

SIMON BOTT-SUZUKI, PH.D.

SENIOR EXPERIMENTAL PLASMA PHYSICIST



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RESEARCH GROUP

Principle Investigator
UC San Diego
Pulsed Plasma Physics (P³) Group

www.p3ucsd.com

- Expertise in pulsed power plasmas generation, diagnosis and analysis
- Operates 3 laboratory spaces totaling >2,500 sq.ft. of experimental and development space
- Experiments performed on in-house developed pulsers with peak currents of 200kA & 750kA
- Develop advanced diagnostics methods including Thomson scattering

SKILLS

- Extensive experience in designing, constructing and operating a wide range of plasma experiments
- Extensive Research Project Management experience including personnel, budget, project scope
- Experience both leading and contributing to technical teams
- Excellent written and oral communication skills

RESEARCH PROFILE

I am an experimental plasma physicist, specializing in plasmas generated by high energy, pulsed power systems. My primary interests are in the novel application of these supersonic, highly radiative plasmas in basic plasma science, inertial fusion energy and laboratory astrophysics. I have over 23 years of experience in experimental design, diagnosis, and analysis of these highly dynamic systems including imaging (pulsed laser interferometry, gated and streak imaging), Thomson Scattering, Faraday rotation, x-ray power output, optical and XUV spectroscopy, short pulse radiography and related methods and acquisition hardware. I have carried out research projects on small (100kA), intermediate (1MA) university machines as well as at large (26MA) national facilities. I have designed and constructed simple pulsed power drivers for z-pinch loads with currents >200kA. Analysis of experiments is carried out with both analytical methods and multi-dimensional, highly parallel magneto-hydrodynamic codes.

My career aim is to use my expertise in plasma science and pulsed power systems to contribute to the develop of inertial fusion energy. I recently delivered plenary talks discussing the pulsed power approach to IFE to the Science & Technology Community Strategic Planning Workshop at LLNL in May 2022, and at the Pulsed Power and Plasma Science conference in Berlin in June 2025. I continue to work with leaders in the field to promote, design and advocate for support of the magnetically driven approach to IFE.

EXPERIENCE

UC San Diego

Associate Research Scientist & Educator 2011 - PRESENT
Center for Energy Research, University of California San Diego

Visiting Professor
School of Applied and Engineering Physics, Cornell University
Principal Investigator for the Pulsed Plasma Physics group, leading research into basic plasma physics application of pulsed power-driven plasmas, including Inertial Fusion Energy, radiatively-cooled shock formation, liner initiation and current distribution, and astrophysical jet physics.

Assistant Project Scientist 2006 - 2011
Center for Energy Research, University of California San Diego
Lead researcher in pulsed power plasmas in the High Energy Density Physics (HEDP) group. Investigations included both x-pinch and wire array systems for application in basic plasma physics, HEDP, and Inertial Fusion Energy (IFE)

Imperial College London

Post-Doctoral Research Associate, *Plasma Physics Group* 2003 - 2006
Research on z-pinch plasmas (wire arrays), and their application for Inertial Confinement Fusion (ICF). Experiments were carried out on the 1MA, 240ns current rise time MAGPIE generator.

AWARDS

- Joint recipient of the UC San Diego Equal Opportunity /Affirmative Action & Diversity Award, VC Research Section, March 2017

PROFFESIONAL MEMBERSHIPS

- Member of the American Physical Society (APS) Division of Plasma Physics (DPP) and Topical Group on Plasma Astrophysics (GPAP)
- Senior Member (elected) of Institute of Electrical and Electronics Engineers (IEEE) Division of Nuclear and Plasma Sciences Society (NPSS)



EDUCATION

1999 – 2003 Chemistry Department, University of Sheffield, UK
Ph.D.: "Diagnostics of low-pressure deuterium discharge lamps", January 2004

Studies were primarily concerned with the analysis of low pressure dc deuterium discharge lamps for scientific lighting applications. Diagnostic techniques included laser optical mixing (CARS), opto-galvanic and optical/UV spectroscopy, and a variety of detection systems (e.g. PMT, CCD, OMA). Lamp environments were simulated in UHV chambers to allow flexibility in gas fill and component structures.

