TMTSF)_2ClO_4$: Generalized quantum Hall effect and Wigner crystallization*, R.V. Chamberlin, M.J. Naughton, P.M. Chaikin, S.Y. Hsu, L.Y. Chiang and J.S. Brooks, *Proceedings of the*

- 18th International Conference on Low Temperature Physics (Kyoto, 1987), Japanese Journal of Applied Physics **26**, 575-576 (1987).
doi:10.7567/JJAPS.26S3.575
171. *Magnetic field induced transitions in organic conductors: Experiments*, X. Yan, R.V. Chamberlin, L.Y. Chiang, M.J. Naughton, J.S. Brooks and P.M. Chaikin, NATO ASI **155**, 211-218 (1987).
doi:10.1007/978-1-4899-3611-0_17
172. *Nearest-neighbor exchange constant and Mn distribution in $Zn_{1-x}Mn_xTe$ from high-field magnetization step and low-field susceptibility*, Y. Shapira, S. Foner, P. Becla, D. Domingues, M.J. Naughton and J.S. Brooks, Physical Review **B33**, 356-365 (1986).
doi:10.1103/PhysRevB.33.356
173. *Magnetic tuning of the metal-insulator transition for uncompensated arsenic-doped silicon*, W. Shafarman, T.G. Castner, J.S. Brooks, K.P. Martin, M.J. Naughton, Physical Review Letters **56**, 979-983 (1986).
doi:10.1103/PhysRevLett.56.980
174. *Magnetic field induced phases of $(TMTSF)_2ClO_4$* , P.M. Chaikin, J.S. Brooks, R.V. Chamberlin, D.P. Goshorn, D.C. Johnston, M.J. Naughton and X. Yan, Physica **143B**, 383-387 (1986).
doi:10.1016/0378-4363(86)90146-4
175. *Magnetic tuning of the metal-insulator transition for uncompensated arsenic-doped silicon*, W. Shafarman, T.G. Castner, J.S. Brooks, K.P. Martin and M.J. Naughton, Physica Scripta **1986**, 101 (1986).
doi:10.1088/0031-8949/1986/T14/022
176. *On the Kwak transition: Field induced states in 2-D organic conductors*, P.M. Chaikin, E.J. Mele, L.Y. Chiang, R.V. Chamberlin, M.J. Naughton and J.S. Brooks, Synthetic Metals **13**, 45-61 (1986).
doi:10.1016/0379-6779(86)90056-1
177. *Magnetization studies of field induced transitions in $(TMTSF)_2ClO_4$* , J.S. Brooks, M.J. Naughton, R.V. Chamberlin, L. Chiang, P.M. Chaikin, Journal of Magnetism and Magnetic Materials **54**, 637-640 (1986).
doi:10.1016/0304-8853(86)90194-0
178. *Magnetic tuning of the metal-insulator transition for uncompensated arsenic-doped silicon*, W. Shafarman, T.G. Castner, J.S. Brooks, K.P. Martin and M.J. Naughton, Physica Scripta **T14**, 101 (1986).
doi:10.1103/PhysRevLett.56.980
179. *Upper critical magnetic field of the heavy fermion superconductor UBe_{13}* , M.B. Maple, J.W. Chen, S.E. Lambert, Z. Fisk, J.L. Smith, H. Ott, J.S. Brooks and M.J. Naughton, Physical Review Letters **54**, 477-480 (1985).
doi:10.1103/PhysRevLett.54.477
180. *The low temperature magnetoresistance of arsenic-doped silicon near the metal-insulator transition*, W. Shafarman, T.G. Castner, J.S. Brooks, K.P. Martin, M.J. Naughton, Solid State Electronics **28**, 93-99 (1985).
doi:10.1016/0038-1101(85)90215-1
181. *Magnetization study of the field induced transitions in tetramethyltetraselenafulvalenium perchlorate, $(TMTSF)_2ClO_4$* , M.J. Naughton, J.S. Brooks, L.Y. Chiang, R.V. Chamberlin and P.M. Chaikin, Physical Review Letters **55**, 969-972 (1985).
doi:10.1103/PhysRevLett.55.969
182. *Upper critical magnetic field of the superconducting heavy fermion system $U_{1-x}Th_xBe_{13}$* , J.W. Chen, S.E. Lambert, M.B. Maple, M.J. Naughton, J.S. Brooks, Z. Fisk, J.L. Smith and H. Ott, Journal of Applied Physics **57**, 3076-3078 (1985).
doi:10.1063/1.335164
183. *$(TMTSF)_2ClO_4$ in high magnetic fields*, P.M. Chaikin, M.Y. Choi, J.F. Kwak, J.S. Brooks, K.P. Martin, M.J. Naughton, E.M. Engler and R.L. Greene, Molecular Crystals and Liquid Crystals **119**, 79-86 (1985).
doi:10.1080/00268948508075138
184. *Fractionally quantized Hall effect in two-dimensional electron systems of extreme electron concentration*, E.E. Mendez, L.L. Chang, M. Heiblum, L. Esaki, M.J. Naughton, K.P. Martin and J.S. Brooks, Physical Review **B30**, 7310-7312 (1984).

