
List of Symbols

Symbol	Description	Units
V_{sd}	Direct-axis voltage component	V
V_{sq}	Quadrature-axis voltage component	V
i_{sd}	Direct-axis current component	A
i_{sq}	Quadrature-axis current component	A
λ_{sd}	Direct-axis flux linkage component	Wb
λ_{sq}	Quadrature-axis flux linkage component	Wb
λ_m	Permanent magnet flux component	Wb
R_s	Stator phase resistance	Ω
L_s	Stator phase inductance	H
ω_{syn}	Synchronous rotational speed	rad/S
ω_{mech}	Mechanical rotational speed	rad/S
T_{em}	Electromagnetic torque	Nm
T_{load}	Load torque	Nm
J	Inertia moment	$kg.m^2$
θ_r	Rotor position	rad
τ	Machine time constant	S
e_s	Back EMF of the machine	V
f_i	Injected high frequency	Hz
\wedge	Index for estimated quantities	
