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1	Arun Kumar Pati, Kratveer Singh and Manish Kumar Gupta	Monogamy of quantum privacy
2	Gilad Gour and Mark Wilde	Entropy of a quantum channel
3	Eneet Kaur, Siddhartha Das, Mark Wilde and Andreas Winter	Extendibility limits the performance of quantum processors
4	Stefan Baeuml, Siddhartha Das and Mark Wilde	Entanglement and secret-key-agreement capacities of bipartite quantum interactions and read-only memory devices
9	Nikolaos Kollas	Optimization-free measures of quantum resources
11	Sristy Agrawal, Saronath Halder and Manik Banik	Genuinely entangled subspace with all-encompassing free bipartite entanglement
13	Giacomo De Palma	New lower bounds to the output entropy of multi-mode quantum Gaussian channels
14	Yuxiang Yang, Giulio Chiribella and Masahito Hayashi	Attaining the ultimate precision limit in quantum state estimation
15	Youning Li, Shilin Huang, Dong Ruan and Bei Zeng	Symmetric vs. bosonic extension for bipartite states
16	Daowen Qiu and Shenggen Zheng	Optimal quantum algorithms for generalized Deutsch-Jozsa problem
18	Chunhao Wang and Leonard Wossnig	A quantum algorithm for simulating non-sparse Hamiltonians
19	Alessandro Rudi, Leonard Wossnig, Carlo Ciliberto, Andrea Rocchetto, Massimiliano Pontil and Simone Severini	Approximating Hamiltonian dynamics with the Nystrom method
22	Tian Lan, Liang Kong and Xiao-Gang Wen	Higher Dimensional Topological Order, Higher Category and A Classification in 3+1D
23	Akram Youssry, Christopher Ferrie and Marco Tomamichel	Efficient online quantum state estimation using a matrix-exponentiated gradient method
26	Laszlo Gyongyosi	A Universal Quantum Algorithm for Time Complexity Reduction of Quantum Computers
28	Benjamin Musto, David Reutter and Dominic Verdon	Pseudo-telepathy and quantum symmetries of graphs
30	Thao P. Le	Objectivity of Quantum Systems via (Strong) Quantum Darwinism
34	Ryuji Takagi, Bartosz Regula, Kaifeng Bu, Zi-Wen Liu and Gerardo Adesso	Operational advantage of quantum resources in subchannel discrimination
37	Yasuhiro Takahashi and Seiichiro Tani	Power of Uninitialized Qubits in Shallow Quantum Circuits
40	Kabgyun Jeong and Hun Hee Lee	On universal upper bounds for Gaussian information capacity
41	Rotem Arnon-Friedman, Jean-Daniel Bancal and Henry Yuen	Device-independent entanglement certification
42	Vedran Dunjko, Yimin Ge and Ignacio Cirac	Computational speedups using small quantum devices
49	Kosuke Mitarai, Masahiro Kitagawa and Keisuke Fujii	Quantum analog-digital conversion
51	Henrik Wilming and Jens Eisert	Single-shot holographic compression from the area law
55	Chris Cade	Post-selected classical query complexity
59	Stefan Baeuml, Koji Azuma, Go Kato and David Elkouss	Linear programs for entanglement and key distribution in the quantum internet
60	Steven Herbert	On the depth overhead incurred when running quantum algorithms on near-term quantum computers with limited qubit connectivity
63	Antoine Neven, John Martin and Thierry Bastin	Entanglement robustness against particle loss in multiqubit systems
64	Eric Anschuetz, Jonathan Olson, Alán Aspuru-Guzik and Yudong Cao	Variational Quantum Factoring
66	Tamara Kohler and Toby Cubitt	Complete Toy Models of Holographic Duality
68	David Collins	Qubit channel parameter estimation with very noisy initial states
69	Yuki Takeuchi, Atul Mantri, Tomoyuki Morimae, Akihiro Mizutani and Joseph Fitzsimons	Resource-efficient verification of quantum computing using Serfling's bound
70	Keisuke Fujii	Quantum speedup in stoquastic adiabatic quantum computation
72	Anurag Anshu, Min-Hsiu Hsieh and Rahul Jain	Noisy quantum state redistribution with promise and the Alpha-bit
73	Christopher Chubb, Masahito Hayashi, Kosuke Ito, Kamil Korzekwa, Wataru Kumagai and Marco Tomamichel	Resonances in finite resource interconversion
