
文献清单：“量子计算和量子算法”方向 MDPI Quantum Reports

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文献清单：“量子计算和量子算法”方向 MDPI Quantum Reports。期刊名: Quantum Reports

期刊主页：<https://www.mdpi.com/journal/quantumrep>

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1.

英文标题: Quantum Computing: Navigating the Future of Computation, Challenges, and Technological Breakthroughs

中文标题: 量子计算：引领计算的未来、挑战和技术突破

文章链接: <https://www.mdpi.com/2624-960X/6/4/39>

MDPI引用格式: Memon, Q.A.; Al Ahmad, M.; Pecht, M. Quantum Computing: Navigating the Future of Computation, Challenges, and Technological Breakthroughs. Quantum Rep. 2024, 6, 627 – 663

2.

英文标题: A Comprehensive Review of Quantum Circuit Optimization: Current Trends and Future Directions

中文标题: 量子电路优化的研究综述：当前趋势和未来方向

文章链接: <https://www.mdpi.com/2624-960X/7/1/2>

MDPI引用格式: Karuppasamy, K.; Puram, V.; Johnson, S.; Thomas, J.P. A Comprehensive Review of Quantum Circuit Optimization: Current Trends and Future Directions. Quantum Rep. 2025, 7, 2

3.

英文标题: Variational Amplitude Amplification for Solving QUBO Problems

中文标题: 变分振幅放大法解决QUBO问题

文章链接: <https://www.mdpi.com/2624-960X/5/4/41>

MDPI引用格式: Koch, D.; Cutugno, M.; Patel, S.; Wessing, L.; Alsing, P.M. Variational Amplitude Amplification for Solving QUBO Problems. *Quantum Rep.* 2023, 5, 625 – 658

4.

英文标题: Quantum Computation of the Cobb – Douglas Utility Function via the 2D Clairaut Differential Equation

中文标题: 基于二维克莱劳特微分方程的柯布-道格拉斯效用函数的量子计算

文章链接: <https://www.mdpi.com/2624-960X/7/1/1>

MDPI引用格式: Betancur-Hinestroza, I.C.; Velázquez-Sierra, É .A.; Caro-Lopera, F.J.; Bedoya-Calle, Á .H. Quantum Computation of the Cobb – Douglas Utility Function via the 2D Clairaut Differential Equation. *Quantum Rep.* 2025, 7, 1.

5.

英文标题: Quantum-Enhanced Generalized Pattern Search Optimization

中文标题: 量子增强广义模式搜索优化

文章链接: <https://www.mdpi.com/2624-960X/6/4/34>

MDPI引用格式: Mikes, C.; Gutman, D.H.; Howle, V.E. Quantum-Enhanced Generalized Pattern Search Optimization. *Quantum Rep.* 2024, 6, 509 – 521

6.

英文标题: Quantum-Based Maximum Likelihood Detection in MIMO-NOMA Systems for 6G Networks

中文标题: 6G 网络MIMO-NOMA系统中基于量子的最大似然检测

文章链接: <https://www.mdpi.com/2624-960X/6/4/36>

MDPI引用格式: Urgelles, H.; Garcia-Roger, D.; Monserrat, J.F. Quantum-Based Maximum Likelihood Detection in MIMO-NOMA Systems for 6G Networks. *Quantum Rep.* 2024, 6, 533 – 549

7.

英文标题: An Extended Analysis of the Correlation Extraction Algorithm in the Context of Linear Cryptanalysis

中文标题: 线性密码分析中相关提取算法的扩展分析

文章链接: <https://www.mdpi.com/2624-960X/6/4/43>

MDPI引用格式: Graebnitz, C.; Pickel, V.; Eble, H.; Morgner, F.; Hattenbach, H.; Margraf, M. An Extended Analysis of the Correlation Extraction Algorithm in the Context of Linear Cryptanalysis. *Quantum Rep.* 2024, 6, 714 – 734.

8.

英文标题: Improving the Solving of Optimization Problems: A Comprehensive Review of Quantum Approaches

中文标题: 改进优化问题的求解：量子方法的全面回顾

文章链接: <https://www.mdpi.com/2624-960X/7/1/3>

MDPI引用格式: Volpe, D.; Orlandi, G.; Turvani, G. Improving the Solving of Optimization Problems: A Comprehensive Review of Quantum Approaches. *Quantum Rep.* 2025, 7, 3.

