University of Rochester

Summer 2006 undergraduate research in Physics, Optics, and Astronomy
(Including a partial list of Journal articles and Conference Proceedings co-authored by the REU students, updated Dec. 17, 2011)

1. **Grant Babcock,** University of Pittsburgh class of '09, studied the behavior of polymer cholesteric liquid crystal flakes when suspended in a host fluid and exposed to an AC electric field, under advisors Dr. Ken Marshall and Dr. Tanya Kosc. He plans to attend graduate school in physics. #

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2. **Steven M. Bloch,** class of '07 at University of Rochester, worked with Prof. Esther Conwell and studied practical models of polaron motion in double stranded DNA with the assumption that the hole is confined to one chain of adenines and located approximately 3 angstroms from the center of the duplex. He is now in the masters degree program at the University of Rochester for physics. #
    1. *Conwell, EM; **Bloch, SM; McLaughlin,** PM; Basko, DM, "Duplex polarons in DNA", JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, p. 9175, vol. 129, (2007). Published, 10.1021/ja069147*
    2. *Conwell, EM; **McLaughlin, PM; Bloch, SM**, "Charge-transfer excitons in DNA", JOURNAL OF PHYSICAL CHEMISTRY B, p. 2268, vol. 112, (2008). Published, 10.1021/jp077344*
    3. *Conwell, EM; **Bloch, SM**, "Base sequence effects on transport in DNA", JOURNAL OF PHYSICAL CHEMISTRY B, p. 5801, vol. 110, (2006). Published, 10.1021/jp055398*
    4. *Theoretical Estimates of Polaron Energies and Wavefunctions on double Stranded DNA, - Steven Bloch and Prof. Esther Conwell, University of Rochester, RSPS 2007*

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3. **Lindsay Bonsignore,** class of '07 at the University of Rochester, co-instructed the Pre-College Experience in Physics (PREP) program: a month long program for young high school women interested in the physics and engineering. She attends graduate school in the biomedical sciences at Case Reserve.

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4. **Sumit Bose**, class of '07 at Johns Hopkins University, worked with Prof. Lukas Novotny on fabrication of gold nanorods with an aspect ratio of approximately 3 and dimensions of 20nm x 60nm. Methods of extracting a single rod with a glass tip were devised. He plans to attend medical school. #

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5. **Monique Calhoun** class of '07 at Hampton University, studied "Creating Holographic Grating using Film and LCD" with Prof . Nicholas Bigelow. She now attends Howard University for graduate study in physics. #

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6. Jennifer Cano, class of '09 at the University of Virginia, worked with Prof. Steve Manly on reconstructing pi-zeros in electroproduction data from the Jefferson Lab. She plans to apply to graduate school in physics or mathematics. #
    1. ***Jeniffer Cano** (UVa REU, Advisor S. Manly), Reconstructing pi-zeros in*

electroproduction data, CLAS Annual Collaboration Meeting, Jefferson Laboratory 2006