74	Alexander Müller-Hermes, Matthias Christandl and Michael Wolf	When Do Composed Maps Become Entanglement Breaking?
75	Raban Iten, Tony Metger, Henrik Wilming, Lidia Del Rio and Renato Renner	Discovering physical concepts with neural networks
76	Jonas Helsen, Bas Dirkse, Xiao Xue, Lieven M.K. Vandersypen and Stephanie Wehner	New developments in the theory of randomized benchmarking
77	Ryuji Takagi and Quntao Zhuang	Convex resource theory of non-Gaussianity

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79	Michael Jarret, Stacey Jeffery, Shelby Kimmel and Alvaro Piedrafita	Quantum Algorithms for Connectivity and Related Problems
80	Alexander Poremba, Gorjan Alagic, Stacey Jeffery and Maris Ozols	On quantum chosen-ciphertext attacks and Learning with Errors
81	Muyuan Li, Michael Newman, Daniel Miller, Kenneth Brown and Yukai Wu	2-D Compass Codes
83	Xiaoyu Li, Qinsheng Zhu and Mingzheng Zhu	Machine learning study of the relationship between the geometric and entropy discord
84	Tomáš Gonda	Generic ways of quantifying resources
86	Ashutosh Singh	Manipulation of entanglement sudden death in an all-optical experimental setup
91	Christopher Eltschka, Felix Huber, Otfried Gühne and Jens Siewert	Exponentially many entanglement and correlation constraints for multipartite quantum states
92	Qi Zhao, Yunchao Liu, Xiao Yuan, Eric Chitambar, Xiongfeng Ma and Andreas Winter	One-Shot Resource Theory of Quantum Coherence
93	Nengkun Yu, Li Zhou, Shenggang Ying and Mingsheng Ying	Quantum Earth mover's distance, No-go Quantum Kantorovich-Rubinstein theorem, and Quantum Marginal Problem
94	Anurag Anshu, Mario Berta, Kun Fang, Rahul Jain, Marco Tomamichel and Xin Wang	Smooth entropies for quantum channels and multipartite states
95	Xiaotong Ni	Neural Network Decoders for Large-Distance 2D Toric Codes
97	Xin Tao, Sirui Lu, Ningping Cao, Galit Anikeeva, Dawei Lu, Jun Li, Guilu Long and Bei Zeng	Local-measurement-based quantum state tomography via neural networks
98	Yunlong Xiao, Yu Xiang, Qiongyi He and Barry Sanders	Quasi-Fine-Grained Uncertainty Relations
99	Ravi Kunjwal	Noise-robust contextuality: Two complementary frameworks
100	Minh Tran, Andrew Guo, Yuan Su, James Garrison, Zachary Eldredge, Michael Foss-Feig, Andrew Childs and Alexey Gorshkov	Locality and digital quantum simulation of power-law interactions
101	Quntao Zhuang, Thomas Schuster, Beni Yoshida and Norman Yao	Scrambling and complexity in phase space
102	Carolin Wille, Reinhold Egger, Jens Eisert and Alexander Altland	A mesoscopic platform for Hamiltonian perturbative gadgets
103	Johannes Bausch	Perturbation Gadgets: Arbitrary Energy Scales from a Single Strong Interaction
105	Zhengfeng Ji, Debbie Leung and Thomas Vidick	A three-player coherent state embezzlement game
107	Liangzhong Ruan, Moe Z. Win, Brian T. Kirby and Michael Brodsky	Efficient Entanglement Distillation for Quantum Channels with Polarization Mode Dispersion
108	Johannes Bausch and Felix Leditzky	Quantum Codes from Neural Networks
111	Yassine Hamoudi and Frederic Magniez	Quantum Chebyshev's Inequality and Applications
112	Bihalan Bhattacharya and Samyadeb Bhattacharya	Convex geometry of Markovian Lindblad dynamics and witnessing non-Markovianity
114	Sevag Gharibian, Stephen Piddock and Justin Yirka	Oracle complexity classes and local measurements on physical Hamiltonians
116	Vojtech Havlicek, Sergii Strelchuk and Kristan Temme	Computation with Quantum Schur Circuits
119	Kohtaro Kato and Pieter Naaijkens	An entropic invariant for 2D gapped quantum phases
120	Jiayu Zhang	Delegating Quantum Computation Using Only Hash Functions
121	Eneet Kaur, Mark Wilde and Andreas Winter	Fundamental limits on key rates in device-independent quantum key distribution
124	Dawei Ding, Hrant Gharibyan, Patrick Hayden and Michael Walter	A Quantum Multiparty Packing Lemma and the Relay Channel
125	Sevag Gharibian, Miklos Santha, Jamie Sikora, Aarthi Sundaram and Justin Yirka	Quantum generalizations of the polynomial hierarchy with applications to QMA(2)
126	Dripto Debroy, Muyuan Li, Michael Newman and Kenneth Brown	Stabilizer Slicing: Coherent Error Cancellations in LDPC Codes
128	Troy Lee, Maharshi Ray and Miklos Santha	Strategies for quantum races
129	Kosuke Fukui, Akihisa Tomita and Atsushi Okamoto	Tracking Quantum Error Correction
130	Cihan Okay, Emily Tyhurst and Robert Raussendorf	The cohomological and the resource-theoretic perspective on quantum contextuality: common ground through the contextual fraction
132	Yoshifumi Nakata, Eyuri Wakakuwa and Masato Koashi	Transmitting quantum information by symmetry-preserving unitary coding

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139	Zizhu Wang and Miguel Navascues	Two Dimensional Translation-Invariant Probability Distributions: Characterizations, Approximations and No-Go Theorems
141	Earl Campbell, Ankur Khurana and Ashley Montanaro	Applying quantum algorithms to constraint satisfaction problems
142	Christophe Vuillot, Hamed Asasi, Yang Wang, Leonid P. Pryadko and Barbara M. Terhal	Quantum Error Correction with the Toric-GKP Code
143	Shantanav Chakraborty, András Gilyén and Stacey Jeffery	The power of block-encoded matrix powers: improved regression techniques via faster Hamiltonian simulation
