

## **Christopher Peter James Barty, Ph.D.**

Professor - Dept. of Physics & Astronomy, School of Physical Sciences

Professor - Beckman Laser Institute & Medical Clinic

Professor - Dept. of Surgery, School of Medicine (by courtesy)

Associate Member - Chao Family Comprehensive Cancer Institute

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### **Professional Preparation**

Stanford University	Ph.D. 1990	Applied Physics
Stanford University	M.S. 1985	Applied Physics
North Carolina State University	B.S. 1983	Physics - summa cum laude
North Carolina State University	B.S. 1982	Chemical Engineering - summa cum laude
North Carolina State University	B.S. 1982	Chemistry - summa cum laude

### **Previous Appointments**

#### **Chief Technology Officer, National Ignition Facility (NIF) and Photon Science Directorate, Lawrence Livermore National Laboratory 2009 – 2017**

*Senior technical and business development leadership of advanced high energy lasers, high intensity lasers, high average power lasers, high performance optics and high photon energy systems for national security, energy, industry and basic science missions within the ~\$400M per annum NIF and Photon Science Directorate. Led LLNL's laboratory-wide strategic planning and program development initiative on advanced lasers, optical systems and applications.*

#### **Director of the Photon Science & Applications Program, NIF and Photon Science Directorate, Lawrence Livermore National Laboratory. 2005 – 2009**

*Created this new program as a mission-oriented, photon-based R&D organization with emphasis on innovative laser approaches for clean energy, global security, defense systems and basic science. Supervised a staff of ~ 40 Ph.D. employees. Was responsible for all external interactions and the generation of new projects. Developed program funding of more than \$200M. Was responsible for invention of the mono-energetic gamma-ray (MEGa-ray) concept and the establishment of nuclear photonics activities at LLNL and elsewhere. Program won five R&D100 awards and was a co-recipient of a 2007 DOE safety award.*

#### **Chief Scientist, Laser Science & Technology Program, NIF Programs Directorate, Lawrence Livermore National Laboratory. 2000 – 2005**

*Led the R&D team and invented the concepts for the \$100M high energy petawatt laser & advanced radiographic capabilities now deployed on the National Ignition Facility. Provided oversight for high peak power laser and short wavelength photon R&D at LLNL.*

#### **Director of Advanced Technology: Positive Light, Inc. 1999-2000**

*Sabbatical leave from UC San Diego. Provided oversight & evaluation of ultrafast laser technologies for industrial markets.*

#### **Chief Executive Officer: Positive Research, Inc. 1997-2000**

*Founded this wholly owned subsidiary of Positive Light, Inc. Created and provided unique, 10-fs time-scale laser technologies to scientific markets.*

**Director of Ultrafast Science: Department of Applied Mechanics & Engineering Science, University of California at San Diego. 1994-2000**

*Directed a multidisciplinary, privately-funded research laboratory consisting of approximately 15 Ph.D. scientists and 8 support staff with an annual budget of ~\$3M. Research included: high intensity & ultrafast laser development, relativistic laser-matter interactions, generation of femtosecond x-rays, time resolved x-ray diffraction, ultrafast solid-state physics, x-ray lasers, reduced-dose x-ray radiography, multi-photon microscopy, femtosecond micro-machining, quantum control chemistry, and femto-biology.*

**Acting Assistant Professor: Departments of Applied Physics and of Electrical Engineering, Stanford University. 1990-94.**

*Developed ultrashort pulse & intense lasers, coherent and incoherent x-ray sources, 3D displays based upon near-IR up-conversion and innovative methods for generation of ultrashort duration IR pulses. Co-directed two graduate theses: one related to low-dose medical imaging with laser-based x-rays and one related to novel XUV laser schemes. The latter was awarded the American Physical Society's 1995 graduate thesis prize. Teaching duties included instruction of the Electrical Engineering department's graduate laser science sequence and coordination of the Applied Physics Department's quantum electronics colloquium. Served as faculty co-chair of the Ginzton Laboratory safety committee.*

