***List of all published papers (2000 to 2019)***

2019 (at SJTU and ELI-ALPS)

1. S. Song Li, Guangyu Li, Quratul Ain, Min Sup Hur\*, Antonio C. Ting, Victor V. Kulagin, Christos Kamperidis, Nasr A. M. Hafz\* “**A Laser Plasma Accelerator driven by two-color relativistic femtosecond laser pulses**” Science Advances **5**, eaav7940 (2019)

I proposed, conducted and managed this research.

1. D. Papp, **N. Hafz** and C. Kamperidis, *“Self-induced ionization injection LWFA and generation of sub-fs electron bunches with few cycle sub-TW laser pulses”* Laser and Particle Beams **37**, Issue 2 June (2019), pp. 165-170. DOI: https://doi.org/10.1017/S0263034619000260
2. Guangyu Li, Song Li, Q. Ain, K. Gao, M. Mirzaie and **N. Hafz\*** “*Ultrafast dynamics of magnetic vortices and pulse collapse in a laser-under dense plasma interaction*” Physics of Plasmas **26**, 022306 (2019).  
   *Role in the paper: I proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author (my Ph.D. student).*

2017-2018 (at Shanghai Jiao Tong University)

1. Q. Ain, S. Li, M. Mirzaie and **N. Hafz\*** Generation of GeV electron beam from a laser-pl asma accelerator and its prospect as a desk-top source of energetic positrons and gamma rays for applications” IEEE-Transactions on Nuclear Science 10.1109/TNS.2018.2869558.

M.

1. M. Mirzaie, G. B. Zhang, S. Li, G. Kai, G. Y. Li, Q. Ain and **N. Hafz\*** “*Effect of injection- gas concentration on the electron beam quality from a laser-plasma acceleration*”, Physics of Plasmas **25, 043106 (2018); doi: 10.1063/1.5008561***Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author (my Ph.D. student).*
2. Song Li, Qian Zhao, **Nasr A M Hafz\***, Suming Weng, Kai Gao, Mohammad Mirzaie, Guangyu Li, Quratul Ain, and Jie Zhang “*Correlation between macroscopic plasma*

*dynamics and electron beam parameters in a laser-plasma accelerator*” Plasma Physics and Controlled Fusion **60** 085020 (2018).

*Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author (my PDRA).*

1. Q. Ain, **N. Hafz\*,** S. Li, M. Mirzaie, K. Gao, G. Li, J. Zhang “*Generation of electron beams by ionization-injection in krypton-helium plasma and the application to generation of high- energy positron beam*” Plasma Physics and Controlled Fusion **60** 085012 (2018)

*Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author (my Ph.D. student).*

1. Y. F. Li, D. Z. Li, K. Huang, M. Z. Tao, M. H. Li, J. R. Zhao, Y. Ma, X. Guo, J. G. Wang, M. Chen, **N. Hafz**, J.Zhang, and L. M. Chen, “*Generation of 20 kA electron beam from a*

*laser wakefield accelerator*” Physics of Plasmas **24**, 023108 (2017) DOI:

10.1063/1.4975613

*Role in the paper: supervising the experimental parts on the electron beam acceleration (~ 50% of this work).*

1. K. Gao, **N. Hafz\***, S. Li, M. Mirzaie, G. Y. Li and Q. Ain, “*Online plasma diagnostics of a laser-produced plasma*” Plasma Science and Technology **19**, 015506 (2017). DOI:

10.1088/1009-0630/19/1/015506

*Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author (my M.Sc. student).*

2016 (at Shanghai Jiao Tong University)

10. L. Chen, M. Chen, Y. Chen, **N. Hafz**, Y. Li, F. Liu, J. Ma, L. Qian, Z. Sheng, S. Weng, G. Xie, L. Yu, P. Yuan, X. Yuan, J. Zhang (note: in this paper author names are ordered

alphabetically) “*Laser-driven plasma accelerators and ultrafast radiation sources*” **Special** 17 **issue** in Science “Pushing the boundaries of Scientific Research: 120 years of Addressing Global”. pages 32-36 (2016)

