References:

(1) Behera, R.; Elanseralathan, K. A Review on Polyvinylidene Fluoride Polymer Based Nanocomposites for Energy Storage Applications. *J. Energy Storage* **2022**, *48* (August 2021). https://doi.org/10.1016/j.est.2021.103788.

(2) Prateek; Thakur, V. K.; Gupta, R. K. Recent Progress on Ferroelectric Polymer-Based Nanocomposites for High Energy Density Capacitors: Synthesis, Dielectric Properties, and Future Aspects. *Chem. Rev.* **2016**, *116* (7), 4260–4317. https://doi.org/10.1021/acs.chemrev.5b00495.

(3) Barick, A. K.; Tripathy, D. K. Preparation and Characterization of Carbon Nanofiber Reinforced Thermoplastic Polyurethane Nanocomposites. **2011**. https://doi.org/10.1002/app.

(4) Chang, J.; Liang, G.; Gu, A.; Cai, S.; Yuan, L. The Production of Carbon Nanotube / Epoxy Composites with a Very High Dielectric Constant and Low Dielectric Loss by Microwave Curing. **2011**, *0*, 0–9. https://doi.org/10.1016/j.carbon.2011.09.029.

(5) He, B. F.; Lau, S.; Chan, H. L.; Fan, J. High Dielectric Permittivity and Low Percolation Threshold in Nanocomposites Based on Poly (Vinylidene Fluoride) and Exfoliated Graphite Nanoplates. **2009**, 710–715. https://doi.org/10.1002/adma.200801758.

(6) Wang, G.; Deng, Y.; Guo, L. Single-Crystalline ZnO Nanowire Bundles : Synthesis , Mechanism and Their Application in Dielectric Composites. **2010**, 10220–10225. https://doi.org/10.1002/chem.200902973.

(7) Stoyanov, H.; Carthy, D. M.; Kollosche, M.; Kofod, G.; Stoyanov, H.; Carthy, M.; Kollosche, M.; Kofod, G. Dielectric Properties and Electric Breakdown Strength of a Subpercolative Composite of Carbon Black in Thermoplastic Copolymer Dielectric Properties and Electric Breakdown Strength of a Subpercolative Composite of Carbon Black in Thermoplastic Copolymer. **2009**, *232905*, 1–4. https://doi.org/10.1063/1.3154553.

(8) Huang, B. C.; Zhang, Q. Enhanced Dielectric and Electromechanical Responses in High Dielectric Constant All-Polymer Percolative Composites **. **2004**, No. 5, 501–506. https://doi.org/10.1002/adfm.200305021.

(9) Liu, S.; Xue, S.; Xiu, S.; Shen, B.; Zhai, J. Surface-Modified Ba(Zr0.3Ti0.7)O3 Nanofibers by Polyvinylpyrrolidone Filler for Poly(Vinylidene Fluoride) Composites with Enhanced Dielectric Constant and Energy Storage Density. *Sci. Rep.* **2016**, *6* (April), 1–11. https://doi.org/10.1038/srep26198.

(10) Gebrekrstos, A.; Muzata, T. S.; Ray, S. S. Nanoparticle-Enhanced β-Phase Formation in Electroactive PVDF Composites: A Review of Systems for Applications in Energy Harvesting, EMI Shielding, and Membrane Technology. *ACS Appl. Nano Mater.* **2022**, *5* (6), 7632–7651.

https://doi.org/10.1021/acsanm.2c02183.

(11) Landi, B. J.; Ganter, M. J.; Cress, C. D.; DiLeo, R. A.; Raffaelle, R. P. Carbon Nanotubes for Lithium Ion Batteries. *Energy Environ. Sci.* **2009**, *2* (6), 638–654. https://doi.org/10.1039/b904116h.

(12) Bashir, S.; Hanumandla, P.; Huang, H. Y.; Liu, J. L. Nanostructured Materials for Advanced Energy Conversion and Storage Devices: Safety Implications at End-of-Life Disposal. *Nanostructured Mater. Next-Generation Energy Storage Convers. Fuel Cells* **2018**, *4* (May), 517–542. https://doi.org/10.1007/978-3-662-56364-9_18.

(13) Simon, P.; Gogotsi, Y. Materials for Electrochemical Capacitors. *Mater. Sustain. Energy A Collect. Peer-Reviewed Res. Rev. Artic. from Nat. Publ. Gr.* **2010**, 138–147. https://doi.org/10.1142/9789814317665_0021.

(14) Dang, Z. M.; Yuan, J. K.; Zha, J. W.; Zhou, T.; Li, S. T.; Hu, G. H. Fundamentals, Processes and Applications of High-Permittivity Polymer-Matrix Composites. *Prog. Mater. Sci.* **2012**, *57* (4), 660–723. https://doi.org/10.1016/j.pmatsci.2011.08.001.

(15) Whittingham, M. S. Materials Challenges Facing Electrical Energy Storage. *MRS Bull.* **2008**, *33* (4), 411–419. https://doi.org/10.1557/mrs2008.82.

(16) Sarjeant, W. J.; Zimheld, J.; Macdougall, F. W.; Products, M. E.; Diego, S.; Bowers, J. S.; Clark, N.; Hudis, M.; Kohlberg, I.; Mcduff, G.; Mcnab, I. *Chapter 9 CAPACITORS — PAST , PRESENT , AND FUTURE*; Vol. 2.

(17) Barber, P.; Balasubramanian, S.; Anguchamy, Y.; Gong, S.; Wibowo, A.; Gao, H.; Ploehn, H. J.; Loye, H. C. Zur. *Polymer Composite and Nanocomposite Dielectric Materials for Pulse Power Energy Storage*; 2009; Vol. 2. https://doi.org/10.3390/ma2041697.

(18) Wang, Q.; Zhu, L. Polymer Nanocomposites for Electrical Energy Storage. *J. Polym. Sci. Part B Polym. Phys.* **2011**, *49* (20), 1421–1429. https://doi.org/10.1002/polb.22337.

(19) Karanja, P.; Nath, R. Study of Charge Storage Properties in Biaxially Oriented Polypropylene. *IEEE Trans. Electr. Insul.* **1993**, *28* (2), 294–298. https://doi.org/10.1109/14.212254.

(20) Picci, G.; Rabuffi, M. Status Quo and Future Prospects for Metallized Polypropylene Energy Storage Capacitors. *PPPS 2001 - Pulsed Power Plasma Sci. 2001* **2015**, *1* (5), 417–420. https://doi.org/10.1109/PPPS.2001.01002122.

(21) Nash, J. L. Biaxially Oriented Polypropylene Film in Power Capacitors. *Polym. Eng. Sci.* **1988**, *28* (13), 862–870. https://doi.org/10.1002/pen.760281307.

(22) Zebouchi, N.; Malec, D. Combination of Thermal and Electromechanical Breakdown Mechanisms to Analyze the Dielectric Breakdown in Polyethylene Terephthalate. *J. Appl. Phys.* **1998**, *83* (11), 6190–6192. https://doi.org/10.1063/1.367495.

(23) Wang, Y.; Zhou, X.; Chen, Q.; Chu, B.; Zhang, Q. Recent Development of High Energy Density Polymers for Dielectric Capacitors. *IEEE Trans. Dielectr. Electr. Insul.* **2010**, *17* (4), 1036–1042. https://doi.org/10.1109/TDEI.2010.5539672.

(24) Ihlefeld, J.; Laughlin, B.; Hunt-Lowery, A.; Borland, W.; Kingon, A.; Maria, J. P. Copper Compatible Barium Titanate Thin Films for Embedded Passives. *J. Electroceramics* **2005**, *14* (2), 95–102. https://doi.org/10.1007/s10832-005-0866-6.

(25) Yao, S. H.; Yuan, J. K.; Gonon, P.; Bai, J.; Pairis, S.; Sylvestre, A. Effect of Oxygen Vacancy on the Dielectric Relaxation of BaTiO 3 Thin Films in a Quenched State. *J. Appl. Phys.* **2012**, *111* (10), 0–5. https://doi.org/10.1063/1.4717758.

(26) Wu, J.; Nan, C. W.; Lin, Y.; Deng, Y. Giant Dielectric Permittivity Observed in Li and Ti Doped NiO. *Phys. Rev. Lett.* **2002**, *89* (21), 1–4. https://doi.org/10.1103/PhysRevLett.89.217601.

(27) Li, J. Y.; Zhang, L.; Ducharme, S. Electric Energy Density of Dielectric Nanocomposites. *Appl. Phys. Lett.* **2007**, *90* (13), 1–4. https://doi.org/10.1063/1.2716847.

(28) Al., B. J. C. et. A Dielectric Polymer With. *Synthesis (Stuttg).* **2006**, *313* (September), 334–336.

(29) Job, A. E.; Alves, N.; Zanin, M.; Ueki, M. M.; Mattoso, L. H. C.; Teruya, M. Y.; Giacometti, J. A. Increasing the Dielectric Breakdown Strength of Poly(Ethylene Terephthalate) Films Using a Coated Polyaniline Layer. *J. Phys. D. Appl. Phys.* **2003**, *36* (12), 1414–1417. https://doi.org/10.1088/0022-3727/36/12/309.

(30) Tuncer, E.; Sauers, I.; James, D. R.; Ellis, A. R.; Paranthaman, M. P.; Goyal, A.; More, K. L. Enhancement of Dielectric Strength in Nanocomposites. *Nanotechnology* **2007**, *18* (32), 1–5. https://doi.org/10.1088/0957-4484/18/32/325704.

(31) Rahimabady, M.; Chen, S.; Yao, K.; Eng Hock Tay, F.; Lu, L. High Electric Breakdown Strength and Energy Density in Vinylidene Fluoride Oligomer/Poly(Vinylidene Fluoride) Blend Thin Films. *Appl. Phys. Lett.* **2011**, *99* (14), 3–5. https://doi.org/10.1063/1.3645619.

