

DAFTAR PUSTAKA

- [1] R. Mulyana, “Laporan Kinerja 2022 Sekretariat Jenderal Kementerian Energi dan Sumber Daya Mineral.”. Report, Kementerian Energi dan Sumber Daya Mineral, 2022.
- [2] C. Anditya, “Menteri ESDM Pastikan Nuklir Jadi Bagian Diversifikasi Energi,” *Kementerian Energi dan Sumber Daya Mineral*. Artikel bertia, Diakses pada: Desember. 15, 2024. [Online]. Tersedia pada : <https://www.esdm.go.id/id/media-center/arsip-berita/menteri-esdm-pastikan-nuklir-jadi-bagian-diversifikasi-energi>
- [3] A. Agung, Sihana, and K. Suryoprato, “Pengembangan Reaktor Nuklir Terapung sebagai Wahana Pemenuhan Energi di Kawasan Terpencil,”. Report, *Univ. Gadjah Mada*, 2022.
- [4] D. A. Prasetyo, “Optimization of Burnable Poison Content and Configuration on Gama-Float Reactor’s Fuel Assembly,”. Skripsi, Jurusan Teknik Fisika, Fakultas Teknik, Universitas Gadjah Mada, Yogyakarta, 2023.
- [5] M. Qasim Awan, L. Cao, and H. Wu, “Neutronic design and evaluation of a PWR fuel assembly with accident tolerant-Fully Ceramic Micro-Encapsulated (AT-FCM) fuel,” *Nucl. Eng. Des.*, vol. 319, pp. 126–139, Aug. 2017, doi: 10.1016/j.nucengdes.2017.04.019.
- [6] A. A. Galahom, M. Y. M. Mohsen, and N. Amrani, “Explore the possible advantages of using thorium-based fuel in a pressurized water reactor (PWR) Part 1: Neutronic analysis,” *Nucl. Eng. Technol.*, vol. 54, no. 1, pp. 1–10, Jan. 2022, doi: 10.1016/j.net.2021.07.019.
- [7] Z. Zuhair, W. Luthfi, N. Widiawati, S. Suwoto, and T. Setiadipura, “Study on neutronic characteristics of NuScale reactor core with thorium coating,” Malang, Indonesia, 2023, p. 040007. doi: 10.1063/5.0173455.
- [8] S. Vaidyanathan, “Thorium Utilization in Pressurized Water Reactors Using Bimetallic Thorium-Zirconium Alloy Cladding,” *Nucl. Technol.*, vol. 206, no. 10, pp. 1538–1552, Oct. 2020, doi: 10.1080/00295450.2019.1706377.
- [9] J. Li, X. Li, and J. Cai, “Neutronic characteristics and feasibility analysis of micro-heterogeneous duplex ThO₂-UO₂ fuel pin in PWR,” *Nucl. Eng. Des.*, vol. 382, p. 111382, Oct. 2021, doi: 10.1016/j.nucengdes.2021.111382.
- [10] D. S. Lee, “Neutron Production with Thorium Fuel in Accelerator Driven Subcritical Reactors”. Disertasi, *University of Huddersfield*, 2018.
- [11] JAEA, “Chart of The Nuclides”, Diakses pada : Sep. 03, 2025 [Online]. Tersedia pada : <https://www.ndc.jaea.go.jp/CN14/index.html>
- [12] J. J. Duderstadt and L. J. Hamilton, *Nuclear Reactor Analysis*. Buku, Canada: John Wiley & Sons, Inc, 1976.
- [13] R. E. Masterson, *Introduction to Nuclear Reactor Physics*. Buku, Boca Raton: Taylor & Francis Group, 2017.
- [14] H. van Dam, T. H. J. J. van der Hag, and J. E. Hoogenboom, *Nuclear Reactor Physics*. Buku, Delft University of Technology, Netherlands, 2005.
- [15] E. E. Lewis, *Fundamentals of Reactor Nuclear Physics*. Buku, Amsterdam: Academic Press, 2008.
- [16] Z. Zuhair, W. Luthfi, M. Isnaini, S. Sriyono, and S. Suwoto, “The effect of burnable absorbers on criticality and reactivity coefficient of VVER-1000



