

REFERENCES:

- [1] <http://pebb.onr.navy.mil/>, Power Electronic Building Blocks (PEBB) website, Office of Naval Research.
- [2] <http://www.cpes.vt.edu/>, Center for Power Electronics Systems (CPES) website, A National Science Foundation Engineering Research Center.
- [3] F. Petruzzello, P. D. Ziogas and G. Joos, "A novel approach to paralleling of converter units with true redundancy," *IEEE Power Electronics Specialists Conference*, pp. 808-813, 1990.
- [4] T. F. Wu, K. Siri, and C. Q. Lee, "Reliability improvement in parallel connected converter systems," *IEEE Industrial Electronics Annual Conference*, pp. 429-434, 1991.
- [5] C. Keller and Y. Tadros, "Are paralleled IGBT modules or paralleled IGBT inverters the better choice?" *European Power Electronics Conference*, pp.1-6, Brighton, 1993.
- [6] N. Seki and H. Uchino, "Which is better at a high power reactive power compensation system, high PWM frequency or multiple connection?" *IEEE Industry Applications Society Annual Conference*, pp. 946-953, 1994.
- [7] L. Matakas Jr., C. Burlacu, and E. Masada, "The connection of converters instead of semiconductor power device – a high performance solution for the MVA range of power converters," *Journal of Circuits, Systems and Computers*, vol. 5, no. 3, pp. 503-521, 1995.
- [8] M. Hashii, K. Kousaka, and M. Kaimoto, "New approach to a high-power GTO PWM inverter for AC motor drives," *IEEE Transactions on Industry Applications*, vol. IA-23, no. 2, pp. 263-269, March 1987.
- [9] T. Kawabata and S. Higashino, "Parallel operation of voltage source inverters," *IEEE Transactions on Industry Applications*, vol. 24, no. 2, pp. 281-287, March/April 1988.
- [10] J. Holtz, W. Lotzkat, and K-H. Werner, "A high-power multitransistor-inverter uninterruptable power supply system," *IEEE Transactions on Power Electronics*, vol. 3, no. 3, pp. 278-285, July 1988.

REFERENCES

- [11] S. Ogasawara, J. Takagaki, and H. Akagi, "A novel control scheme of a parallel current-controlled PWM inverter," *IEEE Transactions on Industry Applications*, vol. 28, no. 5, pp. 1023-1030, September/October 1992.
- [12] T. Sukegawa, et al., "A multiple PWM GTO line-side converter for unity power factor and reduced harmonics," *IEEE Transactions on Industry Applications*, vol. 28, no. 6, pp. 1302-1308, Nov/Dec 1992.
- [13] M. C. Chandorkar, D. Divan, and R. Lasseter, "Control techniques for dual current source GTO inverters," *PCC-Yokohama'93*, pp. 659-665, 1993.
- [14] Y. Sato, K. Suzuki, D. Azeddine, and T. Kataoka, "A new control strategy to improve AC input current waveform of high-power parallel connected PWM rectifiers," *PCC-Yokohama'93*, pp. 129-134, 1993.
- [15] Y. Komatsuzaki, "Cross current control for parallel operating three-phase inverter," *IEEE Power Electronics Specialists Conference*, pp. 943-950, 1994.
- [16] N. Kawakami, et al., "Quick response and low-distortion current control for multiple inverter-fed induction motor drives," *IEEE Transactions on Power Electronics*, vol. 9, no. 2, pp. 240-247, March 1994.
- [17] Y. Sato and T. Kataoka, "Simplified control strategy to improve ac-input-current waveform of parallel-connected current-type PWM rectifiers," *IEE Proceedings on Electric Power Applications*, vol. 142, no. 4, pp. 246-254, July 1995.
- [18] L. Matakas Jr. and E. Masada, "Analysis of the parallel connection of 3-phase VSC converters," *International Power Electronics Congress*, pp. 854-859, Yokohama, 1995.
- [19] L. Matakas Jr., C. Burlacu, and E. Masada, "High power, high performance parallel connected multi-converters: analysis and control," *International Symposium on Industrial Electronics*, pp. 121-126, 1995.
- [20] C. Burlacu and E. Masada, "Bilinear approach for the parallel connected multiconverter and the respective control," *7th International Power Electronics & Motion Control Conference*, Budapest, Hungary, pp. 201-209, vol.1, Sept. 1996.
- [21] R. Abe, Y. Nagai, and K. Tsuyuki, "Development of multiple space vector control for direct connected parallel current source power converters," *Proceedings of the Power Conversion Conference*, vol. 1, pp. 283-288, Nagaoka, 1997.

