David Jerome Strozzi

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Last updated: 8 Jan. 2021

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CURRENT POSITION

Sept. 2008 – present: Staff Physicist, Design Physics Division, LLNL Research topics: laser-plasma interaction (LPI) modeling for inertial fusion; fast electron transport modeling for fast ignition; kinetic theory and simulation of LPI and plasma waves; radiation-hydrodynamics and magnetohydroynamics for ICF target design.

PAST POSITIONS

Oct. 2005 – Sept. 2008: Post-doctoral research staff member, LLNL Supervisors: A Bruce Langdon, Max Tabak. Research: nonlinear kinetic theory and Eulerian Vlasov simulations of stimulated Raman scattering; calculations of backscatter for inertial-fusion targets using ray-based and paraxial propagation codes; electron transport for fast ignition.

EDUCATION

- Princeton University, Princeton, NJ. AB, Physics, high honors (1999).
- Massachusetts Institute of Technology, Cambridge, MA. Ph.D, Physics (2005). Thesis advisor: Prof. Abraham Bers. Thesis: "Vlasov simulations of kinetic enhancement of Raman backscatter in laser fusion plasmas."

FELLOWSHIPS

- 1999-2002: National Defense Science and Engineering Graduate Fellowship.

GRANTS AWARDED

- FY2008-10: Principal investigator, LLNL Lab-Directed Research and Development (LDRD) grant 08-ERD-017: "Exploration of Laser-Plasma Interactions for High-Performance Laser-Fusion Targets." Budget: $450k/year. Modeling work with continuum kinetic and particle-and-cell codes, and analytic theory.
- ACT-UP Academic Collaboration Team, 2021-2024: Principal investigator, work with Ryan Lau (PhD student, CU Boulder) on modeling MagLIF laser preheat experiments. Budget: $95k/year.

PATENTS

- "High-resistivity metal alloy coatings fabricated with physical vapor deposition," co-inventor, provisional 2020

HONORS AND AWARDS

- LLNL Excellence in Publication Award (2017): O Hurricane et al., *Nature Phys.* 2016
- LLNL ICF Program awards: Backscatter Risk (2018); Magnetic field lecture (2017)
- LLNL WCI Directorate awards: contribution to 2015 ignition review (2015); development of inline laser-plasma interaction model (2015)
- NNSA Defense Programs Team Award of Excellence (2013, 2015)
- LLNL AX Division Excellence in Publication award (2012): D Strozzi, M Tabak et al., *Phys. Plasmas* 2012.
- Princeton (1999): Phi Beta Kappa; Sigma Xi; Kusaka Memorial Prize in Physics

SERVICE

- LLNL Lawrence Fellow Selection Committe: 2019 – present.
- Journal referee: Phys. Rev. Letters, Phys. Plasmas

STUDENTS SUPERVISED

- Ryan Lau, LLNL summer intern (2019, 2020) and CU Boulder graduate student (2019 – present): magnetized laser-plasma interactions and modeling MagLIF laser preheat experiments
- Eva Los: LLNL summer intern (2017, 2018): laser-plasma interactions in a magnetic field

- Andrew Dublin: LLNL summer intern (2015): Fokker-Planck modeling of electron thermal conduction
- Will Farmer: LLNL summer intern (2011): Simulations of fast-electron beam transport with LSP
- Ian Ellis: LLNL summer intern (2009), Lawrence scholar (2010-2014): Raman scattering, fast-electron stopping power

SOFTWARE

- QnD: Quick 'n' Dirty: Python package for binary file access, originally by D. Munro: github.com/LLNL/qnd
- VAMPIRE: Voronoi Adaptive Method for Propagation and Interaction of Radiated Energy: ray-base LPI code for CBET and backscatter, originally by A. Colaitis
- DEPLETE and NEWLIP: ray-based LPI analysis tools, focused on post-processing rad-hydro output
- ELVIS: Eulerian Vlasov Integrator with Splines: 1D-1V kinetic code, used for nonlinear Langmuir waves, stimulated Raman scattering, magnetized LPI
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TEACHING EXPERIENCE

- Spring 2004: Teaching Assistant for Graduate Plasma Waves, MIT Professor: Miklos Porkolab.
- Fall 2003: Teaching Assistant for Introductory Physics, MIT Professor: Paul Schechter.

