

DAFTAR PUSTAKA

- (1) Liu, M.; Gong, C.; Wei, R.; Hu, L.; Dai, J.; Zhu, X.; Sun, Y. Energy Storage in Epitaxial Multilayered BiFeO₃/Na_{0.5}Bi_{0.5}TiO₃/La_{0.7}Sr_{0.3}MnO₃ Thin Films. *J. Alloys Compd.* 2023, 967 (June), 171767.
- (2) Zeng, F.; Guo, H.; Song, X.; Sun, Q.; Fan, G.; Liu, Q. Enhanced Energy-Storage Performance in BNT-LST-Based Ceramics via Polarization Optimization and Breakdown Strength Regulation. *Sustain. Mater. Technol.* 2023, 38 (June), e00741.
- (3) Qiao, X.; Wu, D.; Zhang, F.; Niu, M.; Chen, B.; Zhao, X.; Liang, P.; Wei, L.; Chao, X.; Yang, Z. Enhanced Energy Density and Thermal Stability in Relaxor Ferroelectric Bi_{0.5}Na_{0.5}TiO₃-Sr_{0.7}Bi_{0.2}TiO₃ Ceramics. *J. Eur. Ceram. Soc.* 2019, 39 (15), 4778–4784.
- (4) Putra, T.; Rizki, A.; Eka, Y.; Labanni, A. Case Studies in Chemical and Environmental Engineering Structure , Ferroelectric , Magnetic , and Energy Storage Performances of Extracted from Padang Beach Sand. *Case Stud. Chem. Environ. Eng.* 2024, 9 (October 2023), 100679.
- (5) Kostopoulou, A.; Kymakis, E.; Stratakis, E. Perovskite Nanostructures for Photovoltaic and Energy Storage Devices. *J. Mater. Chem. A* 2018, 6 (21), 9765–9798.
- (6) Andrés, J.; Longo, V.; Cavalcante, L.; Moreira, M. L.; Varela, J.; Longo, E. A Fresh Look at the Structural, Ferroelectric and Photoluminescent Properties in Perovskites. *Photoluminescence Appl. Types Effic.* 2012, No. March 2016, 119–161.
- (7) Jain, A.; Wang, Y. G.; Wang, N.; Wang, F. L. Critical Role of CuO Doping on Energy Storage Performance and Electromechanical Properties of Ba_{0.8}Sr_{0.1}Ca_{0.1}Ti_{0.9}Zr_{0.1}O₃ Ceramics. *Ceram. Int.* 2020, 46 (11), 18800–18812.
- (8) Whatmore, R. Ferroelectric Materials. In *Springer Handbook of Electronic and Photonic Materials*; Springer, Cham, 2017; pp 589–614.
- (9) Wendari, T. P.; Zuhadjri; Emriadi. Observation of Relaxor Ferroelectric Behavior and Energy Storage Performances in Sr_{1.25}Bi_{2.75}Nb_{1.25}Ti_{1.75}O₁₂ Aurivillius Ceramic Synthesized by Molten Salt Method. *J. Solid State Chem.* 2023, 325 (May), 124150.
- (10) Li, X.; Dong, X.; Wang, F.; Tan, Z.; Zhang, Q.; Chen, H.; Xi, J.; Xing, J.; Zhou, H.; Zhu, J. Realizing Excellent Energy Storage Properties in Na_{0.5}Bi_{0.5}TiO₃-Based Lead-Free Relaxor Ferroelectrics. *J. Eur. Ceram. Soc.* 2022, 42 (5), 2221–2229.
- (11) Niu, Z.; Zheng, P.; Xiao, Y.; Luo, C.; Zhang, K.; Zhang, J.; Zheng, L.; Zhang, Y.; Bai, W. Bi_{0.5}K_{0.5}TiO₃-Based Lead-Free Relaxor Ferroelectric with High Energy Storage Performances via the Grain Size and Bandgap Engineering. *Mater. Today Chem.* 2022, 24, 100898.
- (12) Wang, J.; Li, T.; Jiang, X.; Zhou, C.; Xu, Y.; Shi, R.; Liu, L.; Chu, B.; Zhao, Z.; Zuo, R. An Alternative Way to Design Excellent Energy-Storage Properties in Na_{0.5}Bi_{0.5}TiO₃-Based Lead-Free System by Constructing Relaxor Dielectric Composites. *J. Eur. Ceram. Soc.* 2022.
