DAFTAR PUSTAKA

[1] H. Poole, D. Cao, R. Epstein, I. Golovkin, T. Walton, S.X. Hu, M. Kasim, S.M. Vinko, J.R. Rygg, V.N. Goncharov, G. Gregori, S.P. Regan, A case study of using x-ray Thomson scattering to diagnose the in-flight plasma conditions of DT cryogenic implosions, Phys Plasmas. 29 (2022) 072703.

[2] M.J. Nine, L. Yu, A.L.C. Pereira, M. Batmunkh, K. Hassana, A.M.C. Santos, T.T. Tung, D. Losica, Laminated antimonene as an alternative and efficient shielding strategy against X-ray radiation, Appl. Mater. Today. 29(2022) 101566.

[3] A.M. Abdelmonem, Gamma rays and thermal neutron attenuation studies of special composite mixes for using in different applications, Radiat. Phys. Chem. 186 (2021) 109541.

[4] M. Lu, Q. Sun, T. Lu Wu, B. Huang, High Energy X-ray Radiation Sensitive Scintillating Materials for Medical Imaging, Cancer Diagnosis and Therapy, Nano Energy. 79 (2020) 105437.

[5] P. Kaur, D. Singh, T. Singh, Heavy metal oxide glasses as gamma rays shielding material, Nucl. Eng. Des. 307 (2016) 364: 376.

[6] S. Suryani, Heryanto, Rusdaeni, A.N. Fahri, D. Tahir, Quantitative analysis of diffraction and infra-red spectra of composite cement/BaSO4/Fe3O4 for determining correlation between attenuation coefficient, structural and optical properties, Ceram. Int. 46 (2020) 18601-18607.

[7] C.D. Umeh, K.K. Agwu, C.M.I. Okoye, C.C. Ahia, G.O. Ikegbu, Characterization of the radiation shielding properties of fired lead sample for X-ray shielding applications, Prog. Nucl. Energy. 137 (2021) 103765.

[8] K. Singh, S. Singh, A.S. Dhaliwal, G. Singh, Gamma radiation shielding analysis of lead-flyash concretes, Appl. Radiat. Isot. 95 (2015) 174-179.

[9] M.S. Eid, I.I. Bondouk, H.M. Saleh, K.M. Omar, M.I. Sayyed, A.M. El-Khatib, M. Elsafi, Implementation of waste silicate glass into composition of ordinary cement for radiation shielding applications, J. nucl. eng. technol. 54(2022) 1456-1463.

[10] K.Z. Farhan, M.A.M. Johari, R. Demirboga, Impact of fiber reinforcements on properties of geopolymer composites: A review, J. Build. Eng. 44 (2020) 102628.

[11] M.A. Budiawan, S. Suryani, B. Abdullah, D Tahir, Analysis of Absorption Properties of a Composite FlyAsh and Fe2O3 for X-ray Radiation Shielding Applications, Mater. Sci. Eng. C. 593 (2019) 012014.

[12] B. Abdullah, S. Ilyas, D. Tahir, Nanocomposites Fe/aactivated carbon/PVA for microwave absorber: synthesis and characterization. J. Nanomater. 2018(2018) 9823263.

[13] B.M. Basavaraja Patel, M. Revanasiddappa, D.R. Rangaswamy, S. Manjunatha, Y.T. Ravikiran, Electrical conductivity and EMI shielding studies of iron-decorated polypyrrole-fly ash nanocomposites, Materialstoday: Proceedings, 49(2022) 2253-2259.

[14] M. Dong, X. Xue, S. Liu, H. Yang, Z. Li, M.I. Sayyed, O. Agar, Using iron concentrate in Liaoning Province, China, to prepare material for X-Ray shielding, J. Clean. Prod. 210 (2019) 653-659.

[15] N.J. AbuAlRoos, M.N. Azman, N.A.B. Amin, R. Zainon, Tungsten-based material as promising new lead-free gamma radiation shielding material in nuclear medicine, Phys. Med. 78(2020) 48-57.

