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## **SELECTED PEER-REVIEWED PUBLICATIONS**

1. *Generation of a neutral, high-density electron-positron plasma in the laboratory* Nature Commun. **6**, 6747 (2015)
2. *Ultra-bright and collimated multi-MeV  $\gamma$ -ray beams via laser-driven non-linear Thomson scattering* Phys. Rev. Lett. **113**, 224801 (2014).
3. **SYNOPSIS IN PRL** *Table-top laser-based source of femtosecond, collimated, ultra-relativistic positron beams* Phys. Rev. Lett. **110**, 255002 (2013)
4. *Time-resolved characterization of the formation of a collisionless shock* Phys. Rev. Lett. **110**, 205001 (2013).
5. *Dynamics of self-generated, large amplitude magnetic fields following high-intensity laser matter interaction* Phys. Rev. Lett. **109**, 205002 (2012).
6. *Ion acceleration in multispecies targets driven by intense laser radiation pressure* Phys. Rev. Lett. **109**, 185006 (2012).
7. *Weibel-induced filamentation during ultrafast, laser-driven plasma expansion* Phys. Rev. Lett. **108**, 135001 (2012)
8. **RESEARCH HIGHLIGHT 2012** *PIC simulations of thermal anisotropy-driven Weibel instability in a circular rarefaction wave* New J. Phys. **14**, 023007 (2012).
9. *Generation of a purely electrostatic collisionless shock during the expansion of a dense plasma through a rarefied medium* Phys. Rev. Lett. **107**, 025003 (2011).
10. *Spatially resolved measurements of laser filamentation in long scale length underdense plasmas with and without beam smoothing* Phys. Rev. Lett. **106**, 095001 (2011).
11. *Observation of postsoliton expansion following laser propagation through an underdense plasma* Phys. Rev. Lett. **105**, 175007 (2010).
12. *Hot electrons transverse reflusing in ultraintense laser-solid interactions* Phys. Rev. Lett. **105**, 015005 (2010).

13. **EDITOR SUGGESTION PRL** *Laser-driven ultrafast field propagation on solid surfaces* Phys. Rev. Lett. **102**, 194801 (2009).

14. *Intense gamma-ray source in the giant-dipole-resonance range driven by 10-TW laser pulses* Phys. Rev. Lett. **101**, 105002 (2008).

## OTHER PEER-REVIEWED PUBLICATIONS

Citations: 985, h-index: 18 (from Google Scholar)

Citations: 743, h-index: 16 (from Web of Knowledge)

15. *Magnetic field generation during intense laser channelling in underdense plasma* Physics of Plasmas **23** (6), 063121 (2016).

16. *Particle-in-cell simulation study of a lower-hybrid shock* Physics of Plasmas **23** (6), 062111 (2016).

17. *Enhancement of wear and corrosion resistance of beta titanium alloy by laser gas alloying with nitrogen* Applied Surface Science **367**, 80 (2016).

18. *A high-energy, high-flux source of gamma-rays from all-optical non-linear Thomson scattering* NIM-A (2016).

19. *Comprehensive numerical modelling of the performance of a second harmonic generation stage coupled with a low-gain optical parametric amplifier* Optics Express **24** (5), 5212 (2016).

20. *Scaling of ion spectral peaks in the hybrid RPA-TNSA region* Journal of the Korean Physical Society **68** (6), 768 (2016). 21. *Optical measurement of the temporal delay between two ultra-short and focussed laser pulses* Optics express **24** (3), 3127 (2016).

22. *Calibration of BAS-TR image plate response to high energy (3-300 MeV) carbon ions* Review of Scientific Instruments **86** (12), 123302 (2016).

23. *Thin shell instability in collisionless plasma* Phys. Rev. E **92**, 031101 (2015).

24. *Overview of laser-driven generation of electron-positron beams* Journal of plasma physics, **81**, 455810401 (2015).

25. *Shocks in unmagnetized plasma with a shear flow: Stability and magnetic field generation* Phys. Plasmas **22**, 072104 (2015).

26. *Particle-in-cell simulation study of the interaction between a relativistically*

*moving leptonic micro-cloud and ambient electrons* Astron. Astrophys. **577**, A137 (2015).

27. *Laser-driven generation of high-quality ultra-relativistic positron beams* Journal of plasma physics **81**, 415810202 (2015).

28. *Fast-electron reflusing effects on anisotropic hard-x-ray emission from intense laser-plasma interactions* Phys. Rev. E **91**, 033107 (2015).

29. *Evolution of slow electrostatic shock into a plasma shock mediated by electrostatic turbulence* New Journal of Physics **16** , 073001 (2014).