(32) Yuan, J. K.; Dang, Z. M.; Yao, S. H.; Zha, J. W.; Zhou, T.; Li, S. T.; Bai, J. Fabrication and Dielectric Properties of Advanced High Permittivity Polyaniline/Poly(Vinylidene Fluoride) Nanohybrid Films with High Energy Storage Density. *J. Mater. Chem.* **2010**, *20* (12), 2441–2447. https://doi.org/10.1039/b923590f.

(33) Peddigari, M.; Palneedi, H.; Hwang, G. T.; Ryu, J. Linear and Nonlinear Dielectric Ceramics for High-Power Energy Storage Capacitor Applications. *J. Korean Ceram. Soc.* **2019**, *56* (1), 1–23. https://doi.org/10.4191/kcers.2019.56.1.02.

(34) Bokov, A. A.; Ye, Z. Recent Progress in Relaxor Ferroelectrics with Perovskite

Structure. **2006**, *1*, 31–52. https://doi.org/10.1007/s10853-005-5915-7.

(35) Galloway, K. V; Sammes, N. M. KV Galloway and NM Sammes, Colorado School of Mines, Golden, CO, USA & 2009. *Solid State Ionics* **2009**, 17–24.

(36) Goldschmidt, V. M. Die Gesetze Der Krystallochemie. *Naturwissenschaften* **1926**, *14* (21), 477–485. https://doi.org/10.1007/BF01507527.

(37) Yashima, M.; Ali, R. Structural Phase Transition and Octahedral Tilting in the Calcium Titanate Perovskite CaTiO3. *Solid State Ionics* **2009**, *180* (2–3), 120–126. https://doi.org/10.1016/j.ssi.2008.11.019.

(38) Behera, R.; Elanseralathan, K. *A Review on Polyvinylidene Fluoride Polymer Based Nanocomposites for Energy Storage Applications*; 2022; Vol. 48. https://doi.org/10.1016/j.est.2021.103788.

(39) Hao, X. A Review on the Dielectric Materials for High Energy-Storage Application. *J. Adv. Dielectr.* **2013**, *03* (01), 1330001. https://doi.org/10.1142/s2010135x13300016.

(40) Psarras, G. C. *Fundamentals of Dielectric Theories*; Elsevier Inc., 2018. https://doi.org/10.1016/B978-0-12-813215-9.00002-6.

(41) Park, Y.; Shin, Y. E.; Park, J.; Lee, Y.; Kim, M. P.; Kim, Y. R.; Na, S.; Ghosh, S. K.; Ko, H. Ferroelectric Multilayer Nanocomposites with Polarization and Stress Concentration Structures for Enhanced Triboelectric Performances. *ACS Nano* **2020**, *14* (6), 7101–7110. https://doi.org/10.1021/acsnano.0c01865.

(42) Ahluwalia, R.; Sullivan, M. B.; Srolovitz, D. J.; Zheng, J. W.; Huan, A. C. H. Multiscale Kinetic Model for Polarization Switching in Ferroelectric Polymer Thin Films. *Phys. Rev. B - Condens. Matter Mater. Phys.* **2008**, *78* (5), 1–9. https://doi.org/10.1103/PhysRevB.78.054110.

(43) Sharma, P.; Reece, T. J.; Ducharme, S.; Gruverman, A. High-Resolution Studies of Domain Switching Behavior in Nanostructured Ferroelectric Polymers. *Nano Lett.* **2011**, *11* (5), 1970–1975. https://doi.org/10.1021/nl200221z.

(44) BOKOV, A. A.; YE, Z.-G. Dielectric Relaxation in Relaxor Ferroelectrics. *J. Adv. Dielectr.* **2012**, *02* (02), 1241010. https://doi.org/10.1142/s2010135x1241010x.

(45) G. C. Psarras, Fundamentals of Dielectric Theories, Elsevier BV, **2018**, 1–23.

(46) Ibrahim, J. F. M. IN PURE AND APPLIED SCIENCES ENHANCEMENT OF STRUCTURAL AND MAGNETIC PROPERTIES OF Eu AND Fe Department of Metallurgical and Materials Thesis Supervisor. **2019**, No. August 2015. https://doi.org/10.13140/RG.2.2.32693.32486.

(47) Powers, J. M. Lecture Notes on Engineering Computing. **2013**, No. November.

(48) Fabian, J.; Jocham, B.; Nader, B.; Woschitz, R.; Muhr, M. Current Challenges and Issues of Designing HVDC Converter Transformers. *Annu. Rep. - Conf. Electr.*

Insul. Dielectr. Phenomena, CEIDP **2011**, No. 2, 432–435. https://doi.org/10.1109/CEIDP.2011.6232687.

(49) Abbas, K. Structural Optimization of SrMnO 3 to Study Electro-Magnetic Characteristics. **2017**, No. September. https://doi.org/10.13140/RG.2.2.33806.87362.

(50) Ejaz, T. Optimization of Split-Ring and Split-Ball Resonators for Effective Permittivity And. **2019**, No. March. https://doi.org/10.13140/RG.2.2.14054.47687.

(51) Chem, J. M.; Zhu, J.; Wei, S.; Zhang, L.; Mao, Y.; Ryu, J.; Haldolaarachchige, N. Electrical and Dielectric Properties of Polyaniline – Al 2 O 3 Nanocomposites. **2011**, No. July, 3952–3959.

(52) Search, H.; Journals, C.; Contact, A.; Iopscience, M.; Address, I. P. Contact Us My IOPscience Dielectric Spectra and Vogel-Fulcher Scaling in Pb (In0 . 5Nb0 . 5) O3 Relaxor Ferroelectric Dielectric Spectra and Vogel – Fulcher Scaling In. *J. Phy* **1999**, *11*, 4899–4911.

(53) Waser, R.; Tiedke, S. *Polar Oxides*; 2004. https://doi.org/10.1002/3527604650.

(54) Volum, E. W.; Knrzr, C. 0. 9Xi0 ’. **1950**, *4*, 78–81.

(55) Chen, X.; Han, X.; Shen, Q. D. PVDF-Based Ferroelectric Polymers in Modern Flexible Electronics. *Adv. Electron. Mater.* **2017**, *3* (5). https://doi.org/10.1002/aelm.201600460.

(56) Li, W.; Meng, Q.; Zheng, Y.; Zhang, Z.; Xia, W.; Xu, Z. Electric Energy Storage Properties of Poly(Vinylidene Fluoride). *Appl. Phys. Lett.* **2010**, *96* (19), 10–13. https://doi.org/10.1063/1.3428656.

(57) Kochervinskiĭ, V. V. Piezoelectricity in Crystallizing Ferroelectric Polymers: Poly(Vinylidene Fluoride) and Its Copolymers (a Review). *Crystallogr. Reports* **2003**, *48* (4), 649–675. https://doi.org/10.1134/1.1595194.

(58) Pramanick, A.; Misture, S.; Osti, N. C.; Jalarvo, N.; Diallo, S. O.; Mamontov, E. Ferroelectric to Paraelectric Phase Transition Mechanism in Poled PVDF-TrFE Copolymer Films. *Phys. Rev. B* **2017**, *96* (17), 1–7. https://doi.org/10.1103/PhysRevB.96.174103.

(59) Shepelin, N. A.; Glushenkov, A. M.; Lussini, V. C.; Fox, P. J.; Dicinoski, G. W.; Shapter, J. G.; Ellis, A. V. New Developments in Composites, Copolymer Technologies and Processing Techniques for Flexible Fluoropolymer Piezoelectric Generators for Efficient Energy Harvesting. *Energy Environ. Sci.* **2019**, *12* (4), 1143–1176. https://doi.org/10.1039/c8ee03006e.

(60) Cai, N.; Zhai, J.; Nan, C. W.; Lin, Y.; Shi, Z. Dielectric, Ferroelectric, Magnetic, and Magnetoelectric Properties of Multiferroic Laminated Composites. *Phys. Rev. B - Condens. Matter Mater. Phys.* **2003**, *68* (22), 1–7. https://doi.org/10.1103/PhysRevB.68.224103.

(61) Kishimoto, A.; Koumoto, K.; Yanagida, H. Mechanical and Dielectric Failure of BaTiO3 Ceramics. *J. Mater. Sci.* **1989**, *24* (2), 698–702. https://doi.org/10.1007/BF01107462.

(62) Chen, X.; Zhang, H.; Cao, F.; Wang, G.; Dong, X.; Gu, Y.; He, H.; Liu, Y. Charge-Discharge Properties of Lead Zirconate Stannate Titanate Ceramics. *J. Appl. Phys.* **2009**, *106* (3). https://doi.org/10.1063/1.3187778.

(63) Love, G. R. Energy Storage in Ceramic Dielectrics. *J. Am. Ceram. Soc.* **1990**, *73* (2), 323–328. https://doi.org/10.1111/j.1151-2916.1990.tb06513.x.

(64) Li, Y.; Krentz, T. M.; Wang, L.; Benicewicz, B. C.; Schadler, L. S. The Complex. **2014**.

(65) Tanaka, T. Polymer Nanocomposites as Dielectrics and Electrical Insulation-Perspectives for Processing Technologies , Material Characterization and Future Applications. **2004**, *11* (5), 763–784.

(66) Pitsa, D.; Danikas, M. G. INTERFACES FEATURES IN POLYMER NANOCOMPOSITES : A REVIEW OF PROPOSED MODELS. **2011**, *6* (6), 497–508. https://doi.org/10.1142/S1793292011002949.

(67) Tanaka, T. Dielectric Nanocomposites with Insulating Properties. **2005**, 914–928.

(68) Lewis, T. J. Interfaces: Nanometric Dielectrics. *J. Phys. D. Appl. Phys.* **2005**, *38* (2), 202–212. https://doi.org/10.1088/0022-3727/38/2/004.

