Hamid A Toliyat

List of Publications by Year in Descending Order

170 papers	3,311 citations	32 h-index	50 g-index
185 ext. papers	4,249 ext. citations	4.9 avg, IF	5.88 L-index

#	Paper	IF	Citations
170	Quantitative Reliability Evaluation of Silicon Carbide-Based Inverters for Multiphase Electric Drives for Electric Vehicles. *Power Electronics and Drives*, **2022**, 7, 29-42	0.5	
169	Cycloidal Reluctance Magnetic Gears for High Gear Ratio Applications. *IEEE Transactions on Magnetics*, **2022**, 1-1	2	0
168	PD Signal Attenuation in 550-kV GIS: Impact of Different Barriers on the Propagation of Electromagnetic Waves. *IEEE Transactions on Instrumentation and Measurement*, **2021**, 70, 1-13	5.2	1
167	Analysis and Benchmarking of Radial Flux Cycloidal Magnetic Gears with Reduced Permanent Magnet Piece Count Using Consequent Poles **2021**,		1
166	Practical Analysis and Design of a 50:1 Cycloidal Magnetic Gear with Balanced Off-Axis Moments and a High Specific Torque for Lunar Robots **2021**,		1
165	Improvement in DC-Link Utilization With Reduced Current and Torque Deterioration for Five-Phase Drives by Combination of Circulating-Current Filters and Simple Carrier-Based PWM Based on Closed-Form Expressions. *IEEE Transactions on Industrial Electronics*, **2021**, 68, 960-971	8.9	11
164	Characterization of Defects Inside the Cable Dielectric With Partial Discharge Modeling. *IEEE Transactions on Instrumentation and Measurement*, **2021**, 70, 1-11	5.2	4
163	. *IEEE Transactions on Power Electronics*, **2021**, 36, 1954-1969	7.2	12
162	A Parameterized Linear 3D Magnetic Equivalent Circuit for Analysis and Design of Radial Flux Magnetic GearsPart II: Evaluation. *IEEE Transactions on Energy Conversion*, **2021**, 1-1	5.4	0
161	Review and Analysis of Coaxial Magnetic Gear Pole Pair Count Selection Effects. *IEEE Journal of Emerging and Selected Topics in Power Electronics*, **2021**, 1-1	5.6	5
160	. *IEEE Transactions on Energy Conversion*, **2021**, 36, 2493-2501	5.4	5
159	A Parameterized Linear 3D Magnetic Equivalent Circuit for Analysis and Design of Radial Flux Magnetic GearsPart I: Implementation. *IEEE Transactions on Energy Conversion*, **2021**, 1-1	5.4	2
158	PD Signal Propagation in GIS: Ultra-High Frequency Detection-Based Modeling. *IEEE Sensors Journal* , **2020**, 20, 9417-9426	4	4
157	Performance Analysis of Synchronous Generators Under Stator Windings Ground Faults Near the Star Point - Experimental Verification. *IEEE Transactions on Energy Conversion*, **2020**, 35, 1402-1410	5.4	6
156	A Scalable Soft-Switching Photovoltaic Inverter With Full-Range ZVS and Galvanic Isolation. *IEEE Transactions on Industry Applications*, **2020**, 56, 3919-3931	4.3	2
155	Wavelet Scattering Transform Based Induction Motor Current Signature Analysisa **2020**,		1
154	Comparison of Reluctance and Surface Permanent Magnet Coaxial Magnetic Gears **2020**,		3

