References

[1] M. Hellwig and H. Beyer, "A matrix adaptation evolution strategy for constrained real-parameter optimization," in *2018 IEEE Congress on Evolutionary Computation (CEC)*, July 2018, pp. 1–8.

[2] F. Mumtaz, M. Syed, M. Al Hosani, and H. Zeineldin, "A novel approach to solve power flow for islanded microgrids using modified newton raphson with droop control of dg," *IEEE Transactions on Sustainable Energy*, vol. 7, no. 2, pp. 493–503, 2015.

[3] M.-S. Chen and W. E. Dillon, "Power system modeling," *Proceedings of the IEEE*, vol. 62, no. 7, pp. 901–915, 1974.

[4] J. Arrillaga and C. Arnold, "Computer analysis of power systems," 1990.

[5] M. Irving and A. Al-Othman, "Admittance matrix models of three-phase transformers with various neutral grounding configurations," *IEEE Transactions on Power Systems*, vol. 18, no. 3, pp. 1210–1212, 2003.

[6] W. H. Kersting, W. H. Phillips, and W. Carr, "A new approach to modeling three-phase transformer connections," *IEEE Transactions on Industry Applications*, vol. 35, no. 1, pp. 169–175, 1999.

[7] H. Ying-Yi and W. Fu-Ming, "Investigation of impacts of different three-phase transformer connections and load models on unbalance in power systems by optimization," *IEEE Transactions on Power Systems*, vol. 12, no. 2, pp. 689–697, 1997.

[8] U. Ghatak and V. Mukherjee, "An improved load flow technique based on load current injection for modern distribution system," *International Journal of Electrical Power & Energy Systems*, vol. 84, pp. 168–181, 2017.

[9] A. B. Eltantawy and M. M. Salama, "A novel zooming algorithm for distribution load flow analysis for smart grid," *IEEE Transactions on Smart Grid*, vol. 5, no. 4, pp. 1704–1711, 2014.

[10] S. Tripathy, G. D. Prasad, O. Malik, and G. Hope, "Load-flow solutions for ill-conditioned power systems by a newton-like method," *IEEE Transactions on Power Apparatus and Systems*, no. 10, pp. 3648–3657, 1982.

[11] D. Rajicic and A. Bose, "A modification to the fast decoupled power flow for networks with high r/x ratios," *IEEE Transactions on Power Systems*, vol. 3, no. 2, pp. 743–746, 1988.

[12] R. Berg, E. Hawkins, and W. Pleines, "Mechanized calculation of unbalanced load flow on radial distribution circuits," *IEEE Transactions on Power Apparatus and Systems*, no. 4, pp. 415–421, 1967.

[13] D. Shirmohammadi, H. W. Hong, A. Semlyen, and G. Luo, "A compensation-based power flow method for weakly meshed distribution and transmission networks," *IEEE Transactions on Power Systems*, vol. 3, no. 2, pp. 753–762, 1988.

[14] G.-X. Luo and A. Semlyen, "Efficient load flow for large weakly meshed networks," *IEEE Transactions on Power Systems*, vol. 5, no. 4, pp. 1309–1316, 1990.

[15] Y. Zhu and K. Tomsovic, "Adaptive power flow method for distribution systems with dispersed generation," *IEEE Transactions on Power Delivery*, vol. 17, no. 3, pp. 822–827, 2002.

[16] C. S. Cheng and D. Shirmohammadi, "A three-phase power flow method for real-time distribution system analysis," *IEEE Transactions on Power Systems*, vol. 10, no. 2, pp. 671–679, 1995.

[17] R. M. Ciric, A. P. Feltrin, and L. F. Ochoa, "Power flow in four-wire distribution networks-general approach," *IEEE Transactions on Power Systems*, vol. 18, no. 4, pp. 1283–1290, 2003.

[18] M. Haque, "Load flow solution of distribution systems with voltage dependent load models," *Electric Power Systems Research*, vol. 36, no. 3, pp. 151–156, 1996.

[19] U. Eminoglu and M. H. Hocaoglu, "Distribution systems forward/backward sweep-based power flow algorithms: a review and comparison study," *Electric Power Components and Systems*, vol. 37, no. 1, pp. 91–110, 2008.

[20] M. Baran and F. F. Wu, "Optimal sizing of capacitors placed on a radial distribution system," *IEEE Transactions on Power Delivery*, vol. 4, no. 1, pp. 735–743, 1989.

[21] H.-D. Chiang, "A decoupled load flow method for distribution power networks: algorithms, analysis and convergence study," *International Journal of Electrical Power & Energy Systems*, vol. 13, no. 3, pp. 130–138, 1991.

[22] V. M. da Costa, N. Martins, and J. L. R. Pereira, "Developments in the newton raphson power flow formulation based on current injections," *IEEE Transactions on Power Systems*, vol. 14, no. 4, pp. 1320–1326, 1999.

[23] M. L. de Oliveira, M. R. Guedes *et al.*, "Developments in the analysis of unbalanced three-phase power flow solutions," *International Journal of Electrical Power & Energy Systems*, vol. 29, no. 2, pp. 175–182, 2007.

[24] P. A. Garcia, J. L. R. Pereira, S. Carneiro, V. M. da Costa, and N. Martins, "Three-phase power flow calculations using the current injection method," *IEEE Transactions on Power Systems*, vol. 15, no. 2, pp. 508–514, 2000.

[25] L. R. de Araujo, D. R. R. Penido, S. C. Júnior, J. L. R. Pereira, and P. A. N. Garcia, "Comparisons between the three-phase current injection method and the forward/backward sweep method," *International Journal of Electrical Power & Energy Systems*, vol. 32, no. 7, pp. 825–833, 2010.

[26] J. Vieira, W. Freitas, and A. Morelato, "Phase-decoupled method for three-phase power-flow analysis of unbalanced distribution systems," *IEE Proceedings-Generation, Transmission and Distribution*, vol. 151, no. 5, pp. 568–574, 2004.

[27] T. Chen, M. Chen, K. Hwang, P. Kotas, and E. Chebli, "Distribution system power flow analysis," in *Submitted to IEEE Winter Power Meeting*, 1990.

[28] J.-H. Teng, "A modified gauss–seidel algorithm of three-phase power flow analysis in distribution networks," *International Journal of Electrical Power & Energy Systems*, vol. 24, no. 2, pp. 97–102, 2002.

[29] T.-H. Chen and N.-C. Yang, "Loop frame of reference based three-phase power flow for unbalanced radial distribution systems," *Electric Power Systems Research*, vol. 80, no. 7, pp. 799–806, 2010.

