



DAFTAR PUSTAKA

- Abbaftati, C. *et al.* (2020) ‘Global age-sex-specific fertility, mortality, healthy life expectancy (HALE), and population estimates in 204 countries and territories, 1950–2019: a comprehensive demographic analysis for the Global Burden of Disease Study 2019’, *The Lancet*, 396(10258), pp. 1160–1203. doi:10.1016/S0140-6736(20)30977-6.
- Abdullaeva, G. *et al.* (2015) ‘Evaluation of absorbed dose in Gadolinium neutron capture therapy’, *Open Physics*, 13(1), pp. 183–187. doi:10.1515/phys-2015-0022.
- Ardana, I.M. and Sardjono, Y. (2017) ‘Optimization of a Neutron Beam Shaping Assembly Design for Bnct and Its Dosimetry Simulation Based on Mcnp’, *Jurnal Teknologi Reaktor Nuklir Tri Dasa Mega*, 19(3), p. 121. doi:10.17146/tdm.2017.19.3.3582.
- Baldini, E.H. (2018) ‘Radiation therapy’, *Orthopaedic Knowledge Update: Musculoskeletal Tumors* 3, pp. 77–84. doi:10.5631/jibirin.71.91.
- BAPETEN (2010) ‘PERATURAN KEPALA BADAN PENGAWAS TENAGA NUKLIR NOMOR 6 TAHUN 2010 TENTANG PEMANTAUAN KESEHATAN UNTUK PEKERJA RADIASI DENGAN’, in *Republik Indonesia*.
- BAPETEN (2013) ‘Peraturan Kepala Badan Pengawas Tenaga Nuklir Nomor 4 Tahun 2013 tentang Proteksi dan Keselamatan Radiasi dalam Pemanfaatan Tenaga Nuklir’, in *Republik Indonesia*.
- Barfh, R.F.M. *et al.* (2018) ‘Boron neutron capture therapy for glioblastoma’, *Yokohama Medical Journal*, 69(1–2), pp. 29–35.
- Beckurts, K.-H.& and Wirtz, K. (1964) *Neutron Physics : 5.1.1 Neutron Flux, Neutron Density, and Neutron Current*. 1st ed. Edited by L. Dresner. Springer-Verlang.
- Brochier, C. *et al.* (2013) ‘Specific acetylation of p53 by HDAC inhibition prevents DNA damage-induced apoptosis in neurons’, *Journal of Neuroscience*, 33(20), pp. 8621–8632. doi:10.1523/JNEUROSCI.5214-12.2013.
- Burges, A. and Schmalfeldt, B. (2011) ‘Ovarian Cancer Diagnosis and Treatment’, *Deutsches Arzteblatt*, 108(38), pp. 635–641. doi:10.3238/artzeb.2011.0635.
- Carlson, A.D. *et al.* (2009) ‘International Evaluation of Neutron Cross Section Standards’, *Nuclear Data Sheets*, 110(12), pp. 3215–3324.



doi:10.1016/j.nds.2009.11.001.

Cember, H., & Johnson, T.E. (2009) *Introduction to health physics*. 4th Editio.
NNRA Library.

Chao, A. W., Mess, K. H., Tigner, M., et al. 2013. Handbook of Accelerator Physics and Engineering. 2nd ed. World Scientific: Singapore.

Clément, F. and Monniaux, D. (2021) ‘Mathematical modeling of ovarian follicle development: A population dynamics viewpoint’, *Current Opinion in Endocrine and Metabolic Research*, 18, pp. 54–61.
doi:10.1016/j.coemr.2021.02.003.

Coderre, J.A. et al. (1990) ‘Selective Delivery of Boron by the Melanin Precursor Analogue p-Boronophenylalanine to Tumors Other Than Melanoma’, *Cancer Research*, 50(1), pp. 138–141.

Coia, L. et al. (1991) ‘Tolerance of normal tissue to therapeutic irradiation’, *International journal of radiation oncology, biology, physics*, 1(1), pp. 35–48. Available at: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=PubMed&cmd=Retrieve&list_uids=2032882&dopt=Citation.