7. **Luke Costanza**, class of '08 at the University of Rochester, participated in infrared detector research with Professors Judy Pipher and Bill Forrest which involved characterization of several detector elements and issues. He plans to apply to graduate school for optics. #()
8. **Eryk Druszkiewicz** class of '07 at the University of Rochester, worked on the development of digital signal processing techniques and hardware for nuclear and particle physics applications, under the supervision of Professor Frank Wolfs. Eryk began the masters program at the University's Department of Electrical and Computer Engineering in 2007. #
9. **Peter Faber** class of '08 at the University of Rochester, examined chaotic zone boundaries of particles in eccentric disks near planets in eccentric orbits with Prof. Alice Quillen.
    1. *2007MNRAS.382.1823F Faber, Peter; Quillen, Alice C. The total number of giant planets in debris discs with central clearings, MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, p. 1823, vol. 382, (2007). 2007arXiv0706.1684F Faber, Peter; Quillen, Alice C. The Total Number of Giant Planets in Debris Disks with Central Clearings*
    2. *2006MNRAS.373.1245Q Quillen, Alice C.; Faber, Peter Chaotic zone boundary for low free eccentricity particles near an eccentric planet, MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, p. 1245, vol. 373, (2006)*
10. **Chad Forrest,** class of '07 at the University of Rochester, worked with Prof. Adrian Melissinos on the calibration and detection of gravitational waves looking at the stochastic background. He is now in the master program at the University of Rocheter in physics. #
    1. *Search for a Diurnal Variation of a Gravitational Stochastic Background -Chad Forrest and Prof. Adrian Melissinos, University of Rochester, RSPS 2007*
    2. *MS Thesis, U of Rochester, 2008*
    3. *See Ligo Publications (end of page)*
11. **Molly Glenn,** class of '08 at the University of Rochester, co-instructed the Pre-College Experience in Physics, an introductory physics course for high school students to encourage women in the sciences and engineering. Her advisor was Professor Manly. She plans to apply for Teach for America and then attend graduate school in engineering. #
12. **Katie Hasman,** class of '08 at University of Rochester, worked with Dr. Steve Jacobs on the development and manufacturing of bright polymer cholesteric liquid crystal films and flakes. She plans to get a masters degree in optics. #()
13. **Oscar Herrera**, class of '08 at University of Rochester, worked with Prof. Miquel Alonso deriving formulas for rays bouncing inside convex cavities in terms of angle and impact parameter. He plans to apply to graduate school for optics. #
14. **Pasha Hosseinbor**, class of '08 at University of Virginia, studied the formation of an eccentric gap in a gas disk by planet in an eccentric orbit with Prof. Alice Quillen. He plans to apply to graduate school for either astrophysics or plasma physics.
    1. 2007MNRAS.378..966H *Hosseinbor, AP; Edgar, RG; Quillen, AC; LaPage, A, "The formation of an eccentric gap in a gas disc by a planet in an eccentric orbit", MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, p. 966, vol. 378, (2007). Published, 1*10.1111/j.1365-2966.2007.11832.x *2007MNRAS.378..966H (*)*
15. **D'Vone Jackson** class of '07 at the University of Maryland Baltimore County, created a semi-automatic segmentation algorithm for chest computed tomography to construct a chest phantom with Prof. Walter O'Dell. He is in the MD/PhD program at Duke University in

medical physics. #

16. **Colin Kingsley** class of '07 at the University of Rochester, worked on the development of digital signal processing techniques and hardware for nuclear and particle physics applications under the direction of Prof. Frank Wolfs. He plans to attend graduate school for physics. #
17. **Alex Kitt,** class of '08 at the University at Buffalo, worked with Prof. William Forrest and graduate student Ben Sargent on the detection of previously unobserved extremely small astronomical silicates. He plans on applying for graduate school in physics. # ()
    1. *Detection of Extremely Small Silicates -Alex Kitt, State University of New York at Buffalo and Prof. William Forrest and Ben Sargent, University of Rochester, RSPS 2007*
18. Kenneth Kline, class of '07 at Washington University in St. Louis, studied the effect of metal doping on organic semiconductors through I-V measurement in the lab of Prof. Yongli Gao. He is now doing graduate study in finance at Washington University. #
19. **Kevin LaTourette,** class of '07 at St. John Fisher College, worked with Prof. Robert Knox on the application of a two-box model to explain climate response to the 1991 Mount Pinatubo volcanic eruption. He is now in graduate school in applied math at the University of Arizona. (1) 2008arXiv0812.0573K
    Knox, Robert S.; LaTourette, Kevin J.; Application of a dynamical two-box surface-atmosphere model to the Mount Pinatubo cooling event (*)

20. **Stephanie Mason**, class of '08 at the University of Rochester, studied the magnetic characteristics of Mesozoic basaltic dikes with Professor John Tarduno. Our goal is to study the coherency of the African continent before rifting and the opening of the Atlantic Basin.()
21. **Patrick McLaughlin**, class of '07 at the University of Rochester, did theoretical research and computations to estimate polaron wavefunctions and energies on double stranded DNA with Prof. Esther Conwell. He plans to attend graduate school in physics.
    1. *Conwell, EM; Bloch, SM; McLaughlin, PM; Basko, DM, "Duplex polarons in DNA", JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, p. 9175, vol. 129, (2007). Published, 10.1021/ja069147*
    2. *Conwell, EM; McLaughlin, PM; Bloch, SM, "Charge-transfer excitons in DNA", JOURNAL OF PHYSICAL CHEMISTRY B, p. 2268, vol. 112, (2008). Published, 10.1021/jp07734*
    3. *Expanding from Single to Double Stranded DNA the Polarization Effect of Water and Ions on Excess Charge - Patrick McLaughlin and Prof. Esther Conwell, University of Rochester, RSPS 2007*
22. **Maxwell Mikel-Stites,** class of '08 at the University of Rochester, studied the structure of the circumstellar disk of HD100546 with Prof. Alice Quillen. He plans to apply to graduate school for physics.()
23. **Lidiya Mishchenko,** class of '07 at University of Maryland, Baltimore County, studied off-resonant defocus-contrast imaging of atomic clouds with Prof. Nicholas Bigelow's quantum optics group. She plans to apply to graduate school in physics.
24. **Hayley Nasman**, class of '08 at the University of Rochester, studied JHK band photometry and classification of young stellar objects with Judith L. Pipher. She plans to apply to graduate school for astrophysics. #()
25. **Chris Osborn,** class of '08 at the University of Rochester, studied laser scattering of plasmont

