

Research Publications of G. Narayanan

A. Journals

- [J1] G.Narayanan and V.T.Ranganathan, "Synchronised PWM strategies based on space vector approach. Part 1: Principles of waveform generation," IEE Proceedings on Electric Power Applications, Vol. 146(3), pp. 267-275, May 1999.
- [J2] G.Narayanan and V.T.Ranganathan, "Synchronised PWM strategies based on space vector approach. Part 2: Performance assessment and application to V/f drives," IEE Proceedings on Electric Power Applications, Vol. 146(3), pp. 276-281, May 1999.
- [J3] G.Narayanan and V.T.Ranganathan, "Triangle-comparison approach and space vector approach to pulsewidth modulation in inverter fed drives," Journal of the Indian Institute of Science, Vol. 80, pp. 409-427, Sep./Oct. 2000.
- [J4] G.Narayanan, S.R.Muralidhara, A.S.Anand and V.Ramanarayanan, "Protection of insulated gate bipolar transistors against short circuit," Journal of Indian Institute of Science, Vol. 80, pp. 457-475, Sep./Oct. 2000.
- [J5] G.Narayanan and V.T.Ranganathan, "An overmodulation algorithm for space vector modulated inverters and its application to low switching frequency PWM techniques," IEE Proceedings on Electric Power Applications, Vol. 148(6), pp. 521-536, Nov 2001.
- [J6] G.Narayanan and V.T.Ranganathan, "Two novel synchronised bus-clamping PWM techniques based on space vector approach for high power drives," IEEE Transactions on Power Electronics, Vol. 17(1), pp. 84-93, Jan 2002.
- [J7] G.Narayanan and V.T.Ranganathan, "Extension of operation of space vector-based low switching frequency PWM strategies using different overmodulation algorithms," IEEE Transactions on Power Electronics, Vol. 17(5), pp. 788-798, Sep 2002.
- [J8] G.Narayanan and V.T.Ranganathan, "Analytical evaluation of harmonic distortion in PWM AC drives using the notion of stator flux ripple," IEEE Transactions on Power Electronics, Vol. 20(2), pp. 466 – 474, March 2005.
- [J9] G. Narayanan, H. Krishnamurthy, Di Zhao and R. Ayyanar, "Advanced bus-clamping PWM techniques based on space vector approach," IEEE Transactions on Power Electronics, Vol. 21(4), pp. 974 – 984, July 2006.
- [J10] P.Srikant Varma and G.Narayanan, "Space vector PWM as a modified form of sine-triangle PWM for simple analog or digital implementation," IETE Journal of Research, Vol. 52(6), pp. 435-449, Nov-Dec 2006.
- [J11] Rajesh Ghosh and G. Narayanan, "A simple analog controller for single-phase half-bridge rectifier," IEEE Transactions on Power Electronics, Vol. 22(1), pp. 186-198, Jan 2007.
- [J12] A.R. Beig, G. Narayanan and V.T. Ranganathan, "Modified SVPWM algorithm for three level VSI with synchronized and symmetrical waveforms," IEEE Transactions on Industrial Electronics, Vol. 54(1), pp. 486-494, Feb 2007.

- [J13] Rajesh Ghosh and G. Narayanan, "A single-phase boost rectifier system for wide range of load variations," IEEE Transactions on Power Electronics, Vol. 22(2), pp. 470-479, March 2007.
- [J14] Rajesh Ghosh and G. Narayanan, "Generalized feedforward control of single-phase PWM rectifiers using disturbance observers," IEEE Transactions on Industrial Electronics, Vol. 54(2), pp. 984-993, April 2007.
- [J15] Rajesh Ghosh and G. Narayanan, "Control of three-phase, four-wire PWM rectifier," IEEE Transactions on Power Electronics, Vol. 23(1), pp. 96-106, Jan 2008.
- [J16] G. Narayanan, D. Zhao, H. Krishnamurthy, R. Ayyanar and V.T. Ranganathan, "Space vector based hybrid PWM techniques for reduced current ripple," IEEE Transactions on Industrial Electronics, Vol. 55(4), pp. 1614-1627, April 2008.
- [J17] Rajesh Ghosh and G. Narayanan, "A simple method to improve the dynamic response of single-phase PWM rectifiers," IEEE Transactions on Industrial Electronics, Vol. 55(10), pp. 3627 – 3634, Oct 2008.
- [J18] J.S. Siva Prasad, Tushar Bhavsar, Rajesh Ghosh and G. Narayanan, "Vector control of three-phase AC/DC front-end converter," Sadhana, Vol. 33(5), pp. 591 – 613, Oct 2008.
- [J19] Kaushik Basu, J.S. Siva Prasad and G. Narayanan, "Minimization of torque ripple in PWM AC drives," IEEE Transactions on Industrial Electronics, Vol. 56(2), pp. 553 – 558, Feb 2009.
- [J20] Tushar Bhavsar and G. Narayanan, "Harmonic analysis of advanced bus-clamping PWM techniques," IEEE Transactions on Power Electronics, Vol. 24(10), pp. 2347 – 2352, Oct 2009.
- [J21] D. Zhao, V.S.S. Pavan Kumar Hari, G. Narayanan and R. Ayyanar, "Space vector based hybrid pulse width modulation techniques for reduced harmonic distortion and switching loss," IEEE Transactions on Power Electronics, Vol. 25(3), pp. 760 – 785, March 2010.
- [J22] K. Basu, J.S.S. Prasad, G. Narayanan, H. Krishnamurthy and R. Ayyanar, "Reduction of torque ripple in induction motor drives using an advanced hybrid PWM technique," IEEE Transactions on Industrial Electronics, Vol. 57(6), pp. 2085 – 2091, June 2010.
- [J23] S. Das and G. Narayanan, "Novel switching sequences for a space vector modulated three-level inverter," IEEE Transactions on Industrial Electronics, Vol. 59 (3), pp. 1477 – 1487, March 2012.
- [J24] V.S.S. Pavan Kumar Hari and G. Narayanan, "Space-vector-based hybrid PWM technique to reduce line current distortion in induction motor drives," IET Power Electronics, Vol. 5, Issue 8, pp. 1463 – 1471, Sep 2012.
- [J25] A.C. Binoj Kumar, J.S.S. Prasad and G. Narayanan, "Experimental investigations on the influence of inverter switching sequence on motor acoustic noise," IEEE Transactions on Industrial Electronics, Vol. 60(2), pp. 433 – 439, Feb 2013.
- [J26] M.K. Modi, S. Venugopal and G. Narayanan, "Space vector based analysis of overmodulation in triangle-comparison based PWM for voltage source inverter," Sadhana, Vol. 38, Part 3, pp. 331-358, June 2013.
- [J27] J.S.S. Prasad and G. Narayanan, "Apparatus and method for heat-run test on high-power PWM converters with low energy expenditure," Sadhana, vol. 38, part 3, pp. 359-375, June 2013.