

## REFERENCES

- [1] J.F. Scott, *Ferroelectric Memories*, Springer, 2000, 978-3-54-066387-4.
- [2] J.M. Herbert, *Ceramic Dielectrics and Capacitors*, Gordon and Breach Science, 1985, 978-2-88-124045-4.
- [3] J.M. Herbert, *Ferroelectric Transducers and Sensors*, Gordon and Breach Science, 1982, 978-0-67-705910-5.
- [4] M. Sayer and K. Sreenivas, "Ceramic Thin Films: Fabrication and Applications", *Science*, 247, 1990, 1056.
- [5] J.F. Scott, L. Kammerdiner, M. Parris, S. Traynor, V. Ottenbacher, A. Shawabkeh, and W.F. Oliver, "Switching kinetics of lead zirconate titanate submicron thin-film memories", *J. Appl. Phys.*, 64, 1988, 787.
- [6] M.E. Lines and A.M. Glass, *Principles and Applications of Ferroelectrics and Related Materials*, Oxford University Press, 2001, 978-0-19-850778-9.
- [7] Y. Laosiritaworn, K. Kanchiang, A. Ngamjarujana, R. Yimnirun, R. Guo, and A.S. Bhalla, "The Debye Dielectric Behavior of Mixed Normal and Relaxor-Ferroelectrics: Monte Carlo Investigation", *Ferroelectrics*, 401, 2010, 239.
- [8] Y. Laosiritaworn, K. Kanchiang, R. Yimnirun, R. Guo, and A.S. Bhalla, "Monte Carlo Simulations of Relaxor Ferroelectric Dielectric Permittivity in Films Structure", *Ferroelectrics*, 380, 2009, 169.
- [9] Y. Laosiritaworn, K. Kanchiang, R. Yimnirun, R. Guo, and A.S. Bhalla, "Monte Carlo Investigation of Mixed Normal and Relaxor Ferroelectrics", *Ferroelectrics*, 382, 2009, 28.
- [10] Y. Laosiritaworn, S. Ananta, J. Poulter, and R. Yimnirun, "Monte Carlo investigation of hysteresis properties in ferroelectric thin-films under the effect of uniaxial stresses", *Ceram. Int.*, 35, 2009, 181.

- [11] C.H. Ahn, K.M. Rabe, and J.-M. Triscone, "Ferroelectricity at the Nanoscale: Local Polarization in Oxide Thin Films and Heterostructures", *Science*, 303, 2004, 488.
- [12] W.F. Li and G.J. Weng, "A theory of ferroelectric hysteresis with a superimposed stress", *J. Appl. Phys.*, 91, 2002, 3806.
- [13] M. Acharyya and B.K. Chakrabarti, "Response of Ising systems to oscillating and pulsed fields: Hysteresis, ac, and pulse susceptibility", *Phys. Rev. B*, 52, 1995, 6550.
- [14] C.N. Luse and A. Zangwill, "Discontinuous scaling of hysteresis losses", *Phys. Rev. E*, 50, 1994, 224.
- [15] T. Tomé and M.J. de Oliveira, "Dynamic phase transition in the kinetic Ising model under a time-dependent oscillating field", *Phys. Rev. A*, 41, 1990, 4251.
- [16] Z. Huang, Z. Chen, F. Zhang, and Y. Du, "Dynamic phase transition in the Heisenberg model under a time-dependent oscillating field", *Phys. Lett. A*, 338, 2005, 485.
- [17] B.K. Chakrabarti and M. Acharyya, "Dynamic transitions and hysteresis", *Rev. Mod. Phys.*, 71, 1999, 847.
- [18] M. Rao, H.R. Krishnamurthy, and R. Pandit, "Magnetic hysteresis in two model spin systems", *Phys. Rev. B*, 42, 1990, 856.
- [19] A. Murayama, K. Hyomi, J. Eickmann, and C.M. Falco, "Brillouin study of long-wavelength spin waves in quasimonatomic Co films with uniaxial perpendicular magnetic anisotropy", *Phys. Rev. B*, 61, 2000, 8984.
- [20] D. Zhou and M. Kamlah, "High-field dielectric and piezoelectric performance of soft lead zirconate titanate piezoceramics under combined electromechanical loading", *J. Appl. Phys.*, 96, 2004, 6634.