147	Mithuna Yoganathan, Richard Jozsa and Sergii Strelchuk	Quantum advantage of unitary Clifford circuits with magic state inputs
148	Alex Bredariol Grilo	Relativistic (or 2-provers 1-round) verifiable delegation of quantum computation
150	Yanbao Zhang, Honghao Fu and Emanuel Knill	Certifying Randomness by Quantum Probability Estimation
152	Eyal Bairey, Itai Arad and Netanel Lindner	Learning a local Hamiltonian from local measurements
155	Felix Huber and Markus Grassl	Codes of Maximal Distance and Highly Entangled Subspaces
160	Xiuhao Deng, Ed Barnes and Sophia Economou	Fast and high fidelity quantum gates for qubits with strong crosstalk
161	Mirko Amico, Oleg L. Berman and Roman Ya. Kezerashvili	Quantum entanglement dynamics due to dynamical Lamb effect
162	Nuriya Nurgalieva and Lída Del Rio	Inadequacy of multi-agent logic in quantum settings
163	Michael Jarret	Hamiltonian Surgery: Cheeger inequalities for Hamiltonians
166	Tian Zhang, Vlatko Vedral and Oscar Dahlsten	Spacetime formulation for time crystals and continuous variables
167	Shantanav Chakraborty, Leonardo Novo and Jérémie Roland	Finding a marked node on any graph by continuous time quantum walk
168	Dominik Hangleiter, Martin Kliesch, Jens Eisert and Christian Gogolin	Sample complexity of device-independently certified "quantum supremacy"
169	Jonas Haferkamp, Dominik Hangleiter, Jens Eisert and Marek Gluza	Contracting projected entangled pair states is average-case hard
172	Trung Can, Narayanan Rengaswamy, Robert Calderbank and Henry Pfister	Kerdock Codes Determine Unitary 2-Designs
173	Narayanan Rengaswamy, Robert Calderbank, Swanand Kadhe and Henry Pfister	Symplectic Matrices for Logical Clifford Synthesis and Diagonal Unitaries in the Clifford Hierarchy
174	Michal Sedlak, Alessandro Bisio and Mario Ziman	Optimal probabilistic storage and retrieval of unitary channels
176	James Watson and Toby Cubitt	NEXP-Completeness of the Classical Ground State Energy Density Problem
179	Daniel Nagaj, Dominik Hangleiter, Jens Eisert and Martin Schwarz	Pinned QMA: the power of fixing a few qubits in proofs
181	Paul Boes, Henrik Wilming, Rodrigo Gallego and Jens Eisert	Catalytic Quantum Randomness
182	Paul Boes, Jens Eisert, Rodrigo Gallego, Markus Mueller and Henrik Wilming	Von Neumann entropy from unitarity
185	Andrew Childs, Aaron Ostrander and Yuan Su	Faster quantum simulation by randomization
186	Adam Bene Watts, Aram Harrow, Gurtej Kanwar and Anand Natarajan	Algorithms, Bounds, and Strategies for Entangled XOR Games
187	Kuntal Halder	Digital Quantum Simulation of Laser-Pulse Induced Tunneling Mechanism in Chemical Isomerization Reaction
191	Lukasz Cincio, Yigit Subasi, Andrew Sornborger and Patrick Coles	Learning the quantum algorithm for state overlap
193	Simon Apers and Alain Sarlette	Quantum Fast-Forwarding: Markov Chains and Local Graph Clustering
194	Stefano Pirandola, Riccardo Laurenza and Cosmo Lupo	Fundamental limits to quantum channel discrimination
195	Christophe Vuillot, Lingling Lao, Ben Criger, Carmen G. Almudever, Koen Bertels and Barbara M. Terhal	Code Deformation and Lattice Surgery Are Gauge Fixing
197	Andrea Olivo and Frédéric Grosshans	Investigating the optimality of ancilla-assisted linear optical Bell measurements
204	Pawel Caban and Jakub Rembielinski	Relativistic chiral qubits, their time evolution and correlations
206	Andras Pal Gilyen, Srinivasan Arunachalam, Arjan Cornelissen and Nathan Wiebe	Optimizing quantum optimization algorithms via faster quantum gradient computation
207	Michael Jarret, Brad Lackey, Aike Liu and Kianna Wan	Quantum adiabatic optimization without heuristics
209	Oscar Higgott, Daochen Wang and Steve Brierley	Variational Quantum Computation of Excited States
210	Guanyu Zhu, Ali Lavasani and Maissam Barkeshli	Universal logical gate sets with constant time overhead for topological codes

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211	Antoine Grospellier and Anirudh Krishna	Numerical study of hypergraph product codes
212	Robert Raussendorf, Cihan Okay, Dongsheng Wang, David Stephen and Hendrik Poulsen-Nautrup	A computationally universal phase of quantum matter
216	Eyuri Wakakuwa and Yoshifumi Nakata	One-Shot Randomized and Nonrandomized Partial Decoupling
220	Rafael Alexander, Glen Evenbly and Israel Klich	Exact holographic tensor networks for the Motzkin spin chain
222	Bradley Pearlman and Graeme Smith	Quantum Channel Complexity
225	Zahra Raissi, Christian Gogolin, Adam Teixido, Arnau Riera and Antonio Acin	Constructing k-uniform states of non-minimal support and study the graph state representation
226	Weilei Zeng and Leonid Pryadko	Higher-dimensional quantum hypergraph-product codes
227	Noah Shutty, Mary Wootters and Patrick Hayden	Noise Thresholds for Amplification: Quantum Foundations From Classical Fault-Tolerant Computation
228	Anne Broadbent, Sevag Gharibian and Hong-Sheng Zhou	Towards Quantum One-Time Memories from Stateless Hardware
229	Carlo Maria Scandolo, Roberto Salazar, Jarosław K. Korbicz and Paweł Horodecki	Is it possible to be objective in every physical theory?