[30] R. Allan and A. L. Da Silva, "Probabilistic load flow using multilinearisations," in *IEE Proceedings C (Generation, Transmission and Distribution)*, vol. 128, no. 5. IET, 1981, pp. 280–287.

[31] M. Brucoli, F. Torelli, and R. Napoli, "Quadratic probabilistic load flow with linearly modelled dispatch," *International Journal of Electrical Power & Energy Systems*, vol. 7, no. 3, pp. 138–146, 1985.

[32] P. Zhang and S. T. Lee, "Probabilistic load flow computation using the method of combined cumulants and gram-charlier expansion," *IEEE Transactions on Power Systems*, vol. 19, no. 1, pp. 676–682, 2004.

[33] C.-L. Su, "Probabilistic load-flow computation using point estimate method," *IEEE Transactions on Power Systems*, vol. 20, no. 4, pp. 1843–1851, 2005.

[34] W. El-Khattam, Y. Hegazy, and M. Salama, "Investigating distributed generation systems performance using monte carlo simulation," *IEEE Transactions on Power Systems*, vol. 21, no. 2, pp. 524–532, 2006.

[35] P. Chen, Z. Chen, and B. Bak-Jensen, "Probabilistic load flow: A review," in *2008 Third International Conference on Electric Utility Deregulation and Restructuring and Power Technologies*. IEEE, 2008, pp. 1586–1591.

[36] M. T. Schilling, A. L. Da Silva, R. Billinton, and M. El-Kady, "Bibliography on power system probabilistic analysis (1962-88)," *IEEE Transactions on Power Systems*, vol. 5, no. 1, pp. 1–11, 1990.

[37] J. A. Martinez and J. Mahseredjian, "Load flow calculations in distribution systems with distributed resources. a review," in *2011 IEEE Power and Energy Society General Meeting*. IEEE, 2011, pp. 1–8.

[38] J. M. Morales and J. Perez-Ruiz, "Point estimate schemes to solve the probabilistic power flow," *IEEE Transactions on Power Systems*, vol. 22, no. 4, pp. 1594–1601, 2007.

[39] J. M. Morales, L. Baringo, A. J. Conejo, and R. Mínguez, "Probabilistic power flow with correlated wind sources," *IET Generation, Transmission & Distribution*, vol. 4, no. 5, pp. 641–651, 2010.

[40] J. Usaola, "Probabilistic load flow in systems with wind generation," *IET Generation, Transmission & Distribution*, vol. 3, no. 12, pp. 1031–1041, 2009.

[41] H. Hale and J. Ward, "Digital computer solution of power flow problems," *AIEE Transactions, pt. III (Power Apparatus and Systems)*, vol. 75, pp. 398–402, 1956.

[42] D. Tazumi, M. Kazuo, N. Tatsuki, F. Hisao, and K. Tokuya, "Digital computer solution of power-flow problems," *Information Processing in Japan*, vol. 2, pp. 28–31, 1962.

[43] M. Abdel-Akher, K. M. Nor, and A. A. Rashid, "Improved three-phase power-flow methods using sequence components," *IEEE Transactions on Power Systems*, vol. 20, no. 3, pp. 1389–1397, 2005.

[44] H. Brown, G. Carter, H. Happ, and C. Person, "Power flow solution by impedance matrix iterative method," *IEEE Transactions on Power Apparatus and Systems*, vol. 82, no. 65, pp. 1–10, 1963.

[45] C. W. T. N. J. Balu and D. Maratukulam, *Power system voltage stability*. McGraw-Hill, 1994.

[46] B. Stott, "Decoupled newton load flow," *IEEE Transactions on Power Apparatus and Systems*, no. 5, pp. 1955–1959, 1972.

[47] B. Stott, "Review of load-flow calculation methods," *Proceedings of the IEEE*, vol. 62, no. 7, pp. 916–929, 1974.

[48] B. Stott and O. Alsac, "Fast decoupled load flow," *IEEE Transactions on Power Apparatus and Systems*, no. 3, pp. 859–869, 1974.

[49] S. Goswami and S. Basu, "Direct solution of distribution systems," in *IEE Proceedings C (Generation, Transmission and Distribution)*, vol. 138, no. 1. IET, 1991, pp. 78–88.

[50] M. Haque, "A general load flow method for distribution systems," *Electric Power Systems Research*, vol. 54, no. 1, pp. 47–54, 2000.

[51] D. L. Mendive, "An application of ladder network theory to the solution of three-phase radial load-flow problems," Ph.D. dissertation, New Mexico State University, 1975.

[52] W. F. Tinney and C. E. Hart, "Power flow solution by newton's method," *IEEE Transactions on Power Apparatus and Systems*, no. 11, pp. 1449–1460, 1967.

[53] D. Thukaram, H. W. Banda, and J. Jerome, "A robust three phase power flow algorithm for radial distribution systems," *Electric Power Systems Research*, vol. 50, no. 3, pp. 227–236, 1999.

[54] R. Cespedes, "New method for the analysis of distribution networks," *IEEE Transactions on Power Delivery*, vol. 5, no. 1, pp. 391–396, 1990.

[55] D. Das, D. Kothari, and A. Kalam, "Simple and efficient method for load flow solution of radial distribution networks," *International Journal of Electrical Power & Energy Systems*, vol. 17, no. 5, pp. 335–346, 1995.

[56] M. M. A. Abdelaziz, H. E. Farag, E. F. El-Saadany, and Y. A.-R. I. Mohamed, "A novel and generalized three-phase power flow algorithm for islanded microgrids using a newton trust region method," *IEEE Transactions on Power Systems*, vol. 28, no. 1, pp. 190–201, 2012.

[57] C. A. Ferreira *et al.*, "A second order power flow based on current injection equations," *International Journal of Electrical Power & Energy Systems*, vol. 27, no. 4, pp. 254–263, 2005.

[58] S. Mallick, D. Rajan, S. Thakur, P. Acharjee, and S. Ghoshal, "Development of a new algorithm for power flow analysis," *International Journal of Electrical Power & Energy Systems*, vol. 33, no. 8, pp. 1479–1488, 2011.

[59] S. Y. Derakhshandeh and R. Pourbagher, "Application of high-order newton-like methods to solve power flow equations," *IET Generation, Transmission & Distribution*, vol. 10, no. 8, pp. 1853–1859, 2016.

[60] S. Iwamoto and Y. Tamura, "A load flow calculation method for ill-conditioned power systems," *IEEE Transactions on Power Apparatus and Systems*, no. 4, pp. 1736–1743, 1981.

[61] M. D. Schaffer and D. J. Tylavsky, "A nondiverging polar-form newton-based power flow," *IEEE Transactions on Industry Applications*, vol. 24, no. 5, pp. 870–877, 1988.

