

19th Conference on the Theory of Quantum Computation, Communication and Cryptography

TQC 2024, September 9–13, 2024, Okinawa, Japan

Edited by

Frédéric Magniez

Alex Bredariol Grilo



Editors

Frédéric Magniez 

Université Paris Cité, CNRS, IRIF, Paris, France
frederic.magniez@irif.fr

Alex Bredariol Grilo

LIP6, Paris, France
Sorbonne Université, Paris, France
CNRS, Paris, France
alex.bredariol-grilo@lip6.fr

ACM Classification 2012

Theory of computation → Quantum computation theory; Theory of computation → Quantum complexity theory; Theory of computation → Quantum query complexity; Theory of computation → Quantum information theory; Theory of computation → Cryptographic protocols; Theory of computation → Cryptographic primitives; Hardware → Quantum computation; Computer systems organization → Quantum computing

ISBN 978-3-95977-328-7

PRINT ISBN: 979-8-3313-0314-3

Published online and open access by

Schloss Dagstuhl – Leibniz-Zentrum für Informatik GmbH, Dagstuhl Publishing, Saarbrücken/Wadern, Germany. Online available at <https://www.dagstuhl.de/dagpub/978-3-95977-328-7>.

Publication date

September, 2024

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 <https://portal.dnb.de>.

License

This work is licensed under a Creative Commons Attribution 4.0 International license (CC-BY 4.0):
<https://creativecommons.org/licenses/by/4.0/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.2024.0

ISBN 978-3-95977-328-7

ISSN 1868-8969

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

■ Contents

Preface	
<i>Frédéric Magniez and Alex Bredariol Grilo</i>	0:vii
Conference Organization	
.....	0:ix
Outstanding Paper Award	
.....	0:xiii
List of Authors	
.....	0:xv
Papers	
Multi-qubit Lattice Surgery Scheduling	
<i>Allyson Silva, Xiangyi Zhang, Zak Webb, Mia Kramer, Chan-Woo Yang, Xiao Liu, Jessica Lemieux, Ka-Wai Chen, Artur Scherer, and Pooya Ronagh</i>	1:1–1:22
Stochastic Error Cancellation in Analog Quantum Simulation	
<i>Yiyi Cai, Yu Tong, and John Preskill</i>	2:1–2:15
Efficient Optimal Control of Open Quantum Systems	
<i>Wenhao He, Tongyang Li, Xiantao Li, Zecheng Li, Chunhao Wang, and Ke Wang</i>	3:1–3:23
One-Wayness in Quantum Cryptography	
<i>Tomoyuki Morimae and Takashi Yamakawa</i>	4:1–4:21
Revocable Quantum Digital Signatures	
<i>Tomoyuki Morimae, Alexander Poremba, and Takashi Yamakawa</i>	5:1–5:24
The Quantum Decoding Problem	
<i>André Chailloux and Jean-Pierre Tillich</i>	6:1–6:14
Eigenpath Traversal by Poisson-Distributed Phase Randomisation	
<i>Joseph Cunningham and Jérémie Roland</i>	7:1–7:20
(Quantum) Complexity of Testing Signed Graph Clusterability	
<i>Kuo-Chin Chen, Simon Apers, and Min-Hsiu Hsieh</i>	8:1–8:16
Quantum Non-Identical Mean Estimation: Efficient Algorithms and Fundamental Limits	
<i>Jiachen Hu, Tongyang Li, Xinzhao Wang, Yecheng Xue, Chenyi Zhang, and Han Zhong</i>	9:1–9:21
Guidable Local Hamiltonian Problems with Implications to Heuristic Ansatz State Preparation and the Quantum PCP Conjecture	
<i>Jordi Weggemans, Marten Folkertsma, and Chris Cade</i>	10:1–10:24
A Direct Reduction from the Polynomial to the Adversary Method	
<i>Aleksandrs Belovs</i>	11:1–11:15
Quantum Delegation with an Off-The-Shelf Device	
<i>Anne Broadbent, Arthur Mehta, and Yuming Zhao</i>	12:1–12:23

19th Conference on the Theory of Quantum Computation, Communication and Cryptography (TQC 2024).

Editors: Frédéric Magniez and Alex Bredariol Grilo

Leibniz International Proceedings in Informatics



LIPIC Schloss Dagstuhl – Leibniz-Zentrum für Informatik, Dagstuhl Publishing, Germany