

**SyR-e** (**Sy**nchronous **R**eluctance **e**volution)

List of references

September, 17 2020

*This document is a collection of some of the papers and PhD dissertations published along the years, during SyR-e development.*

# List of papers

1. F. Cupertino, G. Pellegrino and C. Gerada, "Design of Synchronous Reluctance Motors With Multiobjective Optimization Algorithms," in IEEE Transactions on Industry Applications, vol. 50, no. 6, pp. 3617-3627, Nov.-Dec. 2014. Available at <http://hdl.handle.net/11583/2582959>
2. G. Pellegrino, F. Cupertino and C. Gerada, "Automatic Design of Synchronous Reluctance Motors Focusing on Barrier Shape Optimization," in IEEE Transactions on Industry Applications, vol. 51, no. 2, pp. 1465-1474, March-April 2015. Available at <http://hdl.handle.net/11583/2573560>
3. M. Palmieri, M. Perta, F. Cupertino and G. Pellegrino, "High-speed scalability of synchronous reluctance machines considering different lamination materials," IECON 2014 - 40th Annual Conference of the IEEE Industrial Electronics Society, Dallas, TX, 2014, pp. 614-620. Available at <http://hdl.handle.net/11583/2634090>
4. M. Gamba, G. Pellegrino and F. Cupertino, "Optimal number of rotor parameters for the automatic design of Synchronous Reluctance machines," 2014 International Conference on Electrical Machines (ICEM), Berlin, 2014, pp. 1334-1340. Available at <http://hdl.handle.net/11583/2589959>
5. M. Palmieri, M. Perta, F. Cupertino and G. Pellegrino, "Effect of the numbers of slots and barriers on the optimal design of synchronous reluctance machines," 2014 International Conference on Optimization of Electrical and Electronic Equipment (OPTIM), Bran, 2014, pp. 260-267. Available at <http://hdl.handle.net/11583/2589956>
6. F. Cupertino, G. M. Pellegrino, E. Armando and C. Gerada, "A SyR and IPM machine design methodology assisted by optimization algorithms," 2012 IEEE Energy Conversion Congress and Exposition (ECCE), Raleigh, NC, 2012, pp. 3686-3691. Available at <http://hdl.handle.net/11583/2503167>
7. G. Pellegrino and F. Cupertino, "FEA-based multi-objective optimization of IPM motor design including rotor losses," 2010 IEEE Energy Conversion Congress and Exposition, Atlanta, GA, 2010, pp. 3659-3666. Available at <http://hdl.handle.net/11583/2379505>
8. G. Pellegrino and F. Cupertino, "IPM motor rotor design by means of FEA-based multi-objective optimization," 2010 IEEE International Symposium on Industrial Electronics, Bari, 2010, pp. 1340-1346. Available at <http://hdl.handle.net/11583/2379504>
9. C. Lu, S. Ferrari and G. Pellegrino, "Two Design Procedures for PM Synchronous Machines for Electric Powertrains," in IEEE Transactions on Transportation Electrification, vol. 3, no. 1, pp. 98-107, March 2017. Available at <http://hdl.handle.net/11583/2664444>
10. C. Lu, S. Ferrari, G. Pellegrino, C. Bianchini and M. Davoli, "Parametric design method for SPM machines including rounded PM shape," 2017 IEEE Energy Conversion Congress and Exposition (ECCE), Cincinnati, OH, 2017, pp. 4309-4315. Available at <http://hdl.handle.net/11583/2681209>
11. R. Leuzzi, P. Cagnetta, F. Cupertino, S. Ferrari and G. Pellegrino, "Performance assessment of ferrite- and neodymiumassisted synchronous reluctance machines," 2017 IEEE Energy Conversion Congress and Exposition (ECCE), Cincinnati, OH, 2017, pp. 3958-3965. Available at <http://hdl.handle.net/11583/2694502>
12. M. Gamba, G. Pellegrino, E. Armando and S. Ferrari, "Synchronous reluctance motor with concentrated windings for IE4 efficiency," 2017 IEEE Energy Conversion Congress and Exposition (ECCE), Cincinnati, OH, 2017, pp. 3905-3912. Available at <http://hdl.handle.net/11583/2694501>
13. S. Ferrari, G. Pellegrino, M. Davoli and C. Bianchini, "Reduction of Torque Ripple in Synchronous Reluctance Machines through Flux Barrier Shift," 2018 XIII International Conference on Electrical Machines (ICEM), Alexandroupoli, 2018, pp. 2290-2296. Available at <http://hdl.handle.net/11583/2712425>
14. S. Ferrari and G. Pellegrino, "FEA-Augmented Design Equations for Synchronous Reluctance Machines," 2018 IEEE Energy Conversion Congress and Exposition (ECCE), Portland, OR, 2018, pp. 5395-5402. Available at <http://hdl.handle.net/11583/2712428>
15. S. Ferrari, G. Pellegrino, M. Z. M. Jaffar and I. Husain, "Computationally Efficient Design Procedure for Single-Layer IPM Machines," *2019 IEEE International Electric Machines and Drives Conference (IEMDC)*, San Diego, CA, 2019. Available at <http://hdl.handle.net/11583/2734212>
16. S. Ferrari and G. Pellegrino, "Torque Ripple Minimization of PM-assisted Synchronous Reluctance Machines via Asymmetric Rotor Poles,", *2019 IEEE Energy Conversion Congress and Exposition (ECCE)*, Baltimore, MD, 2019. Available at <http://hdl.handle.net/11583/2758652>
17. P. Ragazzo, S. Ferrari, N. Rivière, M. Popescu and G. Pellegrino, “Efficient Multiphysics Design Workflow of Synchronous Reluctance Motors”, 2020 XIV International Conference on Electrical Machines (ICEM), Goteborg, 2020

# List of PhD dissertations

1. M. Gamba, “Design of non conventional Synchronous Reluctance machines”, 2017. Available at <http://hdl.handle.net/11583/2669965>
2. C. Lu, “Design methods for Surface-Mounted Permanent Magnet Synchronous Machines”, 2018. Available at <http://hdl.handle.net/11583/2704285>
3. S. Ferrari, “Design, Analysis and Testing Procedures for Synchronous Reluctance and Permanent Magnet Machines”, 2020. Available at <http://hdl.handle.net/11583/2836788>