*Role in the paper: This is a review paper, I wrote the parts dealing with electron beam acceleration from our recent experiments (those compose ~ 25% of the this paper)*

1. K.Huang,Y.F.Li,D.Z.Li,L.M.Chen,M.Z.Tao,Y.Ma,J.R.Zhao,M.H.Li,M.Chen, M. Mirzaie, **N. Hafz**, T. Sokollik, Z. M. Sheng & J. Zhang, “*Resonantly Enhanced Betatron*

*Hard X-rays from Ionization Injected Electrons in a Laser Plasma Accelerator*” Scientific

Reports **6**, 27633 (2016) DOI: 10.1038/srep27633

1. G. B. Zhang, **N. Hafz\***, Y. Ma et al., “*Laser Wakefield Acceleration Using Mid-Infrared*

*Laser Pulses*” Chinese Physics Letters **33**, 095202 (2016). DOI: 10.1088/0256-

307X/33/9/095202

*Role in the paper: proposed, supervised the simulations and wrote the paper after an initial draft by the first author.*

1. **Nasr A.M. Hafz**, Song Li, Guangyu Li, Mohammad Mirzaie, Ming Zeng, and Jie Zhang, “*Generation of high-quality electron beams by ionization injection in a single acceleration*

*stage*” High Power Laser Science and Engineering 4, e24, DOI: 10.1017/hpl.2016.25  
*Role in the paper: I proposed, supervised and conducted experiments and I wrote the paper.*

1. M. Mirzaie, **Nasr Hafz\***, Song Li, Kai Gao, Guangyu Li, Qurat-ul-Ain, and Jie Zhang,

“*Laser acceleration in argon clusters and gas media*” Plasma Physics and Controlled

Fusion **58**, 034014 (2016). DOI: 10.1088/0741-3335/58/3/034014  
*Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author (my Ph.D. student).*

2015 (at Shanghai Jiao Tong University)

15. M. Mirzaie, S. Li, M. Zeng, **Nasr A. M. Hafz\***, M. Chen, G. Y. Li, Q. J. Zhu, H. Liao, T. Sokollik, F. Liu, Y. Y. Ma, L.M. Chen, Z. M. Sheng & J. Zhang, “*Demonstration of self- truncated ionization injection for GeV electron beams*” Scientific Reports **5**, 14659 (2015).

DOI: 10.1038/srep14659

*Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author (my Ph.D. student).*

16. M. Mirzaie, **Nasr A. M. Hafz\***, Song Li, Feng Liu, Fei He, Ya Cheng, and Jie Zhang,

“*Enhanced electron yield from laser-driven wakefield acceleration in high-Z gas jets*”

Review of Scientific Instruments **86**, 103502 (2015). DOI: 10.1063/1.4931780  
*Role in the paper: proposing, supervised and conducted experiments and wrote the paper after an initial draft by the first author (my Ph.D. student).*

1. Guo-Bo Zhang, Yan-Yun Ma, Han Xu, **Nasr A. M. Hafz**, Xiao-Hu Yang, M. Chen, Tong- Pu Yu, De-Bin Zou, Jian-Xun Liu, Jian-Feng Yan, Hong-Bin Zhuo, Long-Fei Gan, Li-

Chao Tian, Fu-Qiu Shao, Y. Yin, and S. Kawata, “*Enhanced electron injection in laser- driven bubble acceleration by ultra-intense laser irradiating foil-gas targets*” Physics of

Plasmas **22**, 083110 (2015). DOI: 10.1063/1.4927583  
*Role in the paper: Shared writing of paper with first author.*

1. M. Tao, **Nasr A. M. Hafz\***, S. Li, M. Mirzaie, X. Ge, T. Sokollik, L. Chen, F. He, Ya Cheng, Zheng Ming Sheng, and Jie Zhang., “*High-Quality Laser-Driven Electron Beams*

*by Ionization Injection in Low-Density Nitrogen Gas Jet*” IEEE-Transactions on Plasma

Science **43**, 539 (2015). DOI: 10.1109/TPS.2014.238788  
*Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author.*

