

#### 4a) 5th School and Workshop on Fusion Physics and Technology [cialis generika](#) [viagra soft tabs](#)

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The Administrative Committee of the Research Unit of the Association and the University of Thessaly organised the “Fifth School and Workshop on Fusion Physics and Technology”, held in Volos from 10 to 14 April 2006. During this 5-day school, a series of lectures was given by distinguished visiting scholars (in alphabetical order: Bartlett, Huysmans, Papastergiou, Tavassoli, Watkins, Weyssow), as well as by the scientific personnel of the Association. In addition, parallel Poster sessions were devoted to the presentation of the current research activities of the participating Research Teams. The audience consisted of graduate students and young scientists (mostly, affiliated with the Research Unit), as well as students interested in participating in fusion activities. In order of presentation, the following talks were given:

Monday 10 April 2006

J. Vomvouridis, *Introduction to controlled thermonuclear fusion*

D. Bartlett (Invited address), *The European Fusion Programme*

Th. Grammenos, *Elements of Electrodynamics and introduction to Plasma*

Y. Kominis, *Hamiltonian description of nonlinear wave-particle interaction*

A. Anastasiadis, *Nonlinear interaction of particles with current sheets*

Y. Kominis-A. Anastasiadis, *Discussion on the motion of particles in strong nonlinear fields*

Workshop 1: Parallel Computing Methods

J. Pagonakis, *Introductory lecture*

L. Boukas, *Introduction to parallel computing in distributed networks and applications to the numerical solution of fluid mechanics equations*

K. Hizanidis, *Experience from the use of "Pleiades" and coordination of users*

Tuesday 11 April 2006

N. Vlachos, *Fundamental phenomena and equations of MHD flow and transport*

F. Tavassoli (Invited lecture), *Materials for fusion*

M. Watkins (Invited address), *EFDA-JET: Recent results and beyond*

G. Throumoulopoulos, *Introduction to the Ideal Magnetohydrodynamics*

G. Throumoulopoulos, *Magnetohydrodynamics*

G. Huysmans (Invited lecture), *MHD numerical simulations in toroidal geometries and applications*

N. Pelekasis, *Stability in Hydrodynamics – Applications in MHD*

P. Lalousis, *Understanding magnetic confinement via computational MHD*

Workshop 2: Gyrotrons, Plasma Heating and Current Drive

C. Tsironis, *Experimental and theoretical efforts for plasma heating*

Y. Kominis, *Hamiltonian methods in plasma heating and current drive*

J. Pagonakis, *Parallel simulation of gyrotron channel with dynamic adaptation of the grid to the beam*

K. Avramidis, *Gyrotron simulation (beam-field interaction)*

Wednesday 12 April 2006

J. Vomvouridis, *Introduction to the kinetic theory*

J. Vomvouridis, *Kinetic theory*

S. Papastergiou (Invited lecture), *Introduction to vacuum and cryogenic technologies in fusion engineering applications*

L. Vlahos, *Introduction to plasma waves and instabilities*

L. Vlahos, *Plasma waves and instabilities*

Workshop 3: Equilibrium

G.Throumoulopoulos, *Generalized Grad-Shafranov equations*

P. Lalousis, *Numerical Methods for equilibrium calculations*

Thursday 13 April 2006

K. Hizanidis, *Nonlinear Plasma Theory*

K. Hizanidis, *Transport Phenomena*

A. Grecos, *An Introduction to the Diffusion Processes*

B. Weyssow (Invited lecture), *Decorrelation of charged particle trajectories due to stochastic magnetic field fluctuations*

D.Valougeorgis, *Numerical methods for solving kinetic integro-differential equations*

G. Breyannis, *MHD in toroidal geometry via lattice kinetic simulations*

H. Isliker, *Anomalous Diffusion and Continuous time random walk in position and velocity space: A model for anomalous diffusion*

