

Publications in 2007 assisted by PALS though the department members are not listed among the main authors

Journals

- [1] M.H. Edwards, D.S. Whittaker, G.J. Tallents, P. Mistry, G.J. Pert, B. Rus, T. Mocek, M. Kozlová, J. Polan, A. Praeg, M. Stupka, P. Homer: **Laser-Ablation Rates Measured Using X-Ray Laser Transmission**, Phys. Rev. Lett. 99, 195002 (2007).
- [2] M. Busquet, E. Audit, M. González, C. Stehlé, F. Thais, O. Acef, D. Bauduin, P. Barroso, B. Rus, M. Kozlová, J. Polan, T. Mocek: **Effect of Lateral Radiative Losses on Radiative Shock Propagation**. High Energy Density Physics 3, 8-11 (2007).
- [3] Granja C., Haiduk A., Kuba J., Renner O.: **Survey of nuclei for low-energy nuclear excitation in laser-produced plasma**. Nuclear Physics A 784 (2007) 1-12.
- [4] N.G. Borisenko, A.M. Khalenkov, V. Kmetik, J. Limpouch, Yu.A. Merkuliev, V.G. Pimenov, **Plastic Aerogel Targets and Optical Transparency of Undercritical Microheterogeneous Plasma**, Fusion Science and Technology 51 (4), 655-664, May 2007.
- [5] T. Kapin, M. Kuchařík, J. Limpouch, R. Liska, P. Váchal. **Arbitrary Lagrangian Eulerian method for laser plasma simulations**. Int. J. Numer. Meth. Fluids, Published Online 2007, DOI: 10.1002/flid.1567 (in press).
- [6] Y.A. Mikhailov, M.A. Grechko, O.A. Zhitkova, M. A. Zhurovich, A. V. Koutsenko, I.G. Lebo, J. Limpouch, A. A. Matsveiko, V.B. Rozanov, G.V. Sklizkov, A.N. Starodub, V.F. Tishkin, A. M. Chekmarev, **Effect of a Prepulse on Ablation-Pressure Smoothing in Laser Heating of Thin Foils**, Journal of Russian Laser Research 28 (4), 311-325, July 2007.
- [7] N. Rudraiah, M. Kalal, **Electrohydrodynamic Surface Instabilities: Role of Porous Lining at the Ablative Surface of Laser Driven Inertial Fusion Energy Target**, Current Science, Vol. 93 (5), Sep 2007, 628 – 647.
- [8] J. Limpouch, J. Psikal, A. A. Andreev, K. Yu. Platonov, S. Kawata: **Enhanced laser ion acceleration from mass-limited targets**, Laser and Particle Beams. zasláno k publikaci, Nov 2007.
- [9] O. Klimo, J. Psikal, J. Limpouch, V.T. Tikhonchuk: **Monoenergetic ion beams from ultrathin foils irradiated by ultra high-contrast circularly polarized laser pulses**. Phys. Rev. ST – Accelerators and beams, zasláno k publikaci, Oct 2007.
- [10] A. Zavadilová, V. Kubeček, J.C. Diels, **Picosecond optical parametric oscillator pumped synchronously, intracavity, by a mode-locked Nd:YVO4 laser**, Laser Phys.Lett. 4, 103-108, 2007.
- [11] V. Kubeček, W. Zendzian, J.K. Jabczynski, J. Kwiatkowski, H. Jelínková, A. Stintz, J.C. Diels, **Side pumped Nd:YAG slab laser mode- locked using multiple quantum well saturable absorbers**, Laser Phys.Lett. 5 (1), Jan 2008.
- [12] S. Civiš, D. Babánková, J. Cihelka, P. Sazama, L. Juha: **Spectroscopic investigations of high-power laser-induced dielectric breakdown in gas mixtures containing carbon monoxide**, podáno do J. Phys. Chem. A.
- [13] B. Rus; T. Mocek; M. Kozlová; J. Polan; P. Homer; M. Stupka; G. J. Tallents; M. H. Edwards; P. Mistry; D. S. Whittaker; N. Booth; Z. Zhai; G. J. Pert; J. Dunn; A. J. Nelson; M. E. Foord; R. Shepherd; W. Rozmus; H. A. Baldis; M. Fajardo; D. De Lazzari; P. Zeitoun; G. Jamelot; A. Klisnick; D. Ros; K. Cassou; S. Kazamias; H. Bercegol; C. Danson; S. Hawkes; L. Juha; V. Hájková; J. Chalupský; J. Feldhaus; H. Wabnitz; J. Nejd; J. Kuba; M. Davidková; A. Plavcová; V. Štísová: Development and applications of multimillijoule soft X-ray lasers. Journal of Modern Optics, Vol. 54, Nos. 16-17, 10-20 (2007).
- [14] J. Krzywinski, R. Sobierajski, M. Jurek, R. Nietubyc, J. B. Pelka, L. Juha, M. Bittner, V. Letal, V. Vorliceck, A. Andrejczuk, J. Feldhaus, B. Keitel, E. Saldin, E. Schneidmiller, R. Treusch, M. Yurkov: **Conductors, semiconductors and insulators irradiated with short-wavelength free-electron laser**, J. Appl. Phys. 101, 043107 (2007).
- [15] S. P. Hau-Riege, H. N. Chapman, J. Krzywinski, R. Sobierajski, S. Bajt, R. A. London, M. Bergh, C. Coleman, R. Nietubyc, L. Juha, J. Kuba, E. Spiller, S. Baker, R. Bionta, K. Sokolowski-Tinten, N. Stojanovic, B. Kjørnraattawanich, E. Gullikson, E. Ploenjes, S. Toleikis, T. Tschentscher: **Subnanometer-scale measurements of the interaction of ultrafast soft X-ray free-electron-laser pulses with matter**, Phys. Rev. Lett. 98, 145502 (2007).
- [16] K. Kolacek, J. Schmidt, V. Prukner, O. Frolov, J. Straus: **Ways to discharge-based soft X-ray lasers with the wavelength $\lambda < 15$ nm**. Laser and Particle Beams 26 (2008), accepted for publication.

