

A Complete Bibliography of *ACM Transactions on Quantum Computing (TQC)*

Nelson H. F. Beebe
University of Utah
Department of Mathematics, 110 LCB
155 S 1400 E RM 233
Salt Lake City, UT 84112-0090
USA

Tel: +1 801 581 5254
FAX: +1 801 581 4148

E-mail: beebe@math.utah.edu, beebe@acm.org,
beebe@computer.org (Internet)
WWW URL: <http://www.math.utah.edu/~beebe/>

21 March 2023
Version 1.09

Title word cross-reference

1 [AMD22, PB22].
2 [AMdJ23].
3 [CJAA+22].

ACM [HY21, HY20]. **across** [UMSN+21].
Adiabatic [AL22, HTS+22]. **Affine**
[Kon21]. **agnostic** [CML23]. **Algorithm**
[AL22, JAA+22, MT21, MS23, PB22,
VHW22]. **Algorithms**
[AHKZ20, BTT22, BT21, SM22].
Allocation [Kon21]. **Analysis** [GBOE22].
Annealer [IHA21]. **Annealing** [RRN+23].
Approach

[BSCSK22, SDL+23, SSC21, ZLTY23].
Approximate [AL22, MS22].
Approximating [HZK+22]. **Architectures**
[UMSN+21]. **ArQTiC** [BPD22]. **Assembly**
[CJAA+22]. **Assignment**
[IHKH22, NBGJ23]. **Assignment-based**
[IHKH22]. **Authenticity** [BKP22].
Automatic [XHB+23].

Backend [CML23]. **Backend-agnostic**
[CML23]. **Based**
[AL22, BTT22, SDL+23, WHB22, IHKH22].
Bayesian [ZLTY23]. **Beginners** [JAA+22].
Benchmark [LSKA23]. **Best** [MS22].
Boolean [Had21]. **Bridging** [TFH+23].
Broader [CJAA+22].

C [CML23, MNS+21]. **Celebrating** [HY21].

Channels [FW20]. **Characterization** [XHB⁺23]. **Characterizing** [ZLTY23]. **Chemistry** [CML23]. **Circuit** [CWS⁺21, HZK⁺22, IMM⁺22, PB22, PSFA23]. **Circuits** [BDG⁺20, GBV⁺21, HS22, NLD⁺23, SRM⁺23]. **Classical** [FY21, FYS⁺21, MNS⁺21, TFH⁺23, CML23, NM22]. **Client** [DKDK21]. **Codes** [Hig22]. **Combinatorial** [UMSN⁺21]. **Communications** [BKP22]. **Compilation** [NM22]. **Compiler** [CCK⁺23]. **Compilers** [PHSM22]. **Compiling** [MS22]. **Completeness** [CJPV21]. **Complexity** [Aar21]. **Computer** [Sha22]. **Computers** [BPD22]. **Computing** [AMD22, AMdJ23, AL22, CCK⁺23, FYS⁺21, Had21, HTS⁺22, HY21, MNS⁺21, NM22, Sha22, SSC21, WHB22, Wu21, HY20]. **Connectivity** [LAH21]. **Connectivity-limited** [LAH21]. **Constrained** [RRN⁺23]. **Cost** [PB22].

Data [BKP22]. **Decision** [BTT22, HZK⁺22, WHB22]. **Decoding** [Hig22]. **Decoherence** [SRM⁺23]. **Deeper** [CJAA⁺22]. **Definitions** [ALKP21]. **depth** [HS22]. **Devices** [GBOE22, LAH21]. **Diagonalizable** [Sha22]. **Diagrams** [HZK⁺22, WHB22]. **Distributed** [CCK⁺23].

Editorial [HY20, HY21]. **Effect** [RRN⁺23]. **Efficient** [FW20, JH22]. **Eigensolver** [HTS⁺22]. **Eigenspectrum** [RRN⁺23]. **Eigenvalues** [Sha22]. **Electronic** [ALKP21]. **Elimination** [GBV⁺21]. **Energy** [PB22]. **Enhancing** [VHW22]. **Equation** [SSC21]. **Error** [BSCSK22, DP20, GBOE22]. **Error-Modeling** [DP20]. **Errors** [ZLTY23]. **Estimation** [BT21, FW20]. **Evaluation** [LSKA23]. **Exact** [IMM⁺22]. **Exascale** [NLD⁺23]. **Experimental** [DP20]. **Exploiting** [SRM⁺23]. **Expressibility** [CWS⁺21]. **Extending** [MNS⁺21, NM22]. **Extrapolation** [VHW22].