(69) Tanaka, T.; Kozako, M. Proposal of a Multi-Core Model for Polymer Nanocomposite Dielectrics. **2005**, *12* (4).

(70) Lewis, T. J. Interfaces Are the Dominant Feature of Dielectrics at the Nanometric Level. **2004**, *11* (5), 739–753.

(71) Ramani, R.; Das, V.; Singh, A.; Ramachandran, R.; Amarendra, G.; Alam, S. Free Volume Study on the Origin of Dielectric Constant in a Fluorine- Containing Polyimide Blend : Poly (Vinylidene Fl Uoride- Co -Hexa Fl Uoro Propylene)/ Poly (Ether Imide). **2014**.

(72) Kepler, R. G.; Anderson, R. A.; Kepler, R. G.; Anderson, R. A. Ferroelectricity in Polyvinylidene Fluoride. **2012**, *1232* (1978). https://doi.org/10.1063/1.325011.

(73) Ramadass, N.; Science, M. ABOa-Type Oxides -- Their Structure and Properties -- A Bird's Eye View. **1978**, *36*, 231–239.

(74) Milne, A. Z. S. J. High Temperature Dielectric Ceramics : A Review of Temperature-Stable High-Permittivity Perovskites. *J. Mater. Sci. Mater. Electron.* **2015**, *26* (12), 9243–9255. https://doi.org/10.1007/s10854-015-3707-7.

(75) Li, Z.; Arbatti, M. D.; Cheng, Z. Novel Electroactive Polymer System - PVDF Based Polymer Blends. **2004**, *5385*, 99–107. https://doi.org/10.1117/12.539146.

(76) Chu, B.; Neese, B.; Lin, M.; Lu, S.; Zhang, Q. M. Enhancement of Dielectric Energy Density in the Poly „ Vinylidene Fluoride … - Based Terpolymer / Copolymer Blends. **2008**, 3–6. https://doi.org/10.1063/1.3002277.

(77) Hu, X.; Li, J.; Li, H.; Zhang, Z. Synthesis and Characterization of Poly (Vinylidene Fluoride- Co - Chlorotrifluoroethylene) - Grafted -Poly (Acrylonitrile) via Single Electron Transfer – Living Radical Polymerization Process. **2012**, 1–9. https://doi.org/10.1002/pola.26099.

(78) Guan, F.; Yuan, Z.; Shu, E. W.; Zhu, L.; Guan, F.; Yuan, Z.; Shu, E. W.; Zhu, L. Fast Discharge Speed in Poly (Vinylidene Fluoride) Graft Copolymer Dielectric Films Achieved by Confined Ferroelectricity Fast Discharge Speed in Poly „ Vinylidene Fluoride … Graft Copolymer Dielectric Films Achieved by Confined Ferroelectricity. **2013**, *052907* (2009), 10–13. https://doi.org/10.1063/1.3079332.

(79) Links, D. A. Material for High Energy Density Capacitors. **2011**, 3751–3759. https://doi.org/10.1039/c0jm02408b.

(80) Bhattacharya, A.; Misra, B. N. Grafting: A Versatile Means to Modify Polymers: Techniques, Factors and Applications. *Prog. Polym. Sci.* **2004**, *29* (8), 767–814. https://doi.org/10.1016/j.progpolymsci.2004.05.002.

(81) Sun, Y.; Zhang, Z.; Wong, C. P. Influence of Interphase and Moisture on the Dielectric Spectroscopy of Epoxy / Silica Composites. **2005**, *46*, 2297–2305. https://doi.org/10.1016/j.polymer.2005.01.041.

(82) Kim, P.; Doss, N. M.; Tillotson, J. P.; Hotchkiss, P. J.; Pan, M.; Marder, S. R.; Li, J.; Calame, J. P.; Perry, J. W. And Breakdown Strength Of. **2009**, *3* (9), 2581–2592.

(83) Kim, P.; Jones, S. C.; Hotchkiss, P. J.; Haddock, J. N.; Kippelen, B.; Marder, S. R.; Perry, J. W. Phosphonic Acid-Modified Barium Titanate Polymer Nanocomposites with High Permittivity and Dielectric Strength. *Adv. Mater.* **2007**, *19* (7), 1001–1005. https://doi.org/10.1002/adma.200602422.

(84) Pecharromµn, B. C.; Esteban-betegón, F.; Bartolomø, J. F.; López-esteban, S.; Moya, J. S. New Percolative BaTiO 3 ± Ni Composites with A. **2010**, No. 20, 1541–1544.

(85) Nan, C.; Shen, Y.; Ma, J. Physical Properties of Composites Near Percolation. **2010**. https://doi.org/10.1146/annurev-matsci-070909-104529.

(86) Huang, X. Y.; Jiang, P. K.; Kim, C. U. Electrical Properties of Polyethylene / Aluminum Nanocomposites Electrical Properties of Polyethylene / Aluminum Nanocomposites. **2012**, *124103* (May 2014). https://doi.org/10.1063/1.2822336.

(87) Commun, S. S.; Press, A.; Torre, D.; Hysteresis, M.; Wiley, J.; York, N.; Materials, H. M.; Asi, N.; Press, K. A.; Chem, N. J.; Chem, S. S.; Materials, M. D.; Series, A. C. S. S.; Materials, H. M.; Asi, N.; Aca-, K.; Press, A.; Magnetochemistry, E.; Topics, S.; Physics, S. S.; Holland, N.; Ceramics, M. Novel Ferroelectric Polymer

Composites with High Dielectric Constants **. **2003**, No. 2002, 1625–1629. https://doi.org/10.1002/adma.200304911.

(88) Dang, B. Z.; Wang, L.; Yin, Y.; Zhang, Q.; Lei, Q. Giant Dielectric Permittivities in Functionalized Carbon-Nanotube / Electroactive-Polymer Nanocomposites **. **2007**, No. 50677002, 852–857. https://doi.org/10.1002/adma.200600703.

(89) Yao, S.; Yuan, J.; Zhou, T.; Dang, Z.; Bai, J.; Paris, E. C.; Umr, C.; Universud, P. Stretch-Modulated Carbon Nanotube Alignment in Ferroelectric Polymer Composites : Characterization of the Orientation State and Its Influence on the Dielectric Properties. **2011**, 20011–20017.

(90) Dang, Z.; Nan, C.; Xie, D.; Zhang, Y.; Tjong, S. C.; Nan, C.; Xie, D. Dielectric Behavior and Dependence of Percolation Threshold on the Conductivity of Fillers in Polymer-Semiconductor Composites Dielectric Behavior and Dependence of Percolation Threshold on the Conductivity of Fillers in Polymer-Semiconductor Composites. **2004**, *97*, 1–4. https://doi.org/10.1063/1.1767951.

(91) Huang, C.; Zhang, Q. Enhanced Dielectric and Electromechanical Responses in High Dielectric Constant All-Polymer Percolative Composites. *Adv. Funct. Mater.* **2004**, *14* (5), 501–506. https://doi.org/10.1002/adfm.200305021.

(92) Balberg, I.; Azulay, D.; Toker, D.; Millo, O. Percolation and Tunneling in Composite Materials. **2004**, *18* (15), 2091–2121.

(93) Xu, J.; Wong, C. P.; Xu, J.; Wong, C. P. Low-Loss Percolative Dielectric Composite Low-Loss Percolative Dielectric Composite. **2005**, *082907*, 1–4. https://doi.org/10.1063/1.2032597.

(94) Qi, B. L.; Lee, B. I.; Chen, S.; Samuels, W. D.; Exarhos, G. J. High-Dielectric-Constant Silver ± Epoxy Composites as Embedded Dielectrics **. **2005**, 1777–1781. https://doi.org/10.1002/adma.200401816.

(95) Shen, B. Y.; Lin, Y.; Li, M.; Nan, C. High Dielectric Performance of Polymer Composite Films Induced by a Percolating Interparticle Barrier Layer **. **2007**, No. 2002, 1418–1422. https://doi.org/10.1002/adma.200602097.

(96) Li, Q.; Han, K.; Gadinski, M. R.; Zhang, G.; Wang, Q. High Energy and Power Density Capacitors from Solution- Processed Ternary Ferroelectric Polymer Nanocomposites. **2014**, 6244–6249. https://doi.org/10.1002/adma.201402106.

(97) Muralidhar, C. PYROELECTRIC BEHAVIOR IN BARIUM TITANATE / POLYVINYLIDENE FLUORIDE COMPOSITES. **1986**, No. 3, 501–504.

(98) Bi, K.; Bi, M.; Hao, Y.; Luo, W.; Cai, Z.; Wang, X.; Huang, Y. Ultrafine Core-Shell BaTiO3@SiO2 Structures for Nanocomposite Capacitors with High Energy Density. *Nano Energy* **2018**, *51* (May), 513–523. https://doi.org/10.1016/j.nanoen.2018.07.006.

(99) Dang, Z.; Xu, H.; Wang, H.; Wang, H. Significantly Enhanced Low-Frequency

Dielectric Permittivity in the Ba Ti O 3 / Poly (Vinylidene Fluoride) Nanocomposite Significantly Enhanced Low-Frequency Dielectric Permittivity in the BaTiO 3 / Poly „ Vinylidene Fluoride … Nanocomposite. **2013**, *012901* (2007), 2012–2015. https://doi.org/10.1063/1.2393150.

(100) Kim, P.; Doss, N. M.; Tillotson, J. P.; Hotchkiss, P. J.; Pan, M.; Marder, S. R.; Li, J.; Calame, J. P.; Perry, J. W. AND BREAKDOWN STRENGTH OF. **2009**, *3* (9), 2581–2592.