1995 - 1999 Chemistry Department, University of Sheffield, UK
M.Phys. in Chemical Physics (Upper Second Class), July 1999

Final Year Research project – "Phase diagram of non-ionic surfactants". A sol/gel phase diagram of a polyoxyethylene-polyoxybutylene (E-B) triblock co-polymer, E43B14E43, was constructed. Sample analysis using Rheology and Dynamic Light Scattering was carried out on site in Sheffield, and Small Angle X-ray Scattering measurements carried out at Daresbury Synchrotron Radiation Source in Warrington, UK.



TEACHING & SUPERVISION EXPERIENCE

PHYS1B "Electricity and Magnetism" (2016, 2018)
 ECE163 "Electronic Circuits and Systems" (2016)
 ECE65 "Discreet Transistor Components and Circuits" (2014, 2015)
 Project supervisor for MAE171b/MAE175b/MAE126b (2008, 2010)
 Project supervisor for National Undergraduate Fellowship (2009, 2013)
 Project Supervisor for Undergraduate research projects (2003-2006)
 TA for Optics and Electronics undergraduate teaching laboratory (2003-2006)

In addition to the above, I have acted as laboratory research supervisor for 20 undergraduate, 4 M.Sc., and 3 Ph.D. students. I have also some experience in fortran, C++ and Python for calculation routines and simple instrument interfacing, as well as MatLab, MathCAD and SolidWorks.

PUBLICATIONS & PRESENTATIONS

- 74 peer-reviewed journal papers, including articles in Physical Review Letters, Physics of Plasmas and Astrophysics and Space Science,
- 1550 citations and my current H-index is 24.
- 5 Invited Talks at International Conferences
- 2 Plenary talks on Pulsed Power Inertial Fusion at International Conferences
- Seminars at National Laboratories (SNL, LLNL, LANL)
- Presentations at numerous conferences, technical workshops,
(full publication list below)

GRANTS

- >\$6M as Principal Investigator for Federal awards
- >\$30M Collaborating Researcher
- Received funding from Federal, National Laboratory and Private Industry sources

UC SAN DIEGO

DEPARTMENTAL SERVICE

CENTER FOR ENERGY RESEARCH

- Member of CER Committee on Academic Personnel (CER-CAP) July 2021-present
- Member of the Faculty 180 working group Spring 2023
- Chair of the CER Outreach Council, December 2014 – 2016
- Served on CER ad-hoc committee for Project Scientist series academic review, 2010
- Co-organizer for 1st CER Research Review, May 2011
- Served as a mentor for the Faculty Mentor Program 2019 (Winter & Spring quarters)