- [21] H.-X. Cao, V.C. Lo, and W.W.Y. Chung, "Investigation of electromechanical properties in ferroelectric thin films using Monte Carlo simulation", *J. Appl. Phys.*, 99, 2006, 024103.
- [22] M. Mitrovic, G. P. Carman, and F. K. Straub, "Response of piezoelectric stack actuators under combined electro-mechanical loading", *Int. J. Solids. Struct.*, 38, 2001, 4357.
- [23] N. Wongdamnern, N. Triamnak, A. Ngamjarrojana, S. Ananta, Y. Laosiritaworn, and R. Yimnirun, "Stress-Dependent Scaling Behavior of Sub-Coercive Field Dynamic Hysteresis in  $\text{Pb}(\text{Zr}_{1/2}\text{Ti}_{1/2})\text{O}_3$ - $\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$  Ceramic Systems", *Ferroelectrics*, 384, 2009, 1.
- [24] N. Wongdamnern, A. Ngamjarrojana, Y. Laosiritaworn, S. Ananta, and R. Yimnirun, "Dynamic ferroelectric hysteresis scaling of  $\text{BaTiO}_3$  single crystals", *J. Appl. Phys.*, 105, 2009, 044109.
- [25] R. Yimnirun, N. Wongdamnern, N. Triamnak, M. Unruan, A. Ngamjarrojana, S. Ananta, and Y. Laosiritaworn, "Stress dependence and scaling of subcoercive field dynamic hysteresis in  $0.5\text{Pb}(\text{Zr}_{1/2}\text{Ti}_{1/2})\text{O}_3$ - $0.5\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$  ceramic", *J. Appl. Phys.*, 104, 2008, 104103.
- [26] R. Yimnirun, R. Wongmaneerung, S. Wongsanmai, A. Ngamjarrojana, S. Ananta, and Y. Laosiritaworn, "Dynamic hysteresis and scaling behavior of hard lead zirconate titanate bulk ceramics", *Appl. Phys. Lett.*, 90, 2007, 112908.
- [27] R. Yimnirun, S. Ananta, Y. Laosiritaworn, A. Ngamjarrojana, and S. Wongsanmai, "Scaling Behavior of Dynamic Ferroelectric Hysteresis in Soft PZT Ceramic: Stress Dependence", *Ferroelectrics*, 358, 2007, 3.
- [28] R. Yimnirun, S. Wongsanmai, S. Ananta, and Y. Laosiritaworn, "Stress-dependent scaling behavior of dynamic hysteresis in bulk soft ferroelectric ceramic", *Appl. Phys. Lett.*, 89, 2006, 242901.

