

Curriculum Vitae & Publications

Personal Information

Name and degree: Ing. Jan Velechovský
Affiliation: Department of Physical Electronics
Faculty of Nuclear Sciences and Physical Engineering (FNSPE)
Czech Technical University in Prague (CTU)
Work address: Room 131A, Trojanova 13, 120 00 Praha 2
Email: velecjan@fjfi.cvut.cz
Date of birth: 26th July 1986
Nationality: Czech
Home address: V Bytovkách 662/3, 561 69 Králky
Cell phone: +420 777 603 452

Education and Training

Since 2011 Université de Bordeaux, France jointly with the CTU in Prague
Type of programme: Doctoral (PhD)
Study programme: Physical Engineering
Specialization: Computational Physics and Technology
Date of thesis defense: June 2015

2009 – 2011 CTU, FNSPE, Engineer (Master) degree, graduated with honours
2006 – 2009 CTU, FNSPE, Bachelor degree in Engineering Informatics

Work Experience

Oct. – Dec. 2011 Research Scholar at Los Alamos National Laboratory, New Mexico, USA

2010, 2011, 2012 Participation in the High-energy laser-target interaction experiments,
Prague Asterix Laser System laboratory, approximately one week a year

Other Courses & Conferences

July 2014 ECCOMAS 6th. European Conference on CFD, Barcelona, Spain
June 2014 Kudowa Summer School, Poland, Plasma Physics, Fusion Energy
June 2013 ELI Beamlines Summer School, Prague, recent status of high-power lasers
Oct. 2012 CCP2012, Conference on Computational Physics, Kobe, Japan
Sep. 2011 TEI of Crete, Greece, Applications of Electronics in Plasma Physics
Nov. 2010 Politecnico di Milano, Italy, River Hydraulics, Shallow water equations

Foreign Languages

English: Advanced knowledge
German: Intermediate knowledge
French: Elementary knowledge

Other Skills, Experience and Hobby's

Member of Executive Board of the FNSPE CTU Students Union
Driving license (car, motorcycle)
Sport, photography, ballroom dancing

Citation Indexes

Citations in Impacted Journals 9 (5 without self-citations)
All citations (Web of Science) 17
H-index (Web of Science) 3

List of Publications

Impacted Journals

- [1] J. Velechovsky, J. Breil, and R. Liska. Flux corrected remapping using piecewise parabolic reconstruction for 2D cell-centered ALE methods. *International Journal for Numerical Methods in Fluids*, **76**:575–586, 2014.
- [2] J. Velechovsky, M. Kucharik, R. Liska, M. Shashkov, and P. Vachal. Symmetry- and essentially-bound-preserving flux-corrected remapping of momentum in staggered ALE hydrodynamics. *Journal of Computational Physics*, **255**:590–611, 2013.
- [3] J. Velechovsky, R. Liska, and M. Shashkov. High-order remapping with piece-wise parabolic reconstruction. *Computers and Fluids*, **83**:164–169, 2013.
- [4] O. Renner, M. Smid, T. Burian, L. Juha, J. Krasa, E. Krousky, I. Matulkova, J. Skala, A. Velyhan, R. Liska, J. Velechovsky, T. Pisarczyk, T. Chodukowski, O. Larroche, and J. Ullschmied. Environmental conditions in near-wall plasmas generated by impact of energetic particle fluxes. *High Energy Density Physics*, **9**(3):568–572, 2013.
- [5] Ph. Nicolai, M. Olazabal-Loume, S. Fujioka, A. Sunahara, N. Borisenko, S. Guskov, A. Orekov, M. Grech, G. Riazuelo, C. Labaune, J. Velechovsky, and V. Tikhonchuk. Experimental evidence of foam homogenization. *Physics of Plasmas*, **19**(11):113105, 2012.

Others

- [6] J. Velechovsky, R. Liska, and V. Tikhonchuk. Arbitrary Lagrangian–Eulerian hydrodynamical method for laser plasma modeling. *Kudowa Summer School "Towards Fusion Energy" Programme and Contributions*, 61–62, Institute of Plasma Physics, Warsaw, 2014.
- [7] J. Velechovsky, M. Kucharik, R. Liska, and M. Shashkov. Symmetry-preserving momentum remap for ALE hydrodynamics. *Journal of Physics Conference Series (IUPAP-CCP 2012)*, **454**:012003, 2013.
- [8] J. Velechovsky, M. Kucharik, R. Liska, M. Shashkov, and P. Vachal. Symmetry-preserving Remap of Vectors for Staggered ALE Hydrodynamics. *Journee de l'Ecole Doctorale*, Universite de Bordeaux, 118, 2013.
- [9] O. Renner, J. Cihelka, L. Juha, J. Krasa, E. Krousky, J. Nejd, J. Skala, A. Velyhan, T. Pisarczyk, T. Chodukowski, Z. Kalinowska, A. Kasperczuk, P. Pisarczyk, R. Liska, M. Šmíd, P. Vachal, J. Velechovsky, and J. Ullschmied. Plasma Jets Production at Laser-Burnt-Through Foils and their Interaction with Secondary Targets. In *Proceedings of the 5th International Conference on Frontiers of Plasma Physics and Technology*, IAEA Vienna, 2013.
- [10] R. Liska, M. Kucharik, J. Limpouch, O. Renner, P. Vachal, L. Bednarik, and J. Velechovsky. ALE Method for Simulations of Laser-Produced Plasmas. In Fort, J and Furst, J and Halama, J and Herbin, R and Hubert, F, editor, *Finite Volumes for Complex Applications VI: Problems and Perspectives, vols 1 and 2*, volume 4 of *Springer Proceedings in Mathematics*, 857–873, Springer-Verlag Berlin, 2011.
- [11] H. Jelinkova, L. Bednarik, M. Drahokoupil, M. Duspiva, M. Fibrich, J. Havlik, M. Holec, M. Jelinek, O. Kitzler, J. Kodet, P. Koranda, P. Matlas, V. Michalek, P. Navratil, M. Nemeč, D. Vyhlidal, P. Sztokowski, M. Vacek, J. Velechovsky, J. Blazej, M. Cech, V. Kubeček, M. Kucharik, R. Liska, A. Novotny, I. Prochazka, M. Sinor, J. Sulc, and P. Vachal. Lasery a aplikace. In *Workshop 2011*, number SGS10/299/OHK4/3T/14, pages 1–6. Czech Technical University in Prague, 2011.
- [12] O. Renner, J. Cihelka, L. Juha, E. Krousky, J. Nejd, J. Skala, A. Velyhan, T. Pisarczyk, T. Chodukowski, P. Pisarczyk, R. Liska, M. Smid, P. Vachal, J. Velechovsky, J. Ullschmied, O. Larroche, and E. Dalimier. Spectroscopic diagnosis of energetic plasma jets interaction with walls. In *14th International Workshop on Radiative Properties of Hot Dense Matter*, Universidad Politecnica de Madrid, 20, 2010.