RESEARCH EXPERIENCE

- Summer 2004: Intern at Lawrence Livermore National Lab. Mentors: Dr. Edward A Williams, Dr. A Bruce Langdon. Researched the role of electron trapping in stimulated Raman scattering.
- April 2001 - October 2005: Research assistant, Plasma Electrodynamics Group of Prof. Abraham Bers (MIT). Thesis on kinetic effects and inhomogeneity in stimulated Raman scattering. Developed 1-D Eulerian Vlasov Code ELVIS Also researched coherent ion energization by resonance of two electrostatic waves with ion cyclotron motion.
- Jan. 2000 - April 2001: Researched theoretical fluid models of collisionless magnetic reconnection with Dr. Jesus Ramos (MIT).
- Senior Thesis: "On the Origin of Interannual and Irregular Behavior in the El Niño." Numerical and Theoretical work on chaotic and stochastic behavior in El Niño models. Advisor: Dr. Geoffrey Vallis, Princeton Geophysical Fluid Dynamics Lab.
- 1997-1998: Junior Papers on simulating quantum systems via quantum computing (advisor: Dr. Vipul Periwal) and estimating noise in high-energy physics search for Lepton flavor non-conserving decay $\tau \rightarrow \mu + \gamma$ (advisor: Dr. Daniel Marlow).
- Summer 1997: National Undergraduate Fellowship in Plasma Physics. Worked with Profs. Wendell Horton and Phil Morrison at UT-Austin on maps for particle orbits near a reversal in tokamak q-profile.
- Summer 1996: Research assistant with Prof. Eric Prebys (Princeton) on SLAC Experiment 144 (experimental tests of QED at high field strengths).

BOOK CHAPTERS

D J Strozzi, A B Langdon, E A Williams, A Bers, S J Brunner, "Eulerian-Lagrangian Kinetic Simulations of Laser-Plasma Interactions." In Eulerian Codes for the Numerical Solution of the Kinetic Equations of Plasmas, edited by M M Shoucri, Nova Science Publishers, Inc. (2011).

PUBLICATIONS – PRINCIPAL AUTHOR

1 A Colaïtis, T Chapman, **D Strozzi,** L Divol, P Michel, **"**A tesselation-based model for intensity estimation and laser plasma interactions calculations in three dimensions." *Phys. Plasmas* **25**, 033114 (2018).

2 **D J Strozzi**, D S Bailey, P Michel, L Divol, S M Sepke, G D Kerbel, C A Thomas, J E Ralph, J D Moody, M B Schneider, "Interplay of Laser-Plasma Interactions and Inertial Fusion Hydrodynamics." *Phys. Rev. Lett.* **118**, 025002 (2017).

3 W A Farmer, J M Koning, **D J Strozzi**, D E Hinkel, L F Berzak Hopkins, O S Jones, M D Rosen, "Simulation of self-generated magnetic fields in an inertial fusion hohlraum environment." *Phys. Plasmas* **24**, 052703 (2017).

4 G N Hall, O S Jones, **D J Strozzi,** J D Moody, D Turnbull, J Ralph, P A Michel, M Hohenberger, A S Moore, et al., "The relationship between gas fill density and hohlraum drive performance at the National Ignition Facility" *Phys. Plasmas* **24**, 052706 (2017).

5 J E Ralph, **D Strozzi**, T Ma, J D Moody, D E Hinkel, D A Callahan, B J MacGowan, P Michel, J L Kline, et al., "Experimental Room Temperature Hohlraum Performance Study on the National Ignition Facility." *Phys. Plasmas* **23**, 122707 (2016).

6 **D J Strozzi**, L J Perkins, M M Marinak, D J Larson, J M Koning, B G Logan, "Imposed magnetic field and hot electron propagation in inertial fusion hohlraums." *J Plasma Phys.* **81**, 475810603 (2015).

7 A P L Robinson, **D J Strozzi**, J R Davies, L Gremillet, J J Honrubia, T Johzaki, R J Kingham, M Sherlock, A A Solodov, "Theory of Fast Electron Transport for Fast Ignition." *Nucl. Fusion* **54,** 054003 (2014).

8 J D Moody, **D J Strozzi**, L Divol, P Michel, H F Robey, S LePape, J Ralph, J S Ross, S H Glenzer, R K Kirkwood, O L Landen, B J MacGowan, A Nikroo, E A Williams, "Raman backscatter as a remote laser power sensor in high-energy-density plasmas." *Phys. Rev. Lett.* **111**, 025001 (2013).

9 **D J Strozzi**, M Tabak, D J Larson, M M Marinak, M H Key, L Divol, A J Kemp, C Bellei, H D Shay, "Cone-Guided Fast Ignition with *no* Imposed Magnetic Fields." *Eur. Phys. J: Web Conf.* **59**, 03021 (2013).

10 **D J Strozzi**, E A Williams, H A Rose, D E Hinkel, A B Langdon, J W Banks, "Characterizing Electron Trapping Nonlinearity in Langmuir Waves." *Phys. Plasmas* **19**, 112306 (2012).

11 I N Ellis, **D J Strozzi**, B J Winjum, F S Tsung, T Grismayer, W B Mori, J E Fahlen, E A Williams, "Convective Raman Amplification of Light Pulses Causing Kinetic Inflation in Inertial Fusion Plasmas." *Phys. Plasmas* **19**, 112704 (2012).

