

Part of the work of the Association has appeared (or, has been accepted for publication) in scientific journals and conferences during year 2009. These publications are presented in the following list (in alphabetical order, by the name of the first author, with underlined the names of personnel affiliated with the Research Unit): [viagra soft tabs](#) [viagra gegenanzeige](#) argaiv1169

1. X. Albets-Chico, D. G. E. Grigoriadis, S. C. Kassinos, and B. Knaepen, "Turbulent effects of liquid metal flow under strong fringing magnetic fields,"
6th International Symposium on Turbulence and Shear Flow Phenomena
, Seoul 22-24 June 2009, Korea.
2. K. A. Avramides and I. Gr. Pagonakis, "On the effect of the approximations used in gyrotron interaction calculations",
34th Int. Conf. Infrared Millimeter THz Waves
, 21-25 September 2009, Busan, Korea, Conference proceedings, T5E53.0425.
3. C. D. Dritselis and N. S. Vlachos, "Damping effect of magnetic fields on the turbulent coherent structures in material processing",
6th Int. Conf. on Electromagnetic Processing of Materials
, paper no. 224, pp. 1-4, Dresden, 19-23 October 2009.
4. C. D. Dritselis and N. S. Vlachos, "On the effect of a transverse magnetic field on the coherent structures near the wall of a channel flow",
6th Int. Symp. Turbulence, Heat & Mass Transfer
, Rome, 14-18 Sept. 2009, pp. 997-1000, Begell House, (K. Hanjalic, Y. Nagano, S. Jakirlic, Eds.) ISBN 978-1-56700-262-1.
5. C. D. Dritselis, A. Iatridis, I. E. Sarris and N. S. Vlachos, "Turbulent dispersion of non-metallic impurities in Magnetohydrodynamic channel flow of liquid metals at low magnetic Reynolds number",
6th Intl Conf. on Electromagnetic Processing of Materials
, no. 226, pp. 1-4, Dresden, 19-23 Oct. 2009.
6. O. Dumbrajs, Y. Kominis and G.S. Nusinovich, "Electron dynamics in the process of mode switching in gyrotrons", *Physics of Plasmas*
16, 013102 (2009).
7. D. Fidaros, L. Buhler, A. Grecos and N. Vlachos, "Numerical modelling of rotating tangential layers (jets) in shells under strong uniform magnetic field", *Intl J. for Numerical Methods in Fluids*, Vol. 62, pp. 660–682, 2010
8. D. G. E. Grigoriadis, I.E. Sarris and S.C. Kassinos, "MHD flow past a circular cylinder using the immersed boundary method", *Computers & Fluids*, vol. 39, pp. 345-358, (2010).

9. D. G. E. Grigoriadis, and S. C. Kassinos, "Extension of the immersed boundary method for liquid-metal magnetohydrodynamics", *Immersed Boundary Methods: Current Status and Future Research Directions*, Amsterdam 15-17 June 2009, the Netherlands.

10. K. Hizanidis, A.K. Ram, Y. Kominis, C. Tsironis, "Fokker-Planck description of the scattering of radio frequency waves at the plasma edge", *Phys. Plasmas* **17**, 022505 (2010)

11. K. Hizanidis, Y. Kominis, A.K. Ram, "Nonlinear heating of ions by electron cyclotron frequency waves in tokamaks", *51st Annual Meeting of the Division of Plasma Physics*, 2, – 6 November 2009, Atlanta, Georgia.

12. J.-P. Hogge, T. P. Goodman, S. Alberti, F. Albajar, K. A. Avramides, P. Benin, S. Bethuys, W. Bin, T. Bonicelli, A. Bruschi, S. Cirant, E. Droz, O. Dumbrajs, D. Fasel, F. Gandini, G. Gantenbein, S. Illy, S. Jawla, J. Jin, S. Kern, P. Lavanchy, C. Liévin, B. Marlétaz, P. Marmillod, A. Perez, B. Piosczyk, I. Pagonakis, L. Porte, T. Rzesnicki, U. Siravo, M. Thumm, and M.Q. Tran, "First experimental results from the EU 2MW coaxial cavity ITER gyrotron prototype", *Fusion Sci. and Tech.* **55**, 204, (2009).

13. A. Iatridis, I. E. Sarris and N. S. Vlachos, "Transition to turbulence in a rectangular duct subjected to high magnetic fields", *3rd Intl Symp. on Bifurcations & Instabilities in Fluid Dynamics*, proc. p. 81, Nottingham, 10-13 Aug. 2009.

