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- [20] Haddoun A, et al. (2008). comparative analysis of estimation techniques of sfoc induction motor for electric vehicles. ICEM'08, Vilamoura, Portugal, 1-6. <http://dx.doi.org/10.1109/ICELMACH.2008.4800166>
- [21] Pacejka H, Bakker E. (1992). The magic formula tyre model. *Vehicle System Dynamics* 21(1): 1-18. <http://dx.doi.org/10.1080/00423119208969994>
- [22] Metwally M. (2012). Sensorless speed and position control with dtfc of induction motor using four switch three phase inverter and adaptive flux observer. *International Journal of Electrical & Computer Sciences IJECS-IJENS* 12(5): 38-45.
- [23] Roubache T, Chaouch S, Nait said M. (2016). Sensorless fault-tolerant control of an induction motor based electric vehicle. *J Electr Eng Technol* 11(5): 1423-1432. <http://dx.doi.org/10.5370/JEET.2016.11.5.1423>
- [24] Rahme S, Meskin N. (2015). Adaptive sliding mode observer for sensor fault diagnosis of an industrial gas turbine. *Control Engineering Practice* 38(1): 57-74. <http://dx.doi.org/10.1016/j.conengprac.2015.01.006>
- [25] Barut M, et al. (2008). Experimental evaluation of braided EKF for sensorless control of induction motors. *IEEE Trans. Industrial Electronics* 55(2): 620-632. <http://dx.doi.org/10.1109/TIE.2007.911956>

## APPENDIX

**Table 2.** Induction motor parameters

1 kW, 5 Nm, $R_s = 1.275 \Omega$ , $R_r = 5.1498 \Omega$ , $L_s = 0.4991$ H, $L_r = 0.4331$ H, $L_m = 0.4331$ H, $J = 0.0035$ kg.m
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