(101) Lu, Y.; Yu, S.; Zeng, X.; Sun, R.; Wong, C. ReView by River Valley This Technologies IET Nanodielectrics High Energy Density Polymer Nanocomposites with Y-Doped Barium Strontium Titanate Nanoparticles as Fillers IET Review Copy Only ReView by River Valley This Technologies IET Nanodielectrics IET R. **2018**, No. 2, 2–11.

(102) Microstructure and Dielectric Properties of BZT-BCT_PVDF Nanocomposites _ Elsevier Enhanced Reader.

(103) Rqj, D. Q. G.; Lq, S.; Dqg, V.; Vwrudjh, H. (IIHFW RI + RW 3UHVVLQJ 7HPSHUDWXUH RQ ' LHOHFWULF DQG (QHUJ \ 6WRUDJH 3URSHUWLHV RI % D 6U 7L2 SRO \ YLQ \ OLGHQH IOXRULGH & RPSRVLWHV. *2*.

(104) Wang, L.; Gao, F.; Xu, J.; Zhang, K.; Wang, M.; Qin, M. Fabrication , Characterisation and Dielectric Properties of KH550 Modified BST / PVDF Nanocomposites with High Dielectric Strength. **2016**, *1*, 158–165. https://doi.org/10.1049/hve.2016.0065.

(105) Lu, X.; Tong, Y.; Cheng, Z. Fabrication and Characterization of Free-Standing , Fl Exible and Translucent BaTiO 3 -P (VDF-CTFE) Nanocomposite Fi Lms. **2019**, *770*, 327–334.

(106) Lu, X.; Zhang, L.; Tong, Y.; Cheng, Z. Y. BST-P (VDF-CTFE) Nanocomposite Fi Lms with High Dielectric Constant , Low Dielectric Loss , and High Energy-Storage Density. **2019**, *168* (April 2018), 34–43.

(107) Gyan, D. S.; Dwivedi, A. Structural and Electrical Characterization of NaNbO 3 - PVDF Nanocomposites Fabricated Using Cold Sintering Synthesis Route. *J. Appl. Phys.* **2019**, *125* (2), 1–11. https://doi.org/10.1063/1.5046458.

(108) Ducharme, S. An Inside-Out Approach to Storing Electrostatic Energy. **2009**, *3* (9), 2447–2450.

(109) Chu, B.; Lin, M.; Neese, B.; Zhou, X.; Chen, Q.; Zhang, Q. M.; Chu, B.; Lin, M.; Neese, B.; Zhou, X.; Chen, Q.; Zhang, Q. M. Large Enhancement in Polarization Response and Energy Density of Poly (Vinylidene Fluoride-Trifluoroethylene-Chlorofluoroethylene) by Interface Effect in Nanocomposites Large Enhancement in Polarization Response and Energy Density of Poly „ Vinylidene F. **2014**, *122909* (2007). https://doi.org/10.1063/1.2786839.

(110) Fillery, S. P.; Koerner, H.; Drummy, L.; Dunkerley, E.; Durstock, M. F.; Schmidt, D. F.; Vaia, R. A. Nanolaminates: Increasing Dielectric Breakdown Strength of Composites. **2012**.

(111) Composite, P.; Materials, N. D. *Polymer Composite and Nanocomposite Dielectric Materials for Pulse Power Energy Storage †*; 2009. https://doi.org/10.3390/ma2041697.

(112) Dionne, G. F.; Fitzgerald, J. F.; Aucoin, R. C.; Dionne, G. F.; Fitzgerald, J. F.; Aucoin, R. C. Dielectric Constants of Paraffinwax – TiO2 Mixtures Dielectric Constants of Paraffin-Wax-Ti0 2 Mixtures * a : A : **2002**, *1708* (1976), 22–24. https://doi.org/10.1063/1.322753.

(113) Tang, H.; Lin, Y.; Sodano, H. A. Enhanced Energy Storage in Nanocomposite Capacitors through Aligned PZT Nanowires by Uniaxial Strain Assembly. **2012**, 469–476. https://doi.org/10.1002/aenm.201100543.

(114) Chem, J. M. Nanocomposites of Ferroelectric Polymers with Surface-Hydroxylated BaTiO 3 Nanoparticles for Energy Storage Applications. **2012**, 11196–11200. https://doi.org/10.1039/c2jm30542a.

(115) Ogitani, S.; Bidstrup-allen, S. A.; Kohl, P. A. Factors Influencing the Permittivity of Polymer / Ceramic Composites for Embedded Capacitors. **2000**, *23* (2), 313–322.

(116) Ramesh, S.; Shutzberg, B. A.; Huang, C. C.; Gao, J.; Giannelis, E. P. Dielectric Nanocomposites for Integral Thin Film Capacitors: Materials Design, Fabrication and Integration Issues. *IEEE Trans. Adv. Packag.* **2003**, *26* (1), 17–24. https://doi.org/10.1109/TADVP.2003.811365.

(117) Wu, P.; Zhang, M.; Wang, H.; Tang, H.; Bass, P.; Zhang, L. Research Article | July 19 2017. **2017**, *075210*, 0–8.

(118) Zhang, D.; Liu, W.; Guo, R.; Zhou, K.; Luo, H. High Discharge Energy Density at Low Electric Field Using an Aligned Titanium Dioxide / Lead Zirconate Titanate Nanowire Array. **2018**. https://doi.org/10.1002/advs.201700512.

(119) Shen, Y.; Luo, S.; Yu, S.; Sun, R.; Wong, C. Surface-Modified Barium Titanate by MEEAA for High-Energy Storage Application of Polymer Composites. **2016**, *1*, 175–180. https://doi.org/10.1049/hve.2016.0066.

(120) Surface-functionalized, N. C.; Nanoparticles, B.; Li, J.; Claude, J.; Norena-franco, L. E. Electrical Energy Storage in Ferroelectric Polymer Nanocomposites Containing Surface-Functionalized BaTiO 3 Nanoparticles. **2008**, No. 8, 6304–6306.

(121) Zhou, T.; Zha, J. W.; Cui, R. Y.; Fan, B. H.; Yuan, J. K.; Dang, Z. M. Improving Dielectric Properties of BaTiO3/Ferroelectric Polymer Composites by Employing Surface Hydroxylated BaTiO3 Nanoparticles. *ACS Appl. Mater. Interfaces* **2011**, *3* (7), 2184–2188. https://doi.org/10.1021/am200492q.

(122) Xie, L.; Huang, X.; Wu, C.; Jiang, P. Liyuan Xie, Xingyi Huang*, Chao Wu and Pingkai Jiang*. **2011**, No. c.

(123) Sasmal, A.; Patra, A.; Devi, P. S.; Sen, S. Hydroxylated BiFeO3as Efficient Fillers in Poly(Vinylidene Fluoride) for Flexible Dielectric, Ferroelectric, Energy Storage and Mechanical Energy Harvesting Application. *Dalt. Trans.* **2021**, *50* (5), 1824–1837. https://doi.org/10.1039/d0dt04017g.

(124) Jain, S. R.; Adiga, K. C.; Pai Verneker, V. R. A New Approach to Thermochemical Calculations of Condensed Fuel-Oxidizer Mixtures. *Combust. Flame* **1981**, *40* (C), 71–79. https://doi.org/10.1016/0010-2180(81)90111-5.

(125) Deformation, S. P. I.1 the Ultrafine-Grained and Nanostructured Materials. **2018**, 1–17.

(126) Enhanced Energy Storage Density in Poly(Vinylidene Fluoride-Hexafluoropropylene) Nanocomposites by Filling with Core-Shell Structured BaTiO3@MgO Nanoparticals _ Elsevier Enhanced Reader.

(127) Guo, J.; Guo, H.; Baker, A. L.; Lanagan, M. T.; Kupp, E. R.; Messing, G. L.; Randall, C. A. Cold Sintering: A Paradigm Shift for Processing and Integration of Ceramics. *Angew. Chemie - Int. Ed.* **2016**, *55* (38), 11457–11461. https://doi.org/10.1002/anie.201605443.

(128) Guo, J.; Berbano, S. S.; Guo, H.; Baker, A. L.; Lanagan, M. T.; Randall, C. A. Cold Sintering Process of Composites: Bridging the Processing Temperature Gap of Ceramic and Polymer Materials. *Adv. Funct. Mater.* **2016**, *26* (39), 7115–7121. https://doi.org/10.1002/adfm.201602489.

(129) Guo, H.; Guo, J.; Baker, A.; Randall, C. A. Hydrothermal-Assisted Cold Sintering Process: A New Guidance for Low-Temperature Ceramic Sintering. *ACS Appl. Mater. Interfaces* **2016**, *8* (32), 20909–20915. https://doi.org/10.1021/acsami.6b07481.

(130) Li, Y.; Zheng, M.; Zang, M.; Zhu, M.; Hou, Y. Cold Sintering Co-firing of (Ca,Bi)(Mo,V)O 4 –PTFE Composites in a Single Step. *J. Am. Ceram. Soc.* **2022**, *105* (10), 6262–6270. https://doi.org/10.1111/jace.18595.

(131) Guo, N.; Shen, H. Z.; Shen, P. Cold Sintering of Chitosan/Hydroxyapatite Composites. *Materialia* **2022**, *21* (September 2021), 101294. https://doi.org/10.1016/j.mtla.2021.101294.

(132) Guo, H.; Baker, A.; Guo, J.; Randall, C. A. Cold Sintering Process: A Novel Technique for Low-Temperature Ceramic Processing of Ferroelectrics. *J. Am. Ceram. Soc.* **2016**, *99* (11), 3489–3507. https://doi.org/10.1111/jace.14554.

(133) Wang, D.; Guo, H.; Morandi, C. S.; Randall, C. A.; Trolier-McKinstry, S. Cold Sintering and Electrical Characterization of Lead Zirconate Titanate Piezoelectric Ceramics. *APL Mater.* **2018**, *6* (1), 1–7. https://doi.org/10.1063/1.5004420.

