

DAFTAR PUSTAKA

- Amalia, W., Nurwantoro, P., & Sholihun. (2019). Density-functional-theory calculations of structural and electronic properties of vacancies in monolayer hexagonal boron nitride (h-BN). *Computational Condensed Matter*, 18, e00354. <https://doi.org/https://doi.org/10.1016/j.cocom.2018.e00354>
- Ariasoca, T. A. (2018). *Efek Ketidakteraturan Terhadap Sifat Elektronik Graphene Monolayer: Kajian Numerik Metode Rambatan Waktu Trotter-Suzuki*. Universitas Gadjah Mada.
- Ashhadi, M., Hadavi, M. S., & Sarri, Z. (2017). Electronic transport properties and first-principles study of graphene/h-BN and h-BN bilayers. *Physica E: Low-Dimensional Systems and Nanostructures*, 87, 312–316. <https://doi.org/https://doi.org/10.1016/j.physe.2016.11.012>
- Becerril, R., Guzmán, F. S., Rendón-Romero, A., & Valdez-Alvarado, S. (2008). Solving the time-dependent Schrödinger equation using finite difference methods. *Revista Mexicana de Física E*, 54(2), 120–132.
- Bederián, C., & Dente, A. (2011). *Boosting quantum evolutions using Trotter-Suzuki algorithms on GPUs*.
- Blanes, S., Casas, F., & Murua, A. (2011). Error Analysis of Splitting Methods for the Time Dependent Schrödinger Equation. *SIAM Journal on Scientific Computing*, 33(4), 1525–1548. <https://doi.org/10.1137/100794535>
- Brunton, S. L., & Kutz, J. N. (2022). *Data-Driven Science and Engineering: Machine Learning, Dynamical Systems, and Control*. Cambridge University Press. <https://books.google.co.id/books?id=rxNkEAAQBAJ>
- Callister, W. D., & Rethwisch, D. G. (2018). *Materials Science and Engineering: An Introduction* (10th ed.). Wiley.
- De Raedt, H. (1987). Product formula algorithms for solving the time dependent Schrödinger equation. *Computer Physics Reports*, 7(1), 1–72. [https://doi.org/https://doi.org/10.1016/0167-7977\(87\)90002-5](https://doi.org/https://doi.org/10.1016/0167-7977(87)90002-5)
- de Vries, P., & De Raedt, H. (1993). Solution of the time-dependent Schrodinger equation for two-dimensional spin-1/2 Heisenberg systems. *Physical Review*

- B, 47(13), 7929–7937. <https://doi.org/10.1103/PhysRevB.47.7929>
- Dietl, P. (2009). *Numerical Studies of Electronic Transport through Graphene Nanoribbons with Disorder*. Karlsruhe Institute of Technology.
- Giraud, P. (2012). *Study of the Electronic Structure of hexagonal Boron Nitride on Metals Substrates*. Universidad del Pais Vasco - Euskal Herriko Unibertsitatea.
- Griffiths, D. J., & Schroeter, D. F. (2018). *Introduction to Quantum Mechanics* (3rd ed.). Cambridge University Press. <https://doi.org/DOI:10.1017/9781316995433>
- Hafner, V. (2011). *Large scale simulation of wave-packet propagation via Krylov subspace methods and application to graphene*. Karlsruhe Institute of Technology.
- Hams, A., & De Raedt, H. (2000). Fast algorithm for finding the eigenvalue distribution of very large matrices. *Physical Review E - Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics*, 62(3 B), 4365–4377. <https://doi.org/10.1103/PhysRevE.62.4365>
- Harish, A. F. (2021). *Perhitungan Rapat Keadaan pada Sistem Monolayer Molybdenum Diselenide: Kajian Numerik Berbasis Model Ikatan Kuat Menggunakan Metode Perambatan Waktu Trotter-Suzuki*. Universitas Gadjah Mada.
- Hatano, N., & Suzuki, M. (2005). Finding Exponential Product Formulas of Higher Orders. 3, 37–68. https://doi.org/10.1007/11526216_2
- Hummel, R. E. (2011). *Electronic Properties of Materials* (4th ed.). Springer New York. <https://doi.org/https://doi.org/10.1007/978-1-4419-8164-6>
- Jacobson, N., Farmer, S., Moore, A., & Sayir, H. (2004). High-Temperature Oxidation of Boron Nitride: I, Monolithic Boron Nitride. *Journal of the American Ceramic Society*, 82, 393–398. <https://doi.org/10.1111/j.1551-2916.1999.tb20075.x>
- Katsnelson, M. I., & Novoselov, K. S. (2007). Graphene: New bridge between condensed matter physics and quantum electrodynamics. *Solid State Communications*, 143(1–2), 3–13. <https://doi.org/10.1016/j.ssc.2007.02.043>

