

DAFTAR PUSTAKA

- Abu-Nada, A. (2021). Quantum computing simulation of the hydrogen molecular ground-state energies with limited resources. *Open Physics*, 19(1), 628-633. doi:10.1515/phys-2021-0071
- Anaya, A. E., & Delgado-Cepeda, F. J. (2022). Simulating molecules using the VQE algorithm on Qiskit. *arXiv*. doi:10.48550/arXiv.2201.04216
- Armaos, V., Badounas, D. A., Deligiannis, P., & Lianos, K. (2020). Computational chemistry on quantum computers. *Applied Physics A*, 126(8), 625. doi:10.1007/s00339-020-03755-4
- Babbush, R., et al. (2023). Quantum simulation of exact electron dynamics can be more efficient than classical mean-field methods. *Nature Communications*, 14(1), 4058. doi:10.1038/s41467-023-39024-0
- Boyn, J.-N., Lykhin, A. O., Smart, S. E., Gagliardi, L., & Mazziotti, D. A. (2021). Quantum-classical hybrid algorithm for the simulation of all-electron correlation. *The Journal of Chemical Physics*, 155(24). doi:doi.org/10.1063/5.0074842
- Caffarel, M. (2019). Evaluating two-electron-repulsion integrals over arbitrary orbitals using zero variance Monte Carlo: Application to full configuration interaction calculations with Slater-type orbitals. *The Journal of Chemical Physics*, 151(6). doi:10.1063/1.5114703
- Fedorov, D. A., Peng, B., Govind, N., & Alexeev, Y. (2022). VQE method: a short survey and recent developments. *Materials Theory*, 6(1), 2. doi:10.1186/s41313-021-00032-6
- Feynman, R. P. (1982). Simulating Physics with Computers. *International Journal of Theoretical Physics*, 21.
- Halpern, A. M., & Glendening, E. D. (2013). Exploring the Nature of the H₂ Bond. 1. Using Spreadsheet Calculations To Examine the Valence Bond and Molecular Orbital Methods. *Journal of Chemical Education*, 90(11), 1452-1458. doi:10.1021/ed400234g

Hidary, J. D. (2021). *Quantum Computing: An Applied Approach*(2nd ed.). doi:<https://doi.org/10.1007/978-3-030-83274-2>

IBM Quantum. (2023). Retrieved from quantum-computing.ibm.com

Jaelani, A., Riyanto, F. A., Prayitno, T. B., & Sarwono, Y. P. (2024). Hartree-fock roothaan calculations using optimized huzinaga orbitals on small molecules. *Physica Scripta*, 99(2), 025406. doi:10.1088/1402-4896/ad1ad6

Jazaeri, F., Beckers, A., Tajalli, A., & Sallese, J.-M. (2019). A Review on Quantum Computing: Qubits, Cryogenic Electronics and Cryogenic MOSFET Physics. *arXiv*.

Kandala, A., et al. (2017). Hardware-efficient variational quantum eigensolver for small molecules and quantum magnets. *Nature*, 549(7671), 242-246. doi:10.1038/nature23879

Lesiuk, M., Przybytek, M., Balcerzak, J. G., Musiał, M., & Moszynski, R. (2019). Ab initio Potential Energy Curve for the Ground State of Beryllium Dimer. *Journal of Chemical Theory and Computation*, 15(4), 2470-2480. doi:10.1021/acs.jctc.8b00845

Levine, I. N. (2013). *Quantum Chemistry*: Pearson Education, Inc.

Libretexts. (2023). 11.2: Gaussian Basis Sets. In. Retrieved from chem.libretexts.org/@go/page/210880

Majumdar, D., Samanta, P. N., Roszak, S., & Leszczynski, J. (2021). Slater-Type Orbitals. In E. Perlt (Ed.), *Basis Sets in Computational Chemistry* (Vol. 107): Springer Nature Switzerland.

Nolting, W. (2017). *Theoretical Physics 7: Quantum Mechanics - Methods and Applications*.