231	Daochen Wang, Oscar Higgott and Stephen Brierley	A Generalised Variational Quantum Eigensolver
235	Xavier Bonnetain and Maria Naya-Plasencia	Efficient Hidden Shift Algorithms
238	Theodore Yoder	Good quantum subsystem codes in 2-dimensions
239	Zahra Baghali Khanian, Manabendra Nath Bera, Arnau Riera, Maciej Lewenstein and Andreas Winter	Resource theory of heat and work and everything else
241	Zhikuan Zhao, Alejandro Pozas-Kerstjens, Patrick Rebentrost and Peter Wittek	Bayesian Deep Learning on a Quantum Computer
242	Yi Jiang, Ilya Dumer, Alexey A. Kovalev and Leonid Pryadko	On thermodynamical properties of Ising models related to ML decoding of finite-rate quantum LDPC codes
243	Nam Nguyen, Elizabeth Behrman, Mohamed Moustafa and James Steck	Benchmarking neural networks for quantum computation
246	Carlos Gonzalez-Guillen and Toby Cubitt	History-state Hamiltonians are critical
247	Patrick J. Coles, Vishal Katariya, Seth Lloyd, Iman Marvian and Mark M. Wilde	Entropic Energy-Time Uncertainty Relation
249	Claude Crépeau	The RGB No-Signalling Game.
253	Dominic Williamson and Trithap Devakul	Universal quantum computation using fractal symmetry-protected cluster phases
254	Sisi Zhou, Chang-Ling Zou and Liang Jiang	Saturating the quantum Cramér-Rao bound using LOCC
255	Tassius Temistocles, Rafael Rabelo and Marcelo Terra Cunha	Measurement compatibility in Bell nonlocality tests
256	Dominic Williamson, Arpit Dua, Trithap Devakul, Yizhi You and Meng Cheng	Spurious topological entanglement entropy and subsystem symmetry-protected phases
258	Albert Schmitz	The Gauge Structure of Stabilizer Codes
259	Sonika Johri, Norbert Linke, Caroline Figgatt, Kevin Landsman, Anne Matsuura, Chris Monroe, Damian Steiger and Matthias Troyer	Entanglement spectroscopy on a quantum computer: Theory and Experiment
260	Philippe Faist, Sepehr Nezami, Victor V. Albert, Grant Salton, Fernando Pastawski, Patrick Hayden and John Preskill	Continuous symmetries and approximate quantum error correction
261	Jamie Sikora and John Selby	Cryptography in Generalized Probabilistic Theories
262	Robert Harris, Nathan McMahon, Gavin Brennen and Thomas Stace	Calderbank-Shor-Steane Holographic Quantum Error Correcting Codes
263	Lior Eldar and Saeed Mehraban	Approximating the Permanent of a Random Matrix with Vanishing Mean
264	Barbara Amaral	Resource Theory of Contextuality
265	Christopher Chubb and Steve Flammia	Statistical mechanical models for quantum codes with correlated noise
266	Andy C. Y. Li, Alexandru Macridin and Panagiotis Spentzouris	Variational quantum simulator of interacting bosons
268	Yuxuan Du, Min-Hsiu Hsieh, Tongliang Liu and Dacheng Tao	Proposal to Solve Industrial Machine Learning Problems with Near-Term Quantum Devices
269	Aram Harrow, Linghang Kong, Zi-Wen Liu, Saeed Mehraban and Peter Shor	A Separation of Out-of-time-ordered Correlator and Entanglement
271	Gorjan Alagic, Christian Majenz and Tommaso Gagliardoni	Unforgeable authentication and signing of quantum states
272	Murphy Yuezhen Niu, Lior Horesh and Isaac Chuang	Quantum Control in the Eye of Artificial Neural Networks
274	Ryan LaRose, Arkin Tikku, Etude O'Neel-Judy, Lukasz Cincio and Patrick Coles	Variational Quantum State Diagonalization
275	Andrew Childs and Jin-Peng Liu	Quantum spectral methods for differential equations

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278	Kanav Setia, Sergey Bravyi, Antonio Mezzacapo and James Whitfield	Generalized superfast algorithm for fermionic quantum simulation
279	Gorjan Alagic, Christian Majenz, Alexander Russell and Fang Song	Unpredictability of classical functions against quantum queries
280	Behrooz Sepehry, Ehsan Iranmanesh, Michael P. Friedlander and Pooya Ronagh	Smooth Structured Prediction Using Quantum and Classical Gibbs Samplers
282	Geoffrey Penington and Patrick Hayden	Learning the alpha-bits of black holes
284	Paul Webster and Stephen Bartlett	Logic gates by braiding defects in topological stabiliser codes cannot be universal
286	Anne Broadbent and Supartha Podder	Unclonable Proofs for QMA
289	Eunou Lee	Approximation of 2-local Hamiltonians with positive semidefinite local terms
293	Yigit Subasi, Lukasz Cincio and Patrick Coles	Entanglement spectroscopy with a depth-two quantum circuit
294	Sam Roberts and Stephen Bartlett	Symmetry-protected self-correcting quantum memories
