

Recent publications by Jiří Limpouch

Journal articles

- 1) D. Margarone, O. Klimo, I. J. Kim, J. Prokūpek, **J. Limpouch**, T. M. Jeong, T. Mocek, J. Pšikal, H. T. Kim, J. Proška, K. H Nam, L. Štolcová, I.W. Choi, S. K. Lee, J. H. Sung, T. J. Yu, and G. Korn,
Laser-Driven Proton Acceleration Enhancement by Nanostructured Foils,
Phys. Rev. Lett. **109**, Art. No. 234801, 7 Dec 2012,
<http://dx.doi.org/10.1103/PhysRevLett.109.234801>
- 2) V. Kmetík, **J. Limpouch**, R. Liska and P. Váchal,
Modeling of annular-laser-beam-driven plasma jets from massive planar targets,
Laser and Particle Beams **30**, 445-457, Sep 2012,
<http://dx.doi.org/10.1017/S026303461200033X>
- 3) M. Momcilovic, **J. Limpouch**, V. Kmetik, R. Redaelli, J. Savovic, D. Batani, J. Stasic, P. Panjan, and M. Trtica,
Surface modification of copper using high intensity, 10^{15} W/cm², femtosecond laser in vacuum,
Applied Surface Science **258**, 8908– 8914, 1 Sep 2012
<http://dx.doi.org/10.1016/j.apsusc.2012.05.113>
- 4) J. Psikal, O. Klimo, **J. Limpouch**,
2D particle-in-cell simulations of ion acceleration in laser irradiated submicron clusters including field ionization.
Physics of Plasmas **19**, Art. No. 043107, Apr 2012 <http://dx.doi.org/10.1063/1.4704791>
- 5) D. Margarone, J. Krasa, J. Prokupek, A. Velyhan, L. Torrissi, A. Picciotto, L. Giuffrida, S. Gammino, P. Cirrone, M. Cutroneo, F. Romano, E. Serra, A. Mangione, M. Rosinski, P. Parys, L. Ryc, **J. Limpouch**, L. Laska, K. Jungwirth, J. Ullschmied, T. Mocek, G. Korn, B. Rus,
New methods for high current fast ion beam production by laser-driven acceleration,
Rev. Sci. Instrum. **83**, Art. No. 02B307, Feb 2012 <http://dx.doi.org/10.1063/1.3669796>
- 6) S Depierreux, C Goyon, K Lewis, H Bandulet, D T Michel, G Loisel, V Yahia, V Tassin, C Stenz, N G Borisenko, W Nazarov, **J Limpouch**, P E Masson Laborde, P Loiseau, M Casanova1, Ph Nicolai, S Hüller, D Pesme, C Riconda, V T Tikhonchuk, C Labaune,
Interaction physics for the shock ignition scheme of inertial confinement fusion targets,
Plasma Phys. Control. Fusion **53**, Art.No. 124034, Dec 2011
<http://dx.doi.org/10.1088/0741-3335/53/12/124034>
- 7) S. Yu. Gus'kov, **J. Limpouch**, Ph. Nicolai, V. T. Tikhonchuk,
Laser-supported ionization wave in under-dense gases and foams,
Phys. Plasmas **18**, Art.No. 103114, Oct 2011 <http://dx.doi.org/10.1063/1.3642615>
- 8) J. Psikal, O. Klimo, **J. Limpouch**,
Field ionization effects on ion acceleration in laser-irradiated clusters,
Nuclear Instruments and Methods in Physics Research A **653**, 109–112, Oct 2011
<http://dx.doi.org/10.1016/j.nima.2011.01.068>