I. Sandberg, *Drift wave turbulence and transport*

I. Sarris, *Development of a nonlinear full MHD code for Tokamaks*

Friday 14 April 2006

Y. Kominis, *Hamiltonian map description of electron dynamics in gyrotrons*

C. Tsironis, *Non-Gaussian beam tracing in inhomogeneous anisotropic plasmas*

Z. Ioannides, *Eigenvalues and ohmic losses in the cavity of a co-axial gyrotron*

Γ. Latsas, *Interaction of waves with electronic beam in the gyrotron channel*

D. Fidaros, *Effect of magnetic field and conductance ratio on MHD flows driven by a rotating disk in a cylindrical enclosure*

S. Kakarantzas, *Direct numerical simulation (DNS) of MHD natural convection between co-axial cylinders*

I. Pagonakis, *Simulation o gyrotron channel with dynamic adaptation of the grid to the beam*

G. Anastasiou, *3D radiation distribution of planar electron beam excited by a Gaussian RF beam*

K. Avramidis, *Systematic procedure for the selection of the operational mode in a gyrotron*

S. Naris, *Kinetic simulations for ITER vacuum flows*

M. Onofri, *Simulations of compressible MHD turbulence in a cylindrical vessel*

N. Vlachos, *MHD turbulence models*

#### **4b) Other Fusion-Related Educational Activities in Greece**

During year 2006, a total of 13 graduate students were enrolled in the participating Universities, with fusion-related subjects. Of these, 3 students were participating in M.Sc. level programmes, and 10 in Ph.D. programmes. Of the latter, 2 Ph. D. degrees were awarded during 2006.

In addition, the following courses were given by faculty members (affiliated with the Association) to students, for education and training in fusion-related disciplines, in the frame of their University Curricula (hours per week per semester):

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NTUA: *Plasma Waves*, 13 ± 4 hours per semester (undergraduate),

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NTUA: *Beams and High-Power Microwaves*, 13 □ 4 hours per semester (undergraduate),

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NTUA: *Plasma Kinetic Theory*, 13 □ 3 hours per semester (graduate),

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U. of Athens: *Plasma Physics*, 13 □ 4 hours per semester (undergraduate),

-

U. of Ioannina: *Introduction to Plasma Physics*, 13 □ 4 hours per semester times 2 semesters (undergraduate),

-

U. of Ioannina: *Energy Resources*, 13 □ 4 hours per semester (undergraduate) (*one third of the course concerns Fusion*),

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U. of Thessaly: *Kinetic Theory and Non-equilibrium Flows*, 14 □ 3 hours per semester (graduate),

-

U. of Thessaloniki: *Plasma Physics*, 13 □ 3 hours per semester (undergraduate),

-

U. of Thrace: *Technology I*, 13 □ 4 hours per semester (undergraduate) (*one third of the course covers*

Principles of Controlled Thermonuclear Fusion  
and  
Controlled Fusion Devices).

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Of these courses, the *Plasma* courses, in addition to providing the general background material, contain fusion as a discrete entity, while the one on *Beams and High-Power Microwaves* focuses on the physics of fusion plasma heating devices.

#### 4c) Web page of the Research Unit

The official web site of the National Programme of Controlled Thermonuclear Fusion [www.hellasfusion.gr](http://www.hellasfusion.gr) has been created and is in operation since early 2006. The web site contains detailed information about the organisation and the structure of the Research Unit as well as the profiles of the Research Teams (personnel, scientific interests, publications and contact information). It also contains the Annual Reports, describing the work of the Research Unit, introductory material on controlled thermonuclear fusion and its advantages, as well as extensive educational and research material presented to the annual School and Workshop on Fusion Physics and Technology (since 2002). Finally, the proceedings and the presentations of the “14<sup>th</sup> Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating (EC-14)” organised by the Research Unit in 2006, are available online in this web site.

