

Preface

This monograph arose from lectures delivered by the authors at the Winter School “Operator Spaces, Noncommutative Probability and Quantum Groups”, December 1–12, 2014, held at the Azuréva Métabief in the Jura Mountains in France. It contains three of the school’s six lectures:

- Guillaume Aubrun: Quantum entanglement in high dimensions,
- Benoît Collins: Weingarten calculus and applications,
- Gilles Pisier: Grothendieck inequalities, tensor products of operator spaces and related topics,
- Zhong-Jin Ruan: Operator spaces and their applications to (quantum) group algebras,
- Adam Skalski: Quantum symmetry groups and related topics,
- Roland Speicher: Free probability and non-commutative symmetries.

These lectures provide an introduction to current research topics in functional and harmonic analysis and their application to the theory of quantum information.

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Uwe Franz

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