296	Zhang Jiang, Ryan Babbush and Jarrod McClean	Quantum simulation of fermions: locality and error mitigation
298	Ali Hamed Moosavian and Stephen Jordan	Faster quantum algorithm to simulate fermionic quantum field theory
299	Gian Giacomo Guerreschi	Repeat-Until-Success circuits with fixed-point oblivious amplitude amplification
300	Michael Jarret and Kianna Wan	Improved quantum backtracking algorithms using effective resistance estimates
302	Yonathan Touati and Dorit Aharonov	Quantum Circuit-depth Lower Bounds For Homological Codes
304	James Seddon, Earl Campbell and Mark Howard	Quantifying magic for multi-qubit operations
307	Adrian Chapman and Akimasa Miyake	Many-body-localization transition in a universal quantum circuit model
312	Han-Hsuan Lin and Kai-Min Chung	PAC learning quantum process with classical inputs and approximate state discrimination problem
313	Michal Oszmaniec and Daniel Brod	Classical simulation of boson sampling with lost particles
314	Michal Oszmaniec, Filip Maciejewski and Zbigniew Puchala	All quantum measurements can be simulated using projective measurements and postselection
316	Mohammad Alhejji and Graeme Smith	Monotonicity Under Local Operations
319	Michal Studzinski, Karol Horodecki, Adam Rutkowski and Piotr Cwiklinski	On distilling secure key from reducible private states and (non) existence of entangled key-undistillable states
320	Hayata Yamasaki and Mio Mura0	One-shot quantum state merging for arbitrarily-small-dimensional systems under one-way and two-way communication
326	Cecilia Lancien, Marcus Huber, Ludovico Lami and Alexander Muller-Hermes	High-Dimensional Entanglement in States with Positive Partial Transposition
328	Pierre-Emmanuel Emeriau, Shane Mansfield and Elham Kashefi	Quantum advantage from dynamic contextuality
331	Guillaume Verdon, Jason Pye and Michael Broughton	Quantum-Enhanced Optimization for Quantum Deep Learning
332	Seiseki Akibue, Go Kato and Naoki Marumo	Perfect discrimination of non-orthogonal quantum states with posterior classical partial information
333	Christopher Cedzich, Tobias Geib, Albert H. Werner and Reinhard F. Werner	Quantum walks in external gauge fields
334	Sevag Gharibian, Ojas Parekh and Ciaran Ryan-Anderson	Approximate Constraint Satisfaction in the Quantum Setting
335	Cedric Beny, Zoltán Zimborás and Fernando Pastawski	Approximate recovery with locality and symmetry constraints
338	Aditya Nema and Pranab Sen	Partial derandomisation of constructions in quantum information theory via unitary t-designs
339	Hao-Chung Cheng, Nilanjana Datta, Li Gao, Eric Hanson and Min-Hsiu Hsieh	Duality between source coding with quantum side information and classical-quantum channel coding
340	Peter Brown, Roger Colbeck and Sammy Ragy	An adaptive framework for quantum-secure device-independent randomness expansion
341	Aram Harrow and Annie Wei	Adaptive Quantum Simulated Annealing for Bayesian Inference and Estimating Partition Functions
345	Dorit Aharonov, Zvika Brakerski, Kai-Min Chung, Ayal Green, Ching-Yi Lai and Or Sattath	Logarithmic Quantum Single-Server PIR is Sometimes Possible

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347	Rui Chao, Dawei Ding, Andras Gilyen, Cupjin Huang and Mario Szegedy	Finding Angles for Quantum Signal Processing with Machine Precision
348	Fabien Clivaz, Ralph Silva, Geraldine Haack, Jonatan Bohr Brask, Nicolas Brunner and Marcus Huber	Unifying paradigms of quantum refrigeration: how resource-control determines fundamental limits
349	Nilanjana Datta, Christoph Hirche and Andreas Winter	Convexity and Operational Interpretation of the Quantum Information Bottleneck Function
350	V. Vilasini, Nuriya Nurgalieva and Lídia Del Rio	Multi-agent paradoxes in box world
351	Dominic Verdon and Jamie Vicary	Reference frame--independent teleportation without prior alignment
352	Cristina Cirstoiu and David Jennings	Global and local gauge symmetries beyond Lagrangian formulations
353	Kishor Bharti, Leong-Chuan Kwek, Maharshi Ray and Antonios Varvitsiotis	Robust self-testing via noncontextuality inequalities
354	Daniel Stilck Franca, Eric Hanson and Cambyse Rouzé	Estimating when a quantum channel becomes entanglement breaking
355	Aniruddha Bapat and Stephen Jordan	Bang-bang control as a design principle for classical and quantum optimization algorithms.