153	Magnetic Gears and Magnetically Geared Machines: An Alternative Compact and Reliable Solution for High-Torque, Low-Speed Systems **2020**, 389-420		
152	Comparison of stator winding connections in multiphase drives under healthy operation and with one open converter leg. *IET Electric Power Applications*, **2020**, 14, 584-596	1.8	11
151	Partial discharge detection and diagnosis in gas insulated switchgear: State of the art. *IEEE Electrical Insulation Magazine*, **2019**, 35, 16-33	2.1	36
150	On the Electromagnetic Wave Behavior Due to Partial Discharge in Gas Insulated Switchgears: State-of-Art Review. *IEEE Access*, **2019**, 7, 75822-75836	3.5	18
149	A Multicell Cascaded High-Frequency Link Inverter With Soft Switching and Isolation. *IEEE Transactions on Industrial Electronics*, **2019**, 66, 2518-2528	8.9	8
148	Performance Impacts of Practical Fabrication Tradeoffs for a Radial Flux Coaxial Magnetic Gear with Halbach Arrays and Air Cores **2019**,		6
147	Analysis of High Gear Ratio Capabilities for Single-Stage, Series Multistage, and Compound Differential Coaxial Magnetic Gears. *IEEE Transactions on Energy Conversion*, **2019**, 34, 665-672	5.4	14
146	Wide Bandgap Devices in AC Electric Drives: Opportunities and Challenges. *IEEE Transactions on Transportation Electrification*, **2019**, 5, 3-20	7.6	86
145	. *IEEE Transactions on Power Electronics*, **2019**, 34, 9891-9905	7.2	14
144	. *IEEE Transactions on Power Electronics*, **2019**, 34, 1518-1525	7.2	14
143	Multifrequency Current Control Including Distortion-Free Saturation and Antiwindup With Enhanced Dynamics. *IEEE Transactions on Power Electronics*, **2018**, 33, 7309-7313	7.2	10
142	Comparison of Surface Mounted Permanent Magnet Coaxial Radial Flux Magnetic Gears Independently Optimized for Volume, Cost, and Mass. *IEEE Transactions on Industry Applications*, **2018**, 54, 2237-2245	4.3	27
141	. *IEEE Transactions on Industrial Electronics*, **2018**, 65, 6667-6675	8.9	43
140	A Parameterized Linear Magnetic Equivalent Circuit for Analysis and Design of Radial Flux Magnetic GearsÞart I: Implementation. *IEEE Transactions on Energy Conversion*, **2018**, 33, 784-791	5.4	21
139	Adaptive 100% Injection-Based Generator Stator Ground Fault Protection With Real-Time Fault Location Capability. *IEEE Transactions on Power Delivery*, **2018**, 33, 2364-2372	4.3	16
138	. *IEEE Transactions on Industry Applications*, **2018**, 54, 1254-1263	4.3	24
137	A Parameterized Linear Magnetic Equivalent Circuit for Analysis and Design of Radial Flux Magnetic GearsÞart II: Evaluation. *IEEE Transactions on Energy Conversion*, **2018**, 33, 792-800	5.4	9
136	. *IEEE Transactions on Power Electronics*, **2018**, 33, 10044-10050	7.2	31

135	Design, Construction, and Analysis of a Large-Scale Inner Stator Radial Flux Magnetically Geared Generator for Wave Energy Conversion. *IEEE Transactions on Industry Applications*, **2018**, 54, 3305-3314	4.3	36
134	Speed Estimation Based on Rotor Slot Harmonics in Multiphase Induction Machines Under Open-Phase Fault. *IEEE Transactions on Power Electronics*, **2018**, 33, 7980-7993	7.2	22
133	Fault Diagnosis Techniques for Permanent Magnet AC Machine and Drives—A Review of Current State of the Art. *IEEE Transactions on Transportation Electrification*, **2018**, 4, 444-463	7.6	45
132	Simultaneous Optimization of Geometry and Firing Angles for In-Wheel Switched Reluctance Motor Drive. *IEEE Transactions on Transportation Electrification*, **2018**, 4, 322-329	7.6	33
131	. *IEEE Transactions on Energy Conversion*, **2018**, 33, 2250-2259	5.4	11
130	Comparison of Surface Permanent Magnet Coaxial and Cycloidal Radial Flux Magnetic Gears **2018**,		8
129	A Parameterized Linear Magnetic Equivalent Circuit for Air Core Radial Flux Coaxial Magnetic Gears with Halbach Arrays **2018**,		6
128	A Coreless Permanent-Magnet Machine for a Magnetically Levitated Shaft-Less Flywheel. *IEEE Transactions on Industry Applications*, **2018**, 54, 4288-4296	4.3	9
127	On-line fault diagnosis of multi-phase drives using self-recurrent wavelet neural networks with adaptive learning rates **2017**,		7
126	A low-cost soft-switching high step-up flyback converter with stacked output cells **2017**,		3
125	. *IEEE Transactions on Industry Applications*, **2017**, 53, 3379-3386	4.3	17
124	Simultaneous optimization of geometry and firing angles of in-wheel switched reluctance motor **2017**,		4
123	Comparison of coaxial radial flux magnetic gears independently optimized for volume, cost, and mass **2017**,		2
122	A simple least squares approach for low speed performance analysis of indirect FOC induction motor drive using low-resolution position sensor **2017**,		1
121	Applications of Wide Bandgap (WBG) devices in AC electric drives: A technology status review **2017** ,		28
120	Design and Analysis of an Axial Flux Magnetically Geared Generator. *IEEE Transactions on Industry Applications*, **2017**, 53, 97-105	4.3	32
119	Control of an Electric Machine Integrated With the Trans-Rotary Magnetic Gear in a Motor Drive Train. *IEEE Transactions on Industry Applications*, **2017**, 53, 106-114	4.3	16
118	A fault monitoring system for a reciprocating pump driven by a linear motor for oil pumping systems **2017**,		1