Factors [RRN⁺23]. **Fair** [GBOE22]. **Faster** [SM22]. **Features** [FYS⁺21]. **Feedforward** [AHKZ20]. **Formal** [Wu21]. **Framework** [CML23, FYS⁺21]. **Full** [BPD22]. **Full-stack** [BPD22]. **Functions** [Had21].

Gate [XHB⁺23, ZLTY23]. **Gaussian** [GBV⁺21]. **gprof** [SSTS23]. **gprof-Inspired** [SSTS23]. **Graph** [LAH21, MS23]. **Graphical** [CJPV21]. **Graphs** [MT21]. **Greedy** [GBV⁺21]. **GWh** [PB22].

Hamiltonians [Had21, RRN⁺23]. **Hardy** [DP20]. **Heterogeneous** [FYS⁺21, MNS⁺21]. **Hoare** [FY21].

i-QER [BSCSK22]. **Identification** [DKDK21]. **Impact** [Kon21]. **Implementations** [JAA⁺22]. **Improved** [BDG⁺20]. **Improving** [HTS⁺22]. **Inaugural** [HY20]. **Incremental** [SDL⁺23]. **initialized** [TFH⁺23]. **Inspired** [SSTS23, SM22]. **Integer** [NBGJ23]. **Integrity** [BKP22]. **Intelligent** [BSCSK22]. **Interior** [KP20]. **Intermediate** [BDG⁺20]. **Introduction** [AMD22, AMdJ23, Wu21]. **Isomorphism** [MS23]. **Issue** [AMD22, AMdJ23, HY20, Wu21].

Just [NM22]. **Just-in-time** [NM22].

Knowledge [MT21].

Language [CJAA⁺22]. **Languages** [CJPV21, Wu21]. **Layouts** [PSFA23]. **LEAP** [SDL⁺23]. **Learning** [CWS⁺21, MT21, PSFA23, PHSM22]. **Level** [LSKA23]. **Leveraging** [JH22]. **limited** [LAH21]. **Linear** [AL22, GBV⁺21, SM22, VHW22]. **linearity** [BT21]. **Logic** [FY21, HS22, Wu21]. **Loop** [Kon21]. **Low** [LSKA23]. **Low-Level** [LSKA23]. **Lowering** [HS22]. **LPs** [KP20].

Machine [MT21, NLD⁺23, PSFA23]. **Map** [LAH21]. **Matching** [Hig22, IMM⁺22]. **Materials** [BPD22]. **Matrices** [Sha22]. **Measurement** [ZLTY23]. **Mechanics** [CJPV21]. **Method** [KP20]. **Methods** [GBV⁺21, Wu21]. **Minimum** [Hig22]. **Minimum-Weight** [Hig22]. **Mitigate** [SRM⁺23]. **Mitigating** [ZLTY23]. **Mixed** [CJPV21]. **Modeling** [DP20]. **Multilevel** [UMSN⁺21].

Network [HS22, NLD⁺23]. **Networking** [BKP22]. **Networks** [AHKZ20]. **Neural** [AHKZ20]. **NISQ** [FYS⁺21, GBOE22, LSKA23]. **Non** [BT21]. **Non-linearity** [BT21]. **Numerical** [SDL⁺23].

onto [LAH21]. **Open** [Aar21]. **OpenQASM** [CJAA⁺22]. **Optimal** [NBGJ23, AL22, BTT22]. **Optimisation** [PB22]. **Optimising** [PB22]. **Optimization** [AL22, HS22, IMM⁺22, IHKH22, PSFA23, SDL⁺23, UMSN⁺21, XHB⁺23]. **Optimized** [CCK⁺23]. **Overfitting** [CWS⁺21].

Package [BPD22, Hig22]. **Paradox** [DP20]. **Part** [AMD22, AMdJ23]. **Pattern** [IMM⁺22]. **Pauli** [FW20]. **Penalty** [RRN⁺23]. **Perfect** [Hig22]. **Perform** [PHSM22]. **Point** [KP20]. **Practical** [IMM⁺22, SSC21]. **Predicting** [PB22]. **Problem** [MS23]. **Problems** [Aar21, MS22]. **Profiler** [SSTS23]. **Program** [IHKH22]. **Programming** [FYS⁺21, NBGJ23, Wu21]. **Protection** [BKP22]. **Protocols** [DKDK21]. **PUF** [DKDK21]. **PyMatching** [Hig22]. **Python** [Hig22, NM22].