**Professional Awards and Distinctions**

R. W. Wood Prize of the OSA: 2018

Harold E. Edgerton Prize of the SPIE: 2016

Member of Sigma Xi - Scientific Research Honor Society: 2018

Fellow of AAAS - American Association for the Advancement of Science: 2018

Fellow of IEEE - Institute of Electrical and Electronics Engineers: 2017

Fellow of APS - American Physical Society: 2014

Fellow of SPIE - Society of Photo-optical Instrumentation Engineers: 2011

Fellow of OSA - The Optical Society of America: 2000

Norman Rostoker Distinguished Lecturer, UC Irvine: 2014

IEEE Photonics Society Distinguished Lecturer: 2013-2014

Japan Society for Promotion of Science, Invitation Fellowship: 1995

**Student Honors**

Office of Naval Research Graduate Fellowship

Schlumberger Undergraduate Fellowship

American Association for the Advancement of Science Undergraduate Fellowship

Member of Phi Kappa Phi (academic honor society)

Member of Tau Beta Pi (engineering honor society)

Member of Sigma Pi Sigma (physics honor society)

Member of Phi Lambda Upsilon (chemistry honor society)

Member of Pi Mu Epsilon (mathematics honor society)

Member of Phi Eta Sigma (freshman honor society)

Selected outstanding chemistry senior at North Carolina State University

Selected outstanding physics senior at North Carolina State University

Selected outstanding engineering senior at North Carolina State University

**Professional Memberships**

American Physical Society

Optical Society of America

SPIE - The Society of Photo-optical Instrumentation Engineers

IEEE - The Institute of Electrical and Electronics Engineers

American Association for the Advancement of Science

American Nuclear Society

Directed Energy Professional Society

Fusion Power Associates

## **Miscellaneous Past and Present Professional Responsibilities**

Chair of the International Union of Pure and Applied Physics' International Committee on Ultrahigh Intensity Lasers (2016- present)  
Member of the International Union of Pure and Applied Physics' International Working Group on Accelerator Science (2016 - present)  
Congress Co-Chair of the Optics & Photonics International Congress (2015 through 2019)  
Founder of the biennial International Nuclear Photonics Conference (2016)  
Founder of the biennial International Conference on Ultrahigh Intensity Lasers (2004)  
Founder of the biennial International Conference on Ultrafast Optics (1997)  
Co-organizer of Institute for Nuclear Materials Management Symposium on Gamma-ray Techniques for Materials Detection and Assay (2011)  
Short Course Instructor - Ultrafast Pulse Amplification - CLEO (1999, 2000, 2001)  
Co-Chair of Generation, Amplification and Measurement of Ultrashort Laser Pulses II (1995)  
Member of the OECD Global Science Forum on Compact Ultrahigh Intensity Lasers  
Member of the Science Advisory Committee for the EU's Extreme Light Infrastructure project  
Member of the Science Advisory Committee for the Russian XCELS high intensity laser project  
Member of the Science Advisory Committee fro the French ILE Apollon laser project  
Member of DoD Technical Advisory Working Group for Free Electron Lasers  
Member of the Thirty Meter Telescope Corporation Laser Guide Star Advisory Panel  
Member of the National Photonics Initiative Manufacturing & High Power Laser Advisory Group  
Member of the Steering Committee for the Advanced Lasers & Photonics Systems Conference  
Member of the Steering Committee for the International Nuclear Safeguards and Non-proliferation Conference  
Member of the DOE US-Japan Working Group on Novel Nuclear Energy Technologies  
LLNL Point of Contact/Captain for Interactions with the DoD's Missile Defense Agency  
DOE Q Clearance with additional accesses