[16] Nurhasmi, Heryanto, A.N. Fahri, S. Ilyas, A. Ansar, B. Abdullah, D. Tahir, Study on optical phonon vibration and gamma ray shielding properties of composite geopolymer fly ash-metal, *Radiation Physics and Chemistry*, 180 (2021) 109250.

[17] S. Verma, B. Sarma, K. Chaturvedi, D. Malvi, A. K. Srivastava, Emerging graphene and carbon nanotube-based carbon composites as radiations shielding materials for X-rays and gamma rays: a review, Compos. Interfaces (2022) 1–29.

[18] F. A. Stevie, and C. L. Donley, 2020. “Introduction to x-ray photoelectron spectroscopy”. Journal of Vacum Science & Technology A. 38 (2020) 063204.

[19] W. Xu, & R. A. Marshall, Characteristics of energetic electron precipitation estimated from simulated bremsstrahlung X-ray distributions. Journal of Geophysic al Research: Space Physics, 124 (2019), 2831 – 2843.

[20] H. Yu, X. Chen, Y. Zhou, D. Chen, L. Zhang, Impact of photoelectric effect on X-ray density logging and its correction, Applied Radiation and Isotopes 156 (2020) 108785.

[21] L. Turner, F. Collins, Carbon dioxide equivalent (CO2-e) emissions: a comparison between geopolymer and OPC cement concrete, Construct. Build. Mater. 43 (2013) 125–130.

[22] B.C. McLellan, R.P. Williams, J. Lay, A. van Riessen, G.D. Corder, Costs and carbon emissions for geopolymer pastes in comparison to ordinary Portland cement, J. Clean. Prod. 19 (2011) 1080–1090.

[23] Navid Ranjbar, Mingzhong Zhang, Fiber-reinforced geopolymer composites: a review, Cement Concr. Compos. 107 (2020), 103498.

[24] S. Aydın, B. Baradan, The effect of fiber properties on high performance alkali activated slag/silica fume mortars, Compos. B Eng. 45 (2) (2013) 63–69.

[25] Iftekhair Ibnul Bashar, U. Johnson Alengaram, Mohd Zamin Jumaat, Azizul Islam, Helen Santhi, Afia Sharmin, Engineering properties and fracture behaviour of high-volume palm oil fuel ash based fibre reinforced geopolymer concrete, Construct. Build. Mater. 111 (2016) 286–297.

[26] P.A.K. Nair, W.L. Vasconcelos, K. Paine. A review on applications of sol-gel science in cement. Construction and Building Materials. 291(2021) 123065.

[27] K. K. Kefeni, B. B. Mamba, Charcoal ash leachate and its sparingly soluble residue for acid mine drainage treatment: Waste for pollution remediation and dual resource recovery, J. Clean. Prod. 320 (2021) 128717.

[28] N. N. Mohd Azme, M. F. Murshed, Treatability of stabilize landfill leachate by using pressmud ash as an adsorbent, IOP Conf. Ser. Earth Environ. Sci. 140(1) (2018) 012041.

[29] Q. Liu, W. Liu, Z. Li, S. Guo, G. Sun, Ultra-lightweight cement composites with excellent flexural strength, thermal insulation and water resistance achieved by establishing interpenetrating network, Constr. Build. Mater. 250 (2020) 118923.

[30] M. Zerzouri, O. Bouchenafa, R. Hamzaoui, L. Ziyani, S. Alehyen, Physico-chemical and mechanical properties of fly ash based-geopolymer pastes produced from pre-geopolymer powders obtained by mechanosynthesis, Constr. Build. Mater, 288 (2021) 123135.

[31] J. Raza, A.H. Khoja, S. R. Naqvi, M.T. Mehran, S. Shakir, R. Liaquat, M. Tahir, G. Ali, Methane decomposition for hydrogen production over biomass fly ash-based CeO2 nanowires promoted cobalt catalyst, J. Environ. Chem. Eng. 9(5) (2021) 105816.

