Proceedings of the 8th National Meeting of Synchrotron Radiation Users (KSUPS-8)

Podlesice, Poland, September 24–26, 2009

Editors of the Proceedings:

Wojciech Paszkowicz

Marcin Sikora

Wojciech Szuszkiewicz

WARSAW

POLISH ACADEMY OF SCIENCES
INSTITUTE OF PHYSICS

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Preface

Modern light sources have developed rapidly over last two decades, exceeding a total number of 50 working synchrotrons and free-electron lasers. Their expansion boosted an advent of many classical experimental techniques, as well as led to development of new methods. From the beginning, these techniques proved very useful in physics, chemistry, crystallography, materials science and mineralogy, but the application rapidly extended to other quite distinct disciplines of science such as structural biology, geophysics, cultural heritage and medicine — all these which look at the properties of matter. They exploit the particular features of the synchrotron radiation: broad spectral range from infrared to hard X-rays, coherence, high collimation and intensity, as well as the specific time structure of radiation pulses. The development of the light sources in Europe is marked in the year 2009 by the upgrade of ESRF, Grenoble (in progress), Petra II, Hamburg, construction, and decision on construction of MAX-IV and MAX-V (Lund). These powerful synchrotron rings will ascertain a considerable enhancement of experimental opportunities in Europe.

Synchrotron workshops and schools in Poland have an almost 20-year tradition established by first National Meeting of Synchrotron Radiation Users (KSUPS) held in Cracow in 1991 and International School and Symposium on Synchrotron Radiation in Natural Science (ISSNRS) held in Jaszowiec in 1992. These biannual meetings promote the application of synchrotron based experimental technique among young generation of Polish scientists and their colleagues from the research institutes of Central and Eastern Europe, building society of the future users of local synchrotron sources. After two decades of activity, Polish scientific community is well prepared for the planned construction of Polish light sources, a synchrotron in Cracow and a free-electron laser in Świerk, as well as to contribute, as a member of the international consortium, to the construction and operation of the European XFEL.

The 8th National Meeting of Synchrotron Radiation Users (KSUPS-8, Podlesice, Poland, September 24–26, 2009) brought together Polish scientists and students working with synchrotron radiation in Poland and abroad. It was a venue to discuss the recent scientific achievements and develop ideas of future experiments. The symposium gathered over sixty participants from universities and research institutions and included nine lectures, seven oral and forty three poster presentations. Many among the contributions were presented by young scientists. The detailed program can be found at the website: http://prac.us.edu.pl/∼ksups8/.

These proceedings contain twenty papers from among those presented during two days of the meeting. The guest editors are grateful to referees for their tedious work which permitted to improve the articles during a short time determined by the agreement with the journal. It is also a pleasure to thank the Technical Editors and staff of the Publisher for editing of the present issue of *Acta Physica Polonica A*. The organizers of KSUPS-8 would like to acknowledge all sponsors for financial support.

Guest Editors

Wojciech Paszkowicz
Marcin Sikora
Wojciech Szuszkiewicz