(134) Ma, M.; Song, K.; Ji, Y.; Hussain, F.; Khesro, A.; Mao, M.; Xue, L.; Xu, P.; Liu, B.; Lu, Z.; Zhou, D.; Wang, D.; Sun, S. 5G Microstrip Patch Antenna and Microwave Dielectric Properties of Cold Sintered LiWVO6–K2MoO4 Composite Ceramics. *Ceram. Int.* **2021**, *47* (13), 19241–19246. https://doi.org/10.1016/j.ceramint.2021.03.179.

(135) Xie, Y.; Yu, Y.; Feng, Y.; Jiang, W.; Zhang, Z. Fabrication of Stretchable Nanocomposites with High Energy Density and Low Loss from Cross-Linked PVDF Filled with Poly(Dopamine) Encapsulated BaTiO3. *ACS Appl. Mater. Interfaces* **2017**, *9* (3), 2995–3005. https://doi.org/10.1021/acsami.6b14166.

(136) Tian, Y.; Jin, L.; Zhang, H.; Xu, Z.; Wei, X.; Politova, E. D.; Stefanovich, S. Y.; Tarakina, N. V.; Abrahams, I.; Yan, H. High Energy Density in Silver Niobate Ceramics. *J. Mater. Chem. A* **2016**, *4* (44), 17279–17287. https://doi.org/10.1039/c6ta06353e.

(137) Feng, Q. K.; Zhong, S. L.; Pei, J. Y.; Zhao, Y.; Zhang, D. L.; Liu, D. F.; Zhang, Y. X.; Dang, Z. M. Recent Progress and Future Prospects on All-Organic Polymer Dielectrics for Energy Storage Capacitors. *Chem. Rev.* **2022**, *122* (3), 3820–3878. https://doi.org/10.1021/acs.chemrev.1c00793.

(138) Ullah, B.; Lei, W.; Wang, X. H.; Fan, G. F.; Wang, X. C.; Lu, W. Z. Dielectric and Ferroelectric Behavior of an Incipient Ferroelectric Sr(1-3x/2)CexTiO3 Novel Solid Solution. *RSC Adv.* **2016**, *6* (94), 91679–91688. https://doi.org/10.1039/c6ra18717j.

(139) Irvine, J. T. S.; Sinclair, D. C.; West, A. R. Electroceramics: Characterization by Impedance Spectroscopy. *Adv. Mater.* **1990**, *2* (3), 132–138. https://doi.org/10.1002/adma.19900020304.

(140) Zhang, G.; Li, Q.; Allahyarov, E.; Li, Y.; Zhu, L. Challenges and Opportunities of Polymer Nanodielectrics for Capacitive Energy Storage. *ACS Appl. Mater. Interfaces* **2021**, *13* (32), 37939–37960. https://doi.org/10.1021/acsami.1c04991.

(141) Singh, V. P.; Satyarthi, S. K.; Dwivedi, A.; Dwivedi, A.; Singh, A. K. Boosting Energy Storage of Poly(Vinylidene Difluoride) Nanocomposite Based Flexible Self-Standing Film with Low Amount of Hydroxylated V2O5. *ACS Appl. Energy Mater.* **2022**, *5* (10), 12837–12850. https://doi.org/10.1021/acsaem.2c02425.

(142) Singh, V. P.; Singh, C. B.; Satyarthi, S. K.; Kumar, D.; Singh, A. K. Highly Enhanced Energy Storage Properties of H2O2-Hydroxylated Rare Earth Ferrites (LaFeO3 and GdFeO3) Nanofillers in Poly(Vinylidene Fluoride)-Based Nanocomposite Films. *J. Mater. Sci. Mater. Electron.* **2022**, *33* (25), 20170–20184. https://doi.org/10.1007/s10854-022-08836-z.

(143) Cai, X.; Lei, T.; Sun, D.; Lin, L. A Critical Analysis of the α, β and γ Phases in Poly(Vinylidene Fluoride) Using FTIR. *RSC Adv.* **2017**, *7* (25), 15382–15389. https://doi.org/10.1039/c7ra01267e.

(144) Kumar Pradhan, L.; Kar, M. Relaxor Ferroelectric Oxides: Concept to Applications.

Multifunct. Ferroelectr. Mater. **2021**, 1–21. https://doi.org/10.5772/intechopen.96185.

(145) Yang, L.; Kong, X.; Li, F.; Hao, H.; Cheng, Z.; Liu, H.; Li, J. F.; Zhang, S. Perovskite Lead-Free Dielectrics for Energy Storage Applications. *Progress in Materials Science*. 2019, pp 72–108. https://doi.org/10.1016/j.pmatsci.2018.12.005.

(146) Karakaya, M.; Adem, U. Enhanced Room Temperature Energy Storage Density of Bi(Li 1/3 Ti 2/3)O 3 Substituted Bi 0.5 Na 0.5 TiO 3 –BaTiO 3 Ceramics. *J. Phys. D. Appl. Phys.* **2021**, *54* (27), 275501. https://doi.org/10.1088/1361-6463/abf789.

(147) Nasreen, S.; Treich, G. M.; Baczkowski, M. L.; Mannodi-Kanakkithodi, A. K.; Cao, Y.; Ramprasad, R.; Sotzing, G. Polymer Dielectrics for Capacitor Application. *Kirk-Othmer Encycl. Chem. Technol.* **2017**, 1–29. https://doi.org/10.1002/0471238961.koe00036.

(148) Fan, B.; Zhou, M.; Zhang, C.; He, D.; Bai, J. Polymer-Based Materials for Achieving High Energy Density Film Capacitors. *Progress in Polymer Science*. 2019. https://doi.org/10.1016/j.progpolymsci.2019.06.003.

(149) Suleiman, B.; Zhang, H.; Ding, Y.; Li, Y. Microstructure and Mechanical Properties of Cold Sintered Porous Alumina Ceramics. *Ceram. Int.* **2022**, *48* (10), 13531–13540. https://doi.org/10.1016/j.ceramint.2022.01.232.

(150) Liu, S.; Guo, Y.; Li, J.; Wu, S.; Xu, J.; Pawlikowska, E.; Kong, J.; Rydosz, A. M.; Szafran, M.; Gao, F. Microstructure and Dielectric Properties of (Ba0.6Sr0.4)TiO3/PEEK Functional Composites Prepared via Cold-Pressing Sintering. *Compos. Sci. Technol.* **2022**, *219*, 109228. https://doi.org/10.1016/j.compscitech.2021.109228.

(151) Si, M.; Guo, J.; Hao, J.; Zhao, X.; Randall, C. A.; Wang, H. Cold Sintered Composites Consisting of PEEK and Metal Oxides with Improved Electrical Properties via the Hybrid Interfaces. *Compos. Part B Eng.* **2021**, *226* (July), 109349. https://doi.org/10.1016/j.compositesb.2021.109349.

(152) Ji, Y.; Song, K.; Zhang, S.; Lu, Z.; Wang, G.; Li, L.; Zhou, D.; Wang, D.; Reaney, I. M. Cold Sintered, Temperature-Stable CaSnSiO5-K2MoO4 Composite Microwave Ceramics and Its Prototype Microstrip Patch Antenna. *J. Eur. Ceram. Soc.* **2021**, *41* (1), 424–429. https://doi.org/10.1016/j.jeurceramsoc.2020.08.053.

(153) Vilesh, V. L.; Santha, N.; Subodh, G. Influence of Li2MoO4 and Polytetrafluoroethylene Addition on the Cold Sintering Process and Dielectric Properties of BaBiLiTeO6 Ceramics. *Ceram. Int.* **2021**, *47* (21), 30756–30763. https://doi.org/10.1016/j.ceramint.2021.07.255.

(154) García-Martín, E.; Granados-Miralles, C.; Ruiz-Gómez, S.; Pérez, L.; del Campo, A.; Guzmán-Mínguez, J. C.; de Julián Fernández, C.; Quesada, A.; Fernández, J. F.; Serrano, A. Dense Strontium Hexaferrite-Based Permanent Magnet Composites Assisted by Cold Sintering Process. *Journal of Alloys and Compounds*. 2022, p

165531. https://doi.org/10.1016/j.jallcom.2022.165531.

(155) Vidyuk, T. M.; Dudina, D. V.; Korchagin, M. A.; Gavrilov, A. I.; Bokhonov, B. B.; Ukhina, A. V.; Esikov, M. A.; Shikalov, V. S.; Kosarev, V. F. Spark Plasma Sintering Treatment of Cold Sprayed Materials for Synthesis and Structural Modification: A Case Study Using TiC-Cu Composites. *Materials Letters: X*. 2022. https://doi.org/10.1016/j.mlblux.2022.100140.

(156) Guo, N.; Shen, H. Z.; Jin, Q.; Shen, P. Hydrated Precursor-Assisted Densification of Hydroxyapatite and Its Composites by Cold Sintering. *Ceram. Int.* **2021**, *47* (10), 14348–14353. https://doi.org/10.1016/j.ceramint.2021.01.294.

(157) Galotta, A.; Sglavo, V. M. The Cold Sintering Process: A Review on Processing Features, Densification Mechanisms and Perspectives. *J. Eur. Ceram. Soc.* **2021**, *41* (16), 1–17. https://doi.org/10.1016/j.jeurceramsoc.2021.09.024.

(158) Ma, W.; Zhang, J.; Wang, X. Effect of Initial Polymer Concentration on the Crystallization of Poly (Vinylidene Fluoride)/Poly (Methyl Methacrylate) Blend from Solution Casting. *J. Macromol. Sci. Part B Phys.* **2008**, *47* (1), 139–149. https://doi.org/10.1080/00222340701746127.

