



ANNUAL REPORT 2008

Association EURATOM-IPPLM
ANNUAL REPORT 2008

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ASSOCIATION EURATOM-IPPLM
covers the period
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Compiled by: A. Gałkowski and D. Błoniarz-Łuczak

Available from the Institute of Plasma Physics and Laser Microfusion,
Hery 23, 01-497 Warsaw, Poland.

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ASSOCIATION EURATOM-IPPLM
23 Hery Str., 01-497 Warsaw, Poland

Tel. + 48 22 6381460
Fax + 48 22 6668372
E-mail office@ipplm.pl
Web <http://www.ipplm.pl>

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1 Introduction

In the year 2008 European Fusion Research programme has been modified: the role of EFDA has changed and a new organisation Fusion for Energy (F4E) was created. New EFDA coordinates fusion programme in Europe using new instruments: Call for participation, Task agreements, Task forces and Topical groups. Research financing has also changed and a new Contracts of Association was prepared. In the preface I would like to report how Polish Association has adapted to the above changes.

The Work program of F4E for 2008 was accepted in December 2007. Some tasks done before as orders types Art. 5.1b in EFDA have been transferred to F4E. There are two of them done by Polish institutes: Warsaw University of Technology (Mechanical Analysis of a Blanket Manifold Concept for ITER) and AGH University of Science and Technology (Nuclear Data: Benchmark Experiments to Validate EFF/EAF data). Wrocław University of Technology has concluded a contract with the IO related to the ITER cryogenic system.

As regards our participation in JET experimental program in 2008, 12 people took part in C20-C25 campaigns (in all 104 pw). We participated in diagnostics of X-ray and VUV spectroscopy, neutron activation diagnostics and Integration of transport and MHD codes at JET. In C26-C27 campaigns 7 researchers are expected to take part (in all 50 pw). Apart from the above-mentioned diagnostics we are considering our participation in modernization of the system of Neutron activation diagnostics under JET Notification. We also take part in Task agreement as regards Tritium processes and waste management. Our task is Laser diagnostics of in-vessel components and dust generated during detritation process using optical spectrometry. It is worth emphasizing that involvement in the JET programme provides a very important platform for integration of the Polish fusion community.

Polish Association has answered Call for participation (CFP) as regards Plasma-wall interaction, which was launched in November 2007. There are four tasks – one carried out by IPPLM, three by WUT in areas of dust, fuel removal, chemical erosion and transport, as well as high-Z materials and material mix. WUT answered CFP for Fusion materials launched in summer 2008 and declared participation in three activities related to W/steel joints and ODS ferritic steels.

As far as Task Force on ITM (Integrated Tokamak Modelling) is considered Association IPPLM is involved with developing module for impurities for the European Transport Solver. Szczecin University of Technology carries out its task, which is Global stability analyses of Alfvén and Energetic Particle Modes, in cooperation with Chalmers University in Goeteborg and IPP Greifswald. Opole University is doing its task (Stochastic techniques to the study of phenomena relevant to the physics of fusion) in cooperation with CNRS, Centre de Physique Theorique, Marseille.

Polish contribution in Wendelstein 7-X programme is considered to play a very important role in the integration of all Polish parties, that form our Association. Polish involvement in W7-X programme is quite extended, ranging from cooperation on device assembly, development of NBI system through development of several diagnostics (X-ray PHA, C/O monitor, neutron and microwave diagnostics), structural mechanical calculations and neutron MCNP calculations to plasma theory and edge plasma modelling.

As regards accompanying programme, Soltan Institute for Nuclear Studies and Poznań Politechnic are engaged in experimental research on TS, ISTOK and COMPASS tokamaks (Cerenkov detectors, SSNTD, Hall sensors). The Association continued its involvement in the IFE keep-in-touch activity.

As regards PI we continued a wide range of activities. The most important is an educational project for secondary school teachers. Articles and brochures on fusion for the general public are translated into Polish and posted on the website. We continue our cooperation with small, professional theatre GO.

Finally, I would like to thank all those who contributed to the Polish Association Work programme and helped the Association to find its place in the European and worldwide fusion programme.