- (13) Uddin, S.; Ahmad, A.; Nasir, M. F.; Zaman, A.; Algahtani, A.; Tirth, V.; Zheng, G. P. Effect of BiFeO₃ on the Ferroelectric and Energy Storage Properties of (Bi_{1/2}Na_{1/2})_{0.94}Ba_{0.06}TiO₃ Based Compositions. *Inorg. Chem. Commun.* 2024, 159 (November 2023), 111746.
- (14) Sameera Devi, C.; Buchi Suresh, M.; Kumar, G. S.; Prasad, G. Microstructural and High Temperature Dielectric, Ferroelectric and Complex Impedance Spectroscopic Properties of BiFeO₃ Modified NBT-BT Lead Free Ferroelectric

- Ceramics. *Mater. Sci. Eng. B* 2018, 228 (November 2017), 38–44.
- (15) Wang, B.; Wang, H.; Wang, J.; Li, C.; Wang, F.; Diao, C.; Zheng, H. Excellent Energy Storage Performance of Mn-Doped SrTiO₃-BiFeO₃ Thin Films by Microstructure Modulation. *J. Alloys Compd.* 2023, 968 (May), 171756.
 - (16) Jiao, Y.; Song, S.; Chen, F.; Zeng, X.; Wang, X.; Song, C.; Liu, G.; Yan, Y. Energy Storage Performance of 0.55Bi_{0.5}Na_{0.5}TiO_{3-0.45}SrTiO₃ Ceramics Doped with Lanthanide Elements (Ln = La, Nd, Dy, Sm) Using a Viscous Polymer Processing Route. *Ceram. Int.* 2022, 48 (8), 10885–10894.
 - (17) Zhou, X.; Yan, Z.; Qi, H.; Wang, L.; Wang, S.; Wang, Y.; Jiang, C.; Luo, H.; Zhang, D. Electrical Properties and Relaxor Phase Evolution of Nb-Modified Bi_{0.5}Na_{0.5}TiO₃-Bi_{0.5}K_{0.5}TiO₃ -SrTiO₃ Lead-Free Ceramics. *J. Eur. Ceram. Soc.* 2019, 39 (7), 2310–2317.
 - (18) Khesro, A.; Ahmad, F.; Muhammad, R.; Ali, A.; Khan, M.; Wang, D. Energy Storage Performance of Nd³⁺-Doped BiFeO₃-BaTiO₃ -Based Lead-Free Ceramics. *Ceram. Int.* 2022, No. June.
 - (19) Rong, S. S.; Faheem, M. B.; Li, Y. B. Perovskite Single Crystals: Synthesis, Properties, and Applications. *J. Electron. Sci. Technol.* 2021, 19 (2), 1–18.
 - (20) Assirey, E. A. R. Perovskite Synthesis, Properties and Their Related Biochemical and Industrial Application. *Saudi Pharm. J.* 2019, 27 (6), 817–829.
 - (21) Zhou, Q.; Kennedy, B. J.; Elcombe, M. M. Synthesis and Structural Studies of Cation-Substituted Aurivillius Phases ASrBi₂Nb₂TiO₁₂. *J. Solid State Chem.* 2006, 179 (12), 3744–3750.
 - (22) Suárez, D. Y.; Reaney, I. M.; Lee, W. E. Relation between Tolerance Factor and T_c in Aurivillius Compounds. *J. Mater. Res.* 2001, 16 (11), 3139–3149.
 - (23) Wu, J.; Zhang, H.; Meng, N.; Koval, V.; Mahajan, A.; Gao, Z.; Zhang, D.; Yan, H. Perovskite Bi_{0.5}Na_{0.5}TiO₃-Based Materials for Dielectric Capacitors with Ultrahigh Thermal Stability. *Mater. Des.* 2021, 198, 109344.
 - (24) Nie, H.; Ruan, L.; Hu, L.; Wang, X.; Chen, F.; Zhou, S.; Wang, Y.; Ai, T.; Yan, Y.; Liu, G. Enhanced Dielectric Energy Storage Performance of A-Site Ca²⁺-Doped Na_{0.5}Bi_{0.5}TiO₃-BaTiO₃-BiFeO₃ Pb-Free Ceramics. *Ceram. Int.* 2022, 48 (15), 21061–21070.
 - (25) Yan, J.; Wang, Y.; Wang, C. M.; Ouyang, J. Boosting Energy Storage Performance of Low-Temperature Sputtered CaBi₂Nb₂O₉ Thin Film Capacitors via Rapid Thermal Annealing. *J. Adv. Ceram.* 2021, 10 (2).