PROFFESIONAL ACTIVITES

- Scientific Organizing Committee, Workshop on Magnetic Fields in High-Energy-Density Laboratory Plasmas (postponed to 2026)
- Technical co-Chair for High Energy Density plasmas for International Conference on Plasma Science (ICOPS), 2023
- Chair of Pulsed Power Diagnostics Section for Pulsed Power & Plasma Science Conference 2021
- Member of the Pulsed Power Expert Group for the American Physics Society, Division of Plasma Physics Community Planning Project (APS-DPP-CPP) 2019-2020
- Panelist for National Science Foundation Graduate Student Fellowship program 2021, 2022
- Member of DOE/NNSA-chartered working group focused on identifying key challenges and issues associated with the delivery of electrical current to pulsed power driven, magnetic direct drive targets, Dec 2020
- Co-Chair for the 9th International Conference on Dense Z-Pinches (DZP 2014), held in Napa, CA, August 2014 (www.dzp2014.com); Program Committee Member, 7th and 8th International Conference on Dense Z-Pinches (2008 & 2011)
- Permanent member of the Dense Z-Pinch Conference Series Steering Committee
- Co-Editor, "Proceedings of the 9th International Conference on Dense Z-Pinches", AIP Proceedings, Volume 1639 (2014), ISBN 978-0-7354-1278-1
- Guest Editor of IEEE Transactions on Plasma Science 4th and 5th Special Issues on Z-Pinches, published February 2010, and October 2012
- Editorial Board for the open-access Journal on Modern Physics, 2012-2013
- Co-organizer for the Magnetized High Energy Density Plasmas breakout session, Science with High-Power Lasers and Pulsed Power Workshop, Santa Fe, August 406, 2010
- Session organizer for International Conference on Plasma Science (ICOPS), 2011, 2013, 2018, 2022
- Scientific Secretary for the International Conference on Plasma Science / Symposium on Fusion Engineering (ICOPS/SOFE) 2009, and Z-pinch session organizer for ICOPS-SOFE 2011, Chicago, IL.
- Chair of the 8th International Workshop on the Physics of Wire Array Z-pinches, held in La Jolla in April 2009
- Grant Reviewer for National Science Foundation / Dept of Energy Partnership in Basic Plasma Science and Engineering Program (2014, 2020), National Science Foundation "Physics Frontier Centers" Program (2017), US Dept of Energy Office of Fusion Energy Sciences (2011) Innovative Confinement Concepts (2010), and Small Business Innovation Research (SBIR) program (2011, 2012), Oak Ridge Institute for Science and Education (ORISE) program (2008, 2012), and Chilean National Fund for Scientific and Technological Development (FONDECYT) (2010, 2012, 2014)
- Referee for over 75 peer-reviewed articles in numerous journals (Nature, The Astrophysical Journal, Physics of Plasmas, Plasma Physics & Controlled Fusion, IEEE Transactions on Plasma Science, High Energy Density Physics, Measurement Science and Technology, European Physical Journal D, Review of Scientific Instruments)