- [29] R. Yimnirun, Y. Laosiritaworn, S. Wongsanmai, and S. Ananta, "Scaling behavior of dynamic hysteresis in soft lead zirconate titanate bulk ceramics", *Appl. Phys. Lett.*, 89, 2006, 162901.
- [30] N. Wongdamnern, A. Ngamjarrojana, S. Ananta, Y. Laosiritaworn, and R. Yimnirun, "Dynamic Hysteresis Scaling in BaTiO<sub>3</sub> Bulk Ceramics", *Key Eng. Mater.*, 421-422, 2010, 399.
- [31] K. Kanchiang, R. Yimnirun, N. Wongdamnern, A. Ngamjarrojana, and Y. Laosiritaworn, "Harmonic Analysis of Dynamic Hysteresis Response of BaTiO<sub>3</sub> Bulk Ceramics", *Ferroelectrics*, 401, 2010, 123.
- [32] D.P. Landau and K. Binder, *A Guide to Monte Carlo Simulation in Statistical Physics*, Cambridge University Press, 3rd Ed., 2009, 978-0-52-176848-1.
- [33] M.E.J. Newman and G.T. Barkema, *Monte Carlo Methods in Statistical Physics*, Oxford University Press, 1999, 978-0-19-851797-9.
- [34] Y. Laosiritaworn, "Monte Carlo investigation of ferroelectric properties in thin films", *Key Eng. Mater.*, 421-422, 2010, 177.
- [35] J.M. Liu, W.M. Wang, Z.G. Liu, H.L. Chan, and C.L. Choy, "Dynamic hysteresis in ferroelectric systems: experiment and Monte Carlo simulation", *Appl. Phys. A*, 75, 2002, 507.
- [36] J.M. Liu, Q.C. Li, W.M. Wang, X.Y. Chen, G.H. Cao, X.H. Liu, and Z.G. Liu, "Scaling of dynamic hysteresis in ferroelectric spin systems", *J. Phys. Condens. Matter*, 13, 2001, L153.
- [37] S. Sucharitakul, R. Yimnirun, and Y. Laosiritaworn, "Acceptor-Doped Ferroelectric Modeling via Monte Carlo Simulation", *Key Eng. Mater.*, 421-422, 2010, 231.
- [38] T. Janssen and J.A. Tjon, "One-dimensional model for a crystal with displacive modulation", *Phys. Rev. B*, 24, 1981, 2245.

- [39] J.M. Liu, K.F. Wang, Y. Wang, Q.C. Li, and X.S. Gao, "Magnetoelectric coupling in ferromagnets with antiferroelectric and antiferromagnetic orders", *Computational Materials Science*, 30, 2004, 389.
- [40] X.S. Gao, J.M. Liu, Q.C. Li, and Z.G. Liu, "A Monte-Carlo study of magnetoelectric coupling system", *Ferroelectrics*, 252, 2001, 69.
- [41] X.S. Gao, J.-M. Liu, X.Y. Chen, and Z.G. Liu, "Monte Carlo approach to phase transitions in ferromagnets", *J. Appl. Phys.*, 88, 2000, 4250.
- [42] R. Bowley and M.M. Sanchez, *Introductory statistical mechanics*, Clarendon Press, 1999,
- [43] M. Suzuki and R. Kubo, "Dynamics of the Ising Model near the Critical Point. I", *J. Phys. Soc. Jpn.*, 24, 1968, 51.
- [44] N.J. Giordano and H. Nakanishi, *Computational Physics*, Addison-Wesley, 2 Ed., 2005, 978-0-13-146990-7.
- [45] K. Binder and D.W. Heermann, *Monte Carlo Simulation in Statistical Physics: An Introduction*, Springer, 5th Ed., 2010, 978-3-64-203162-5.
- [46] S. Srinoi, K. Kanchiang, W. Laosiritaworn, R. Yimnirun, and Y. Laosiritaworn, "Ferroic Hysteresis Modeling", *Int. Ferroelectrics*, 131, 2011, 202.
- [47] C.A.O. Nascimento, R. Giudici, and R. Guardani, "Neutral network based approach for optimization of industrial chemical processes", *Comput. Chem. Eng.*, 24, 2000, 2303.
- [48] D. Rumelhart and J. McClelland, *Parallel Distributed Processing*, MIT Press, 1986,
- [49] W. Laosiritaworn and N. Chotchaithanakorn, "Artificial neural networks parameters optimization with design of experiments: An application in ferromagnetic materials modeling", *Chiang Mai J. Sci.*, 36, 2009, 83.