(159) Jeon, J. H.; Hahn, Y. D.; Kim, H. D. Microstructure and Dielectric Properties of Barium-Strontium Titanate with a Functionally Graded Structure. *J. Eur. Ceram. Soc.* **2001**, *21* (10–11), 1653–1656. https://doi.org/10.1016/S0955-2219(01)00085-1.

(160) Chen, C.; Wang, L.; Liu, X.; Yang, W.; Lin, J.; Chen, G.; Yang, X. K 0.5 Na 0.5 NbO 3 -SrTiO 3 /PVDF Polymer Composite Film with Low Remnant Polarization and High Discharge Energy Storage Density. *Polymers (Basel).* **2019**, *11* (2). https://doi.org/10.3390/polym11020310.

(161) Behera, R.; Elanseralathan, K. A Review on Polyvinylidene Fluoride Polymer Based Nanocomposites for Energy Storage Applications. *Journal of Energy Storage*. 2022. https://doi.org/10.1016/j.est.2021.103788.

(162) Zhang, L.; Qiao, Q.; Yue, Z.; Yang, F.; Li, L. A New HDPE/BST Polymer-Ceramic Composite for Wireless Temperature Sensing. *Ceram. Int.* **2015**, *41* (S1), S471–S475. https://doi.org/10.1016/j.ceramint.2015.03.300.

(163) Wang, H.; Xiang, F.; Li, K. Ceramic-Polymer Ba0.6Sr0.4TiO3/Poly(Methyl Methacrylate) Composites with Different Type Composite Structures for Electronic Technology. *Int. J. Appl. Ceram. Technol.* **2010**, *7* (4), 435–443. https://doi.org/10.1111/j.1744-7402.2009.02481.x.

(164) Tang, H.; Sodano, H. A. Ultra High Energy Density Nanocomposite Capacitors with Fast Discharge Using Ba 0.2 Sr 0.8 TiO 3 Nanowires. *Nano Lett.* **2013**, *13* (4), 1373–1379. https://doi.org/10.1021/nl3037273.

(165) Palukuru, V. K.; Sanoda, K.; Pynttäri, V.; Hu, T.; Mäkinen, R.; Mäntysalo, M.;

Hagberg, J.; Jantunen, H. Inkjet-Printed RF Structures on BST-Polymer Composites: An Application of a Monopole Antenna for 2.4 GHz Wireless Local Area Network Operation. *Int. J. Appl. Ceram. Technol.* **2011**, *8* (4), 940–946. https://doi.org/10.1111/j.1744-7402.2010.02532.x.

(166) Sonoda, K.; Hu, T.; Juuti, J.; Moriya, Y.; Jantunen, H. Fabrication and Properties of Composites from BST and Polypropylene-Graft-Poly(Styrene-Stat-Divinylbenzene). *J. Eur. Ceram. Soc.* **2010**, *30* (2), 381–384. https://doi.org/10.1016/j.jeurceramsoc.2009.08.019.

(167) Tagantsev, A. K.; Sherman, V. O.; Astafiev, K. F.; Venkatesh, J.; Setter, N. Ferroelectric Materials for Microwave Tunable Applications. *J. Electroceramics* **2003**, *11* (1–2), 5–66. https://doi.org/10.1023/b:jecr.0000015661.81386.e6.

(168) Liu, S.; Xue, S.; Xiu, S.; Shen, B.; Zhai, J. Surface-Modified Ba(Zr0.3Ti0.7)O3 Nanofibers by Polyvinylpyrrolidone Filler for Poly(Vinylidene Fluoride) Composites with Enhanced Dielectric Constant and Energy Storage Density. *Sci. Rep.* **2016**, *6* (May), 1–11. https://doi.org/10.1038/srep26198.

(169) Zhang, X.; Shen, Y.; Xu, B.; Zhang, Q.; Gu, L.; Jiang, J.; Ma, J.; Lin, Y.; Nan, C. W. Giant Energy Density and Improved Discharge Efficiency of Solution-Processed Polymer Nanocomposites for Dielectric Energy Storage. *Adv. Mater.* **2016**, *28* (10), 2055–2061. https://doi.org/10.1002/adma.201503881.

(170) Xie, L.; Huang, X.; Huang, Y.; Yang, K.; Jiang, P. Core@Double-Shell Structured BaTiO3-Polymer Nanocomposites with High Dielectric Constant and Low Dielectric Loss for Energy Storage Application. *J. Phys. Chem. C* **2013**, *117* (44), 22525–22537. https://doi.org/10.1021/jp407340n.

(171) Song, Y.; Shen, Y.; Hu, P.; Lin, Y.; Li, M.; Nan, C. W. Significant Enhancement in Energy Density of Polymer Composites Induced by Dopamine-Modified Ba 0.6Sr 0.4TiO 3 Nanofibers. *Appl. Phys. Lett.* **2012**, *101* (15), 2012–2015. https://doi.org/10.1063/1.4760228.

(172) Liu, S.; Xue, S.; Zhang, W.; Zhai, J.; Chen, G. Significantly Enhanced Dielectric Property in PVDF Nanocomposites Flexible Films through a Small Loading of Surface-Hydroxylated Ba0.6Sr0.4TiO3 Nanotubes. *J. Mater. Chem. A* **2014**, *2* (42), 18040–18046. https://doi.org/10.1039/c4ta04051a.

(173) Yu, K.; Bai, Y.; Zhou, Y.; Niu, Y.; Wang, H. Poly(Vinylidene Fluoride) Polymer Based Nanocomposites with Enhanced Energy Density by Filling with Polyacrylate Elastomers and BaTiO3 Nanoparticles. *Appl. Phys. Lett.* **2014**, *104* (8), 1–4. https://doi.org/10.1063/1.4866585.

(174) Li, J.; Tan, S.; Ding, S.; Li, H.; Yang, L.; Zhang, Z. High-Field Antiferroelectric Behaviour and Minimized Energy Loss in Poly(Vinylidene-Co-Trifluoroethylene)-Graft-Poly(Ethyl Methacrylate) for Energy Storage Application. *J. Mater. Chem.* **2012**, *22* (44), 23468–23476. https://doi.org/10.1039/c2jm35532a.

(175) Huang, X.; Jiang, P. Core-Shell Structured High- k Polymer Nanocomposites for Energy Storage and Dielectric Applications. *Adv. Mater.* **2015**, *27* (3), 546–554. https://doi.org/10.1002/adma.201401310.

(176) Dang, Z. M.; Yuan, J. K.; Yao, S. H.; Liao, R. J. Flexible Nanodielectric Materials with High Permittivity for Power Energy Storage. *Adv. Mater.* **2013**, *25* (44), 6334–6365. https://doi.org/10.1002/adma.201301752.

(177) Bystrov, V. S.; Bdikin, I. K.; Silibin, M. V. *Ferroelectric Polymers PVDF and P(VDF–TrFE) Films and Their Composites With Either Graphene or Graphene Oxide: Molecular Modeling and Experimental Observations*; Elsevier Ltd., 2020. https://doi.org/10.1016/b978-0-12-803581-8.10470-9.

(178) Zhang, Q.; Zhang, Z.; Xu, N.; Yang, H. Dielectric Properties of P(VDF-TrFE-CTFE) Composites Filled with Surface-Coated TiO2 Nanowires by SnO2 Nanoparticles. *Polymers (Basel).* **2020**, *12* (1). https://doi.org/10.3390/polym12010085.

(179) Kepler, R. G.; Anderson, R. A. Ferroelectricity in Polyvinylidene Fluoride. *J. Appl. Phys.* **1978**, *49* (3), 1232–1235. https://doi.org/10.1063/1.325011.

(180) Broadhurst, M. G.; Davis, G. T. Physical Basis for Piezoelectricity in Pvdf. *Ferroelectrics* **1984**, *60* (1), 3–13. https://doi.org/10.1080/00150198408017504.

(181) Kim, P.; Zhang, X. H.; Domercq, B.; Jones, S. C.; Hotchkiss, P. J.; Marder, S. R.; Kippelen, B.; Perry, J. W. Solution-Processible High-Permittivity Nanocomposite Gate Insulators for Organic Field-Effect Transistors. *Appl. Phys. Lett.* **2008**, *93* (1), 2006–2009. https://doi.org/10.1063/1.2949320.

(182) Schroeder, R.; Majewski, L. A.; Grell, M. High-Performance Organic Transistors Using Solution-Processed Nanoparticle-Filled High-k Polymer Gate Insulators. *Adv. Mater.* **2005**, *17* (12), 1535–1539. https://doi.org/10.1002/adma.200401398.

(183) Łupina, G.; Dąbrowski, J.; Dudek, P.; Kozłowski, G.; Zaumseil, P.; Lippert, G.; Fursenko, O.; Bauer, J.; Baristiran, C.; Costina, I.; Müssig, H. J.; Oberbeck, L.; Schröder, U. Dielectric Constant and Leakage of BaZrO> Films. *Appl. Phys. Lett.* **2009**, *94* (15), 3–6. https://doi.org/10.1063/1.3110970.

(184) Tong, L.; Li, H.; Ni, W.; Guo, Y.; Li, Q.; Wang, H.; Wang, C. High-Temperature Colossal Dielectric Behavior of BaZrO3 Ceramics. *RSC Adv.* **2017**, *7* (54), 33708–33713. https://doi.org/10.1039/c7ra06401b.

(185) Katyayan, S.; Agrawal, S. Study of Optical Behaviour of Eu3+ and Tb3+ Doped Zirconate Perovskite Phosphors Prepared by Molten Salt Technique. *Opt. Quantum Electron.* **2020**, *52* (1), 1–19. https://doi.org/10.1007/s11082-019-2129-9.

(186) Singh, V. P.; Singh, C. B.; Satyarthi, S. K.; Kumar, D.; Singh, A. K. Highly Enhanced Energy Storage Properties of H2O2-Hydroxylated Rare Earth Ferrites (LaFeO3 and GdFeO3) Nanofillers in Poly(Vinylidene Fluoride)-Based

Nanocomposite Films. *J. Mater. Sci. Mater. Electron.* **2022**, *33* (25), 20170–20184. https://doi.org/10.1007/s10854-022-08836-z.