PEER-REVIEWED PUBLICATIONS

1. "Shock propagation in aerogel and TPP foams for inertial fusion energy target design" C. Parisuaña ; M. P. Valdivia ; V. Bouffetier ; K. Kurzer-Ogul ; G. Pérez-Callejo ; S. Bott-Suzuki ; A. Casner ; N. S. Christiansen ; N. Czapla ; D. Eder ; E. Galtier ; S. H. Glenzer ; T. Goudal ; B. M. Haines ; D. Hodge ; M. Ikeya ; L. Izquierdo ; D. Khaghani ; Y. Kim ; S. Klein ; A. Koniges ; H. J. Lee ; M. Leininger ; A. F. T. Leong ; R. S. Lester ; M. Makita ; D. Mancelli ; W. M. Martin ; B. Nagler ; R. L. Sandberg ; A. Truong ; M. Vescovi A. E. Gleason, P. M. Kozlowski, *Phys. Plasmas* 32, 082707 (2025)
2. "Plasma pressure profiles in sheared-flow stabilized Z-pinch", C. Goyon, S. C. Bott-Suzuki, A. E. Youmans, J. T. Banasek, L. A. Morton, J.R. Barhydt, D. P. Higginson, B. Levitt, H. Meek, E. T. Meier, B. A. Nelson, M. Quinley, P. Tsai, N. van Rossum, T. R. Weber, U. Shumlak, and H. S. McLean, *Physics Plasmas*, 31, 072503 (2024); DOI: 10.1063/5.0209351
3. "Study of Shock Formation Parameters with Drive Conditions in Magnetically Accelerated Plasma Flows" S. C. Bott-Suzuki, M. P. Valdivia Member, J. T. Banasek, S. W. Cordaro, Ann Truong, Hanyu Hu, Chin-Chou Wu, Noah Dilworth, B. R. Kusse, D. A. Hammer, E. S. Lavine, W. M. Potter, J. B. Greenly, F. Veloso, *IEEE Trans. Plasma Sci.*, (2024); DOI: 10.1109/TPS.2024.3442748
4. "Z-pinch interferometry analysis with the Fourier-based TNT code", Valdivia Leiva, Maria Pia; Bouffetier, Victorien; Veloso, Felipe ; Izquierdo, Luisa; Bott-Suzuki, Simon; Truong, Ann; Hu, Hanyu; Dilworth, Noah; Pérez-Callejo, Gabriel, *IEEE Trans. Plasma Sci* (2024); DOI: 10.1109/TPS.2024.3420910
5. "Elevated Electron Temperature Coincident with Observed Fusion Reactions in a Sheared-Flow-Stabilized Z Pinch" B. Levitt, C. Goyon, J.T. Banasek, S.C. Bott-Suzuki, C. Liekhus-Schmaltz, E.T. Meier, L.A. Morton, A. Taylor, W.C. Young, B.A. Nelson, D.A. Sutherland, M. Quinley, A.D. Stepanov, J.R. Barhydt, P. Tsai, K.D. Morgan, N. van Rossum, A.C. Hossack, T.R. Weber, W.A. McGehee, P. Nguyen, A. Shah, S. Kiddy, M. Van Patten, A.E. Youmans, D.P. Higginson, H.S. McLean, G.A. Wurden, and U. Shumlak, *Phys. Rev. Lett.* 132, 155101 (2024)
6. "Probing local electron temperature and density inside a sheared flow stabilized Z-pinch using portable optical Thomson scattering" J. T. Banasek, C. Goyon, S. C. Bott-Suzuki, G. F. Swadling, M. Quinley, B. Levitt, B. A. Nelson, U. Shumlak, and H. S. McLean, *Rev. Sci. Instrum.* 94, 023508 (2023); doi: 10.1063/5.0135265
7. "Effect of Coaxial Electrode Geometry on the Electric Field Enhancement Factor for a High Voltage Vacuum Gap", S. W. Cordaro, S. C. Bott-Suzuki, J. Banasek, Tobias Oliver, *IEEE Trans. Plasma Sci.*, 50, 2207 (2022)