12 **D J Strozzi**, M Tabak, D J Larson, L Divol, A J Kemp, C Bellei, M M Marinak, M H Key, "Fast-ignition transport studies: Realistic electron source, integrated particle-in-cell and hydrodynamic modeling, imposed magnetic fields." *Phys. Plasmas* **19**, 072711 (2012).

13 **D J Strozzi**, D P Grote, M Tabak, B I Cohen, R P J Town, A J Kemp, "Fast ignition transport simulations for NIF" *J Phys.: Conf. Ser.* **244**, 022065 (2010).

14 D Bénisti, **D J Strozzi**, L Gremillet, O Morice, "Nonlinear Landau Damping Rate of a Driven Plasma Wave." *Phys. Rev. Lett.* **103**, 155002 (2009).

15 **D J Strozzi**, E A Williams, D E Hinkel, D H Froula, R A London, D A Callahan, "Ray-based calculations of laser backscatter in ICF targets." *Phys. Plasmas* **15**, 102703 (2008).

16 D Bénisti, **D J Strozzi**, L Gremillet, "Breakdown of electrostatic predictions for the nonlinear dispersion relation of a stimulated Raman scattering driven plasma wave." *Phys. Plasmas (Letters)* **15**, 030701 (2008).

17 **D J Strozzi**, E A Williams, A B Langdon, A Bers, "Kinetic enhancement of Raman backscatter, and electron acoustic Thomson scatter." *Phys. Plasmas* **14**, 013104 (2007).

18 **D J Strozzi**, M M Shoucri, A Bers, E A Williams, A B Langdon, "Vlasov simulations of trapping and inhomogeneity in Raman scattering." *Journ. Plasma Phys.* **72** part 6, 1299 (2006).

19 **D J Strozzi**, M M Shoucri, A Bers. "Study of laser plasma interactions using an Eulerian Vlasov code." *Computer Phys. Commun.* **164/1-3**, 156 (2004).

20 **D J Strozzi**, A K Ram, A Bers, "Coherent acceleration of magnetized ions by electrostatic waves with arbitrary wavenumbers." *Phys. Plasmas* **10**, 2722 (2003).

PUBLICATIONS – CONTRIBUTING AUTHOR

1 J D Moody, A Johnson, J Javedani, E Carroll, J Fry, B Kozioziemski, S O Kucheyev, B G Logan, B B Pollock, H Sio, **D Strozzi**, W A Stygar, V Tang, S Winters, "Transient magnetic field diffusion considerations relevant to magnetically assisted indirect drive inertial confinement fusion." *Phys. Plasmas* **27**, 112711 (2020).

2 C A Thomas, E M Campbell, K L Baker, D T Casey, M Hohenberger, A L Kritcher, B K Spears, S F Khan, R Nora, D T Woods, J L Milovich, R L Berger, D Strozzi, D D Ho, D Clark, B Bachmann, L R Benedetti, R Bionta, P M Celliers, D N Fittinghoff, G Grim, R Hatarik, N Izumi, G Kyrala, T Ma, M Millot, S R Nagel, P K Patel, C Yeamans, A Nikroo, M Tabak, M Gatu Johnson, P L Volegov, S M Finnegan, "Experiments to explore the influence of pulse shaping at the National Ignition Facility." *Phys. Plasmas* **27**, 112708 (2020).

3 C A Thomas, E M Campbell, K L Baker, D T Casey, M Hohenberger, A L Kritcher, B K Spears, S F Khan, R Nora, D T Woods, J L Milovich, R L Berger, **D Strozzi**, D D Ho, D Clark, B Bachmann, L R Benedetti, R Bionta, P M Celliers, D N Fittinghoff, G Grim, R Hatarik, N Izumi, G Kyrala, T Ma, M Millot, S R Nagel, P K Patel, C Yeamans, A Nikroo, M Tabak, M Gatu Johnson, P L Volegov, S M Finnegan, "Deficiencies in compression and yield in x-ray-driven implosions." *Phys. Plasmas* **27**, 112705 (2020).

4 M Hohenberger, D T Casey, A L Kritcher, A Pak, A B Zylstra, C A Thomas, K L Baker, S Le Pape, B Bachmann, R L Berger, J Biener, D S Clark, L Divol, T Döppner, V Geppert-Kleinrath, D Hinkel, H Huang, C Kong, O L Landen, J Milovich, A Nikroo, N Rice, H Robey, M Schoff, J Sevier, K Sequoia, M Stadermann, **D Strozzi**, P L Volegov, C Weber, C Wild, B Woodworth, D A Callahan, O A Hurricane, "Integrated performance of large HDC capsule implosions on the National Ignition Facility." *Phys. Plasmas* **27**, 112704 (2020).