#### 4d) EC-14

The “14<sup>th</sup> Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating (EC-14)” was organised by the Research Unit of the *Euratom-Hellenic Republic Association*, at the “*P. Nomikos*” Conference Centre, in the Aegean-sea island of Santorini in Greece, during 9-12 May 2006. Additional sponsors of the workshop have been the “*Institute of Communication and Computer Systems*” of the National Technical University of Athens and the National and Kapodistrian University of Athens.

Like in the previous meetings in the series, the workshop topics have been:



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*Applications of electron cyclotron waves in fusion experiments;*

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*Applications of electron cyclotron emission from fusion plasmas;*

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*Theory of generation, propagation, and absorption of electron cyclotron waves;*

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*Technologic advances on millimetre wave sources and wave-guides.*

The International Program Committee was composed of G. Giruzzi, Chair (CEA-France), E. de la Luna (CIEMAT-Spain, JET), B. Lloyd (UKAEA-UK), T. Luce (GA-USA), K. Sakamoto (JAERI-Japan), E. Suvorov (RAS-Russia), G. Vayakis (ITER), H. Zohm,(MPG-Germany), and A. Lazaros, Secretary (NTUA-Greece).

The Local Organising Committee consisted of J.L. Vomvroidis, Chairman (NTUA), K. Hizanidis, Vice-chairman (NTUA), I. Tigelis, Treasurer (NKUA), and A. Lazaros, Secretary (NTUA).

EC14 was attended by 101 participants (13 from Greece), from 17 countries and international organisations, who presented 92 scientific contributions (of which 9 were contributions of research teams from Greece), including 10 invited talks. The contributed abstracts were reviewed by the International Program Committee and the Proceedings (604 pages, ISBN 960-89228-2-8), which include all corresponding papers, have been edited by the Organising Committee and published by Heliotopos Conferences Ltd. Hard copies of the proceedings can be obtained upon request to the publisher or to the Head of the Research Unit. The electronic files of the presentations and of the papers are also available on the website of the Association Euratom-Hellenic Republic [www.hellasfusion.gr](http://www.hellasfusion.gr) , with a link to [EC14](#) .

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In Santorini the local organising committee was very pleased to prepare a rich social program and to reinforce the ties of the EC community of scientists. The next workshop (EC-15) will be organised by General Atomics (USA) in 2008.

#### 4e) 2006 Expenditures and Personnel

The activities of the Association are funded (by about equal amounts) by the Fusion Programme of the European Union, by the General Secretariat of Research and Technology and by the participating Research Centres and Universities. The total expenditures of the Association in year 2006 are presented in the following table, rounded to kEuro (with the same figures for the previous two years, as well as the 2007 budget, for the purpose of comparison):

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<b>Physics</b>
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<b>Underlying</b>	<b>Technology</b>
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<b>Technology</b>
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<b>Mobility</b>
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<b>Year's total</b>
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#### 4. OTHER ACTIVITIES IN 2006

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2004

1.002

103

222

113

1.439

2005

1.063

0

40

82

#### 4. OTHER ACTIVITIES IN 2006

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1.185

**2006 (Draft)**

**1.158**

**36**

**58**

**97**

**1.349**

**2007 (Budget)**

1.380

485

154

#### 4. OTHER ACTIVITIES IN 2006

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196

2.215

The personnel of the Association for year 2006 is presented in the following table (in Full-time equivalent), including both physics and technology):

**Physics**

**Underlying Technology**

**Technology**

**Year's total**

**Faculty members**

#### 4. OTHER ACTIVITIES IN 2006

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6.60

6.60

Ph.D. Researchers

9.09

1.14

1.07

11.30

Graduate Students

10.40

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#### 4f) 2006 Co-operations and Mobility Missions

Most of the work of the Association is performed in collaboration with other Associations. This is facilitated both by the eligibility of this work for preferential support, under the provisions for

#### 4. OTHER ACTIVITIES IN 2006

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“Projects for enhancing the mutual cooperation between Associations”, as well as by the Mobility scheme of the Euratom Fusion Programme. During year 2006, the following missions were undertaken by personnel of the Association:

**Activity Code**

**Topic of collaboration in Association work programme**

**Institute Place**

**Seconded Personnel**

**Duration of Stay  
(days)**

**Home**

**Host**

4.1.2

**Energy and particle confinement and transport**



#### 4. OTHER ACTIVITIES IN 2006

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NTUA, Athens

IPP, Germany

Lazaros A.

