Simon Charles Bott-Suzuki

Publication List

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Refereed Journal Papers

1. "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., accepted August 2024, DOI: 10.1109/TPS.2024.3442748

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. "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., accepted May 2024, DOI: 10.1109/TPS.2024.3420910

4. "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)

5. "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

6. "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)

7. "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)

8. "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)

9. "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)

10. "The role of the Ion Acoustic instability in the development of the azimuthal current density profile in liner experiments at 1 MA" INVITED PAPER
S.C.Bott-Suzuki, S. W. Cordaro, L.S. Caballero Bendixsen, Levon Atoyan, Tom Byvank, W. Potter, B.R. Kusse, J.B. Greenly, and D. A. Hammer, *accepted for publication in IEEE Trans. Plasma Sci,* **DOI**: 10.1109/TPS.2017.2783192

11. "Time and Space resolved current density mapping in three dimensions using magnetic field probe array in a high voltage coaxial gap"
S.W. Cordaro, **S.C. Bott-Suzuki**, *Applied Physics,* **122**, 213303 (2017)

12. "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, Phys. Plasmas, 24, 072713 (2017).

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17. "Investigation of Radiative Bow-Shocks in Magnetically Accelerated Plasma Flows", **S. C. Bott-Suzuki** , L. S. Caballero Bendixsen, 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)

18. "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**, IEEE Trans, Plasma Sci., 43, 3344 (2015)

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21. "Experimental Analysis of the Acceleration Region in Tungsten Wire Arrays" **S. 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)

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31. "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)

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33. "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)

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38. "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).

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