8. "Free space Thomson scattering to study high energy density shocks", J. T. Banasek, T. G. Oliver, S. W. Cordaro, S. C. Bott-Suzuki, *Review of Scientific Instruments* 92, 093503 (2021)
9. "Characterization of plasma emission in the 1-6 nm band from laser-irradiated cryogenic xenon targets", S. C. Bott-Suzuki, A. Bykanov, O. Khodykin, M. Tillack, S. Cordaro, C. McGuffey, *Journal of Applied Physics* 126, 113103 (2019)
10. "A Primer on Pulsed Power and Linear Transformer Drivers for High Energy Density Physics Applications" R. D. McBride ; W. A. Stygar ; M. E. Cuneo ; D. B. Sinars ; M. G. Mazarakis ; J. J. Leckbee ; M. E. Savage ; B. T. Hutsel ; J. D. Douglass ; M. L. Kiefer ; B. V. Oliver ; G. R. Laity ; M. R. Gomez ; D. A. Yager-Elorriaga ; S. G. Patel ; B. M. Kovalchuk ; A. A. Kim ; P.-A. Gourdain ; S. N. Bland ; S. Portillo ; S. C. Bott-Suzuki ; F. N. Beg ; Y. Maron ; R. B. Spielman ; D. V. Rose ; D. R. Welch ; J. C. Zier ; J. W. Schumer ; J. B. Greenly ; A. M. Covington ; A. M. Steiner ; P. C. Campbell ; S. M. Miller ; J. M. Woolstrum ; N. B. Ramey ; A. P. Shah ; B. J. Sporer ; N. M. Jordan ; Y. Y. Lau ; R. M. Gilgenbach, *IEEE Trans. Plasma. Sci.*, 46, 3928-3967 (2018)
11. "The role of the Ion Acoustic Instability in the development of the azimuthal current density profile in liner experiments at 1 MA" S. C. Bott-Suzuki, S. W. Cordaro, L. Atoyan, T. Byvank, W. Potter, B. R. Kusse Member, J. B. Greenly, D. A. Hammer, C.A. Jennings, *IEEE Trans. Plasma Sci*, 46, 1921 (2018)
12. "Time and Space resolved current density mapping in three dimensions using magnetic field probe array in a high voltage coaxial gap" S. W. Cordaro and S. C. Bott-Suzuki, *Applied Physics* 122, 213303 (2017)
13. "The structure of bow shocks formed by the interaction of pulsed-power driven magnetised plasma flows with conducting obstacles", G. C. Burdiak, S. V. Lebedev, S. N. Bland, T. Clayson, J. Hare, L. Suttle, F. Suzuki-Vidal, D. C. Garcia, and J. P. Chittenden, S. Bott-Suzuki, A. Ciardi, A. Frank, T. S. Lane, *Physics of Plasmas* 24, 072713 (2017)
14. "Three dimensional, time-resolved measurements of azimuthal current distribution in metallic liners" S.C. Bott-Suzuki, S. W. Cordaro, L.S. Caballero Bendixsen, Levon Atoyan, Tom Byvank, William, Potter, B.R. Kusse, D. A. Hammer, J.B. Greenly, *Phys. Plasmas* 23, 092711 (2016)
15. "Axial Mass fraction measurements in a 300kA dense plasma focus" L.S. Caballero Bendixsen, S. C. Bott-Suzuki, S. W. Cordaro, K. Mahadevan, S. Chapman, J.P. Chittenden, *Phys. Plasmas* 23, 093112 (2016)
16. "Investigation of the effect of a power feed vacuum gap in solid liner experiments at 1 MA", S. C. Bott-Suzuki, S. W. Cordaro, L. S. Caballero Bendixsen, I. C. Blesener, L. Atoyan, T. Byvank, W. Potter, K. S. Bell, B. R. Kusse, J. B. Greenly, and D. A. Hammer, *Phys. Plasmas*, 22, 094501 (2015)

