

REFERENCES

- [1] S. G. Schirmer, G. Kandasamy, and S. J. Devitt, "Control Paradigms for Quantum Engineering," in *Proceedings of 3rd International Symposium on Communications, Control and Signal Processing*. Malta: IEEE, Mar. 2008. [Online]. Available: <https://ieeexplore.ieee.org/document/4537363>
- [2] D. Dong and I. Petersen, "Quantum Control Theory and Applications: A Survey," *IET Control Theory and Applications*, vol. 4, no. 12, pp. 2651–2671, Dec. 2010. [Online]. Available: <https://ieeexplore.ieee.org/document/5676677>
- [3] S. Kuang, D. Dong, and Ian R. Petersen, "Lyapunov Control of Quantum Systems Based on Energy-Level Connectivity Graphs," *IEEE Transactions on Control Systems Technology*, vol. 27, no. 6, pp. 2315–2329, Nov. 2019. [Online]. Available: <https://ieeexplore.ieee.org/document/8481533>
- [4] S. Cong, "Quantum Control Strategy Based on State Distance," *ACTA AUTOMATICA SINICA*, vol. 33, no. 1, p. 0028, 2007. [Online]. Available: <http://www.aas.net.cn/qikan/epaper/zhaiyao.asp?bsid=12767>
- [5] C. Altafini and F. Ticozzi, "Modeling and Control of Quantum Systems: An Introduction," *IEEE Transactions on Automatic Control*, vol. 57, no. 8, pp. 1898–1917, Aug. 2012. [Online]. Available: <https://ieeexplore.ieee.org/document/6189035>
- [6] S. Kuang, D. Dong, and I. R. Petersen, "Approximate bang-bang Lyapunov control for closed quantum systems," in *Proceedings of 2014 4th Australian Control Conference (AUCC)*. Canberra, Australia: IEEE, Nov. 2014. [Online]. Available: <https://ieeexplore.ieee.org/abstract/document/7358685>
- [7] S. Qamar, S. Cong, and B. Riaz, "Lyapunov-based Feedback Control of Two-level Stochastic Open Quantum Systems," in *Proceedings of 2017 IEEE International Conference on Cybernetics and Intelligent Systems (CIS) and IEEE Conference on Robotics, Automation and Mechatronics (RAM)*. IEEE, Nov. 2017. [Online]. Available: <https://ieeexplore.ieee.org/document/8274747>
- [8] P. Vettori, "On The Convergence of A Feedback Control Strategy for Multilevel Quantum Systems," in *Electronic Proceedings of 15th International Symposium on the Mathematical Theory of Networks and Systems*, Indiana, USA, Aug. 2002. [Online]. Available: <https://www3.nd.edu/~mtns/papers/21350.pdf>
- [9] M. Mirrahimi, P. Rouchon, and G. Turinici, "Lyapunov Control of Bilinear Schrodinger Equations," *Automatica*, vol. 41, no. 11, pp. 1987–1994, Nov. 2005. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0005109805002207>

