

DAFTAR PUSTAKA

- [1] F. Nugraheni, F. Anisah, and G. A. Susetyo, "Prosiding SNFA (Seminar Nasional Fisika dan Aplikasinya) 2022 Analisis Efek Radiasi Sinar-X pada Tubuh Manusia".
- [2] S. K. Kim and H. J. Yang, "Utilization of liquid crystal display (LCD) waste glass powder as cementitious binder in mortar for enhancing neutron shielding performance," *Constr Build Mater*, vol. 270, Feb. 2021, doi: 10.1016/j.conbuildmat.2020.121859.
- [3] O. Lotfi-Omran, A. Sadrmomtazi, and I. M. Nikbin, "A comprehensive study on the effect of water to cement ratio on the mechanical and radiation shielding properties of heavyweight concrete," *Constr Build Mater*, vol. 229, Dec. 2019, doi: 10.1016/j.conbuildmat.2019.116905.
- [4] M. K. A. Roslan, M. Ismail, A. B. H. Kueh, and M. R. M. Zin, "High-density concrete: Exploring Ferro boron effects in neutron and gamma radiation shielding," *Constr Build Mater*, vol. 215, pp. 718–725, Aug. 2019, doi: 10.1016/j.conbuildmat.2019.04.105.
- [5] G. Tyagi, A. Singhal, S. Routroy, D. Bhunia, and M. Lahoti, "A review on sustainable utilization of industrial wastes in radiation shielding concrete," in *Materials Today: Proceedings*, Elsevier Ltd, Jan. 2020, pp. 746–751. doi: 10.1016/j.matpr.2020.03.474.
- [6] I. M. Nikbin, M. Shad, G. A. Jafarzadeh, and S. Dezhampahah, "An experimental investigation on combined effects of nano-WO₃ and nano-Bi₂O₃ on the radiation shielding properties of magnetite concretes," *Progress in Nuclear Energy*, vol. 117, Nov. 2019, doi: 10.1016/j.pnucene.2019.103103.
- [7] E. O. Echeweozo, A. D. Asiegbu, and E. L. Efurumibe, "Investigation of kaolin - Granite composite bricks for gamma radiation shielding," *International Journal of Advanced Nuclear Reactor Design and Technology*, vol. 3, pp. 194–199, Jan. 2021, doi: 10.1016/j.jandt.2021.09.007.
- [8] N. K. Amudhavalli, S. Sivasankar, M. Shunmugasundaram, and A. P. Kumar, "Characteristics of granite dust concrete with m-sand as replacement of fine aggregate composites," in *Materials Today: Proceedings*, Elsevier Ltd, Jan. 2020, pp. 1401–1406. doi: 10.1016/j.matpr.2020.02.771.
- [9] S. Dezhampahah, I. M. Nikbin, S. Mehdipour, R. Mohebbi, and H. H. Moghadam, "Fiber- reinforced concrete containing nano - TiO₂ as a new gamma-ray radiation shielding materials," *Journal of Building Engineering*, vol. 44, Dec. 2021, doi: 10.1016/j.jobr.2021.102542.
- [10] B. Aygün, E. Şakar, O. Agar, M. I. Sayyed, A. Karabulut, and V. P. Singh, "Development of new heavy concretes containing chrome-ore for nuclear

- radiation shielding applications," *Progress in Nuclear Energy*, vol. 133, Mar. 2021, doi: 10.1016/j.pnucene.2021.103645.
- [11] K. Gunoglu and İ. Akkurt, "Radiation shielding properties of concrete containing magnetite," *Progress in Nuclear Energy*, vol. 137, Jul. 2021, doi: 10.1016/j.pnucene.2021.103776.
 - [12] R. S. M. Rashid *et al.*, "Effect of elevated temperature to radiation shielding of ultra-high performance concrete with silica sand or magnetite," *Constr Build Mater*, vol. 262, Nov. 2020, doi: 10.1016/j.conbuildmat.2020.120567.
 - [13] M. Papachristoforou and I. Papayianni, "Radiation shielding and mechanical properties of steel fiber reinforced concrete (SFRC) produced with EAF slag aggregates," *Radiation Physics and Chemistry*, vol. 149, pp. 26–32, Aug. 2018, doi: 10.1016/j.radphyschem.2018.03.010.
 - [14] S. M. Malkapur *et al.*, "Waste-polymer incorporated concrete mixes for neutron and gamma radiation shielding," *Progress in Nuclear Energy*, vol. 135, May 2021, doi: 10.1016/j.pnucene.2021.103694.
 - [15] M. U. Khan, S. Ahmad, A. A. Naqvi, and H. J. Al-Gahtani, "Shielding performance of heavy-weight ultra-high-performance concrete against nuclear radiation," *Progress in Nuclear Energy*, vol. 130, p. 103550, Dec. 2020, doi: 10.1016/j.pnucene.2020.103550.
 - [16] M. O. Azeez, S. Ahmad, S. U. Al-Dulaijan, M. Maslehuddin, and A. Abbas Naqvi, "Radiation shielding performance of heavy-weight concrete mixtures," *Constr Build Mater*, vol. 224, pp. 284–291, Nov. 2019, doi: 10.1016/j.conbuildmat.2019.07.077.
 - [17] H. S. Alorfi, M. A. Hussein, and S. A. Tijani, "The use of rocks in lieu of bricks and concrete as radiation shielding barriers at low gamma and nuclear medicine energies," *Constr Build Mater*, vol. 251, Aug. 2020, doi: 10.1016/j.conbuildmat.2020.118908.
 - [18] Ł. Skarżyński, "Mechanical and radiation shielding properties of concrete reinforced with boron-basalt fibers using Digital Image Correlation and X-ray micro-computed tomography," *Constr Build Mater*, vol. 255, Sep. 2020, doi: 10.1016/j.conbuildmat.2020.119252.
 - [19] H. liang LIU, J. jun SHI, H. qiong QU, and D. xin DING, "Feasibility of using recycled CRT funnel glass as partial replacement of high density magnetite sand in radiation shielding concrete," *Transactions of Nonferrous Metals Society of China (English Edition)*, vol. 29, no. 4, pp. 831–839, Apr. 2019, doi: 10.1016/S1003-6326(19)64993-9.
 - [20] M. U. Khan, S. Ahmad, A. A. Naqvi, and H. J. Al-Gahtani, "Shielding performance of heavy-weight ultra-high-performance concrete against nuclear radiation,"