 - (26) Wendari, T. P.; Zulhadjri; Ikhrum, M.; Emriadi. Compositional-Induced Structural Transformation and Relaxor Ferroelectric Behavior in Sr/Nb-Modified Bi₄Ti₃O₁₂ Aurivillius Ceramics. *Ceram. Int.* 2022, 48 (20), 30598–30605.
 - (27) Wallace, R. M. Dielectric Materials for Microelectronics. 2017, 615–644.
 - (28) Wendari, T. P.; Zulhadjri; Rizki, A.; Insani, A.; Emriadi; Arief, S. Coexistence of Relaxor Ferroelectricity and Magnetism in Multi-Element Substituted Aurivillius Phases Pb_{1-2x}Bi_{1.5+2x}Nd_{0.5}Nb₂-XMnxO₉. *J. Solid State Chem.* 2023, 324 (May), 124083.
 - (29) Bokov, A. A.; Ye, Z. G. Recent Progress in Relaxor Ferroelectrics with Perovskite Structure. *J. Mater. Sci.* 2006, 41 (1), 31–52.
 - (30) Samara, G. A. The Relaxational Properties of Compositionally Disordered ABO₃ Perovskites. *J. Phys. Condens. Matter* 2003, 15, 367–411.
 - (31) Khokhar, A.; Goyal, P. K.; Thakur, O. P.; Shukla, A. K.; Sreenivas, K. In Fluence of Lanthanum Distribution on Dielectric and Ferroelectric Properties of BaBi_{4-x}LaxTi₄O₁₅ Ceramics. 2014, 15, 1–13.
 - (32) Zhang, A.; Wang, T.; Liu, J.; Liu, J.; Chen, G.; Yang, H.; Kong, L.; Cheng, Y.; Tian, Y.; Li, C.; Jin, L. Significant Improvement in Energy Storage for BT Ceramics via NBT Composition Regulation. *J. Alloys Compd.* 2023, 968

- (September), 172255.
- (33) Tang, M.; Yu, L.; Wang, Y.; Lv, J.; Dong, J.; Guo, B.; Chen, F.; Ai, Q.; Luo, Y.; Li, Q.; Yu, K.; Wu, F.; Liu, G. Dielectric, Ferroelectric, and Energy Storage Properties of Ba(Zn_{1/3}Nb_{2/3})O₃-Modified BiFeO₃-BaTiO₃ Pb-Free Relaxor Ferroelectric Ceramics. *Ceram. Int.* 2021, 47 (3), 3780–3788.
 - (34) Gupta, S. K.; Mao, Y. A Review on Molten Salt Synthesis of Metal Oxide Nanomaterials: Status, Opportunity, and Challenge. *Prog. Mater. Sci.* 2021, 117 (August), 100734.
 - (35) Díez, N.; Fuertes, A. B.; Sevilla, M. Molten Salt Strategies towards Carbon Materials for Energy Storage and Conversion. *Energy Storage Mater.* 2021, 38 (March), 50–69.
 - (36) Praharaj, S.; Singha, A.; Rout, D. Dielectric and Piezoelectric Properties of Lead-Free Na_{0.5}Bi_{0.5}TiO₃-SrTiO₃-BiFeO₃ Ternary System. *J. Alloys Compd.* 2021, 867, 3–9.
 - (37) Epp, J. *X-Ray Diffraction (XRD) Techniques for Materials Characterization*; Elsevier Ltd, 2016.
 - (38) Raval, N.; Maheshwari, R.; Kalyane, D.; Youngren-Ortiz, S. R.; Chougule, M. B.; Tekade, R. K. *Importance of Physicochemical Characterization of Nanoparticles in Pharmaceutical Product Development*; Elsevier Inc., 2018.
 - (39) Abd Mutalib, M.; Rahman, M. A.; Othman, M. H. D.; Ismail, A. F.; Jaafar, J. *Scanning Electron Microscopy (SEM) and Energy-Dispersive X-Ray (EDX) Spectroscopy*; Elsevier B.V., 2017.
 - (40) Mohamed, M. A.; Jaafar, J.; Ismail, A. F.; Othman, M. H. D.; Rahman, M. A. *Fourier Transform Infrared (FTIR) Spectroscopy*; Elsevier B.V., 2017.
 - (41) Hummel, R. E. Differential Reflectance Spectroscopy in Analysis of Surfaces. *Encycl. Anal. Chem.* 2000, 1–24.
 - (42) Zhou, W.; Deng, H.; Yu, L.; Yang, P.; Chu, J. Optical Band-Gap Narrowing in Perovskite Ferroelectric ABO₃ Ceramics (A=Pb, Ba; B=Ti) by Ion Substitution Technique. *Ceram. Int.* 2015, 41 (10), 13389–13392.