QAOA [TFH⁺23]. **QASMBench** [LSKA23]. **QER** [BSCSK22]. **QIRO** [IHKH22]. **qprof** [SSTS23]. **Quantum** [Aar21, AMD22, AMdJ23, AHKZ20, AL22, ALKP21, BDG⁺20, BKP22, BPD22, BSCSK22, BTT22, BT21, CJPV21, CWS⁺21, CML23, CJAA⁺22, CCK⁺23, DKDK21, FY21, FYS⁺21, Had21, HS22, HTS⁺22, Hig22, HZK⁺22, HY20, HY21, IMM⁺22, IHKH22, IHA21, JAA⁺22, JH22, KP20, LSKA23, MT21, MS22, MS23, MNS⁺21, NM22, NLD⁺23, PB22, PSFA23, PHSM22, RRN⁺23, Sha22, SM22, SRM⁺23, SSC21, SSTS23, TFH⁺23, UMSN⁺21, VHW22, WHB22, Wu21].

Quantum-Classical [FYS⁺21, CML23, NM22]. **Quantum-inspired** [SM22]. **QubiC** [XHB⁺23]. **Qubit** [Kon21, NBGJ23, PHSM22, XHB⁺23]. **Qubits** [DP20, LAH21]. **Query** [Aar21, BTT22]. **Query-optimal** [BTT22]. **Quingo** [FYS⁺21]. **Qutrits** [BDG⁺20].

Randomised [BT21]. **Real** [Had21]. **Reduction** [BSCSK22]. **Reinforcement** [PHSM22]. **Related** [Aar21]. **Replay** [BKP22]. **Representation** [Had21, IHKH22]. **Reversible** [GBV⁺21]. **Richardson** [VHW22]. **Routing** [NBGJ23, PHSM22].

Sampler [IHA21]. **Sampling** [GBOE22]. **Scaling** [SDL⁺23]. **SDP** [TFH⁺23]. **SDPs** [KP20]. **Security** [ALKP21]. **server** [DKDK21]. **Shor** [PB22]. **Simulating** [BPD22, NLD⁺23]. **Simulation** [HZK⁺22, LSKA23]. **Simulations** [CML23, JH22]. **Single** [IHKH22]. **Slack** [SRM⁺23]. **Software** [AMD22, AMdJ23, BPD22]. **Solver** [AL22]. **Solving** [SM22, SSC21]. **Sparsity** [JH22]. **Special** [AMD22, AMdJ23, Wu21]. **Spectral** [LAH21]. **stack** [BPD22]. **starts** [TFH⁺23]. **State** [CJPV21, JH22]. **Static** [IHKH22]. **Sub** [MS23]. **Sub-graph** [MS23]. **Suite** [LSKA23]. **Superconducting** [DP20]. **Synthesis** [GBV⁺21, SDL⁺23]. **System** [AL22]. **Systems** [SM22, VHW22].

T [HS22]. **T-depth** [HS22]. **Techniques** [Wu21]. **Tensor** [NLD⁺23]. **Testing** [IHA21]. **Theory** [LAH21]. **Thermal** [IHA21]. **Time** [AL22, BTT22, NM22]. **Time-** [BTT22]. **Time-optimal** [AL22]. **TimeStitch** [SRM⁺23]. **Tools** [AMD22, AMdJ23, WHB22]. **Transactions** [HY20]. **Transformations** [Kon21]. **Trees** [BTT22]. [AL22]

Uses [PB22]. **Using** [HTS⁺22, LAH21, PHSM22, SDL⁺23, SSC21, VHW22].

Variables [FY21]. **Variational** [HTS⁺22]. **Verification** [DP20]. **versus** [GBV⁺21]. **via** [BDG⁺20, HS22, NBGJ23, NM22]. **Virtual** [NLD⁺23]. **Voting** [ALKP21].

warm [TFH⁺23]. **warm-starts** [TFH⁺23]. **Wave** [SSC21]. **Weight** [Hig22].

References

Aaronson:2021:OPR

[Aar21] Scott Aaronson. Open problems related to quantum query complexity. *ACM Transactions on Quantum Computing (TQC)*, 2(4):14:1–14:9, December 2021. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3488559>.

Allcock:2020:QAF

[AHKZ20] Jonathan Allcock, Chang-Yu Hsieh, Iordanis Kerenidis, and Shengyu Zhang. Quantum algorithms for feedforward neural networks. *ACM Transactions on Quantum Computing (TQC)*, 1(1):6:1–6:24, December

2020. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3411466>.

