

Bibliography

- [1] C. E. Authority, “Draft national electricity plan (no. volume 1: Generation),” *Ministry of Power, Government of India*, 2016.
- [2] N. Aayog, “Report on indias renewable electricity roadmap 2030: Toward accelerated renewable electricity deployment,” *NITI Ayog. Government of India, Tech. Rep*, 2015.
- [3] A. M. Azmy and I. Erlich, “Impact of distributed generation on the stability of electrical power system,” in *IEEE Power Engineering Society General Meeting, 2005*. IEEE, 2005, pp. 1056–1063.
- [4] *Gujarat Solar Power Policy 2021*. [Online] Available: [https://geda.gujarat.gov.in/Gallery/Media Gallery/Gujarat Solar Power Policy-2021.pdf](https://geda.gujarat.gov.in/Gallery/Media%20Gallery/Gujarat%20Solar%20Power%20Policy-2021.pdf), 2021.
- [5] A. Brooks, E. Lu, D. Reicher, C. Spirakis, and B. Wehl, “Demand dispatch,” *IEEE Power and Energy Magazine*, vol. 8, no. 3, pp. 20–29, 2010.
- [6] S. Y. Hui, C. K. Lee, and F. F. Wu, “Electric springs-a new smart grid technology,” *IEEE Transactions on Smart Grid*, vol. 3, no. 3, pp. 1552–1561, Sep. 2012.
- [7] L. Pérez-Lombard, J. Ortiz, and C. Pout, “A review on buildings energy consumption information,” *Energy and buildings*, vol. 40, no. 3, pp. 394–398, 2008.
- [8] M. D. Solanki and S. Joshi, “Review of electric spring: A new smart grid device for efficient demand dispatch and active and reactive power control,” in *2016 Clemson University Power Systems Conference (PSC)*. IEEE, 2016, pp. 1–8.

- [9] —, “Recapitulation of electric spring: A smart grid device for real time demand side management and mitigating power quality issues,” in *2016 National Power Systems Conference (NPSC)*. IEEE, 2016, pp. 1–6.
- [10] D. Mah, P. Hills, V. O. Li, and R. Balme, *Smart grid applications and developments*. Springer, 2014.
- [11] P. P. Varaiya, F. F. Wu, and J. W. Bialek, “Smart operation of smart grid: Risk-limiting dispatch,” *Proceedings of the IEEE*, vol. 99, no. 1, pp. 40–57, 2010.
- [12] I. Koutsopoulos and L. Tassiulas, “Challenges in demand load control for the smart grid,” *Ieee Network*, vol. 25, no. 5, pp. 16–21, 2011.
- [13] P. Palensky and D. Dietrich, “Demand side management: Demand response, intelligent energy systems, and smart loads,” *IEEE transactions on industrial informatics*, vol. 7, no. 3, pp. 381–388, 2011.
- [14] L. Wang, *Modeling and control of sustainable power systems: Towards smarter and greener electric grids*. Springer, 2011.
- [15] H. Nilsson, “The many faces of demand-side management,” *Power Engineering Journal*, vol. 8, no. 5, pp. 207–210, 1994.
- [16] H.-p. Chao, “Price-responsive demand management for a smart grid world,” *The Electricity Journal*, vol. 23, no. 1, pp. 7–20, 2010.
- [17] A. J. Conejo, J. M. Morales, and L. Baringo, “Real-time demand response model,” *IEEE Transactions on Smart Grid*, vol. 1, no. 3, pp. 236–242, 2010.
- [18] A.-H. Mohsenian-Rad and A. Leon-Garcia, “Optimal residential load control with price prediction in real-time electricity pricing environments,” *IEEE transactions on Smart Grid*, vol. 1, no. 2, pp. 120–133, 2010.
- [19] A. J. Roscoe and G. Ault, “Supporting high penetrations of renewable generation via implementation of real-time electricity pricing and demand response,” *IET Renewable Power Generation*, vol. 4, no. 4, pp. 369–382, 2010.