- [17] Kubes P., Bakshaev Y. L., Blinov P. I., Chernenko A.S., Ivanov M. I., Kazakov E. D., Klir D., Korelsky A. V., Kravarik J., Kravchenko E. V., Korolev V. D., Rezac K., Shashkov A. Y., Ustroev G. I. : **Deuterated fibre in wire array load on the S-300**, Fizika Plazmy Vol. 34 No. 1, 2008 pp.1-9.
- [18] Klir D., Kravarik J., Kubes P., Rezac K., Anan'ev S.S., Bakshaev Yu.L., Blinov P.I., Chernenko A.S., Kazakov E.D., Korolev V.D., Meshcherov B.R., Ustroev G.I.: **Neutron Emission Generated during Wire-Array implosion onto Deuterated Fiber**, zasláno do tisku.
- [19] L. Kral: **Closed-loop wavelength stabilization of an optical parametric oscillator as a front end of a high-power iodine laser chain**, Rev. Sci. Instrum. 78 (2007) 053104(1) - 053104(5).

Conferences

- [D1] G. J. Tallents, M. H. Edwards, D. S. Whittaker, P. Mistry, G. J. Pert, B. Rus, T. Mocek, M. Kozlová, J. Polan, A. Praeg, M. Stupka, P. Homer: **X-ray lasers as probes to measure plasma ablation rates**. Soft X-Ray Lasers and Applications VII, Proc. SPIE Vol. 6702.
- [D2] M. Mašek, K. Rohlena: **Anomalous dispersion observed in numerical simulation of electron gas dynamics in the external corona of laser generated plasma**; 34th EPS Conference on Plasma Phys. Warsaw, 2 - 6 July 2007 ECA Vol.31F, P-4.004 (2007).
- [D3] C. Labaune, S. Depierreux, V.T. Tikhonchuk, P. Nicolai, C. Stenz, M. Grech, D.T. Michel, D. Pesme, S. Hüller, N.G. Borisenko, J. Limpouch, W. Nazarov, C. Meyer, P. Di Nicola, R. Wrobel, E. Aloyz, G. Soullié, C. Reverdin, G. Thiell, **Laser plasma smoothing studies with the LIL facility**, Inertial Fusion Science and Applications, Kobe, Japan, 9.-14.9.2007, invited paper WeO2.4, Book of Abstracts, p. 74 (Proceedings in print).
- [D4] S. Depierreux, C. Labaune, D.T. Michel, V.T. Tikhonchuk, C. Stenz, N. Borisenko, W. Nazarov, M. Grech, S. Huller, J. Limpouch, P. Nicolai, D. Pesme, W. Rozmus, C. Meyer, P. Di-Nicola, R. Wrobel, E. Aloyz, P. Romary, G. Thiell, G. Soullie, C. Reverdin, B. Villette, **Plasma Smoothing of the Laser Beam in Foam Target (LIL Experiment)**, 3rd Moscow Workshop on Targets and Applications, Moscow, October 15 - 19, 2007.
- [D5] J. Limpouch, **Laser interactions with underdense foams for laser beam and ablation pressure smoothing**, (vyzvaný ref.). 5th Workshop on Direct-Drive and Fast Ignitron Physics, Madrid, 2.-4.April.2007 (sborník na CD).
- [D6] M. Kucharik, R. Liska, M. Shashkov, **Multimaterial Arbitrary Lagrangian-Eulerian method for compressible fluid dynamics**. Abstracts of 9USACM, 9th US National Congress on Computational Mechanics, page 092/145, 2007.
- [D7] M. Kuchařík, R. Liska, M. Shashkov, P. Váchal, **Lagrangian models and remapping algorithms for 2D multimaterial ALE methods**. Numerical Methods for Multi-material Fluid Flows, Prague, Sept. 10-14, 2007. Book of Abstracts, p. 31
- [D8] T. Kapin, M. Kuchařík, J. Limpouch, R. Liska, P. Váchal, **Arbitrary Lagrangian Eulerian method for laser plasma simulations**. ICFD 2007, Numerical Methods fo Fluid Dynamics,. University of Reading, 2007. 26-29 March, Book of Abstracts, pp. 59—60 (Proceedings in print).
- [D9] R. Liska, M. Kuchařík, J. Limpouch, P. Váchal, **Applications of ALE method to laser plasma studies**. Numerical Methods fo Multi-material Fluid Flows, Prague, September 10-14, 2007, Book of abstracts, p. 33.
- [D10] M. Kucharik, R. Liska, M. Shashkov, **Advanced Arbitrary Lagrangian-Eulerian method in laser-plasma interaction simulations**. Book of Abstracts of the 14th International Conference on Finite Elements in Flow Problems, p. 155, 2007.
- [D11] R Liska, J Limpouch, M Kuchařík, O Renner, **Selected Laser Plasma Simulations by ALE Method**, Inertial Fusion Science and Applications, Kobe, Japan, 9.-14.9.2007, paper TuPo25, Book of Abstracts, p. 172 (Proceedings in print).
- [D12] M. Kalal, **Inertial Fusion Energy as a Source of Inexhaustible Environment-friendly Energy for the Future of Mankind: Current Status and Perspective**, Int. Symposium on Environment-Friendly Technology, Material and Energy, Seoul National University of Technology (SNUT), Feb. 27, 2007, Seoul, Korea, Book of Proceedings, pp 55-63.
- [D13] O. Klimo, J. Limpouch, **Influence of Ionization on Fast Electron Beam Collimation in Short-Pulse High-Intensity Laser Target Interactions**, 34th Conference on Plasma Physics, Varšava, Polsko, 2. - 6.7. 2007, ECA, Vol. 31F, P2.008 (2007).
- [D14] O. Klimo, J. Limpouch, **High-current fast electron beam propagation in a gas**, Inertial Fusion Science and Applications, Kobe, Japan, 9.-14.9.2007, paper MPo20, Book of Abstracts, p. 131 (Proceedings in print).
- [D15] J. Limpouch, O. Klimo, J. Pšikal, V.T. Tikhonchuk, **PIC simulations of ion acceleration by linearly and circularly polarized laser pulses**, International symposium on laser-driven relativistic plasmas applied for science, industry and medicine, KPSI JAEA, Kizu-gawa, Japan, 17-20.9. 2007. Book of Abstracts p. 42.

