

PLASMA-2011. International Conference on Research and Applications of Plasmas, 12-16 September 2011, Warsaw, Poland

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In Poland the tradition of International Conferences on Research and Applications of Plasmas (PLASMA-XXXX) ranges back to the early 1990s. Such conferences were organized every two year under the auspices of the Plasma Physics Section, Committee of Physics, Polish Academy of Sciences. Only three conferences (i.e. PLASMA-2005 in Opole, Poland, PLASMA-2007 in Greifswald, Germany, and PLASMA-2010 in Pont-à-Mousson, France) were organized as joint events, combined with the German-Polish Conferences on Plasma Diagnostics and the French-Polish Seminars on Thermal Plasmas in Space and Laboratory.

The International Conference PLASMA-2011 was organized by the Committee of Physics of the Polish Academy of Sciences, the Andrzej Soltan Institute for Nuclear Studies (IPJ) – now the National Centre of Nuclear Research (NCBJ) at Otwock (near Warsaw), and the Institute of Plasma Physics and Laser Microfusion (IPPLM) in Warsaw. A chairman of the International Scientific Committee (ISC) was Professor Jerzy Wołowski from the IPPLM, and a chairman of the Local Organizing Committee (LOC) was Professor Marek J. Sadowski from the IPJ (now NCBJ). The conference was held in the Hotel GROMADA “Dom Chłopa” in Warsaw, Poland, on 12–16 September, 2011.

A list of participants registered for the PLASMA-2011 conference contained 125 names of plasma experts (including 16 invited speakers) from 17 different countries and several plasma research centres in Poland. The most numerous groups came from Poland (52 persons), Ukraine (7 persons), Italy (6 persons), Germany (5 per-

sons), Czech Republic (5 persons), Russia (4 persons) and France (3 persons). There were also individual participants from Belarus, Hungary, Iran, Japan, Romania, Spain and Sweden. All 16 invited talks and 30 oral presentations (selected by the ISC) were given during 14 plenary sessions. Other contributions (about 40 papers), which were accepted by the International Scientific Committee, were presented during two poster sessions.

The invited and oral presentations as well as four-page papers based on poster presentations have been collected in a CD issue distributed among participants and guests of the PLASMA-2011 conference. These materials are also available on the conference web page. The most important invited papers and selected papers based on oral presentations, which passed a peer review and acceptance by the Editorial Board, are published in this *Nukleonika* volume.

It should be noted that these papers present the most important scientific results of the PLASMA-2011 conference, and, in particular, information about recent progress in large MCF experimental programmes (e.g. ITER, Wendelstein-W7 etc.); recent progress in the research on laser-produced plasmas, laser-matter interactions and laser fusion experiments; recent achievements in the studies of pinch-type discharges (with particular attention paid to high-current Plasma-Focus experiments); valuable information about the experiments with microwave and arc discharges as well as their applications; recent achievements in the development of different plasma diagnostic techniques.