- [20] F. Kienzle, P. Ahčin, and G. Andersson, “Valuing investments in multi-energy conversion, storage, and demand-side management systems under uncertainty,” *IEEE Transactions on sustainable energy*, vol. 2, no. 2, pp. 194–202, 2011.
- [21] J. Woodbridge, “Application of storage batteries to regulation of alternating-current systems,” *Proceedings of the American Institute of Electrical Engineers*, vol. 27, no. 6, pp. 949–983, 1908.
- [22] S. Lee, S. Kim, and S. Kim, “Demand side management with air conditioner loads based on the queuing system model,” *IEEE Transactions on Power Systems*, vol. 26, no. 2, pp. 661–668, 2010.
- [23] G. C. Heffner, C. A. Goldman, and M. M. Moezzi, “Innovative approaches to verifying demand response of water heater load control,” *IEEE Transactions on Power Delivery*, vol. 21, no. 1, pp. 388–397, 2005.
- [24] A.-H. Mohsenian-Rad, V. W. Wong, J. Jatskevich, R. Schober, and A. Leon-Garcia, “Autonomous demand-side management based on game-theoretic energy consumption scheduling for the future smart grid,” *IEEE transactions on Smart Grid*, vol. 1, no. 3, pp. 320–331, 2010.
- [25] M. Parvania and M. Fotuhi-Firuzabad, “Demand response scheduling by stochastic scuc,” *IEEE Transactions on smart grid*, vol. 1, no. 1, pp. 89–98, 2010.
- [26] M. A. A. Pedrasa, T. D. Spooner, and I. F. MacGill, “Scheduling of demand side resources using binary particle swarm optimization,” *IEEE Transactions on Power Systems*, vol. 24, no. 3, pp. 1173–1181, 2009.
- [27] C. K. Lee and S. Y. Hui, “Reduction of energy storage requirements in future smart grid using electric springs,” *IEEE Transactions on Smart Grid*, vol. 4, no. 3, pp. 1282–1288, 2013.
- [28] E. F. Areed, M. A. Abido, and A. T. Al-Awami, “Switching model analysis and implementation of electric spring for voltage regulation in smart grids,” *IET Generation, Transmission & Distribution*, vol. 11, no. 15, pp. 3703–3712, 2017.

- [29] S.-C. Tan, C. K. Lee, and S. Hui, “General steady-state analysis and control principle of electric springs with active and reactive power compensations,” *IEEE Transactions on Power Electronics*, vol. 28, no. 8.
- [30] N. R. Chaudhuri, C. K. Lee, B. Chaudhuri, and S. R. Hui, “Dynamic modeling of electric springs,” *IEEE Transactions on Smart Grid*, vol. 5, no. 5, pp. 2450–2458, 2014.
- [31] S. Yan, C.-K. Lee, T. Yang, K.-T. Mok, S.-C. Tan, B. Chaudhuri, and S. R. Hui, “Extending the operating range of electric spring using back-to-back converter: hardware implementation and control,” *IEEE Transactions on Power Electronics*, vol. 32, no. 7, pp. 5171–5179, 2016.
- [32] T. Yang, K.-T. Mok, S.-C. Tan, C. K. Lee, and S. Y. Hui, “Electric springs with coordinated battery management for reducing voltage and frequency fluctuations in microgrids,” *IEEE Transactions on Smart Grid*, vol. 9, no. 3, pp. 1943–1952, 2016.
- [33] X. Luo, Z. Akhtar, C. K. Lee, B. Chaudhuri, S.-C. Tan, and S. Y. R. Hui, “Distributed voltage control with electric springs: Comparison with statcom,” *IEEE Transactions on Smart Grid*, vol. 6, no. 1, pp. 209–219, 2014.
- [34] C. K. Lee, B. Chaudhuri, and S. Y. Hui, “Hardware and control implementation of electric springs for stabilizing future smart grid with intermittent renewable energy sources,” *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 1, no. 1, pp. 18–27, 2013.
- [35] C. K. Lee, N. R. Chaudhuri, B. Chaudhuri, and S. R. Hui, “Droop control of distributed electric springs for stabilizing future power grid,” *IEEE Transactions on Smart Grid*, vol. 4, no. 3, pp. 1558–1566, 2013.
- [36] Q. Wang, M. Cheng, Z. Chen, and Z. Wang, “Steady-state analysis of electric springs with a novel δ control,” *IEEE Transactions on Power Electronics*, vol. 30, no. 12, pp. 7159–7169, 2015.
- [37] S. Yan, S.-C. Tan, C.-K. Lee, B. Chaudhuri, and S. R. Hui, “Electric springs for reducing power imbalance in three-phase power systems,” *IEEE Transactions on Power Electronics*, vol. 30, no. 7, pp. 3601–3609, 2014.