- [D16] J. Psikal, J. Limpouch, A.A. Andreev, V.T. Tikhonchuk, A.V. Brantov, **Two-dimensional simulations of ion acceleration by ultraintense femtosecond laser pulses**, 34th EPS Conference on Plasma Physics, Varšava, Polsko, 2.-6.7. 2007, ECA, Vol. 31F, P5.009 (2007).
- [D17] J. Limpouch, J. Psikal, V. Tikhonchuk, O. Klimo, A. Brantov, A. Andreev, **Laser acceleration of ions in mass-limited multi-species targets**, Inertial Fusion Science and Applications, Kobe, Japan, 9.-14.9.2007, invited paper ThO6.3, Book of Abstracts, p. 94 (Proceedings in print).
- [D18] J. Pšikal, J. Limpouch, O. Klimo, **2D PIC Simulations of Ion Acceleration in Laser Irradiated Small Multispecies Targets**, 9th Zababakhin Scientific Talks 2007, Snehinsk, Rusko, 10.-14.9. 2007, oral paper 3-15, Book of Abstracts (Proceedings on CD in preparation).
- [D19] O. Klimo, J. Limpouch, V.T. Tikhonchuk, A. Debayle, **The Role of Ionization Processes in Electron Acceleration and Propagation in Solid Targets Irradiated by Short Intense Laser Pulses**, International symposium on laser-driven relativistic plasmas applied for science, industry and medicine, KPSI JAEA, Kizu-gawa, Japan, 17-20.9. 2007, Book of Abstracts p. 41.
- [D20] H. Fiedorowicz, A. Bartnik, K. Jakubczak, R. Jarocki, L. Juha, J. Kostecki, L. Pína, R. Rakowski, M. Szczurek, **Application of laser plasma soft x-ray and EUV sources in micro- and nanotechnology**, SPIE Europe Optics and Optoelectronics, Prague, April 16.-19.04.2007, SPIE Proceedings 6598, 65980G, 2007.
- [D21] H. Fiedorowicz; A. Bartnik; K. Jakubczak; R. Jarocki; J. Kostecki; L. Pina; R. Rakowski; A. Szczurek; M. Szczurek, **Micro- and nanoprocessing of organic polymers using a compact laser plasma EUV source equipped with EUV optical systems**, SPIE Proceedings 6703, Sep 2007.
- [D22] A. Bartnik, H. Fiedorowicz, R. Jarocki, J. Kostecki, M. Szczurek, R. Havlíková, L. Pína, L. Švéda, A. Inneman, **Response of inorganic materials to laser-plasma EUV radiation focused with a lobster eye collector**, SPIE Europe Optics and Optoelectronics, Prague, Czech Rep., 16.-19.04.2007, SPIE Proceedings Vol. 6586, 65860A (2007).
- [D23] L. Švéda, A. Inneman, V. Semencová, L. Pína, R. Hudec, R. Havlíková, **Metrology of micromirrors with replicated multilayers**, SPIE Optics&Photonics 2007, San Diego, 26.-30.08.2007, SPIE Proceedings Vol. 6705, 67050D (2007).
- [D24] R. Hudec, L. Pína, V. Semencová, M. Skulinová, A. Inneman, L. Švéda, **Progress in x-ray optics development with formed glass and Si wafers**, SPIE Optics&Photonics 2007, San Diego, USA, 26.-30.08.2007, SPIE Proceedings Vol. 6688, 668810 (2007).
- [D25] R. Hudec, L. Pína, V. Šimon, L. Švéda, A. Inneman, V. Semencová, M. Skulinová, **LOBSTER New Space X Ray Telescopes**, Third International Conference on Particle and Fundamental Physics in Space, Beijing, China, 19.-21.04.2006, Nuclear Physics B Proceedings Supplements, Vol. 166, p. 229-233 (2007).
- [D26] V. Kubeček, M. Drahokoupil, H. Jelínková, A. Stintz, J.C. Diels, **Pulsed passively mode-locked operation of diode pumped Nd:GdVO₄ and Nd:YVO₄ in a bounce geometry**. Photonics West 2008, Solid State Lasers XVII, SPIE Proceedings 6871-25 (in press).
- [D27] V. Kubeček, M. Drahokoupil, K. Zvoníček, A. Stintz, J.C. Diels, **Comparison of Nd:GdVO₄ and Nd:YVO₄ in a pulsed diode pumped passively mode- locked laser in a bounce geometry**, Advanced Solid State Photonics (ASSP) 2008, paper WE20, Technical digest on CD-ROM.
- [D28] J. Limpouch, **Hard X-ray Generation and Particle Acceleration in Short-Pulse Laser Target Interactions**, 16th Symposium on Applications of Plasma Processes, Podbanske, Slovensko, 20-25.1.2007, Book of Abstracts pp. 99-100.
- [D29] R. Havlíková, D. Klír, V. Kubeček, J. Limpouch, A.Zavdilová, **Laboratory of High-Power Femtosecond Ti:Sapphire Laser at FNSPE CTU**, 16th Symposium on Applications of Plasma Processes, Podbanske, Slovensko, 20-25.1.2007, Book of Abstracts pp. 175-176.
- [D30] M. Kalal, H.J. Kong, N.B. Alexander, **Consideration of SBS PCM technique for self-aiming of laser fusion drivers on IFE targets – proposal and feasibility study**, 3rd International Conference on the Frontiers of Plasma Physics and Technology, March 5-9, 2007, Bangkok, Thailand, (proceedings in press).
- [D31] M. Kalal, H.J. Kong, N.B. Alexander, M. Martinkova, O. Slezak, **Embedding SBS PCM in IFE driver-target scheme, 2nd Workshop on SBS and Phase Conjugation**, September 25-29, 2007, Potsdam, Germany (oral), Workshop Digest p. 27.
- [D32] M. Kalal, H.J. Kong, N.B. Alexander, M. Martinkova, O. Slezak, **SBS PCM technique and its possible role in achieving IFE objectives**, IAEA-Technical Meeting on Physics and Technology of IFE Targets and Chambers, September 13, 2007, Kobe, Japan, IFSA 2007 Book of Abstracts p. 217.
- [D33] S. Civiš, L. Juha, J. Jehlička: **Towards realistic laboratory simulation of high-energy-density events in planetary atmospheres: Using large laser sparks created by a single pulse of high-power lasers**, Bioastronomy 2007: Molecules, Microbes and Extraterrestrial Life; San Juan, Puerto Rico, 16-20 July 2007 Astrobiology 7, 503 (2007).