Cortez, A.J. et al. (2018) ‘Advances in ovarian cancer therapy’, *Cancer Chemotherapy and Pharmacology*, 81(1), pp. 17–38. doi:10.1007/s00280-017-3501-8.

Cristy, M.- (1985) ‘Mathematcal Phantoms for Use in Reassessment of Radiation to Japanese Atomic-Bomb Survivors’, *Metabolism and Dosimetry Research Group*, pp. 1–55.

Dang, Y.Z. et al. (2019) ‘18F-FDG-PET/CT-guided intensity-modulated radiotherapy for 42 FIGO III/IV ovarian cancer: A retrospective study’, *Oncology Letters*, 17(1), pp. 149–158. doi:10.3892/ol.2018.9601.

Dochez, V. et al. (2019) ‘Biomarkers and algorithms for diagnosis of ovarian cancer: CA125, HE4, RMI and ROMA, a review’, *Journal of Ovarian Research*, 12(1), pp. 1–9. doi:10.1186/s13048-019-0503-7.

Faião-Flores, F. et al. (2013) ‘Cell cycle arrest, extracellular matrix changes and intrinsic apoptosis in human melanoma cells are induced by Boron Neutron Capture Therapy’, *Toxicology in Vitro*, 27(4), pp. 1196–1204.
doi:10.1016/j.tiv.2013.02.006.

Fields, E.C. et al. (2017) ‘Radiation treatment in women with ovarian cancer: Past, present, and future’, *Frontiers in Oncology*, 7(AUG).
doi:10.3389/fonc.2017.00177.



GLOBOCAN (2020) ‘Ovary Cancer’, 26 Oktober 2021. Available at:
<https://gco.iarc.fr/today/data/factsheets/cancers/25-Ovary-fact-sheet.pdf>.

Gubbels, J.A. et al. (2010) ‘The detection, treatment, and biology of epithelial ovarian cancer’, *Journal of Ovarian Research*, 3(1), pp. 1–11. doi:10.1186/1757-2215-3-8.

Harish, A.F., Warsono and Sardjono, Y. (2020) ‘Dose Analysis of Boron Neutron Capture Therapy (BNCT) Treatment for Lung Cancer Based on Particle and Heavy Ion Transport Code System (PHITS)’, *ASEAN Journal on Science and Technology for Development*, 35(3), pp. 187–194. doi:10.29037/ajstd.545.

Harter, P. et al. (2007) ‘Pattern and clinical predictors of lymph node metastases in epithelial ovarian cancer’, *International Journal of Gynecological Cancer*, 17(6), pp. 1238–1244. doi:10.1111/j.1525-1438.2007.00931.x.

Harto, A.W. (2014) ‘Metode Monte Carlo Dan Aplikasinya Dalam Perhitungan Radiasi Nuklir Pada Bnct (Boron Neutron Capture Cancer Therapy)’, *Status Boron Neutron Capture Cancer Therapy di Indonesia. Principle and Application*, pp. 1–34.

Hawthorne, M.F. (1993) ‘The Role of Chemistry in the Development of Boron Neutron Capture Therapy of Cancer’, *Angewandte Chemie International Edition in English*, 32(7), pp. 950–984. doi:10.1002/anie.199309501.

He, H. et al. (2021) ‘The basis and advances in clinical application of boron neutron capture therapy’, *Radiation Oncology*, 16(1), pp. 1–8. doi:10.1186/s13014-021-01939-7.

Hopewell, J.W. et al. (2011) ‘The radiobiological principles of boron neutron capture therapy: A critical review’, *Applied Radiation and Isotopes*, 69(12), pp. 1756–1759. doi:10.1016/j.apradiso.2011.04.019.

Hosono, S. et al. (2011) ‘Comparison between serous and non-serous ovarian cancer as a prognostic factor in advanced epithelial ovarian carcinoma after primary debulking surgery’, *International Journal of Clinical Oncology*, 16(5), pp. 524–532. doi:10.1007/s10147-011-0223-5.