- [38] K.-T. Mok, S.-S. Ho, S.-C. Tan, and S. Hui, "A comprehensive analysis and control strategy for nullifying negative-and zero-sequence currents in an unbalanced three-phase power system using electric springs," *IEEE Transactions on Power Electronics*, vol. 32, no. 10, pp. 7635–7650, 2016.
- [39] Y. Yang, S.-C. Tan, and S.-Y. Hui, "Voltage and frequency control of electric spring based smart loads," in *2016 IEEE applied power electronics conference and exposition (APEC)*. IEEE, 2016, pp. 3481–3487.
- [40] J. Chen, S. Yan, T. Yang, S.-C. Tan, and S. Y. Hui, "Practical evaluation of droop and consensus control of distributed electric springs for both voltage and frequency regulation in microgrid," *IEEE Transactions on Power Electronics*, vol. 34, no. 7, pp. 6947–6959, 2018.
- [41] Y. Yang, Y. Qin, S.-C. Tan, and S. Y. R. Hui, "Reducing distribution power loss of islanded ac microgrids using distributed electric springs with predictive control," *IEEE Transactions on Industrial Electronics*, vol. 67, no. 10, pp. 9001–9011, 2020.
- [42] K. Krishnanand, S. M. F. Hasani, J. Soni, and S. K. Panda, "Neutral current mitigation using controlled electric springs connected to microgrids within built environment," in *2014 IEEE Energy Conversion Congress and Exposition (ECCE)*. IEEE, 2014, pp. 2947–2951.
- [43] K.-T. Mok, M.-H. Wang, S.-C. Tan, and S.-Y. Hui, "Dc electric springs-an emerging technology for dc grids," in *2015 IEEE applied power electronics conference and exposition (APEC)*. IEEE, 2015, pp. 684–690.
- [44] X. Chen, M. Shi, H. Sun, Y. Li, and H. He, "Distributed cooperative control and stability analysis of multiple dc electric springs in a dc microgrid," *IEEE Transactions on Industrial Electronics*, vol. 65, no. 7, pp. 5611–5622, 2017.
- [45] M.-H. Wang, K.-T. Mok, S.-C. Tan, and S. Hui, "Multifunctional dc electric springs for improving voltage quality of dc grids," *IEEE Transactions on Smart Grid*, vol. 9, no. 3, pp. 2248–2258, 2016.