15.06 – 18.07

(34)

4.1.3

MHD stability and plasma

UoThessaly, Volos

FZK, Germany

Feidas D.

23/10 – 20/11

#### 4. OTHER ACTIVITIES IN 2006

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(29)

UoThessaly, Volos

ULB, Belgium

Kakarantzas S.

2/01 – 1/02

(31)

UoThessaly, Volos

ULB, Belgium

Kakarantzas S.

13/09 – 12/10

(30)

## 4. OTHER ACTIVITIES IN 2006

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4.1.5

Physics of plasma heating and current drive

UoThessaloniki, Thessaloniki

IPP, Germany

Tsironis C.

15/11 – 14/12

(32)

4.3.1

Heating and current drive systems

NTUA, Athens

FZK, Germany

Vomvouridis J.

#### 4. OTHER ACTIVITIES IN 2006

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22/11 – 21/12

(30)

NTUA, Athens

FZK, Germany

Avramides K.

22/11 – 21/12

(30)

NTUA, Athens

FZK, Germany

Anastasiou G.

22/11 – 21/12

#### 4. OTHER ACTIVITIES IN 2006

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(30)

UoAthens, Athens

CRPP, Switzerland

Tigelis J.

10/01 – 25/01

(16)

UoAthens, Athens

CRPP, Switzerland

Mallios S.

10/01 – 25/01

(16)

#### 4. OTHER ACTIVITIES IN 2006

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UoAthens, Athens

FZK, Germany

Tigelis J.

5/07 – 15/07

(11)

UoAthens, Athens

FZK, Germany

Latsas G.

2/07 – 29/07

(28)

UoAthens, Athens

#### 4. OTHER ACTIVITIES IN 2006

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FZK, Germany

Ioannidis Z.

2/07 – 29/07

(28)

4.3.2

Plasma Diagnostics

NCSR "D", Athens

IPP, Germany

Tsalas M.

27/02 – 12/05

(75)

#### 4. OTHER ACTIVITIES IN 2006

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NCSR "D", Athens

IPP, Germany

Tsalas M.

9/10 – 10/11

(33)

4.4.2

Theory

Uoloannina, Ioannina

IPP, Germany

Throumoulopoulos G.

7/02 – 5/02

(30)



#### 4. OTHER ACTIVITIES IN 2006

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Uoloannina, Ioannina

IPP, Germany

Throumoulopoulos G.

3/05 – 29/07

(57)

4.4.3

Modelling

Uoloannina, Ioannina

ULB, Belgium

Poulipoulis G.

16/01 – 17/02

#### 4. OTHER ACTIVITIES IN 2006

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(32)

Uoloannina, Ioannina

ULB, Belgium

Poulipoulis G.

1/07 – 31/07

(31)

UoThessaly, Volos

FZK, Germany

Varoutis S.

2/10 – 31/10

(30)

#### 4. OTHER ACTIVITIES IN 2006

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UoThessaly, Volos

ENEA, Italy

Breyiannis D.

19/06 – 21/07

(33)

FORTH, Heraklion

IPP, Germany

Lalousis P.

13/11 - 2/12

(20)

4.5.2

#### 4. OTHER ACTIVITIES IN 2006

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IMP-5 Project

UoThessaly, Volos

CEA, France

Breyiannis D

9/01 – 12/01

(4)

ITM-TF

FORTH, Heraklion

EFDA, France

Lalousis P.

13/09 - 15/09

(3)

#### 4g) 2006 Publications

Part of the work of the Association has been presented in the following articles (ordered according to the work programme), which have appeared (or, have been accepted for publication) during year 2006:

1.