## **Presentations**

*200+ invited, keynote, plenary, colloquium or tutorial presentations*

*Representative examples:*

- "Overview of Worldwide Ultrahigh Intensity Laser Development" at ULTRA 2017, November 2017, Kaifeng, China, keynote presentation
- "Nuclear Photonics with Ultrabright Lasers and Gamma Beams" at Ultrafast Optics 2017, October 2017, Jackson Hole, Wyoming, keynote presentation
- "Nuclear Photonics Enabled by MeV Laser-Compton Sources" at CLEO 2017, May 2017, San Jose, California, invited presentation
- "High Extraction Efficiency, Short Pulse, Laser Architectures for Gamma-Gamma Colliders" at ICFA Workshop on Gamma-Gamma Colliders, April 2017, Beijing, China, invited presentation
- "The 'Nexawatt' - Strategies for Exawatt Pulse Generation using Modern Nd:Glass Lasers" at University of Osaka, April 2017, Osaka, Japan, university seminar
- "Novel Exawatt Technologies and the Path to Laser Intensities Beyond  $10^{24}$  W/cm<sup>2</sup>" at Nuclear Photonics 2016, October 2016, Monterey, California, invited presentation
- "Megajoule Lasers for Fusion and Beyond" at Europhoton 2016, August 2016, Vienna, Austria, tutorial presentation
- "Next Generation Laser-Compton Sources for Nuclear Photonics and Medicine" at the 15th Conference on X-ray Lasers, May 2016, Nara, Japan, invited presentation
- "Ultrahigh Efficiency Exawatt Technology for Full Scale Fast Ignition" at the Optics and Photonics International Congress, May 2016, Yokohama, Japan, invited presentation
- "Mono-energetic Gamma-ray Sources and the Emergence of Nuclear Photonics" at the Australian Nuclear Science and Technology Organization, April 2016, Lucas Heights, Australia, institute seminar

- “Laser Fusion - The Story of the World’s Most Extreme Lasers” at the University of New South Wales, April 2016, Sydney, Australia, university public seminar
- “Exawatt Laser Concepts for Extreme Field Science” at the Annual Meeting of the German Physical Society, March 2016, Hannover, Germany, keynote presentation
- “Next Generation Laser-Compton Light Sources for Nuclear Photonics and Medicine” at Physics of Quantum Electronics, January 2016, Snowbird, Utah, invited presentation
- “The Nexawatt: A Path to Exawatt Capability Based Upon Fusion Laser Technology” at the International Zettawatt and Exawatt Science and Technology Conference, October 2015, CERN, Switzerland, invited presentation
- “Laser-based Light Sources and the Emergence of Nuclear Photonics” at Washington State University, September 2015, Pullman, Washington, physics colloquium
- “Introduction to Ultrahigh Intensity Lasers and Their Evolution” at Extreme High Intensity Laser Physics, July 2015, Heidelberg, Germany, tutorial presentation
- “Nuclear Photonics for the 21st Century” at Optics and Photonics International Congress, April 2015, Yokohama, Japan, plenary presentation
- “The Nexawatt: Paths to a NIF Exawatt Capability” at SPIE Optics & Optronics, April 2015, Prague, Czech Republic, keynote presentation
- “Laser-based Nuclear Photonics” at SPIE Optics & Optronics, April 2015, Prague, Czech Republic, invited presentation
- “The National Ignition Facility and the Pursuit of Star Power with Lasers” at Danish Physical Society Annual Meeting and Opening of the International Year of Light, January 2015, Copenhagen, Denmark, keynote presentation
- “Extreme Light for Nuclear Fusion” at Extreme Light Infrastructure Summer School, August 2014, Prague, Czech Republic, short course presentation
- “Photonics for Fusion and Nuclear Science” at Colorado IEEE Photonics Society Chapter, June 2014, Fort Collins, IEEE distinguished lecturer presentation
- “Introduction and Survey of Laser-Compton Gamma-ray Source Development for Nuclear Photonics” at CAARI 2014, May 2014, San Antonio, invited presentation
- “International Committee on Ultrahigh Intensity Lasers and the ICUIL World Map” at Directions in Extreme Light Workshop, May 2014, Lincoln, Nebraska, invited presentation
- “Beyond the Synchrotron: The Dawn of Laser-Compton X-ray and Gamma-ray Sources” at UC Irvine, April 2014, Irvine, California, Norman Rostoker distinguished lecture
- “The National Ignition Campaign and the Pursuit of Star Power on Earth” at University of Central Florida IEEE Photonics Society Chapter, April 2014, Orlando, IEEE distinguished lecturer presentation
- “Laser and Accelerator Technologies for High-Brightness Laser-Compton Light Sources” at KEK Workshop on Future Light Sources, January 2014, Tsukuba, Japan, invited presentation
- “Advanced Laser-Compton Gamma-ray Sources for Nuclear Materials Detection, Assay and Imaging” at Nuclear Physics and Gamma-ray Sources for Nuclear Security and Nonproliferation, January 2014, Tokai, Japan, invited presentation
- “NIF and the Pursuit of Star Power on Earth” at CHILI 2013, December 2013, Tel Aviv, keynote presentation
- “Extreme Gamma-ray Sources and the Dawn of Nuclear Photonics” at IEEE Photonics Society Chapter, October 2013, Ottawa, IEEE distinguished lecturer presentation
- “The NIF: An International High Energy Density Science and Inertial Fusion User Facility” at CLEO 2013, June 2013, San Jose, invited presentation
- “Nuclear Photonics with Extreme Gamma-ray Sources” at CLEO Europe/IQEC, May 2013, Munich, invited presentation
- “World Wide Emergence of Intense Lasers” at FIERO Workshop, February 2013, Columbus, Ohio, invited presentation