5 Y Ping, V A Smalyuk, P Amendt, S Khan, R Tommasini, E Dewald, J E Field, F Graziani, E Hartouni, S Johnson, O L Landen, J Lindl, A MacPhee, A Nikroo, R Nora, S Prisbrey, J Ralph, R Seugling, **D Strozzi**, R E Tipton, Y M Wang, Y Kim, E Loomis, K D Meaney, E Merritt, D Montgomery, N Kabadi, B Lahmann, R Petrasso, "Symmetry tuning and high energy coupling for an Al capsule in a Au rugby hohlraum on NIF." *Phys. Plasmas* **27**, 100702 (2020).

6 A B Zylstra, D T Casey, A Kritcher, L Pickworth, B Bachmann, K Baker, J Biener, T Braun, D Clark, V Geppert-Kleinrath, M Hohenberger, C Kong, S Le Pape, A Nikroo, N Rice, M Rubery, M Stadermann, D Strozzi, C Thomas, P Volegov, C Weber, C Wild, C Wilde, D A Callahan, O A Hurricane, "Hot-spot mix in large-scale HDC implosions at NIF." *Phys. Plasmas* **27**, 092709 (2020).

7 A L Kritcher, D T Casey, C A Thomas, A B Zylstra, M Hohenberger, K Baker, S Le Pape, B Bachmann, S Bhandarkar, J Biener, T Braun, D Clark, L Divol, T Döppner, D Hinkel, C Kong, D Mariscal, M Millot, J Milovich, A Nikroo, A Pak, N Rice, H Robey, M Stadermann, J Sevier, **D Strozzi**, C Weber, C Wild, B Woodworth, J Edwards, D A Callahan, O A Hurricane, "Symmetric fielding of the largest diamond capsule implosions on the NIF." *Phys. Plasmas* **27**, 052710 (2020).

8 D Turnbull, A Colaïtis, A M Hansen, A L Milder, J P Palastro, J Katz, C Dorrer, B E Kruschwitz, **D J Strozzi**, D H Froula, "Impact of the Langdon effect on crossed-beam energy transfer." *Nat. Phys. (Letter)* **16**, 181 (2020).

9 K L Baker, C A Thomas, D T Casey, M Hohenberger, S Khan, B K Spears, O L Landen, R Nora, D T Woods, J L Milovich, R L Berger, D Strozzi, C Weber, D Clark, O A Hurricane, D A Callahan, A L Kritcher, B Bachmann, L R Benedetti, R Bionta, P M Celliers, D Fittinghoff, C Goyon, R Hatarik, N Izumi, M Gatu Johnson, G Kyrala, T Ma, K Meaney, M Millot, S R Nagel, P K Patel, D Turnbull, P L Volegov, C Yeamans,

C Wilde, "Hotspot parameter scaling with velocity and yield for high-adiabat layered implosions at the National Ignition Facility." *Phys. Rev. E* **102**, 023210 (2020).

10 R L Berger, C A Thomas, K L Baker, D T Casey, C S Goyon, J Park, N Lemos, S F Khan, M Hohenberger, J L Milovich, **D J Strozzi**, M A Belyaev, T Chapman, A B Langdon, "Stimulated backscatter of laser light from BigFoot hohlraums on the National Ignition Facility." *Phys. Plasmas* **26**, 012709 (2019).

11 P Amendt, D Ho, Y Ping, V Smalyuk, S Khan, J Lindl, **D Strozzi**, R Tommasini, M Belyaev, C Cerjan, O Jones, W Kruer, N Meezan, H Robey, F Tsung, C Weber, C Young, "Ultra-high (>30%) coupling efficiency designs for demonstrating central hot-spot ignition on the National Ignition Facility using a Frustraum." *Phys. Plasmas* **26**, 082707 (2020).

12 AB Zylstra, JE Ralph, S MacLaren, SA Yi, G Kyrala, B Bachmann, J Salmonson, S Khan, A MacPhee, J Park, N Lemos, **D Strozzi**, J Ba, H Xu, H Huang, N Rice, J Kline, D Callahan, O Hurricane, "Beryllium implosions at smaller case-to-capsule ratio on NIF." *High Energy Density Phys.* **34**, 100744 (2020).

13 L Berzak Hopkins, S LePape, L Divol, A Pak, E Dewald, D D Ho, N Meezan, S Bhandarkar, L R Benedetti, T Bunn, J Biener, J Crippen, D Casey, D Clark, D Edgell, D Fittinghoff, M Gatu-Johnson, C Goyon, S Haan, R Hatarik, M Havre, D Hinkel, H Huang, N Izumi, J Jaquez, O Jones, S Khan, A Kritcher, C Kong, G Kyrala, O Landen, T Ma, A MacPhee, B MacGowan, A J Mackinnon, M Marinak, J Milovich, M Millot, P Michel, A Moore, S R Nagel, A Nikroo, P Patel, J Ralph, H Robey, J S Ross, N G Rice, S Sepke, V A Smalyuk, P Sterne, **D Strozzi**, M Stadermann, P Volegov, C Weber, C Wild, C Yeamans, D Callahan, O Hurricane, R P J Town, M J Edwards, "Toward a burning plasma state using diamond ablator inertially confined fusion (ICF) implosions on the National Ignition Facility (NIF)." *Plasma Phys. Control. Fusion* **61**, 014023 (2019).