(187) Thakur, V. K.; Lin, M. F.; Tan, E. J.; Lee, P. S. Green Aqueous Modification of Fluoropolymers for Energy Storage Applications. *J. Mater. Chem.* **2012**, *22* (13), 5951–5959. https://doi.org/10.1039/c2jm15665b.

(188) Zhang, X.; Shen, Y.; Shen, Z.; Jiang, J.; Chen, L.; Nan, C. W. Achieving High Energy Density in PVDF-Based Polymer Blends: Suppression of Early Polarization Saturation and Enhancement of Breakdown Strength. *ACS Appl. Mater. Interfaces* **2016**, *8* (40), 27236–27242. https://doi.org/10.1021/acsami.6b10016.

(189) Ratri, P. J.; Tashiro, K. Phase-Transition Behavior of a Crystalline Polymer near the Melting Point: Case Studies of the Ferroelectric Phase Transition of Poly(Vinylidene Fluoride) and the β-to-α Transition of Trans-1,4-Polyisoprene. *Polym. J.* **2013**, *45* (11), 1107–1114. https://doi.org/10.1038/pj.2013.42.

(190) Takahashi, K.; Higa, K.; Mair, S.; Chintapalli, M.; Balsara, N.; Srinivasan, V. Mechanical Degradation of Graphite/PVDF Composite Electrodes: A Model-Experimental Study. *J. Electrochem. Soc.* **2016**, *163* (3), A385–A395. https://doi.org/10.1149/2.0271603jes.

(191) Goddard, W. A. Surface Science. *Springer Ser. Mater. Sci.* **2021**, *284* (June), 1119–1125. https://doi.org/10.1007/978-3-030-18778-1_51.

(192) Gao, J.; Liu, P.; Wang, J.; Zhang, R.; Yang, Y.; Zhou, W.; Liu, H.; Sun, J. The Effect of Ir and Sc on the Emission Capacity of W–Ir Matrix Scandate Cathodes Prepared via a Novel in Situ Method. *Acta Mater.* **2023**, *261* (October), 1–12. https://doi.org/10.1016/j.actamat.2023.119400.

(193) Mokoena, P. P.; Oluwole, D. O.; Nyokong, T.; Swart, H. C.; Ntwaeaborwa, O. M. Sensors and Actuators A : Physical Powder Phosphor for Application in Photodynamic Therapy. **2021**, *331*.

(194) Dascalescu, D.; Polychronopoulou, K.; Polycarpou, A. A. The Significance of Tribochemistry on the Performance of PTFE-Based Coatings in CO2 Refrigerant Environment. *Surf. Coatings Technol.* **2009**, *204* (3), 319–329. https://doi.org/10.1016/j.surfcoat.2009.07.042.

(195) Outman, A.; Deracinois, B.; Flahaut, C.; Diab, M. A.; Dhaouefi, J.; Outman, A.; Deracinois, B.; Flahaut, C.; Diab, M. A. Obtaining of New Antioxidant and Antimicrobial Peptides Derived from Human Hemoglobin by Peptide Hydrolysis and Comparison with These Obtained by Bovine Hemoglobin. **2023**. https://doi.org/10.20944/preprints202307.

(196) Azdad, Z.; Marot, L.; Moser, L.; Steiner, R.; Meyer, E. Valence Band Behaviour of Zirconium Oxide, Photoelectron and Auger Spectroscopy Study. *Sci. Rep.* **2018**, *8* (1), 1–6. https://doi.org/10.1038/s41598-018-34570-w.

(197) Yoshida, H.; Misumi, S.; Matsumoto, A.; Kuzuhara, Y.; Sato, T.; Ohyama, J.; Machida, M. Thermal Stabilisation Effects of Zr Buffer Layer on Nanometric Rh Overlayer Catalyst Formed on Metal Foil Substrate. *Catal. Sci. Technol.* **2019**, *9* (9), 2111–2117. https://doi.org/10.1039/c9cy00348g.

(198) Rahimabady, M.; Mirshekarloo, M. S.; Yao, K.; Lu, L. Dielectric Behaviors and High Energy Storage Density of Nanocomposites with Core-Shell BaTiO3@TiO2 in Poly(Vinylidene Fluoride-Hexafluoropropylene). *Phys. Chem. Chem. Phys.* **2013**, *15* (38), 16242–16248. https://doi.org/10.1039/c3cp52267a.

(199) Yu, K.; Wang, H.; Zhou, Y.; Bai, Y.; Niu, Y. Enhanced Dielectric Properties of BaTiO3/Poly(Vinylidene Fluoride) Nanocomposites for Energy Storage Applications. *J. Appl. Phys.* **2013**, *113* (3). https://doi.org/10.1063/1.4776740.

(200) Li, J.; Claude, J.; Norena-Franco, L. E.; Seok, S. Il; Wang, Q. Electrical Energy Storage in Ferroelectric Polymer Nanocomposites Containing Surface-Functionalized BaTiO3 Nanoparticles. *Chem. Mater.* **2008**, *20* (20), 6304–6306. https://doi.org/10.1021/cm8021648.

(201) Yu, Y.; Shao, W.; Zhong, J.; Ye, H.; Yang, L.; Zhen, L. Tuning the Energy Storage Efficiency in PVDF Nanocomposites Incorporated with Crumpled Core-Shell BaTiO3@Graphene Oxide Nanoparticles. *ACS Appl. Energy Mater.* **2021**, *4* (9), 9553–9562. https://doi.org/10.1021/acsaem.1c01717.

(202) Samet, M.; Levchenko, V.; Boiteux, G.; Seytre, G.; Kallel, A.; Serghei, A. Electrode Polarization vs. Maxwell-Wagner-Sillars Interfacial Polarization in Dielectric Spectra of Materials: Characteristic Frequencies and Scaling Laws. *J. Chem. Phys.* **2015**, *142* (19). https://doi.org/10.1063/1.4919877.

(203) Xie, L.; Huang, X.; Li, B. W.; Zhi, C.; Tanaka, T.; Jiang, P. Core-Satellite Ag@BaTiO3 Nanoassemblies for Fabrication of Polymer Nanocomposites with High Discharged Energy Density, High Breakdown Strength and Low Dielectric Loss. *Phys. Chem. Chem. Phys.* **2013**, *15* (40), 17560–17569. https://doi.org/10.1039/c3cp52799a.

(204) Rana, D. K.; Mehta, V.; Kundu, S. K.; Basu, S. Development of Organic-Inorganic Flexible PVDF-LaFeO3 Nanocomposites for the Enhancement of Electrical, Ferroelectric and Magnetic Properties. *Mater. Chem. Phys.* **2020**, *242* (April 2019). https://doi.org/10.1016/j.matchemphys.2019.122491.

(205) Grabowski, C. A.; Fillery, S. P.; Westing, N. M.; Chi, C.; Meth, J. S.; Durstock, M. F.; Vaia, R. A. Dielectric Breakdown in Silica-Amorphous Polymer Nanocomposite Films: The Role of the Polymer Matrix. *ACS Appl. Mater. Interfaces* **2013**, *5* (12), 5486–5492. https://doi.org/10.1021/am4005623.

(206) Mitcheson, P. D.; Yeatman, E. M.; Rao, G. K.; Holmes, A. S.; Green, T. C. Energy Harvesting from Human and Machine Motion for Wireless Electronic Devices. *Proc. IEEE* **2008**, *96* (9), 1457–1486. https://doi.org/10.1109/JPROC.2008.927494.

(207) Guo, Y.-G.; Hu, J.-S.; Wan, L.-J. Nanostructured Materials for Electrochemical Energy Conversion and Storage Devices. *Adv. Mater.* **2008**, *20* (15), 2878–2887. https://doi.org/10.1002/adma.200800627.

(208) Dunn, B.; Kamath, H.; Tarascon, J. M. Electrical Energy Storage for the Grid: A Battery of Choices. *Science (80-.).* **2011**, *334* (6058), 928–935. https://doi.org/10.1126/science.1212741.

(209) Liu, C.; Li, F.; Lai-Peng, M.; Cheng, H. M. Advanced Materials for Energy Storage. *Adv. Mater.* **2010**, *22* (8), 28–62. https://doi.org/10.1002/adma.200903328.

(210) Sun, Z.; Wang, Z.; Tian, Y.; Wang, G.; Wang, W.; Yang, M.; Wang, X.; Zhang, F.; Pu, Y. Progress, Outlook, and Challenges in Lead-Free Energy-Storage Ferroelectrics. *Advanced Electronic Materials*. Blackwell Publishing Ltd January 1, 2020. https://doi.org/10.1002/aelm.201900698.

(211) Palneedi, H.; Peddigari, M.; Hwang, G. T.; Jeong, D. Y.; Ryu, J. High-Performance Dielectric Ceramic Films for Energy Storage Capacitors: Progress and Outlook. *Adv. Funct. Mater.* **2018**, *28* (42), 1–33. https://doi.org/10.1002/adfm.201803665.

(212) Chen, Q.; Shen, Y.; Zhang, S.; Zhang, Q. M. Polymer-Based Dielectrics with High Energy Storage Density. *Annu. Rev. Mater. Res.* **2015**, *45*, 433–458. https://doi.org/10.1146/annurev-matsci-070214-021017.

(213) Wu, S.; Li, W.; Lin, M.; Burlingame, Q.; Chen, Q.; Payzant, A.; Xiao, K.; Zhang, Q. M. Aromatic Polythiourea Dielectrics with Ultrahigh Breakdown Field Strength, Low Dielectric Loss, and High Electric Energy Density. *Adv. Mater.* **2013**, *25* (12), 1734–1738. https://doi.org/10.1002/adma.201204072.