An:2022:QLS

Dong An and Lin Lin. Quantum linear system solver based on time-optimal adiabatic quantum computing and quantum approximate optimization algorithm. *ACM Transactions on Quantum Computing (TQC)*, 3(2):5:1–5:28, June 2022. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3498331>.

Arapinis:2021:DSQ

[ALKP21] Myrto Arapinis, Nikolaos Lamprou, Elham Kashefi, and Anna Pappa. Definitions and security of quantum electronic voting. *ACM Transactions on Quantum Computing (TQC)*, 2(1):4:1–4:33, April 2021. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3450144>.

Alexeev:2022:ISI

[AMD22] Yuri Alexeev, Alex McCaskey, and Wibe De Jong. Introduction to the special issue on software tools for quantum computing: Part 1. *ACM Transactions on Quantum Computing (TQC)*, 3(3):11:1–11:3, September 2022. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (elec-

tronic). URL <https://dl.acm.org/doi/10.1145/3532179>.

Alexeev:2023:ISI

- [AMdJ23] Yuri Alexeev, Alex McCaskey, and Wibe de Jong. Introduction to the special issue on software tools for quantum computing: Part 2. *ACM Transactions on Quantum Computing (TQC)*, 4(1):1:1–1:??, March 2023. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3574160>.

Baker:2020:IQC

- [BDG⁺20] Jonathan M. Baker, Casey Duckering, Pranav Gokhale, Natalie C. Brown, Kenneth R. Brown, and Frederic T. Chong. Improved quantum circuits via intermediate qutrits. *ACM Transactions on Quantum Computing (TQC)*, 1(1):2:1–2:25, December 2020. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3406309>.

Barbeau:2022:AIR

- [BKP22] Michel Barbeau, Evangelos Kranakis, and Nicolas Perez. Authenticity, integrity, and replay protection in quantum data communications and networking. *ACM Transactions on Quantum Computing (TQC)*, 3(2):9:1–9:22, June 2022. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL

<https://dl.acm.org/doi/10.1145/3517341>.

Bassman:2022:AFS

- [BPD22] Lindsay Bassman, Connor Powers, and Wibe A. De Jong. ArQTIC: a full-stack software package for simulating materials on quantum computers. *ACM Transactions on Quantum Computing (TQC)*, 3(3):17:1–17:17, September 2022. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3511715>.

Basu:2022:QIA

- [BSCSK22] Saikat Basu, Amit Saha, Amlan Chakrabarti, and Susmita Sur-Kolay. i-QER: an intelligent approach towards quantum error reduction. *ACM Transactions on Quantum Computing (TQC)*, 3(4):23:1–23:18, December 2022. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3539613>.

Bera:2021:QRA

- [BT21] Debajyoti Bera and Sapv Tharmashastha. Quantum and randomised algorithms for non-linearity estimation. *ACM Transactions on Quantum Computing (TQC)*, 2(2):5:1–5:27, July 2021. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3456509> ■

- Beigi:2022:TQO**
- [BTT22] Salman Beigi, Leila Taghavi, and Artin Tajdini. Time- and query-optimal quantum algorithms based on decision trees. *ACM Transactions on Quantum Computing (TQC)*, 3(4):19:1–19:31, December 2022. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3519269>.
- Cuomo:2023:OCD**
- [CCK⁺23] Daniele Cuomo, Marcello Cal-
effi, Kevin Krsulich, Filippo Tra-
monto, Gabriele Agliardi, En-
rico Prati, and Angela Sara Cac-
ciapuoti. Optimized compiler
for distributed quantum com-
puting. *ACM Transactions on
Quantum Computing (TQC)*, 4
(2):15:1–15:??, June 2023. CO-
DEN ????. ISSN 2643-
6809 (print), 2643-6817 (elec-
tronic). URL <https://dl.acm.org/doi/10.1145/3579367>.
- Cross:2022:OBD**
- [CJAA⁺22] Andrew Cross, Ali Javadi-
Abhari, Thomas Alexander,
Niel De Beaudrap, Lev S.
Bishop, Steven Heide, Colm A.
Ryan, Prasaht Sivarajah, John
Smolin, Jay M. Gambetta, and
Blake R. Johnson. OpenQASM
3: a broader and deeper quan-
tum assembly language. *ACM
Transactions on Quantum Com-
puting (TQC)*, 3(3):12:1–12:50,
September 2022. CODEN
???? ISSN 2643-6809 (print),
2643-6817 (electronic). URL
- Carette:2021:CGL**
- [CJPV21] Titouan Carette, Emmanuel
Jeandel, Simon Perdrix, and
Renaud Vilmart. Completeness
of graphical languages for
mixed state quantum mechanics.
*ACM Transactions on Quantum
Computing (TQC)*, 2(4):17:1–
17:28, December 2021. CODEN
???? ISSN 2643-6809 (print),
2643-6817 (electronic). URL
<https://dl.acm.org/doi/10.1145/3464693>.
- Claudino:2023:BAQ**
- [CML23] Daniel Claudino, Alexander J.
McCaskey, and Dmitry I. Lyakh.
A backend-agnostic, quantum-
classical framework for simu-
lations of chemistry in C++.
*ACM Transactions on Quan-
tum Computing (TQC)*, 4(1):
2:1–2:??, March 2023. CO-
DEN ????. ISSN 2643-
6809 (print), 2643-6817 (elec-
tronic). URL <https://dl.acm.org/doi/10.1145/3523285>.
- Chen:2021:EOQ**
- [CWS⁺21] Chih-Chieh Chen, Masaya Watabe,
Kodai Shiba, Masaru Sogabe,
Katsuyoshi Sakamoto, and Tomah
Sogabe. On the expressibil-
ity and overfitting of quantum
circuit learning. *ACM Trans-
actions on Quantum Comput-
ing (TQC)*, 2(2):8:1–8:24, July
2021. CODEN ????. ISSN 2643-
6809 (print), 2643-6817 (elec-
tronic). URL <https://dl.acm.org/doi/10.1145/3466797>.
- <https://dl.acm.org/doi/10.1145/3505636>.