- assembly,” *Nucl. Technol. Radiat. Prot.*, vol. 39, no. 1, pp. 12–20, 2024, doi: 10.2298/NTRP2401012Z.
- [17] I. Kuntoro, S. Pinem, and T. M. Sembiring, “Analysis of Reactivity Coefficient Change Due to Burn Up in AP1000 Reactor Core Using NODAL3,” *J. Teknol. Reakt. Nukl. Tri Dasa Mega*, vol. 19, no. 3, p. 131, Oct. 2017, doi: 10.17146/tdm.2017.19.3.3668.
- [18] J. Li, X. Li, and J. Cai, “Neutronic characteristics and feasibility analysis of micro-heterogeneous duplex ThO₂-UO₂ fuel pin in PWR,” *Nucl. Eng. Des.*, vol. 382, p. 111382, Oct. 2021, doi: 10.1016/j.nucengdes.2021.111382.
- [19] Nuclear Power, “Moderator Temperature Coefficient - MTC.” Accessed: Sep. 03, 2025. [Online]. Terdapat pada : <https://www.nuclear-power.com/nuclear-power/reactor-physics/nuclear-fission-chain-reaction/reactivity-coefficients-reactivity-feedbacks/moderator-temperature-coefficient-mtc/>
- [20] M. Ndawashi, S. M. Hussaini, S. O. Aremu, A. Saidu, and N. Abubakar, “Determination of Reproduction and Thorium Utilization Factors for The Nigeria Research Reactor-1 (NIRR-1),” *J. Emerg. Technol. Innov. Res. JETIR*, vol. 7, no. 9, 2020.
- [21] Nuclear Power, “Fuel Burnup.” Diakses pada : Sep. 03, 2025. [Online]. Terdapat pada : <https://www.nuclear-power.com/nuclear-power/reactor-physics/reactor-operation/fuel-burnup/>
- [22] M. A. Jessee, “POLARIS - 2D Light Water Reactor Lattice Physics Module.” ORNL. Diakses pada: Mar. 15, 2025. [Online]. Terdapat pada : <https://scale-manual.ornl.gov/Polaris.html>
- [23] A. J. Matthew *et al.*, “Polaris: A New 2-D Lattice Physics Analysis Capability for SCALE.”. Dokumen, *Oak Ridge National Laboratory*, 2014.
- [24] A. Labarile, R. Miró, T. Barrachina, and G. Verdú, “TRITON vs POLARIS. Comparison Between Two Modules for LWRs Modelling in SCALE 6.2.” Artrikel konferensi, *24th International Conference Nuclear Energy for New Europe*, 2015.
- [25] M. A. Jessee *et al.*, “Lattice physics calculations using the embedded self-shielding method in Polaris, Part I: Methods and implementation,” *Ann. Nucl. Energy*, vol. 150, p. 107830, Jan. 2021, doi: 10.1016/j.anucene.2020.107830.
- [26] A. J. Matthew, W. William, L. W. Mark, and S. K. Kang, “VERA Benchmark Calculations Using the SCALE-Polaris Lattice Physics Code.”. Artikel jurnal, *Transactions of the American Nuclear Society*, 2013.
- [27] H. S. Jeong, C. J. Park, J. Y. Jung, Y. M. Song, and K. S. Ha, “Analysis of Fuel Temperature Reactivity Coefficients According to Burn-up and Pu-239 Production in CANDU Reactor.” Artikel jurnal, *Transactions of the American Nuclear Society*, 2013.
- [28] Candu, *Canteach Module 12; Reactivity Effects Due to Temperature Changes and Coolant Voiding*. Buku, Canteach. 1997.
- [29] J. P. Gorton, B. S. Collins, A. T. Nelson, and N. R. Brown, “Reactor performance and safety characteristics of ThN-UN fuel concepts in a PWR,” *Nucl. Eng. Des.*, vol. 355, p. 110317, Dec. 2019, doi: 10.1016/j.nucengdes.2019.110317.



- [30] R. J. Sihombing, “Penentuan Discharge Burnup dan Nilai Koefisien Reaktivitas Setelah Dilakukan Penambahan Torium pada Bahan Bakar Reaktor Gama-Float,”. Skripsi, Jurusan Teknik Fisika, Fakultas Teknik, Universitas Gadjah Mada, Yogyakarta, 2025.

