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Abbreviations

AC	Alternate Current
A/D	Analog-Digital
ADC	Analog to Digital Converter
CCS	Code Composer Studio
CPU	Central Processing Unit
DC	Direct Current
DFO	Direct Field Orientation
EMF	Electro Motive Force
EOC	End Of Conversion
FOC	Field Oriented Control
ID	(motor) IDentification
IM	Induction Machine
IRTF	Ideal Rotating TransFormer
ITF	Ideal Transformer
JTAG	Joint Test Action Group
LSB	Least Significant Bit
LED	Light Emitting Diode
LPF	Low Pass Filter
MCU	Micro Controller Unit
OP-AMP	Operational Amplifier
PFC	Power Factor Correction
PI	Proportional Integral
PIL	Processor In the Loop
PM	Permanent Magnet
PWM	Pulse Width Modulation
RAM	Random Access Memory
RHS	Right Hand Side
RMS	Root Mean Square

ROM	Read Only Memory
S/H	Sample and Hold
SOC	Start Of Conversion
SVM	Space Vector Module (pulse centering)
TBCTR	Time Base CounTeR
TBPRD	Time Base PeRioD
TI	Texas Instruments
V/f	Voltage frequency controller

List of symbols

a	acceleration
θ	angle in electrical degrees
C	capacitance
I	current
i	current
D	diode
e	back e.m.f.
ψ	flux linkage
f	frequency
Z	impedance
L	inductance
J	inertia
K	parameter
k	factor (e.g. winding factor)
m	modulation index
T	period
p	power
p	pole pair number
r	radius
X	reactance
R	resistance
T	simulation or sampling time
s	slip
ω	angular speed
n	speed
S	switch
t	time
T	torque

U	voltage
u	voltage
x	auxiliary variable
G_i	Gain current
G_R	Gain
G_v	Gain voltage
K_e	EMF constant
K_i	integral gain (e.g. of current controller)
K_p	proportional gain (e.g. of current controller)
K_{pi}	effective Gain of PI controller (3.6)
a	transformation factor
τ	time constant
τ_R	Time constant (rotor)
Sw	switching signal

List of indices

\hat{X}	amplitude
$X^{\alpha\beta}$	fix stator coordinates
X^{dc}	Direct Current
X^{dq}	field oriented coordinates
X^{fs}	full scale value)
X^{HF}	High Frequency
X^{IM}	Induction mot
X^{lim}	limit
X^{LL}	line to line
X^{max}	maximum (e.g. maximum current)
X^{nom}	nominal or rated (e.g. rated stator current)
X^n	normalized (e.g. normalized stator current)
X^{PM}	PMmot
X^{ref}	reference (e.g. reference current)
X^*	reference
X^{rms}	Root Mean Square
X^r	in rotor flux oriented coordinate system
X^s	in stator flux oriented coordinate system
X^{xy}	rotor-oriented coordinates
X^i	input
X^o	output
X_α	real component of quantity in stator coordinates
X_A	amplitude
X_{aux}	auxiliary (e.g. auxiliary winding of single-phase induction machine)
X_b	bandwidth
X_β	imaginary component of quantity in stator coordinates
X_{cc}	current controller
X_{conv}	converter

X_d	real component of quantity in field oriented coordinates
X_{DC}	DC (e.g. DC link voltage)
X_e	electrical
X_f	excitation (e.g. excitation flux)
X_i	integral (e.g. integral component)
$X_{\{101\}}$	switching states for given voltage vector
X_k	integer variable used as counter (e.g. time step in discrete system)
X_l	load (e.g. load torque)
X_M	transformed main quantity
X_m	main quantity (e.g. main inductance)
X_m	mechanical
X_n	normalized; per unit
X_A	phase A
X_B	phase B
X_C	phase C
X_i	phase index
X_{PM}	Permanent Magnet
X_p	proportional (e.g. proportional component)
X_q	imaginary component of quantity in field oriented coordinates
X_R	transformed rotor quantity
X_r	rotor quantity (e.g. rotor resistance)
X_{run}	run (e.g. run winding of single-phase induction machine)
X_s	sampling (e.g. sampling time)
X_{sc}	short circuit (e.g. short circuit current)
X_{slip}	slip (e.g. slip frequency)
X_{sp}	sampling (e.g. sampling time of speed controller)
X_s	stator quantity (e.g. stator resistance)
X_σ	stray or leakage (e.g. stray or leakage flux)
X_i	indicates a certain instant in time
X_x	real component of quantity in rotor-oriented coordinates
X_y	imaginary component of quantity in rotor-oriented coordinates
X_0	zero
X_{en}	per unit electrodynamic torque
X_{ein}	integral component of per unit torque
X_{pp}	peak to peak value
\vec{X}	space vector

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