Doosti:2021:CSI

- [DKDK21] Mina Doosti, Niraj Kumar, Mahshid Delavar, and Elham Kashefi. Client-server identification protocols with quantum PUF. *ACM Transactions on Quantum Computing (TQC)*, 2(3):12:1–12:40, September 2021. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3484197>.

Das:2020:NEM

- [DP20] Soumya Das and Goutam Paul. A new error-modeling of Hardy’s Paradox for superconducting qubits and its experimental verification. *ACM Transactions on Quantum Computing (TQC)*, 1(1):4:1–4:24, December 2020. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3396239>.

Flammia:2020:EEP

- [FW20] Steven T. Flammia and Joel J. Wallman. Efficient estimation of Pauli channels. *ACM Transactions on Quantum Computing (TQC)*, 1(1):3:1–3:32, December 2020. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3408039>.

Feng:2021:QHL

- [FY21] Yuan Feng and Mingsheng Ying. Quantum Hoare logic with classical variables. *ACM Transactions on Quantum Computing (TQC)*,

2(4):16:1–16:43, December 2021. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3456877>.

Fu:2021:QPF

- [FYS⁺21] X. Fu, Jintao Yu, Xing Su, Hanru Jiang, Hua Wu, Fucheng Cheng, Xi Deng, Jinrong Zhang, Lei Jin, Yihang Yang, Le Xu, Chunchao Hu, Anqi Huang, Guangyao Huang, Xiaogang Qiang, Mingtang Deng, Ping Xu, Weixia Xu, Wanwei Liu, Yu Zhang, Yuxin Deng, Junjie Wu, and Yuan Feng. Quingo: a programming framework for heterogeneous quantum-classical computing with NISQ features. *ACM Transactions on Quantum Computing (TQC)*, 2(4):19:1–19:37, December 2021. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3483528>.

Golden:2022:FSE

- [GBOE22] John Golden, Andreas Bärtzchi, Daniel O’Malley, and Stephan Eidenbenz. Fair sampling error analysis on NISQ devices. *ACM Transactions on Quantum Computing (TQC)*, 3(2):8:1–8:23, June 2022. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3510857>.