117	Real-time fault isolation in multiphase multilevel NPC converters using active semi-supervised fuzzy clustering algorithm with pairwise constraints **2017**,		5
116	A control method for linear permanent magnet electric submersible pumps in a modified integrated drive-motor system **2017**,		4
115	Insulation design for Wide Bandgap (WBG) device based voltage source converter fed motors **2017**,		4
114	Studying crawling effect in Line-Start Synchronous Reluctance Motors (LS-SynRM) **2016**,		10
113	Design of multiphase exterior rotor switched reluctance motor for traction applications **2016**,		4
112	Stator inter-turn fault detection for seamless fault-tolerant operation of five-phase induction motors **2016**,		3
111	An analytical approach for determining harmonic cusps and torque dips in line start synchronous reluctance motors **2016**,		7
110	Design comparison of NdFeB and ferrite radial flux magnetic gears **2016**,		5
109	Experimental verification of a novel adaptive stator ground fault protection scheme for synchronous generators **2016**,		7
108	Field Oriented Control of tubular PM Linear Motor using linear Hall Effect sensors **2016**,		2
107	A novel vehicular integrated power system realized with multi-port series ac link converter **2015**,		11
106	**2015**,		5
105	Analysis of axial field magnetic gears with Halbach arrays **2015**,		22
104	Design and analysis of an axial flux magnetically geared generator **2015**,		10
103	A Fractional Slot Concentrated Winding (FSCW) configuration for outer rotor squirrel cage induction motors **2015**,		12
102	Electromagnetic-thermal coupled analysis method for interior PMSM **2015**,		4
101	Single-Stage Multistring PV Inverter With an Isolated High-Frequency Link and Soft-Switching Operation. *IEEE Transactions on Power Electronics*, **2014**, 29, 3919-3929	7.2	50
100	Isolated ZVS High-Frequency-Link AC-AC Converter With a Reduced Switch Count. *IEEE Transactions on Power Electronics*, **2014**, 29, 4156-4166	7.2	21

99	Step-up/down three-phase resonant high-frequency ac-link inverters. *IET Power Electronics*, **2014**, 7, 1246-1255	2.1	11
98	A Soft-Switched Three-Phase AC–AC Converter With a High-Frequency AC Link. *IEEE Transactions on Industry Applications*, **2014**, 50, 2637-2647	4.3	11
97	AC-Link Universal Power Converters: A New Class of Power Converters for Renewable Energy and Transportation **2014**, 107-135		1
96	**2014**,		11
95	A novel hysteresis current control switching method for torque ripple minimization in multi-phase motors **2014**,		3
94	Piecewise linear modeling of snubberless dual active bridge commutation **2014**,		7
93	Design of an outer rotor ferrite assisted synchronous reluctance machine (Fa-SynRM) for electric two wheeler application **2014**,		9
92	Dynamic modeling of the trans-rotary magnetic gear for the point-absorbing wave energy conversion systems **2014**,		9
91	A Compact Error Management Algorithm to Minimize False-Alarm Rate of Motor/Generator Faults in (Hybrid) Electric Vehicles. *IEEE Journal of Emerging and Selected Topics in Power Electronics*, **2014**, 2, 618-626	5.6	10
90	Performance analysis of a ferrite based fractional horsepower permanent magnet assisted SynRM for fan and pump applications **2013**,		9
89	. *IEEE Transactions on Industry Applications*, **2013**, 49, 2217-2228	4.3	66
88	Bi-directional sparse parallel partial resonant ac-link inverter **2013**,		1
87	Bidirectional series ac-link inverter **2013**,		1
86	A ZVS single-inductor multi-input multi-output DC-DC converter with the step up/down capability **2013**,		15
85	A step-up/down three-phase resonant high-frequency AC-link inverter **2013**,		7
84	Corrections to Remedial Switching Function Approach to Improve Reliability for AC–AC Converters [Jun 07 541-543]. *IEEE Transactions on Energy Conversion*, **2013**, 28, 460-460	5.4	
83	High impedance grounding for onboard plug-in hybrid electric vehicle chargers **2013**,		14
82	Principles of the Trans-Rotary Magnetic Gear. *IEEE Transactions on Magnetics*, **2013**, 49, 883-889	2	41