Andrzej Gałkowski
Head of Research Unit

1.1 General Information

Association Steering Committee

European Commission	Poland
Yvan Capouet Head, Unit J4, “Fusion Association Agreements”, DG Research	Zygmunt Składanowski Director, IPPLM
Douglas Bartlett Unit J4, “Fusion Association Agreements”, DG Research (alternating)	Agnieszka Ratajczak Director, Ministry of Science and Higher Education
Steven Booth Scientific Officer, Unit J4, “Fusion Association Agreements”, DG Research	Stanisław Szpilowski Director, Polish National Atomic Energy
Marc Cosyns Financial Officer, Unit J5, “Finance and Administration”, DG Research	

Association Council

Chairman

Krzysztof J. Kurzydłowski	Warsaw University of Technology, Poland
Michel Chatelier	CEA Cadarache, France
Marek Jeżabek	PAS Institute of Nuclear Physics, Poland
Thomas Klinger	Max-Planck Institute of Plasma Physics, Germany
Yuri Kravtsov	Maritime University of Szczecin
Józef Musielok	Opole University, Poland
Jérôme Paméla	EFDA Close Support Unit Garching
Marek Rubel	Royal Institute of Technology, Sweden
Marek J. Sadowski	Softan Institute for Nuclear Studies, Poland
Zygmunt Składanowski	Institute of Plasma Physics and Laser Microfusion, Poland
Stefan Taczanowski	AGH University of Science and Technology, Poland
Michael Watkins	EFDA Close Support Unit Culham
Harald W. Weber	Vienna University of Technology, Austria
Andrzej Zaleski	PAS Institute of Low Temperature and Structure Research, Poland

Association EURATOM-IPPLM, Head of Research Unit

Andrzej Galkowski

Institute of Plasma Physics and Laser Microfusion
 23 Hery Str., 01-497 Warsaw, Poland
 Phone: +48 22 6381460
andrzej.galkowski@ipplm.pl

Research Unit in Poland

Institute of Plasma Physics and Laser Microfusion (IPPLM)

23 Hery Str., 01-497 Warsaw, Poland

Web: www.ifpilm.waw.pl

Phone: +48 22 6381460

E-mail: office@ifpilm.waw.pl

Fax: +48 22 6668372

Zygmunt Składanowski zetes@ifpilm.waw.pl

Andrzej Sołtan Institute for Nuclear Studies (SINS)

05-400 Świerk/Otwock, Poland

Web: www.ipj.gov.pl

Phone: +48 22 7180583

E-mail: sins@ipj.gov.pl

Fax: +48 22 7793481

Marek Rabiński rabinski@ipj.gov.pl

Materials Science and Engineering Faculty, Warsaw University of Technology (WUT)

141 Wołoska Str., 02-507 Warsaw, Poland

Web: www.inmat.pw.edu.pl

Phone: +48 22 8499935

E-mail: wim@inmat.pw.edu.pl

Fax: +48 22 6608514

Krzysztof J. Kurzydłowski kjk@inmat.pw.edu.pl

Institute of Physics, Opole University (OU)

48 Oleska Str., 45-052 Opole, Poland

Web: <http://draco.uni.opole.pl/>

Phone: +48 77 4527250

E-mail: insfiz@uni.opole.pl

E-mail: insfiz@uni.opole.pl

Józef Musielok musielok@uni.opole.pl

West Pomerania University of Technology (WPUT)

48 al. Piastów Str., 70-310 Szczecin, Poland

Web: www.if.zut.pl

Phone: +48 91 4494585

E-mail: if@ps.pl

Fax.: +48 91 4342113

Irena Kruk irena.kruk@zut.edu.pl

Maritime University of Szczecin (MUS)

1-2 Wały Chrobrego Str., 70/500 Szczecin, Poland

Web: www.am.szczecin.pl/

Phone: +48 91 4809400

E-mail: dm@am.szczecin.pl

Fax.: +48 91 4809575

Yury Kravtsov kravtsov@mail.am.szczecin.pl

The Henryk Niewodniczanski Institute of Nuclear Physics PAS (INP)

152 Radzikowskiego Str., 31-342 Cracow, Poland

Web: www.ifj.edu.pl

Phone: +48 12 6628200

E-mail: dyrektor@ifj.edu.pl

Fax: +48 12 6628458

Krzysztof Drozdowicz krzysztof.drozdowicz@ifj.edu.pl

AGH University of Science and Technology (AGH)

30 Mickiewicza Str., 30-059 Cracow, Poland

Web: www.agh.edu.pl

Phone: +48 12 6172222

E-mail: rektorat@uci.agh.edu.pl

Fax: +48 12 6331014

Stefan Taczanowski taczanowski@novell.ftj.agh.edu.pl

Institute of Low Temperature and Structure Research PAS (ILTSR)