356	Martino Lupini, Laura Mancinska and David Roberson	Quantum Isomorphisms: A link between quantum groups and quantum information
358	Michael Cao and Pascal Vontobel	Bounding and Estimating the Classical Information Rate of Quantum Channels with Memory
359	Leonardo Novo and Raul Garcia-Patron	Complexity of spectral sampling
360	Yi-Kai Liu and Alireza Seif	Characterizing Correlated Dephasing Noise in Many-Qubit Systems, Using Compressed Sensing
361	Antônio Crispim Lourenço, Tiago Debarba and Eduardo Inacio Duzzioni	Entanglement of indistinguishable particles: a comparative study
362	Seth Lloyd and Reevu Maity	Efficient implementation of unitary transformations
363	Adam Winick, Joel Wallman and Joseph Emerson	Suppressing non-Markovianity in quantum circuits
364	Kai DeLorenzo, Shelby Kimmel and Teal Witter	Quantum Algorithms for Path-Based Graph Structures
365	Stefanie J. Beale and Joel J. Wallman	New and rigorous methods for decoding errors
366	Vaibhaw Kumar, Casey Tomlin, Gideon Bass, Chao Wu and Joseph Dulny Iii	Computing protein-ligand binding free energy using quantum annealing
367	Yoshinori Aono, Phong Q. Nguyen and Yixin Shen	Quantum Lattice Enumeration
368	Brad Lackey and Nishant Rodrigues	Morphisms in categories of nonlocal games
369	Timothy Proctor, Kenneth Rudinger, Robin Blume-Kohout, Arnaud Carignan-Dugas, Erik Nielsen and Kevin Young	Randomized benchmarking of many-qubit devices
370	Jeffrey Cohn, Barbara Jones and James Freericks	Quantum Feedback Protocol for Approximating Single-Body Green's Functions at Finite Temperature
371	Adam Winick, Joel Wallman and Joseph Emerson	Computable measures of non-Markovianity
372	Kyungjoo Noh, Jae-Mo Lihm, Uwe R. Fischer and Liang Jiang	Autonomous quantum error correction (AutoQEC) by engineered dissipation
373	Xiaobin Zhao and Giulio Chiribella	Advantage of Indefinite Causal Order in Quantum Metrology
374	Joao Fernando Doriguello and Ashley Montanaro	Quantum sketching protocols for Hamming distance and beyond
375	Sutapa Saha, Sristy Agrawal, Tamal Guha, Arup Roy, Some Sankar Bhattacharya, Manik Banik and Archan Majumdar	Error symmetry rules out generalized probabilistic theories having regular polygon cross-section
376	Manik Banik, Some Sankar Bhattacharya, Tamal Guha, Mir Alimuddin, Arup Roy, Sutapa Saha, Sristy Agrawal, Guru Prasad Kar and Giulio Chiribella	Indefinite causal order enables perfect quantum communication with zero capacity channels
377	Kristine Boone, Arnaud Carignan-Dugas, Joel Wallman and Joseph Emerson	Randomized Benchmarking under Different Gatesets
378	Nicolas Sawaya	Vibronic Molecular Spectra on a Universal Quantum Computer (POSTER)
379	Charles Baldwin, John Gaebler, Daniel Stack, Bryce Bjork and David Hayes	Symmetric subspace randomized benchmarking
380	Yuval Sanders, Guang Hao Low, Artur Scherer and Dominic Berry	Black-box quantum state preparation without arithmetic

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382	Ge Bai, Yuxiang Yang and Giulio Chiribella	Approximate compression for finitely correlated systems
383	Yin Mo and Giulio Chiribella	Benchmark for the quantum-enhanced learning of a reversible dynamics
384	Jacob Bringewatt, Stephen Jordan and William Dorland	Hamming Wells and Tight Binding: A Toolset for Investigating QAO with Many Local Minima
385	Minjeong Song and Cedric Beny	Algebraic structure for lattice gauge systems and entanglement order under LOCC
386	Sholeh Razavian, Matteo Paris, Matteo Bina and Claudia Benedetti	Quantum metrology for quantum thermometry by single qubit dephasing
387	Victor V. Albert, Kyungjoo Noh and Florentin Reiter	Robustness of continuous error-correction to miscalibration
388	Vikesh Siddhu	Superadditivity of coherent information for channels concatenated with an erasure channel and symmetric side channels.
389	Pranav Gokhale, Casey Duckering, Jonathan Baker and Fred Chong	Improved Quantum Circuits via Qutrits
390	Pedro Costa, Renato Portugal and Fernando de Melo	Quantum HPP
391	Gopikrishnan Muraleedharan, Christopher Jackson, Akimasa Miyake and Ivan Deutsch	Efficient generation of a pseudorandom unitary transformation for Boson Sampling using random Hamiltonian dynamics.