REFERENCES

- [22] L. Matakas Jr. and W. Kaiser, "Low harmonics, decoupled hysteresis type current control of a multi-converter consisting of a parallel transformerless connection of VSC converters," *IEEE Industry Applications Society Annual Conference*, pp. 1633-1640, 1997.
- [23] S. Fukuda and K. Matsushita, "A control method for parallel-connected multiple inverter systems," *Power Electronics and Variable Speed Drive Conference* Publication No. 456, pp. 175-180, IEE 1998.
- [24] K. Xing, F. C. Lee, D. Boroyevich, Z. Ye, and S. Mazumder, "Interleaved PWM with discontinuous space-vector modulation," *IEEE Transactions on Power Electronics*, vol. 14, no. 5, pp. 982-989, Sept. 1999.
- [25] Z. Ye, D. Boroyevich, J. Y. Choi, and F. C. Lee, "Control of circulating current in parallel three-phase boost rectifiers," *IEEE Applied Power Electronics Conference*, pp. 506-512, 2000.
- [26] Z. Ye, D. Boroyevich, and F. C. Lee, "Modeling and control of zero-sequence current in parallel multi-phase converters," *IEEE Power Electronics Specialists Conference*, 2000.
- [27] Y. Ito and O. Iyama, "Parallel redundant operation of UPS with robust current minor loop," *PCC-Nagaoka'97*, pp. 489-493, 1997.
- [28] C. S. Lee, et al, "parallel UPS with an instantaneous current sharing control," *IEEE Industrial Electronics Annual Conference*, vol. 1, pp. 568-573, 1998.
- [29] J. W. Dixon and B. T. Ooi, "Series and parallel operation of hysteresis current-controlled PWM rectifiers," *IEEE Transactions on Industry Applications*, vol. 25, no. 4, pp. 644-651, July/August 1989.
- [30] L. H. Walker, "10-MW GTO converter for battery peaking service," *IEEE Transactions on Industry Applications*, vol. 26, no. 1, January/February 1990.
- [31] K. Imaie, S. Ito, and S. Ueda, "PWM control method of multiple inverters for MAGLEV," *PCC-Yokohama'93*. Pp. 55-60, 1993.
- [32] S. Iot, K. Imaie, K. Nakata, S. Ueda, and K. Nakamura, "A series of PWM methods of a multiple inverter for adjustable frequency drive," *European Power Electronics Conference*, pp. 190-195.

REFERENCES

- [33] J-K Ji and S-K Sul, "Operation analysis and new current control of parallel connected dual converter system without interphase reactors," *IEEE Industrial Electronics Annual Conference*, pp. 235-240, 1999.
- [34] A. M. Kamel and T. H. Ortmeyer, "Harmonic reduction in single-phase inverter using a parallel operation technique," *IEEE Applied Power Electronics Conference*, pp. 101-108, 1989.
- [35] K. Kamiyama, T. Ohmae, and T. sukegawa, "Application trends in AC motor drives," *International Conference on Industrial Electronics, Control, Instrumentation, and Automation. Power Electronics and Motion Control*, pp. 31-36, 1992.
- [36] K. Matsui, Y. Murai, M. Watanabe, M. Kaneko, and F. Ueda, "A pulsewidth-modulated inverter with parallel connected transistors using current-sharing reactors," *IEEE Transactions on Power Electronics*, vol. 8, no. 2, pp. 186-191, April 1993.
- [37] F. Ueda, K. Matsui, M. Asao, and K. Tsuboi, "Parallel-connections of pulsewidth modulated inverters using current sharing reactors," *IEEE Transactions on Power Electronics*, vol. 10, no. 6, November 1995.
- [38] S. Mizoguchi, "PWM control apparatus for interphase reactor multiplex inverter," *United States Patent: US4802079*, Jan. 31, 1989.
- [39] T. Kazuaki, O. Toshiaki, I. Takashi, M. Mitsusachi, K. Yuzuru, K. Kenzo, "Method of suppressing circulating current of parallel multiple inverter and parallel multiple inverter," *Japan Patent: JP3235671*, Oct. 21, 1991.
- [40] Y. Zhao and T. A. Lipo, "Space vector PWM control of dual three-phase induction machine using vector space decomposition," *IEEE Transactions on Industry Applications*, vol. 31, no. 5, pp. 1100-1108, September/October 1995.
- [41] S. Luo, Z. Ye, R. Lin and F. C. Lee, "A classification and evaluation of parallel methods for power supply modules," *IEEE Power Electronics Specialists Conference*, pp. 901-908, 1999.
- [42] K. Siri, C. Q. Lee, and T. F. Wu, "Current distribution control for parallel-connected converters: Part I & Part II," *IEEE Transactions on Aerospace and Electronic Systems*, vol. 28, no. 3, pp. 829-850, July 1992.