[32] M. Karanac, M. Đolic, Đ. Veljovic, V.R. Ognjanovic´, Z. Velicˇkovic´, V.P.´evic´, A. Marinkovic´, The removal of Zn2+, Pb2+, and As(V) ions by lime activated fly ash and valorization of the exhausted adsorbent, Waste Manag. 78 (2018) 366-378.

[33] V. K. Yadav, G. Gnanamoorthy, K.K. Yadav, I.H. Ali, A.A. Bagabas, N.Choudhary, S. Yadav, R. Suriyaprabha, S. Islam, S. Modi, M. Cabral-Pinto, Utilization of Incense Stick Ash in Hydrometallurgy Methods for Extracting Oxides of Fe, Al, Si, and Ca, Materials (Basel). 15(5) (2022) 1879.

[34] F. Demir, E. Moroydor Derun, Response surface methodology application to fly ash based geopolymer synthesized by alkali fusion method, J. Non. Cryst. Solids 524(127) (2019) 119649.

[35] J. Yang, H. Sun, T. Peng, L. Zeng, L. Chao, Study on the overall reaction pathways and structural transformations during decomposition of coal fly ash in the process of alkali-calcination, Materials (Basel). 14(5) (2021) 1–16.

[36] C. Lei, X. Zhu, B. Zhu, J. Yu, W. Ho, Hierarchical NiO-SiO2 composite hollow microspheres with enhanced adsorption affinity towards Congo red in water, J. of Colloid and Interface Science 466 (2016) 238-246.

[37] R. Anum, M. Zahid, S. Siddique, H. F. Shakir, Z. A. Rehan, PVC based flexible nanocomposites with the incorporation of Polyaniline and Barium Hexa-Ferrite nanoparticles for the shielding against EMI, NIR, and thermal imaging cameras, Synth. Met. 277 (2021) 116773.

[38] M. Liu, H. Xia, W. Yang, X. Liu, J. Xiang, X. Wang, L. Hu, F. Lu, Novel Cu-Fe bi-metal oxide quantum dots coupled g-C3N4 nanosheets with H2O2 adsorption-activation trade-off for efficient photo-Fenton catalysis, Appl. Catal. B Environ. 301 (2022) 120765.

[39] Y. Ren, J. Ma, W. Liu, C. Huang, C. Lai, Z. Ling, Q. Yong, Facile adjustment on cellulose nanocrystals composite films with glycerol and benzyl acrylate copolymer for enhanced UV shielding property, Int. J. Biol. Macromol. 204 (2022) 41–49.

[40] R. Kumar, S. Sahoo, E. Joanni, R. K. Singh, W. K. Tan, K. K. Kar, A. Matsuda, Recent progress on carbon-based composite materials for microwave electromagnetic interference shielding, Carbon 177 (2021) 304–331.

[41] D. Nath, F. Singh, R. Das, X-ray diffraction analysis by Williamson-Hall, Halder-Wagner and size-strain plot methods of CdSe nanoparticles- a comparative study, Mater. Chem. Phys. 239 (2020) 122021.

[42] B. Himabindu, N. S. M. P. Latha Devi, B. Rajini Kanth, Microstructural parameters from X-ray peak profile analysis by Williamson-Hall models; A review, Mater. Today Proc. 47 (2021) 4891–4896.

[43] J. Al Boukhari, A. Khalaf, R. Awad, Structural analysis and dielectric investigations of pure and rare earth elements (Y and Gd) doped NiO nanoparticles, J. Alloys Compd. 820 (2020) 153381.

[44] F. R. Kaschel, R. K. Vijayaraghavan, A. Shmeliov, E. K. McCarthy, M. Canavan, P. J. McNally, D. P. Dowling, V. Nicolosi, M. Celikin, Mechanism of stress relaxation and phase transformation in additively manufactured Ti-6Al-4V via in situ high temperature XRD and TEM analyses, Acta Mater. 188 (2020) 720–732.

[45] A. D. Prasetya, M. Rifai, Mujamilah, H. Miyamoto, X-ray diffraction (XRD) profile analysis of pure ECAP-annealing Nickel samples, J. Phys. Conf. Ser. 1436(1) (2020) 012113.

