

Introduction

This volume appears as an outcome of the conference Operator Theory, Analysis and Mathematical Physics – OTAMP2008, held at Mathematical Research and Conference Center in Bedlewo near Poznan. The volume contains few review articles as well as original research papers presented at the conference or appeared as a result of inspiring discussions during the meeting.

The titles of conference talks followed the subjects of four special sessions:

- random and quasi-periodic differential operators
- orthogonal polynomials
- Jacobi and CMV matrices
- quantum graphs

All contributions to this volume are devoted to different chapters of operator theory with a focus towards applications in mathematical physics. Several articles are in the area of spectral theory of Schrödinger operators having emphasis on problems with magnetic fields. Another subject well-represented concerns spectral theory for non-self-adjoint problems. Spectral analysis is not restricted to just linear and self-adjoint problems.

This volume is devoted to the memory of Mikhail Shlemovich Birman – one of the most outstanding scientists of the last century. The influence of his ideas on the development of mathematical physics in the whole world and especially in Saint Petersburg will continue for decades, several of the authors contributed to this volume have been his students and will carry over his special attitude towards science to new generations to come.

Preparing this volume we remembered another remarkable mathematical physicist Israel Gohberg who always supported OTAMP conferences by including proceedings into the series *Operator Theory: Advances and Applications* and helping us with selection of outstanding contributors and interesting subjects in operator theory.

We would like to thank the European Science Foundation (ESF) for a generous financial support which allowed to transfer the OTAMP conference into a major event in the area of mathematical physics in 2008. We are grateful to all people working at Mathematical Research and Conference Center in Bedlewo for creating a stimulating scientific atmosphere and help before, during and after the conference.

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