[doi:10.1103/PhysRevB.30.7310](https://doi.org/10.1103/PhysRevB.30.7310)

185. *High field magnetization of boron-doped silicon near the metal-insulator transition*, J.S. Brooks, M.J. Naughton, Y.P. Ma, K.P. Martin and M. Sarachik, Proceedings of the 17th International Conference on Low Temperature Physics, LT-17, Karlsruhe, FRG, 1984, 903-904 (North-Holland, 1984).
[ISBN: 0444869107 9780444869104](https://doi.org/10.1103/PhysRevB.30.7310)
186. *Tetramethyltetraselenafulvalenium perchlorate, (TMTSF)₂ClO₄ in high magnetic fields*, P.M. Chaikin, M.Y. Choi, J.F. Kwak, J.S. Brooks, K.P. Martin, M.J. Naughton, E.M. Engler and R.L. Greene, *Physical Review Letters* **51**, 2333-2336 (1983).
[doi:10.1103/PhysRevLett.51.2333](https://doi.org/10.1103/PhysRevLett.51.2333)
187. *Low-temperature magnetocapacitance on n-type silicon: Spin-dependent electrical polarizabilities of donor clusters*, D. New, T.G. Castner, M.J. Naughton and J.S. Brooks, *Lecture Notes in Physics* **177**, 475-478 (1983).
[doi:10.1007/3-540-11996-5_70](https://doi.org/10.1007/3-540-11996-5_70)
188. *Thermometry in high magnetic fields and low temperatures*, M.J. Naughton, S. Dickinson, R.C. Samarungta, J.S. Brooks, K.P. Martin, *Review of Scientific Instruments* **54**, 1529-1533 (1983).
[doi:10.1063/1.1137290](https://doi.org/10.1063/1.1137290)
189. *Observation of a fractional quantum number*, D.C. Tsui, H.L. Stormer, J. Huang, J.S. Brooks and M.J. Naughton, *Physical Review* **B28**, 2274-2275 (1983).
[doi:10.1103/PhysRevB.28.2274](https://doi.org/10.1103/PhysRevB.28.2274)

Contributions to Books (book chapters also listed above in publications)