- "Extreme Gamma-ray Sources and the Emergence of Nuclear Photonics" at Institute Laue Langevin, January 2013, Grenoble, institute colloquium
- "The National Ignition Facility, Fusion and the Path to High Peak Power" at IZEST, November 2012, Glasgow, plenary presentation
- "Overview of Ultrahigh Intensity Laser Systems and Activities in North America" at International Conference on Ultrahigh Intensity Lasers, September 2012, Mamaia, Romania, invited presentation
- "MEGa-rays and the Dawn of Nuclear Photonics" at LPHYS '12, July 2012, Calgary, invited presentation
- "Megajoule Lasers and the Pursuit of Fusion at the National Ignition Facility" at HPLA 2012, April, Santa Fe, plenary presentation
- "Monoenergetic Gamma-ray Sources and the Dawn of Nuclear Photonics" at ALPS '12, April 2012, Yokohama, invited presentation
- "Advanced Technologies for Energetic and High Average Power Petawatt Lasers" at Light at Extreme Intensities, November 2011, Szeged, Hungary, invited presentation
- "Laser-based Gamma-rays and the Emergence of Nuclear Photonics" at Frontiers in Optics, October 2011, San Jose, invited presentation
- "Nuclear Photonics with Laser-based Gamma-rays" at IEEE Photonics Meeting, October 2011, Arlington, VA, invited presentation
- "The National Ignition Campaign and Laser Fusion Energy" at Ultrafast Optics VIII, September 2011, Monterey, plenary presentation
- "Electric Laser Latency" at Strategic Latency Workshop, September 2013, Livermore, invited presentation
- "The National Ignition Campaign and Laser Fusion Energy" at IQEC/CLEO Pacific Rim, August 2011, Sydney, plenary presentation
- "Overview of MEGA-ray-based Nuclear Materials Management Activities at LLNL", at 52nd Annual Meeting of the Institute for Nuclear Materials Management, July 2011, Palm Springs, invited presentation
- "MEGa-rays and the Dawn of Nuclear Photonics" at SLAC National Accelerator Laboratory, June 2011, Stanford, institution colloquium
- "Laser Fusion and the National Ignition Facility: Bringing Star Power to Earth" at SPIE Optics and Optoelectronics, April 2011, Prague, plenary presentation
- "ELI-NP Gamma Source Overview" at ELI-Nuclear Physics: The Way Ahead, March 2011, Bucharest, keynote presentation
- "Laser Compton Light Sources: From Atomic to Nuclear Photonics" at HILAS, February 2011, Istanbul, plenary presentation
- "MEGa-rays: The Dawn of "Nuclear" Photonics with Laser-Based Gamma-rays" at Photonics West, January 2011, San Francisco, invited presentation
- "Creating Star Power on Earth - The Path to Fusion at the National Ignition Facility" at the Annual Meeting of the Materials Research Society, November 2010, Boston, plenary presentation
- "A World Tour of Ultrahigh Intensity Laser Facilities" at 25th Anniversary Symposium on Chirped Pulse Amplification, November 2010, Quebec, keynote presentation
- "Laser-Compton Scattering as a Source of Mono-energetic Gamma-rays for Active Interrogation" at Active Interrogation Workshop, October 2010, Idaho Falls, invited presentation
- "The National Ignition Facility: Past, Present and Future" at Max Born Institute, September 2010, Berlin, Institute Colloquium
- "The Future of Intense Short Pulse Lasers" at Workshop on Antimatter Creation with Ultra-Intense Lasers, April 2010, Berkeley, keynote presentation

