

Preface

Random matrices are of central importance in many areas of probability theory, and the analysis of their theoretical aspects has been the object of very active research over the past 20 years and will certainly continue in the future because of many still open questions. Applications can be found in, for example, mathematical statistics, mathematical physics, random graphs, or telecommunications.

The present collection of research papers focuses on two of their most relevant aspects:

- The spectra of high-dimensional random matrices
- and
- Iterated random functions driven by random matrices

The contributions to this volume are based on talks given at the workshop “Random matrices and iterated random functions” organized as part of the scientific program of the Collaborative Research Center 878 from October 4 to October 7, 2011, at the University of Münster.

While the contributions to Random Matrix Theory are centered around questions about universality of the limiting behavior of random matrices and their relation to free probability, the (larger) section on iterated functions systems focuses on questions concerning their long-time behavior (ergodicity) and information about their stationary distributions (tail behavior).

Discussions among the participants of the workshop were also concerned with possible connections between these two fields of probability. Such connections would doubtlessly stimulate the research in both areas.

We thank all authors who contributed to this volume and hope that we have been able to gather an inspiring collection of papers. We are grateful to the CRC 878 for financial support of the workshop and to Olga Friesen and Sebastian Mentemeier for helping us with the production of this book.

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