- [46] K. K. Deepika, J. Vijayakumar, and G. K. Rao, “Restraining voltage fluctuations in distribution system with jaya algorithm-optimized electric spring,” in *Progress in Advanced Computing and Intelligent Engineering*. Springer, 2021, pp. 180–190.
- [47] Q. Wang, M. Cheng, Z. Chen, and Z. Wang, “Steady-state analysis of electric springs with a novel δ control,” *IEEE Transactions on Power Electronics*, vol. 30, no. 12, pp. 7159–7169, 2015.
- [48] K.-T. Mok, S.-C. Tan, and S. R. Hui, “Decoupled power angle and voltage control of electric springs,” *IEEE Transactions on power electronics*, vol. 31, no. 2, pp. 1216–1229, 2015.
- [49] Q. Wang, M. Cheng, Y. Jiang, W. Zuo, and G. Buja, “A simple active and reactive power control for applications of single-phase electric springs,” *IEEE Transactions on Industrial Electronics*, vol. 65, no. 8, pp. 6291–6300, 2018.
- [50] G. Ma, G. Xu, Y. Chen, and R. Ju, “Voltage stability control method of electric springs based on adaptive pi controller,” *International Journal of Electrical Power & Energy Systems*, vol. 95, pp. 202–212, 2018.
- [51] X. Zhang and Z. Zheng, “Application of repetitive control in electric spring,” *IEEE Access*, vol. 8, pp. 216 607–216 616, 2020.
- [52] Q. Wang, Z. Ding, M. Cheng, F. Deng, and G. Buja, “A parameter-exempted, high-performance power decoupling control of single-phase electric springs,” *IEEE Access*, vol. 8, pp. 33 370–33 379, 2020.
- [53] Q. Wang, M. Cheng, and Y. Jiang, “Harmonics suppression for critical loads using electric springs with current-source inverters,” *IEEE Journal of emerging and selected topics in power electronics*, vol. 4, no. 4, pp. 1362–1369, 2016.
- [54]
- [55] Q. Wang, M. Cheng, Z. Chen, and G. Buja, “A novel topology and its control of single-phase electric springs,” in *2015 International Conference on Renewable Energy Research and Applications (ICRERA)*. IEEE, 2015, pp. 267–272.

- [56] M. D. Solanki and S. Joshi, “Control of electric spring: A lead–lag compensated approach,” *Journal of The Institution of Engineers (India): Series B*, pp. 1–8, 2021.
- [57] S.-T. Chen, H.-I. Kuo, and C.-C. Chen, “The relationship between gdp and electricity consumption in 10 asian countries,” *Energy Policy*, vol. 35, pp. 2611–2621, 04 2007.
- [58] “On investing in the development of low carbon technologies (setplan) a technology roadmap,” 2009.
- [59] A. M. Azmy and I. Erlich, “Impact of distributed generation on the stability of electrical power system,” in *IEEE Power Engineering Society General Meeting, 2005*. IEEE, 2005, pp. 1056–1063.
- [60] D. L. Hau Aik and G. Andersson, “Impact of renewable energy sources on steady-state stability of weak ac/dc systems,” *CSEE Journal of Power and Energy Systems*, vol. 3, no. 4, pp. 419–430, Dec 2017.
- [61] V. K. Jadoun, V. C. Pandey, N. Gupta, K. R. Niazi, and A. Swarnkar, “Integration of renewable energy sources in dynamic economic load dispatch problem using an improved fireworks algorithm,” *IET Renewable Power Generation*, vol. 12, no. 9, pp. 1004–1011, 2018.
- [62] L. G. Ghosh A., *Power Quality Enhancement Using Custom Power Devices*. Springer, Boston, MA, 2002.
- [63] C. P. Luis Prez-Lombard, Jos Ortiz, “A review on buildings energy consumption information,” *Energy and Buildings*, vol. 40, no. 3, pp. 394–398, 2008.
- [64] M. Deru, K. Field, D. Studer, K. Benne, B. Griffith, P. Torcellini, B. Liu, M. Halver-son, D. Winiarski, M. Rosenberg *et al.*, “Us department of energy commercial reference building models of the national building stock,” 2011.
- [65] S. Yan, C. Lee, T. Yang, K. Mok, S. Tan, B. Chaudhuri, and S. Y. R. Hui, “Extending the operating range of electric spring using back-to-back converter: Hardware implementation and control,” *IEEE Transactions on Power Electronics*, vol. 32, no. 7, pp. 5171–5179, July 2017.