- [50] W. Laosiritaworn, O. Khamman, S. Ananta, R. Yimnirun, and Y. Laosiritaworn, "Artificial neural network model of ceramics power preparation: Application to  $\text{NiNb}_2\text{O}_6$ ", *Ceram. Int.*, 34, 2008, 809.
- [51] W. Laosiritaworn and Y. Laosiritaworn, "Artificial neural network modeling of mean-field Ising hysteresis", *IEEE Trans. Magn.*, 45, 2009, 2644.
- [52] W. Laosiritaworn, R. Yimnirun, and Y. Laosiritaworn, "Artificial neural network modeling of ferroelectric hysteresis: An application to soft lead zirconate titanate ceramics", *Key Eng. Mater.*, 421-422, 2010, 432.
- [53] G.J. Udo, "Neural neural applications in manufacturing processes", *Comput. Ind. Eng.*, 23, 1992, 97.
- [54] H.C. Zhang and S.H. Huang, "Applications of neural networks in manufacturing: A state-of-the-art survey", *Int. J. Prod. Res.*, 33, 1995, 705.
- [55] A. Vellido, P.J.G. Lisboa, and J. Vaughan, "Neural networks in Business: A survey of applications (1992-1998)", *Expert. Syst. Appl.*, 17, 1999, 51.
- [56] B.K. Wong, V.S. Lai, and J. Lam, "A bibliography of neural network business applications research: 1994-1998", *Comput. Oper. Res.*, 27, 2000, 1045.
- [57] C.A.O. Nascimento, R. Giudici, and R. Guardani, "Neural network based approach for optimization of industrial chemical processes", *Comput. Chem. Eng.*, 24, 2000, 2303.
- [58] S. Srilomsak, W.A. Schulze, S.M. Pilgrim, and F.A. Williams, "Harmonic Analysis of Polarization Hysteresis of Aged PZTs", *J. Am. Ceram. Soc.*, 88, 2005, 2121.
- [59] G. Goev, V. Masheva, and M. Mikhov, "Fourier analysis of AC hysteresis loops", *IEEE Trans. Magn.*, 39, 2003, 1993.
- [60] V. Nagarajan, I.G. Jenkins, S.P. Alpay, H. Li, S. Aggarwal, L. Salamanca-Riba, A.L. Roytburd, and R. Ramesh, "Thickness dependence of structural

and electrical properties in epitaxial lead zirconate titanate films", *J. Appl. Phys.*, 86, 1999, 595.

- [61] H.X. Cao, V.C. Lo, and W.W.Y. Chung, "Investigation of electromechanical properties in ferroelectric thin films using Monte Carlo simulation", *J. Appl. Phys.*, 99, 2006, 024103.
- [62] V.C. Lo, "Modeling the role of oxygen vacancy on ferroelectric properties in thin films", *J. Appl. Phys.*, 92, 2002, 6778.
- [63] K.T. Li and V.C. Lo, "Simulation of oxygen vacancy induced phenomena in ferroelectric thin films", *J. Appl. Phys.*, 97, 2005, 034107.
- [64] V.C. Lo, W.W.Y. Chung, and S.C.K. Chow, "Simulation of electromechanical responses of ferroelectric ceramics driven by combined alternating electrical and mechanical loadings", *J. Appl. Phys.*, 101, 2007, 114111.
- [65] N. Metropolis, A.W. Rosenbluth, M.N. Rosenbluth, A.H. Teller, and E. Teller, "Equation of State Calculations by Fast Computing Machines", *J. Chem. Phys.*, 21, 1953, 1087.
- [66] S. Srinoi and Y. Laosiritaworn, "The Role of Vacancy Defects on the Dynamic Hysteresis Properties of Ferroelectric Thin Films: Monte Carlo Simulation with the DIFFOUR Model", *Ferroelectrics*, 414, 2011, 140.
- [67] S. Srinoi and Y. Laosiritaworn, "Monte Carlo Investigation of Defect-Driven Ferroelectric Phase-Transition in Two Dimensional Defected Film", *Int. Ferroelectrics*, 156, 2014, 1.
- [68] S. Srinoi, R. Yimmirun, and Y. Laosiritaworn, "Effects of Oxygen Vacancy on Ferroelectric Hysteresis under External Electric and Stress Fields", *Ferroelectrics*, 470, 2014, 35.

- [69] D. Zhou, M. Kamlah, and D. Munz, "Effects of uniaxial prestress on the ferroelectric hysteretic response of soft PZT", J. Eur. Ceram. Soc., 25, 2005, 425.



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