- [10] S. Zhao, H. Lin, J. Sun, and Z. Xue, "Implicit Lyapunov Control of Closed Quantum Systems," in *Proceedings of the 48th IEEE Conference on Decision and Control (CDC) held jointly with 2009 28th Chinese Control Conference*. Shanghai, China: IEEE, Dec. 2009. [Online]. Available: <https://ieeexplore.ieee.org/document/5399902>
- [11] Xiaoting Wang and S. G. Schirmer, "Analysis of Effectiveness of Lyapunov Control for Non-Generic Quantum States," *IEEE Transactions on Automatic Control*, vol. 55, no. 6, pp. 1406–1411, Jun. 2010. [Online]. Available: <http://ieeexplore.ieee.org/document/5409612/>
- [12] S. Kuang and S. Cong, "Transition Graph-based Control of Quantum Eigenstates," in *Proceedings of the 10th World Congress on Intelligent Control and Automation*. Beijing, China: IEEE, Jul. 2012. [Online]. Available: <https://ieeexplore.ieee.org/document/6358160>
- [13] S. Cong, *Control of quantum systems: theory and methods*. Singapore: John Wiley & Sons Inc, 2014.
- [14] Z. Shouwei, L. Hai, S. Jitao, and Z. Lei, "State transfer for closed quantum systems with dipole and polarizing coupling via implicit Lyapunov control," in *Proceedings of 2015 34th Chinese Control Conference (CCC)*. Hangzhou, China: IEEE, Jul. 2015, pp. 8287–8292. [Online]. Available: <http://ieeexplore.ieee.org/document/7260954/>
- [15] M. F. Emzir, I. R. Petersen, and M. J. Wolley, "Lyapunov Stability Analysis for Invariant States of Quantum Systems," in *2017 IEEE 56th Annual Conference on Decision and Control (CDC)*. Melbourne, Australia: IEEE, Dec. 2017. [Online]. Available: <https://ieeexplore.ieee.org/document/8264475>
- [16] S. Kuang and S. Cong, "Lyapunov Control Methods of Closed Quantum Systems," *Automatica*, vol. 44, no. 1, pp. 98–108, Jan. 2008. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0005109807002701>
- [17] N. Zettili, *Quantum mechanics: concepts and applications*, 2nd ed. Chichester, U.K: Wiley, 2009.
- [18] D. J. Griffiths, *Introduction to quantum mechanics*. Englewood Cliffs, N.J: Prentice Hall, 1995.
- [19] B. Zwiebach, "MIT Quantum Physics 2," 2013. [Online]. Available: <https://ocw.mit.edu/courses/physics/8-05-quantum-physics-ii-fall-2013/>
- [20] K. S. Krane, *Modern Physics*, 3rd ed. Hoboken, NJ: Wiley, 2012.
- [21] E. Schrödinger, "An Undulatory Theory of The Mechanics of Atoms and Molecules," *The Physical Review*, vol. 28, no. 6, pp. 1049–1070, Dec. 1926.

- [22] J. Cresser, “Chapter 6 : The Schrödinger Wave Equation,” May 2005. [Online]. Available: <http://physics.mq.edu.au/~jcresser/Phys201/LectureNotes/SchrodingerEqn.pdf>
- [23] H. K. Khalil, *Nonlinear systems*, 3rd ed. Upper Saddle River, N.J: Prentice Hall, 2002.
- [24] I. H. Deutsch, “A Note on Units,” 2011. [Online]. Available: <http://info.phys.unm.edu/~ideutsch/Classes/Phys531F11/Atomic%20Units.pdf>
- [25] S. Tokita, T. Sugiyama, F. Noguchi, F. Hidehiko, and K. Hidehiko, “An Attempt to Construct an Isosurface Having Symmetry Elements,” *Journal of Computer Chemistry, Japan*, vol. 5, no. 3, 2006. [Online]. Available: https://www.jstage.jst.go.jp/article/jccj/5/3/5_3_159/_article
- [26] M. A. Nielsen and I. L. Chuang, *Quantum computation and quantum information*, 10th ed. Cambridge ; New York: Cambridge University Press, 2010.
- [27] D. Suter and T. S. Mahesh, “Spins as qubits: Quantum information processing by nuclear magnetic resonance,” *The Journal of Chemical Physics*, vol. 128, no. 5, p. 052206, Feb. 2008. [Online]. Available: <http://aip.scitation.org/doi/10.1063/1.2838166>
- [28] J. Fabian, A. Matos-Abiague, C. Ertler, P. Stano, and I. Žutić, “Semiconductor spintronics,” *Acta Physica Slovaca. Reviews and Tutorials*, vol. 57, no. 4-5, Aug. 2007. [Online]. Available: <https://www.degruyter.com/doi/10.2478/v10155-010-0086-8>