- "Revolutionizing Isotope Science and Applications with Laser-like Gamma-rays" at AAAS Annual Meeting Special Symposium on the History and Future of Laser Technology, February 2010, San Diego, invited presentation
- "High Peak Power Laser Technologies: New Directions" at Frontiers in Optics, San Jose, October 2009, tutorial presentation
- "The National Ignition Facility and Inertial Fusion Energy R&D in the United States" at the LFEX Laser Dedication, March 2009, Osaka, keynote presentation
- "Laser Concepts for Advanced Accelerators" at the Advanced Accelerator Concepts Meeting, July, 2008, Santa Cruz, Ca, keynote presentation
- "Fundamentals of Ultrafast Amplification" at the Euro-photon 2008, September, 2008, Paris, short course presentation
- "Tunable, Monochromatic X-rays in Interrogation: Production and Use" at CAARI 2008, August, 2008, Dallas, invited presentation
- "Optimized Lasers and Accelerators for Ultra-bright Gamma-ray Generation" at CAARI 2008, August, 2008, Dallas, invited presentation
- "The Role of Fiber Technology in Big Science" at Marconi Award Symposium, September 2008, London, keynote presentation
- "Ultrabright Gamma-ray Beams with Lasers: Nuclear Photo-Science and Applications" at Ultrafast Optics VI, September 2007, Sante Fe, invited presentation
- "National Ignition Facility - Three Years to a New Age for Science" at PhAST 2007, May 2007, Baltimore, keynote presentation
- "Overall Status and Architectures for High Energy Petawatt Laser Systems" at 7th Japan-US Fast Ignition Workshop, January 2007, Otsu, Japan, keynote presentation

## Patents

Barty, C. P. J. (2018) Ultralow-dose, Feedback Imaging with Laser-Compton X-ray and Laser-Compton Gamma Ray Sources, US 9,983,151 B2 Lawrence Livermore National Security LLC. granted

Barty, C. P. J. (2018) Method for Efficient, Narrow-bandwidth, Laser Compton X-ray and Gamma-ray Sources, US 9,986,627 B2 Lawrence Livermore National Security LLC. granted

Barty, C. P. J. (2017). High-contrast, convergent x-ray imaging with laser-Compton sources. Lawrence Livermore National Security LLC. US provisional application

Barty, C. P. J. (2017). Modulated, long-pulse method for efficient, narrow-bandwidth, laser-Compton x-ray and gamma-ray sources. US 9,706,631 B2 Lawrence Livermore National Security LLC. granted