17. "Two Dimensional Triangulation Of Breakdown In A High Voltage Coaxial Gap" S.W. Cordaro, S.C. Bott-Suzuki, L.S. Caballero Bendixen, Levon Atoyan, Tom Byvank, William, Potter, B.R. Kusse, D. A. Hammer, J.B. Greenly, Rev. Sci. Instrum. 86, 073503 (2015)
18. "Investigation of Radiative Bow-Shocks in Magnetically Accelerated Plasma Flows", S. C. Bott-Suzuki , L. S. Caballero Bendixen, S. W. Cordaro, I.C. Blesener, C. L. Hoyt, A. D. Cahill, B. R. Kusse, D. A. Hammer, P. A. Gourdain, C. E. Seyler, J. B. Greenly, J. P. Chittenden, N. Niasse, S. V. Lebedev, D. J. Ampleford, Phys. Plasmas 22 , 052710 (2015)
19. "Investigating Radial Wire Array Z Pinches as a Compact X-ray Source on the SATURN generator", D.J. Ampleford, S.N. Bland, C.A. Jennings, S.V. Lebedev, J.P. Chittenden, M.E. Cuneo, R.D. McBride, B. Jones, G.N. Hall, F. Suzuki-Vidal, J.D. Serrano, S.C. Bott-Suzuki, (Accepted for publication in IEEE Trans, Plasma Sci.)
20. "Two Dimensional Triangulation Of Breakdown In A High Voltage Coaxial Gap" S.W. Cordaro, S.C. Bott-Suzuki, L.S. Caballero Bendixen, Levon Atoyan, Tom Byvank, William, Potter, B.R. Kusse, D. A. Hammer, J.B. Greenly, (in preparation for submission to Reviews of Scientific Instruments)
21. "Shock model description of the interaction radiation pulse in nested wire array z-pinches" D. J. Ampleford, C. A. Jennings, S. V. Lebedev, S. N. Bland, M. E. Cuneo, D. B. Sinars, S. C. Bott, G. N. Hall, F. Suzuki-Vidal, J. B. A. Palmer, and J. P. Chittenden, Phys. Plasmas, 19, 122711 (2012)
22. "Guest Editorial Special Issue on Z-Pinch Plasmas", Ampleford, D. J.; Rawat, R. S.; Safronova, A. S.; Bott, S. C., IEEE Trans. Plasma Sci., 40, 3186 (2012)
23. "Demonstration of radiation pulse shaping capabilities using nested conical wire array z-pinches" D.J. Ampleford, S.N. Bland, M.E. Cuneo, S.V. Lebedev, D.B. Sinars, C.A. Jennings, E.M. Waisman, R.A. Vesey, G.N. Hall, F. Suzuki-Vidal, J.P. Chittenden, S.C. Bott, IEEE Trans. Plasma Sci., 40, 3334 (2012)
24. "Experimental Analysis of the Acceleration Region in Tungsten Wire Arrays" Simon C. Bott, Derek Mariscal, Kanchana Gunasekera, Jonathan Peebles, Farhat. N. Beg, D. A. Hammer, B. R. Kusse, J. B. Greenly, T.A Shelkovenko, S. A. Pikuz, I. C. Blesener, R. D. McBride, J. D. Douglass, K. S. Blesener, P. F. Knapp, IEEE Trans. Plasma Sci., 40, 3324 (2012)
25. "A Collinear Self-Emission and Laser-backlighting Imaging Diagnostic" S. C. Bott, G. Collins IV, K. Gunasekera, D. Mariscal, F. N. Beg, D. M. Haas, F. Veloso, I.C. Blesener, A. D. Cahill, C. L. Hoyt, B. R. Kusse, D. A. Hammer, Rev. Sci. Instrumen. 83, 083507 (2012)
26. "Effect of the global to local magnetic field ratio on the ablation modulations on x-pinches driven by 80 kA peak current", G W Collins, D Marsical, D M Haas, R E Madden, K Gunasekara, J Kim, M L L Abarr, S C Bott, Farhat N Beg and J P Chittenden, New Journal of Physics, 14, 043021 (2012)
27. "Rayleigh-Taylor instability of an ultrathin foil accelerated by the radiation pressure of an intense laser", C. A. J. Palmer, J. Schreiber, S. R. Nagel, N. P. Dover, C. Bellei, F. N. Beg, S. Bott, R. J. Clarke, A. E. Dangor, S. M. Hassan, P. Hilz, D. Jung, S. Kneip, S. P. D. Mangles, K. L. Lancaster, A. Rehman, A. P. L. Robinson, C. Spindloe, J. Szerypo, M. Tatarakis, M. Yeung, M. Zepf, and Z. Najmudin. Phys. Rev. Lett. 108, 225002 (2012)
28. "Examination of bow-shock formation in supersonic, radiatively cooled plasma flows" Jonathan L. Peebles, Simon C. Bott, Kanchana Gunasekera, Joohwan Kim, Leonard Harpster, Brian Evans, Daniel Gomez, Omri Paran, Chris Peterson, Farhat N. Beg, IEEE Trans. Plasma Sci. 39, 2422 (2011)
29. "250 kA Compact Linear Transformer Driver (LTD) for Wire Array Z-Pinch Loads" S. C. Bott, D. M. Haas, R. E. Madden, U. Ueda, Y. Eshaq, G. Collins IV, K. Gunasekera, D. Mariscal, J. Peebles, F. N. Beg, M. Mazarakis, K. Struve, R. Sharpe, Phys. Rev. ST Accel. Beams, 14, 050401 (2011)
30. "Experimental Studies of Magnetically Driven Plasma Jets" F. Suzuki-Vidal, • S.V. Lebedev, S.N. Bland, G.N. Hall, G. Swadling, A.J. Harvey-Thompson, G. Burdiak, P. de Grouchy, J.P. Chittenden, A. Marocchino, M. Bocchi, A. Ciardi, A. Frank, S.C. Bott, Astrophys. Space Sci., 336, 41 (2011)
31. "Supersonic jet formation and propagation in x-pinches" D.M. Haas, S.C. Bott, J. Kim, D.A. Mariscal, R.E. Madden, Y. Eshaq, U. Ueda, G. Collins IV, K. Gunasekera, F.N. Beg, J.P. Chittenden, N. Niasse, C.A. Jennings, Astrophys. Space Sci, 336, 33 (2011)
32. "Numerical study of jets produced by conical wire arrays on the Magpie pulsed power generator" M. Bocchi, J. P. Chittenden, A. Ciardi, F. Suzuki-Vidal, G. N. Hall, P. de Grouchy, S. V. Lebedev and S.C.Bott, Astrophys Space Sci., 336, 27 (2011)
33. "Bow-shocks in ablated plasma streams for nested wire array z-pinches: a laboratory astrophysics testbed for radiatively cooled shocks", D.J. Ampleford, C.A. Jennings, G.N. Hall, S.V. Lebedev, S.N. Bland, S.C. Bott, F. Suzuki-Vidal, J.B.A. Palmer, J.P.Chittenden, M.E. Cuneo, A. Frank, and E.G. Blackman, Phys. Plasmas, 17, 056315 (2010)