[62] M. El-Arini, "Decoupled power flow solution method for well-conditioned and ill-conditioned power systems," in *IEE Proceedings C (Generation, Transmission and Distribution)*, vol. 140, no. 1. IET, 1993, pp. 7–10.

[63] P. Bijwe and S. Kelapure, "Nondivergent fast power flow methods," *IEEE Transactions on Power Systems*, vol. 18, no. 2, pp. 633–638, 2003.

[64] J. F. Gutiérrez, M. F. Bedriñana, and C. A. Castro, "Critical comparison of robust load flow methods for ill-conditioned systems," in *2011 IEEE Trondheim PowerTech*. IEEE, 2011, pp. 1–6.

[65] H. Chen, X. Luo, Y. Li, X. Fu, Huaand Zheng, and X. Yuan, "Ill-conditioned load flow study based on asynchronous parallel computing in rural power distribution networks," *J. Convergence Inf. Technol.(JCIT)*, vol. 7, no. 19, pp. 261–268, 2012.

[66] X. Yang and X. Zhou, "Application of asymptotic numerical method with homotopy techniques to power flow problems," *International Journal of Electrical Power & Energy Systems*, vol. 57, pp. 375–383, 2014.

[67] A. Shahriari, H. Mokhlis, A. H. A. Bakar, and H. A. Illias, "Optimal multiplier load flow method using concavity theory," *Applied Mathematics and Computation*, vol. 245, pp. 487–503, 2014.

[68] A. Shahriari, H. Mokhlis, M. Karimi, A. Bakar, and H. Illias, "Quadratic discriminant index for optimal multiplier load flow method in ill conditioned system," *International Journal of Electrical Power & Energy Systems*, vol. 60, pp. 378–388, 2014.

[69] N. Rao and S. Tripathy, "Power system static state estimation by the levenberg-marquardt algorithm," *IEEE Transactions on Power Apparatus and Systems*, no. 2, pp. 695–702, 1980.

[70] F. Milano, "Continuous newton's method for power flow analysis," *IEEE Transactions on Power Systems*, vol. 24, no. 1, pp. 50–57, 2008.

[71] P. J. Lagacé, M.-H. Vuong, and I. Kamwa, "Improving power flow convergence by newton raphson with a levenberg-marquardt method," in *2008 IEEE Power and Energy Society General Meeting-Conversion and Delivery of Electrical Energy in the 21st Century*. IEEE, 2008, pp. 1–6.

[72] P. J. Lagacé, "Power flow methods for improving convergence," in *IECON 2012-38th Annual Conference on IEEE Industrial Electronics Society*. IEEE, 2012, pp. 1387–1392.

[73] F. Milano, "Analogy and convergence of levenberg's and lyapunov-based methods for power flow analysis," *IEEE Transactions on Power Systems*, vol. 31, no. 2, pp. 1663–1664, 2015.

[74] R. Pourbagher and S. Y. Derakhshandeh, "Application of high-order levenberg–marquardt method for solving the power flow problem in the ill-conditioned systems," *IET Generation, Transmission & Distribution*, vol. 10, no. 12, pp. 3017–3022, 2016.

[75] K. Balamurugan and D. Srinivasan, "Review of power flow studies on distribution network with distributed generation," in *2011 IEEE Ninth International Conference on Power Electronics and Drive Systems*. IEEE, 2011, pp. 411–417.

[76] L. A. Gallego, E. Carreno, and A. Padilha-Feltrin, "Distributed generation modelling for unbalanced three-phase power flow calculations in smart grids," in *2010 IEEE/PES Transmission and Distribution Conference and Exposition: Latin America (T&D-LA)*. IEEE, 2010, pp. 323–328.

[77] E. Dall'Anese, H. Zhu, and G. B. Giannakis, "Distributed optimal power flow for smart microgrids," *IEEE Transactions on Smart Grid*, vol. 4, no. 3, pp. 1464–1475, 2013.

[78] A. M. Vural, "Interior point-based slack-bus free-power flow solution for balanced islanded microgrids," *International Transactions on Electrical Energy Systems*, vol. 26, no. 5, pp. 968–992, 2016.

[79] S. Sivakumar, T. Parsons, and S. C. Sivakumar, "Modeling, analysis and control of bidirectional power flow in grid connected inverter systems," in *Proceedings of the Power Conversion Conference-Osaka 2002 (Cat. No. 02TH8579)*, vol. 3. IEEE, 2002, pp. 1015–1019.

[80] R. B. N. Pinheiro, A. R. Balbo, E. C. Baptista, and L. Nepomuceno, "Interior–exterior point method with global convergence strategy for solving the reactive optimal power flow problem," *International Journal of Electrical Power & Energy Systems*, vol. 66, pp. 235–246, 2015.

[81] E. J. Oliveira, L. W. Oliveira, J. Pereira, L. M. Honório, I. C. S. Junior, and A. Marcato, "An optimal power flow based on safety barrier interior point method," *International Journal of Electrical Power & Energy Systems*, vol. 64, pp. 977–985, 2015.

[82] F. Capitanescu and L. Wehenkel, "Experiments with the interior-point method for solving large scale optimal power flow problems," *Electric Power Systems Research*, vol. 95, pp. 276–283, 2013.

[83] H. Han, X. Hou, J. Yang, J. Wu, M. Su, and J. M. Guerrero, "Review of power sharing control strategies for islanding operation of ac microgrids," *IEEE Transactions on Smart Grid*, vol. 7, no. 1, pp. 200–215, 2015.

[84] N. Hatziargyriou, H. Asano, R. Iravani, and C. Marnay, "Microgrids," *IEEE Power and Energy Magazine*, vol. 5, no. 4, pp. 78–94, 2007.

[85] R. H. Lasseter and P. Piagi, "Microgrid: A conceptual solution," in *IEEE Power Electronics Specialists Conference*, vol. 6. Citeseer, 2004, pp. 4285–4291.

[86] P. Piagi and R. H. Lasseter, "Autonomous control of microgrids," in *2006 IEEE Power Engineering Society General Meeting*. IEEE, 2006, pp. 8–pp.

[87] M. C. Chandorkar, D. M. Divan, and R. Adapa, "Control of parallel connected inverters in standalone ac supply systems," *IEEE Transactions on Industry Applications*, vol. 29, no. 1, pp. 136–143, 1993.

[88] M. Chandrokar, D. Divan, and B. Banerjee, "Control of distributed ups systems," in *Proceedings of 1994 Power Electronics Specialist Conference-PESC'94*, vol. 1. IEEE, 1994, pp. 197–204.