Hu, N. et al. (2020) ‘Evaluation of PHITS for microdosimetry in BNCT to support radiobiological research’, *Applied Radiation and Isotopes*, 161(November 2019). doi:10.1016/j.apradiso.2020.109148.

Huang, Z. et al. (2016) ‘Incidence and mortality of gynaecological cancers: Secular trends in urban Shanghai, China over 40 years’, *European Journal of Cancer*,



63, pp. 1–10. doi:10.1016/j.ejca.2016.04.016.

IAEA (2001) ‘Current Status of neutron capture therapy’, *Iaea, 2001* (8), (May), pp. 75–77.

ICRP, 2003. *Relative Biological Effectiveness (RBE), QualityFactor (Q), and Radiation Weighting Factor (wR)*. s.l.:Elsevier.

ICRU (1992) *Photon, Electron, Proton and Neutron Interaction Data for Body Tissues. ICRU Report 46*.

ICRU (1998) ‘ICRU Technical Report 60: Fundamental Quantities and Units for Ionizing Radiation’.

Jordan, C.T., Guzman, M.L. and Noble, M. (2006) ‘Cancer stem cells (Review) - jordan2006’, pp. 1253–1261.

Karst, A.M. and Drapkin, R. (2010) ‘Ovarian Cancer Pathogenesis: A Model in Evolution’, *Journal of Oncology*, 2010, pp. 1–13. doi:10.1155/2010/932371.

Kasesaz, Y., Khalafi, H. and Rahmani, F. (2013) ‘Optimization of the beam shaping assembly in the D-D neutron generators-based BNCT using the response matrix method’, *Applied Radiation and Isotopes*, 82, pp. 55–59. doi:10.1016/j.apradiso.2013.07.008.

Koji Niita, Tatsuhiko Sato, Yosuke Iwamoto, Shintaro Hashimoto, Tatsuhiko Ogawa, Takuya Furuta, Shinichiro Abe, Takeshi Kai, Norihiro Matsuda, Yusuke Matsuya, Hunter Ratliff, Lan Yao, Pi-En Tsai, Hiroshi Iwase, Nobuhiro Shigyo, and Lemb, and L.S. (2021) ‘Ver. 3.26 User’s Manual’.

Kondo, N. et al. (2016) ‘DNA damage induced by boron neutron capture therapy is partially repaired by DNA ligase IV’, *Radiation and Environmental Biophysics*, 55(1), pp. 89–94. doi:10.1007/s00411-015-0625-2.

Krane, K.S. (1988) *INTRODUCTORY NUCLEAR PHYSICS*, John Wiley & Sons, Inc. doi:10.1103/RevModPhys.15.209.

Kumada, H. et al. (2009) ‘Development of a multi-modal Monte-Carlo radiation treatment planning system combined with PHITS’, *AIP Conference Proceedings*, 1153(July), pp. 377–387. doi:10.1063/1.3204547.

Lheureux, S. et al. (2019) ‘Epithelial ovarian cancer’, *The Lancet*, 393(10177), pp. 1240–1253. doi:10.1016/S0140-6736(18)32552-2.

Lievens, Y. et al. (2020) ‘Defining oligometastatic disease from a radiation oncology perspective: An ESTRO-ASTRO consensus document’,



Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology, 148, pp. 157–166.
doi:10.1016/j.radonc.2020.04.003.

Maitz, C.A. et al. (2017) ‘Validation and Comparison of the Therapeutic Efficacy of Boron Neutron Capture Therapy Mediated By Boron-Rich Liposomes in Multiple Murine Tumor Models’, *Translational Oncology*, 10(4), pp. 686–692. doi:10.1016/j.tranon.2017.05.003.

Maliszewska-Olejniczak, K. et al. (2021) ‘Molecular Mechanisms of Specific Cellular DNA Damage Response and Repair Induced by the Mixed Radiation Field During Boron Neutron Capture Therapy’, *Frontiers in Oncology*, 11(May), pp. 1–8. doi:10.3389/fonc.2021.676575.