34. "Generation of episodic magnetically driven plasma jets in a radial foil Z-pinch" Francisco Suzuki-Vidal, Sergey V. Lebedev, Simon N. Bland, Gareth N. Hall, George Swadling, Adam J. Harvey-Thompson, Jeremy P. Chittenden, Alberto Marocchino, Andrea Ciardi, Adam Frank, Eric G. Blackman, and Simon C. Bott, Phys. Plasmas, 17, 112708 (2010)
35. "Special Issue on Z-Pinch Plasmas" (Editorial) Simon C Bott., Chittenden, J. P., Coverdale, C. A. Giuliani, J., IEEE Trans. Plasma. Sci., 38, 526 (2010)
36. "Ablation studies of low number wire arrays at 200kA using a Linear Transformer Driver (LTD)" Simon C. Bott, David M. Haas, Yossof Eshaq, Utako Ueda, Robert. E. Madden, Gilbert Collins IV, Farhat N. Beg, IEEE Trans. Plasma. Sci., 38, 567 (2010)
37. "Effect of Wire Diameter and Addition of an Axial Magnetic Field on the Dynamics of Radial Wire Array Z-Pinches" Suzuki-Vidal, F.; Lebedev, S. V.; Bland, S. N.; Hall, G. N.; Harvey-Thompson, A. J.; Chittenden, J. P.; Marocchino, A.; Bott, S. C.; Palmer, J. B. A; Ciardi, A., IEEE Trans. Plasma. Sci., 38, 581 (2010)
38. "Study of the Effect of current rise-time on the formation of the precursor column in cylindrical wire array z-pinches at 1 MA" S. C. Bott, D. M. Haas, Y. Eshaq, U. Ueda, F. N. Beg, D. A. Hammer, B. Kusse, J. Greenly, T. A. Shelkovenko, S. A. Pikuz, I. C. Blesener, R. D. McBride, J. D. Douglass, K. Bell, P. Knapp, J. P. Chittenden, S. V. Lebedev, S. N. Bland, G. N. Hall, F. A. Suzuki Vidal, A. Marocchino, A. Harvey-Thomson, M. G. Haines, J. B. A. Palmer, A. Esaulov, and D. J. Ampleford, Phys Plasmas, 16, 072701 (2009)
39. "Quantitative analysis of plasma ablation using inverse wire array Z pinches" A. J. Harvey-Thompson, S. V. Lebedev, S. N. Bland, J. P. Chittenden, G. N. Hall, A. Marocchino, F. Suzuki-Vidal, S. C. Bott, J. B. A. Palmer, and C. Ning, Phys. Plasmas, 16, 022701 (2009)
40. "Formation of episodic magnetically driven radiatively cooled plasma jets in the laboratory", F. Suzuki-Vidal, S. V. Lebedev, A. Ciardi, S. N. Bland, J. P. Chittenden, G. N. Hall, A. Harvey-Thompson, A. Marocchino, C. Ning, C. Stehle, A. Frank, E. G. Blackman, S. C. Bott and T. Ray, Astrophys. Space Sci, 332, 19 (2009)
41. "Investigation of Carbon X-Pinches as a Source for Point-Projection Radiography", R. E. Madden, S. C. Bott, G Collins IV and F. N. Beg, IEEE Trans. Plasma. Sci., 37, 433 (2009)
42. "Cross-point coronal plasma dynamics in two- and four-wire x-pinches", R. E. Madden, S. C. Bott, D. Haas, Y. Eshaq, U. Ueda, G. Collins, and F. N. Beg, Phys Plasmas, 15, 112701 (2008)
43. "Quantitative Measurements of Wire Ablation in Tungsten X-pinches at 80 kA", S. C. Bott, D. M. Haas, Y. Eshaq, U. Ueda, S. V. Lebedev, J.P. Chittenden, J. B. A. Palmer, S. N. Bland, G. N. Hall, D.J. Ampleford, and F. N. Beg, IEEE Trans. Plasma. Sci. 36, 2759 (2008)
44. "Cross-point coronal plasma dynamics in two- and four-wire x-pinches", R. E. Madden, S. C. Bott, D. Haas, Y. Eshaq, U. Ueda, G. Collins, and F. N. Beg, Phys Plasmas, 15, 112701 (2008)
45. "Radiography of Foam Targets in Wire Array Z-Pinches", J. B. A. Palmer, S. C. Bott, S. N. Bland, D. J. Ampleford, S. V. Lebedev, J. P. Chittenden, F. A. Suzuki Vidal, IEEE Trans. Plasma. Sci, 36, 1272 (2008)
46. "Radiography of Modulated Wire Array Z-Pinches", D. J. Ampleford, B. M. Jones, S. C. Bott, S. V. Lebedev, S. N. Bland, G. N. Hall, J. B. A. Palmer, IEEE Trans. Plasma. Sci, 36, 1270 (2008)
47. "High Resolution Laser Schlieren Imaging of Coronal Plasma Evolution in 80 kA X-pinches", S. C. Bott, D. M. Haas, U. Ueda, Y. Eshaq, R. Madden, G. Collins, and F. N. Beg, IEEE Trans. Plasma. Sci, 36, 1274 (2008)
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SELECTED ORAL PRESENTATIONS

