TABLE IV
MAGNETIZATION CHARACTERISTIC

Voltage (pu)	Current (nu)
Voltage (pu)	Current (pu)
0.03	0.14
0.17	0.19
0.45	0.33
0.55	0.40
0.66	0.49
0.73	0.57
0.81	0.67
0.94	0.86
0.99	0.95
1.13	1.24
1.20	1.43
1.35	1.90
1.55	2.85
1.70	3.80
1.82	4.75

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REFERENCES

- N. Jenkins, R. Allan, J. B. Ekanayake, G. Strbac, *Embedded Generation*, London, U. K, Inst. Elect. Eng., 2010.
- [2] G. Pepermans, J. Driesen, D. Haeseldonckx, R. Belmans and W. D'haeseleer, "Distributed generation: definition, benefits, and issue," *Elsevier Energy Policy*, vol. 33, pp. 787-798, 2005.
- [3] D. Levy, "Stand alone induction generators," *Elect. Power Syst. Res.*, vol. 41, pp. 191–201, 1997.
- [4] R. C. Bansal, "Three-Phase Self-Excited Induction Generators: An Overview," *IEEE Transactions on Energy Conversion*, vol. 20, No. 2, pp. 292-299, June 2005.
- [5] D. Bejmert, T. S. Sidhu, "Investigation into Islanding Detection with Capacitor Insertion-based Method," *IEEE Trans. On Power Del.*, vol. 29, no. 6, pp. 2485-2492, Dec. 2014.
- [6] I. Mazhari, H. Jafarian, J. Enslin, S. Bhowmik, "Locking Frequency Band Detection Method for Islanding Protection of Distribution Generation," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 5, No. 3, pp. 1385-1396, Sept 2017.
- [7] Interconnecting Distributed Resources with Electric Power Systems, IEEE Std 1547 2003.
- [8] A. Khamis, H. Shareef, E. Bizkevelci, T. Khatib, "A Review of islanding detection techniques for renewable distributed generation

systems," *Elsevier, Renewable and Sustainable Energy Reviews*, vol.28, pp.483-493, 2013

- [9] P. Mazat, Z. Chen, B. Bak-Jensen, "Review of Islanding Detection Methods for Distributed Generation," Electric Utility Deregulation and Restructuring and Power Technologies, DRPT, pp. 2743-2748, Nanjing China, 6-9 April 2008.
- [10] K. A. Ropp, N. Sabhah, "Using Power Carrier Communications to Prevent Islanding," in Proc. 28th IEEE Photovoltaic Specialist Conference, pp. 1675-1678, 2000.
- [11] W. Wang, J. Kliber, G. Zhang, W. Xu, B. Howell, T. Palladino, "A Power Line Signaling Based Technique for Anti-Islanding Protection of Distributed Generators—Part I: Scheme and Analysis," *IEEE Tran. Power Delivery*, vol. 22, no. 3, pp. 1758-1766, July 2007.
- [12] W. Wang, J. Kliber, G. Zhang, W. Xu, B. Howell, T. Palladino, "A Power Line Signaling Based Technique for Anti-Islanding Protection of Distributed Generators—Part II: Field Test Results," *IEEE Tran. Power Delivery*, vol. 22, no. 3, pp. 1767-1772, July 2007.
- [13] J. S. Hwang, J. E. Kim, "Islanding Detection Method of Distributed Generation Units Connected To Power Distribution System," in *IEEE Power System Technology Conference, pp. 643-647*, 2000.
- [14] B. Fox, P. O'Kane, "Loss of Mains Detection for Embedded Generation by System Impedance Monitoring," in *Developments in Power System Protection, Conference Publication No. 434*, ©IEE, 1997, 25-27th March 1997.
- [15] B. Wen, D. Boroyevich, R. Burgos, Z. Shen, P. Mattavelli, "Impedance-Based Analysis of Active Frequency Drift Islanding Detection for Grid-Tied Inverter System," *IEEE Transaction on Industry Applications*, vol. 52, no. 1, Jan/Feb 2016.
- [16] J. Sung-Il, K. Kwang-Ho, "An Islanding Detection Method for Distributed Generations Using Voltage Unbalance and Total Harmonic Distortion of Current," *IEEE Transaction on Power Delivery*, vol. 19, no. 2, pp. 745-752, April 2004.
 [17] H. Laaksonen, "Advanced Islanding Detection Functionality for
- [17] H. Laaksonen, "Advanced Islanding Detection Functionality for Future Electricity Distribution Networks," *IEEE Transaction on Power Delivery*, vol. 28, no. 4, pp. 2056-2064, October 2013.
- [18] P. C. M. Meira, A. P. Grilo, W. Freitas, J. C. M. Vieira, "Investigation of the Islanding Detection of Induction Generators," Power & Energy Society General Meeting, 2009. PES '09. IEEE, Calgary, AB, Canada, 26-30 July 2009.
- [19] I. Abdulhadi, Xinyao Li, F. Coffele, P. Crolla, A. Dysko, C. Booth, G. Burt, *International White Book on DER Protection: Review and Testing Procedures*, Glasgow, U.K., Institute for Energy and Environment, 2012.
- [20] J. G. Trapp, J. B. Parizzi, F. A. Farret, Á.B. Serdotte, A. J. Longo, "Stand alone self-excited induction generator with reduced excitation capacitors at fixed speed," in *Proc. Power Electronics Conference* (*COBEP*), 2011 Brazilian, p. 955-962.
- [21] C. Salimikordkandi, T. Surgevil, "Modeling and Analysis of Self-Excited Induction Generator with Fixed Capacitor Excitation and Shunt Voltage Regulation," in *Proc. Power Electronics and Motion Control Conference and Exposition (PEMC)*, 2014, p. 149-155.