Malouff, T.D. et al. (2021) ‘Boron Neutron Capture Therapy: A Review of Clinical Applications’, *Frontiers in Oncology*, 11(February), pp. 1–11. doi:10.3389/fonc.2021.601820.

Martin, J.E. (2012) *Physics for Radiation Protection*. Third Comp, *Statistical Methods in Radiation Physics*. Third Comp. Weinheim, Germany: Wiley-VCH Verlag & Co. KGaA.,

Mcgeoch, D.J. (2001) ‘Icrc 50’, *Philosophical Transactions of the Royal Society B: Biological Sciences*, 356(1408), pp. 421–435.

Meyerhof, W.E. (1989) *Element of Nuclear Physics*. Singapore: Mc Graw Hill Osborne.

Momenimovahed, Z. et al. (2019) ‘Ovarian cancer in the world: Epidemiology and risk factors’, *International Journal of Women’s Health*, 11, pp. 287–299. doi:10.2147/IJWH.S197604.

Murty, K.L. and Charit, I. (2013) ‘An introduction to nuclear materials: fundamentals and applications’, *Choice Reviews Online*, 51(01), pp. 51-0303-51–0303. doi:10.5860/choice.51-0303.

NCI (2021) ‘What Is Cancer?’, 2021. Available at: <https://www.cancer.gov/aboutcancer/%0AUnderstanding/what-is-cancer>.

Nedunchezhian, K. et al. (2016) ‘Boron neutron capture therapy - a literature review’, *Journal of Clinical and Diagnostic Research*, 10(12), pp. ZE01–ZE04. doi:10.7860/JCDR/2016/19890.9024.

Nikanfar, S. et al. (2021) ‘Role of adipokines in the ovarian function: Oogenesis



- and steroidogenesis', *Journal of Steroid Biochemistry and Molecular Biology*, 209(July 2020), p. 105852. doi:10.1016/j.jsbmb.2021.105852.
- Ono, K. *et al.* (1996) 'Radiobiological evidence suggesting heterogeneous microdistribution of boron compounds in tumors: Its relation to quiescent cell population and tumor cure in neutron capture therapy', *International Journal of Radiation Oncology Biology Physics*, 34(5), pp. 1081–1086. doi:10.1016/0360-3016(95)02180-9.
- Pak, S. and Cucinotta, F.A. (2021) 'Comparison between PHITS and GEANT4 Simulations of the Heavy Ion Beams at the BEVALAC at LBNL and the Booster Accelerator at BNL', *Life Sciences in Space Research*, 29(January), pp. 38–45. doi:10.1016/j.lssr.2021.03.002.
- Paño, B. *et al.* (2015) 'Pathways of lymphatic spread in gynecologic malignancies', *Radiographics*, 35(3), pp. 916–945. doi:10.1148/rg.2015140086.
- Park, M. (1994) 'Pathways Metastasis Tumors : of Nodal from Pelvic CT Demon-', *Group*, pp. 1309–1321.
- Peach, K., Wilson, P. and Jones, B. (2011) 'Accelerator science in medical physics', *British Journal of Radiology*, 84(SPEC. ISSUE 1), pp. 4–10. doi:10.1259/bjr/16022594.
- Permuth-Wey, J. and Sellers, T.A. (2009) 'Epidemiology of ovarian cancer', *Methods in Molecular Biology*, 472, pp. 413–437. doi:10.1007/978-1-60327-492-0_20.
- Podgoršak, E.B. (2005) *RADIATION ONCOLOGY PHYSICS: A HANDBOOK FOR TEACHERS AND STUDENTS*, INTERNATIONAL ATOMIC ENERGY AGENCY VIENNA,.
- Podgoršak, E.B. (2016) *Radiation Physics for Medical Physicists*. Trird Edit. doi:10.1007/978-3-319-25382-4_8.
- Poedjomartono, B. *et al.* (2020) 'Boron Neutron Capture Therapy for Cancer: Future Prospects in Indonesia', *ASEAN Journal on Science and Technology for Development*, 35(3), pp. 199–201. doi:10.29037/ajstd.510.
- Portelance, L. *et al.* (2021) 'Online Magnetic Resonance-Guided Radiotherapy (oMRgRT) for Gynecological Cancers', *Frontiers in Oncology*, 11(August), pp. 1–15. doi:10.3389/fonc.2021.628131.
- Prat, Jaime *et al.* (2015) 'Figo's staging classification for cancer of the ovary, fallopian tube, and peritoneum: Abridged republication', *Journal of Gynecologic Oncology*, 26(2), pp. 87–89. doi:10.3802/jgo.2015.26.2.87.



