

DAFTAR PUSTAKA

- Abdullah, A.B.M. 2016. *Radiology in Medical Practice* (6th ed.). Elsevier.
- Abdullah, W., Ramli, R. M., Khazaalah, T. H., Azman, N. Z. N., Nawafleh, T. M., dan Salem, F. 2024. Enhancing X-ray radiation protection with novel liquid silicone rubber composites: A promising alternative to lead aprons. *Nuclear Engineering and Technology*.
- Aziz, O., Salama, E., E. El-Nashar, D., & Bakry, A. 2023. Development of sustainable radiation-shielding blend using natural rubber/NBR, and bismuth filler. *Sustainability*, 15(12), 9679.
- Burlingame, S. D., & Yanch, J. C. 2009. Monte Carlo Techniques in Medical Radiation Protection and Dosimetry. *Journal of Radiological Protection*, 29(3), 255–276. <https://doi.org/10.1088/0952-4746/29/3/001>
- Bushberg, J. T., Seibert, J. A., Leidholdt Jr, E. M., & Boone, J. M. 2012. *The Essential Physics of Medical Imaging* (3rd ed.). Lippincott Williams & Wilkins.
- Chen G, Ding X, Zhou W. *Study On Ultrasonic Treatment For Degradation of Microcystins (MCs)*. *Ultrason Sonochem*. 2020; 63: 104-900. Doi:10.1016/j.ultsonch.2019.104900
- David, Fiazal F, Hidayat S. Studi Komputasi Efek Sonofisika Dari Gelembung Mikro Terhadap Deformasi Lapisan Logam. *Jurnal Ilmu dan Inoasi Fisika*. 2022; 6(1): 33-40. <https://doi.org/10.24198/jiif.v6il.3702>.
- El-Khatib, A. M., Doma, A. S., Badawi, M. S., Abu-Rayan, A. E., Aly, N. S., Alzahrani, J. S., & Abbas, M. I. 2020. Conductive natural and waste rubbers composites-loaded with lead powder as environmental flexible gamma radiation shielding material. *Materials Research Express*, 7(10), 105309.
- Elsafi, M., Jamal AlAsali, H., Almuqrin, A. H., Mahmoud, K. G., & Sayyed, M. I. 2023. Experimental assessment for the photon shielding features of silicone rubber reinforced by tellurium borate oxides. *Nuclear Engineering and Technology*, 55(6), 2166-2171.
- European Commission. 2014. Radiation Protection No. 172: Diagnostic Reference Levels in Medical Imaging. Brussels: European Commission.
- Fazel, R., Krumholz, H. M., Wang, Y., Ross, J. S., Chen, J., Ting, H. H., & Einstein, A. J. 2009. Exposure to low-dose ionizing radiation from medical imaging procedures. *New England Journal of Medicine*, 361(9), 849-857.

- Goldstein JI, Newbury DE, Joy DC, et al. Scanning Electron Microscopy and X-ray Microanalysis. 4th ed. Springer; 2017.
- Havancsak K. EDX spectroscopy in scanning electron microscopy: Applications and limitations. In: Electron Microscopy in Materials Science. Springer; 2016.
- Hidayatullah, N., Sutanto, H., Anam, C., Wardhana, Y. W., Amilia, R., Naufal, A., & Taufiq, U. A. 2023. Evaluation of Elasticity, Dose Reduction, and Image Quality on Sr-Pb Shield for Thoracic CT Examination.
- IAEA. 2007. Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards. IAEA Safety Standards Series No. GSR Part 3.
- ICRP. 2013. Radiological Protection in Cardiology. ICRP Publication 120. Annals of the ICRP, 42(1), 1–125. DOI: 10.1016/j.icrp.2012.09.001
- International Atomic Energy Agency (IAEA). 2022. Radiation Protection in Dental Radiology. Safety Reports Series No. 102. Vienna: IAEA.
- International Atomic Energy Agency. 2011. *Radiation Protection in Dental Radiology*. Safety Reports Series No. 58. Vienna: IAEA.
- International Atomic Energy Agency. 2014. Radiation protection and safety of radiation sources: International basic safety standards (IAEA Safety Standards Series No. GSR Part 3). Vienna: IAEA
- International Commission on Radiological Protection (ICRP). 2007. ICRP Publication 103: The 2007 Recommendations of the International Commission on Radiological Protection. Annals of the ICRP, 37(2–4). <https://doi.org/10.1016/j.icrp.2007.10.001>
- International Commission on Radiological Protection (ICRP). 2012. ICRP Publication 118: The 2012 Recommendations of the International Commission on Radiological Protection: Radiological Protection in Medicine. Annals of the ICRP, 41(1/2). <https://doi.org/10.1016/j.icrp.2012.02.001>
- Kashi, S., Varley, R., De Souza, M., Al-Assafi, S., Di Pietro, A., de Lavigne, C., & Fox, B. 2018. Mechanical, thermal, and morphological behavior of silicone rubber during accelerated aging. *Polymer-plastics technology and engineering*, 57(16), 1687-1696.
- Khan, F.M., Gibbons, J.P., & Potish, R.A. 2014. *Khan's the physics of radiation therapy* (5th ed.). lippincott Williams & Wilkins.