- [66] “Ieee recommended practice and requirements for harmonic control in electric power systems,” *IEEE Std 519-2014 (Revision of IEEE Std 519-1992)*, pp. 1–29, 2014.
- [67] Y. Yang, S. Tan, and S. Hui, “Voltage and frequency control of electric spring based smart loads,” in *2016 IEEE Applied Power Electronics Conference and Exposition (APEC)*, March 2016, pp. 3481–3487.
- [68] P. Gahinet, A. Nemirovski, A. J. Laub, and M. Chilali, “Lmi control toolbox,” *The Math Works Inc*, 1996.
- [69] J. Bernussou, P. Peres, and J. Geromel, “A linear programming oriented procedure for quadratic stabilization of uncertain systems,” *Systems & Control Letters*, vol. 13, no. 1, pp. 65–72, 1989.
- [70] S. Bacha, I. Munteanu, A. I. Bratcu *et al.*, “Power electronic converters modeling and control,” *Advanced textbooks in control and signal processing*, vol. 454, p. 454, 2014.
- [71] A. Yazdani and R. Iravani, *Voltage-sourced converters in power systems*. Wiley Online Library, 2010, vol. 39.
- [72] R. W. Erickson and D. Maksimovic, *Fundamentals of power electronics*. Springer Science & Business Media, 2007.
- [73] S. Boyd, L. El Ghaoui, E. Feron, and V. Balakrishnan, *Linear matrix inequalities in system and control theory*. SIAM, 1994.
- [74] U. P. Yagnik and M. D. Solanki, “Comparison of l, lc & lcl filter for grid connected converter,” in *2017 International Conference on Trends in Electronics and Informatics (ICEI)*. IEEE, 2017, pp. 455–458.
- [75] M. Liserre, F. Blaabjerg, and S. Hansen, “Design and control of an lcl-filter-based three-phase active rectifier,” *IEEE Transactions on industry applications*, vol. 41, no. 5, pp. 1281–1291, 2005.
- [76] M. Bhardwaj, “Voltage source inverter design guide,” *Texas Instruments Designs [Online]* Available: <https://www.ti.com/lit/pdf/tiduay6>, 2015.

- [77] B. Arif, L. Tarisciotti, P. Zanchetta, J. C. Clare, and M. Degano, "Grid parameter estimation using model predictive direct power control," *IEEE Transactions on Industry Applications*, vol. 51, no. 6, pp. 4614–4622, 2015.
- [78] M. Ciobotaru, R. Teodorescu, P. Rodriguez, A. Timbus, and F. Blaabjerg, "Online grid impedance estimation for single-phase grid-connected systems using pq variations," in *2007 IEEE Power Electronics Specialists Conference*. IEEE, 2007, pp. 2306–2312.
- [79] D. W. Thomas and M. S. Woolfson, "Evaluation of frequency tracking methods," *IEEE Transactions on Power Delivery*, vol. 16, no. 3, pp. 367–371, 2001.
- [80] M. M. Begovic, P. Djuric, S. Dunlap, and A. Phadke, "Frequency tracking in power networks of harmonics," in *ICHPS V International Conference on Harmonics in Power Systems*. IEEE, 1992, pp. 151–157.
- [81] P. Moore, R. Carranza, and A. Johns, "A new numeric technique for high-speed evaluation of power system frequency," *IEE Proceedings-Generation, Transmission and Distribution*, vol. 141, no. 5, pp. 529–536, 1994.
- [82] A. A. Girgis and F. M. Ham, "A new fft-based digital frequency relay for load shedding," *IEEE Transactions on Power Apparatus and Systems*, no. 2, pp. 433–439, 1982.
- [83] A. G. Phadke, J. S. Thorp, and M. G. Adamiak, "A new measurement technique for tracking voltage phasors, local system frequency, and rate of change of frequency," *IEEE transactions on power apparatus and systems*, no. 5, pp. 1025–1038, 1983.
- [84] A. Routray, A. K. Pradhan, and K. P. Rao, "A novel kalman filter for frequency estimation of distorted signals in power systems," *IEEE Transactions on Instrumentation and Measurement*, vol. 51, no. 3, pp. 469–479, 2002.
- [85] P. Dash, A. Pradhan, and G. Panda, "Frequency estimation of distorted power system signals using extended complex kalman filter," *IEEE Transactions on Power Delivery*, vol. 14, no. 3, pp. 761–766, 1999.

