

Preface

Spectral analysis has been thriving for years as a vital part of mathematical physics and analysis. Conferences dealing with various aspects of spectral analysis are frequently organized, but the spectral community is only beginning to build its own organization. The International Spectral Network was formed in 2010 by a number of research groups around the world with the aim of fostering worldwide collaboration in the field. One of the aims of the Network is to establish Spectral Days as the regular conference on spectral analysis where researchers will meet to discuss and record recent progress.

Spectral Days 2010 was the first conference organized by the Spectral Network. It took place in Santiago, Chile, in September 2010. This volume contains expanded versions of many of the research talks and surveys delivered in Santiago. The second Spectral Days conference took place in Munich in April 2012 and we hope that the reader will soon peruse the second of many volumes covering recent progress in Spectral Analysis.

This volume contains surveys as well as research articles in topics ranging from spectral continuity for magnetic and pseudodifferential operators, localization in random media, stability of matter, to properties of Aharonov–Bohm Hamiltonians and spectral properties of Quantum Hall Hamiltonians. Also included are studies of operators associated to waveguides, resonance in time-dependent systems, supersymmetric models with singular potentials, non-linear equations related to bosonic strings, dissipative fermion systems and conjugate operators in connection with time operators and time delay.

We take the opportunity to heartily thank the Chilean *Iniciativa Científica Milenio* whose generous funding of the Scientific Nucleus ICM P07-027-F “Mathematical Theory of Quantum and Classical Magnetic Systems” made the conference possible. We also thank the Mathematics Faculty of the Pontificia Universidad Católica de Chile for hosting and supporting the conference. Our thanks also go to the International Spectral Network for choosing Santiago as the first venue of Spectral Days and for travel support for several participants.

We also wish to warmly thank Liliya Simeonova. Without her help, Spectral Days 2010 could not have taken place and this volume would not have seen the light of day.

Spectral Analysis of Quantum Hamiltonians

Spectral Days 2010

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2012, VII, 338 p., Hardcover

ISBN: 978-3-0348-0413-4

A product of Birkhäuser Basel