Mikko Hinkkanen

List of Publications by Year
in descending order

148 papers	3,720 citations	136950 32 h-index	149698 56 g-index

150 all docs	150 docs citations	150 times ranked	1993 citing authors

#	Article	IF	Citations
1	Analysis of an Adaptive Observer for Sensorless Control of Interior Permanent Magnet Synchronous Motors. IEEE Transactions on Industrial Electronics, 2008, 55, 570-576.	7.9	167
2	Speed Control of Electrical Drives Using Classical Control Methods. IEEE Transactions on Industry Applications, 2013, 49, 889-898.	4.9	152
3	Complete Stability of Reduced-Order and Full-Order Observers for Sensorless IM Drives. IEEE Transactions on Industrial Electronics, 2008, 55, 1319-1329.	7.9	146
4	Modified integrator for voltage model flux estimation of induction motors. IEEE Transactions on Industrial Electronics, 2003, 50, 818-820.	7.9	137
5	Adaptation of Motor Parameters in Sensorless PMSM Drives. IEEE Transactions on Industry Applications, 2009, 45, 203-212.	4.9	136
6	Analysis and Design of Full-Order Flux Observers for Sensorless Induction Motors. IEEE Transactions on Industrial Electronics, 2004, 51, 1033-1040.	7.9	126
7	Reduced-Order Flux Observers With Stator-Resistance Adaptation for Speed-Sensorless Induction Motor Drives. IEEE Transactions on Power Electronics, 2010, 25, 1173-1183.	7.9	125
8	Parameter Identification and Self-Commissioning in AC Motor Drives: A Technology Status Review. IEEE Transactions on Power Electronics, 2019, 34, 3603-3614.	7.9	122
9	Sensorless Self-Commissioning of Synchronous Reluctance Motors at Standstill Without Rotor Locking. IEEE Transactions on Industry Applications, 2017, 53, 2120-2129.	4.9	111
10	Stabilization of Regenerating-Mode Operation in Sensorless Induction Motor Drives by Full-Order Flux Observer Design. IEEE Transactions on Industrial Electronics, 2004, 51, 1318-1328.	7.9	103
11	Robust Analytic Design of Power-Synchronization Control. IEEE Transactions on Industrial Electronics, 2019, 66, 5810-5819.	7.9	103
12	Loss-Minimizing Flux Level Control of Induction Motor Drives. IEEE Transactions on Industry Applications, 2012, 48, 952-961.	4.9	100
13	A Combined Position and Stator-Resistance Observer for Salient PMSM Drives: Design and Stability Analysis. IEEE Transactions on Power Electronics, 2012, 27, 601-609.	7.9	95
14	Observer-Based State-Space Current Control for a Three-Phase Grid-Connected Converter Equipped With an LCL Filter. IEEE Transactions on Industry Applications, 2014, 50, 2700-2709.	4.9	90
15	Observer-Based State-Space Current Controller for a Grid Converter Equipped With an LCL Filter: Analytical Method for Direct Discrete-Time Design. IEEE Transactions on Industry Applications, 2015, 51, 4079-4090.	4.9	90
16	Induction Motor Drives Equipped With Diode Rectifier and Small DC-Link Capacitance. IEEE Transactions on Industrial Electronics, 2008, 55, 312-320.	7.9	81
17	Parameter sensitivity of full-order flux observers for induction motors. IEEE Transactions on Industry Applications, 2003, 39, 1127-1135.	4.9	75
18	Adaptive Full-Order Observer With High-Frequency Signal Injection for Synchronous Reluctance Motor Drives. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2014, 2, 181-189.	5.4	75