REFERENCES

- [43] C. Jamerson and C. Mullet, "Paralleling supplies via various droop methods," *IEEE High-Frequency Power Conversion Conference*, pp. 68-76, 1994.
- [44] P. N. Enjeti, W. Shireen, P. Packebush, and I. J. Pitel, "Analysis and design of a new active power filter to cancel neutral current harmonics in three-phase four-wire electric distribution systems," *IEEE Transactions on Industry Applications*, vol. 30, no. 6, pp. 1565-1572, November/December 1994.
- [45] T. Shimizu and G. Kimura, "High frequency leakage current reduction based on a common-mode voltage compensation circuit," *IEEE Power Electronics Specialists Conference*, pp. 1961-1967, 1996.
- [46] A. Julian, G. Oriti, and T. A Lipo, "Elimination of common-mode voltage in three-phase sinusoidal power converters," *IEEE Transactions on Power Electronics*, vol. 14, no. 5, pp. 982-989, Sept. 1999.
- [47] G. Oriti, A. L. Julian, and T. A. Lipo, "A new space vector modulation strategy for common-mode voltage reduction," *IEEE Power Electronics Specialists Conference*, pp. 1541-1546, 1997.
- [48] M. Cacciato, A. Consoli, G. Scarcella, and A. Testa, "Reduction of common-mode currents in PWM inverter motor drives," *IEEE Transactions on Industry Applications*, vol. 35, no. 2, pp. 469-476, March/April, 1999.
- [49] H-D Lee and S-K Sul, "A common-mode voltage reduction in converter-inverter system by shifting active space vector in a sampling period,"
- [50] M. D. Manjrekar and T. A. Lipo, "An auxiliary zero state synthesizer to reduce common-mode voltage in three-phase inverters," *IEEE Industry Applications Society Annual Conference*, pp. 54-59, 1999.
- [51] A. Jouanne and H. Zhang, "A dual-bridge inverter approach to eliminating common-mode voltages and bearing and leakage currents," *IEEE Transactions on Power Electronics*, vol. 14, no. 1, January 1999.
- [52] S. Hiti and D. Borojevic, "Small-signal modeling and control of three-phase PWM converter," IAS'94, pp. 1143-1150, 1994.
- [53] S. Hiti, *Modeling and control of three-phase PWM converters*, Dissertation, Blacksburg, Virginia Polytechnic Institute and State University, 1995.

REFERENCES

- [54] J. W. Kolar, H. Ertl, and F. C. Zach, "Influence of the modulation method on the conduction and switching losses of a PWM converter system," *IEEE Transactions on Industry Applications*, vol. 27, no. 6, pp. 1063-1075, November/December 1991.
- [55] L. Abraham and R. Biumel, "Optimization of three phase pulse pattern by variable zero sequence component," *European Power Electronics Conference*, pp. 272-277, 1991.
- [56] S. Halasz, G. Gsonka, and A. Hassan, "Sinusoidal PWM techniques with additional zero-sequence harmonics," *IEEE Industrial Electronics Society Annual Conference*, pp. 85-90, 1994.
- [57] J. Holtz, "Pulsewidth modulation – a survey," *IEEE Transactions on Industrial Electronics*, vol. 39, no. 5, pp. 410-420, January 1994.
- [58] D. G. Holmes, "The significance of zero space vector placement for carrier based PWM schemes," *IEEE Transactions on Industry Applications*, vol. 32, no. 5, pp. 1122-1129, 1996.
- [59] V. H. Prasad, D. Boroyevich, and S. Dubovsky, "Analysis and comparison of space-vector modulation schemes for a four-leg voltage source inverter," *IEEE Applied Power Electronics Conference*, pp. 864-871, 1997.
- [60] V. Blasko, "Analysis of a hybrid PWM based on modified space-vector and triangle-comparison methods," *IEEE Transactions on Industry Applications*, vol. 33, no. 3, pp. 756-764, May/June 1997.
- [61] A. M. Trzynadlowski, R. L. Kirlin, and S. F. Legowski, "Space vector PWM technique with minimum switching losses and a variable pulse rate," *IEEE Transactions on Industrial Electronics*, vol. 44, no. 2, pp. 173-181, May/June 1997.
- [62] A. M. Hava, R. J. Kerkman, and T. A. Lipo, "A high-performance generalized discontinuous PWM algorithm," *IEEE Transactions on Industry Applications*, vol. 34, no. 5, pp. 1059-1071, September/October 1998.
- [63] Z. Ye, K. Xing, D. Boroyevich, and F. C. Lee, "Modeling and control of parallel three-phase boost rectifiers in PEBB-based DC distributed power systems," *IEEE Applied Power Electronics Conference*, pp. 1126-1132, 1998.