GoubaultDeBrugiere:2021:GEV

- [GBV⁺21] Timothée Goubault De Brugière,

- Marc Baboulin, Benoît Valiron, Simon Martiel, and Cyril Allouche. Gaussian elimination versus greedy methods for the synthesis of linear reversible circuits. *ACM Transactions on Quantum Computing (TQC)*, 2(3):11:1–11:26, September 2021. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3474226>.
- [Had21] **Hadfield:2021:RBR** Stuart Hadfield. On the representation of Boolean and real functions as Hamiltonians for quantum computing. *ACM Transactions on Quantum Computing (TQC)*, 2(4):18:1–18:21, December 2021. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3478519>.
- [Hig22] **Higgott:2022:PPP** Oscar Higgott. PyMatching: a Python package for decoding quantum codes with minimum-weight perfect matching. *ACM Transactions on Quantum Computing (TQC)*, 3(3):16:1–16:16, September 2022. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3505637>.
- [HS22] **Haner:2022:LDQ** Thomas Häner and Mathias Soeken. Lowering the T-depth of quantum circuits via logic network optimization. *ACM Transactions on Quantum Computing (TQC)*, 3(2):6:1–6:15, June 2022. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3501334>.
- [HTS+22] **Harwood:2022:IVQ** Stuart M. Harwood, Dimitar Trenev, Spencer T. Stober, Panagiotis Barkoutsos, Tanvi P. Gujarati, Sarah Mostame, and Donny Greenberg. Improving the variational quantum eigensolver using variational adiabatic quantum computing. *ACM Transactions on Quantum Computing (TQC)*, 3(1):1:1–1:20, March 2022. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3479197>.
- [HY20] **Humble:2020:IIE** Travis S. Humble and Mingsheng Ying. Inaugural issue editorial for *ACM Transactions on Quantum Computing*. *ACM Transactions on Quantum Computing (TQC)*, 1(1):1:1–1:2, December 2020. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3411487>.
- [HY21] **Humble:2021:ECQ** Travis S. Humble and Mingsheng Ying. Editorial on celebrating quantum computing with ACM. *ACM Transactions on Quantum Computing (TQC)*, 2(4):13:1–13:2, December 2021.

CODEN ????? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3488391>.

Hillmich:2022:ADD

- [HZK⁺22] Stefan Hillmich, Alwin Zulehner, Richard Kueng, Igor L. Markov, and Robert Wille. Approximating decision diagrams for quantum circuit simulation. *ACM Transactions on Quantum Computing (TQC)*, 3(4):22:1–22:21, December 2022. CODEN ????? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3530776>.

Izquierdo:2021:TQA

- [IHA21] Zoe Gonzalez Izquierdo, Itay Hen, and Tameem Albash. Testing a quantum annealer as a quantum thermal sampler. *ACM Transactions on Quantum Computing (TQC)*, 2(2):7:1–7:20, July 2021. CODEN ????? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3464456>.

Ittah:2022:QSS

- [IHKH22] David Ittah, Thomas Häner, Vadym Kliuchnikov, and Torsten Hoefler. QIRO: a static single assignment-based quantum program representation for optimization. *ACM Transactions on Quantum Computing (TQC)*, 3(3):14:1–14:32, September 2022. CODEN ????? ISSN 2643-6809 (print), 2643-6817 (elec-

tronic). URL <https://dl.acm.org/doi/10.1145/3491247>.

Iten:2022:EPP

- [IMM⁺22] Raban Iten, Romain Moyard, Tony Metger, David Sutter, and Stefan Woerner. Exact and practical pattern matching for quantum circuit optimization. *ACM Transactions on Quantum Computing (TQC)*, 3(1):4:1–4:41, March 2022. CODEN ????? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3498325>.

J:2022:QAI

- [JAA⁺22] Abhijith J., Adetokunbo Ade-doyin, John Ambrosiano, Petr Anisimov, William Casper, Gopinath Chennupati, Carleton Coffrin, Hristo Djidjev, David Gunter, Satish Karra, Nathan Lemons, Shizeng Lin, Alexander Malyzhenkov, David Mascarenas, Susan Mniszewski, Balu Nadiga, Daniel O’Malley, Diane Oyen, Scott Pakin, Lakshman Prasad, Randy Roberts, Phillip Romero, Nandakishore Santhi, Nikolai Sinitsyn, Pieter J. Swart, James G. Wendelberger, Boram Yoon, Richard Zamora, Wei Zhu, Stephan Eidenbenz, Andreas Bärtzchi, Patrick J. Coles, Marc Vuffray, and Andrey Y. Lokhov. Quantum algorithm implementations for beginners. *ACM Transactions on Quantum Computing (TQC)*, 3(4):18:1–18:92, December 2022. CODEN ????? ISSN 2643-6809 (print),

