

# Proceedings of the 4th Workshop on Quantum Chaos and Localisation Phenomena

Warsaw, Poland, May 22–24, 2009

*Editors of the Proceedings:*

Leszek Sirko  
Szymon Bauch

WARSAW

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POLISH ACADEMY OF SCIENCES  
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## Organising Committee

Szymon Bauch (bauch@ifpan.edu.pl)  
Oleh Hul (olehhul@ifpan.edu.pl)  
Marek Kuś (marek@cft.edu.pl)  
Michał Ławniczak (lawni@ifpan.edu.pl)  
Leszek Sirko — *Chairman* (sirko@ifpan.edu.pl)

## Preface

The 4th Workshop on Quantum Chaos and Localisation Phenomena was held in Warsaw, Poland, from May 22 to 24, 2009 in the Institute of Physics of the Polish Academy of Sciences. The Workshop was organized by the Institute of Physics, the Centre for Theoretical Physics of the Polish Academy of Sciences and the Foundation “Pro-Physica”. This biennial workshop was organized for the first time in 2003. The main objectives of the Workshops are the assessment of achievements and the formulation of directions of a new research on quantum chaos and localisation phenomena.

The Workshop gathered about 50 participants from European countries (Belarus, Czech, France, Germany, Russia, Sweden, United Kingdom) and USA, representing experimental and theoretical physicists. Almost half of them were Ph.D. students. During the meeting 13 invited lectures, 4 contributed lectures and 9 posters were presented. The presentations were focused on the following topics: quantum chaos and non-linear classical systems, quantum and microwave graphs, atoms in strong electromagnetic fields, chaos versus coherent effects in multiple scattering, Anderson localisation, quantum chaos and quantum computing, entanglement and noise, and physics of low dimensional systems. In the talks and posters the theoretical and experimental problems from various fields of solid state, atomic and molecular, and mathematical physics were discussed. On behalf of the organizers we would like to express our gratitude to all speakers and the authors of the posters for their contribution to the success of the Workshop.

We present the Proceedings of the 4th Workshop on Quantum Chaos and Localisation Phenomena in which eight invited and one contributed lecture are published.

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