resonant gold nanoparticles for use in DNA detection with Prof. Lewis Rothberg. He plans on applying to graduate school for physics.()

26. **Jordan Parker** class of '08 at the University of Rochester, worked with the Nano-Optics group, supervised by Prof. Lukas Novotny. Jordan created a photon time-tagging module that can be used with group's the existing equipment. He plans on applying to graduate school for physics.
27. **Dylan Prendergast**, class of '08 at University of Rochester, studied missing Et resolution and dijet balance using CMSSW_0_6_1 through _0_7_2 and Framework Lite simulation data for the CMS detector under the direction of Prof. R. Demina.
28. **Stephen Privitera,** class of '07, University of Rochester, studied the solvability of the asymmetrical quantum top under the guidance of S.G. Rajeev. He plans to pursue graduate study in physics. #
29. **Daniel Richman,** class of '08 at the University of Rochester, explored electromagnetically induced transparency in the Quantum Optics group of Prof. John Howell. He plans to apply to graduate school to study physics.
30. **Jason Robin,** class of '08 at the University of Rochester, generalized the Black Scholes theory using mathematical methods of the theory of continuous time random walks with Prof. Y. Shapir. He plans to pursue graduate study in physics and mathematics.
31. **Nickolaos Savidis,** class of '07 at the University of Rochester, worked with Dr. Lukishova on two experiments: (1) entanglement, and a violation of Bell's inequality and (2) single-photon interference in Mach-Zehnder interferometer and with Young's double slit. He plans on applying to graduate school in nonlinear optics. #()
32. **Elizabeth Scherrer**, class of '07 at University of Rochester, worked with Professor Kevin McFarland on pion production in neutrino scattering. She plans to apply to graduate school for physics.
    1. *Elizabeth Scherrer, "Electron Scattering and Pion Production in Relation to Neutrino-Nucleon Interactions" Advisor - Kevin S. McFarland (Physics Senior Thesis, 2007)*
    2. *Electron Scattering and Pion Production in Relation to Neutrino-Nucleon Interactions -Elizabeth Scherrer and Prof. Kevin McFarland, University of Rochester, RSPS 2007*
    3. *ELECTRON SCATTERING AND PION PRODUCTION IN RELATION TO NEUTRINO-NUCLEON INTERACTIONS Oral Physics Scherrer, Elizabeth http://www.dominican.edu /query/ncur/display_ncur.php?id=756 NCUR 2007*
33. **Michael Schwarz,** class of '08 of Brown University, studied the purity of the jet charge algorithm used by the CDF Top Charge Group with Prof. Kevin McFarland and postdoc Veronique Boisvert. He plans to apply to graduate school for physics. #
34. **Katie Schwertz,** class of '08 at the University of Rochester, worked with Prof. Robert Boyd to investigate the distortion of a pulse on a continuous wave background and observe the dependence of this distortion on pulse width, intensity of signal and pump beam, and signal to background ratio. She plans to apply to graduate school.
    1. *Reducting pulse distortion in fast-light pulse propagation through an erbium-doped fiber amplifier, H. Shin, A. Schweinsberg, G. Gehring, K. Schwertz, H.J. Chang, R.W. Boyd, Q-H. Park, and D.J. Gauthier, Opt. Lett. 32, 906 (2007). 2007OptL...32..906S (*)*
35. **John Serafini,** class '08 at University of Rochester, worked with Prof. Jianhui Zhong on Monte Carlo simulations of background noise on magnetic resonance diffusion tensor imaging. He plans on applying to medical school for the M.D./Ph.D. program. # ()