G. E. Anastassiou and J. L. Vomvroidis, *Self-consistent post-amplification of a gyrotron rf beam by a sheet electron beam*, EC-14, 14<sup>th</sup> Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 9-12 May 2006, Santorini, Greece, Conference Proc., pp. 454-459.

2.

J.Gr. Pagonakis and J. L. Vomvroidis, *Improved electron beam simulations for high-power gyrotron beam tunnels*, EC-14, 14<sup>th</sup> Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 9-12 May 2006, Santorini, Greece, Conference Proc., pp. 448-453.

3.

Z. C. Ioannidis, O. Dumbrajs and I. G. Tigelis, *Eigenvalues and ohmic losses in coaxial gyrotron cavity*, IEEE Transactions on Plasma Science **34**, pp. 1516-1522, 2006.

4.

G. P. Latsas, M. Dehler, J. L. Vomvroidis, I. G. Tigelis, and G. Alexakis, *Dispersion characteristics of beam-loaded corrugated waveguides*

, EC-14, 14

th

Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 9-12 May 2006, Santorini, Greece, Conference Proc., pp. 366-350.

5.

Z. C. Ioannidis, O. Dumbrajs, I. G. Tigelis, and E. Tsilis, *Eigenvalues and ohmic losses in a coaxial gyrotron cavity*, EC-14, 14<sup>th</sup> Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 9-12 May 2006, Santorini, Greece, Conference Proc., pp. 548-552.

6.

G. P. Anastasiou, S. A. Mallios, J. L. Vomvroidis, I. G. Tigelis, and D. J. Frantzeskakis, *Electromagnetic waves in a coaxial waveguide with circumferential corrugations*, EC-14, 14<sup>th</sup> Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 9-12 May 2006, Santorini, Greece, Conference Proc., pp. 553-557.

7.

K. A. Avramides, C. T. Iatrou, and J. L. Vomvroidis, *Systematic procedure for operating-mode selection in conventional and coaxial-cavity gyrotrons*, EC-14, 14<sup>th</sup> Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 9-12 May 2006, Santorini, Greece, Conference Proc., pp. 484-489.

8.

O. Dumbrajs, Y. Kominis, K.A. Avramides, K. Hizanidis and J.L. Vomvroidis, *Hamiltonian map description of electron dynamics in gyrotrons*, IEEE Transactions on Plasma Science **34**, 673-680, 2006.

9.

Y. Kominis, O. Dumbrajs, K.A. Avramides, K. Hizanidis and J.L. Vomvroidis, *Hamiltonian theory of complex electron dynamics in gyrotron resonators*, EC-14, 14

th

Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 9-12 May 2006, Santorini, Greece, Conference Proc., pp. 266-270.

10.

A. V. Chankin, D.P. Coster, R. Dux, Ch. Fuchs, G. Haas, A. Herrmann, L.D. Horton, A. Kallenbach, M. Kaufmann, A.S. Kukushkin, K. Lackner, H.W. Müller, J. Neuhauser, R. Pugno, **M. Tsalas** and ASDEX Upgrade Team, *Comparison between measured divertor parameters in ASDEX Upgrade and SOLPS code solutions*, Journal of Nuclear Materials, to be published in 2007.

11.

H. W. Müller, V. Bobkov, A. Herrmann, M. Maraschek, J. Neuhauser, V. Rohde, A. Schmid, **M. Tsalas** and ASDEX Upgrade Team, *Deuterium flow in the scrape-off layer of ASDEX Upgrade*, Journal of Nuclear Materials, to be published in 2007.

12.

**M. Tsalas**, D. Coster, C. Fuchs, A. Herrmann, A. Kallenbach, H. W. Müller, J. Neuhauser, V. Rohde, **N. Tsois** and the ASDEX Upgrade Team, *In-out divertor flow asymmetries during ELMs in ASDEX Upgrade H-mode plasmas*, Journal of Nuclear Materials, to be published in 2007.

13.