(214) *Characterizations of P(VDF-HFP)-BaTiO 3 Nanocomposite Films Fabricated by a Spin- Coating Process Xu Lu*.

(215) Tomer, V.; Randall, C. A. High Field Dielectric Properties of Anisotropic Polymer-Ceramic Composites. *J. Appl. Phys.* **2008**, *104* (7). https://doi.org/10.1063/1.2990073.

(216) Rao, Y.; Ogitani, S.; Kohl, P.; Wong, C. P. Novel Polymer-Ceramic Nanocomposite Based on High Dielectric Constant Epoxy Formula for Embedded Capacitor Application. *J. Appl. Polym. Sci.* **2002**, *83* (5), 1084–1090. https://doi.org/10.1002/app.10082.

(217) An, L.; Boggs, S. A.; Calame, J. P. Energy Storage in Polymer Films with High Dielectric Constant Fillers. *Proc. 2008 IEEE Int. Power Modul. High Volt. Conf. PMHVC* **2008**, *24* (3), 552–555. https://doi.org/10.1109/IPMC.2008.4743717.

(218) Cai, X.; Lei, T.; Sun, D.; Lin, L. A Critical Analysis of the α, β and γ Phases in Poly(Vinylidene Fluoride) Using FTIR. *RSC Adv.* **2017**, *7* (25), 15382–15389. https://doi.org/10.1039/c7ra01267e.

(219) Binhayeeniyi, N.; Sukwisute, P.; Nawae, S.; Muensit, N. Energy Conversion

Capacity of Barium Zirconate Titanate. *Materials (Basel).* **2020**, *13* (2), 1–9. https://doi.org/10.3390/ma13020315.

(220) Shepelin, N. A.; Glushenkov, A. M.; Lussini, V. C.; Fox, P. J.; Dicinoski, G. W.; Shapter, J. G.; Ellis, A. V. New Developments in Composites, Copolymer Technologies and Processing Techniques for Flexible Fluoropolymer Piezoelectric Generators for Efficient Energy Harvesting. *Energy Environ. Sci.* **2019**, *12* (4), 1143–1176. https://doi.org/10.1039/c8ee03006e.

(221) Gregorio, R.; Ueno, E. M. Effect of Crystalline Phase, Orientation and Temperature on the Dielectric Properties of Poly (Vinylidene Fluoride) (PVDF). *J. Mater. Sci.* **1999**, *34* (18), 4489–4500. https://doi.org/10.1023/A:1004689205706.

(222) Dash, S. K.; Kant, S.; Dalai, B.; Swain, M. D.; Swain, B. B. Characterization and Dielectric Properties of Barium Zirconium Titanate Prepared by Solid State Reaction and High Energy Ball Milling Processes. *Indian J. Phys.* **2014**, *88* (2), 129–135. https://doi.org/10.1007/s12648-013-0395-0.

(223) Sharma, N.; Kushwaha, H. S.; Sharma, S. K.; Sachdev, K. Fabrication of LaFeO3 and RGO-LaFeO3 Microspheres Based Gas Sensors for Detection of NO2 and CO. *RSC Adv.* **2020**, *10* (3), 1297–1308. https://doi.org/10.1039/c9ra09460a.

(224) Aktaş, P. S. Structural Investigation of Barium Zirconium Titanate Ba(Zr0.5Ti0.5)O3 Particles Synthesized by High Energy Ball Milling Process. *J. Chem. Sci.* **2020**, *132* (1), 0–8. https://doi.org/10.1007/s12039-020-01837-7.

(225) Suresh, G.; Jatav, S.; Mallikarjunachari, G.; Rao, M. S. R.; Ghosh, P.; Satapathy, D. K. Influence of Microstructure on the Nanomechanical Properties of Polymorphic Phases of Poly(Vinylidene Fluoride). *J. Phys. Chem. B* **2018**, *122* (36), 8591–8600. https://doi.org/10.1021/acs.jpcb.8b05972.

(226) Xu, J. J.; Fu, C.; Chu, H.; Wu, X.; Tan, Z.; Qian, J.; Li, W.; Song, Z.; Ran, X.; Nie, W. Enhanced Energy Density of PVDF-Based Nanocomposites via a Core–Shell Strategy. *Sci. Rep.* **2020**, *10* (1), 1–14. https://doi.org/10.1038/s41598-020-73884-6.

(227) Luo, H.; Zhou, X.; Ellingford, C.; Zhang, Y.; Chen, S.; Zhou, K.; Zhang, D.; Bowen, C. R.; Wan, C. Interface Design for High Energy Density Polymer Nanocomposites. *Chem. Soc. Rev.* **2019**, *48* (16), 4424–4465. https://doi.org/10.1039/c9cs00043g.

(228) Lee, J. E.; Eom, Y.; Shin, Y. E.; Hwang, S. H.; Ko, H. H.; Chae, H. G. Effect of Interfacial Interaction on the Conformational Variation of Poly(Vinylidene Fluoride) (PVDF) Chains in PVDF/Graphene Oxide (GO) Nanocomposite Fibers and Corresponding Mechanical Properties. *ACS Appl. Mater. Interfaces* **2019**, *11* (14), 13665–13675. https://doi.org/10.1021/acsami.8b22586.

(229) Li, D.; Huang, C.; Zhou, W.; Xu, J.; Yang, Z. High Energy Storage of PLZT/PVDF Nanocomposites with a Trilayered Structure. *J. Phys. Chem. C* **2021**, *125* (33), 18141–18150. https://doi.org/10.1021/acs.jpcc.1c05520.

(230) Peng, X.; Liu, X.; Qu, P.; Yang, B. Enhanced Breakdown Strength and Energy Density of PVDF Composites by Introducing Boron Nitride Nanosheets. *J. Mater. Sci. Mater. Electron.* **2018**, *29* (19), 16799–16804. https://doi.org/10.1007/s10854-018-9774-9.

(231) Wang, D.; Bao, Y.; Zha, J. W.; Zhao, J.; Dang, Z. M.; Hu, G. H. Improved Dielectric Properties of Nanocomposites Based on Poly(Vinylidene Fluoride) and Poly(Vinyl Alcohol)-Functionalized Graphene. *ACS Appl. Mater. Interfaces* **2012**, *4* (11), 6273–6279. https://doi.org/10.1021/am3018652.

(232) Wang, Z.; Li, Y.; Li, Y.; Yi, Z.; Kong, M. Enhanced Polarization of PVDF Composite Films by Trace BiFeO3 Fiber Filler. *J. Mater. Sci. Mater. Electron.* **2021**, *32* (14), 19703–19712. https://doi.org/10.1007/s10854-021-06492-3.

List of Publications

1. Vishwa Pratap Singh, Satyendra Kumar Satyarthi, **Ankit Dwivedi**, Akansha Dwivedi, Akhilesh Kumar Singh, "*Boosting Energy Storage of PVDF Nanocomposite Based Flexible Self-Standing Film with Low Amount of Hydroxylated* V_2O_5" ACS Applied Energy Materials (2022).

2. **Ankit Dwivedi**, Vishwa Pratap Singh, Akansha Dwivedi, and Akhilesh Kumar Singh, "*Synthesis and electrical characterization of cold sintered* $Ba_{0.7}Sr_{0.3}TiO_3$*–PVDF ceramic nanocomposites for capacitive energy storage applications*" Journal of Materials science: Materials in Electronics (2023).

3. **Ankit Dwivedi**, Vishwa Pratap Singh, Satyendra Kumar Satyarthi and Akhilesh Kumar Singh, "*Improved dielectric and energy storage properties of hydroxylated* $BaZrO_3$*/Poly(Vinylidene difluoride) nanocomposites for high energy density capacitor"* (to be communicated).

4. **Ankit Dwivedi** and Akhilesh Kumar Singh, "*Significantly Enhanced dielectric properties of hydroxylated* $BaZr_{0.4}Ti_{0.6}O_3$*/PVDF nanocomposite film for high energy density capacitor application*" (to be communicated).

List of Conferences/Workshops Attended

1. QIP Short term course on "Geometrical and Mathematical Crystallography with Applications to Structural Studies" organized by School of Materials science and Technology, Indian Institute of Technology (BHU), Varanasi during February 14-19, 2017 (Attended).
2. 45th National Seminar on Crystallography" organized by School of Materials science and Technology, Indian Institute of Technology (BHU), Varanasi during July 09-12, 2017 (Volunteer).
3. International conference on Artificial Intelligence, Photonics and Revolutionary smart Materials (AIPRSM 2021) organised by department of Physics, L.N. Mithila University, Darbhanga during October 25^{th}- 26^{th} 2021 **(Poster Presentation).**
4. 27^{th} International conference of international academy of Physical sciences on Hydrogen energy and Nanomaterials organized by department of Physics, Institute of Science, BHU Varanasi from 26^{th}-28^{th} October 2021**(Poster Presentation).**
5. International Conference on Recent Advances in Functional Materials (RAFM-2022) organized by Department of Physics, IQAC and Star College Scheme, ARSD College University of Delhi from 14 -16th March 2022 **(Poster Presentation).**
6. International Conference on Current Trends in Advanced Materials and their Applications for Societal Development (ICTAMASD-2022) organized by the Department of Physics, Dr. Hari Singh Gour Vishwavidyalaya Sagar from 8th -10^{th} March 2022 **(Poster Presentation).**
7. National Seminar on Ferroelectrics and Dielectrics (XXII NSFD - 2022), organized by the Department of Physics, School of Advanced Sciences, VIT-AP University, India, during 17th-19th December 2022 **(Oral Presentation).**

8. 34th AGM of MRSI and 5th Indian Materials Conclave, organized by School of Materials Science and Technology, IIT(BHU), Varanasi during December 12-15, 2023 (Attended).