- [D34] S. Civis, M. Ferus, P. Kubelik, J. Cihelka, M. Kamas, L. Juha, **High power laser plasma chemistry in planetary atmospheres**, The 20th Colloquium on High Resolution Molecular Spectroscopy; Dijon, France, 3-7 July 2007, poster 4.7. 2007.
- [D35] S. Civis, M. Ferus, **Time resolved Fourier transform emission spectroscopy of He/CH₄ pulsed discharge**, The 20th Colloquium on High Resolution Molecular Spectroscopy; Dijon, France, 3-7 July 2007, poster 6 7. 2007.
- [D36] B. Rus, T. Mocek, M. Kozlová, J. Polan, P. Homer, K. Jakubczak, M. Stupka, G. J. Tallents, M. H. Edwards, N. Booth, Z. Zhai, J. Dunn, A. J. Nelson, M. Fajardo, P. Zeitoun, M. E. Foord, R. L. Shepherd, W. Rozmus, H. A. Baldis, J. Sobota: **Development of soft x-ray lasers at PALS and their applications in dense plasma physics**, Soft X-Ray Lasers and Applications VII, Proc. SPIE Vol. 6702, 67020G (2007).
- [D37] P. Homer, B. Rus, J. Polan: **Measurements of x-ray laser wavefront profile using PDI technique**. Soft X-Ray Lasers and Applications VII, Proc. SPIE Vol. 6702, 670211 (2007).
- [D38] K. Jakubczak, T. Mocek, J. Polan, P. Homer, B. Rus, I.J. Kim, C.M. Kim, G.H. Lee, D.S. Kim, S.B. Park, Y.S. Lee, T.K. Kim, C.H. Nam, V. Hájková, J. Chalupský, L. Juha: **Development of ultrafast soft x-ray beamline at PALS and surface modification of solids by high-order harmonics**. Soft X-Ray Lasers and Applications VII, Proc. SPIE Vol. 6702, 67020X (2007).
- [D39] J. Polan, T. Havlíček, B. Rus: **Target Delivery System for High Repetition Rate Lasers**. Soft X-Ray Lasers and Applications VII, Proc. SPIE Vol. 6702, 670210 (2007).
- [D40] J. Dunn, B. Rus, T. Mocek, A. J. Nelson, M. E. Foord, W. Rozmus, H. A. Baldis, R. L. Shepherd, M. Kozlová, J. Polan, P. Homer, M. Stupka: **21-nm x-ray laser Thomson scattering of laser-heated exploding foil plasma**. Soft X-Ray Lasers and Applications VII, Proc. SPIE Vol. 6702, 67020O (2007).
- [D41] J. Chalupský, L. Juha, J. Kuba, V. Hájková, J. Cihelka, P. Homer, M. Kozlová, T. Mocek, J. Polan, B. Rus, J. Krzywinsky, R. Sobierajski, H. Wabnitz, J. Feldhaus, K. Tiedtke: **Utilizing ablation of solids to characterize a focused soft x-ray laser beam**, Proc. SPIE 6586, DOI: 10.1117/12.724385 (2007).
- [D42] H. Fiedorowicz, A. Bartnik, R. Jarocki, L. Juha, J. Kostecki, R. Rakowski, M. Szczurek: **Micro- and nanoprocesing of organic polymers using a laser plasma XUV source**, Proc. SPIE 6346, DOI: 10.1117/12.738157 (2007).