- *La Tour des Sels de Bechgaard*, S. E. Brown, P. M. Chaikin, and M.J. Naughton, Chapter in “The Physics of Organic Superconductors and Conductors: Springer Series in Materials Science”, A.G. Lebed, Editor, Vol. 110, pp. 49-88 (2008). [ISBN: 978-3-540-76667-4](https://doi.org/10.1007/978-3-540-76667-4), [doi:10.1007/978-3-540-76672-8_5](https://doi.org/10.1007/978-3-540-76672-8_5)
- *Triplet Quasi-One-Dimensional Superconductors*, S.E. Brown, M.J. Naughton, I.J. Lee, E.I. Chashechkina, P.M. Chaikin, Chapter 11 in “More Is Different: Fifty Years of Condensed Matter Physics”, pp. 151-172, Edited by N.P. Ong and R.N. Bhatt (Princeton 2001). [ISBN: 9780691088662](https://doi.org/10.1007/978-0-7320-1088-6)
- *Superconductivity in Quasi-One Dimensional Molecular Conductors*, I.J. Lee and M.J. Naughton, Chapter in "The Superconducting State In Magnetic Fields: Special Topics and New Trends", C.A.R. Sà de Melo, Ed. (Series on Directions in Condensed Matter Physics - Vol.13, World Scientific, 1998). [ISBN: 978-981-02-3374-7](https://doi.org/10.1007/978-981-02-3374-7)
- *Electrically Conducting Polymers and Organic Materials*, M.J. Naughton, Chapter 14 in “Materials for Electronic Packaging, 1st Edition, Edited by D.D.L. Chung (Butterworth-Heinemann, Boston, 1995). [ISBN: 9780750693141](https://doi.org/10.1007/978-0-7320-1088-6)
- Editor, Proceedings of the VIIth Conference on Superconductivity and Applications, 1994, Applied Superconductivity, Vol. 2, Nos. 10-12 ((Pergamon, Exeter, 1994). [link](#)
- Editor, Proceedings of the VIIth Conference on Superconductivity and Applications, 1994, Applied Superconductivity, Vol. 3, Nos. 1-3 (Pergamon, Exeter, 1995). [link](#)
- Editor, Proceedings of the VIth Conference on Superconductivity and Applications, 1992, AIP Conference Proceedings 273 (AIP, New York 1993). [link](#)

Patents

Issued

1. *Electrically insulating cantilever magnetometer with mutually isolated and integrated thermometry, background elimination and null detection*, US Patent No. 5,739,686 (1996).
2. *Electrically insulating cantilever magnetometer with mutually isolated and integrated thermometry, background elimination and null detection*, US Patent No. 5,923,166 (1999).
3. *Nulling loop configuration for an electrically insulating cantilever magnetometer*, US Patent No. 5,977,767 (1999).
4. *Microelectromechanical acoustic sensor*, US Patent No. 5,925,822 (1999).
5. *System for detection of buried objects*, US Patent No. 6,418,081 (2002).
6. *Nanoscale magnetic resonance force microscopy*, US Patent No. 6,887,365 (2005).
7. *DNA-bridged carbon nanotube arrays*, US Patent No. 6,958,216 (2005).
8. *Cantilever probes for nanoscale magnetic and atomic force microscopy*, US Patent No. 7,214,303 (2007).
9. *Cantilever probes for nanoscale magnetic and atomic force microscopy*, US Patent No. 7,462,270 (2008).
10. *Apparatus and methods for manipulating light using nanoscale cometal structures*, US Patent No. 7,589,880 (2009).
11. *Nanoscale optical microscope*, US Patent No. 7,623,746 (2009).
12. *Apparatus and methods for nanolithography using nanoscale optics*, US Patent No. 7,634,162 (2009).
13. *Photovoltaic cell and method of making thereof*, China Patent No. 200880004763.6 (2010).
14. *Apparatus and methods for optical switching using nanoscale optics*, US Patent No. 7,649,665 (2010).
15. *Apparatus and methods for solar energy conversion using nanoscale cometal structures*, China Patent No. ZL 200680030910.8 (2010).
16. *Apparatus and methods for solar energy conversion using nanocoax structures*, US Patent No. 7,754,964 (2010).
17. *Method of fabricating nanowires and electrodes having nanogaps*, US Patent No. 7,857,959 (2010).
18. *Apparatus and methods for solar energy conversion using nanoscale cometal structures*, US Patent No. 7,943,847 (2011).
19. *Apparatus and methods for solar energy conversion using nanoscale cometal structures*, US Patent No. 8,431,816 (2013).
20. *Apparatus and methods for visual perception using an array of nanoscale waveguides*, US Patent No. 8,588,920 (2013).
21. *Nanoscale sensors*, US Patent No. 9,110,055 (2015).
22. *Nanoscale sensors with nanoporous material*, US Patent No. 9,360,509 (2016).

Pending

(11 pending applications)