19. A. Elsied, **Nasr A. M. Hafz\***, Song Li, M. Mirzaie, T. Sokollik, and J. Zhang, “*Generation of high-quality electron beams from a laser-based advanced accelerator*” Chinese Physics C **39**, 067003 (2015). DOI: 10.1088/1674-1137/39/6/067003  
*Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author (my M.Sc. student).*

2013-2014 (at Shanghai Jiao Tong University)

1. W. C. Yan, L. M. Chen, Lu Zhang, D. Z. Li, **N. A. M. Hafz**, J. Dunn, L. Zhang, Y. Ma, K. Huang, L. N. Su, M. Chen, Z. M. Sheng, J. Zhang, “*Concurrence of monoenergetic electron*

*beams and bright X-rays from an evolving laser-plasma bubble*” **PNAS** Proceedings of the National Academy of Sciences of the United States of America, vol. **111**, 5825–5830 (2014).

DOI: 10.1073/pnas.140433611

*Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author.*

1. Song Li, **Nasr A. M. Hafz**\*, Mohammad Mirzaie,Thomas Sokollik, Ming Zeng, Min Chen, Z. M. Sheng, and Jie Zhang, “*Enhanced single-stage laser-driven electron acceleration by*

*self-controlled ionization injection*” Optics Express **22**, 29578 (2014). DOI:

10.1364/OE.22.029578

*Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author (my PDRA).*

1. D. Z. Li, W. C. Yan, L. M. Chen, K. Huang, Y. Ma, J. R. Zhao, L. Zhang, **Nasr A. M. Hafz**, W. M. Wang, J. L. Ma, Y. T. Li, Z. Y. Wei, J. Gao, Z. M. Sheng, J. Zhang,

“*Generation of monoenergetic electron beams with ultralow normalized emittance from a laser-plasma acceleration*” Optics Express **22**, 12836 (2014) DOI: 10.1364/OE.22.012836

*Role in the paper: supervised the experimental part on electron beam acceleration (~ 50% of the work) and wrote ~ 50 % of the paper.*

1. K. Huang, D. Z. Li, W. Yan, M. H. Li, M. Z. Tao, Z. Y. Chen, X. L. Ge, F. Liu, Y. Ma, J. R. Zhao, **N. A. M. Hafz**, J. Zhang, and L. M. Chen, “*Simultaneous generation of quasi-*

*monoenergetic electron and betatron X-rays from nitrogen gas via ionization injection*”

Applied Physics Letters **105**, 204101 (2014). DOI: 10.1063/1.4902127  
*Role in the paper: supervised the experimental part on electron beam acceleration (~ 50% of the work) and wrote ~ 50 % of the paper.*

1. Y. Ma, L. M. Chen, **N. A. M. Hafz,** D. Z. Li, K. Huang, W. C. Yan, J. Dunn, Z. M. Sheng, and J. Zhang, “*Diagnosis of bubble evolution in laser-wakefield acceleration via angular*

*distributions of betatron x-rays*” Applied Physics Letters **105**, 16111 (2014). DOI:

10.1063/1.4900412

*Role in the paper: supervised the experimental part on electron beam acceleration (~ 50% of the work) and wrote ~ 50 % of the paper.*

1. Song Li, **Nasr A. M. Hafz\***, Mohammad Mirzaie, Ahmed M. M. Elsied, Xulei Ge, Feng Liu, Thomas Sokollik, Mengze Tao, Liming Chen, Min Chen, Zhengming Sheng, and Jie

Zhang, “*Generation of electron beams from a laser wakefield acceleration in pure neon gas*” Physics of Plasmas **21** 083108 (2014). DOI: 10.1063/1.4892557

*Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author (my PDRA).*

1. Mengze Tao, **Nasr A. M. Hafz**\*, Song Li, Mohammad Mirzaie, Ahmed M. M. Elsied, Xulei Ge, Feng Liu, Thomas Sokollik, Liming Chen, Zheng Ming Sheng, and Jie Zhang,