[89] Y. Byun, T. Koo, K. Joe, E. Kim, J. Seo, and D. Kim, "Parallel operation of three-phase ups inverters by wireless load sharing control," in *INTELEC. Twenty-Second International Telecommunications Energy Conference (Cat. No. 00CH37131)*. IEEE, 2000, pp. 526–532.

[90] J. M. Guerrero, L. Hang, and J. Uceda Antolín, "Control of distributed uninterruptible power supply systems," *IEEE Transactions on Industrial Electronics*, vol. 55, no. 8, pp. 2845–2859, 2008.

[91] J. Hu, J. Zhu, D. G. Dorrell, and J. M. Guerrero, "Virtual flux droop method—a new control strategy of inverters in microgrids," *IEEE Transactions on Power Electronics*, vol. 29, no. 9, pp. 4704–4711, 2013.

[92] M. Ashabani, A.-R. M. Yasser, M. Mirsalim, and M. Aghashabani, "Multivariable droop control of synchronous current converters in weak grids/microgrids with decoupled dq-axes currents," *IEEE Transactions on Smart Grid*, vol. 6, no. 4, pp. 1610–1620, 2015.

[93] L.-Y. Lu and C.-C. Chu, "Consensus-based droop control synthesis for multiple dics in isolated micro-grids," *IEEE Transactions on Power Systems*, vol. 30, no. 5, pp. 2243–2256, 2014.

[94] A. Elrayyah, Y. Sozer, and M. E. Elbuluk, "A novel load-flow analysis for stable and optimized microgrid operation," *IEEE Transactions on Power Delivery*, vol. 29, no. 4, pp. 1709–1717, 2014.

[95] C. Li, S. K. Chaudhary, J. C. Vasquez, and J. M. Guerrero, "Power flow analysis algorithm for islanded lv microgrids including distributed generator units with droop control and virtual impedance loop," in *2014 IEEE Applied Power Electronics Conference and Exposition-APEC 2014*. IEEE, 2014, pp. 3181–3185.

[96] L. Rese, A. S. Costa, and A. S. e Silva, "A modified load flow algorithm for microgrids operating in islanded mode," in *2013 IEEE PES Conference on Innovative Smart Grid Technologies (ISGT Latin America)*. IEEE, 2013, pp. 1–7.

[97] Y. Levron, J. M. Guerrero, and Y. Beck, "Optimal power flow in microgrids with energy storage," *IEEE Transactions on Power Systems*, vol. 28, no. 3, pp. 3226–3234, 2013.

[98] G. Díaz, J. Gómez-Aleixandre, and J. Coto, "Direct backward/forward sweep algorithm for solving load power flows in ac droop-regulated microgrids," *IEEE Transactions on Smart Grid*, vol. 7, no. 5, pp. 2208–2217, 2016.

[99] H. Nikkhajoei and R. Iravani, "Steady-state model and power flow analysis of electronically-coupled distributed resource units," *IEEE Transactions on Power Delivery*, vol. 22, no. 1, pp. 721–728, 2007.

[100] M. Z. Kamh and R. Iravani, "Unbalanced model and power-flow analysis of microgrids and active distribution systems," *IEEE Transactions on Power Delivery*, vol. 25, no. 4, pp. 2851–2858, 2010.

[101] G. C. Kryonidis, E. O. Kontis, A. I. Chrysochos, K. O. Oureilidis, C. S. Demoulias, and G. K. Papagiannis, "Power flow of islanded ac microgrids: Revisited," *IEEE Transactions on Smart Grid*, vol. 9, no. 4, pp. 3903–3905, July 2018.

[102] M. Z. Kamh and R. Iravani, "A unified three-phase power-flow analysis model for electronically coupled distributed energy resources," *IEEE Transactions on Power Delivery*, vol. 26, no. 2, pp. 899–909, 2011.

[103] F. V. Berghen, "Levenberg-marquardt algorithms vs trust region algorithms," *IRIDIA, Université Libre de Bruxelles*, 2004.

[104] W. Yao, M. Chen, J. Matas, J. M. Guerrero, and Z.-M. Qian, "Design and analysis of the droop control method for parallel inverters considering the impact of the complex impedance on the power sharing," *IEEE Transactions on Industrial Electronics*, vol. 58, no. 2, pp. 576–588, 2011.

[105] K. De Brabandere, B. Bolsens, J. Van den Keybus, A. Woyte, J. Driesen, and R. Belmans, "A voltage and frequency droop control method for parallel inverters," *IEEE Transactions on Power Electronics*, vol. 22, no. 4, pp. 1107–1115, 2007.

[106] D. E. Goldberg and J. H. Holland, "Genetic algorithms and machine learning," *Machine learning*, vol. 3, no. 2, pp. 95–99, 1988.

[107] K. P. Wong, A. Li, and M. Law, "Development of constrained-genetic-algorithm load-flow method," *IEE Proceedings-Generation, Transmission and Distribution*, vol. 144, no. 2, pp. 91–99, 1997.

[108] K. P. Wong, A. Li, and T. Law, "Advanced, constrained, genetic algorithm load flow method," *IEE Proceedings-Generation, Transmission and Distribution*, vol. 146, no. 6, pp. 609–616, 1999.

[109] T. Ting, K. Wong, and C. Chung, "Hybrid constrained genetic algorithm/particle swarm optimisation load flow algorithm," *IET Generation, Transmission & Distribution*, vol. 2, no. 6, pp. 800–812, 2008.

[110] M. Varadarajan and K. S. Swarup, "Solving multi-objective optimal power flow using differential evolution," *IET Generation, Transmission & Distribution*, vol. 2, no. 5, pp. 720–730, 2008.

[111] A. Glimn and G. Stagg, "Automatic calculation of load flows," *Transactions of the American Institute of Electrical Engineers. Part III: Power Apparatus and Systems*, vol. 76, no. 3, pp. 817–825, 1957.

[112] P.-c. Chao, "On the solution of ill-conditioned, simultaneous, linear, algebraic equations by machine computation," University of Illinois at Urbana Champaign, College of Engineering ..., Tech. Rep., 1961.

[113] H. J. Kim, K. Choi, H. Lee, H. Jung, and S. Hahn, "A new algorithm for solving ill conditioned linear systems," *IEEE Transactions on Magnetics*, vol. 32, no. 3, pp. 1373–1376, 1996.

[114] P. Deuflhard, "A modified newton method for the solution of ill-conditioned systems of nonlinear equations with application to multiple shooting," *Numerische Mathematik*, vol. 22, no. 4, pp. 289–315, 1974.

[115] L. Wang and X. Lin, "Robust fast decoupled power flow," *IEEE Transactions on Power Systems*, vol. 15, no. 1, pp. 208–215, 2000.