81	A single-stage multi-string quasi-resonant inverter for grid-tied photovoltaic systems **2013**,		4
80	Design aspects of high torque density-low speed permanent magnet motor for electric two wheeler applications **2013**,		8
79	Modeling isolation transformer capacitive components in a dual active bridge power conditioner **2013**,		16
78	A new generation of buck-boost resonant AC-link DC-DC converters **2013**,		8
77	Performance analysis of a rare earth magnet based NEMA frame Permanent Magnet assisted Synchronous Reluctance Machine with different magnet type and quantity **2013**,		12
76	DSP Applications in Electric and Hybrid Electric Vehicles [In the Spotlight]. *IEEE Signal Processing Magazine*, **2012**, 29, 136-133	9.4	9
75	Wide Operational Speed Range of Five-Phase Permanent Magnet Machines by Using Different Stator Winding Configurations. *IEEE Transactions on Industrial Electronics*, **2012**, 59, 2621-2631	8.9	81
74	Trans-Rotary Magnetic Gear for Wave Energy applicaion **2012**,		13
73	An electric machine integrated with trans-rotary magnetic gear **2012**,		12
72	Power factor improvement of synchronous reluctance motors (SynRM) using permanent magnets for drive size reduction **2012**,		12
71	Standstill position estimation of SPMSM **2012**,		2
70	A multi-input AC link PV inverter with reduced size and weight **2012**,		6
69	Reduction of shaft voltages and bearing currents in five-phase induction motors **2012**,		6
68	Partial resonant AC link converter: A highly reliable variable frequency drive **2012**,		10
67	Flying-capacitor boost converter **2012**,		32
66	A new class of PV inverters: Series partial resonant converters **2012**,		4
65	Design aspects of the Trans-Rotary Magnetic Gear **2012**,		7
64	Bi-directional partial resonant converters with reduced number of switches **2012**,		5

63	Extending speed range of five-phase PM machines by changing the stator windings connections **2011**,		3
62	Passive Suppression of Transient Oscillations in the Concentric Planetary Magnetic Gear. *IEEE Transactions on Energy Conversion*, **2011**, 26, 933-939	5.4	35
61	Analysis of the Concentric Planetary Magnetic Gear With Strengthened Stator and Interior Permanent Magnet Inner Rotor. *IEEE Transactions on Industry Applications*, **2011**, 47, 1652-1660	4.3	74
60	Implementation of a Fault-Diagnosis Algorithm for Induction Machines Based on Advanced Digital-Signal-Processing Techniques. *IEEE Transactions on Industrial Electronics*, **2011**, 58, 937-948	8.9	70
59	Diagnosis and isolation of air-gap eccentricities in closed-loop controlled doubly-fed induction generators **2011**,		2
58	A Simple Real-Time Fault Signature Monitoring Tool for Motor-Drive-Embedded Fault Diagnosis Systems. *IEEE Transactions on Industrial Electronics*, **2011**, 58, 1990-2001	8.9	78
57	Direct Torque and Indirect Flux Control of Brushless DC Motor. *IEEE/ASME Transactions on Mechatronics*, **2011**, 16, 351-360	5.5	85
56	Damper windings for the magnetic gear **2011**,		2
55	Incipient bearing fault detection for three-phase Brushless DC motor drive using ANFIS **2011**,		3
54	A magnetic gear with passive transient suppression capability **2011**,		1
53	Observer-based sensorless speed control of PM-assisted SynRM for direct drive applications **2010**,		1
52	A robust sensorless fault diagnosis algorithm for low cost motor drives **2010**,		2
51	Analysis of the concentric planetary magnetic gear with strengthened stator and interior permanent magnet (IPM) inner rotor **2010**,		11
50	Direct Torque Control of Four-Switch Brushless DC Motor With Non-Sinusoidal Back EMF. *IEEE Transactions on Power Electronics*, **2010**, 25, 263-271	7.2	64
49	Fault Diagnosis Implementation of Induction Machines based on Advanced Digital Signal Processing Techniques **2009**,		7
48	Comprehensive Eccentricity Fault Diagnosis in Induction Motors Using Finite Element Method. *IEEE Transactions on Magnetics*, **2009**, 45, 1764-1767	2	75
47	Effect of Magnetic Saturation on Static and Mixed Eccentricity Fault Diagnosis in Induction Motor. *IEEE Transactions on Magnetics*, **2009**, 45, 3137-3144	2	42
46	DSP-Based Sensorless Electric Motor Fault Diagnosis Tools for Electric and Hybrid Electric Vehicle Powertrain Applications. *IEEE Transactions on Vehicular Technology*, **2009**, 58, 2150-2159	6.8	25