36. **Daniel Stack**, class of '07 at Adelphi University, worked with Prof. John Howell on the implementation of Shor's Algorithm using qudits instead of qubits. He plans to attend graduate school in optics.
37. **Sean Tanny,** class of '09 at University of Rochester, studied near-infrared spectroscopy of young stellar objects with Professor Judy Pipher. He plans on applying to graduate school for physics. ()
38. **Alexis Toulouse,** class of '07 at Lehigh University, studied the challenges associated with creating a quantum key distribution system under Professor Howell.
39. **Brian Turkett,** class of '08 at the University of Rochester, worked with Prof. W. Forrest and J. Pipher on data reduction and analysis of data from the Mid-Infrared Spectrometer and Imager (MIRSI) camera at the Infrared Telescope Facility (IRTF). He plans to work in astrophysics or aeronautical engineering. () (1) **Brian Turkett,** supervisor: Prof. Judy Pipher "Near-infrared spectroscopy of young stellar objects in Cepheus A" (Physics Senior Thesis 2008)
40. **Derek Vigil**, class of '08 at University of Illinois, simulated electrodynamic trapping of various polar molecules with Professor Nick Bigelow. Awards: Ernest M. Lyman (outstanding senior in physics - University of Illinois Urbana-Champaign department of Physics)- Spring 2008 Plans: Graduate School - Theoretical Condensed Matter Physics - University of Illinois Urbana-Champaign, 2009 #R
    1. Trapping cold polar molecules on chips, *N. Bigelow,* ***Derek Vigil, M. Tscherneck, J. Kleinert, C. Haimberger, , Nucl Phys. A 790, 762 (2007). 10.1016/j.nuclphysa.2007.03.119, 2007NuPhA.790..762B (*)***
    2. Computer Simulations of the Electrodynamic Trapping of Polar Molecules, **Derek Vigil**, (N. Bigelow), presented at the DLS meeting of APS meeting, October 6th-8th, 2006 in Rochester, NY (*)
41. **Gennady Voronov**, class of '08 at University of Rochester, studied Jet Response and Resolution with professor Regina Demina. He plans to apply to graduate school for physics or math.
42. **Scott Warren** class of '08 at the University of Rochester, worked with Professor Mark Bocko to enhance the state of musical telepresence. He plans to apply to graduate school for electrical engineering.
43. **Jordan Webster,** class of '08 at University of Rochester, worked with Prof. McFarland on detecting and analyzing cosmic ray showers. He plans on applying to graduate school in physics.
    1. *Webster, Jordan (UR Physics) Regina Demina, Rochester and Akchurin, Nural (Texas Tech) ANALYSIS OF MOMENTUM RESOLUTION IN VLE BEAMLINES presentation at NCUR 2008*
    2. *Webster, Jordan S (UR Physics). (Advisor Demina, Regina, UR Physics) Analysis of Momentum Resolution in VLE Beam line RSPS conference 2008*
    3. *Detection and Analysis of Cosmic Ray Showers- Jordan Webster, Robert Bradford, and Prof. Kevin McFarland, University of Rochester , RSPS 2007*
44. **Andrew Whitbeck**, class of '07 at the University of Rochester, worked with Prof. Douglas Cline on coulomb excitation of isotopic pair nuclei. He plans to pursue a Ph.D. in particle physics at Johns Hopkins University.
    1. *Andrew Whitbeck, "A three-body partial decay width in the littlest Higgs model" Advisor - Lynne H. Orr (Physics Senior Thesis, 2007) (Stoddard Prize, 2007)*

45. **Sean White** class of '08 at the University of Rochester, worked with Dr. Svetlana Lukishova conducting confocal fluorescence microscopy of single emitters in a liquid crystal host to create a deterministically polarized single photon source on demand. Sean plans on applying to graduate school at the University of Rochester for optics.
46. **Jonathan Widawsky,** class of '07 at the University of Rochester, worked with the JetMET group under Paul Tipton/Regina Demina on response of jet reconstruction algorithms at FNAL. He began graduate school at Columbia in 2007.
    1. *CMS IN-2007/053 -- Jet and MET Performance in CMSSW_1_2_0', R. Demina,* ***J. Widawsky,*** *M. Zielinski et al.*
    2. *CMS IN-2007/062 -- Performance of the kT jet algorithm in CMSSW,* ***J. Widawsky****, M. Zielinski et al*
    3. ***Jonathan Widawsky,*** *"Hadronic jets in the CMS detector and Z' Discovery Potential" Advisor - Regina Demina (Physics Senior Thesis, 2007)*