- [86] L. Lai, W. Chan, C. Tse, and A. So, "Real-time frequency and harmonic evaluation using artificial neural networks," *IEEE Transactions on power delivery*, vol. 14, no. 1, pp. 52–59, 1999.
- [87] P. Dash, D. Swain, A. Routray, and A. Liew, "An adaptive neural network approach for the estimation of power system frequency," *Electric Power Systems Research*, vol. 41, no. 3, pp. 203–210, 1997.
- [88] M. Sachdev and M. Giray, "A least error squares technique for determining power system frequency," *IEEE Transactions on Power Apparatus and Systems*, no. 2, pp. 437–444, 1985.
- [89] M. Giray and M. Sachdev, "Off-nominal frequency measurements in electric power systems," *IEEE Power Engineering Review*, vol. 9, no. 7, pp. 42–43, 1989.
- [90] V. V. Terzija, M. B. Djuric, and B. D. Kovacevic, "Voltage phasor and local system frequency estimation using newton type algorithm," *IEEE Transactions on Power Delivery*, vol. 9, no. 3, pp. 1368–1374, 1994.
- [91] P. K. Dash, B. Mishra, R. Jena, and A. Liew, "Estimation of power system frequency using adaptive notch filters," in *Proceedings of EMPD'98. 1998 International Conference on Energy Management and Power Delivery (Cat. No. 98EX137)*, vol. 1. IEEE, 1998, pp. 143–148.
- [92] M. Saitou, N. Matsui, and T. Shimizu, "A control strategy of single-phase active filter using a novel dq transformation," in *38th IAS Annual Meeting on Conference Record of the Industry Applications Conference, 2003.*, vol. 2. IEEE, 2003, pp. 1222–1227.
- [93] L. Amuda, B. Cardoso Filho, S. Silva, S. Silva, and A. Diniz, "Wide bandwidth single and three-phase pll structures for grid-tied pv systems," in *Conference Record of the Twenty-Eighth IEEE Photovoltaic Specialists Conference-2000 (Cat. No. 00CH37036)*. IEEE, 2000, pp. 1660–1663.
- [94] M. Ciobotaru, R. Teodorescu, and F. Blaabjerg, "A new single-phase pll structure based on second order generalized integrator," in *2006 37th IEEE Power Electronics Specialists Conference*. IEEE, 2006, pp. 1–6.

- [95] K. Ogata. Englewood Cliffs, NJ: Prentice-Hall, 2010, pp. 204–244.
- [96] A. Yazdani and R. Iravani, *Grid-Imposed Frequency VSC System: Control in α -Frame*. IEEE, 2010, pp. 204–244. [Online]. Available: <https://ieeexplore.ieee.org/document/6739414>
- [97] M. Karimi-Ghartema, *Enhanced phase-locked loop structures for power and energy applications*. John Wiley & Sons, 2014.
- [98] R. C. Dorf and R. H. Bishop, *Modern control systems*. Pearson, 2011.
- [99] K. Y. Lee and M. A. El-Sharkawi, *Modern heuristic optimization techniques: theory and applications to power systems*. John Wiley & Sons, 2008, vol. 39.
- [100] J. Radosavljević, *Metaheuristic optimization in power engineering*. Institution of Engineering and Technology, 2018.
- [101] K. Mok, S. Tan, and S. Y. R. Hui, “Decoupled power angle and voltage control of electric springs,” *IEEE Transactions on Power Electronics*, vol. 31, no. 2, pp. 1216–1229, Feb 2016.
- [102] Q. Wang, Z. Ding, M. Cheng, F. Deng, and G. Buja, “A parameter-exempted, high-performance power decoupling control of single-phase electric springs,” *IEEE Access*, vol. 8, pp. 33 370–33 379, 2020.
- [103] X. Zhang and Z. Zheng, “Application of repetitive control in electric spring,” *IEEE Access*, vol. 8, pp. 216 607–216 616, 2020.
- [104] M. H. Rashid, *Power electronics handbook*. Butterworth-Heinemann, 2017.
- [105] M. Monfared, S. Golestan, and J. M. Guerrero, “Analysis, design, and experimental verification of a synchronous reference frame voltage control for single-phase inverters,” *IEEE Transactions on industrial Electronics*, vol. 61, no. 1, pp. 258–269, 2013.
- [106] N. S. Nise, *Control systems engineering*. John Wiley & Sons, 2020.
- [107] C. H. Houpis, S. N. Sheldon, and J. J. D’Azzo, *Linear Control System Analysis and Design: Revised and Expanded*. Crc Press, 2003.