“*Quasimonoenergetic collimated electron beams from a laser wakefield acceleration in low density pure nitrogen*” Physics of Plasmas **21**, 073102 (2014). DOI: 10.1063/1.4889877

*Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author.*

1. Song Li, **Nasr A. M. Hafz**\*, Mohammad Mirzaie, Xulei Ge, Thomas Sokollik, Min Chen,

Zheng Ming Sheng, and Jie Zhang, “*Stable laser-plasma accelerators at low densities*”

Journal of Applied Physics **116**, 043109 (2014). DOI: 10.1063/1.4891987  
*Role in the paper: proposed, supervised and conducted experiments and wrote the paper after an initial draft by the first author (my PDRA).*

1. *L. M. Chen, W. C. Yan, D. Z. Li, Z. D. Hu, L. Zhang, W. M. Wang,* ***N. Hafz,*** *J. Y. Mao, K. Huang, Y. Ma, J. R. Zhao, J. L. Ma, Y. T. Li, X. Lu, Z. M. Sheng, Z. Y. Wei, J. Gao, J. Zhang,*

*“Bright betatron X-ray radiation from a laser-driven-clustering gas target” Scientific Reports* ***3****, 1912 (2013) DOI: 10.1038/srep01912*

*Role in the paper: supervised the experimental part on the electron beam acceleration (~ 50% of the work) and wrote ~ 50 % of the paper.*

2012 (at Shanghai Jiao Tong University)

1. Xiaomi Zhang, Baifei Shen, Liangliang Ji, Wenpeng Wang, Jiancai Xu,Yahong Yu, Longqing Yi, Xiaofeng Wang, **Nasr A. M. Hafz**, and V. Kulagin, “*Effect of pulse profile*

*and chirp on a laser wakefield generation*” Physics of Plasmas **19**, 053103 (2012) DOI:

10.1063/1.4714610

*Role in the paper: propose the simulations and wrote the paper after initial draft by first author.*

1. M. Zeng, **N. Hafz,** K. Nakajima, L. M. Chen, W. Lu, W. Mori, Z. M. Sheng, J. Zhang, “Controlled ionization-induced injection by tailoring the gas-density profile in laser

wakefield acceleration” Journal of Plasma Physics **78**, 363 (2012). DOI:

10.1017/S0022377812000098

*Role in the paper: supervised simulations and wrote the paper after initial draft by first author.*

2011 (at GIST)

1. **Nasr A. M. Hafz**\*, “*Utilizing asymmetric laser pulses for the generation of high-quality wakefield-accelerated electron beams*” Nuclear Instruments and Methods in Physics

Research A 654 (2011) 592-596. DOI: 10.1016/j.nima.2011.07.024  
*Role in the paper: proposed and conducted experiments and wrote the paper.*

1. **N. Hafz\***, S. K. Lee, T. M. Jeong, J. Lee, “*Evolution of self-injected quasi-monoenergetic electron beams in a plasma bubble*” Nuclear Instruments and Methods in Physics Research

A **637** (2011) S51-S53. DOI: 10.1016/j.nima.2010.02.020  
*Role in the paper: proposed and conducted experiments and wrote the paper.*

1. Inhyuk Nam, Min Sup Hur, Han Sup Uhm, **Nasr A. M. Hafz**\* and Hyyong Suk, “*Controlling the betatron oscillations of a wakefield-accelerated electron beam by temporally asymmetric laser pulses*” Physics of Plasmas **18**, 043107(2011). DOI: 10.1063/1.3577566

*Role in the paper: proposed and supervised simulations and writing the paper after an initial draft by the first author.*

2010 (at GIST)

34. **Nasr A. M. Hafz**\*, Tae Jun Yu, Seong Ku Lee, Tae Moon Jeong, Jae Hee Sung, J. Lee, “*Controlling the Pointing Angle of a Relativistic Electron Beam in a Weakly-Nonlinear*

*Laser Wakefield Accelerator*” Applied Physics Express **3**, 076401 (2010). DOI: 10.1143/APEX.3.076401

*Role in the paper: proposed and conducted experiments and wrote the paper.*

2009 (at GIST)