9.

英文标题: Developing and Analyzing the Defect-Based Surface Codes Using Optimization Algorithms

中文标题: 利用优化算法开发和分析基于缺陷的曲面代码

文章链接: <https://www.mdpi.com/2624-960X/7/2/25>

MDPI引用格式: Sayedsalehi, S.; Bagherzadeh, N.; Del Barrio, A.A.; Botella, G.; Pilipovi?, R. Developing and Analyzing the Defect-Based Surface Codes Using Optimization Algorithms. *Quantum Rep.* 2025, 7, 25

10.

英文标题: Quantum Classical Algorithm for the Study of Phase Transitions in the Hubbard Model via Dynamical Mean-Field Theory

中文标题: 通过动态平均场理论研究哈伯德模型相变的量子经典算法

文章链接: <https://www.mdpi.com/2624-960X/7/2/18>

MDPI引用格式: Baul, A.; Fotso, H.; Terletska, H.; Tam, K.-M.; Moreno, J. Quantum Classical Algorithm for the Study of Phase Transitions in the Hubbard Model via Dynamical Mean-Field Theory. *Quantum Rep.* 2025, 7, 18

11.

英文标题: Efficient Encoding of the Traveling Salesperson Problem on a Quantum Computer

中文标题: 旅行销售员问题在量子计算机上的有效编码

文章链接: <https://www.mdpi.com/2624-960X/7/3/32>

MDPI引用格式: Stenger, J.P.T.; Crowe, S.T.; Diaz, J.A.; Rodriguez, R.; Gunlycke, D.; Ptasinski, J.N. Efficient Encoding of the Traveling Salesperson Problem on a Quantum Computer. Quantum Rep. 2025, 7, 32

12.

英文标题: The Quantum Amplitude Estimation Algorithms on Near-Term Devices: A Practical Guide

中文标题: 近期设备上的量子振幅估计算法：实用指南

文章链接: <https://www.mdpi.com/2624-960X/6/1/1>

MDPI引用格式: Maronese, M.; Incudini, M.; Asproni, L.; Prati, E. The Quantum Amplitude Estimation Algorithms on Near-Term Devices: A Practical Guide. Quantum Rep. 2024, 6, 1 – 13

13.

英文标题: Research Trends in Quantum Computers by Focusing on Qubits as Their Building Blocks

中文标题: 以量子比特为基础的量子计算机研究趋势

文章链接: <https://www.mdpi.com/2624-960X/5/3/39>

MDPI引用格式: Dejpasand, M.T.; Sasani Ghamsari, M. Research Trends in Quantum Computers by Focusing on Qubits as Their Building Blocks. Quantum Rep. 2023, 5, 597 – 608

14.

英文标题: Patient Data Analysis with the Quantum Clustering Method

中文标题: 基于量子聚类方法的患者数据分析

文章链接: <https://www.mdpi.com/2624-960X/5/1/10>

MDPI引用格式: Deshmukh, S.; Behera, B.K.; Mulay, P. Patient Data Analysis with the Quantum Clustering Method. Quantum Rep. 2023, 5, 138 – 155.

15.

英文标题: Practitioners ' Rule of Thumb for Quantum Volume

中文标题: 量子体积实践者的经验法则

文章链接: <https://www.mdpi.com/2624-960X/7/1/11>

MDPI引用格式: Dalla Torre, E.G. Practitioners ' Rule of Thumb for Quantum Volume. Quantum Rep. 2025, 7, 11.

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创刊于2019年，是一本国际同行评审的开放获取量子科学期刊，由 MDPI 每季度在线出版。发文范围囊括所有量子子领域，从基础量子理论到广泛的应用。Quantum Reports 目的是鼓励科学家尽可能详细地发表他们的实验和理论结果。因此，该期刊对论文的长度没有限制。应提供完整的实验细节，以便可以重现结果。截至目前，期刊已被Scopus、ESCI (Web of Science) 等重要数据库收录。

Prof. Dr. Lev Vaidman

Editor-in-Chief

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