

9th Conference on the Theory of Quantum Computation, Communication and Cryptography

TQC 2014, May 21–23, 2014, National University of Singapore,
Singapore

Edited by

Steven T. Flammia

Aram W. Harrow



Editors

Steven T. Flammia
Department of Physics
University of Sydney

steven.flammia@sydney.edu.au

Aram W. Harrow
Department of Physics
Massachusetts Institute of Technology
aram@mit.edu

ACM Classification 1998

E.3 Data Encryption, E.4 Coding and Information Theory, F Theory of Computation

ISBN 978-3-939897-73-6

Published online and open access by

Schloss Dagstuhl – Leibniz-Zentrum für Informatik GmbH, Dagstuhl Publishing, Saarbrücken/Wadern, Germany. Online available at <http://www.dagstuhl.de/dagpub/978-3-939897-73-6>.

Publication date

November 2014

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at <http://dnb.d-nb.de>.

License

This work is licensed under a Creative Commons Attribution 3.0 Unported license (CC-BY 3.0): <http://creativecommons.org/licenses/by/3.0/legalcode>.



In brief, this license authorizes each and everybody to share (to copy, distribute and transmit) the work under the following conditions, without impairing or restricting the authors' moral rights:

- Attribution: The work must be attributed to its authors.

The copyright is retained by the corresponding authors.

Digital Object Identifier: 10.4230/LIPIcs.TQC.2014.i

ISBN 978-3-939897-73-6

ISSN 1868-8969

<http://www.dagstuhl.de/lipics>

■ Contents

More Randomness From Noisy Sources <i>Jean-Daniel Bancal and Valerio Scarani</i>	1
Exact Classical Simulation of the GHZ Distribution <i>Gilles Brassard, Luc Devroye, and Claude Gravel</i>	7
On the Parallel Repetition of Multi-Player Games: The No-Signaling Case <i>Harry Buhrman, Serge Fehr, and Christian Schaffner</i>	24
Quantum Communication Complexity with Coherent States and Linear Optics <i>Juan Miguel Arrazola and Norbert Lütkenhaus</i>	36
Bounds on Entanglement Assisted Source-channel Coding Via the Lovász ϑ Number and Its Variants <i>Toby Cubitt, Laura Mančinska, David Roberson, Simone Severini, Dan Stahlke, and Andreas Winter</i>	48
Strong Converse for the Quantum Capacity of the Erasure Channel for Almost All Codes <i>Mark M. Wilde and Andreas Winter</i>	52
Graph-theoretical Bounds on the Entangled Value of Non-local Games <i>André Chailloux, Laura Mančinska, Giannicola Scarpa, and Simone Severini</i>	67
Optimal Bounds for Parity-Oblivious Random Access Codes with Applications <i>André Chailloux, Iordanis Kerenidis, Srijita Kundu, and Jamie Sikora</i>	76
Convexity Properties of the Quantum Rényi Divergences, with Applications to the Quantum Stein’s Lemma <i>Milán Mosonyi</i>	88
Quantum Learning of Classical Stochastic Processes: The Completely-Positive Realization Problem <i>Alex Monras</i>	99
Hidden Subgroup Quantum Algorithms for a Class of Semi-Direct Product Groups <i>Wim van Dam and Siladitya Dey</i>	110
Difficult Instances of the Counting Problem for 2-quantum-SAT are Very Atypical <i>Niel de Beaudrap</i>	118
Circuit Obfuscation Using Braids <i>Gorjan Alagic, Stacey Jeffery, and Stephen Jordan</i>	141
Classical Simulation of Yang-Baxter Gates <i>Gorjan Alagic, Aniruddha Bapat, and Stephen Jordan</i>	161
Blindness and Verification of Quantum Computation with One Pure Qubit <i>Theodoros Kapourniotis, Elham Kashefi, and Animesh Datta</i>	176
Device-independent Randomness Extraction for Arbitrarily Weak Min-entropy Source <i>Jan Bouda, Marcin Pawłowski, Matej Pivoluska, and Martin Plesch</i>	205

vi **Contents**

Graph Homomorphisms for Quantum Players
Laura Mančinska and David Roberson 212

Quantum Linear Network Coding as One-way Quantum Computation
Niel de Beaudrap and Martin Roetteler 217