[116] S. Naka, T. Genji, and Y. Fukuyama, "Practical equipment models for fast distribution power flow considering interconnection of distributed generators," in *2001 Power Engineering Society Summer Meeting. Conference Proceedings (Cat. No. 01CH37262)*, vol. 2. IEEE, 2001, pp. 1007–1012.

[117] T. Oomori, T. Genji, T. Yura, T. Watanabe, S. Takayama, and Y. Fukuyama, "Development of equipment models for fast distribution three-phase unbalanced load flow calculation," *Electrical Engineering in Japan*, vol. 142, no. 3, pp. 8–19, 2003.

[118] J.-H. Teng, "Modelling distributed generations in three-phase distribution load flow," *IET Generation, Transmission & Distribution*, vol. 2, no. 3, pp. 330–340, 2008.

[119] W. H. Kersting, "Radial distribution test feeders," *IEEE Transactions on Power Systems*, vol. 6, no. 3, pp. 975–985, 1991.

[120] X. Yang, "A higher-order levenberg–marquardt method for nonlinear equations," *Applied Mathematics and Computation*, vol. 219, no. 22, pp. 10 682–10 694, 2013.

[121] E. Mashhour and S. Moghaddas-Tafreshi, "Three-phase backward/forward power flow solution considering three-phase distribution transformers," in *2009 IEEE International Conference on Industrial Technology*. IEEE, 2009, pp. 1–5.

[122] J. Liang, B. Qu, and P. Suganthan, "Problem definitions and evaluation criteria for the cec 2014 special session and competition on single objective real-parameter numerical optimization," *Computational Intelligence Laboratory, Zhengzhou University, Zhengzhou China and Technical Report, Nanyang Technological University, Singapore*, vol. 635, 2013.

[123] J. Kennedy, "Particle swarm optimization," in *Encyclopedia of Machine Learning*. Springer, 2010, pp. 760–766.

[124] J. Kennedy, "Bare bones particle swarms," in *Swarm Intelligence Symposium, 2003. SIS'03. Proceedings of the 2003 IEEE*. IEEE, 2003, pp. 80–87.

[125] K. Mahadevan and P. Kannan, "Comprehensive learning particle swarm optimization for reactive power dispatch," *Applied Soft Computing*, vol. 10, no. 2, pp. 641–652, 2010.

[126] Z.-H. Zhan, J. Zhang, Y. Li, and H. S.-H. Chung, "Adaptive particle swarm optimization," *IEEE Transactions on Systems, Man, and Cybernetics, Part B (Cybernetics)*, vol. 39, no. 6, pp. 1362–1381, 2009.

[127] Z.-H. Zhan, J. Zhang, Y. Li, and Y.-H. Shi, "Orthogonal learning particle swarm optimization," *IEEE Transactions on Evolutionary Computation*, vol. 15, no. 6, pp. 832–847, 2011.

[128] Y. Li, J. Feng, and J. Hu, "Covariance and crossover matrix guided differential evolution for global numerical optimization," *SpringerPlus*, vol. 5, no. 1, p. 1176, 2016.

[129] Z. Li, Z. Shang, B. Y. Qu, and J.-J. Liang, "Differential evolution strategy based on the constraint of fitness values classification," in *Evolutionary Computation (CEC), 2014 IEEE Congress on*. IEEE, 2014, pp. 1454–1460.

[130] C. Xu, H. Huang, and S. Ye, "A differential evolution with replacement strategy for real-parameter numerical optimization," in *Evolutionary Computation (CEC), 2014 IEEE Congress on*. IEEE, 2014, pp. 1617–1624.

[131] Z. Hu, Y. Bao, and T. Xiong, "Partial opposition-based adaptive differential evolution algorithms: Evaluation on the cec 2014 benchmark set for real-parameter optimization," in *Evolutionary Computation (CEC), 2014 IEEE Congress on*. IEEE, 2014, pp. 2259–2265.

[132] R. Storn and K. Price, "Differential evolution–a simple and efficient heuristic for global optimization over continuous spaces," *Journal of Global Optimization*, vol. 11, no. 4, pp. 341–359, 1997.

[133] N. Hansen, "The cma evolution strategy: a comparing review," in *Towards a new evolutionary computation*. Springer, 2006, pp. 75–102.

[134] A. Auger and N. Hansen, "A restart cma evolution strategy with increasing population size," in *Evolutionary Computation, 2005. The 2005 IEEE Congress on*, vol. 2. IEEE, 2005, pp. 1769–1776.

[135] A. Auger, M. Schoenauer, and N. Vanhaecke, "Ls-cma-es: A second-order algorithm for covariance matrix adaptation," in *International Conference on Parallel Problem Solving from Nature*. Springer, 2004, pp. 182–191.

[136] G. A. Jastrebski and D. V. Arnold, "Improving evolution strategies through active covariance matrix adaptation," in *Evolutionary Computation, 2006. CEC 2006. IEEE Congress on*. IEEE, 2006, pp. 2814–2821.

[137] C. Igel, T. Suttorp, and N. Hansen, "A computational efficient covariance matrix update and a (1+ 1)-cma for evolution strategies," in *Proceedings of the 8th Annual Conference on Genetic and Evolutionary Computation*. ACM, 2006, pp. 453–460.

[138] S. Mirjalili, S. M. Mirjalili, and A. Lewis, "Grey wolf optimizer," *Advances in Engineering Software*, vol. 69, pp. 46–61, 2014.

[139] S. Saremi, S. Mirjalili, and A. Lewis, "Grasshopper optimisation algorithm: theory and application," *Advances in Engineering Software*, vol. 105, pp. 30–47, 2017.

[140] S. Mirjalili, S. M. Mirjalili, and A. Hatamlou, "Multi-verse optimizer: a nature-inspired algorithm for global optimization," *Neural Computing and Applications*, vol. 27, no. 2, pp. 495–513, 2016.

[141] S. Mirjalili, "Sca: a sine cosine algorithm for solving optimization problems," *Knowledge-Based Systems*, vol. 96, pp. 120–133, 2016.

[142] E. Cuevas, F. Fausto, and A. González, "The selfish herd optimizer," in *New Advancements in Swarm Algorithms: Operators and Applications*. Springer, 2020, pp. 69–109.

[143] S. Mirjalili, A. H. Gandomi, S. Z. Mirjalili, S. Saremi, H. Faris, and S. M. Mirjalili, "Salp swarm algorithm: A bio-inspired optimizer for engineering design problems," *Advances in Engineering Software*, vol. 114, pp. 163–191, 2017.

[144] G. Dhiman and V. Kumar, "Seagull optimization algorithm: Theory and its applications for large-scale industrial engineering problems," *Knowledge-Based Systems*, vol. 165, pp. 169–196, 2019.