[46] M. Sirin, The effect of titanium (Ti) additive on radiation shielding efficiency of Al25Zn alloy, Prog. Nucl. Energy 128 (2020) 103470.

[47] M. I. Sayyed, F. Akman, A. Kumar, M. R. Kaçal, Evaluation of radioprotection properties of some selected ceramic samples, Results Phys. 11 (2018) 1100-1104.

[48] L. Brabants, B. Reniers, H. Cavus, J. Paepen, B. Vandoren, W. Schroeyers, Computed tomography to evaluate the influence of the internal concrete structure on attenuation coefficients, In Press (2022) 110433.

[49] K. M. Batoo, M. Hadi, R. Verma, A. Chauhan, R. Kumar, M. Singh, O. M. Aldossary, Improved microwave absorption and EMI shielding properties of Ba-doped Co–Zn ferrite, Ceram. Int. 48(3) (2022) 3328–3343.

[50] K. A. Mahmoud, O. L. Tashlykov, A. F. El Wakil, I. E. El Aassy, Aggregates grain size and press rate dependence of the shielding parameters for some concretes, Prog. Nucl. Energy 118 (2020) 103092.

LAMPIRAN 1. Alat, Bahan, dan Hasil

Multimeter X-Ray

FTIR

Magnetic Stirrer

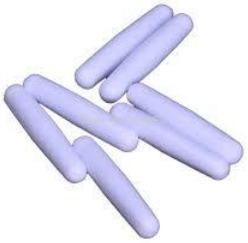
Gelas Ukur

Gelas kimia

X-Ray Mobile

Spatula

X-Ray Diffraction



Magnetic Bar

Gambar 1. Alat penelitian

Nikel (Ni)

Aquades

Carbon (C)

Fly Ash (FA)

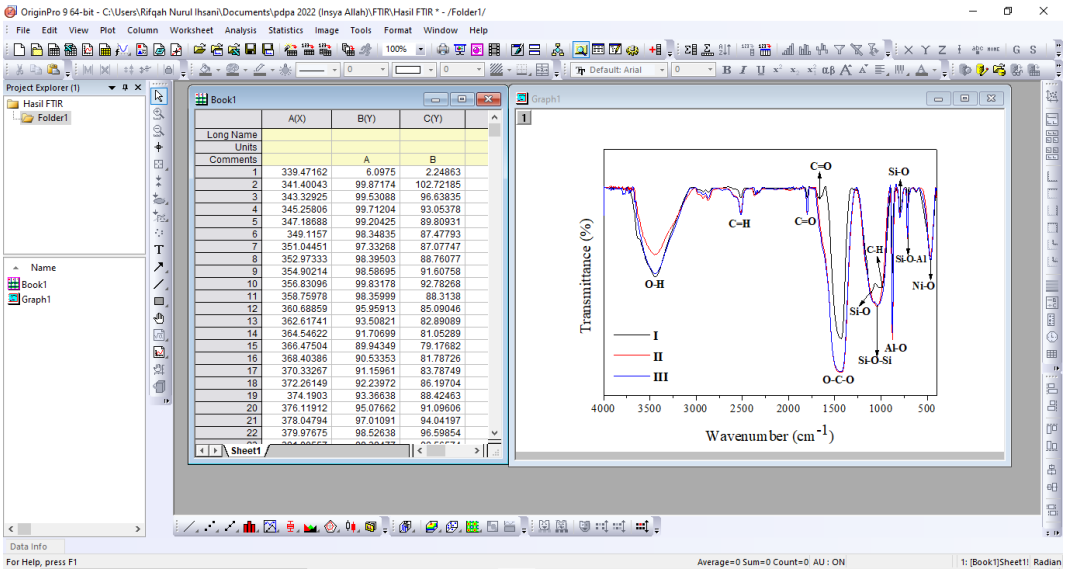
Besi (F)