Barty, C. P. J., J. C. Post, E. Jones (2016). Isotope Specific Arbitrary Material Flow Meter. US 9,476,747 B2, Lawrence Livermore National Security LLC. granted

Barty, C. P. J. (2015). High flux, narrow bandwidth Compton light sources via extended laser-electron interactions. US 8,934,608, Lawrence Livermore National Security LLC. granted

Dawson, J. W., G. S. Allen, P. H. Pax, J. E. Heebner, A. K. Sridharan, A. M. Rubenchik, C. P. J. Barty (2015), Raman Beam Combining for Laser Brightness Enhancement. US 9,172,208 B1 Lawrence Livermore National Security LLC. granted

Messerly, M. J., J. W. Dawson, C. P. J. Barty, D. J. Gibson, M. A. Prantil, Eric Cormier (2015), Directly driven source of multi-gigahertz, sub-picosecond optical pulses. US 9,166,355 Lawrence Livermore National Security LLC. granted

- Barty, C. P. J. (2015). Isotope Specific Arbitrary Material Sorter. US 9,205,463 B2. Lawrence Livermore National Security LLC. granted
- Barty, C. P. J. (2014) Methods for 2-color radiography with laser-Compton x-ray sources. Lawrence Livermore National Security LLC. U.S. Provisional Application No. 61/990,642
- Barty, C. P. J. (2013). Dual isotope notch observer for isotope identification, assay and imaging with mono-energetic gamma-ray sources. US 8,369,480 B2, Lawrence Livermore National Security LLC. granted
- Beach, R. J., J. W. Dawson, M. J. Messerly, C. P. J. Barty (2012). Hybrid fiber-rod laser. US 8,335,420 B2, Lawrence Livermore National Security LLC. granted
- Barty, C. P. J., F. V. Hartemann, D. P. McNabb and J. A. Puet (2011). Isotopic imaging via nuclear resonance fluorescence with laser-based Thomson radiation. WO 2011071563A1, Lawrence Livermore National Security LLC. granted
- Messerly, M. J., J. W. Dawson, R. J. Beach and C. P. J. Barty (2011). Optical fiber having wave-guiding rings. US 7,907,810 B2. Lawrence Livermore National Security LLC. granted
- Barty, C. P. J. (2011). Hyper dispersion pulse compressor for chirped pulse amplification systems. US 8,068,522 B2, Lawrence Livermore National Security LLC. granted
- Barty, C. P. J., F. V. Hartemann, D. P. McNabb and J. A. Puet (2009). Isotopic imaging via nuclear resonance fluorescence with laser-based Thomson radiation. US 7,564,241 B2, Lawrence Livermore National Security LLC. granted
- Barty, C. P. J. (2005). Hybrid Chirped Pulse Amplification System. US 6,873,454 B2, University of California. granted
- Barty, C. P. J. (2004). Optical Chirped Beam Amplification and Propagation. US 6,804,045 B2, University of California. granted
- Jovanovich, I, C. P. J. Barty (2004). Coherent White Light Amplification. US 6,741,388, University of California. granted
- Hartemann, F. V, H. Baldis, C. P. J. Barty, D. J. Gibson, B. Rupp (2004). Femtosecond Laser-Electron X-ray Source. US 6,724,782 B2, University of California. granted