[145] S. Mirjalili and A. Lewis, "The whale optimization algorithm," *Advances in Engineering Software*, vol. 95, pp. 51–67, 2016.

[146] T. Takahama and S. Sakai, "Constrained optimization by ε constrained particle swarm optimizer with ε-level control," in *Soft Computing as Transdisciplinary Science and Technology*. Springer, 2005, pp. 1019–1029.

[147] J. Liang, T. P. Runarsson, E. Mezura-Montes, M. Clerc, P. N. Suganthan, C. C. Coello, and K. Deb, "Problem definitions and evaluation criteria for the cec 2006 special session on constrained real-parameter optimization," *Journal of Applied Mechanics*, vol. 41, no. 8, pp. 8–31, 2006.

[148] S. Kukkonen and J. Lampinen, "Constrained real-parameter optimization with generalized differential evolution," in *2006 IEEE International Conference on Evolutionary Computation*. IEEE, 2006, pp. 207–214.

[149] E. Mezura-Montes, J. Velázquez-Reyes, and C. C. Coello, "Modified differential evolution for constrained optimization," in *2006 IEEE International Conference on Evolutionary Computation*. IEEE, 2006, pp. 25–32.

[150] J. Brest, V. Zumer, and M. S. Maucec, "Self-adaptive differential evolution algorithm in constrained real-parameter optimization," in *2006 IEEE International Conference on Evolutionary Computation*. IEEE, 2006, pp. 215–222.

[151] W.-F. Gao, G. G. Yen, and S.-Y. Liu, "A dual-population differential evolution with coevolution for constrained optimization," *IEEE Transactions on Cybernetics*, vol. 45, no. 5, pp. 1108–1121, 2015.

[152] G. Jia, Y. Wang, Z. Cai, and Y. Jin, "An improved (μ+ λ)-constrained differential evolution for constrained optimization," *Information Sciences*, vol. 222, pp. 302–322, 2013.

[153] Y. Wang and Z. Cai, "Constrained evolutionary optimization by means of (μ+ λ)-differential evolution and improved adaptive trade-off model," *Evolutionary Computation*, vol. 19, no. 2, pp. 249–285, 2011.

[154] A. H. Aguirre, A. M. Zavala, E. V. Diharce, and S. B. Rionda, "Copso: Constrained optimization via pso algorithm," *Center for Research in Mathematics (CIMAT). Technical report No. I-07-04/22-02-2007*, 2007.

[155] A. E. Munoz-Zavala, A. Hernandez-Aguirre, E. R. Villa-Diharce, and S. Botello-Rionda, "Peso+ for constrained optimization," in *2006 IEEE International Conference on Evolutionary Computation.* IEEE, 2006, pp. 231–238.

[156] V. V. De Melo and G. Iacca, "A modified covariance matrix adaptation evolution strategy with adaptive penalty function and restart for constrained optimization," *Expert Systems with Applications*, vol. 41, no. 16, pp. 7077–7094, 2014.

[157] T. P. Runarsson, "Approximate evolution strategy using stochastic ranking," in *2006 IEEE International Conference on Evolutionary Computation.* IEEE, 2006, pp. 745–752.

[158] A. Sinha, A. Srinivasan, and K. Deb, "A population-based, parent centric procedure for constrained real-parameter optimization," in *2006 IEEE International Conference on Evolutionary Computation.* IEEE, 2006, pp. 239–245.

[159] J. Brest, V. Zumer, and M. S. Maucec, "Self-adaptive differential evolution algorithm in constrained real-parameter optimization," in *2006 IEEE International Conference on Evolutionary Computation.* IEEE, 2006, pp. 215–222.

[160] M. Smith and D. Ton, "Key connections: The u.s. department of energy?s microgrid initiative," *IEEE Power and Energy Magazine*, vol. 11, no. 4, pp. 22–27, July 2013.

[161] E. Rokrok and M. E. H. Golshan, "Adaptive voltage droop scheme for voltage source converters in an islanded multibus microgrid," *IET Generation, Transmission & Distribution*, vol. 4, no. 5, pp. 562–578, 2010.

[162] C.-T. Lee, C.-C. Chu, and P.-T. Cheng, "A new droop control method for the autonomous operation of distributed energy resource interface converters," *IEEE Transactions on Power Electronics*, vol. 28, no. 4, pp. 1980–1993, 2013.

[163] Y. A.-R. I. Mohamed and E. F. El-Saadany, "Adaptive decentralized droop controller to preserve power sharing stability of paralleled inverters in distributed generation microgrids," *IEEE Transactions on Power Electronics*, vol. 23, no. 6, pp. 2806–2816, 2008.

[164] S. Jahdi, A. Etemadian, and L. L. Lai, "Dg modeling and compensation methods in distribution load flow analysis and voltage profile recovery," in *Electrical Power Quality and Utilisation (EPQU), 2011 11th International Conference on.* IEEE, 2011, pp. 1–6.

[165] D. Westermann and M. Kratz, "A real-time development platform for the next generation of power system control functions," *IEEE Transactions on Industrial Electronics*, vol. 57, no. 4, pp. 1159–1166, April 2010.

[166] R. Majumder, G. Ledwich, A. Ghosh, S. Chakrabarti, and F. Zare, "Droop control of converter-interfaced microsources in rural distributed generation," *IEEE Transactions on Power Delivery*, vol. 25, no. 4, pp. 2768–2778, Oct 2010.

[167] O. Anaya-Lara and E. Acha, "Modeling and analysis of custom power systems by pscad/emtdc," *IEEE Transactions on Power Delivery*, vol. 17, no. 1, pp. 266–272, Jan 2002.

[168] M. Hossain, H. R. Pota, M. A. Mahmud, and M. Aldeen, "Robust control for power sharing in microgrids with low-inertia wind and pv generators," *IEEE Transactions on Sustainable Energy*, vol. 6, no. 3, pp. 1067–1077, 2014.

[169] N. Pogaku, M. Prodanovic, and T. C. Green, "Modeling, analysis and testing of autonomous operation of an inverter-based microgrid," *IEEE Transactions on Power Electronics*, vol. 22, no. 2, pp. 613–625, 2007.

[170] J. M. Guerrero, J. Matas, L. G. de Vicuna, M. Castilla, and J. Miret, "Decentralized control for parallel operation of distributed generation inverters using resistive output impedance," *IEEE Transactions on Industrial Electronics*, vol. 54, no. 2, pp. 994–1004, 2007.

[171] H. Bevrani and S. Shokoohi, "An intelligent droop control for simultaneous voltage and frequency regulation in islanded microgrids," *IEEE Transactions on Smart Grid*, vol. 4, no. 3, pp. 1505–1513, 2013.