- [D43] M. De Grazia, H. Merdji, B. Carré, J. Gaudin, G. Geoffroy, S. Guizard, N. Fedorov, A. Belsky, P. Martin, M. Kirm, V. Babin, E. Feldbach, S. Vielhauer, V. Nagirnyi, A. Vassil'ev, F. Krejci, J. Kuba, J. Chalupsky, J. Cihelka, V. Hajkova, M. Ledinský, L. Juha: **Applications of intense ultra-short XUV pulses to solid state physics: time-resolved luminescence spectroscopy and radiation damage studies**, Proc. SPIE 6586, DOI: 10.1117/12.724006 (2007).
- [D44] L. Juha, V. Hájková, J. Chalupsky, V. Vorlíček, A. Ritucci, A. Reale, P. Zuppella, M. Störmer: **Capillary-discharge 46.9-nm laser-induced damage to a-C thin films exposed to multiple laser shots below single-shot damage threshold**, Proc. SPIE 6586, DOI: 10.1117/12.724602 (2007).
- [D45] H. Fiedorowicz, A. Bartnik, K. Jakubczak, R. Jarocki, L. Juha, J. Kostecki, L. Pina, R. Rakowski, M. Szczurek: **Application of laser plasma soft x-ray and EUV sources in micro- and nanotechnology**, Proc. SPIE 6598, DOI: 10.1117/12.726547 (2007).
- [D46] K. Kolacek, J. Schmidt, V. Prukner, O. Frolov, J. Straus: **Ways to discharge-based soft X-ray lasers with the wavelength $\lambda < 15$ nm**. Proc. 3rd IC FPPT, Bangkok, Thailand, March 5-9, 2007, IAEA publication.
- [D47] K. Kolacek, J. Schmidt, V. Prukner, O. Frolov, J. Straus: **Recent progress in discharge-based soft X-ray lasers at IPP AS CR**. 8th Int. Conf on Atomic and Molecular Pulsed lasers, Tomsk, Russia, September 10-14, 2007, Conference Abstracts, Paper No. P-3, p. 109-110, Proc. SPIE 2008, accepted for publication.
- [D48] J. Straus, K. Kolacek, J. Schmidt, O. Frolov, V. Prukner: **Computer generated spectra indicating parameters of capillary-discharge-plasma suitable to amplify radiation of Balmer-alpha transition of H-like N (13,4 nm)**. Proc. 28th Int. Conf. on Phenomena in Ionised Gases, Prague, Czech Rep., July 15-20, 2007, Ed. by J. Schmidt, M. Šimek, S. Pekárek, V. Prukner, Paper No. 3P15-31, p. 1284-1285.
- [D49] K. Kolacek, O. Frolov, V. Prukner, J. Schmidt, J. Straus: **CAPEX-U device – driver for discharge-based soft X-ray lasers with $\lambda < 15$ nm**. 2007 IEEE Pulsed Power Conference, Digest of Technical Papers 1976-2007, IEEE Catalog Number: 07CH37864C, Paper No. 5P84, p. 1683-1686.
- [D50] O. Frolov, K. Kolacek, J. Schmidt, J. Straus, V. Prukner: **Fast capillary discharge facility CAPEX-U as a source of the soft X-ray radiation**. 49th Annual Meeting of the Division of Plasma Physics, Orlando, Florida, USA, 12.-16.11.2007, Bulletin of the American Physical Society, Series II, Vol. 52, No. 16, p.295.
- [D51] K. Kolacek, J. Schmidt, V. Prukner, O. Frolov, J. Straus: **Exploding wire in water – a potential environment for amplification of spontaneous emission in soft X-ray region below 15 nm**. Proc. 28th Int. Conf. on Phenomena in Ionised Gases, Prague, Czech Rep., July 15-20, 2007, Paper No. WB4, p. 74-77.

