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Theory of Quantum Computation, Communication, and Cryptography

Third Workshop, TQC 2008
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Revised Selected Papers

Springer

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Preface

The Workshop on Theory of Quantum Computation, Communication, and Cryptography (TQC) focuses on theoretical aspects of quantum computation, quantum communication, and quantum cryptography, which are part of a larger interdisciplinary field that casts information science in a quantum mechanical framework.

The third TQC was held from January 30 to February 1, 2008, at the University of Tokyo, Tokyo, Japan. It consisted of invited talks, contributed talks and a poster session. A selection of these contributors were invited to submit a paper to this *Lecture Notes in Computer Science* (LNCS) proceedings.

The field of quantum information processing is rapidly growing in depth and in breadth. TQC is a workshop dedicated to the presentation and discussion of original research. While most research in quantum information is published in a wide range of journals and conference proceedings in computer science, physics, mathematics and other traditional areas of science, there is a growing niche for high-quality journals and proceedings dedicated to research in quantum information. TQC is one of the first such conferences or workshops that has decided to publish a selection of the submissions in an official proceedings of the workshop to be published in the LNCS series.

We are extremely fortunate to have had the support and advice of our Program Committee (listed here) and are very grateful for all their hard work. We also appreciate the help of the following additional reviewers: Jean-Christian Boileau, Jop Briet, David Feder, Francois Le Gall, Hector Garcia, Tohya Hiroshima, and Casey Myers.

We also extend our sincere thanks to the local Organizing Committee for pulling together all the local and logistical aspects of the workshop so successfully.

Lastly, many thanks to NTT for sponsoring TQC 2008, to the University of Tokyo for their generous support, and to Springer for agreeing to publish these proceedings in the LNCS series.

May 2008

Yasuhito Kawano
Michele Mosca

Organization

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