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19	Comparison of a Reduced-Order Observer and a Full-Order Observer for Sensorless Synchronous Motor Drives. IEEE Transactions on Industry Applications, 2012, 48, 1959-1967.	4.9	66
20	State Observer for Grid-Voltage Sensorless Control of a Converter Equipped With an LCL Filter: Direct Discrete-Time Design. IEEE Transactions on Industry Applications, 2016, 52, 3133-3145.	4.9	63
21	A Universal Controller for Grid-Connected Voltage-Source Converters. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 5761-5770.	5.4	60
22	Stabilization Methods for Sensorless Induction Motor Drivesâ€"A Survey. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2014, 2, 132-142.	5.4	59
23	Identification of Two-Mass Mechanical Systems Using Torque Excitation: Design and Experimental Evaluation. IEEE Transactions on Industry Applications, 2015, 51, 4180-4189.	4.9	52
24	Flux Observer Enhanced With Low-Frequency Signal Injection Allowing Sensorless Zero-Frequency Operation of Induction Motors. IEEE Transactions on Industry Applications, 2005, 41, 52-59.	4.9	51
25	Sensorless Control of Induction Motor Drives Equipped With Inverter Output Filter. IEEE Transactions on Industrial Electronics, 2006, 53, 1188-1197.	7.9	49
26	Sensorless control of PMSM drives using a combination of voltage model and HF signal injection. , 0, , .		48
27	Modeling of Saturation Due to Main and Leakage Flux Interaction in Induction Machines. IEEE Transactions on Industry Applications, 2010, 46, 937-945.	4.9	48
28	Inclusion of magnetic saturation in dynamic models of synchronous reluctance motors. , 2012, , .		48
29	Gain Scheduling of a Full-Order Observer for Sensorless Induction Motor Drives. IEEE Transactions on Industry Applications, 2014, 50, 3834-3845.	4.9	47
30	State Observer for Grid-Voltage Sensorless Control of a Converter Under Unbalanced Conditions. IEEE Transactions on Industry Applications, 2018, 54, 286-297.	4.9	45
31	State-Space Speed Control of Two-Mass Mechanical Systems: Analytical Tuning and Experimental Evaluation. IEEE Transactions on Industry Applications, 2014, 50, 3428-3437.	4.9	44
32	Observers for Sensorless Synchronous Motor Drives: Framework for Design and Analysis. IEEE Transactions on Industry Applications, 2018, 54, 6090-6100.	4.9	43
33	Discrete-Time Observer Design for Sensorless Synchronous Motor Drives. IEEE Transactions on Industry Applications, 2016, 52, 3968-3979.	4.9	42
34	Signal-Injection-Assisted Full-Order Observer With Parameter Adaptation for Synchronous Reluctance Motor Drives. IEEE Transactions on Industry Applications, 2014, 50, 3392-3402.	4.9	33
35	Braking Scheme for Vector-Controlled Induction Motor Drives Equipped With Diode Rectifier Without Braking Resistor. IEEE Transactions on Industry Applications, 2006, 42, 1257-1263.	4.9	32
36	Current Control for Synchronous Motor Drives: Direct Discrete-Time Pole-Placement Design. IEEE Transactions on Industry Applications, 2015, , 1-1.	4.9	32

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37	Reference-Feedforward Power-Synchronization Control. IEEE Transactions on Power Electronics, 2020, 35, 8878-8881.	7.9	30
38	Optimal Torque Control of Saturated Synchronous Motors: Plug-and-Play Method. IEEE Transactions on Industry Applications, 2018, 54, 6110-6120.	4.9	29
39	Online Identification of Parameters Defining the Saturation Characteristics of Induction Machines. IEEE Transactions on Industry Applications, 2013, 49, 2136-2145.	4.9	28
40	Asymmetric Complex-Vector Models With Application to VSCâ€“Grid Interaction. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 1911-1921.	5.4	26
41	Control of induction motor drives equipped with small DC-Link capacitance. , 2007, , .		23
42	Sensorless Synchronous Motor Drives: A Review of Flux Observer-Based Position Estimation Schemes Using the Projection Vector Framework. IEEE Transactions on Power Electronics, 2021, 36, 8171-8180.	7.9	22
43	Plug-In Identification Method for an <italic>LCL</italic> Filter of a Grid Converter. IEEE Transactions on Industrial Electronics, 2018, 65, 6270-6280.	7.9	21
44	Flux-Linkage-Based Current Control of Saturated Synchronous Motors. IEEE Transactions on Industry Applications, 2019, 55, 4762-4769.	4.9	21
45	Analysis and Design of a Position Observer With Resistance Adaptation for Synchronous Reluctance Motor Drives. IEEE Transactions on Industry Applications, 2013, 49, 66-73.	4.9	20
46	Reduced-order flux observers with stator-resistance adaptation for speed-sensorless induction motor drives. , 2009, , .		18
47	Generic PLL-Based Grid-Forming Control. IEEE Transactions on Power Electronics, 2021, , 1-1.	7.9	18
48	Parameter estimation of two-mass mechanical loads in electric drives. , 2012, , .		16
49	Inclusion of hysteresis and eddy current losses in dynamic induction machine models. , 2009, , .		15
50	Stator-Flux-Oriented Control of Synchronous Motors: A Systematic Design Procedure. IEEE Transactions on Industry Applications, 2019, 55, 4811-4820.	4.9	15
51	A Control Technique Based on Distributed Virtual Inertia for High Penetration of Renewable Energies Under Weak Grid Conditions. IEEE Systems Journal, 2021, 15, 1825-1834.	4.6	15
52	Sensorless Vector Control of PMSM Drives Equipped With Inverter Output Filter. Industrial Electronics Society (IECON), Annual Conference of IEEE, 2006, , .	0.0	14
53	Sensorless Vector Control of an Induction Motor Fed by a PWM Inverter Through an Output LC Filter. IEEJ Transactions on Industry Applications, 2006, 126, 430-437.	0.2	14
54	Cost-Effective Design of Inverter Output Filters for AC Drives. , 2007, , .		14