2 Okólna Str., 50-422 Wrocław, Poland

Web: www.int.pan.wroc.pl

Phone: +48 71 3435021

E-mail: intibs@int.pan.wroc.pl

Fax: +48 71 3441029

Andrzej Zaleski zaleski@int.pan.wroc.pl

Institute of Atomic Energy (IAE)

05-400 Świerk/Otwock, Poland

Web: www.iea.cyf.gov.pl

Phone: +48 22 7180001

E-mail: iea@cyf.gov.pl

Fax: +48 22 7793888

Mieczysław Borysiewicz manhaz@cyf.gov.pl

Wrocław University of Technology (WrUT)

27 Wybrzeże Wyspiańskiego Str., 50-370 Wrocław

Web: www.wme.pwr.wroc.pl/

Phone: +48 71 320 23 25

E-mail: wme@pwr.wroc.pl

Fax: +48 71 320 42 28

Maciej Chorowski maciej.chorowski@pwr.wroc.pl



Figure 1.1 Research Unit in Poland

Polish representatives in the European committees relevant to fusion research and development

Consultative Committee for the EURATOM Specific Research and Training Programme in the Field of Nuclear Energy (Fusion) – CCE-FU

Leszek Grabarczyk – Ministry of Science and Higher Education

Adam Sołtan – Polish National Atomic Energy Agency

Andrzej Gałkowski – Head of Research Unit, IPPLM. CCE-FU Vice-chair

Governing Board of the European Joint Undertaking for ITER and the Development of Fusion Energy (Fusion for Energy) – F4E

Łukasz Ciupiński – Warsaw University of Technology, WUT

Leszek Grabarczyk – Ministry of Science and Higher Education

F4E Technical Advisory Panel

F4E Executive Committee

Jarosław Mizera – WUT

Krzysztof J. Kurzydłowski – WUT

EFDA Steering Committee

Andrzej Gałkowski – IPPLM

Ryszard Miklaszewski – IPPLM

Industry Liaison Officer

High Performance Computer GB

Inertial Fusion Energy Working Group

Public Information Officer

Remote Participation User Group

Maciej Chorowski – WrUT

Sławomir Potemski – IAE

Jerzy Wołowski – IPPLM

Helena Howaniec – IPPLM

Sebastian Małek – IPPLM

EU Task Forces

Plasma-wall interaction
Integrated tokamak modeling

Jerzy Wołowski – IPPLM
Roman Stankiewicz – IPPLM

EU Topical Groups

Materials
MHD
Diagnostics

Elżbieta Fortuna-Zaleśna – WUT
Ryszard Miklaszewski – IPPLM
Marek Scholz – IPPLM

EFDA contact persons

EFDA-TIMES
Quality Assurance
CEG-Fusion

Mieczysław Borysiewicz – IAE
Łukasz Ciupiński – WUT
Ryszard Miklaszewski – IPPLM

JET contact persons

Scientific Contact Person
Administrative Contact Person

Marek Scholz – IPPLM
Paweł Nadrowski – IPPLM

Public Relations
Remote Participation

Helena Howaniec – IPPLM
Sebastian Małek – IPPLM

1.2 Financial Information

		Expenditure (Euro)
Baseline Support		
	Physics	1 686 737
	JET Notifications	67 707
	IFE "Keep in touch" Activities	83 463
Priority Support		
	Art. 8.2a Co-operative actions	26 293
	Art. 8.2b Co-operative actions	-
EFDA		
	EFDA Art. 6.3 Contracts	34 702
	EFDA Secondments to CSU	25 651
Old EFDA		
	EFDA Art. 5.1a Notifications	10 278
	EFDA Art. 5.1b Contracts	36 665
Mobility		114 193
TOTAL		2 085 689

Expenditure at no cost for EURATOM Contract (W7-X in-kind contribution)	391 981
F4E Contracts / Agreements (for information only)	56 525
ITER Contracts / Agreements (for information only)	57 600
GRAND TOTAL	2 591 795

Table 1.1 Expenditures for 2008

1.3 Statistics

The work programme of the Association EURATOM-IPPLM includes 22 R&D tasks on physics and technology. Table 1.2 contains information about tasks distribution.

	Physics	Technology
IPPLM	5	1
SINS	2	1
WUT	1	3
OU	2	-
WPUT	1	-
MUS	1	-
INP	1	1
AGH	-	2
WULS	-	1
	13	9

Table 1.2 Tasks distribution for Association Euratom-IPPLM (2008)

Distribution of tasks by institution is also shown in the Figure 1.2.