14 JL Kline, SH Batha, LR Benedetti, D Bennett, S Bhandarkar, LF Berzak Hopkins, J Biener, MM Biener, R Bionta, E Bond, D Bradley, T Braun, DA Callahan, J Caggiano, C Cerjan, B Cagadas, D Clark, C Castro, EL Dewald, T Döppner, L Divol, R Dylla-Spears, M Eckart, D Edgell, M Farrell, J Field, DN Fittinghoff, M Gatu Johnson5, G Grim, S Haan, BM Haines, AV Hamza, EP Hartouni, R Hatarik, K Henderson, HW Herrmann, D Hinkel, D Ho, M Hohenberger, D Hoover, H Huang, ML Hoppe, OA Hurricane, N Izumi, S Johnson, OS Jones , S Khan, BJ Kozioziemski, C Kong, J Kroll, GA Kyrala, S LePape, T Ma, AJ Mackinnon, AG MacPhee, S MacLaren, L Masse, J McNaney, NB Meezan, JF Merrill, JL Milovich, J Moody, A Nikroo, A Pak, P Patel, L Peterson, E Piceno, L Pickworth, JE Ralph, N Rice, HF Robey, JS Ross, JR Rygg, MR Sacks, J Salmonson, D Sayre, JD Sater, M Schneider, M Schoff, S Sepke, R Seugling, V Smalyuk, B Spears, M Stadermann, W Stoeffl, **DJ Strozzi**, R Tipton, C Thomas, RPJ Town, PL Volegov, CWalters, M Wang, C Wilde1, E Woerner, C Yeamans, SA Yi1, B Yoxall, AB Zylstra, J Kilkenny, OL Landen, W Hsing, MJ Edwards, "Progress of indirect drive inertial confinement fusion in the United States." *Nucl. Fusion* **59**, 112018 (2019).

15 A L Kritcher, J Ralph, D E Hinkel, T Döppner, M Millot, D Mariscal, R Benedetti, **D J Strozzi**, T Chapman, C Goyon, B MacGowan, P Michel, D A Callahan, O A Hurricane, "Energy transfer between lasers in low-gas-fill-density hohlraums." *Phys. Rev. E* **98**, 053206 (2018).

16 K L Baker, C A Thomas, D T Casey, S Khan, B K Spears, R Nora, T Woods, J L Milovich, R L Berger, **D Strozzi**, D Clark, et al., "High-Performance Indirect-Drive Cryogenic Implosions at High Adiabat on the National Ignition Facility." *Phys. Rev. Lett.* **121,** 135001 (2018).

17 A B Zylstra, S A Yi, S MacLaren, J Kline, G Kyrala, J E Ralph, J Bae, S Batha, D Callahan, K Flippo, H Huang, O Hurricane, S F Khan, N Kabadi, C Kong, L B Kot, B Lahmann, E N Loomis, L P Masse, M Millot, A Moore, A Nikroo, T S Perry, N Rice, J Salmonson, R Shah, H Sio, M Stadermann, **D J Strozzi**, R Tipton, H Xu, "Beryllium capsule implosions at a case-to-capsule ratio of 3.7 on the National Ignition Facility." *Phys. Plasmas* **25**, 102704 (2018).

18 S Le Pape, L F Berzak Hopkins, L Divol, A Pak, E L Dewald, S Bhandarkar, L R Bennedetti, T Bunn, J Biener, J Crippen, D Casey, D Edgell, D N Fittinghoff, M Gatu-Johnson, C Goyon, S Haan, R Hatarik, M Havre, D D-M Ho, N Izumi, J Jaquez, S F Khan, G A Kyrala, T Ma, A J Mackinnon, A G MacPhee, B J MacGowan, N B

Meezan, J Milovich, M Millot, P Michel, S R Nagel, A Nikroo, P Patel, J Ralph, J S Ross, N G Rice, **D Strozzi**, M Stadermann, P Volegov, C Yeamans, C Weber, C Wild, D Callahan, O A Hurricane, "Fusion Energy Output Greater than the Kinetic Energy of an Imploding Shell at the National Ignition Facility." Phys. Rev. Lett. 120, 245003 (2018).

19 D T Casey, C A Thomas, K L Baker, B K Spears, M Hohenberger, S F Khan, R C Nora, C R Weber, D T Woods, O A Hurricane, D A Callahan, R L Berger, J L Milovich, P K Patel, T Ma, A Pak, L R Benedetti, M Millot, C Jarrott, O L Landen, R M Bionta, B J MacGowan, **D J Strozzi**, M Stadermann, J Biener, A Nikroo, C S Goyon, N Izumi, S R Nagel, B Bachmann, P L Volegov, D N Fittinghoff, G P Grim, C B Yeamans, M Gatu Johnson, J A Frenje, N Rice, C Kong, J Crippen, J Jaquez, K Kangas, C Wild, "The high velocity, high adiabat, "Bigfoot" campaign and tests of indirect-drive implosion scaling." *Phys. Plasmas* **25**, 056308 (2018).

