



## DAFTAR PUSTAKA

- [1] R. R. Tjandrawinata, "Raymond R. Tjandrawinata - 2017 - Industri 4.0 Revolusi Industri 4.0 Revolusi Industri Abad Ini Dan Pengaruhnya Pada Bidang Kesehatan D," vol. 29, no. 1, pp. 31–39, 2016.
- [2] S. Nurwati, D. Rizka, and I. Prasetya, "KAJIAN MEDIS PEMANFAATAN TEKNOLOGI NUKLIR BNCT TUMOR OTAK JENIS GLIOMA," Yogyakarta, 2014.
- [3] E. Mariah-Singh, Diane; Raymakers, "What is cancer? Information on cancer for patients and family," Cancer Association of South Africa (Cansa), South Africa, 2019. [Online]. Available: <https://www.cansa.org.za/about-cancer/>
- [4] World Health Organization, "Press Release No. 263: Latest Global Cancer Data," 2018.
- [5] A. Payudan, A. Haryadi, and F. Abdullatif, "Optimization of Collimator Neutron Design for Boron Neutron-Capture Cancer Therapy (BNCT) Based Cyclotron 30 MeV," vol. 2, no. 3, pp. 128–136, 2017.
- [6] S. Maimanah, S. Susilo, and Y. Sardjono, "Distribution of Water Phantom BNCT Cyclotron based Using PHITS," *Indonesian Journal of Physics and Nuclear Applications*, vol. 4, no. 1, pp. 1–7, 2019, doi: 10.24246/ijpna.v4i1.1-7.
- [7] T. F. Harandi, M. M. Taghinasab, and T. D. Nayeri, "Electronic Physician ( ISSN : 2008-5842 )," *Electron Physician*, vol. 9, no. 9, pp. 1–17, 2017, doi: 10.19082/5212.
- [8] R. Narlawar *et al.*, "Remarkable Enhancement in Boron Uptake Within Glioblastoma Cells With Carboranyl-Indole Carboxamides," *Chemistry - An Asian Journal*, vol. 13, no. 21, pp. 3321–3327, 2018, doi: 10.1002/asia.201801175.
- [9] R. F. Barth, P. Mi, and W. Yang, "Boron delivery agents for neutron capture therapy of cancer," *Cancer Communications*, pp. 1–15, 2018, doi: 10.1186/s40880-018-0299-7.
- [10] V. Hutaria, S. Susilo, and Y. Sardjono, "Neutron Characterization of BNCT Water Phantom Based on Kartini Research Reactor Using PHITS," *Indonesian Journal of Physics and Nuclear Applications*, vol. 4, no. 1, pp. 16–21, 2019, doi: 10.24246/ijpna.v4i1.16-21.





- [11] A. Payudan, A. N. Aziz, and Y. Sardjono, "Basic Principle Application and Technology of Boron Neutron Capture Cancer Therapy ( BNCT ) Utilizing Monte Carlo N Particle 5 ' S Software ( MCNP 5 ) with Compact Neutron Generator ( CNG )," pp. 20–33, 2016.
- [12] S. F. Masoudi and F. S. Rasouli, "Investigating a multi-purpose target for electron linac based photoneutron sources for BNCT of deep-seated tumors," *Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms*, vol. 356–357, pp. 146–153, 2015, doi: 10.1016/j.nimb.2015.04.068.
- [13] S. Yuniarti, A. Haryadi, and R. F. Abdullatif, "the Effect of Thickness Variation of Beryllium Target Toward Characteristics of Neutron Energy Spectrum on Cyclotrons Hm-30 Using Mcnp-X," *Indonesian Journal of Physics and Nuclear Applications*, vol. 2, no. 3, p. 137, 2017, doi: 10.24246/ijpna.v2i3.137-143.
- [14] I. M. Ardana, Kusminarto, and Yohannes. Sardjono, "Optimization of a Beam Shaping Assembly Design for Boron Neutron Capture Cancer Therapy Facility Based on 30 MeV Cyclotron," *Indonesian Journal of Physics and Nuclear Applications*, vol. 1, no. 3, 2016.
- [15] Y. Sardjono, S. Widodo, and H. Tantawy, "A Design of Boron Neutron Capture Therapy for Cancer Treatment in Indonesia," *Indonesian Journal of Physics and Nuclear Applications*, pp. 1–13, 2016.
- [16] H. Tanaka *et al.*, "Evaluation of thermal neutron irradiation field using a cyclotron-based neutron source for alpha autoradiography," *Applied Radiation and Isotopes*, vol. 88, pp. 153–156, 2014, doi: 10.1016/j.apradiso.2014.01.011.
- [17] D. M. Hausman, "What is Cancer?," *Perspectives in Biology and Medicine*, vol. 62, no. 4, pp. 778–786, 2019.
- [18] M. E. Capoulat and A. J. Kreiner, "Physica Medica Original paper A 13 C ( d , n ) -based epithermal neutron source for Boron Neutron Capture Therapy," *Physica Medica*, 2016, doi: 10.1016/j.ejmp.2016.12.017.
- [19] V. A. Trivillin *et al.*, "Biodistribution of the boron carriers boronophenylalanine ( BPA ) and / or decahydrodecaborate ( GB-10 ) for Boron Neutron Capture Therapy ( BNCT ) in an experimental model of lung metastases," *Applied Radiation and Isotopes*, vol. 88, pp. 94–98, 2014, doi: 10.1016/j.apradiso.2013.11.115.
- [20] T. Mitsumoto *et al.*, "BNCT system using 30 MEV H - cyclotron," *CYCLOTRONS 2010 - 19th International Conference on Cyclotrons and Their Applications*, no. January, pp. 430–432, 2010.



