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APPENDIX : System parameters

Wind turbine :

Rating : 1 kw , 450 rpm (low speed side) at $V_w = 12$ m/s .

Size : Height = 4 m , Equator radius = 1 m , Swept area = 4 m² , $\rho = 1.25$ kg/ m².

Induction machine :

Rating : 3-phase , 2 kw , 120 V , 10 A , 4-pole , 1740 rpm .

Parameters : $R_s = 0.62 \Omega$, $R_r = 0.566 \Omega$, $L_s = L_r = 0.058174$ H., $L_m = 0.054$ H, $J = 0.0622$ kg.m² , $f = 0.00366$ N.m./rad/s. FC-TCR : $C_o = 176$ μ F , $L_o = 0.127$ H.