20 R K Kirkwood, D P Turnbull, T Chapman, S C Wilks, M D Rosen, R A London, L A Pickworth, A Colaitis, W H Dunlop, P Poole, J D Moody, **D J Strozzi**, P A Michel, et al., "A plasma amplifier to combine multiple beams at NIF" *Phys. Plasmas* **25**, 056701 (2018).

21 Y Ping, V A Smalyuk P Amendt R Tommasini J E Field S Khan D Bennett E Dewald, F Graziani S Johnson O L Landen A G MacPhee A Nikroo J Pino S Prisbrey J Ralph, R Seugling, **D Strozzi**, R E Tipton, et al., "Enhanced energy coupling for indirectly driven inertial confinement fusion." *Nat. Phys. Letters*, s41567-018-0331-5 (2018).

22 W A Farmer, O S Jones, M A Barrios, D J Strozzi, J M Koning, G D Kerbel, D E Hinkel, J D Moody, L J Suter, D A Liedahl, N Lemos, D C Eder, R L Kauffman, O L Landen, A S Moore. M B Schneider, "Heat transport modeling of the dot spectroscopy platform on NIF." *Plasma Phys. Control. Fusion* **60**, 044009 (2018).

23 R K Kirkwood, D P Turnbull, T Chapman, S C Wilks, M D Rosen, R A London, L A Pickworth, W H Dunlop, J D Moody, D J Strozzi, P A Michel, L Divol, O L Landen, B J MacGowan, B M Van Wonterghem, K B Fournier, B E Blue, "Plasma-based beam combiner for very high fluence and energy." *Nat. Phys.* **14**, 80 (2018).

24 L J Perkins, D D-M Ho, B G Logan, G B Zimmerman, M A Rhodes, **D J Strozzi,** D T Blackfield, S A Hawkins, "The potential of imposed magnetic fields for enhancing ignition probability and fusion energy yield in indirect-drive inertial confinement fusion." *Phys. Plasmas* **24**, 062708 (2017).

25 G J Williams, Hui Chen, J E Field, O L Landen, D J Strozzi, "Positron radiography of ignition-relevant ICF capsules." *Phys. Plasmas* **24**, 122704 (2017).

26 O S Jones, L J Suter, H A Scott, M A Barrios, W A Farmer, S B Hansen, D A Liedahl, C W Mauche, A S Moore, M D Rosen, J D Salmonson, **D J Strozzi,** C A Thomas, D P Turnbull, "Progress towards a more predictive model for hohlraum radiation drive and symmetry." *Phys. Plasmas* **24**, 056312 (2017).

27 O A Hurricane, D A Callahan, D T Casey, E L Dewald, T R Dittrich, T Döppner, S Haan, D E Hinkel, L F Berzak Hopkins, O Jones et al., "Inertially confined fusion plasmas dominated by alpha-particle self-heating." *Nature Phys.* (2016).

28 J-P Leidinger, D A Callahan, L F Berzak-Hopkins, J E Ralph, P Amendt, D E Hinkel, P Michel, J D Moody, J S Ross, J R Rygg, P Celliers, J-F Clouët, E L Dewald, P Kaiser, S Khan, A L Kritcher, S Liberatore, D Marion, P-E Masson-Laborde, J L Milovich, O Morice, A E Pak, O Poujade, D Strozzi, O A Hurricane, "NIF Rugby High Foot Campaign from the design side." *J. Phys.: Conf. Ser.* **717**, 012035 (2016).

29 O S Jones, C A Thomas, P A Amendt, G N Hall1, N Izumi, M A Barrios Garcia, L F Berzak Hopkins, H Chen, E L Dewald, D E Hinkel, A L Kritcher, M M Marinak, N B Meezan, J L Milovich, J D Moody, A S Moore, M V Patel, J E Ralph, S P Regan, M D Rosen, M B Schneider, S M Sepke, D J Strozzi, D P Turnbull. "Towards a more universal understanding of radiation drive in gas-filled hohlraums." *J Phys.: Conf. Ser.* **717** 012026 (2016).

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D J Strozzi, M Tabak, D J Larson, M M Marinak, M H Key, L Divol, A J Kemp, C Bellei, H D Shay, "Cone-Guided Fast Ignition with Imposed Magnetic Fields." Inertial Fusion Sciences and Applications, Bordeaux, France; 13 September 2011.

