

Publications and Presentations

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Journal Articles

9. **Suzuki, T.**, “Analytical construction of $(n, n - 1)$ -quantum random access codes saturating the conjectured bound”, *Phys. Rev. A* **114**, 012441 (2026). doi:10.1103/fcz5-2g3w, arXiv:2601.19190.
8. **Suzuki, T.**, “Optimal Control in Nearly-Adiabatic Two-Level Quantum Systems via Time-Dependent Resonance”, *Phys. Rev. A* **111**, L050201 (2025). doi:10.1103/PhysRevA.111.L050201.
7. Watanabe, A., Unoki, M., Nakazato, H., **Suzuki, T.**, “CP conditions for GKSL-like master equations”, *Open Systems & Information Dynamics* **31**, 2450017 (2024). doi:10.1142/S1230161224500173.
6. **Suzuki, T.**, “Exact survival probability of a time-dependent open Ising chain at zero temperature”, *Phys. Rev. Research* **6**, 043239 (2024). doi:10.1103/PhysRevResearch.6.043239.
5. Iwamura, K., **Suzuki, T.**, “Analytical derivation and extension of the anti-Kibble-Zurek scaling in the transverse field Ising model”, *Phys. Rev. B* **110**, 144102 (2024). doi:10.1103/PhysRevB.110.144102.
4. **Suzuki, T.**, Taniguchi, E., Iwamura, K., “Exact WKB analysis for adiabatic discrete-level Hamiltonians”, *Phys. Rev. A* **109**, 022225 (2024). doi:10.1103/PhysRevA.109.022225.
3. **Suzuki, T.**, Iwamura, K., “Kibble-Zurek scaling in the quantum Ising chain with a time-periodic perturbation”, *Phys. Rev. B* **108**, 014110 (2023). doi:10.1103/PhysRevB.108.014110.
2. **Suzuki, T.**, Nakazato, H., “Generalized Adiabatic Impulse Approximation”, *Phys. Rev. A* **105**, 022211 (2022). doi:10.1103/PhysRevA.105.022211.
1. **Suzuki, T.**, Nakazato, H., Grimaudo, R., Messina, A., “Analytic estimation of transition between instantaneous eigenstates of quantum two-level system”, *Sci. Rep.* **8**, 17433 (2018). doi:10.1038/s41598-018-35741-5.

Preprints

3. **Suzuki, T.**, “Decoder-Consistent Hamiltonians for POVM-Based Quantum Relaxations”, arXiv:2606.05604 (2026). arXiv:2606.05604.
2. Ichiki, K., Huang, X., Budiutama, G., Watanabe, M., Kawada, Y., Terasawa, R., Nishi, H., **Suzuki, T.**, Nagai, R., Matsushita, Y., “Problem-Specific Basis Quantum State Readout via Proper Orthogonal Decomposition”, arXiv:2605.27915 (2026). arXiv:2605.27915.
1. **Suzuki, T.**, Nakazato, H., “A proposal of noise suppression for quantum annealing”, arXiv:2006.13440 (2020). arXiv:2006.13440.

Oral Presentations

7. Suzuki, T., “Analytical construction of $(n, n - 1)$ -quantum random access codes” (in Japanese), JPS 2026 Spring Meeting, The Physical Society of Japan, Mar. 23–26, 2026 (online).
6. Suzuki, T., “Analysis of Dynamics under Optimal Control in the Adiabatic Regime and its Application to QAOA”, APS Global Physics Summit 2025, Mar. 16–21, 2025, Anaheim, USA.

5. Suzuki, T., Taniguchi, E., Iwamura, K., “Exact WKB analysis for adiabatic processes in discrete-level systems” (in Japanese), JPS 2024 Spring Meeting, Mar. 18–21, 2024 (online).
4. Suzuki, T., “Kibble-Zurek mechanism of the quantum Ising model under a time-periodic perturbation” (in Japanese), Thermal Field Theory and Its Applications, Aug. 28–30, 2023, KEK.
3. Suzuki, T., Nakazato, H., “Exact WKB analysis of the Landau-Zener grid model and its applications” (in Japanese), JPS 2021 Autumn Meeting, Sep. 20–23, 2021 (online).
2. Suzuki, T., Nakazato, H., “Noise suppression in quantum annealing using XY interaction” (in Japanese), JPS 2020 Autumn Meeting, Sep. 8–11, 2020, Kumamoto University (online).
1. Suzuki, T., Nagayama, S., “Analysis of solution freezing in quantum annealing” (in Japanese), 75th JPS Annual Meeting, Mar. 16–19, 2020, Nagoya University (cancelled due to COVID-19).

Poster Presentations

8. Suzuki, T., “Decoder-Consistent Hamiltonians for POVM-Based Quantum Relaxations”, 26th Asian Quantum Information Science Conference (AQIS 2026), Aug. 24–28, 2026, KAIST Auditorium, Daejeon, Korea. Poster P1-034, Poster Session I (Aug. 24, 16:30–18:30).
7. Suzuki, T., “Efficient Ground State Preparation: Balancing Quantum Circuit Depth and Classical Optimization”, ISNTT 2024, Dec. 2–6, 2024, Atsugi, Japan.
6. Suzuki, T., “Analysis of dynamics under optimal control in the adiabatic regime” (in Japanese), 51st Quantum Information Technology Symposium, Nov. 26–28, 2024, Takamatsu, Japan.
5. Suzuki, T., “Relation between adiabatic/nonadiabatic processes and phases in multilevel parabolic models” (in Japanese), Aspects of Quantum Information and Foundations of Quantum Theory, Feb. 9–10, 2023, University of Tokyo.
4. Suzuki, T., Nakazato, H., “Exact WKB analysis of the Landau-Zener grid model” (in Japanese), 44th Quantum Information Technology Symposium, May 24–25, 2021 (online).
3. Suzuki, T., Nakazato, H., “Implementation of Multi-body Interaction for Quantum Annealing”, 20th Asian Quantum Information Science Conference, Dec. 7–9, 2020, Sydney, Australia (online).
2. Suzuki, T., Nagayama, S., “Analysis of quantum annealing based on the quantum adiabatic master equation” (in Japanese), 41st Quantum Information Technology Symposium, Nov. 18–19, 2019, Gakushuin University.
1. Suzuki, T., “Randomness of quantum annealing solutions in regular graph generation problems” (in Japanese), 39th Quantum Information Technology Symposium, Nov. 26–27, 2018, University of Tokyo.

Seminars

3. Suzuki, T., “Exact WKB Analysis of Discrete Quantum Systems and Its Applications to Optimal Control”, Seminar at Nishida Laboratory, May 17, 2025, Institute of Science Tokyo.
2. Suzuki, T., “Analysis of adiabatic quantum systems using exact WKB analysis” (in Japanese), 71st Q-LEAP Quantum AI Seminar, Jan. 7, 2025 (online).
1. Suzuki, T., “A proposal of noise suppression for quantum annealing”, SGU Special Online Seminars/Lectures on Quantum Physics, Jul. 18, 2020, Waseda University (online).

Session Chair

2. Quantum Information Theory (Quantum Simulation, Open Systems), Division 1, JPS 2026 Spring Meeting, Mar. 23–26, 2026 (online).
1. Foundations of Quantum Theory, Non-Hermitian Systems, Division 11, JPS 2024 Spring Meeting, Mar. 18–21, 2024 (online).