- [108] M. D. Solanki and S. K. Joshi, "Control of Electric Spring: A LeadLag Compensated Approach," *Journal of The Institution of Engineers (India): Series B, Springer Nature*, pp. 1–8, Mar. 2021.
- [109] N. Mohan, *Power electronics: a first course*. Wiley, 2011.
- [110] S. Buso and P. Mattavelli, "Digital control in power electronics," *Lectures on power electronics*, vol. 1, no. 1, pp. 1–158, 2006.
- [111] N. Mohan, *Advanced electric drives: analysis, control, and modeling using MATLAB/Simulink*. John Wiley & Sons, 2014.
- [112] A. Hernandez, R. Tapia, O. Aguilar, and A. Garcia, "Comparison of svpwm and spwm techniques for back to back converters in pscad," in *Proceedings of the World Congress on Engineering and Computer Science*, vol. 1, 2013.
- [113] M. B. de Rossiter Corrêa, C. B. Jacobina, E. R. C. Da Silva, and A. M. N. Lima, "Vector control strategies for single-phase induction motor drive systems," *IEEE Transactions on Industrial Electronics*, vol. 51, no. 5, pp. 1073–1080, 2004.
- [114] C.-M. Young, C.-C. Liu, and C.-H. Liu, "New inverter-driven design and control method for two-phase induction motor drives," *IEE Proceedings-Electric Power Applications*, vol. 143, no. 6, pp. 458–466, 1996.
- [115] P. C. Krause, O. Wasynczuk, S. D. Sudhoff, and S. Pekarek, *Analysis of electric machinery and drive systems*. Wiley Online Library, 2002, vol. 2.
- [116] G. Willmann, D. F. Coutinho, L. F. A. Pereira, and F. B. Líbano, "Multiple-loop h-infinity control design for uninterruptible power supplies," *IEEE Transactions on Industrial Electronics*, vol. 54, no. 3, pp. 1591–1602, 2007.
- [117] M. Xue, Y. Zhang, Y. Kang, Y. Yi, S. Li, and F. Liu, "Full feedforward of grid voltage for discrete state feedback controlled grid-connected inverter with lcl filter," *IEEE Transactions on Power Electronics*, vol. 27, no. 10, pp. 4234–4247, 2012.
- [118] I. J. Gabe, V. F. Montagner, and H. Pinheiro, "Design and implementation of a robust current controller for vsi connected to the grid through an lcl filter," *IEEE Transactions on Power Electronics*, vol. 24, no. 6, pp. 1444–1452, 2009.

- [119] R. Turner, S. Walton, and R. Duke, “Robust high-performance inverter control using discrete direct-design pole placement,” *IEEE Transactions on Industrial Electronics*, vol. 58, no. 1, pp. 348–357, 2010.
- [120] B. Li, M. Zhang, L. Huang, L. Hang, and L. M. Tolbert, “A new optimized pole placement strategy of grid-connected inverter with lcl-filter based on state variable feedback and state observer,” in *2013 Twenty-Eighth Annual IEEE Applied Power Electronics Conference and Exposition (APEC)*. IEEE, 2013, pp. 2900–2906.
- [121] R. C. Dorf and R. H. Bishop, *Modern control systems*. Pearson, 2011.
- [122] J. H. Braslavsky, *Scaling and MIMO State Feedback Design, Lecture 20*. [Online] Available: <https://www-eng.newcastle.edu.au/~jhb519/-teaching/elec4410/lectures/Lec20.pdf>.
- [123] B. Zhou, Z. Lin, and G.-R. Duan, “A lyapunov inequality characterization of and a riccati inequality approach to \mathcal{L}_∞ and \mathcal{L}_2 low gain feedback,” *SIAM Journal on Control and Optimization*, vol. 50, no. 1, pp. 1–22, 2012.