

Scott Hsu's Peer-Reviewed Publications
(reverse chronological order)

1. S. C. Hsu, T. R. Joshi, P. Hakel, E. L. Vold, M. J. Schmitt, N. M. Hoffman, R. M. Rauenzahn, G. Kagan, X.-Z. Tang, R. C. Mancini, Y. Kim, and H. W. Herrmann, "Observation of interspecies ion separation in inertial-confinement-fusion implosions," *EPL* **115**, 65001 (2016).
2. G. Kagan, H. W. Herrmann, Y.-H. Kim, M. J. Schmitt, P. Hakel, S. C. Hsu, N. M. Hoffman, D. Svyatsky, S. D. Baalrud, J. O. Daligault, H. Sio, A. B. Zylstra, M. J. Rosenberg, H. G. Rinderknecht, M. Gatu Johnson, J. A. Frenje, F. H. Séguin, C. K. Li, R. D. Petrasso, B. J. Albright, W. Taitano, G. A. Kyrala, P. A. Bradley, C.-K. Huang, C. J. McDevitt, L. Chacon, B. Srinivasan, A. M. McEvoy, T. R. Joshi, and C. S. Adams, "Kinetic studies of ICF implosions," *J. Phys. Conf. Ser.* **717**, 012027 (2016).
3. T. J. Murphy, G. A. Kyrala, N. S. Krasheninnikova, P. A. Bradley, J. A. Cobble, I. L. Tregillis, K. A. D. Obrey, J. A. Baumgaertel, S. C. Hsu, R. C. Shah, P. Hakel, J. L. Kline, M. J. Schmitt, R. J. Kanzleiter, S. H. Batha, R. J. Wallace, S. Bhandarkar, P. Fitzsimmons, M. Hoppe, A. Nikroo, and P. McKenty, "Development of a polar direct drive platform for mix and burn experiments on the National Ignition Facility," *J. Phys. Conf. Ser.* **688**, 012075 (2016).
4. G. Wurden, S. C. Hsu, T. P. Intrator, T. C. Grabowski, J. H. Degnan, M. Domonkos, P. J. Turchi, E. M. Campbell, D. B. Sinars, M. C. Herrmann, R. Betti, B. S. Bauer, I. R. Lindemuth, R. E. Siemon, R. L. Miller, M. Laberge, and M. Delage, "Magneto-Inertial Fusion," *J. Fusion Energy* **35**, 69 (2016).
5. C. S. Adams, A. L. Moser, and S. C. Hsu, "Observation of Rayleigh-Taylor-instability evolution in a plasma with magnetic and viscous effects," *Phys. Rev. E* **92**, 051101(R) (2015).
6. T. J. Murphy, N. S. Krasheninnikova, G. A. Kyrala, P. A. Bradley, J. A. Baumgaertel, J. A. Cobble, P. Hakel, S. C. Hsu, J. L. Kline, D. S. Montgomery, K. A. D. Obrey, R. C. Shah, I. L. Tregillis, M. J. Schmitt, R. J. Kanzleiter, S. H. Batha, R. J. Wallace, S. D. Bhandarkar, P. Fitzsimmons, M. L. Hoppe, A. Nikroo, M. Hohenberger, P. W. McKenty, H. G. Rinderknecht, M. J. Rosenberg, and R. D. Petrasso, "Laser irradiance scaling in polar direct drive implosions on the National Ignition Facility," *Phys. Plasmas* **22**, 092707 (2015).
7. A. L. Moser and S. C. Hsu, "Experimental characterization of a transition from collisionless to collisional interaction between head-on-merging supersonic plasma jets," *Phys. Plasmas* **22**, 055707 (2015).
8. S. C. Hsu, A. L. Moser, E. C. Merritt, C. S. Adams, J. P. Dunn, S. Brockington, A. Case, M. Gilmore, A. G. Lynn, S. J. Messer, and F. D. Witherspoon, "Laboratory plasma physics experiments using merging supersonic plasma jets," *J. Plasma Physics* **81**, 345810201 (2015).
9. M. Gilmore, A. G. Lynn, T. R. Desjardins, Y. Zhang, C. Watts, S. C. Hsu, S. Betts, R. Kelly, and E. Schamiloglu, "The HelCat basic plasma science device," *J. Plasma Physics* **81**, 345810104 (2015).
10. R. C. Mancini, H. M. Johns, T. Joshi, D. Mayes, T. Nagayama, S. C. Hsu, J. A. Baumgaertel, J. Cobble, N. S. Krasheninnikova, P. A. Bradley, P. Hakel, T. J. Murphy, M. J. Schmitt, R. C. Shah, I. L. Tregillis, and F. J. Wysocki, "Multiple-view spectrally resolved x-ray imaging observations of polar-direct-drive implosions on OMEGA," *Phys. Plasmas* **21**, 122704 (2014).