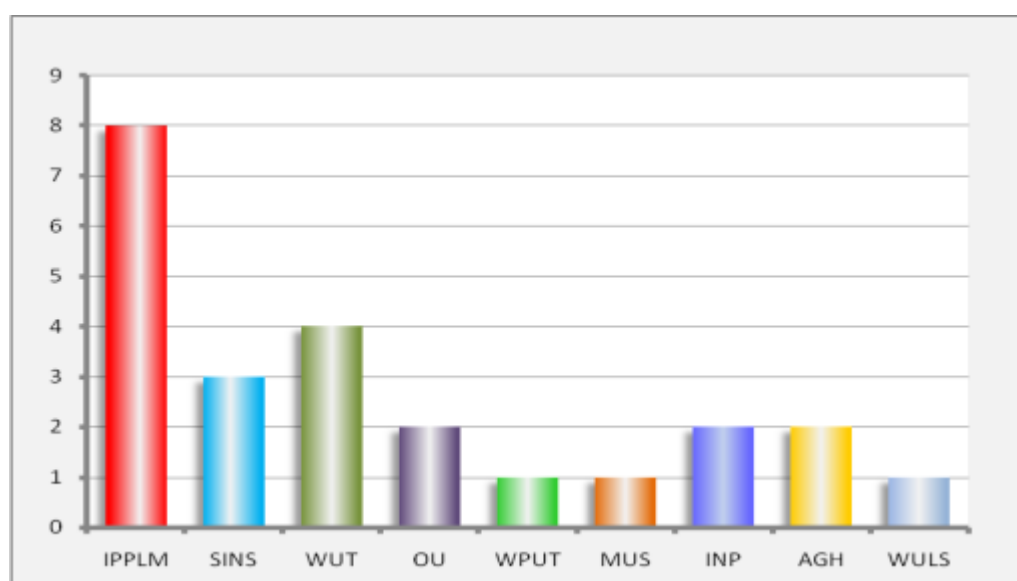


Figure 1.2 Number of tasks for year 2008 by institution

Manpower in 2008 is shown in the Table 1.3 below.

	professional	non professional	TOTAL
IPPLM	34	17	51
SINS	8	8	16
WUT	20	5	25
OU	4	1	5
WPUT	9	1	10
MUS	3	3	6
INP	8	2	10
AGH	11	1	12
	97	38	135

Table 1.3 Association EURATOM-IPPLM staff in 2008

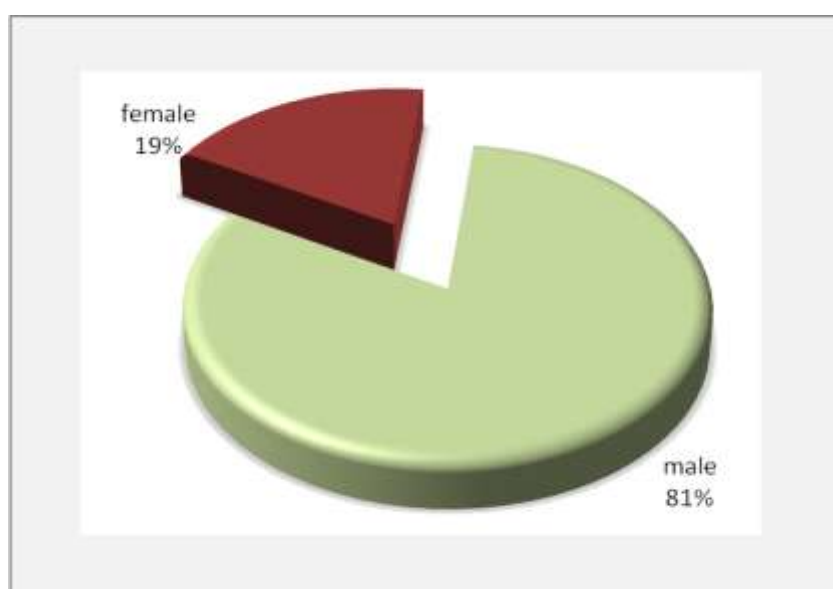


Figure 1.4 Association EURATOM-IPPLM staff in 2008 by gender

The following part of the Annual Report contains information of a preliminary and/or tentative nature and must not be quoted in publications nor listed in abstract journals. It is the executive summary of the full annual report, summarizing activities performed by the Association EURATOM-IPPLM in 2008.

The full annual report is available on the CD attached to this document.