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### Research fields

Mathematics

Quantum information

Operator theory

### Key Words

Quantum walk

Norm inequality

Quantum algorithm

### Subject of research on Data Science :

Fundamental research using quantum  
walk and operator inequality.

1. Leo Matsuoka, [Hiromichi Ohno](#) and Etsuo Segawa, A Mathematical framework for maze solving using quantum walks, *Quantum Inf. Process.* 24 (3), 93 (2025).
2. Aina Mayumi, Gen Kimura, [Hiromichi Ohno](#) and Dariusz Chruściński, Bottcher-Wenzel inequality for weighted Frobenius norms and its application to quantum physics, *Linear Algebra Appl.* 700, 35-49 (2024).
3. [Hiromichi Ohno](#), Operator theory and quantum information theory—POVM and entangled state, *Sugaku Expositions* 37 (1), 1-21 (2024).
4. Dariusz Chruściński, Gen Kimura, [Hiromichi Ohno](#) and Tanmay Singal, One-parameter generalization of the Bottcher-Wenzel inequality and its application to open quantum dynamics, *Linear Algebra Appl.* 656, 158-166 (2023).
5. Tomohiro Ikkai, [Hiromichi Ohno](#) and Yusuke Sawada, Adjacency and transition matrices related to random walks on graphs, *J. Algebraic Combin.* 56 (1), 249-267 (2022).
6. Akihiro Narimatsu, [Hiromichi Ohno](#) and Kazuyuki Wada, Unitary equivalence classes of split-step quantum walks, *Quantum Inf. Process.* 20 (11), 368 (2021).