REFERENCES

- [64] Z. Ye, D. Boroyevich, K. Xing, and F. C. Lee, "Design of parallel sources in DC distributed power systems using gain-scheduling technique," *IEEE Power Electronics Specialists Conference*, pp. 161-165, 1999.
- [65] J. Shamma and M. Athans, "Gain-scheduling: potential hazards and possible remedies," *IEEE Control Systems Magazine*, vol. 12, pp. 101-107, 1992.
- [66] M. E. Fraser, C. D. Manning, and B. M. Wells, "Transformerless four-wire PWM rectifier and its application in AC-DC-AC converters," *IEE Proc.-Electr. Power Appli.*, vol. 142, no. 6, pp. 410-416, November 1995.
- [67] M. Aredes, J. Hafner, and K. Keumann, "A three-phase four-wire shunt active filter using six IGBTs," *European Power Electronics Conference*, pp. 1.874-1.879.
- [68] Y-K Lo, C-L Chen, "Three-phase four wire voltage controlled AC line conditioner with unity input power factor and minimized output voltage harmonics," *IEE Proc.-Electr. Power Appli.*, vol. 142, no. 1, pp. 43-49, January 1995.
- [69] T. Thomas, K. Haddad, G. Joos, and A. Jaafari, "Performance evaluation of three-phase three and four wire active filters," *IEEE Industry Applications Society Annual Conference*, pp. 1016-1023, 1996.
- [70] P. Verdelho and G. D. Marques, "Four-wire current-regulated PWM voltage converter," *IEEE Transactions on Industrial Electronics*, vol. 45, no. 5, pp. 761-770, October 1998.
- [71] C. A. Quinn and N. Mohan, "Active filtering of harmonic currents in three-phase, four-wire systems with three-phase and single-phase nonlinear loads," *IEEE Applied Power Electronics Conference*, pp. 829-836, 1992.
- [72] T. M. Jahns, Rik W. De Doncker, A. V. Radun, P. M. Szczesny, and F. G. Turnbull, "System design considerations for a high-power aerospace resonant link converter," *IEEE Transactions on Power Electronics*, vol. 8, no. 4, pp. 663-672, October 1993.
- [73] R. Zhang, F. C. Lee, D. Boroyevich, and H. Mao, "New high power, high performance power converter systems," *IEEE Power Electronics Specialists Conference*, pp. 8-14, 1998.

REFERENCES

- [74] M. J. Ryan, Rik W. De Doncker, and R. D. Lorenz, "Decoupled control of a 4-leg via a new 4x4 transformation matrix," *IEEE Power Electronics Specialists Conference*, pp. 187-192, 1999.
- [75] L. A. Pittorino, J. A. du Toit, and J. H. R. Enslin, "Evaluation of converter topologies and controllers for power quality compensators under unbalanced conditions," *IEEE Power Electronics Specialists Conference*, pp. 1127-1133, 1997.
- [76] L. Salazar S., F. Zapata H., and E. Wiechmann F., "Analysis, design and experimental evaluation of a four-pole PWM rectifier using space vector modulation," *IEEE Power Electronics Specialists Conference*, pp. 484-490, 1997.
- [77] R. Zhang, V. H. Prasad, D. Boroyevich, and F. C. Lee, "Analysis and design of a three-phase inverter with a neutral leg," *European Power Electronics Conference*, pp. 170-175, 1997.
- [78] R. Zhang, D. Boroyevich, V. H. Prasad, H. Mao, F. C. Lee, and S. Dubovsky, "A three-phase inverter with a neutral leg with space vector modulation," *IEEE Applied Power Electronics Conference*, pp. 857-863, 1997.
- [79] S. M. Ali and M. P. Kazmierkowski, "Current regulation of four-leg PWM-VSI," *IEEE Industrial Electronics Society Annual Conference*, pp. 1853-1858, 1998.
- [80] S. M. Ali and M. P. Kazmierkowski, "PWM voltage and current control of four-leg VSI," *International Symposium on Industrial Electronics*, pp. 196-201, 1998.
- [81] Z. Ye, D. Boroyevich, K. Xing, F. C. Lee, and C. Liu, "Active common-mode filter for inverter power supplies with unbalanced and nonlinear load," *IEEE Industry Applications Society Annual Conference*, pp. 1858-1863, 1999.
- [82] K. Xing, et al, "Power electronics building block and system integration," Project annual report submitted to Office of Naval Research, Center for Power Electronics Systems, Blacksburg, 1999.