14. H. Isliker, Th. Pisokas, D. Strintzi, and L Vlahos, "A Self-Organized Criticality model for Ion Temperature Gradient (ITG) mode driven turbulence", *36nd EPS (European Physical Society) Conference on Plasma Physics*, Sofia (Bulgaria), June 29 - July 3, 2009, Europhysics Conference Abstracts Vol. 33E, P-4.117 (2009).

15. H. Isliker, A. Vogianou, L. Vlahos, M. Negrea, I. Petrisor, and B. Weyssow, "Test-particle simulations of ion drift in stochastic magnetic fields", *36th EPS (European Physical Society) Conference on Plasma Physics*, Sofia (Bulgaria), June 29 - July 3, 2009, Europhysics Conference Abstracts Vol. 33E, P-4.116 (2009).

16. S. C. Kakarantzas, I. E. Sarris, A. P. Grecos, and N.S. Vlachos, "Magnetohydrodynamic natural convection in a sinusoidal upper heated cylindrical cavity", *Intl. J. Heat & Mass Transfer*, **52**

, 250–259, (2009).

17. S. C. Kakarantzas, I. E. Sarris, A. P. Grecos, and N. S. Vlachos, “DNS simulation of liquid metal flow in annuli under the effect of a magnetic field and volumetric heating”, *6th Intl Symposium on Turbulence, Heat and Mass Transfer*, Rome, 14-18 Sept. 2009, pp. 993-996, Begell House, (K. Hanjalić, Y. Nagano, S. Jakirlić, Eds.) ISBN 978-1-56700-262-1.

18. S. Kern and K. A. Avramides, “Improving gyrotron interaction calculations”, *34th Int. Conf. Infrared Millimeter THz Waves*, 21-25 September 2009, Busan, Korea, Conference proceedings, T5E54.0164.

19. S. Kern, A. Schlaich, J. Flamm, G. Gantenbein, G. Latsas, T. Rzesnicki, A. Samartsev, M. Thumm and I. Tigelis, “Investigations on parasitic oscillations in megawatt gyrotrons”, *34th Int. Conf. Infrared Millimeter THz Waves*, 21 – 25 September 2009, Korea.

20. Y. Kominis, AK Ram, K. Hizanidis, “Kinetic evolution of electron distribution function in presence of RF waves”, *51st Annual Meeting of the Division of Plasma Physics*, 2 – 6 November 2009, Atlanta, Georgia.

21. Y. Kominis, K. Hizanidis, AK Ram, “Energy and Particle Transport in the Presence of Non-Axisymmetric Magnetic Field Perturbations”, *13th European Fusion Theory Conference*, 12-15 October 2009, Riga, Latvia.

22. Y. Kominis, K. Hizanidis, AK Ram, “Energy and Particle Transport in the Presence of Non-Axisymmetric Magnetic Field Perturbations”, *Stochasticity in Fusion Plasmas (SFP)*, March 2-4, 2009, Juelich, Germany.

23. G. P. Latsas, J. L. Vomvoridis, K. A. Avramides, and I. G. Tigelis, “Beam–wave interaction in corrugated structures in the small-signal regime”, *IEEE Trans. Plasma Sci.* vol. 37, no. 10, pp. 2020-2030, October 2009.

24. S. Misdanitis and D. Valougeorgis, “Compressible Couette flow far from local equilibrium”, *2nd South-East European Conf. on Computational Mechanics*, Paper No. SE264, Rhodes, Greece, (2009).

25. S. Pantazis, D. Valougeorgis, and A. Grecos, “Simulation of a charged particle motion in a homogeneous magnetic field subject to a random force”,

35
th

EPS Plasma Physics Conf.,
Paper No. P5.070, Sofia, Bulgaria, (2009).

26. N. Pelekasis and D. Dimopoulos, "Magnetic field effects on 3D stability of natural convection flows in differentially heated cavities", *3rd Intl Symp. Instabilities & Bifurcations in Fluid Dynamics* (proc. p. 84), Nottingham, 10-13 Aug. 2009.

27. L. Porte, S. Alberti, F. Albajar, K. A. Avramides, P. Benin, W. Bin, T. Bonicelli, A. Bruschi, S. Cirant, E. Droz, O. Dumbrajs, D. Fasel, F. Gandini, T. Goodman, J.-P. Hogge, S. Illy, S. Jawla, J. Jin, S. Kern, C. Lievin, B. Marlétaz, Ph. Marmillod, I. Pagonakis, A. Perez, B. Piosczyk, T. Rzesnicki, U. Siravo, M. Thumm, M. Q. Tran, "Testing and development of a 2MW/170GHz coaxial-cavity gyrotron for ITER in the CRPP gyrotron test stand", *5th IAEA Technical meeting on ECRH Physics and Technology for Large Fusion Devices*,
18-20 February 2009, ITER-India, Institute for Plasma Research, Gandhinagar, India.