- [D52] V.Prukner, K.Kolacek, J.Schmidt, O.Frolov, J.Straus: **Wire explosion in water**. Proc. 28th Int. Conf. on Phenomena in Ionised Gases, Prague, Czech Rep., July 15-20, 2007, Ed. by J.Schmidt, M.Šimek, S.Pekárek, V.Prukner, Paper No. 3P15-29, p. 1279-1281.
- [D53] V.Prukner, K.Kolacek, J.Schmidt, O.Frolov, J.Straus: **Soft X-ray emission from plasma channel created by wire explosion in water**. 49th Annual Meeting of the Division of Plasma Physics, Orlando, Florida, USA, 12.-16.11.2007, Bulletin of the American Physical Society, Series II, Vol. 52, No. 16, p.249.
- [D54] O.Frolov, K.Kolacek, J.Schmidt, J.Straus, V.Prukner: **Multi-channel laser-triggered spark gap**. Proc. 28th Int. Conf. on Phenomena in Ionised Gases, Prague, Czech Rep., July 15-20, 2007, Ed. by J.Schmidt, M.Šimek, S.Pekárek, V.Prukner, Paper No. 3P15-30, p. 1282-1283.
- [D55] J.Schmidt, K.Kolacek, V.Prukner, O.Frolov, J.Straus: **Four-segment soft X-ray vacuum photodiode**. Proc. 28th Int. Conf. on Phenomena in Ionised Gases, Prague, Czech Rep., July 15-20, 2007, Ed. by J.Schmidt, M.Šimek, S.Pekárek, V.Prukner, Paper No. 3P15-28, p. 1276-1278.
- [D56] J.Schmidt, K.Kolacek, O.Frolov, V.Prukner, J.Straus: **Soft X-ray radiation measured by four-segment vacuum photodiode**. 49th Annual Meeting of the Division of Plasma Physics, Orlando, Florida, USA, 12.-16.11.2007, Bulletin of the American Physical Society, Series II, Vol. 52, No. 16, p.295.
- [D57] J.Schmidt, K.Kolacek, O.Frolov, V.Prukner, J.Straus: **Electrical parameters of high current capillary discharge device**. 2006 International Power Modulator Conference, Washington D.C., USA, 2006, ISBN: 1-4244-0019-8, IEEE Catalog Number: 06CH37746C, pp. 515-517.
- [D58] M. Tamáš, A. Jančárek, M. Nevrkla, M. Vrbová, P. Vrba, **Emission spectra of discharge in sapphire and alumina capillaries filled by argon or nitrogen**, XXVIII International Conference on Phenomena in Ionized Gases July 15-20, 2007 Prague, Proceedings pp. 1239-1242 (2007).
- [D59] M. Tamáš, L. Pína, J. Blažej, A. Jančárek, S. Palínek, P. Vrba, M. Vrbová, Temporal profile analysis of selected spectral lines of Nitrogen filled capillary discharge plasma, 34th EPS Conference on Plasma Physics, Varšava, Polsko, 2.-6.7. 2007, ECA, Vol. 31F, P4.019 (2007).
- [D60] L. Švéda, L. Pína, A. Jančárek, V. Picková, M. Tamáš, R. Havlíková, Focusing of Radiation from Capillary Discharge Using the EUV Optics, 34th EPS Conference on Plasma Physics, Varšava, Polsko, 2.-6.7. 2007, ECA, Vol. 31F, P4.017 (2007).
- [D61] P. Vrba, K. Koláček, J. Schmidt, A. Jančárek, M. Vrbová: **High gain prediction for soft x-ray laser pumped by plasma pinch in nitrogen capillary discharge**. XXVIII International Conference on Phenomena in Ionized Gases, July 15-20, 2007 Prague. Workshop B, Short Oral Lectures WB8 and poster 3P15-07. Proc. pp. 1205-1208.
- [D62] A. Jančárek, L. Pína, M. Vrbová, M. Tamáš, R. Havlíková, S. Palínek, P. Vrba, K. Koláček, J. Schmidt, J. Strauss: **Experimental Comparison of Capillary Pinching Discharge in Argon and Nitrogen**. Proc.10th International Conference on X-Ray Lasers 2006, p. 687 - 692, ISBN -13978-14020-6017-5
- [D63] V. A. Burtsev, N.V. Kalinin, P. Vrba, M. Vrbová: **Dynamics and gain prediction for nonequilibrium plasma in low-inductive discharges**. XXVIII International Conference on Phenomena in Ionized Gases July 15-20, 2007 Prague, Czech Republic. Poster 3P15-13. Proceedings 1228-1231, ISBN: 978-80-87026-01-4.
- [D64] Kubes P., Klir D., Kravarik J., Rezac K., Litseva E., I. Ivanova – Stanik, Karpinski L., Paduch M., Scholz M., Schmidt H., Sadowski M. J.: **Time Resolved Study of D-D Reaction at the Plasma Focus Device**, Proc. IEEE PPS Conference DVD-ROM, Albuquerque USA 2007, Editors E. Schamiloglu, F. Peterkin, pp. 1699-1702.
- [D65] Kubes P., Klir D., Kravarik J., Rezac K., Litseva E., Bienkowska B., Tomaszewski K., Karpinski L., Ivanova – Stanik I., Paduch M., Scholz M., Schmidt H., Sadowski M. J.: **Fast Deuterons and Neutrons in Plasma Focus Discharge**, Proc. 34th EPS Conference on Plasma Physics, Warsaw, Poland 2007 in print.
- [D66] Klir D., Kravarik J., Kubes P., Rezac K., Anan'ev S.S., Bakshaev Yu.L., Blinov P.I., Chernenko A.S., Kazakov E.D., Korolev V.D., Meshcherov B.R., Ustrov G.I.: **Fusion Neutrons Produced in Wire-Array Z-Pinch at S-300 Facility**, Proc. 34th EPS Conference on Plasma Physics, Warsaw, Poland 2007 in print.
- [D67] Kubes P., Klir D., Kravarik J., Rezac K., Bienkowska B., Ivanova – Stanik I., Karpinski L., Paduch M., Scholz M., Schmidt H., Sadowski M. J., Tomaszewski K.: **D-D Reaction and Fast Deuterons in Plasma Focus Facility**, Proc.XXVIII ICPIG, Praha 2007, 1473-1475.
- [D68] Klir D., Kubes P., Kravarik J., Rezac K.: **D-D Fusion Neutrons Generated in 500 J Fibre Z-pinch**, Proc.XXVIII ICPIG, Praha 2007, 1476-1478.
- [D69] Kubes P., Klir D., Kravarik J., Rezac K., Litseva E., Scholz M., Paduch M., Bienkowska B., Ivanova – Stanik I., Karpinski L., Schmidt H., Sadowski M. J., Tomaszewski K.: **Study of D-D reaction at the Plasma Focus Facility**, Book of Abstracts, 17th IAEA TM RUSFD Lisbon 2007, 31.