- [21] IAEA, "Current status of neutron capture therapy," *IAEA-TECDOC-1223*, no. May, 2001.
- [22] J. G. Fantidis and G. Nicolaou, "Optimization of Beam Shaping Assembly design for Boron Neutron Capture Therapy based on a transportable proton accelerator," *Alexandria Engineering Journal*, 2017, doi: 10.1016/j.aej.2017.08.004.
- [23] Z. A. Ganjeh and M. Eslami-kalantari, "Nuclear Inst . and Methods in Physics Research , A Design and optimization of two-sided beam based on  $^7\text{Li}$  ( $\text{p}$  ,  $\text{n}$ )  $^7\text{Be}$  source using in BNCT for brain and liver tumors," *Nuclear Inst. and Methods in Physics Research, A*, vol. 916, no. November 2018, pp. 290–295, 2019, doi: 10.1016/j.nima.2018.11.084.
- [24] Z. Liu, G. Li, and L. Liu, "Feasibility of sealed D – T neutron generator as neutron source for liver BNCT and its beam shaping assembly," *Applied Radiation and Isotopes*, vol. 86, pp. 1–6, 2014, doi: 10.1016/j.apradiso.2013.12.031.
- [25] M. I. M. Arrozaqi, Kusminarto, and Yohannes. Sardjono, "Preparation of Dosimetry of Boron Neutron Capture Therapy (BNCT) for In-vivo Test Planning System using Monte Carlo N-Particle Extended (MCNP-X) Software," *Indonesian Journal of Physics and Nuclear Applications*, vol. 1, no. 2, 2016.
- [26] Y. Surono, Cari, and Suparmi, "Study of Neutron Flux Source Variation for Boron Neutron Capture Therapy (BNCT) Using Proton Accelerator," *4th ICRIEMS Proceedings*, vol. 4, pp. 13–18, 2017.
- [27] G. Kamath, M. Babshetand, and P. Sukhija, "Boron Neutron Capture Therapy – Redefining Radiotherapy," *International Journal of Current Research*, vol. 6, no. 09, 2014.
- [28] K. Hu *et al.*, "Boron agents for neutron capture therapy," *Coordination Chemistry Reviews*, vol. 405, p. 213139, 2020, doi: 10.1016/j.ccr.2019.213139.
- [29] M. A. Pisarev, M. A. Dragosa, and G. J. Juvenal, "Boron Neutron Capture Therapy in Cancer : Past , Present and Future perspectiva," *Endocrinology And Metabolism*, pp. 852–856, 2007.
- [30] E. B. Podgoršak, "Interactions of Neutrons with Matter," *Biological and Medical Physics, Biomedical Engineering*, 429–449., no. 1, pp. 168–185, 2009, doi: doi:10.1007/978-3-642-00875-7\_9.
- [31] N. Chegeni, S. Boveiry Pur, S. Razmjoo, and S. K. Hoseini, "Optimization of the photoneutron target geometry for e-accelerator based BNCT,"



*Electronic Physician*, vol. 9, no. 6, pp. 4590–4596, 2017, doi: 10.19082/4590.

- [32] J. P. B. Siburian, A. W. Harto, Y. Sardjono, J. Grafika, and Y. Indonesia, “A Conceptual Design Optimization of Collimator With 181 Ta As Neutron Source for Boron Neutron Capture Therapy Based Cyclotron Using Computer Simulation Program Monte Carlo N Particle Extended,” *Indonesian Journal of Physics and Nuclear Applications*, vol. 2, no. 2, pp. 83–90, 2017.
- [33] A. J. Kreiner *et al.*, “Accelerator-based BNCT,” *Applied Radiation and Isotopes*, vol. 88, pp. 185–189, 2014, doi: 10.1016/j.apradiso.2013.11.064.
- [34] S. Kawabata, Y. Matsushita, M. Furuse, S.-I. Miyatake, T. Kuroiwa, and K. Ono, “Clinical Study on Modified Boron Neutron Capture Therapy for Newly Diagnosed Glioblastoma,” *Advances in the Biology, Imaging and Therapies for Glioblastoma*, no. July 2014, 2011, doi: 10.5772/21989.
- [35] P. Isyan *et al.*, “Conceptual Design of Collimator at Boron Neutron Capture Therapy Facility with 30 MeV Cyclotron and Target 9 Be as Neutron Generator Using Monte Carlo N-Particle Extended Simulator,” *Indonesian Journal of Physics and Nuclear Applications*, vol. 2, no. 1, pp. 47–53, 2017.
- [36] B. Shaping, A. Design, L. Zaidi, M. Belgaid, S. Taskaev, and R. Khelifi, “Beam Shaping Assembly Design of  ${}^7\text{Li}(\text{p},\text{n}){}^7\text{Be}$  Neutron Source for Boron Neutron Capture Therapy of Deep-seated Tumor,” *Applied Radiation and Isotopes*, 2018, doi: 10.1016/j.apradiso.2018.05.029.
- [37] A. A. Burlon, D. M. Minsky, A. J. Kreiner, M. S. Herrera, and S. J. Gonza, “Treatment planning capability assessment of a beam shaping assembly for accelerator-based BNCT,” *Applied Radiation and Isotopes*, vol. 69, pp. 1870–1873, 2011, doi: 10.1016/j.apradiso.2011.03.029.
- [38] A. Juan *et al.*, “Present status of Accelerator-Based BNCT,” Wielkopolskie Centrum Onkologii, 2014.
- [39] T. Sato *et al.*, *PHITS VER. 3.17 USER'S MANUAL*. 2018.