CONFERENCE PRESENTATIONS 2008 - present

D J Strozzi, J D Moody, H Sio, B B Pollock, D D Ho, C A Walsh, G B Zimmerman, J D Salmonson, J M Koning, S O Kucheyev, "Design of First Magnetized Hohlraum-Driven Implosions on NIF." Talk, 61th APS Div. Plasma Physics, Memphis, TN; 9 November 2020.

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D J Strozzi, R L Berger, A B Sefkow, S H Langer, T Chapman, B Pollock, C Goyon, J Moody, "Modeling Laser-Plasma Interactions in MagLIF Experiment on NIF" Talk, 46th Anomalous Absorption Conf., Old Saybrook, CT; 5 May 2016.

D J Strozzi, D S Bailey, C A Thomas, S M Sepke, G D Kerbel, P Michel, L Divol, "Inline Modeling of Cross-Beam Energy Transfer and Raman Scattering in NIF Hohlraums." Talk, 57th APS Div. Plasma Physics, 17 November 2015.

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D J Strozzi, S M Sepke, G D Kerbel, D S Bailey, P Michel, L Divol, C A Thomas, "Inline Modeling of Cross-Beam Energy Transfer and Stimulated Raman Scattering in Radiation-Hydrodynamics Codes." Talk, 45th Anomalous Absorption Conf., Ventura Beach, CA; 15 June 2015.

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D J Strozzi, S M Sepke, G D Kerbel, P Michel, M M Marinak, O S Jones, "Inline Cross-Beam Energy Transfer and Backscatter in Hohlraum Simulations." Talk, 44th Anomalous Absorption Conf., Estes Park, CO; 9 June 2014.

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D J Strozzi, D E Hinkel, J E Ralph, T Ma, D A Callahan, J L Kline, J D Moody, O Jones, J R Rygg, "NIF Hohlraum Experiments at Room Temperature, a.k.a. Warm Shots." Talk, 43rd Anomalous Absorption Conf., Stevenson, WA; 11 July 2013.

D J Strozzi, M Tabak, H D Shay, D J Larson, "Electron Transport Studies of Annular Exploders." 12th Fast Ignition Workshop, Napa Valley, CA; 6 November 2012.

D J Strozzi, J D Moody, H F Robey, L Divol, P Michel, R L Berger, E A Williams, D E Hinkel, D C Eder, "Modeling of NIF Laser-Plasma Interaction Experiments with Single and Multiple Beams." Talk TO5.10, APS Div. Plasma Physics, Providence, RI; 1 November 2012.

D J Strozzi, M Tabak, D Larson, H Shay, L Divol, A Kemp, C Bellei, M Marinak, M Key, ”Magnetic Guiding for Electron Fast Ignition.” Talk, 42nd Anomalous Absorption Conf., Key West, FL; 28 June 2012.

D J Strozzi, J D Moody, H F Robey, L Divol, P Michel, R L Berger, E A Williams, D E Hinkel, ”LPI experiments with single and multiple NIF beams.” Poster, 42nd Anomalous Absorption Conf., Key West, FL; 25 June 2012.

D J Strozzi, D E Hinkel, E A Williams, R P J Town, P A Michel, L Divol, R L Berger, J D Moody, “Comparison of Raman Scattering Measurements and Modeling in NIF Ignition Experiments.” Talk TO8-7, APS Div. Plasma Physics, Salt Lake City, UT; 17 November 2011.

D J Strozzi, M Tabak, D J Larson, M M Marinak, M H Key, L Divol, A J Kemp, H D Shay, “Cone-Guided Fast Ignition with Imposed Magnetic Fields.” Talk, 41st Anomalous Absorption Conf., San Diego, CA; 24 June 2011.

D J Strozzi, D E Hinkel, E A Williams, R P J Town, P A Michel, L Divol, R L Berger, J D Moody, “Understanding Raman Scattering in NIF Ignition Experiments.” Poster, 41st Anomalous Absorption Conf., San Diego, CA; 20 June 2011.

D J Strozzi, M Tabak, A J Kemp, L Divol, D Larson, M Marinak, D P Grote, M H Key, D R Welch, B I Cohen, R P J Town, “Electron-driven fast ignition modeling with realistic electron source.” Talk CO6.6, APS Div. Plasma Physics, Chicago, IL; 8 November 2010.

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D J Strozzi, M Tabak, D P Grote, B I Cohen, H D Shay, R P J Town, A J Kemp, M Key, “Transport simulations for fast ignition on NIF” Talk N05.5, APS Div. Plasma Physics, Atlanta, GA; 4 November 2009.

D J Strozzi, D P Grote, M Tabak, R P J Town, A J Kemp, “Electron transport simulations for fast ignition on NIF” Poster 3.10.017, Inertial Fusion Sciences and Applications, San Francisco, CA; 9 September 2009.

D J Strozzi, M Tabak, R P J Town, D P Grote, A J Kemp, “Electron transport simulations for fast ignition on NIF” Poster WP13, 39th Anomalous Absorption Conf., Bodega Bay, CA; 19 June 2009.