Puspita, M.M.D.R. (2021) *ANALISIS DOSIS RADIASI TERAPI KANKER SERVIKS DENGAN BORON NEUTRON CAPTURE THERAPY (BNCT) BERBASIS PARTICLE AND HEAVY ION TRANSPORT CODE SYSTEM (PHITS)*. Universitas Gadjah Mada.

Reid, B.M., Permuth, J.B. and Sellers, T.A. (2017) ‘Epidemiology of ovarian cancer: a review’, *Cancer Biology and Medicine*, 14(1), pp. 9–32. doi:10.20892/j.issn.2095-3941.2016.0084.

Romero-Canelón, I. et al. (2015) ‘Arene ruthenium dithiolato-carborane complexes for boron neutron capture therapy (BNCT)’, *Journal of Organometallic Chemistry*, 796, pp. 17–25. doi:10.1016/j.jorgchem.2015.05.011.

Rondina, A. et al. (2021) ‘A boron delivery antibody (BDA) with boronated specific residues: New perspectives in boron neutron capture therapy from an in silico investigation’, *Cells*, 10(11). doi:10.3390/cells10113225.

Sankaranarayanan, R. and Ferlay, J. (2006) ‘Worldwide burden of gynaecological cancer: The size of the problem’, *Best Practice and Research: Clinical Obstetrics and Gynaecology*, 20(2), pp. 207–225. doi:10.1016/j.bpobgyn.2005.10.007.

Sauerwein, W.A., Wittig, A., Moss, R. and Nakagawa, Y. (Eds. . (2012) *Neutron capture therapy: principles and applications, Paper Knowledge . Toward a Media History of Documents*. Springer.

Sauerwein, W.A.G., Moss, R.L. and European Commission. Joint Research Centre. Institute for Energy. (2009) *Requirements for boron neutron capture therapy (BNCT) at a nuclear research reactor*. Available at: <https://ec.europa.eu/jrc/en/publication/books/requirements-boron-neutron-capture-therapy-bnct-nuclear-research-reactor>.

Sergeevna Sukhikh, E. and Grigorievich Sukhikh, L. (2020) ‘Dosimetric and Radiobiological Evaluation of Combined Radiotherapy of Cervical Cancer Based on the VMAT Technique’, *Gynaecological Malignancies - Updates and Advances*, i, pp. 1–15. doi:10.5772/intechopen.89734.

Sharbatoghi, M. et al. (2020) ‘Prediction of the treatment response in ovarian cancer: a ctDNA approach’, *Journal of Ovarian Research*, 13(1), pp. 1–12. doi:10.1186/s13048-020-00729-1.

Shiiba, T. et al. (2017) ‘Evaluation of the accuracy of mono-energetic electron and beta-emitting isotope dose-point kernels using particle and heavy ion transport code system: PHITS’, *Applied Radiation and Isotopes*, 128(May), pp. 199–203. doi:10.1016/j.apradiso.2017.07.028.



Siwi, D.B. (2013) *Analisis Dosis di Organ Kritis pada Terapi Glioblastoma dengan Boron Neutron Capture Therapy menggunakan Metode Simulasi MCNP5*. Universitas Gadjah Mada.

Society, A.C. (2020) ‘Ovarian Cancer Causes, Risk Factors, and Prevention’, *Cancer.Org*, p. 5. Available at: www.cancer.org/cancer/acs-medical-content-and-news-staff.html.