[172] A. M. Haidar and K. M. Muttaqi, "Behavioral characterization of electric vehicle charging loads in a distribution power grid through modeling of battery chargers," *IEEE Transactions on Industry Applications*, vol. 52, no. 1, pp. 483–492, 2015.

[173] *5. Newton's Method for Nonlinear Equations and Unconstrained Minimization*, pp. 86–110. [Online]. Available: https://epubs.siam.org/doi/abs/10.1137/1.9781611971200.ch5

[174] F. Hameed, M. Al Hosani, and H. Zeineldin, "A modified backward/forward sweep load flow method for islanded radial microgrids," *IEEE Transactions on Smart Grid*, 2017.

[175] M. Abedini, "A novel algorithm for load flow analysis in island microgrids using an improved evolutionary algorithm," *International Transactions on Electrical Energy Systems*, vol. 26, no. 12, pp. 2727–2743, 2016.

[176] D. Singh and R. Misra, "Effect of load models in distributed generation planning," *IEEE Transactions on Power Systems*, vol. 22, no. 4, pp. 2204–2212, 2007.

[177] H. Wu, X. Liu, and M. Ding, "Dynamic economic dispatch of a microgrid: Mathematical models and solution algorithm," *International Journal of Electrical Power & Energy Systems*, vol. 63, pp. 336–346, 2014.

[178] M. H. Moradi, M. Abedini, and S. M. Hosseinian, "Improving operation constraints of microgrid using phevs and renewable energy sources," *Renewable Energy*, vol. 83, pp. 543–552, 2015.

[179] M. Abedini, M. H. Moradi, and S. Hosseinian, "Optimal clustering of mgs based on droop controller for improving reliability using a hybrid of harmony search and genetic algorithms," *ISA Transactions*, vol. 61, pp. 119–128, 2016.

[180] J. Rocabert, A. Luna, F. Blaabjerg, and P. Rodriguez, "Control of power converters in ac microgrids," *IEEE Transactions on Power Electronics*, vol. 27, no. 11, pp. 4734–4749, 2012.

[181] V. Chuvychin, A. Sauhatas, N. Gurov, and V. Strelkovs, "Frequency control features for increasing der penetration in power system," in *2007 IEEE Lausanne Power Tech.* IEEE, 2007, pp. 1726–1729.

[182] M. H. Moradi, M. Abedini, and S. M. Hosseinian, "A combination of evolutionary algorithm and game theory for optimal location and operation of dg from dg owner standpoints," *IEEE Transactions on Smart Grid*, vol. 7, no. 2, pp. 608–616, 2016.

[183] T. C. Green and M. Prodanović, "Control of inverter-based micro-grids," *Electric Power Systems Research*, vol. 77, no. 9, pp. 1204–1213, 2007.

[184] T. L. Vandoorn, B. Meersman, J. D. De Kooning, and L. Vandevelde, "Analogy between conventional grid control and islanded microgrid control based on a global dc-link voltage droop," *IEEE Transactions on Power Delivery*, vol. 27, no. 3, pp. 1405–1414, 2012.

[185] F. Gao and M. R. Iravani, "A control strategy for a distributed generation unit in grid-connected and autonomous modes of operation," *IEEE Transactions on Power Delivery*, vol. 23, no. 2, pp. 850–859, 2008.

[186] C. S. Cheng and D. Shirmohammadi, "A three-phase power flow method for real-time distribution system analysis," *IEEE Transactions on Power Systems*, vol. 10, no. 2, pp. 671–679, 1995.

[187] F. Zhang and C. S. Cheng, "A modified newton method for radial distribution system power flow analysis," *IEEE Transactions on Power Systems*, vol. 12, no. 1, pp. 389–397, 1997.

[188] U. Eminoglu and M. H. Hocaoglu, "A new power flow method for radial distribution systems including voltage dependent load models," *Electric Power Systems Research*, vol. 76, no. 1-3, pp. 106–114, 2005.

[189] P. Kundur, N. J. Balu, and M. G. Lauby, *Power system stability and control.* McGraw-hill New York, 1994, vol. 7.

[190] F. Katiraei and M. R. Iravani, "Power management strategies for a microgrid with multiple distributed generation units," *IEEE Transactions on Power Systems*, vol. 21, no. 4, pp. 1821–1831, 2006.

[191] M. Marei, E. El-Saadany, and M. Salama, "Flexible distributed generation:(fdg)," in *IEEE Power Engineering Society Summer Meeting,*, vol. 1. IEEE, 2002, pp. 49–53.

[192] N. Awad, M. Ali, J. Liang, B. Qu, and P. Suganthan, "Problem definitions and evaluation criteria for the cec 2017 special session and competition on single objective real-parameter numerical optimization," *Tech. Rep.*, 2016.

[193] J. E. Dennis, D. M. Gay, and R. E. Welsch, "An adaptive nonlinear least square algorithm," 1977.

[194] T. Takahama and S. Sakai, "Constrained optimization by the ε constrained differential evolution with gradient-based mutation and feasible elites," in *2006 IEEE International Conference on Evolutionary Computation.* IEEE, 2006, pp. 1–8.

[195] S. Bagheri, W. Konen, and T. Back, "Equality constraint handling for surrogate-assisted constrained optimization," in *2016 IEEE Congress on Evolutionary Computation (CEC).* IEEE, 2016, pp. 1924–1931.

[196] R. G. Regis, "Constrained optimization by radial basis function interpolation for high-dimensional expensive black-box problems with infeasible initial points," *Engineering Optimization*, vol. 46, no. 2, pp. 218–243, 2014.

[197] A. Deihimi, B. K. Zahed, and R. Iravani, "An interactive operation management of a micro-grid with multiple distributed generations using multi-objective uniform water cycle algorithm," *Energy*, vol. 106, pp. 482–509, 2016.

[198] P. Chootinan and A. Chen, "Constraint handling in genetic algorithms using a gradient-based repair method," *Computers & operations research*, vol. 33, no. 8, pp. 2263–2281, 2006.

[199] C. G. Broyden, "A class of methods for solving nonlinear simultaneous equations," *Mathematics of computation*, vol. 19, no. 92, pp. 577–593, 1965.

[200] H.-G. Beyer and B. Sendhoff, "Simplify your covariance matrix adaptation evolution strategy," *IEEE Transactions on Evolutionary Computation*, vol. 21, no. 5, pp. 746–759, 2017.

[201] K. Deb, "An efficient constraint handling method for genetic algorithms," *Computer Methods in Applied Mechanics and Engineering*, vol. 186, no. 2, pp. 311–338, 2000.