35. IWChoi,CMKim,JHSung,IJKim,TJYu,SKLee,Y-YJin,KHPae,**N.Hafz**and J Lee, “*Absolute calibration of a time-of-flight spectrometer and imaging plate for the*

*characterization of laser-accelerated protons*” Meas. Sci. Technol. **20** 115112 (2009) DOI:

10.1088/0957-0233/20/11/115112

*Role in the paper: joined the experiments and wrote the paper after initial draft by first author.*

36. A. S. Pirozhkov, I. W. Choi, J. H. Sung, S. K. Lee, T. J. Yu, T. M. Jeong, I. J. Kim, **Nasr A. M. Hafz**, K. H. Pae, Y.-C. Noh, D.-K. Ko, J. Lee, A. Robinson, P. Foster, S. Hawkes, M. Streeter, C. Spindloe, P. McKenna, D. C. Carroll, C.-G. Wahlstrom, M. Zepf, B. Dromey, K. Markey, S. Kar, Y. T. Li, M. H. Xu, H. Nagatomo, M. Mori, A. Yogo, H. Kiriyama, K. Ogura, A. Sagisaka, S. Orimo, M. Nishiuchi, H. Sugiyama, T. Zh. Esirkepov, H. Okada, S. Kondo, S. Kanazawa, Y. Nakai, A. Akutsu, T. Motomura, M. Tanoue, T. Shimomura, M. Ikegami, I. Daito, M..Kando, T. Kameshima, P. Bolton, S. V. Bulanov, H.

Daido, and D. Neely, “*Diagnostic of laser contrast using target reflectivity*” Applied Physics Letters **94**, 241102 (2009) DOI: 10.1063/1.3148330

*Role in the paper: joined the experiments*

37. I. W. Choi, C. M. Kim, J. H. Sung, T. J. Yu, S. K. Lee, I J. Kim, T. M. Jeong, **N. Hafz,** K. H. Pae, Y.-C. Noh, D.-K. Ko, A. Yogo, A. S. Pirozhkov, K. Ogura, S. Orimo, A. Sagisaka, M. Nishiuchi, I. Daito, Y. Oishi, Y. Iwashita, S. Nakamura,, K. Nemoto, A. Noda, H. Daido,

and J. Lee. “*Ion spectrometer composed of time-of-flight and Thomson parabola spectrometers for simultaneous characterization of laser-driven ions*” Review of Scientific

Instruments **80**, 053302 (2009). DOI: 10.1063/1.3131628  
*Role in the paper: joined the experiments and wrote the paper after initial draft by first author.*

2008 (at GIST)

38. **N. A. M. Hafz,** T. M. Jeong, I. W. Choi, S. K. Lee, K. H. Pae, V. Kulagin, J. H. Sung, T. J. Yu, K. H. Hong, T. Hosokai, J. Cary, D. K. Ko, J. Lee, “*Stable generation of GeV-class*

*electron beams from self-guided laser-plasma channels*” Nature Photonics **2**, 571 (2008) DOI: 10.1038/nphoton.2008.155

*Role in the paper: conceived, designed, implemented, acquired data and wrote the paper*

See Interview http://www.nature.com/nphoton/journal/v2/n9/full/nphoton.2008.179.html of **N. Hafz**\*, in Nature Photonics **2**, 580 (2008)

See Editorial http://www.nature.com/nphoton/journal/v2/n9/full/nphoton.2008.159.html on **N. Hafz\*** in Nature Photonics **2**, 513 (2008)

See News and Views http://www.nature.com/nphoton/journal/v2/n9/full/nphoton.2008.167.html on **N. Hafz\*** et al., in Nature Photonics **2**, 526 (2008)

39. M. Nishiuchi, H. Daido, A. Yogo, S. Orimo, K. Ogura, J. Ma, A. Sagisaka, M. Mori, A. S. Pirozhkov, H. Kiriyama, S. V. Bulanov, and T. Zh. Esirkepov, I. W. Choi, C. M. Kim, T. M. Jeong, T. J. Yu, J. H. Sung, S. K. Lee, **N. Hafz**, K. H. Pae, Y.-C. Noh, D.-K. Ko, and J.