Progress in Nuclear Energy, vol. 130, Dec. 2020, doi: 10.1016/j.pnucene.2020.103550.

- [21] A. L. Beaucour, P. Pliya, F. Faleschini, R. Njinwoua, C. Pellegrino, and A. Noumowé, "Influence of elevated temperature on properties of radiation shielding concrete with electric arc furnace slag as coarse aggregate," *Constr Build Mater*, vol. 256, Sep. 2020, doi: 10.1016/j.conbuildmat.2020.119385.
- [22] K. Ostrowski, D. Stefaniuk, Ł. Sadowski, K. Krzywiński, M. Gicala, and M. Różańska, "Potential use of granite waste sourced from rock processing for the application as coarse aggregate in high-performance self-compacting concrete," *Constr Build Mater*, vol. 238, Mar. 2020, doi: 10.1016/j.conbuildmat.2019.117794.
- [23] Y. B. Guo, G. F. Gao, L. Jing, and V. P. W. Shim, "Dynamic properties of granite rock employed as coarse aggregate in high-strength concrete," *Int J Impact Eng*, vol. 156, Oct. 2021, doi: 10.1016/j.ijimpeng.2021.103955.
- [24] G. Prokopski, V. Marchuk, and A. Huts, "The effect of using granite dust as a component of concrete mixture," *Case Studies in Construction Materials*, vol. 13, Dec. 2020, doi: 10.1016/j.cscm.2020.e00349.
- [25] M. A. Anugrah, S. Ilyas, and D. Tahir, "Gelatin/Poly (vinyl alcohol)/Inorganic filler composites for phantom breasts," *Mater Chem Phys*, vol. 262, p. 124333, Apr. 2021, doi: 10.1016/j.matchemphys.2021.124333.
- [26] A. H. Taqi, A. M. Ghalib, and H. N. Mohammed, "Shielding properties of Cu-Sn-Pb alloy by Geant4, XCOM and experimental data," *Mater Today Commun*, vol. 26, p. 101996, Mar. 2021, doi: 10.1016/j.mtcomm.2020.101996.
- [27] N. Rauf *et al.*, "Effect of Fe₃O₄ in enhancement optical and gamma ray absorption properties of geopolymers apron cassava starch/black carbon/glycerin," *Opt Mater (Amst)*, vol. 113, p. 110887, Mar. 2021, doi: 10.1016/j.optmat.2021.110887.
- [28] A. Ardiansyah, R. Rahmat, M. Azlan, H. Heryanto, and D. Tahir, "Nanocrystal composites cement/BaCO₃/Fe₂O₃ for improved X-ray shielding characteristics: Stability structural properties," *J Mater Res*, vol. 37, no. 23, pp. 4114–4123, Dec. 2022, doi: 10.1557/s43578-022-00775-z.
- [29] P. Shunmuga Sundaram, T. Sangeetha, S. Rajakarthiha, R. Vijayalakshmi, A. Elangovan, and G. Arivazhagan, "XRD structural studies on cobalt doped zinc oxide nanoparticles synthesized by coprecipitation method: Williamson-Hall and size-strain plot approaches," *Physica B Condens Matter*, vol. 595, p. 412342, Oct. 2020, doi: 10.1016/j.physb.2020.412342.
- [30] N. Al-Haj Husain, J. Camilleri, and M. Özcan, "Effect of polishing instruments and polishing regimens on surface topography and phase transformation of monolithic zirconia: An evaluation with XPS and XRD analysis," *J Mech Behav Biomed Mater*, vol. 64, pp. 104–112, Dec. 2016, doi: 10.1016/j.jmbbm.2016.07.025.

- [31] M. R. Gehlot and S. Shrivastava, "Development of rendering mortar from granite cutting waste and impact of accelerated aging environment on its adhesive strength," *Constr Build Mater*, vol. 411, p. 134177, Jan. 2024, doi: 10.1016/j.conbuildmat.2023.134177.
- [32] C. G. Hernandez-Murillo, J. R. Molina Contreras, L. A. Escalera-Velasco, H. A. de Leon-Martínez, J. A. Rodriguez-Rodriguez, and H. R. Vega-Carrillo, "X-ray and gamma ray shielding behavior of concrete blocks," *Nuclear Engineering and Technology*, vol. 52, no. 8, pp. 1792–1797, Aug. 2020, doi: 10.1016/j.net.2020.01.007.

LAMPIRAN**Lampiran 1 Data XRD**