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55	Design, implementation and performance of synchronous current regulators for AC drives. Chinese Journal of Electrical Engineering, 2018, 4, 53-65.	3.4	14
56	Influence of Inverter Output Filter on Maximum Torque and Speed of PMSM Drives. IEEE Transactions on Industry Applications, 2008, 44, 153-160.	4.9	13
57	Modeling of Mutual Saturation in Induction Machines. , 2008, , .		13
58	Identification of two-mass mechanical systems in closed-loop speed control. , 2013, , .		13
59	Small-Signal Modeling of Mutual Saturation in Induction Machines. IEEE Transactions on Industry Applications, 2010, 46, 965-973.	4.9	12
60	Comparison of Finite-Element-Based State-Space Models for PM Synchronous Machines. IEEE Transactions on Energy Conversion, 2014, 29, 535-543.	5.2	12
61	Stabilization of sensorless induction motor drives: A survey. , 2013, , .		11
62	Optimal torque control of synchronous motor drives: Plug-and-play method. , 2017, , .		11
63	A Dynamic Model for Saturated Induction Machines With Closed Rotor Slots and Deep Bars. IEEE Transactions on Energy Conversion, 2020, 35, 157-165.	5.2	11
64	Equivalence of the Integrator-Based and Disturbance-Observer-Based State-Space Current Controllers for Grid Converters. IEEE Transactions on Industrial Electronics, 2021, 68, 4966-4976.	7.9	11
65	Novel full-order flux observer structure for speed sensorless induction motors. , 0, , .		10
66	Analysis of an adaptive observer for sensorless control of PMSM drives. , 2005, , .		10
67	Inductance identification of an induction machine taking load-dependent saturation into account. , 2008, , .		10
68	Inclusion of hysteresis and eddy current losses in nonlinear time-domain inductance models. , 2011, , .		10
69	Comparison of Standstill Parameter Identification Methods for Induction Motors. , 2018, , .		10
70	Real-Time Identification of LCL Filters Employed With Grid Converters. IEEE Transactions on Industry Applications, 2020, 56, 5158-5169.	4.9	10
71	Current control for IPMSM drives: Direct discrete-time pole-placement design. , 2015, , .		9
72	A Dynamic Model for Bearingless Flux-Switching Permanent-Magnet Linear Machines. IEEE Transactions on Energy Conversion, 2020, 35, 1218-1227.	5.2	9