- 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3517340>.
- [JH22] Samuel Jaques and Thomas Häner. Leveraging state sparsity for more efficient quantum simulations. *ACM Transactions on Quantum Computing (TQC)*, 3(3):15:1–15:17, September 2022. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3491248>.
- [Kon21] Martin Kong. On the impact of affine loop transformations in qubit allocation. *ACM Transactions on Quantum Computing (TQC)*, 2(3):9:1–9:40, September 2021. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3465409>.
- [KP20] Iordanis Kerenidis and Anupam Prakash. A quantum interior point method for LPs and SDPs. *ACM Transactions on Quantum Computing (TQC)*, 1(1):5:1–5:32, December 2020. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3406306>.
- [LAH21] Joseph X. Lin, Eric R. Anschuetz, and Aram W. Harrow. Using spectral graph theory to map qubits onto connectivity-limited devices. *ACM Transactions on Quantum Computing (TQC)*, 2(1):3:1–3:30, February 2021. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3436752>.
- [LSKA23] Ang Li, Samuel Stein, Sri-ram Krishnamoorthy, and James Ang. QASMBench: a low-level quantum benchmark suite for NISQ evaluation and simulation. *ACM Transactions on Quantum Computing (TQC)*, 4(2):10:1–10:??, June 2023. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3550488>.
- [MNS⁺21] Alexander Mccaskey, Thien Nguyen, Anthony Santana, Daniel Claudino, Tyler Kharazi, and Hal Finkel. Extending C++ for heterogeneous quantum-classical computing. *ACM Transactions on Quantum Computing (TQC)*, 2(2):6:1–6:36, July 2021. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3462670>.
- [MS22] Liam Madden and Andrea Simonetto. Best approximate quantum compiling problems. *ACM Transactions on Quan-*

Jaques:2022:LSS**Li:2023:QLL****Kong:2021:IAL****Mccaskey:2021:ECH****Kerenidis:2020:QIP****Madden:2022:BAQ****Lin:2021:USG**

- tum Computing (TQC)*, 3(2): 7:1–7:29, June 2022. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3505181>.
- Nguyen:2023:TNQ**
- [MS23] Nicola Mariella and Andrea Simonetto. A quantum algorithm for the sub-graph isomorphism problem. *ACM Transactions on Quantum Computing (TQC)*, 4(2):13:1–13:??, June 2023. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3569095>.
- Mariella:2023:QAS**
- [MT21] Yunpu Ma and Volker Tresp. Quantum machine learning algorithm for knowledge graphs. *ACM Transactions on Quantum Computing (TQC)*, 2(3): 10:1–10:28, September 2021. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3467982>.
- Ma:2021:QML**
- [NLD+23] Thien Nguyen, Dmitry Lyakh, Eugene Dumitrescu, David Clark, Jeff Larkin, and Alexander McCaskey. Tensor network quantum virtual machine for simulating quantum circuits at exascale. *ACM Transactions on Quantum Computing (TQC)*, 4(1):6:1–6:??, March 2023. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3547334>.
- Nguyen:2022:EPQ**
- [NM22] Thien Nguyen and Alexander J. McCaskey. Extending Python for quantum-classical computing via quantum just-in-time compilation. *ACM Transactions on Quantum Computing (TQC)*, 3(4):24:1–24:25, December 2022. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3544496>.
- Nguyen:2022:EPQ**
- [NBJG23] Giacomo Nannicini, Lev S. Bishop, Oktay Günlük, and Petar Jurcevic. Optimal qubit assignment and routing via integer programming. *ACM Transactions on Quantum Computing (TQC)*, 4(1):7:1–7:??, March 2023. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3544563>.
- Nannicini:2023:OQA**
- [PB22] Alexandru Paler and Robert Basmaadjian. Energy cost of quantum circuit optimisation: Predicting that optimising Shor’s algorithm circuit uses 1 GWh. *ACM Transactions on Quantum Computing (TQC)*, 3(1):3:1–3:14, March 2022. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3490172>.
- Paler:2022:ECQ**

- [PHSM22] Matteo G. Pozzi, Steven J. Herbert, Akash Sengupta, and Robert D. Mullins. Using reinforcement learning to perform qubit routing in quantum compilers. *ACM Transactions on Quantum Computing (TQC)*, 3(2):10:1–10:25, June 2022. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3520434>.
- [PSFA23] Alexandru Paler, Lucian Sasu, Adrian-Catalin Florea, and Razvan Andonie. Machine learning optimization of quantum circuit layouts. *ACM Transactions on Quantum Computing (TQC)*, 4(2):12:1–12:??, June 2023. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3565271>.
- [RRN⁺23] Christoph Roch, Daniel Ratke, Jonas Nüßlein, Thomas Gabor, and Sebastian Feld. The effect of penalty factors of constrained Hamiltonians on the eigenspectrum in quantum annealing. *ACM Transactions on Quantum Computing (TQC)*, 4(2):14:1–14:??, June 2023. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3577202>.
- [SDL⁺23] Ethan Smith, Marc Grau Davis, Jeffrey Larson, Ed Younis, Lindsay Bassman Oftelie, Wim Lavrijsen, and Costin Iancu. LEAP: Scaling numerical optimization based synthesis using an incremental approach. *ACM Transactions on Quantum Computing (TQC)*, 4(1):5:1–5:??, March 2023. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3548693>.
- [Sha22] Changpeng Shao. Computing eigenvalues of diagonalizable matrices on a quantum computer. *ACM Transactions on Quantum Computing (TQC)*, 3(4):21:1–21:20, December 2022. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3527845>.
- [SM22] Changpeng Shao and Ashley Montanaro. Faster quantum-inspired algorithms for solving linear systems. *ACM Transactions on Quantum Computing (TQC)*, 3(4):20:1–20:23, December 2022. CODEN ???? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3520141>.
- [SRM⁺23] Kaitlin N. Smith, Gokul Subramanian Ravi, Prakash Mu-