28. A.K. Ram, K. Hizanidis, Y. Kominis, "Scattering of radio frequency waves by edge density fluctuations", *51st Annual Meeting of the Division of Plasma Physics*,
– 6 November 2009, Atlanta, Georgia. , 2

29. A.K. Ram, Y. Kominis, K. Hizanidis, "Electron Transport by Radio Frequency Waves in Tokamaks", *18th Topical Conference on Radio Frequency Power in Plasmas*,
June 2009, Gent, Belgium. , 24-26

30. I. Sandberg, S. Benkadda, X. Garbet, G. Ropokis, K. Hizanidis, and D. del-Castillo Negrete, "Universal Probability Distribution Function for Bursty Transport in Plasma Turbulence", *Phys. Rev. Let.*,
165001 (2009). **103,**

31. I. Sandberg, "Universal extreme statistical properties", *Modern Challenges in Nonlinear Plasma Physics*,
Greece, June 15-19, 2009 (oral presentation). , Chalkidiki,

32. I. Sandberg, S. Benkadda, X. Garbet, G. Ropokis, and K. Hizanidis, "Universal Probability Distribution Function for Bursty Transport in Plasma Turbulence", *51st Annual Meeting Division Plasma Physics*,
, American Physical Society, 2009, Atlanta, USA, November 2009, BP8.00042.

33. I. E. Sarris, A. Iatridis, C. D. Dritselis and N. S. Vlachos, "Low-Prandtl number MHD cooling in a vertical cylindrical container",
12th

Euromech European Turbulence Conf.

, (proc. p. 959), Marburg, Germany, 7-10 Sep. 2009.

34. I. E. Sarris, A. I. Iatridis, C. D. Dritselis, N. S. Vlachos, "Magnetic field effect on the cooling of a low-Pr fluid in a vertical cylinder", *Physics of Fluids*, Vol. 22, 017101, 2010

35. G. N. Throumoulopoulos, H. Tasso and G. Poulipoulis, "Magnetohydrodynamic "cat eyes" and stabilizing effects of plasma flow", *J. Phys. A: Math. Theor.*

42

, 335501 (2009).

36. G. N. Throumoulopoulos, H. Tasso, "Magnetohydrodynamic counter-rotating vortices and synergetic stabilizing effects of magnetic field and plasma flow", accepted for publication in *Phys. Plasmas*.

37. C. Tsironis, A. G. Peeters, H. Isliker, D. Srintzi, I. Chatziantonaki, and L. Vlahos, "Electron-cyclotron wave scattering by edge density fluctuations in ITER

"

, *Phys. Plasmas*

16

, pp. 112510.1-112510.4, 2009.

38. S. Varoutis, D. Valougeorgis, and F. Sharipov, "Gas flow through tubes of finite length over the whole range of rarefaction for various pressure drop ratios", *J. Vacuum Sci. & Tech. - A*, **27** (6), 1377-1391, (2009).

39. S. Varoutis, V. Hauer, C. Day, and D. Valougeorgis. "Experimental and computational investigation of gas flows through long channels of various cross sections in the whole range of the Knudsen number", *J. Vacuum Sci. & Tech. - A*

27

(1), 89-100 (2009).

40. S. Varoutis, V. Hauer, C. Day, S. Pantazis, and D. Valougeorgis, "Experimental and numerical investigation in flow configurations related to the vacuum systems of fusion reactors", *ISFNT-9: 03-030*,

9

th

Intl Symp. Fusion Nuclear Technology,
Dalian, China, (2009).

41. E.V. Votyagov and S.C. Kassinos, "On the analogy between streamlined virtual magnetic and real solid obstacles", *Physics of Fluids*,

21

, 097102, doi:10.1063/1.3231833, (2009).

42. E.V. Votyakov, S.C. Kassinos, and X. Albets-Chico, "Analytic models of heterogenous magnetic fields for liquid metal flow simulations", *Theoretical and Computational Fluid Dynamics* **23**(6), 571-578,

doi:10.1007/s00162-009-0114-9, (2009).

43. E.V. Votyakov, and S.C. Kassinos, "Core of the Magnetic Obstacle," *6th International Symposium on Turbulence and Shear Flow Phenomena*, Seoul 22-24 June 2009, Korea.