30. *Design of a compact spectrometer for high-flux MeV gamma-ray beams* Rev. sci. Instrum. **85** 065119 (2014)

31. *The evolution of an electrostatic shock into a plasma shock mediated by electrostatic turbulence*  
New J. Physics **16** 073001 (2014)

32. *Measurements of high-energy radiation generation from laser-wakefield accelerated electron beams*  
Phys. Plasmas **21**, 056704 (2014)

33. *IRIDE: Interdisciplinary research infrastructure based on dual electron linacs and lasers* Nucl. Instrum. Meth. A **740**, 138 (2014)

34. *Modification of the formation of high-Mach number electrostatic shock-like structures by the ion acoustic instability*  
Phys. Plasmas **20**, 102112 (2013)

35. *Laser-driven generation of collimated ultra-relativistic positron beams*  
Plasma Phys. Contr. F. **55**, 124017 (2013)

36. *Experimental investigation of Hole Boring and Light Sail regimes of RPA by varying laser and target parameters*  
Plasma Phys. Contr. F. **55** 124030 (2013)

37. *Parametric study of non-relativistic electrostatic shocks and the structure of their transition layer*  
Phys. Plasmas **20**, 042111 (2013)

38. *Magnetic instability in a dilute circular rarefaction wave*  
Phys. Plasmas **19**, 122102 (2012).

39. *Simulation of relativistically colliding laser-generated electron flows*  
Phys. Plasmas **19**, 113110 (2012).

40. *Particle simulations study of electron heating by counterstreaming ion beams ahead of supernova remnant shocks* Plasma Phys. Contr. F. **54**, 085015 (2012).
41. *Dynamics of intense laser propagation in underdense plasma: polarization dependence* Phys. Plasmas **19**, 073111 (2012).
42. *Electrostatic shock dynamics in superthermal plasmas* Phys. Plasmas **19**, 012310 (2012).
43. *On the investigation of fast electron beam filamentation in laser-irradiated solid targets using multi-MeV proton emission.* Plasma Phys. Contr. F. **53**, 124012 (2011).
44. *MeV negative ion generation from ultra-intense laser interaction with a water spray* App. Phys. Lett. **99**, 051501 (2011).
45. *Observation of plasma density dependence of electromagnetic soliton excitation by an intense laser pulse* Phys. Plasmas **18**, 080704 (2011).
46. *Two-dimensional particle-in-cell simulation of a plasma expansion into a rarefied medium* New Jour. Phys. **13**, 073023 (2011).
47. *Creation of persistent, straight, 2mm long laser driven channels in underdense plasmas* Phys. Plasmas **17**, 113303 (2010).
48. *Results of a laser-driven electron acceleration experiment and perspectives of application for nuclear studies* Radiat. Eff. Defect. S. **165**, 774 (2010).
49. *The TARANIS laser: A multi-Terawatt system for laser-plasma investigations* Laser Part. Beams **28**, 451 (2010).
50. *Shock creation and particle acceleration driven by plasma expansion into a rarefied medium* Phys. Plasmas **17**, 082305 (2010).
51. *Effect of self-generated magnetic fields on fast electron beam divergence in solid targets* New Jour. Phys. **12**, 063018 (2010).
52. *Progress in proton radiography for diagnosis of ICF-relevant plasmas* Laser Part. Beams **28**, 277 (2010).
53. *The application of laser-driven proton beams to the radiography of intense laser-hohlraum interactions* New Jour. Phys. **12**, 045006 (2010).
54. *Simulation of a collisionless planar electrostatic shock in a proton-electron plasma with a strong initial thermal pressure change* Plasma Phys. Contr. F.

**52,2** (2010).

55. *Observation and comprehensive characterization of laser-driven Phase Space Electron Holes* Phys. Plasmas **17**, 010701 (2010).

56. *Modified proton radiography arrangement for the detection of ultrafast field fronts* Rev. Sci. Instrum. **80**, 113506 (2009).

57. *Observation of the transient charging of a laser-irradiated solid* Eur. Phys. J. D **55**, 293 (2009).

58. *Application of proton radiography in experiments of relevance to inertial confinement fusion* Eur. Phys. J. D **55**,299 (2009).

59. *Complementary Ion and extreme ultraviolet spectrometer for laser-plasma diagnosis* Rev. Sci. Instrum. **80**, 103302 (2009).

60. *Advanced diagnostics applied to a laser-driven electron acceleration experiment* IEEE Transactions on Plasma Science **6**, 1 (2007).