Pozzi:2022:URL

Smith:2023:LSN

Paler:2023:MLO

Shao:2022:CED

Roch:2023:EPF

Shao:2022:FQI

Smith:2023:TES

rali, Jonathan M. Baker, Nathan Earnest, Ali Javadi-Cabhari, and Frederic T. Chong. TimeStitch: Exploiting slack to mitigate decoherence in quantum circuits. *ACM Transactions on Quantum Computing (TQC)*, 4(1): 8:1–8:??, March 2023. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3548778>.

Suau:2021:PQC

[SSC21] Adrien Suau, Gabriel Staffebach, and Henri Calandra. Practical quantum computing: Solving the wave equation using a quantum approach. *ACM Transactions on Quantum Computing (TQC)*, 2(1):2:1–2:35, February 2021. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3430030>.

Suau:2023:QGI

[SSTS23] Adrien Suau, Gabriel Staffebach, and Aida Todri-Sanial. qprof: a gprof-inspired quantum profiler. *ACM Transactions on Quantum Computing (TQC)*, 4(1):4:1–4:??, March 2023. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3529398>.

Tate:2023:BCQ

[TFH⁺23] Reuben Tate, Majid Farhadi, Creston Herold, Greg Mohler, and Swati Gupta. Bridging classical and quantum with SDP ini-

tialized warm-starts for QAOA. *ACM Transactions on Quantum Computing (TQC)*, 4(2): 9:1–9:??, June 2023. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3549554>.

Ushijima-Mwesigwa:2021:MCO

[UMSN⁺21] Hayato Ushijima-Mwesigwa, Ruslan Shayduln, Christian F. A. Negre, Susan M. Mniszewski, Yuri Alexeev, and Ilya Safro. Multilevel combinatorial optimization across quantum architectures. *ACM Transactions on Quantum Computing (TQC)*, 2(1):1:1–1:29, February 2021. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3425607>.

Vazquez:2022:EQI

[VHW22] Almudena Carrera Vazquez, Ralf Hiptmair, and Stefan Woerner. Enhancing the quantum linear systems algorithm using Richardson extrapolation. *ACM Transactions on Quantum Computing (TQC)*, 3(1): 2:1–2:37, March 2022. CODEN ????. ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3490631>.

Wille:2022:TQC

[WHB22] Robert Wille, Stefan Hillmich, and Lukas Burgholzer. Tools for quantum computing based on decision diagrams. *ACM*

Transactions on Quantum Computing (TQC), 3(3):13:1–13:17, September 2022. CODEN ????? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3491246>.

Wu:2021:ISI

- [Wu21] Xiaodi Wu. Introduction to the special issue on the techniques of programming languages, logic, and formal methods in quantum computing. *ACM Transactions on Quantum Computing (TQC)*, 2(4):15:1–15:3, December 2021. CODEN ????? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3488389>.

Xu:2023:AQC

- [XHB⁺23] Yilun Xu, Gang Huang, Jan Balewski, Alexis Morvan, Kasra Nowrouzi, David I. Santiago, Ravi K. Naik, Brad Mitchell, and Irfan Siddiqi. Automatic qubit characterization and gate optimization with QubiC. *ACM Transactions on Quantum Computing (TQC)*, 4(1):3:1–3:??, March 2023. CODEN ????? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3529397>.

Zheng:2023:BAC

- [ZLTY23] Muqing Zheng, Ang Li, Tamás Terlaky, and Xiu Yang. A Bayesian approach for characterizing and mitigating gate and measurement errors. *ACM*

Transactions on Quantum Computing (TQC), 4(2):11:1–11:??, June 2023. CODEN ????? ISSN 2643-6809 (print), 2643-6817 (electronic). URL <https://dl.acm.org/doi/10.1145/3563397>.