Lee, Y. Oishi and K. Nemoto, H. Nagatomo and K. Nagai, H. Azuma, “*Efficient production of a collimated MeV proton beam from a polyimide target driven by an intense femtosecond laser pulse*” Physics of Plasmas **15**, 053104 (2008) DOI: 10.1063/1.2928161

*Role in the paper: joined the experiments.*

1. H.T.Kim,C.-MKim,I.W.Choi,H.C.Kang,**N.Hafz,**S.G.Lee,J.H.Sung,T.J.Yu,K. H. Hong, T. M. Jeong, Y.-C. Noh, D.-K. Ko, J. Tummler, P. V. Nickles, W. Sandner, K. A.

Janulewicz, and J. Lee, “*Characteristics of a Ni-like silver x-ray laser pumped by a single profiled laser pulse*” J. Opt. Soc. Am. B. **25**, B76 (2008). DOI: 10.1364/JOSAB.25.000B76

*Role in the paper: joined the experiments.*

1. H. T. Kim, I. W. Choi, **N. Hafz**, J. H. Sung, T. J. Yu, K.-H. Hong, T. M. Jeong, Y.-C. Noh, D.-K. Ko, K. A. Janulewicz, J. Tummler, P. V. Nickles, W. Sandner, and J. Lee,

“*Demonstration of a saturated Ni-like Ag x-ray laser pumped by a single profiled laser pulse from a 10-Hz Ti : sapphire laser system*” Physical Review A **77**, 023807 (2008). DOI:

10.1103/PhysRevA.77.023807

*Role in the paper: joined the experiments.*

2007 (at GIST)

42. Tae Moon Jeong, Il Woo Choi, **Nasr Hafz**, Jae Hee Sung, Seong Ku Lee, Do-Kyeong Ko, and Jongmin Lee, “*Wavefront correction and customization of focal spot of 100TW Ti :*

*sapphire laser system*” Japanese Journal of Applied Physics **46**, 7724 (2007). DOI: 10.1143/JJAP.46.7724

*Role in the paper: joined the experiments and wrote the paper with the first author*

43. **N. Hafz\***, I. W. Choi, J. H. Sung, H. T. Kim, K. -H. Hong, T. M. Jeong, T. J. Yu, V. Kulagin, H. Suk, Y.-C. Noh, D.-K. Ko, J. Lee, “*Dependence of the electron beam parameters on the*

*stability of laser propagation in a laser wakefield accelerator*” Applied Physics Letters **90**, 151501 (2007). DOI: 10.1063/1.2721119

*Role in the paper: proposed and conducted experiments and wrote the paper.*44. **N. Hafz,** G. H. Kim, C. Kim, and H. Suk, “*Generation of good-quality relativistic electron*

*beam from self-modulated laser wakefield acceleration*” International Journal of Modern Physics B **21**, 398 (2007). DOI: 10.1142/S0217979207042173

*Role in the paper: proposed and conducted experiments and wrote the paper.*

2006 (at KERI)

45. **Nasr Hafz**, Min Sup Hur, Guang Hoon Kim, Changbum Kim, I. S. Ko, and Hyyong Suk, “*Quasimonoenergetic electron beam generation by using a pinholelike collimator in a self-*

*modulated laser wakefield acceleration*” Phys. Rev. E **73**, 016405 (2006) DOI: 10.1103/PhysRevE.73.016405

*Role in the paper: proposed and conducted experiments and wrote the paper.*

2005 (at KERI)

46. **N. Hafz**, V. Kulagin, Jongmin Lee and H. Suk, “*Near-GeV electron beam from a laser wakefield accelerator in the bubble regime*” Nuclear Instruments and Methods in Physics

Research-A **554**, 49-58 (2005). DOI: 10.1016/j.nima.2005.07.061  
*Role in the paper: proposed and conducted the simulations and wrote the paper.*

2004 (at KERI)

