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NOMENCLATURE

v_s, i_s	Stator voltage and current.
φ_s, φ_r	Stator and rotor flux.
$\theta_{\varphi s}$,$\theta_{\varphi r}$	Positions of stator and rotor flux in the stator frame.
ω	Mechanical rotor speed.
$2.p$	number of poles.
T_e	Electromagnetic torque.
T_r	Rotor time constant.
R_s	Stator resistance.
L_s ,L_r ,L_m	Stator, rotor and mutual inductances.
σ	Total leakage factor.
$H_{(.)}$	Denotes hysteresis bound for a chosen variable.
$E_{(.)}$	Denotes logical decision for a chosen variable.
$(.)^*$	Denotes a reference value.
(^)	Denotes an estimated value.
$(.)_{\alpha,\beta}$	Denotes α and β axis-components for a chosen variable.
$(.)_{d,q}$	Denotes d and q axis-components for a chosen variable.