- ***Research Experience for Teachers (2006)***

47. **Paul Conrow,** a physics teacher at East High School in Rochester, worked with Prof. Kevin McFarland's group on enhancing classroom activities to incorporate portable muon detectors.
48. **Carol Hoffman**, a science teacher at Hilton High School in Hilton, worked with Prof. Kevin McFarland's group on enhancing classroom activities to incorporate portable muon detectors and worked with local high school studetns testinig components of a particle physics experiment which will be assembled at Fermilab.
49. **Sherri Huff,** a high school chemistry teacher at Creston High School in Creston, Iowa did research with Dr. Lewis Rothberg on a faster, more economical way to test proteins. More specifically, this research involved a Thrombin assay that involved fluorescently tagged DNA aptamers and gold nanoparticles.
50. **Paul Sedita,** a physics teacher at Canandaigua Academy, worked with Prof. Kevin McFarland's group on enhancing classroom activities to incorporate portable muon detectors and worked with local high school studetns testinig components of a particle physics experiment which will be assembled at Fermilab.
51. **Joe Willie,** a physics teacher at Pittsford Mendon High School, worked with Prof. Kevin McFarland's group on enhancing classroom activities to incorporate portable muon detectors and worked with local high school studetns testinig components of a particle physics experiment which will be assembled at Fermilab.
52. **Robert Winston** worked in the research lab of Prof. L. Rothberg studying the use of reflective interferometry sensing to analyze surface topologies.

Ligo publications with REU undergrads

1. 2011arXiv1109.1809A Abbott, B. P.; Abbott, R.; Abernathy, M.; Accadia, T.; Acernese, F.; Adams, C.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G. S.; and 704 coauthors Directional limits on persistent gravitational waves using LIGO S5 science data
2. 2011PhRvD..83l2005A Abadie, J.; Abbott, B. P.; Abbott, R.; Abernathy, M.; Accadia, T.; Acernese, F.; Adams, C.; Adhikari, R.; Ajith, P.; Allen, B.; and 714 coauthors Search for gravitational waves from binary black hole inspiral, merger, and ringdown

3. 2011PhRvD..83f9902A Abadie, J.; Abbott, B. P.; Abbott, R.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amador Ceron, E.; Amin, R. S.; Anderson, S. B.; and 491 coauthors Publisher's Note: Search for gravitational waves associated with the August 2006 timing glitch of the Vela pulsar [Phys. Rev. D 83, 042001 (2011)]
4. 2011PhRvD..83d2001A Abadie, J.; Abbott, B. P.; Abbott, R.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amador Ceron, E.; Amin, R. S.; Anderson, S. B.; and 491 coauthors Search for gravitational waves associated with the August 2006 timing glitch of the Vela pulsar
5. 2010NIMPA.624..223A Abadie, J.; Abbott, B. P.; Abbott, R.; Abernathy, M.; Adams, C.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amador Ceron, E.; and 535 coauthors Calibration of the LIGO gravitational wave detectors in the fifth science run
6. 2010PhRvD..82j2001A Abadie, J.; Abbott, B. P.; Abbott, R.; Abernathy, M.; Accadia, T.; Acernese, F.; Adams, C.; Adhikari, R.; Ajith, P.; Allen, B.; and 702 coauthors Search for gravitational waves from compact binary coalescence in LIGO and Virgo data from S5 and VSR1
7. 2010ApJ...722.1504A Abadie, J.; Abbott, B. P.; Abbott, R.; Abernathy, M.; Adams, C.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amador Ceron, E.; and 530 coauthors First Search for Gravitational Waves from the Youngest Known Neutron Star
8. 2010CQGra..27q3001A Abadie, J.; Abbott, B. P.; Abbott, R.; Abernathy, M.; Accadia, T.; Acernese, F.; Adams, C.; Adhikari, R.; Ajith, P.; Allen, B.; and 702 coauthors TOPICAL REVIEW: Predictions for the rates of compact binary coalescences observable by ground-based gravitational-wave detectors
9. 2010ApJ...715.1453A Abadie, J.; Abbott, B. P.; Abbott, R.; Accadia, T.; Acernese, F.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amador Ceron, E.; and 658 coauthors Search for Gravitational-wave Inspiral Signals Associated with Short Gamma-ray Bursts During LIGO's Fifth and Virgo's First Science Run
10. 2010ApJ...715.1438A Abbott, B. P.; Abbott, R.; Acernese, F.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Alshourbagy, M.; Amin, R. S.; Anderson, S. B.; and 658 coauthors Search For Gravitational-wave Bursts Associated with Gamma-ray Bursts using Data from LIGO Science Run 5 and Virgo Science Run 1
11. 2010PhRvD..81j2001A Abadie, J.; Abbott, B. P.; Abbott, R.; Accadia, T.; Acernese, F.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amador Ceron, E.; and 659 coauthors All-sky search for gravitational-wave bursts in the first joint LIGO-GEO-Virgo run
12. 2010ApJ...713..671A Abbott, B. P.; Abbott, R.; Acernese, F.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Alshourbagy, M.; Amin, R. S.; Anderson, S. B.; and 671 coauthors Searches for Gravitational Waves from Known Pulsars with Science Run 5 LIGO Data
13. 2010arXiv1003.2481T The LIGO Scientific Collaboration; the Virgo Collaboration: J. Abadie; Abbott, B. P.; Abbott, R.; Abernathy, M; Accadia, T.; Acernese, F.; Adams, C.; Adhikari, R.; Ajith, P.; and 699 coauthors Sensitivity to Gravitational Waves from Compact Binary Coalescences Achieved during LIGO's Fifth and Virgo's First Science Run
14. 2009PhRvD..80j2002A Abbott, B. P.; Abbott, R.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amin, R. S.; Anderson, S. B.; Anderson, W. G.; Arain, M. A.; and 494 coauthors Search for high frequency gravitational-wave bursts in the first calendar year of LIGO's fifth science run
15. 2009PhRvD..80j2001A Abbott, B. P.; Abbott, R.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.;