Nurlina, & Bidalo, F. (2021). The Ground State Energy of Helium Using Hartree-Fock Roothaan With Six Expansion Terms of Gaussian Type Orbital (GTO-6G). *Indonesian Review of Physics*, 4(1), 14-19. doi:10.12928/irip.v4i1.3862

O'Malley, P. J. J., et al. (2016). Scalable Quantum Simulation of Molecular Energies. *Physical Review X*, 6(3), 031007. doi:10.1103/PhysRevX.6.031007

Peruzzo, A., et al. (2014). A variational eigenvalue solver on a photonic quantum processor. *Nature Communications*, 5(1), 4213. doi:10.1038/ncomms5213

Pingak, R. K., Ahab, A., & Deta, U. A. (2021). Ground State Energies of Helium-Like Ions Using a Simple Parameter-Free Matrix Method. *Indonesian Journal of Chemistry*, 21(4), 1003. doi:10.22146/ijc.65737

Qing, M., & Xie, W. (2023). Use VQE to calculate the ground energy of hydrogen molecules on IBM Quantum. *arXiv*.

Qiskit contributors. (2023). Qiskit: An Open-source Framework for Quantum Computing.

Qiskit Nature Development Team. (2023). Qiskit Nature Tutorial: Electronic Structure. Retrieved from qiskit.org/ecosystem/nature/tutorials/01_electronic_structure.html

Rahman, F. U., Sarwono, Y. P., & Zhang, R.-Q. (2021). Solution of two-electron Schrödinger equations using a residual minimization method and one-dimensional basis functions. *AIP Advances*, 11(2). doi:<https://doi.org/10.1063/5.0037833>

Rahman, F. U., Zhao, R., Sarwono, Y. P., & Zhang, R.-Q. (2018). A scheme of numerical solution for three-dimensional isoelectronic series of hydrogen atom using one-dimensional basis functions. *International Journal of Quantum Chemistry*, 118. doi:<https://doi.org/10.1002/qua.25694>

Sakurai, J. J., & Napolitano, J. (2021). *Modern Quantum Mechanics*: Cambridge University Press.

Sharkey, K. L., & Chance, A. (2022). *Quantum Chemistry and Computing for the Curious Illustrated with Python and Qiskit*: Packt Publishing.

Slater, J. C. (1963). *Quantum Theory of Molecules and Solids, Vol.1: Electronic Structure of Molecules*. New York: McGraw-Hill.

Smith, F. E. (2023). *Quantum Computing For Dummies*: Wiley.

Sun, Q., et al. (2020). Recent developments in the PySCF program package. *The Journal of Chemical Physics*, 153(2). doi:10.1063/5.0006074

Sutor, R. S. (2019). *Dancing with qubits : how quantum computing works and how it can change the world* [1 online resource]. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=2384858>

Szabo, A., & Ostlund, N. S. (1996). *Modern Quantum Chemistry – Introduction to Advanced Electronic Structure Theory*: Dover Publication.

Thijssen, J. (2013). *Lecture Notes Advanced Quantum Mechanics AP3051*. Retrieved from <https://compphys.quantumtinkerer.tudelft.nl/downloads/aqm.pdf>

Thijssen, J. M. (1999). *Computational Physics*: Cambridge University Press.

Tilly, J., Chen, H., Cao, S., Picozzi, D., Setia, K., & Li, Y. (2021). The Variational Quantum Eigensolver: A review of methods and best practices. *Physics Reports*, 986, 1-128. doi:<https://doi.org/10.1016/j.physrep.2022.08.003>

Watrous, J. (2018). *The Theory of Quantum Information*. Cambridge: Cambridge University Press.

Whitfield, J. D., Biamonte, J., & Aspuru-Guzik, A. (2011). Simulation of electronic structure Hamiltonians using quantum computers. *Molecular Physics*, 109(5). doi:<https://doi.org/10.1080/00268976.2011.552441>

Zhang, Y. (2022). Quantum computing simulation of the hydrogen molecule system with rigorous quantum circuit derivations. *All Graduate Plan B and other Reports*. Retrieved from <https://digitalcommons.usu.edu/gradreports/1660>