[202] G. V. Raju and P. Bijwe, "Reactive power/voltage control in distribution systems under uncertain environment," *IET Generation, Transmission & Distribution*, vol. 2, no. 5, pp. 752–763, 2008.

[203] R. Viral and D. Khatod, "An analytical approach for sizing and siting of dgs in balanced radial distribution networks for loss minimization," *International Journal of Electrical Power & Energy Systems*, vol. 67, pp. 191–201, 2015.

[204] T. Ayodele, A. Ogunjuyigbe, and O. Akinola, "Optimal location, sizing, and appropriate technology selection of distributed generators for minimizing power loss using genetic algorithm," *Journal of Renewable Energy*, vol. 2015, 2015.

[205] P. Karimyan, G. Gharehpetian, M. Abedi, and A. Gavili, "Long term scheduling for optimal allocation and sizing of dg unit considering load variations and dg type," *International Journal of Electrical Power & Energy Systems*, vol. 54, pp. 277–287, 2014.

[206] S. Kansal, V. Kumar, and B. Tyagi, "Optimal placement of different type of dg sources in distribution networks," *International Journal of Electrical Power & Energy Systems*, vol. 53, pp. 752–760, 2013.

[207] M. Aman, G. Jasmon, A. Bakar, and H. Mokhlis, "A new approach for optimum simultaneous multi-dg distributed generation units placement and sizing based on maximization of system loadability using hpso (hybrid particle swarm optimization) algorithm," *Energy*, vol. 66, pp. 202–215, 2014.

[208] M. Kefayat, A. L. Ara, and S. N. Niaki, "A hybrid of ant colony optimization and artificial bee colony algorithm for probabilistic optimal placement and sizing of distributed energy resources," *Energy Conversion and Management*, vol. 92, pp. 149–161, 2015.

[209] S. G. Naik, D. Khatod, and M. Sharma, "Optimal allocation of combined dg and capacitor for real power loss minimization in distribution networks," *International Journal of Electrical Power & Energy Systems*, vol. 53, pp. 967–973, 2013.

[210] M. Aman, G. Jasmon, K. Solangi, A. Bakar, and H. Mokhlis, "Optimum simultaneous dg and capacitor placement on the basis of minimization of power losses," *International Journal of Computer and Electrical Engineering*, vol. 5, no. 5, p. 516, 2013.

[211] K. Muthukumar and S. Jayalalitha, "Optimal placement and sizing of distributed generators and shunt capacitors for power loss minimization in radial distribution networks using hybrid heuristic search optimization technique," *International Journal of Electrical Power & Energy Systems*, vol. 78, pp. 299–319, 2016.

[212] A. Khodabakhshian and M. H. Andishgar, "Simultaneous placement and sizing of dgs and shunt capacitors in distribution systems by using imde algorithm," *International Journal of Electrical Power & Energy Systems*, vol. 82, pp. 599–607, 2016.

[213] W. Fadel, U. Kilic, and S. Taskin, "Placement of dg, cb, and tcsc in radial distribution system for power loss minimization using back-tracking search algorithm," *Electrical Engineering*, vol. 99, no. 3, pp. 791–802, 2017.

[214] I. Loshchilov, "Cma-es with restarts for solving cec 2013 benchmark problems," in *2013 IEEE Congress on Evolutionary Computation*. IEEE, 2013, pp. 369–376.

[215] R. Tanabe and A. S. Fukunaga, "Improving the search performance of shade using linear population size reduction," in *2014 IEEE congress on evolutionary computation (CEC)*. IEEE, 2014, pp. 1658–1665.

[216] N. Kanwar, N. Gupta, K. Niazi, and A. Swarnkar, "Improved meta-heuristic techniques for simultaneous capacitor and dg allocation in radial distribution networks," *International Journal of Electrical Power & Energy Systems*, vol. 73, pp. 653–664, 2015.

[217] R. Tanabe and A. Fukunaga, "Success-history based parameter adaptation for differential evolution," in *2013 IEEE Congress on Evolutionary Computation*, June 2013, pp. 71–78.

[218] A. Ipakchi and F. Albuyeh, "Grid of the future," *IEEE Power and Energy Magazine*, vol. 7, no. 2, pp. 52–62, 2009.

[219] J. P. Lopes, C. Moreira, and A. Madureira, "Defining control strategies for microgrids islanded operation," *IEEE Transactions on Power Systems*, vol. 21, no. 2, pp. 916–924, 2006.

[220] D. G. Photovoltaics and E. Storage, "Ieee guide for design, operation, and integration of distributed resource island systems with electric power systems," 2011.

[221] J. M. Guerrero, J. C. Vasquez, J. Matas, L. G. De Vicuña, and M. Castilla, "Hierarchical control of droop-controlled ac and dc microgrids—a general approach toward standardization," *IEEE Transactions on Industrial Electronics*, vol. 58, no. 1, pp. 158–172, 2010.

[222] A. Engler, "Applicability of droops in low voltage grids," *International Journal of Distributed Energy Resources*, vol. 1, no. 1, pp. 1–6, 2005.

[223] E. Barklund, N. Pogaku, M. Prodanovic, C. Hernandez-Aramburo, and T. C. Green, "Energy management in autonomous microgrid using stability-constrained droop control of inverters," *IEEE Transactions on Power Electronics*, vol. 23, no. 5, pp. 2346–2352, 2008.

[224] S. Conti, R. Nicolosi, S. Rizzo, and H. Zeineldin, "Optimal dispatching of distributed generators and storage systems for mv islanded microgrids," *IEEE Transactions on Power Delivery*, vol. 27, no. 3, pp. 1243–1251, 2012.

[225] P. H. Divshali, S. H. Hosseinian, and M. Abedi, "A novel multi-stage fuel cost minimization in a vsc-based microgrid considering stability, frequency, and voltage constraints," *IEEE Transactions on Power Systems*, vol. 28, no. 2, pp. 931–939, 2012.

[226] A. W. Mohamed and A. K. Mohamed, "Adaptive guided differential evolution algorithm with novel mutation for numerical optimization," *International Journal of Machine Learning and Cybernetics*, pp. 1–25, 2017.

[227] S. Ghosh, S. Das, S. Roy, S. M. Islam, and P. N. Suganthan, "A differential covariance matrix adaptation evolutionary algorithm for real parameter optimization," *Information Sciences*, vol. 182, no. 1, pp. 199–219, 2012.

[228] K. Price, N. Awad, M. Ali, and P. Suganthan, "Problem definitions and evaluation criteria for the 100-digit challenge special session and competition on single objective numerical optimization," in *Technical Report*. Nanyang Technological University, 2018.