- Kim, D., Han, J., dan Le, S. 2021. Development and Shielding performance of a pure tungsten plate for medical radiation shielding applications. *Applied Sciences*, 11(19), 9111. <https://doi.org/10.3390/app11199111>
- Lestari, Y. M., Anam, C., Sutanto, H., Arifin, Z., Alkian, I., Suyudi, I., & Dougherty, G. 2023. Evaluation of silicone rubber-lead shield's effectiveness in protecting the breast during thoracic CT. *Biomedical Physics & Engineering*.
- Mahdavi, S. 2022. Evaluating the efficiency of tungsten-based shielding materials in reducing radiation dose in dental radiography. *Radiation Protection Dosimetry*, 192(4), 539-548.
- National Council on Radiation Protection and Measurements (NCRP). 2009. NCRP Report No. 160: Ionizing Radiation Exposure of the Population of the United States. Bethesda, MD: NCRP.
- National Council on Radiation Protection and Measurements (NCRP). 2019. *Guidance on Radiation Dose Limits for the Lens of the Eye*. NCRP Commentary No. 26.
- Novak, L. 2006. A proper method of kerma-length product measurement during QC procedures in panoramic radiography (pp. p. 292–293)
- Peraturan Kepala BAPETEN No. 4 Tahun 2013. Proteksi dan Keselamatan Radiasi dalam Penggunaan Pesawat Sinar-X Radiologi Diagnostik dan Intervensional. Jakarta: BAPETEN.
- Petkoska, D., Zafirovska, B., Vasilev, I., Novotni, G., Bertrand, O. F., & Kedev, S. 2023. Radial and ulnar approach for carotid artery stenting with Roadsaver™ double layer micromesh stent: Early and long-term follow-up. *Catheterization and Cardiovascular Interventions*, 101(1), 154–163. <https://doi.org/10.1002/ccd.30514>
- Podgorsak, E.B. 2010. *Radiation Physics for Medical Physicists* (2nd ed.). Springer.
- Reddy PS, Dhanalakshmi R, Rajasekaran M. 2020. Detection of toxic heavy metals in urban air dust by SEM-EDX analysis. *J Environ Health Sci Eng*. 18:1617–1625.
- Rouihem, F., Albarqi, M. M., Alsulami, R. A., & Hosni, F. 2024. Lead-free Gamma-ray shielding: Comparative analysis of elastomeric and fluoro-rubber materials using FLUKA and EGSnrc simulations. *Journal of Radiation Research and Applied Sciences*, 17(1), 100834.

- Sari, D. L., & Pratiwi, A. N. 2020. Fungsi pelindung tiroid dan persepsi dokter gigi terhadap penggunaannya dalam radiografi kedokteran gigi. *Jurnal Radiologi Dentomaksilofasial Indonesia*, 4(1), 1-6.
- Sayyed, M. I., Al-Ghamdi, H., Almuqrin, A. H., Yasmin, S., & Elsafi, M. 2022. A study on the gamma radiation protection effectiveness of nano/micro-MgO-reinforced novel silicon rubber for medical applications. *Polymers*, 14(14), 2867.
- Scarfe, W.C., & Farman, A.G. 2008. "What is Cone-Beam CT and How Does it Work?" *Dental Clinics of North America*, 52(4), 707–730.
- Scimeca, M., Bischetti, S., Lamsira, H.K., Bonfiglio, R., Bonanno, E. 2018. Energy Dispersive X-ray (EDX) microanalysis: A powerful tool in biomedical research and diagnosis. *Eur J Histochem*. 62(1):2841. doi:10.4081/ejh.2018.2841
- Seibert, J., A. 2006. Digital radiography: The bottom line comparison of detector technologies. *Radiologic Clinics of North America*, 44(4), 573–588.
- Sulaiman, R., Aisah, S. 2019. "Evaluasi Penggunaan Radiografi Panoramik dalam Praktik Klinik." *Jurnal Radiologi Dentomaksilofasial Indonesia*, 3(1), 22–28.
- Sutanto H, Jaya GW, Hidayanto E, Arifin Z. 2019. *Characteristic of Silicone Rubber as Radioprotection Materials on Radiodiagnostic Using X-Ray Convensional*. *Journal of Physics: Conference Series*. 1217(1): 012044. <https://doi.org/10.1088/1742-6596/1217/1/012044>.
- Syafitri, U. D., & Susilo, S. 2024. Estimasi Entrance Surface Dose (ESD) pada mata, kelenjar tiroid, dan kelenjar parotis selama pemeriksaan dental panoramik. *Jurnal Fisika Unand*, 13(1), 12-18.
- Vano, E., Fernández, J. M., Ten, J. I., & Gonzalez, L. 2017. Thyroid shielding in dental panoramik radiography: Assessment of protection efficacy and optimization. *Radiation Protection Dosimetry*, 175(1), 46-52.
- White, S. C., & Pharoah, M. J. 2014. *Oral Radiology: Principles and Interpretation* (7th ed.). Elsevier.
- Young, H. D., & Freedman, R. A. 2012. *University Physics with Modern Physics* (13th ed.). San Francisco: Pearson.
- Zaimuratasya, S., Anam, C., Sutanto, H., & Rukmana, D. A. 2024. Fabrication and Evaluation of Thyroid Shield from Silicone Rubber-Cooper and its Comparison to Tube Current Modulation in CT Examination. *International*

Journal of Innovative Science and Research Technology, 9(8).
<https://doi.org/10.38124/IJISRT24AUG732>.