- 9) O. Klimo, V. T. Tikhonchuk, X. Ribeyre, G. Schurtz, C. Riconda, S. Weber, **J. Limpouch**,
Laser plasma interaction studies in the context of shock ignition—Transition from collisional to collisionless absorption,
Phys. Plasmas **18**, Art.No. 082709, Aug 2011 <http://dx.doi.org/10.1063/1.3625264>
- 10) O Klimo, J Psikal, **J Limpouch**, J Proska, F Novotny, T Ceccotti, V Floquet, S Kawata,
Short pulse laser interaction with micro-structured targets: simulations of laser absorption and ion acceleration,
New Journal Phys. **13**, Art.No. 053028, May 2011,
<http://dx.doi.org/10.1088/1367-2630/13/5/053028>
- 11) S. Yu. Gus'kov, D. V. Il'in, **J. Limpouch**, O. Klimo, V. E. Sherman,
Parameters of an Ion Beam and Characteristic Features of Its Slowing-Down in a Plasma during Fast Ignition of an Inertial Fusion Target,
Plasma Physics Reports **36**, 473–481, Jun 2010
<http://dx.doi.org/10.1134/S1063780X10060048>.
- 12) O. Klimo, S. Weber, V. T. Tikhonchuk, **J. Limpouch**,
Particle-in-cell simulations of laser–plasma interaction for the shock ignition scenario,
Plasma Phys. Control. Fusion **52**, Art.No. 055013, May 2010
<http://dx.doi.org/10.1088/0741-3335/52/5/055013>
- 13) J. Psikal, V. T. Tikhonchuk, **J. Limpouch**, O. Klimo
Lateral hot electron transport and ion acceleration in femtosecond laser pulse interaction with thin foils,
Physics of Plasmas **17**, Art.No. 013102, Jan 2010, <http://dx.doi.org/10.1063/1.3276524>
- 14) D. Batani, R. Benocci, R. Dezulian, R. Redaelli, F. Canova, H. Stabile, G. Lucchini, V. Malka, J. Faure, M. Koenig, E. Krousky, K. Masek, M. Pfeifer, J. Skala, R. Dudzak, **J. Limpouch**, V. Tikhonchuk, P. Nicolai,
Smoothing of laser energy deposition by gas jets,
European Physical Journal - Special Topics **175**, 65-70, Aug 2009
<http://dx.doi.org/10.1140/epjst/e2009-01119-2>
- 15) A. A. Andreev, **J. Limpouch**, J. Psikal, K. Yu. Platonov, V. T. Tikhonchuk,
Laser ion acceleration in mass limited targets,
European Physical Journal - Special Topics **175**, 123-126, Aug 2009
<http://dx.doi.org/10.1140/epjst/e2009-01128-1>
- 16) S. Depierreux, C. Lobaune, D. T. Michel, C. Stenz, P. Nicolai, M. Grech, G. Riazuelo, S. Weber, C. Riconda, V.T. Tikhonchuk, P. Loiseau, N.G. Borisenko, W. Nazarov, S. Hüller, D. Pesme, M. Casanova, **J. Limpouch**, C. Meyer, P. Di-Nicola, R. Wrobel, E. Alozy, P. Romary, G. Thiell, G. Soullie, C. Reverdin, B. Villette,
Laser Smoothing and Imprint Reduction with a Foam Layer in the Multikilojoule Regime,
Phys. Rev. Lett. **102**, Art. No. 195005, May 15, 2009
<http://dx.doi.org/10.1103/PhysRevLett.102.195005>
- 17) S. Kawata, Y. Nodera, **J. Limpouch**, O. Klimo,
Efficient Production of Proton Beam in Laser-Illuminated Tailored Microstructured Target,
IEEE Transactions on Plasma Science **37**, 481-486, Apr 2009,
<http://dx.doi.org/10.1109/TPS.2008.2011272>

- 18) L. Videau *et al.*, J Limpouch *et al.*,
Overview of on-going LIL experiments,
Plasma Phys. Control. Fusion **50**, Art. No. 124017, Dec 2008
<http://dx.doi.org/10.1088/0741-3335/50/12/124017>
- 19) Y. Nodera, S. Kawata, N. Onuma, **J. Limpouch**, O. Klimo, T. Kikuchi,
Improvement of energy conversion efficiency from laser to proton beam in a laser foil interaction,
Phys. Rev. E **78**, Art.No. 046401, Oct 2008
<http://dx.doi.org/10.1103/PhysRevE.78.046401>
- 20) **J. Limpouch**, J. Psikal, A. A. Andreev, K. Yu. Platonov, S. Kawata,
Enhanced laser ion acceleration from mass-limited targets,
Laser & Particle Beams **26**, 225-234, Jun 2008,
<http://dx.doi.org/10.1017/S0263034608000268>
- 21) J. Psikal, V. T. Tikhonchuk, **J. Limpouch**, A. A. Andreev, A. V. Brantov,
Ion acceleration by femtosecond laser pulses in small multispecies targets,
Phys. Plasmas **15**, Art.No. 053102, May 2008 <http://dx.doi.org/10.1063/1.2913264>
- 22) T. Kapin, M. Kuchařík, **J. Limpouch**, R. Liska, P. Váchal,
Arbitrary Lagrangian Eulerian method for laser plasma simulations,
Int. J. Numerical Methods in Fluids **56**, 1337-1342, March 2008
<http://dx.doi.org/10.1002/fluid.1567>
- 23) O. Klimo, J. Psikal, **J. Limpouch**, V. T. Tikhonchuk,
Monoenergetic ion beams from ultrathin foils irradiated by ultrahigh-contrast circularly polarized laser pulses,
Phys. Rev. ST- Accelerators and Beams **11**, Art. No. 031301, Mar 2008
<http://dx.doi.org/10.1103/PhysRevSTAB.11.031301>