Amin, R. S.; Anderson, S. B.; Anderson, W. G.; Arain, M. A.; and 492 coauthors Search for gravitational-wave bursts in the first year of the fifth LIGO science run

16. 2009PhRvD..80f2002A Abbott, B. P.; Abbott, R.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amin, R. S.; Anderson, S. B.; Anderson, W. G.; Arain, M. A.; and 493 coauthors First LIGO search for gravitational wave bursts from cosmic (super)strings
17. 2009PhRvD..80f2001A Abbott, B. P.; Abbott, R.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amin, R. S.; Anderson, S. B.; Anderson, W. G.; Arain, M. A.; and 493 coauthors Search for gravitational wave ringdowns from perturbed black holes in LIGO S4 data
18. 2009PhRvD..80d7101A Abbott, B. P.; Abbott, R.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amin, R. S.; Anderson, S. B.; Anderson, W. G.; Arain, M. A.; and 495 coauthors Search for gravitational waves from low mass compact binary coalescence in 186 days of LIGO's fifth science run
19. 2009PhRvD..80d2003A Abbott, B. P.; Abbott, R.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amin, R. S.; Anderson, S. B.; Anderson, W. G.; Arain, M. A.; and 494 coauthors Einstein@Home search for periodic gravitational waves in early S5 LIGO data
20. 2009Natur.460..990A Abbott, B. P.; Abbott, R.; Acernese, F.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Alshourbagy, M.; Amin, R. S.; Anderson, S. B.; and 646 coauthors An upper limit on the stochastic gravitational-wave background of cosmological origin
21. 2009ApJ...701L..68A Abbott, B. P.; Abbott, R.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amin, R. S.; Anderson, S. B.; Anderson, W. G.; Arain, M. A.; and 494 coauthors Stacked Search for Gravitational Waves from the 2006 SGR 1900+14 Storm
22. 2009RPPh...72g6901A Abbott, B. P.; Abbott, R.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amin, R. S.; Anderson, S. B.; Anderson, W. G.; Arain, M. A.; and 491 coauthors LIGO: the Laser Interferometer Gravitational-Wave Observatory
23. 2009PhRvD..79l2001A Abbott, B. P.; Abbott, R.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amin, R. S.; Anderson, S. B.; Anderson, W. G.; Arain, M. A.; and 496 coauthors Search for gravitational waves from low mass binary coalescences in the first year of LIGO's S5 data
24. 2009PhRvL.102k1102A Abbott, B. P.; Abbott, R.; Adhikari, R.; Ajith, P.; Allen, B.; Allen, G.; Amin, R. S.; Anderson, S. B.; Anderson, W. G.; Arain, M. A.; and 456 coauthors All-Sky LIGO Search for Periodic Gravitational Waves in the Early Fifth-Science-Run Data