 - (43) Wendari, T. P.; Arief, S.; Mufti, N.; Suendo, V.; Prasetyo, A.; Ismunandar; Baas, J.; Blake, G. R.; Zulhadjri. Synthesis, Structural Analysis and Dielectric Properties of the Double-Layer Aurivillius Compound Pb_{1-2x}Bi_{1.5+2x}La_{0.5}Nb_{2-x}MnxO₉. *Ceram. Int.* 2019, 45 (14), 17276–17282.
 - (44) Xiao, J.; Zhang, H.; Xue, Y.; Lu, Z.; Chen, X.; Su, P.; Yang, F.; Zeng, X. The Influence of Ni-Doping Concentration on Multiferroic Behaviors in Bi₄NdTi₃FeO₁₅ Ceramics. *Ceram. Int.* 2015, 41 (1), 1087–1092..
 - (45) Venkata Ramana, E.; Suryanarayana, S. V.; Bhima Sankaram, T. Synthesis and Magnetoelectric Studies on Na_{0.5}Bi_{0.5}TiO₃-BiFeO₃ Solid Solution Ceramics. *Solid State Sci.* 2010, 12 (5), 956–962.
 - (46) Putri, Y. E.; Wendari, T. P.; Dinda, D.; Arnel, M.; Faradilla, H.; Refinel, R.; Efdi, M. Case Studies in Chemical and Environmental Engineering The Hydrothermal Synthesis of SrTiO₃ Nanopolyhedral with the Assistance of Surfactants and Their Optical Characteristics. *Case Stud. Chem. Environ. Eng.* 2024, 9 (December 2023), 100601.
 - (47) Zulhadjri; Wendari, T. P.; Septiani, U.; Arief, S. Investigation on Structure, Dielectric and Magnetic Properties of the Four-Layer Aurivillius Phase Pb_{1-x}Bi_{3.5+x}Nd_{0.5}Ti₄-XMnxO₁₅ Prepared via Molten Salt Method. *J. Solid State Chem.* 2020, 292 (June), 121723.
 - (48) Wendari, T. P.; Akbar, M. A.; Izzati, A. F.; Haidar, H.; Rizki, A.; Zulhadjri; Arief, S.; Mufti, N.; Blake, G. R. Structure, Dielectric, and Energy Storage Properties of Perovskite CaTiO₃ Ceramic Synthesized Using the Natural Calcium from Pensi Shell (*Corbicula Moltkiana*) Waste. *J. Mol. Struct.* 2024, 1307 (October

- 2023), 137949.
- (49) Guo, Q.; Li, X.; Wei, H.; Liu, Y.; Li, L.; Yang, X.; Zhang, X.; Liu, H.; Lu, Z. Sr, Fe Co-Doped Perovskite Oxides with High Performance for Oxygen Evolution Reaction. *Front. Chem.* 2019, 7 (APR), 1–8.
- (50) Lin, Y.; Zhang, M.; Zhan, S.; Yang, Y.; Yang, H.; Yuan, Q. Excellent Energy-Storage Properties Achieved in BaTiO₃ - Based Lead-Free Relaxor Ferroelectric Ceramics via Domain Engineering on the Nanoscale. 2019.
- (51) Du, H.; Jin, L.; Poelman, D. High-Performance Lead-Free Bulk Ceramics for Electrical Energy Storage Applications: Design Strategies and Challenges. 2021, 9 (34).
- (52) Andrade, P. H. M.; Volkringer, C.; Loiseau, T.; Tejada, A.; Hureau, M.; Moissette, A. Band Gap Analysis in MOF Materials: Distinguishing Direct and Indirect Transitions Using UV–Vis Spectroscopy. *Appl. Mater. Today* 2024, 37 (January), 102094.
- (53) Ghorbani, M.; Sheibani, S.; Abdizadeh, H.; Golobostanfard, M. R. Efficient Synthesis of Recyclable Porous BiFeO₃/RGO Thin Film via Sol-Gel Method as an Enhanced Photocatalyst. *Colloids Surfaces A Physicochem. Eng. Asp.* 2024, 686 (December 2023), 133429.
- (54) Jayakrishnan, A. R.; Anina Anju, B.; P Nair, S. K.; Dutta, S.; Silva, J. P. B. Recent Development of Lead-Free Relaxor Ferroelectric and Antiferroelectric Thin Films as Energy Storage Dielectric Capacitors. *J. Eur. Ceram. Soc.* 2024, 44 (7), 4332–4349.