## Research Manuscripts

- R. A. Marsh, G. G. Anderson, S. G. Anderson, D. J. Gibson, C. P. J. Barty and Y. Hwang. "Performance of a Second Generation X-band RF Photoinjector," *Physical Review Accelerators and Beams*, (2018) accepted for publication.
- Y. Hwang, T. Tajima, D. J. Gibson, R. A. Marsh and C. P. J. Barty. "Electron Beam Diagnosis Using K-edge Absorption of Laser-Compton Photons," in IPAC 2017, (ISBN 978-3-95450-182-3), pp. 473-476 (2017)
- Y. Hwang, T. Tajima, G. G. Anderson, D. J. Gibson, R. A. Marsh and C. P. J. Barty. "Study of Medical Applications of Compact Laser-Compton X-ray Source," in IPAC 2017, (ISBN 978-3-95450-182-3), pp. 3656-3658 (2017)
- H. Hora, G. Korn, S. Eliezer, N. Nissim, P. Lalousis, L. Giuffrida, D. Margarone, A. Picciotto, G. H. Miley, S. Moustazis, J.-M. Martinez-Val, C. P. J. Barty and G. J. Kirchhoff. "Avalanche Boron Fusion by Laser Picosecond Block Ignition with Magnetic Trapping for Clean and Economic Reactor," in High Power Laser Science and Engineering, 4, e35, 9 pages (2016)
- C. P. J. Barty. "The Nexawatt: A Strategy for Exawatt Peak Power Lasers Based on NIF and NIF-like Beam Lines," in IFSA 2015, Journal of Physics: Conference Series **717** (2016) 012086 (doi: 10.1088/1742-6596/717/1/012086) (2016)
- H. Hora, P. Jalouisy, L. Giuffrida, D. Margarone, G. Korn, S. Eliezer, G. H. Miley, S. Moustazis, G. Mourou and C. P. J. Barty. "Picosecond-petawatt Laser-block Ignition for Avalanche Fusion of Boron by Ultrahigh Acceleration and Ultrahigh Magnetic Fields." in IFSA 2015, Journal of Physics: Conference Series **717** (2016) 012024 (doi:10.1088/1742-6596/717/1/012024) (2016)
- D. J. Gibson, R. A. Marsh, G. G. Anderson and C. P. J. Barty. "Compact X-band Accelerator Controls for a Laser-Compton X-ray Source." in IPAC 2016, (ISBN 978-3-95450-147-2), pp. 3996-3998. (2016)
- R. A. Marsh, G. G. Anderson, D. J. Gibson and C. P. J. Barty. "LLNL X-band RF Gun Results." in IPAC 2016, (ISBN 978-3-95450-147-2), pp. 3993-3995. (2016)
- R. A. Marsh, G. G. Anderson, S. G. Anderson, D. J. Gibson and C. P. J. Barty. "X-band RF Photoinjector fro Laser-Compton X-ray and Gamma-ray Sources." in IPAC 2016, (ISBN 978-3-95450-147-2), pp. 1891-1893. (2016)
- Y. Hwang, T. Tajima, G. Anderson, D. J. Gibson, R. A. Marsh and C. P. J. Barty. "LLNL X-band RF System." in IPAC 2016, (ISBN 978-3-95450-147-2), pp. 1885-1888. (2016)
- J.M. Di Nicola, S. T. Yang, C. D. Boley, J. K. Crane, J. E. Heebner, T. M. Spinka, P. Arnold, C. P. J. Barty, M. W. Bowers, T. S. Budge, K. Christensen, J. W. Dawson, G. Erbert, E. Feigenbaum, G. Guss, C. Haefner, M. R. Hermann, D. Homolle, J. A. Jarboe, J. K. Lawson, R. Lowe-Webb, K. McCandless, B. McHale, L. J. Pelz, P.P. Pham, M. A. Prantil, M. L. Rehak, M. A. Rever, M. C. Rushford, R. A. Sacks, M. Shaw, D. Smauley, L. K. Smith, R. Speck, G. Tietbohl, P. J. Wegner, and C. Widmayer. "The Commissioning of the Advanced Radiographic Capability Laser System: Experimental and Modeling Results at the Main Laser Output," in High Power Lasers for Fusion Research III, ed. Abdul A. S. Awwal and Monya A. Lane, Proc. of SPIE Vol. 9345, 93450I-1 to 93450I-12 (2015)
- D. J. Gibson, G. G. Anderson, S. G. Anderson, R. A. Marsh, M. J. Messerly, M. A. Prantil and C. P. J. Barty. "Multi-GHz Pulse-Train X-band Capability for Laser-Compton X-ray and Gamma-ray Sources." in IPAC 2015, (ISBN 978-3-95450-168-7), pp. 1363-1365. (2015)
- C. P. J. Barty. "Advanced Laser-Compton Gamma-ray Sources for Nuclear Materials Detection, Assay and Imaging," in Nuclear Physics and Gamma-ray Sources for Nuclear Security and Nonproliferation, World Scientific (ISBN: 978-981-4635-44-8) pp. 85-95 (2014)