A. Herrmann, A. Kirk, A. Schmid, B. Koch, M. Laux, M. Maraschek, H.W. Mueller, J. Neuhauser, V. Rohde, **M. Tsalas**, E. Wolfrum and ASDEX Upgrade Team, *The filamentary structure of ELMs in the scrape-off layer in ASDEX Upgrade*, Journal of Nuclear Materials, to be published in 2007.

14.

G. Poulipoulis, G.N. Throumoulopoulos, H. Tasso, *Axisymmetric equilibria with anisotropic resistivity and toroidal flow*, Journal of Plasma Physics

2

, pp. 213-228, 2006.

15.

G.N. Throumoulopoulos, H. Tasso, *On Hall magnetohydrodynamics equilibria*, 48<sup>th</sup> Annual Meeting of the APS Division of Plasma Physics, Philadelphia 2006; Bulletin of the American Physical Society

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, 294, 2006; Physics of Plasmas

**13,**

pp.

102504.1-102504.9, 2006.

16.

G.N. Throumoulopoulos, H. Weitzner, H. Tasso, *On non-existence of tokamak equilibria with purely poloidal flow*, 48<sup>th</sup> Annual Meeting of the APS Division of Plasma Physics, Philadelphia 2006; Bulletin of the American Physical Society **51**, 354,

2006; Physics of Plasmas

**13,**

pp.

102501.1-102501.4, 2006.

17.

H. Tasso, G.N. Throumoulopoulos, *On existence of resistive magnetohydrodynamic equilibria*, Journal of Plasma Physics, 2006, available on line.

18.

E.A. Evangelidis and G.J.J. Botha, *Dynamics on a Surface of Equilibrium*, 33<sup>rd</sup> Annual European Physical Society Conference on Controlled Fusion and Plasma Physics, Roma, Italy, June 19 – 23, 2006. P2.048.

19.

G.J.J. Botha and E. A. Evangelidis, *Particle Orbits in an Axisymmetric Equilibrium Plasma*, 33<sup>rd</sup>



Annual European Physical Society Conference on Controlled Fusion and Plasma Physics, Roma, Italy, June 19 – 23, 2006. P5.065.

20.

S.E.Sharapov, B.Alper, Yu.F.Baranov, H.L.Berk, D.Borba, C.Boswell, B.N. Breizman, C.D.Challis, M.de Baar, E.De La Luna, **E.A.Evangelidis**, S.Hacquain, N.C.Hawkes, V.G.Kiptily, S.D.Pinches, P.Sandquist, I.Voitsekhovich, N.P. Young, and JET – EFDA Contributors, *Alfvén Cascades in JET discharges with NBI-Heating*, Nuclear Fusion

**46**

S 868- S 879, 2006.

21.

A. Lazaros, M. Maraschec and H. Zohm, *A model for the advantage of early electron cyclotron current drive in the suppression of neoclassical tearing modes*, Physics of Plasmas, to be published in 2007.

22.

E. Westerhof, **A. Lazaros**, A. Merkulov, F.C. Schüller, M.R. de Baar, I.G.J. Classen, J.A. Hoekzema, G.M.D. Hogewei, R.J.E. Jaspers, H.R. Koslowski, A. Krämer-Flecken, Y. Liang, N.J. Lopes Cardozo, J.W. Oosterbeek, J. Scholten, O. Zimmermann and TEXTOR-team, *Control of MHD instabilities by electron cyclotron resonance heating and current drive in TEXTOR*,

EC-14, 14

th

Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 9-12 May 2006, Santorini, Greece, Conference Proc., pp. 38-43.

23.

C. Tsironis, E. Poli and G.V. Pereverzev, *Beam tracing description of non-Gaussian wave beams*, Phys. Plasmas **13**, 113304, 2006.

24.

C. Tsironis, E. Poli and G. V. Pereverzev, *Non-Gaussian EC beam in inhomogeneous anisotropic plasmas*, EC-14, 14<sup>th</sup> Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 9-12 May 2006,

Santorini, Greece, Conference Proc., pp. 306-311.