392	Hargeet Kaur and Atul Kumar	Role of entanglement and nonlocality in conflicting interest CHSH-type Bayesian games
393	Takaya Matsuura, Toshihiko Sasaki and Masato Koashi	Refined security proof of the round-robin differential phase shift protocol in both asymptotic and finite size case
394	Yosi Atia, Nadav Katz and Yonatan Oren	Robust Quantum Search by Landau-Zener Stueckelberg Oscillations
395	Eunok Bae and Soojoon Lee	Continuous hidden translation problem on $\mathbb{R}^n$
396	Roberto Ferrara and Christian Deppe	Identification and quantum channels
397	Sirui Lu, Xun Gao and Luming Duan	Efficient Representation of Topologically Ordered States with Restricted Boltzmann Machines
398	Yehua Liu and David Poulin	Neural Belief-Propagation Decoders for Quantum Error-Correcting Codes
399	Stefano Pirandola, Riccardo Laurenza and Leonardo Banchi	Conditional channel simulation
400	Thomas Cope, Kenneth Goodenough and Stefano Pirandola	Converse bounds for quantum and private communication over Holevo-Werner channels
401	Stefano Pirandola, Samuel Braunstein, Riccardo Laurenza, Carlo Ottaviani, Thomas Cope, Gaetana Spedalieri and Leonardo Banchi	Theory of channel simulation and bounds for private communication
402	Gaetana Spedalieri, Cosmo Lupo, Samuel Braunstein and Stefano Pirandola	Thermal quantum metrology in memoryless and correlated environments
403	Alessandro Luongo, Iordanis Kerenidis, Jonas Landman and Anupam Prakash	Quantum Algorithms for Classification
404	Stefano Pirandola, Riccardo Laurenza and Samuel Braunstein	Teleportation simulation of bosonic Gaussian channels: Strong and uniform convergence
406	Martin Malachov and Igor Jex	Analysis of Chaos in Purification
407	Andrew Childs, Eddie Schoute and Cem Unsal	Circuit Transformations for Quantum Architectures
409	Ezad Shojaee, Christopher S. Jackson, Carlos A. Ríofrío, Amir Kalev and Ivan H. Deutsch	Generalized coherent-state measurements: SU(2) and SU(1,1) implementation and applications
410	Stuart Hadfield, Eleanor Rieffel and Bryan O’Gorman	From the Quantum Approximate Optimization Algorithm to a Quantum Alternating Operator Ansatz
411	Min Namkung and Younghun Kwon	Almost minimum error discrimination of $N$ -ary weak coherent states by Jaynes-Cummings Hamiltonian dynamics
412	Kimika Beppu, Kanae Nakabayashi and Masaki Nakanishi	A hardware architecture for simulating the HHL algorithm
413	Stanislav Skoupy and Martin Stefanak	State transfer by means of discrete-time quantum walks
414	Marek Winczewski, Tamoghna Das, Karol Horodecki, Paweł Horodecki, Łukasz Pankowski, Marco Piani and Ravishankar Ramanathan	No purification in all discrete theories and the power of the complete extension
415	Ho-Joon Kim and Sang Wook Kim	Coherence concentration is irreversible

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416	Marek Winczewski, Tamoghna Das and Karol Horodecki	Upper bounds on secure key against non-signaling and quantum adversaries via squashed secrecy monotones
417	James van Meter	Approximate exchange-only entangling gates for the three-spin-half decoherence-free subsystem
418	Eric Anschuetz and Yudong Cao	Improved Training of Quantum Boltzmann Machines
419	Donghoon Ha and Younghun Kwon	Nonlocality of unentangled mirror-symmetric states in two-qubit system
420	Jihwan Kim, Donghoon Ha and Younghun Kwon	Conditions for uniqueness of prior probability providing minimum guessing probability in two states minimum error discrimination
421	Xiaosi Xu, Qi Zhao, Xiao Yuan and Simon Benjamin	A high threshold code for modular hardware with asymmetric noise
422	Lance Fortnow and Devon Ingram	Some Observations on the Raz-Tal Oracle Separating BQP from PH
423	Marco Fanizza, Andrea Mari and Vittorio Giovannetti	Optimal universal learning machines for quantum state discrimination
424	Liangzhong Ruan and Stephanie Wehner	Efficient fidelity estimation for shared entangled states with arbitrary noise
425	Swati Kumari and Alok Kumar Pan	Probing various formulations of macrorealism for unsharp quantum measurements
426	Chaithanya R.S.S and Pradeep Kiran Sarvepalli	Quantum bicyclic BCH codes
427	Mathias Soeken	A symbolic data structure for quantum circuit mappings based on ZDDs
428	Pablo Poggi	Quantum speed limit and short-time accessibility to unitary operations
429	Michael A. Perlin, Peiru He, Sean R. Muleady, Robert J. Lewis-Swan, and Ana Maria Rey	Heisenberg-limited spin squeezing in an optical lattice clock
430	Joshua Levin and Graeme Smith	Monotonic measures of quantum correlation
431	Christa Zoufal, Giovanni Mariani, Aurelien Lucchi and Stefan Wörner	A quantum generative approach for learning and loading probability distributions
432	Alex Buser and John Preskill	Quantum Algorithms for Lattice Gauge Theories
433	Xingyao Wu	Towards better characterization of quantum devices with machine learning techniques
434	Ciaran Ryan-Anderson	Improvements in Efficient Decoding of Planar Color Codes
435	Andrew Darmawan and David Poulin	Linear-time general decoding algorithm for the surface code
436	Kathleen Hamilton, Eugene Dumitrescu and Raphael Pooser	Implicit generative models as a benchmark for NISQ devices
437	Lucas Brady and Aniruddha Bapat	A Path Sum Approach to QAOA