C. P. J. Barty. "Summary Comments: Nuclear Physics and Gamma-ray Sources for Nuclear Security and Nonproliferation," in Nuclear Physics and Gamma-ray Sources for Nuclear Security and Nonproliferation, World Scientific (ISBN: 978-981-4635-44-8) pp. 349-350 (2014)

R. A. Marsh, G. Anderson, S. G. Anderson, S. M. Betts, S. E. Fisher, F. V. Hartemann, S. S. Wu and C. P. J. Barty. "LLNL X-band Test Station Commissioning and X-ray Results." in IPAC 2014, (ISBN 978-3-95450-132-8), pp. 2992-2994. (2014)

M. A. Prantil, E. Cormier, J. W. Dawson, D. J. Gibson, M. J. Messerly and C. P. J. Barty. "Widely tunable 11 GHz femtosecond fiber laser based on a nonmode-locked source." Optics Letters 38(17): 3216-3218 (2013)

R. A. Marsh, F. Albert, G. Anderson, S. G. Anderson, E. T. Dayton, S. E. Fisher, D. J. Gibson, S. S. Wu, F. V. Hartemann and C. P. J. Barty. "LLNL X-band Test Station Status." in PAC 2013 (ISBN 978-3-95450-138-0), pp. 610-612. (2013)

R. A. Marsh, G. Anderson, S. G. Anderson, S. E. Fisher, D. J. Gibson, F. V. Hartemann and C. P. J. Barty. "LLNL X-band RF System." in IPAC 2013 (Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2013), pp. 2875-2877. (2013)

R. A. Marsh, F. Albert, G. Anderson, S. G. Anderson, E. Dayton, S. E. Fisher, D. J. Gibson, S. S. Wu, F. V. Hartemann and C. P. J. Barty. "LLNL X-band Test Station Status." in IPAC 2013 (Institute of Electrical and Electronics Engineers, Piscataway, NJ, 2013), pp. 2872-2874. (2013)

R. A. Marsh, F. Albert, S. G. Anderson, G. Beer, T. S. Chu, R. R. Cross, G. A. Deis, C. A. Ebbers, D. J. Gibson, T. L. Houck, F. V. Hartemann, C. P. J. Barty, A. Candel, E. N. Jongewaard, Z. Li, C. Limborg-Deprey, A. E. Vlieks, F. Wang, J. W. Wang, F. Zhou, C. Adolphsen and T. O. Raubenheimer. "Modeling and design of an X-band RF photoinjector." Physical Review Special Topics: Accelerators and Beams 15(10): 102001 (2012)

F. Albert, F. V. Hartemann, S. G. Anderson, R. R. Cross, D. J. Gibson, J. Hall, R. A. Marsh, M. J. Messerly, S. S. Q. Wu, C. W. Siders and C. P. J. Barty. "Precision linac and laser technologies for nuclear photonics gamma-ray sources." Physics of Plasmas 19(5) 056701-056701-8 (2012)

F. Albert, S. G. Anderson, C. A. Ebbers, D. J. Gibson, F. V. Hartemann, R. A. Marsh, M. J. Messerly, M. A. Prantil, S. S. Q. Wu and C. P. J. Barty. "Development of Compton gamma-ray sources at LLNL" AIP Conference Proceedings - Advanced Accelerator Concepts 1507: 666-671 (2012)

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