11. E. C. Merritt, A. L. Moser, S. C. Hsu, C. S. Adams, J. P. Dunn, A. M. Holgado, and M. A. Gilmore, “Experimental evidence for collisional shock formation via two obliquely merging supersonic plasma jets,” *Phys. Plasmas* **21**, 055703 (2014).
12. J. A. Baumgaertel, P. Bradley, S. C. Hsu, J. Cobble, P. Hakel, I. Tregillis, N. Krasheninnikova, T. J. Murphy, M. J. Schmitt, R. C. Shah, K. D. Obrey, S. Batha, H. Johns, T. Joshi, D. Mayes, R. C. Mancini, and T. Nagayama, “Observation of early shell-dopant mix in OMEGA direct-drive implosions and comparisons with radiation-hydrodynamic simulations,” *Phys. Plasmas* **21**, 052706 (2014).
13. N. S. Krasheninnikova, J. A. Cobble, T. J. Murphy, I. L. Tregillis, P. A. Bradley, P. Hakel, S. C. Hsu, G. A. Kyrala, K. A. Obrey, M. J. Schmitt, J. A. Baumgaertel, and S. H. Batha, “Designing symmetric polar direct drive implosions on the Omega laser facility,” *Phys. Plasmas* **21**, 042703 (2014).
14. D. R. Welch, T. C. Genoni, C. Thoma, D. V. Rose, and S. C. Hsu, “Particle-in-cell simulations of laser beat-wave magnetization of dense plasmas,” *Phys. Plasmas* **21**, 032704 (2014).
15. C. Thoma, D. R. Welch, and S. C. Hsu, “Particle-in-cell simulations of collisionless shock formation via head-on merging of two laboratory supersonic plasma jets,” *Phys. Plasmas* **20**, 082128 (2013).
16. E. C. Merritt, A. L. Moser, S. C. Hsu, J. Loverich, and M. Gilmore, “Experimental Characterization of the Stagnation Layer between Two Obliquely Merging Supersonic Plasma Jets,” *Phys. Rev. Lett.* **11**, 085003 (2013).
17. M. J. Schmitt, P. A. Bradley, J. A. Cobble, J. R. Fincke, P. Hakel, S. C. Hsu, N. S. Krasheninnikova, G. A. Kyrala, G. R. Magelssen, D. S. Montgomery, T. J. Murphy, K. A. Obrey, R. C. Shah, I. L. Tregillis, J. A. Baumgaertel, F. J. Wysocki, S. H. Batha, R. S. Craxton, P. W. McKenty, P. Fitzsimmons, A. Nikroo, and R. Wallace, “Development of a polar direct-drive platform for studying inertial confinement fusion implosion mix on the National Ignition Facility,” *Phys. Plasmas* **20**, 056310 (2013).
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19. S. C. Hsu, E. C. Merritt, A. L. Moser, T. J. Awe, S. Brockington, J. S. Davis, J. P. Dunn, J. T. Cassibry, M. A. Gilmore, and F. D. Witherspoon, “Experimental characterization of railgun-driven supersonic plasma jets motivated by high energy density physics applications,” *Phys. Plasmas* **19**, 123514 (2012).
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35. L. A. Dorf, T. P. Intrator, T. Awe, R. Renneke, S. C. Hsu, G. A. Wurden, R. Siemon, and V. E. Semenov, “Magnetic design calculation and FRC formation modeling for the field reversed experiment liner,” *J. Applied Phys.* **104**, 073304 (2008).

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