438	Daniel Murphy and Ken Brown	Controlling error orientation to improve quantum algorithm success rates
439	Arik Avagyan, Emanuel Knill, Scott Glancy and Hilma Vasconcelos	Towards full characterization of photonic gates with weak local oscillators
440	Anirban Narayan Chowdhury, Yigit Subasi and Rolando Somma	Improved implementation of reflection operators
441	Chenyang Li and Hoi-Kwong Lo	Secure quantum key distribution in the presence of phase- and polarization-dependent loss
442	Abhinav Deshpande, Bill Fefferman, James R. Garrison and Alexey V. Gorshkov	Complexity of sampling from ground states of local Hamiltonians
443	Sathyawageeswar Subramanian and Yudong Cao	Hybrid quantum-classical algorithm for variational coupled cluster method
444	Nai-Hui Chia, Sean Hallgren and Fang Song	On reducing SAT to inverting one-way functions via quantum reductions
445	Eugene Dumitrescu, Raphael Pooser, George Siopsis, Alex McCaskey and Kubra Yeter-Aydeniz	Quantum simulation of a quantum scalar field theory
446	Vladislav Khalus, Edgard Munoz-Coreas and Himanshu Thapliyal	T-count Optimized Quantum Circuit for Logarithmic Addition
447	Hammam Qassim	Classical simulation of quantum circuits using amplitude estimation
448	Bryan O'Gorman, William Huggins, Eleanor Rieffel and Birgitta Whaley	Instance-independent quantum circuit embedding with applications
449	Connor Paddock, Vincent Russo, Turner Silverthorne and William Slofstra	Forbidden graph minors, Arkhipov's theorem, and linear system games
450	Marc Muhleisen and Thomas Vidick	A self-test for the single qubit Clifford group



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451	Nishad Maskara, Abhinav Deshpande, Minh C. Tran, Bill Fefferman, Michael Foss-Feig and Alexey V. Gorshkov	Complexity phase transition in interacting and long-range bosonic Hamiltonians
452	Emil Khabiboulline, Johannes Borregaard, Kristiaan De Greve and Mikhail Lukin	Quantum-Assisted Telescope Arrays
453	Murphy Yuezhen Niu, Sirui Lu and Isaac Chuang	Optimizing QAOA: Success Probability and Runtime Dependence on Circuit Depth
454	Susane Calegari, Gabriel Landi and Eduardo Duzzioni	Scalability of Genuine Multipartite Correlations in Superradiance
455	Mariela Portesi and David Puertas-Centeno	Some informational quantifiers' inequalities for the quantum oscillator compatible with a minimal observable length
456	Omid Khosravani and Kenneth R. Brown	An iterative variational algorithm for optimization on near-term quantum devices
457	Ryan Shaffer, Koushik Sen and Hartmut Häffner	Randomized quantum circuit synthesis via stochastic search
458	Prithviraj Prabhu and Ben Reichardt	Fault-tolerant syndrome measurement with fewer qubits
459	Alexander Dalzell, Aram Harrow, Dax Koh and Rolando La Placa	How many qubits are needed for quantum computational supremacy?
460	Arpit Dua, Dominic Williamson and Meng Cheng	Categorizing Fracton Topological Order
461	Arnaud Carignan-Dugas, Matthew Alexander and Joseph Emerson	Characterizing quantum circuits by short-cutting quantum errors; and a unitary-dissipative "polar" decomposition for quantum channels
462	Kunal Sharma and Mark M. Wilde	Characterizing the performance of continuous-variable Gaussian quantum gates
463	Karl Mayer, Abu Irfan, Gerardo Ortiz and Emanuel Knill	Self-testing Majorana Parity Operators
464	Sourav Kundu and Ben Reichardt	Majorana fermion code families with high encoding rate
465	Milap Sheth, Sara Zafar Jafarzadeh and Vlad Gheorghiu	Neural ensemble decoding for topological quantum error-correcting codes
466	Norm Tubman	Postponing the orthogonality catastrophe: efficient state preparation for electronic structure simulations on quantum devices
467	Zhihui Wang, Eleanor Rieffel, Mustafa Adnane, Bryan O'gorman, Stuart Hadfield, Davide Venturelli and Riccardo Mengoni	Exploring network-related optimization problems using quantum heuristics
468	Alexander Dalzell and Fernando Brandao	Locally accurate matrix product state approximations with constant bond dimension for ground states of gapped 1D models
469	Joseph Iverson and John Preskill	Error Correction Suppresses Coherence in the Noise
470	Frances Ann Hubis, Jakob Oesinghaus and Ce Zhang	Quantum Bond Graphs
471	Ben Hamlin and Fang Song	Quantum security of hash functions and property-preservation of iterated hashing
472	Andrew Glaudell and Jacob Taylor	Optimal normal forms for two-qubit Clifford and Controlled Phase gate circuits
473	Thomas Hebdige and David Jennings	Quantum Bernoulli Factories in a Classical Setting
474	Yihui Quek, Stanislav Fort and Hui Khoon Ng	Neural Network-Based Adaptive Quantum Tomography
475	Aarthi Sundaram and Brad Lackey	Mathematical methods for resource-based type theories
476	Yihui Quek and Patrick Hayden	Provably tight bounds on work extraction from generalized information engines
477	Stanislav Fort	Gradient-based exploration of the space of strategies in quantum games
478	Mithuna Yoganathan and Andrea Rocchetto	On the relationship between state learnability and efficient classical simulability
479	Helia Kamal and Geoffrey Penington	The Ryu-Takayanagi Formula from Quantum Error Correction: An Algebraic Treatment of the Boundary CFT
480	Curt von Keyserlingk, Daniel Ranard and Jess Riedel	Speeding up simulations of quantum systems by identifying classical correlations