

Institute of Plasma Physics  
and Laser Microfusion

# ANNUAL REPORT 2010



Institute of Plasma Physics and Laser Microfusion  
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# 1 Preface

The Institute of Plasma Physics and Laser Microfusion is highly regarded, both in Poland by the Ministry of Science and Higher Education, and also abroad by the international science community. The reputation rests on its high number of top quality publications in well-known science journals, and effective, broad international cooperation. As a result, in 2010 the IPPLM achieved the second best position on the Ministry's list of all the research institutions within the scope of physics and astronomy in Poland. This was mainly thanks to a large number of publications in prestigious journals. In 2010, the IPPLM scientists published 33 papers and presented 30 contributions to the international scientific conferences.

The achievements of the institute in the field of plasma physics and fusion resulted in entrusting the Institute with the coordination of work within the framework of the European fusion programme and ITER project in Poland.

The IPPLM was, and still is, the only Polish scientific institute that does research in hot laser-driven plasma. The achievement in this field made it possible for participation in the European project HiPER (European High Power Laser Energy Research Facility) that brings together the majority of the world's laser research laboratories. The aim of this project is to demonstrate the possibility of the fast ignition of thermonuclear fuel induced by laser beams in repetitive sequences.

The IPPLM hosts an International Centre for Dense Magnetised Plasmas (ICDMP). Together with the Soltan Institute of Nuclear Studies (SINS), IPPLM is a leader in the research of pulsed plasma generated in the plasma focus facility.

All the research has provided the basis for development in the domains of plasma diagnostics, pulsed laser technology and technology of high power supply system. The most interesting experimental results are patented and implemented into technology. The best example is the Lightning Tests Laboratory in IPPLM.

All those achievements would not have been possible without the involvement, professionalism and passion of the personnel of the IPPLM. I would like to thank the staff of the Institute for their hard work .



Andrzej Gałkowski  
Director



## 2 General Information

### Scientific Council (in 2010)

- **Chairman**  
Prof. Zbigniew Kłos                      PAS Space Research Center, Warsaw
- **Deputy Chairmen**  
Prof. Tadeusz Pisarczyk                Institute of Plasma Physics and Laser Microfusion, Warsaw  
Prof. Marek J. Sadowski                Soltan Institute for Nuclear Problems, Świerk/Otwock  
Prof. Zbigniew Peradzyński            Warsaw University, Warsaw
- **Members**  
Prof. Jan Badziak                        Institute of Plasma Physics and Laser Microfusion, Warsaw  
Agata Czarnecka, M.Sc.                Institute of Plasma Physics and Laser Microfusion, Warsaw  
Prof. Lesław Karpiński                Institute of Plasma Physics and Laser Microfusion, Warsaw  
Dr. Ryszard Miklaszewski              Institute of Plasma Physics and Laser Microfusion, Warsaw  
Prof. Wojciech Nawrocik                Adam Mickiewicz University, Poznań  
Prof. Jan Pluta                            Warsaw University of Technology, Warsaw  
Marcin Rosiński, M.Sc.                Institute of Plasma Physics and Laser Microfusion, Warsaw  
Dr. Marian Paduch                      Institute of Plasma Physics and Laser Microfusion, Warsaw  
Prof. Urszula Woźnicka                PAS Institute of Nuclear Physics, Kraków  
Prof. Roman Zagórski                Institute of Plasma Physics and Laser Microfusion, Warsaw  
Adam Ziółkowski, M.Eng.              Institute of Plasma Physics and Laser Microfusion, Warsaw

### Management of the Institute

- **Director**  
Dr. Zygmunt Składanowski (till September 23, 2010)  
Prof. Andrzej Gałkowski (since September 24, 2010)
- **Deputy director, head of Division of Laser Plasma**  
Prof. Jerzy Wołowski
- **Deputy director, head of Division of Magnetised Plasma**  
Dr. Marek Scholz
- **Chief Accountant**  
Ewa Sieczkowska MA
- **Head of Technical Section**  
Ryszard Panfil
- **Scientific Office Manager**  
Paweł Nadrowski

## Departments of the Institute

- **Division of Laser Plasma**

Head of the division: Prof. Jerzy Wołowski

- Department of Physics and Technology of Laser Plasma  
Head of Department: Dr. Monika Kubkowska
- Department of Laser Fusion  
Head of Department: Prof. J. Badziak
- Department of Laser Plasma Hydrodynamics  
Head of Department: Prof. Tadeusz Pisarczyk

- **Division of Magnetised Plasma**

Head of the Division: Dr. Marek Scholz

- Department of Physics and Technology of Thermonuclear Plasma  
Head of Department: Dr. Marek Scholz
- Department of Diagnostics for Thermonuclear Plasma  
Head of Department: Dr. Marian Paduch
- Department of High-Power Physics and Plasma Technology  
Head of Department: Prof. Lesław Karpiński

## Scientific Staff of the Institute

- **Professors**

J. Badziak  
V. Gribkov  
M.J. Sadowski

- **IPPLM Professors**

A. Gałkowski  
L. Karpiński  
T. Pisarczyk  
J. Wołowski  
R. Zagórski

- **Senior researchers**

S. Barral  
S. Borodziuk  
M. Chernyshova  
T. Czarski  
A. Kasperczuk  
E. Kowalska-Strzęciwilk  
M. Kubkowska  
J. Kurzyna  
S. Jabłoński  
S. Jednoróg  
R. Miklaszewski

M. Paduch

P. Rączka  
J. Rządkiwicz  
M. Scholz  
Z. Składanowski  
R. Stankiewicz

- **Researchers**

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T. Chodukowski  
A. Czarnecka  
P. Gąsior  
I. Ivanova-Stanik  
K. Jakubowska  
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