D J Strozzi, E A Williams, D E Hinkel, H A Rose, “Role of Electron Trapping in SRS on NIF Ignition Targets.” Talk F04, 39th Anomalous Absorption Conf., Bodega Bay, CA; 19 June 2009.

“Ray-based calculations with DEPLETE of laser backscatter in ICF targets.” Poster P1-8, 38th Anomalous Absorption Conf., Williamsburg, VA; 2 June 2008.

“Assessing risk of plasma-wave trapping nonlinearities in stimulated Raman scattering.” Talk 23, 38th Anomalous Absorption Conf., Williamsburg, VA; 4 June 2008.

CONFERENCE PRESENTATIONS 1997-2007

"Kinetic modeling of Raman scattering with adiabatic electron response." Talk NO6.6, APS Div. Plasma Physics, Orlando, FL; 14 November 2007.

"DEPLETE - a code for rapid assessment of backscatter activity." Talk, 37th Anomalous Absorption Conf., Maui, HI; 27 Aug. 2007.

“Stimulated Raman backscatter leading to electron acoustic Thomson scatter.” Poster UP1.00107, APS Div. Plasma Physics, Philadelphia, PA; 2 Nov. 2006.

"Vlasov simulations of kinetically-enhanced Raman backscatter and electron acoustic Thomson scattering." Talk and poster, 36th Anomalous Absorption Conf., Jackson Hole, WY; 5-9 June 2006.

"Vlasov simulations of Raman scattering: kinetic enhancement and stimulated electron acoustic scatter." Talk BO1.00011, APS Div. Plasma Physics, Denver, CO; 24 Oct. 2005.

"Vlasov simulations of trapping and inhomogeneity in Raman scattering." Poster P2-78, 19th International Conf. on Numerical Simulation of Plasmas, Nara, Japan; 12-15 July 2005.

"Interplay of electron trapping and inhomogeneity in Raman scattering." Poster RP14, 35th Anomalous Absorption Conf., Fajardo, Puerto Rico; 30 June 2005.

"Interplay of trapping and density gradients in Raman scattering." Talk FO1.005, APS Div. Plasma Physics, Savannah, GA, 16 November 2004. Bulletin of the APS, 49, No 8.

"Kinetic simulations of SRS saturation." Poster 4P17, 34th Anomalous Absorption Conf., Gleneden Beach, OR; 6 May 2004.

"Kinetic simulation of laser-plasma interactions." Poster BP1, APS Div. Plasma Physics, Albuquerque, NM; 27 October 2003. Bulletin of the APS, 48, No 7.

"Study of laser plasma interactions using an Eulerian Vlasov code." Poster 113, 18th International Conf. on Numerical Simulation of Plasmas, Falmouth, MA; 8 Sep. 2003.

"Coherent particle energization by electrostatic waves." Poster 2C27, Sherwood Meeting, Corpus Christi, TX; 29 April 2003.

"Coherent and stochastic motion of ions in two oblique electrostatic waves." Poster CP1.28, APS Div. Plasma Physics, Orlando, FL; 11 Nov. 2002. Bulletin of the APS, 47, No 9.

"Coherent and stochastic particle motion in a uniform magnetic field and oblique electrostatic waves." Poster 2C48, Sherwood Meeting, Rochester; NY, 23 April 2002.

"Stochastic particle motion due to multiple electrostatic waves." Poster QP1.96, APS Div. of Plasma Physics, Long Beach, CA; 1 November 2001. Bulletin of the APS, 46, No 8.

"Collisionless Hall-MHD modeling near a magnetic null." Poster WP1-6, APS Div. of Plasma Physics, Québec City, Canada; 26 October 2000. Bulletin of the APS, 45, No 7.

D Strozzi, P J Morrison, W Horton, "Reversed Shear Transport Barrier Map." Poster pThpP1.29, APS Div. of Plasma Physics, Pittsburgh, PA; 20 November 1997.

STUDENT EMPLOYMENT

- Summer 1999: Intern at the Association to Benefit Children, a non-profit educational and human services group in New York City. Helped establish their computer network and Internet access.
- 1995 - 1999: Consultant, Princeton Computing Heldesk. Helped users with computer problems. Lead the data recovery team, 1998 – 1999.

SUMMER SCHOOLS ATTENDED

- August 2006: High-Energy-Density Physics Summer School, by Prof. R Paul Drake, Traverse City, Michigan.

ACTIVITIES

- 2001-2002: Organized weekly plasma graduate student forums at MIT

- 2005: MIT High School Studies Program – taught Saturday course on fusion and nuclear physics for Boston-area high school students, for two semesters.
- 2009-2010: Stanford Splash: taught one-weekend class on fusion to high school students.

SKILLS

- Analytic plasma-physics theory
- Extensive numerical experience with C, Fortran, Matlab, Python, and Yorick
- Using and writing serial and parallel physics simulation codes
- French