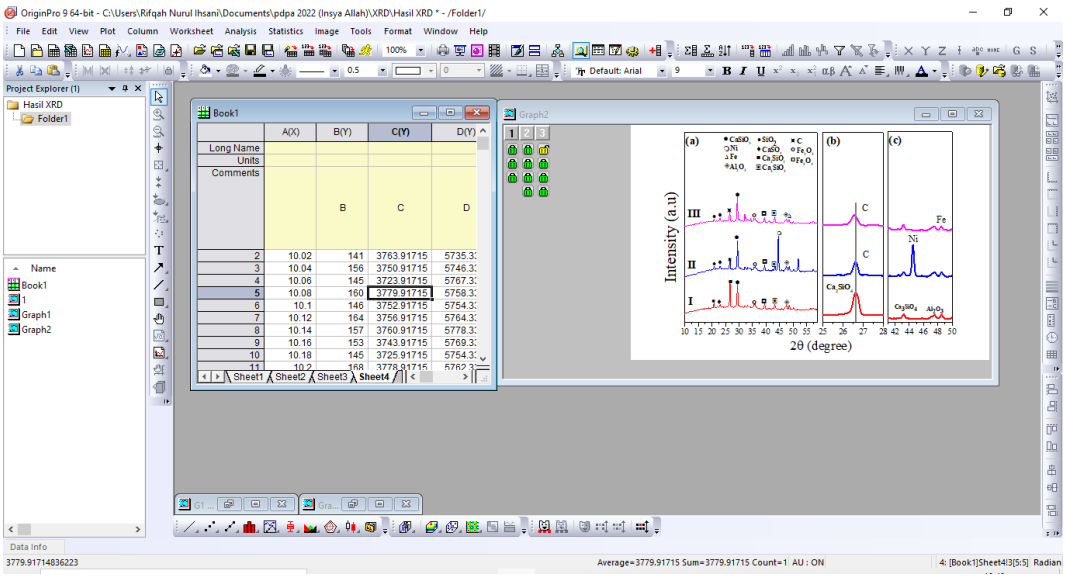
Ordinari Portland Cement (OPC)

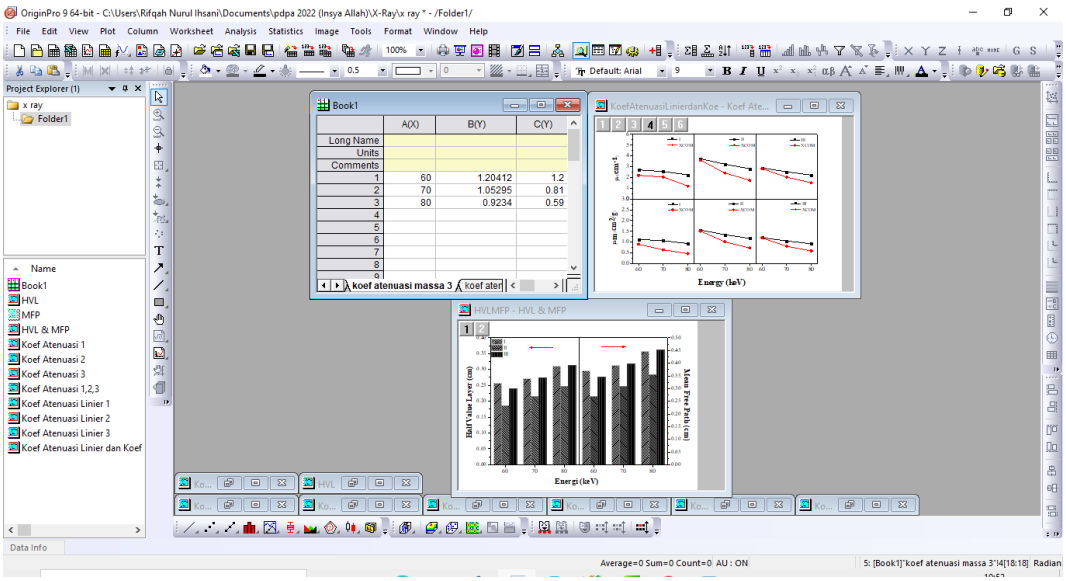
Gambar 2. Bahan Penelitian

Gambar 3. Hasil Penelitian

LAMPIRAN 2. Analisis Data



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