

circuit -through creates distortion and unstable operation at low speeds, and 3) common-mode voltage causes shaft current and premature failures of the motor. the Z-source inverter [7],has a niche for ASD systems to overcome the aforementioned problems [5].

A Z-source inverter based ASD system can:

- 1) Produce any desired output ac voltage, even greater than the line voltage, regardless of the input voltage, thus reducing motor ratings;
- 2) Provide ride-through during voltage sags without any additional circuits;
- 3) Reduce the harmonic current and common-mode voltage. The control method has been verified by simulation and experiments.

References

- [1] N.Mohan, W.P.Robbin and T.Undeland, Power Electronics: Converters, Applications and Design, 2nd Ed. New York: Wiley. 1995.
- [2] F.Z. Peng, "Z – Source Inverter", IEEE Trans. Industry Applications, Vol.39, pp.504-510, March /April 2003.
- [3] Miaosen Shen, Alan Joseph, Jin Wang, Fang Z.peng, and Donald J.Adams "Comparison of Traditional Inverters and Z- Source Inverter for Fuel Cell Vehicles", Inproc. IEEE IAS' 04 , 2004.
- [4] P.C.Loh, D. M. Volathgamuwa, Y. S. Lai, G T.Lai,Y.Li "Pulse-Width Modulation Of Z- Source Inverters", In proc. IEEE IAS' 04, 2004.
- [5] F.Z.Peng, M.Shen, Z-Qian, "Maximum Boost Control of Z- Source Inverter", In proc. Of IEEE PESC 2004.
- [6] F.Z.Peng, M.Shen, A.Joseph, L. M.Tolbert, D. J.Adams, "Maximum Constant Boost Control of the Z- Source Inverter" In proc IEEE IAS' 04, 2004.
- [7] F.Z.Peng, "Z-Source Inverter for Motor Drives", in proc, of IEEE PESC 2004.
- [8] J.Holtz, "Pulse Width Modulation – a survey", IEEE Trans. Ind. Electron. Vol. 39, pp. 410- 420, Dec. 1992.

Author Profile



Mohammad. Abdul Hakeem has received the B.TECH in Electrical and Electronics Engineer from VITS Engineer College in KNR, A.P, INDIA (2008) & M.TECH in Power systems High Voltage Engineering from Ramappa Engineering College, Warangal, A.P, INDIA (2009 2011).his present working as an Asst.Professor in Mizan Tepi University,Ethiopia.



Hazeera sultana has received the B.TECH in Electrical and Electronics Engineer from VITS Engineer College in KNR, A.P, INDIA (2012) & Perusing M.TECH in power systems from St Peters College of Engineering and Technology. has presently working as teaching assistant in J.N.T.University, Hyderabad, Telangana.