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## NOMENCLATURE

AC	Alternating Current
DC	Direct Current
PF	Power Factor
$C_p$	Power coefficient
$R$	Blade radius (m)
$R_s, R_r$	Stator and rotor resistances ( $\Omega$ )
$L_s, L_r$	Self inductance of stator and rotor (H)
$M$	Mutual magnetizing inductance
$\varphi_s, \varphi_r$	Stator and rotor flux (Wb)
$C_{em}$	Electromagnetic torque (Nm)
$v$	Wind speed (m/s)
$J$	Inertia moment of the moving element ( $\text{kgm}^2$ )
$\lambda$	Ratio of speed
$\rho$	Air density
$\beta$	Pitch angle
$f_r$	Viscous friction coefficient
$p$	Number of pair poles
$G$	Mechanical speed multiplier
$\omega_s$	Synchronously rotating angular speed (rad/s)
$\omega_r$	Electrical angular rotor speed (rad/s)
$V_s, V_r$	Stator and rotor voltage (V)
$I_{dr}, I_{qr}$	Direct and quadrature component of the rotor currents (A)
$I_{ds}, I_{qs}$	Direct and quadrature component of the stator currents (A)
$g$	Slip
$\Omega$	Mechanical speed (rad/s)
$P$	Active power (W)
$Q$	Reactive power (Var)