1. J. U. Kim, **N. Hafz** and H. Suk, “*Electron trapping and acceleration across a parabolic plasma density profile*” Physical Review E **69**, 026409 (2004) DOI:

10.1103/PhysRevE.69.026409

*Role in the paper: proposed the simulations and wrote the paper with the first author.*

1. H. Suk, **N. Hafz**, J. Kim, H. J. Lee, “*Emittance growth of high-energy electrons produced*

*from the laser wakefield acceleration*” IEEE -Transactions on Plasma Science **32**, 429 (2004). DOI: 10.1109/TPS.2004.826360

*Role in the paper: joined the discussions*

2003 (at KERI and University of Tokyo)

49. **N. Hafz**\*, H. J. Lee, G. H. Kim, J. U. Kim, H. Suk, Jongmin Lee, “*Femtosecond X-ray generation via the Thomson scattering of a terawatt laser from electron bunches produced from the LWFA utilizing a plasma density transition*” IEEE Transactions on Plasma Science **31**, 1388-1394 (2003). DOI: 10.1109/TPS.2003.820680

*Role in the paper: proposed and conducted the simulations and wrote the paper.*

2002 (at University of Tokyo)

1. M. Uesaka, T. Watanabe, and **N. Hafz**, Japan Society of Applied Physics, JSAP- International **5**, 14-21 (2002).

*Role in the paper: wrote 50 % of the paper.*

1. R. G. Hemker, **N.M. Hafz**, and M. Uesaka, “*Computer simulations of a single-laser double-*

*gas-jet wakefield accelerator concept*” Physical Review Special Topics - Accelerators and

Beams **5**, 041301-041308 (2002). DOI: 10.1103/PhysRevSTAB.5.041301  
*Role in the paper: joined the design of the simulations and wrote the paper with the first author.*

2001 (at University of Tokyo)

1. **Nasr A. M. Hafz**, R. Hemker, A. Zhidkov, H. Okuda, W. Ghaly, K. Kinoshita, T. Hosokai,

K. Yoshii, T. Ueda, T. Watanabe, M. Uesaka, “*Laser-plasma electron linear accelerator*”

International Journal of Applied Electromagnetics and Mechanics **14**, 271-276 (2003). *Role in the paper: proposed and conducted the simulations and wrote the paper.*

1. Mitsuru Uesaka, Takahiro Watanabe, Tetsuya Kobayashi, Toru Ueda, Koji Yoshii, Guozhong Wu, Xifeng Li, Yusa Muroya, Jun Sugahara, Kenichi Kinosita, **Nasr Hafz**, Hiroyuki Okuda, Teppei Nishihara, Yohei Terada, Kazuhisa Nakajima, Yosuke Katsumura,

“*Hundreds- and tens-femtosecond time-resolved pump-and-probe analysis system*”

Radiation Physics and Chemistry **60**, 303-306 (2001). DOI: 10.1016/S0969- 806X(00)00366-2

*Role in the paper: joined the discussions*

2000 (at University of Tokyo)

54. Mitsuru Uesaka, Kenichi Kinoshita, Takahiro Watanabe, Jun Sugahara, Toru Ueda, Koji Yoshii, Tetsuya Kobayashi, **Nasr Hafz**, Kazuhisa Nakajima, Fumio Sakai, Masaki Kando, Hideki Dewa, Hideyuki Kotaki, and Shuji Kondo, “*Experimental verification of laser photocathode RF gun as an injector for a laser plasma accelerator*” IEEE Transactions on

Plasma Science **28**, 1084- 1093 (2000). DOI: 10.1109/27.893293  
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55. **Nasr Hafz**\*, Mitsuru Uesaka, James Koga, Kazuhisa Nakajima, “*Numerical analysis of 10's femtosecond relativistic electron beam generation using single 12 TW 50 fs laser pulse*”

Nuclear Instruments and Methods in Physics Research A **455**, 148-154 (2000). DOI: 10.1016/S0168-9002(00)00722-1

*Role in the paper: proposed and conducted the simulations and wrote the paper.*

SCI Korean Journals

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