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73	Intersample Modeling of the Converter Output Admittance. IEEE Transactions on Industrial Electronics, 2021, 68, 11348-11358.	7.9	9
74	On the Stability of Volts-per-Hertz Control for Induction Motors. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2022, 10, 1609-1618.	5.4	9
75	Speed control of two-mass mechanical loads in electric drives. , 2012, , .		8
76	Modeling of multiport DC busses in power-electronic systems. , 2013, , .		8
77	Observer-Based Current Control for Converters with an LCL Filter: Robust Design for Weak Grids. , 2018, , .		8
78	State-Space Control for LCL Filters: Converter Versus Grid Current Measurement. IEEE Transactions on Industry Applications, 2020, 56, 6608-6618.	4.9	8
79	Minimizing losses of a synchronous reluctance motor drive taking into account core losses and magnetic saturation. , 2014, , .		7
80	Finite element analysis for bearingless operation of a multi flux barrier synchronous reluctance motor. , 2015, , .		7
81	State observer for sensorless control of a grid-connected converter equipped with an LCL filter: Direct discrete-time design. , 2015, , .		7
82	State-space flux-linkage control of bearingless synchronous reluctance motors. , 2016, , .		7
83	Coupled field and space-vector equations of bearingless synchronous reluctance machine. , 2016, , .		7
84	Real-Time Grid Impedance Estimation Using a Converter. , 2019, , .		7
85	A Dynamic Model for Six-Degree-of-Freedom Bearingless Linear Motor Systems. IEEE Transactions on Industry Applications, 2021, 57, 6921-6930.	4.9	7
86	Influence of Inverter Output Filter on the Selection of PWM Technique. , 2006, , .		6
87	State observer for grid-voltage sensorless control of a grid-connected converter equipped with an LCL filter. , 2014, , .		6
88	Levitation Control for a Double-Sided Bearingless Linear Motor Based on Feedback Linearization. , 2019, , .		6
89	Multifunctional Cascade Control of Voltage-Source Converters Equipped With an LC Filter. IEEE Transactions on Industrial Electronics, 2022, 69, 2610-2620.	7.9	6
90	Stabilization of the regenerating mode of full-order flux observers for sensorless induction motors. , 0, , .		5

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91	Influence of Inverter Output Filter on Maximum Torque and Speed of PMSM Drives. , 2007, , .		5
92	Analysis and design of a position observer with resistance adaptation for synchronous reluctance motor drives. , 2011, , .		5
93	Online identification of parameters defining the saturation characteristics of induction machines. , 2012, , .		5
94	Impact of the switching frequency on the DC-side admittance in three-phase converter systems. , 2014, , .		5
95	Discrete-time observer design for sensorless synchronous motor drives. , 2015, , .		5
96	Permanent-Magnet Flux Adaptation for Sensorless Synchronous Motor Drives. , 2018, , .		5
97	Standstill Identification of an Induction Motor Model Including Deep-Bar and Saturation Characteristics. IEEE Transactions on Industry Applications, 2021, 57, 4924-4932.	4.9	5
98	Small-Signal Modelling of Saturated Induction Machines With Closed or Skewed Rotor Slots. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2007, , .	0.0	4
99	Rotor parameter identification of saturated induction machines. , 2009, , .		4
100	A reduced-order position observer with stator-resistance adaptation for synchronous reluctance motor drives. , 2010, , .		4
101	Loss-minimizing flux level control of induction motor drives. , 2011, , .		4
102	Speed control of electrical drives using classical control methods. , 2011, , .		4
103	Observer-based state-space current controller for a grid converter equipped with an LCL filter: Analytical method for direct discrete-time design in synchronous coordinates. , 2014, , .		4
104	Parameter estimation of an LCL filter for control of grid converters. , 2015, , .		4
105	Sensorless self-commissioning of synchronous reluctance motors at standstill. , 2016, , .		4
106	Position estimation for synchronous motor drives: Unified framework for design and analysis. , 2017, , .		4
107	Modeling of a Bearingless Flux-Switching Permanent-Magnet Linear Motor. , 2018, , .		4
108	Standstill Self-Commissioning of an Induction Motor Drive. , 2020, , .		4