25.

Y. Kominis, K. Hizanidis and A. K. Ram, *Transient dynamics of charged particles interacting with localized waves of continuous spectra*, Physical Review Letters **96**, 025002, 2006.

26.

Y. Kominis, K. Hizanidis and A. K. Ram, *Transient dynamics of charged particles interacting with rf pulses*, EC-14, 14<sup>th</sup> Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 9-12 May 2006, Santorini, Greece, Conference Proc., pp. 357-362.

27.

P. Lalouis, *Interactions of two opposite moving pellets in the poloidal plane*, 33<sup>rd</sup> EPS Conference on Plasma Phys. Rome 19-23 June 2006, ECA Voll.305 P-5.173.

28.

S.D. Moustazis, E. Keskilidou, and P. Lalouis, *Neutron flux enhancement due to magnetic trapping of a Deuterium plasma produced by laser beam-clusters interaction*, 29<sup>th</sup> European Conference on Laser Interaction with Matter, Madrid, Spain, June 11-16, 2006.

29.

L.L. Lengyel, O.J.W.F. Kardaun, H.P. Zehrfeld, R. Schneider, R. Burhenn, I.Yu. Veselova, I.Yu. Senichenkov, V.A. Rozhansky, **P. Lalouis**, *Analysis of pellet injection experiments in ASDEX UPGRADE and Wendelstein W7-AS by means of a quasi-three-dimensional mhd pellet code*, Journal Technicheskoy Fisiki (J. Tech.Phys.), to be published in 2007.

30.

S.C. Kakarantzas, A.P. Grecos, N.S. Vlachos, I.E. Sarris, B. Kneapen and D. Carati, *Direct numerical simulation of an efficient configuration for fusion heat removal blankets*, ECOS 2006 Int. Conference, Crete, Greece 12-14 July 2006, selected for publication in Energy Conversion Management.

31.

S. Varoutis, D. Valougeorgis and F. Sharipov, *The integro-moment method applied to 2D rarefied gas flows*, 25<sup>th</sup> Rarefied Gas Dynamics - Vacuum Gas Dynamics Workshop, St. Petersburg, 2006.

32.

S. Varoutis, S. Naris, D. Mathioulakis, D. Valougeorgis, *Nano- and Micro-flows of single gases and binary mixtures through tubes and orthogonal ducts via kinetic theory*, Micro and Nanoscale flows, Glasgow, 2006.

33.

N. Pelekasis, *Bifurcation Diagrams, Linear Stability Analysis and Dynamic Simulations of Free Convection in a Differentially Heated Cavity in the Presence of a Magnetic Field*, Physics of Fluids **18**, 1-23, 2006.

34.

I.E. Sarris, G. K. Zikos, A.P. Grecos and N.S. Vlachos, *On the limits of validity of the low magnetic Reynolds number approximation in MHD natural convection heat transfer*, Numerical Heat Transfer: Part B - Fundamentals **50**, pp. 157-180, 2006.

35.

G. Breyiannis and D. Valougeorgis, *Lattice kinetic simulations in three-dimensional MHD turbulence*, Computer & Fluids **35**, 920-924, 2006.

36.

G. Breyiannis and D. Valougeorgis, *Lattice kinetic schemes in toroidal geometry*, 33<sup>rd</sup> Conference on Plasma Physics, Rome, 2006.

37.

C. Day, V. Hauer, G. Class, D. Valougeorgis, M. Wykes, *Development of a Simulation Code for ITER Vacuum Flows*, 21<sup>st</sup> Fusion Energy Conference, Chengdu, China, 2006.

38.

<http://www-fusion-magnetique.cea.fr/ttf2006/prog/topic-D.htm> , abs. # 087.

39.

I. Sandberg and V.P. Pavlenko, *Zonal Flow in toroidal ion temperature gradient mode turbulence*, J. Plasma Physics, to be published in 2007 (Published online by Cambridge University Press, 2006 doi: 10.1017/S0022377806004831).

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