- [D70] Kubes P., Klir D., Kravarik J., Rezac K., Litseva E., Scholz M., Paduch M., Bienkowska B., Ivanova – Stanik I., Karpinski L., Schmidt H., Sadowski M. J., Tomaszewski K.: **Consideration about the Energy Distribution of Fast Deuterons in PF-1000**, Proc. Workshop and Expert Meeting ICDMP, Warsaw 2007.
- [D71] Rezac K., Klir D., Kubes P., Kravarik J.: **Advantage of Usage of Neutron Signals from Opposite Directions for Reconstruction of Neutron Energy Spectra**. Proc. Workshop and Expert Meeting ICDMP, Warsaw 2007.
- [D72] Klir D., Kravarik J., Kubes P., Rezac K., Anan'ev S.S., Bakshaev Yu.L., Blinov P.I., Chernenko A.S., Kazakov E.D., Korolev V.D., Meshcherov B.R., Ustroev G.I.: **Enhanced Resistance during Neutron Emission in Wire-Array Z-Pinch**, Proc. Workshop and Expert Meeting ICDMP, Warsaw 2007.
- [D73] Litseva E., Kubes P., Klir D., Kravarik J., Rezac K., **Filtration of the Signals from Plasma Focus Discharge via Wavelet Transformation**, Book of Abstracts, 17th IAEA TM RUSFD Lisbon 2007, 51.
- [D74] Litseva E., Kubes P., Klir D., Rezac K.: **Filtration of the Signals via Wavelet Transformation**, WDS07, Proc. of Contributed Papers, Part II, editors J. Šafránková, J. Pavlů, Praha 2007, pp. 184-188.
- [D75] Rezac K., Klir D., Kubes P., Kravarik J.: **Reconstruction of D-D Neutron Energy Spectra with a Small Number of the Time-Resolved Neutron Detectors**, Proc. IEEE PPS Conference, Albuquerque USA 2007, in print.
- [D76] Rezac K., Klir D., Kravarik J., Kubes P.: **Axial Anisotropy of Neutron Yield in Reconstruction of Neutron Energy Spectra in D-D reaction**, Proc. 34th EPS Conference on Plasma Physics, Warsaw, Poland 2007 in print.
- [D77] Rezac K., Klir D., Kubes P., Kravarik J., Zacek M., Scholz M., Paduch M., Tomaszewski K., Ivanova Stanik I., Bienkowska B.: **Reconstruction of D-D Neutron Energy Spectra from Time-Resolved Neutron Detectors Placed in Opposite Directions**, Proc. XXVIII ICPIG, Prague 2007, 1499-1501.
- [D78] Rezac K., Klir D., Kubes P., Kravarik J.: **Reconstruction of Neutron and Deuteron Energy Spectra in Z-pinch**, Proc. APS Plasma Physics Meeting, Orlando USA 2007, in print.
- [D79] Bohata M., Kulhanek P.: **Behavior of Two-Stream Instability in Magnetic Field**, Proc. Workshop and Expert Meeting ICDMP, Warsaw 2007.
- [D80] Žáček M.: **Numerical Simulation of Plasma with Energy Loss by Radiation Calculated from Lorentz-Dirac Equation**, in Proceedings of the International Workshop "Collective phenomena in macroscopic systems", G. Bertin, R. Pozzoli, M. Rome' & K.R. Sreenivasan Eds. (World Scientific, Singapore, August 2007), pp. 295-300.
- [D81] Kulhánek P., Břeň, D.: **Program Package for 3D PIC model of Plasma Fiber**, in Proceedings of the International Workshop "Collective phenomena in macroscopic systems", G. Bertin, R. Pozzoli, M. Rome' & K.R. Sreenivasan Eds. (World Scientific, Singapore, August 2007), pp. 237-240.
- [D82] Kulhánek P., Břeň D.: **Simulations of DD fusion reaction**, in Book of Abstracts, Turbulent Mixing and Beyond, The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy, 2007, p. 24.
- [D83] Žáček M.: **2-D PIC simulation of the Heating in the plasma fiber**, in Book of Abstracts, Turbulent Mixing and Beyond, The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy, 2007, p. 26.
- [D84] L. Kral: **Solid-state optical parametric oscillator with a closed-loop wavelength stabilization as a front-end of a high-power iodine laser system**, Conference on Laser and Electro-Optics, 17-22 June 2007, Munich, Germany.