- Martin, R. M. (2004). *Electronic Structure: Basic Theory and Practical Methods*. Cambridge University Press.
<https://books.google.co.id/books?id=dmRTFLpSGNsC>
- Ni, J. (2014). *Principles of Physics: From Quantum Field Theory to Classical Mechanics*. <https://doi.org/10.1142/9056>
- Niyogi, S., Bekyarova, E., Itkis, M. E., McWilliams, J. L., Hamon, M. A., & Haddon, R. C. (2006). Solution Properties of Graphite and Graphene. *Journal of the American Chemical Society*, 128(24), 7720–7721.
<https://doi.org/10.1021/ja060680r>
- Nugroho, C. I. W. (2021). *Peranan Vakansi Atom pada Rapat Keadaan (DOS) h-BN Monolayer Menggunakan Metode Rambatan Waktu Ikatan Kuat Trotter-Suzuki*. Universitas Gadjah Mada.
- Octavianity, D. C. (2021). *Penyelesaian Persamaan Schrödinger Gayut Waktu Dengan Metode Trotter-Suzuki Orde Tinggi*. Universitas Gadjah Mada.
- Ribeiro, R., & Peres, N. (2011). Stability of boron nitride bilayers: Ground state energies, interlayer distances, and tight-binding description. *Physical Review B*, 83. <https://doi.org/10.1103/PhysRevB.83.235312>
- Ryou, J., Park, J., & Hong, S. (2017). Investigations of Vacancy Structures Related to Their Growth in h-BN Sheet. *Nanoscale Research Letters*, 12(1), 445. <https://doi.org/10.1186/s11671-017-2194-6>
- Sara, I. W. W. (2021). *Kajian Karakteristik Elektronik Tungsten Diselenide Monolayer Menggunakan Metode Perambatan Ikatan Kuat: Trotter Suzuki*. Universitas Gadjah Mada.
- Shah, K. A., & Shah, M. (2014). *Principles of Raman Scattering in Carbon Nanotubes*. 131–145. <https://doi.org/10.4018/978-1-4666-5824-0.ch006>
- Sholihun, Amalia, W., Hastuti, D., Nurwantoro, P., Nugraheni, A., & Budhi, R. (2019). Magic vacancy-numbers in h-BN multivacancies: The first-principles study. *Materials Today Communications*, 20. <https://doi.org/10.1016/j.mtcomm.2019.100591>
- Sholihun, Ishii, F., & Saito, M. (2015). First-principles calculations of multivacancies in germanium. *Japanese Journal of Applied Physics*, 55(1),

11301. <https://doi.org/10.7567/jjap.55.011301>
- Slawinska, J., Zasada, I., & Klusek, Z. (2010). Energy gap tuning in graphene on hexagonal boron nitride bilayer system. *Physical Review B*, 81. <https://doi.org/10.1103/PhysRevB.81.155433>
- Stoller, M. D., Park, S., Zhu, Y., An, J., & Ruoff, R. S. (2008). Graphene-Based Ultracapacitors. *Nano Letters*, 8(10), 3498–3502. <https://doi.org/10.1021/nl802558y>
- Suzuki, M., & Umeno, K. (1993). Higher-Order Decomposition Theory of Exponential Operators and Its Applications to QMC and Nonlinear Dynamics. *Computer Simulation Studies in Condensed-Matter Physics VI*, 76, 74–86. https://doi.org/10.1007/978-3-642-78448-4_7
- Suzuki, Masuo. (1976). Generalized Trotter ' s Formula and Systematic Approximants of Exponential Operators and Inner Derivations with Applications to Many-Body Problems. *Communications in Mathematical Physics*, 190, 183–190.
- Suzuki, Masuo. (1990). Fractal decomposition of exponential operators with applications to many-body theories and Monte Carlo simulations. *Physics Letters A*, 146(6), 319–323. [https://doi.org/https://doi.org/10.1016/0375-9601\(90\)90962-N](https://doi.org/https://doi.org/10.1016/0375-9601(90)90962-N)
- Suzuki, Masuo. (2000). Mathematical basis of computational statistical physics and quantum analysis. *Computer Physics Communications*, 127(1), 32–36. [https://doi.org/https://doi.org/10.1016/S0010-4655\(00\)00026-6](https://doi.org/https://doi.org/10.1016/S0010-4655(00)00026-6)
- Veen, E. Van. (2019). *Large-Scale Tight-Binding Simulations of Two-Dimensional Materials and Self-Similar Systems*. Radboud University Nijmegen.
- Wang, Z., Shi, Q., Li, Q., Wang, X., Hou, J., Zheng, H., Yao, D., & Chen, J. (2007). Z-shaped graphene nanoribbon quantum dot device. *Applied Physics Letters*, 91, 53109. <https://doi.org/10.1063/1.2761266>
- Wehling, T. O., Yuan, S., Lichtenstein, A. I., Geim, A. K., & Katsnelson, M. I. (2010). Resonant Scattering by Realistic Impurities in Graphene. *Physical Review Letters*, 105(5), 56802.

<https://doi.org/10.1103/PhysRevLett.105.056802>

Wittek, P., & Cucchietti, F. M. (2012). A second-order distributed Trotter-Suzuki solver with a hybrid CPU-GPU kernel. *Computer Physics Communications*, 184(4), 1165–1171. <https://doi.org/10.1016/j.cpc.2012.12.008>

Wittek, P., & Cucchietti, F. M. (2013). A second-order distributed Trotter-Suzuki solver with a hybrid CPU-GPU kernel. *Computer Physics Communications*, 184(4), 1165–1171. <https://doi.org/https://doi.org/10.1016/j.cpc.2012.12.008>

Zhang, W., Lu, W.-C., Zhang, H.-X., Ho, K. M., & Wang, C. Z. (2016). Tight-binding calculation studies of vacancy and adatom defects in graphene. *Journal of Physics: Condensed Matter*, 28(11), 115001.

<https://doi.org/10.1088/0953-8984/28/11/115001>

Zhu, J., Ha, E., Zhao, G., Zhou, Y., Huang, D., Yue, G., Hu, L., Sun, N., Wang, Y., Lee, L. Y. S., Xu, C., Wong, K. Y., Astruc, D., & Zhao, P. (2017).

Recent advance in MXenes: A promising 2D material for catalysis, sensor and chemical adsorption. *Coordination Chemistry Reviews*, 352, 306–327. <https://doi.org/10.1016/j.ccr.2017.09.012>