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109	Sensorless PMSM Drive with DC-link Current Measurement. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2007, , .	0.0	3
110	A reduced-order position observer with stator-resistance adaptation for PMSM drives. , 2010, , .		3
111	Analytical Model Including Rotor Eccentricity for Bearingless Synchronous Reluctance Motors. , 2018, , .		3
112	Online Incremental Inductance Identification for Reluctance Synchronous Motors. , 2021, , .		3
113	Small-signal model for saturated deep-bar induction machines. , 2007, , .		2
114	Sensorless PMSM Drive with DC-link Current Measurement. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2007, , .	0.0	2
115	Adaptation of Motor Parameters in Sensorless PMSM Drives. , 2007, , .		2
116	Analysis and design of a position observer with stator-resistance adaptation for PMSM drives. , 2010, , .		2
117	A comparison of an adaptive full-order observer and a reduced-order observer for synchronous reluctance motor drives. , 2011, , .		2
118	Adaptive full-order observer with high-frequency signal injection for synchronous reluctance motor drives. , 2013, , .		2
119	Observer-based state-space current control for a three-phase grid-connected converter equipped with an LCL filter. , 2013, , .		2
120	Identification of two-mass mechanical systems using torque excitation: Design and experimental evaluation. , 2014, , .		2
121	State Observer for Grid-Voltage Sensorless Control of a Grid-Connected Converter Equipped With an LCL Filter. EPE Journal (European Power Electronics and Drives Journal), 2015, 25, 21-28.	0.7	2
122	Direct discrete-time flux-linkage control of bearingless synchronous reluctance motors. , 2016, , .		2
123	Method for DC-link capacitance identification in voltage-source converters. , 2016, , .		2
124	Effects of the switching frequency of a grid converter on the LCL filter design. , 2016, , .		2
125	Stator-Flux-Oriented Control of Synchronous Motors: Design and Implementation. , 2018, , .		2
126	Comparative study of inner and outer rotor bearingless synchronous reluctance motors. Journal of Engineering, 2019, 2019, 4375-4379.	1.1	2

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127	Modeling of a Bearingless Synchronous Reluctance Motor With Combined Windings. , 2019, , .		2
128	Braking scheme for vector-controlled induction motor drives equipped with diode rectifier without braking resistor. , 0, , .		1
129	Fractionation of Fresh Wastewater and Solubility of Phosphorus in Short-Term Storage. Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering, 2006, 41, 1183-1188.	1.7	1
130	Parameter estimation for induction motors to study the effects of voltage, frequency and slip. , 2007, , .		1
131	On the properties of full-order observers for sensorless induction motor drives. , 2007, , .		1
132	Small-Signal Modelling of Saturated Induction Machines With Closed or Skewed Rotor Slots. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2007, , .	0.0	1
133	Signal-injection assisted full-order observer with parameter adaptation for synchronous reluctance motor drives. , 2013, , .		1
134	State-space speed control of two-mass mechanical systems: Analytical tuning and experimental evaluation. , 2013, , .		1
135	Grid-voltage sensorless control of a converter under unbalanced conditions: On the design of a state observer. , 2016, , .		1
136	Analytical method for design and thermal evaluation of a long-term flywheel energy storage system. , 2016, , .		1
137	Influence of Magnetic Saturation on Modeling of an Induction Motor. , 2018, , .		1
138	Current Control of Saturated Synchronous Motors. , 2018, , .		1
139	Real-time Identification Method for LCL Filters Used With Grid Converters. , 2019, , .		1
140	Sensorless Control of Synchronous Motor Drives: Accurate Torque Estimation and Control Under Parameter Errors. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 5367-5376.	5.4	1
141	Observers for Discrete-Time Current Control of Converters Equipped With an LCL Filter. , 2020, , .		1
142	Introduction to the Special Section on State and Parameter Estimation Methods for Sensorless Drives. Power Electronics and Drives, 2018, 3, 111-113.	0.9	1
143	Weak-Grid Tolerant Positive- and Negative-Sequence Current Control of Voltage-Source Converters. , 2021, , .		1
144	A Voltage-Sensorless Controller for Grid Converters. , 2021, , .		1

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145	Gain scheduling of a full-order observer for sensorless induction motor drives. , 2013, , .		0
146	State-Space Control for LCL Filters: Comparison Between the Converter and Grid Current Measurements. , 2019, , .		0
147	Estimation of an Unbalanced Grid Impedance Using a Three-Phase Power Converter. , 2020, , .		0
148	Comparative Analysis of the Effects of Integral Action and Disturbance Feedforward on Current Control of Voltage-Source Converters. , 2021, , .		0