Soloway, A.H. et al. (1998) ‘The chemistry of neutron capture therapy’, *Chemical Reviews*, 98(4), pp. 1515–1562. doi:10.1021/cr941195u.

Srivastava, R. et al. (2014) ‘Neutron Therapy-A Novel Approach To Radiotherapeutics : A Review’, 1(2).

Stewart, C., Ralyea, C. and Lockwood, S. (2019) ‘Ovarian Cancer: An Integrated Review’, *Seminars in Oncology Nursing*, 35(2), pp. 151–156. doi:10.1016/j.soncn.2019.02.001.

Tanaka, H. et al. (2009) ‘Characteristics comparison between a cyclotron-based neutron source and KUR-HWNIF for boron neutron capture therapy’, *Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms*, 267(11), pp. 1970–1977. doi:10.1016/j.nimb.2009.03.095.

Tanaka, H. et al. (2011) ‘Experimental verification of beam characteristics for cyclotron-based epithermal neutron source (C-BENS)’, *Applied Radiation and Isotopes*, 69(12), pp. 1642–1645. doi:10.1016/j.apradiso.2011.03.020.

Tanaka, H. et al. (2020) ‘Characteristic evaluation of the thermal neutron irradiation field using a 30 MeV cyclotron accelerator for basic research on neutron capture therapy’, *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 983(July), p. 164533. doi:10.1016/j.nima.2020.164533.

Tatsuhiko Sato, Yosuke Iwamoto, Shintaro Hashimoto, Tatsuhiko Ogawa, Takuya Furuta, Shinichiro Abe, Takeshi Kai, Pi-En Tsai, Yusuke Matsuya, Hunter N. Ratliff, N.M. (2022) *PHITS: What IS PHITS?*, JAEA. Available at: <https://phits.jaea.go.jp/>.

Torre, L.A. et al. (2018) ‘Ovarian cancer statistics, 2018’, *CA: A Cancer Journal for Clinicians*, 68(4), pp. 284–296. doi:10.3322/caac.21456.

UK, cancer research (2017) ‘Ovarian cancer survival statistics’. Available at: <https://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/ovarian-cancer/survival>.



Ursula A. Matulonis, Anil K. Sood, Lesley Fallowfield, Brooke E. Howitt, Jalid Sehouli, B.Y.K. (2020) ‘Ovarian Cancer’, *Physiology & behavior*, 176(3), pp. 139–148. doi:10.1038/nrdp.2016.61.Ovarian.

Wang, Z. *et al.* (2021) ‘Trends and age-period-cohort effects on mortality of the three major gynecologic cancers in China from 1990 to 2019: Cervical, ovarian and uterine cancer’, *Gynecologic Oncology*, 163(2), pp. 358–363. doi:10.1016/j.ygyno.2021.08.029.

WHO (2014) ‘WHO Classification of Tumors of Female Reproductive Organs’, 4th Editio, p. p.15-40.

WHO (2020) ‘The top 10 causes of death’, 7 Desember 2021. Available at: <https://www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death>.

Xu, Y. *et al.* (2015) ‘MRI for discriminating metastatic ovarian tumors from primary epithelial ovarian cancers’, *Journal of Ovarian Research*, 8(1), pp. 4–9. doi:10.1186/s13048-015-0188-5.

Yokoyama, K. *et al.* (2006) ‘Pharmacokinetic study of BSH and BPA in simultaneous use for BNCT’, *Journal of Neuro-Oncology*, 78(3), pp. 227–232. doi:10.1007/s11060-005-9099-4.

Zeppernick, F. and Meinhold-Heerlein, I. (2014) ‘The new FIGO staging system for ovarian, fallopian tube, and primary peritoneal cancer’, *Archives of Gynecology and Obstetrics*, 290(5), pp. 839–842. doi:10.1007/s00404-014-3364-8.

Zhang, Y. *et al.* (2019) ‘Global patterns and trends in ovarian cancer incidence: Age, period and birth cohort analysis’, *BMC Cancer*, 19(1), pp. 1–14. doi:10.1186/s12885-019-6139-6.