- **Plenary Talk:** "Magnetically-driven High Energy Density Physics: Fundamentals, successes and building on collaborations", Pulsed Power and Plasma Science Conference, Berlin, Germany, June 2025
- **Invited Talk:** "Thomson Scattering on a Sheared-Flow Z-pinch" Thomson Scattering Workshop, LLNL , November 2024
- **Plenary Talk** "Developments and Challenges for Pulsed Power-Driven Inertial Fusion Energy", IFE Science & Technology Community Strategic Planning Workshop Report, May 19, 2022
- **Invited Talk** "Azimuthal Current Density Distribution resulting from a Power Feed Gap in Metallic Liner Experiments at 1MA", 44th IEEE International Conference on Plasma Science, May 21-25, 2017, Atlantic City, NJ
- **Invited Talk** "Proton Deflectometry in Z-Pinch Plasmas – a UCSD/NTF Collaboration" Dept of Energy review of the Nevada Terawatt Facility, 26-27th October, 2010
- **Invited Talk** "Application of Pulsed Power Driven Plasmas to study Astrophysical Jets and Supersonic outflows", Department of Energy Office of Fusion Energy Sciences Plasma Jet Workshop, Los Alamos National Laboratory, 23rd – 25th January 2008
- **Invited Talk** "Wire Array Z-Pinchs and Magnetic Field Configuration Experiments on the MAGPIE Generator", MegaGauss XI, Imperial College London, 10th-14th September 2006
- **Invited Talk** "Experimental Investigation of the Ablation of Wire Arrays " International Conference on Plasma Science, Traverse City, MI, USA, 4th – 8th June, 2006

Seminars

- "Plasma Science: Powering the Sun, the stars...and Earth" Perspectives on Science lecture series, Point Loma Nazarene University, January 2022
- "Resolving the Issue: The Dynamics of Astrophysical Jets through Pulsed Power HEDP Laboratory Studies" Sandia National Laboratories, May 2010
- "Pulsed power driven plasmas for High Energy Density Physics studies", UCSD Center for Energy Research, July 2008
- "Plasma Ablation and Precursor Column Formation in Wire Array Z-Pinchs", Imperial College London, September 2006