Thesis

- [S1] O. Klimo: **Simulations of ultrashort-pulse laser solid-target interactions**, doktorská dizertační práce, FJFI ČVUT, duben 2007.
- [S2] M. Bittner: **Ablace materiálů fokusovaným zářením XUV laserů**, doktorská disertační práce KFPP MFF UK (obor f2 – Fyzika plazmatu a ionizovaných prostředí), září 2007.
- [S3] J. Hübner: **Stanovení parametrů kapilárního výboje pro buzení rentgenového laseru**. Diplomová práce ČVUT FJFI 2007 (školitel P. Vrba, konzultant J. Limpouch).
- [S4] T. Burian: **Detektory rentgenového záření v měkké oblasti pro experimenty s lasery na volných elektronech**, bakalářská práce KFE FJFI ČVUT, září 2007.
- [S5] O. Slezák: **Využití stimulovaných rozptylů v laserových systémech pro řízenou inerciální fúzi**, Práce na výzkumném úkolu, FJFI ČVUT, září 2007.
- [S6] J. Nejdli: **Inertial X-ray laser in sodium vapor**, Práce na výzkumném úkolu, FJFI ČVUT, 2007.

Monograph

- [M1] Kulhánek P., Rozehnal J.: **Hvězdy, planety, magnety**. Mladá fronta, edice Kolumbus, 2007.
- [M2] L. Juha, S. Civiš: Laser-plasma chemistry: **Chemical reactions initiated by laser-produced plasmas**, In: Lasers in Chemistry (Ed. M. Lackner), J. Wiley, v tisku.

Domestic Journals

- [P1] Kubeš P., Kravárik J., Klír D., Řezáč K., Juha L.: **Spolupráce katedry fyziky Elektrotechnické fakulty ČVUT v Praze s Kurčatovovým institutem v Moskvě při výzkumu impulsních silnoproudých výbojů**, Inovační podnikání a transfér technologií, 1 (2007), str. 10-13.
- [P2] Kubeš P., Kravárik J.: **Silnoproudé výboje na katedře fyziky FEL ČVUT**, Čes. čas. fyz. 57 č.3 (2007), 209-214.
- [P3] Jíříček O., Kubeš P.: **Historie katedry fyziky FEL ČVUT**, Čes. čas. fyz. 57 č.3 (2007), 152-157.
- [P4] Kulhánek P. **Teorie plazmatu: Studijní text pro doktorské studium FEL a pro denní studium FJFI**, 101 stran, FJFI, 2007. (<http://www.aldebaran.cz/studium/fpla.pdf>).
- [P5] Kulhánek P.: **Magnetická pole ve sluneční soustavě III**, Astropis 1/2007, str. 12–16.
- [P6] Kulhánek P.: **Polární záře**, Astropis Speciál/2007, str. 6–11.
- [P7] Kulhánek P.: **Magnetosféra Země vydává svá tajemství**, Aldebaran bulletin 33/2007.
- [P8] L. Juha, J. Kuba: **Poškození rentgenové optiky intenzivním zářením**, Čes. čas. fyz. 57, 178 (2007).
- [P9] P.Vrba, R. Havlíková, A. Jančárek, L. Pína, M. Tamáš, M. Vrbová, N. A. Bobrová, P. V. Sasorov, A. Ritucci, G. Tomassetti, K. Koláček, J. Schmidt, J. Straus, E. Hotta, K. Horioka, M. Masnavi: **Výzkum kapilárního dusíkového laseru**. Katedrální seminář KFE FJFI ČVUT 14. 5. 2007.