45	DSP-Based Sensorless Electric Motor Fault-Diagnosis Tools for Electric and Hybrid Electric Vehicle Powertrain Applications. *IEEE Transactions on Vehicular Technology*, **2009**, 58, 2679-2688	6.8	32
44	Battery-utility interface using soft switched AC link buck boost converter **2009**,		4
43	An analytical model for an N-flux barrier per pole permanent magnet-assisted synchronous reluctance motor **2009**,		6
42	Optimal design and comparison of stator winding configurations in permanent magnet assisted synchronous reluctance generator **2009**,		5
41	Optimal design of PM assisted synchronous reluctance generators using lumped parameter model and Differential Evolution Strategy **2009**,		5
40	Design and comparison of an optimized permanent magnet-assisted synchronous reluctance motor (PMa-SynRM) with an induction motor with identical NEMA Frame stators **2009**,		14
39	Analytical model-based analysis of high-speed Flywheel Energy Storage Systems for pulsed power applications **2009**,		5
38	Fault tolerant permanent magnet motor drives for electric vehicles **2009**,		22
37	Gearing ratios of a magnetic gear for wind turbines **2009**,		90
36	Gearing ratios of a magnetic gear for marine applications **2009**,		18
35	Battery-utility interface using soft switched ac link supporting low voltage ride through **2009**,		15
34	Soft switched ac-link wind power converter **2008**,		9
33	Low Order PWM Inverter Harmonics Contributions to the Inverter-Fed Induction Machine Fault Diagnosis. *IEEE Transactions on Industrial Electronics*, **2008**, 55, 610-619	8.9	96
32	Soft switched ac-link direct-connect photovoltaic inverter **2008**,		21
31	Sensorless direct torque and indirect flux control of brushless DC motor with non-sinusoidal back-EMF **2008**,		10
30	Finite-Element Transient Analysis of Induction Motors Under Mixed Eccentricity Fault. *IEEE Transactions on Magnetics*, **2008**, 44, 66-74	2	105
29	Maximum output power control of permanent magnet-assisted synchronous reluctance generator **2008**,		2
28	Soft switched ac link buck boost converter. *IEEE Applied Power Electronics Conference and Exposition*, **2008**,		22

27	Soft switched ac-link AC/AC and AC/DC buck-boost converter. *Power Electronics Specialist Conference (PESC), IEEE*, **2008**,		25
26	Direct torque control of four-switch brushless DC Motor with non-sinusoidal back-EMF. *Power Electronics Specialist Conference (PESC), IEEE*, **2008**,		8
25	Control design of an advanced high-speed FESS for pulsed power applications **2008**,		5
24	PWM Inverter Harmonics Contributions to the Inverter-Fed Induction Machine Bearing Fault Diagnosis. *IEEE Applied Power Electronics Conference and Exposition*, **2007**,		7
23	Coupled Field Analysis Needs in the Design of Submersible Electric Motors **2007**,		5
22	Induction Machine/Syn-Rel Two-Motor Five-Phase Series-Connected Drive. *IEEE Transactions on Energy Conversion*, **2007**, 22, 281-289	5.4	19
21	A PWM Strategy with Reduced Bearing Currents for Five-Phase Motors **2007**,		1
20	Direct AC to AC Matrix Converter and Control Method for Two-phase Loads. *Electric Power Components and Systems*, **2007**, 35, 461-481	1	1
19	BLDC Motor Control Algorithm for Low-Cost Industrial Applications. *IEEE Applied Power Electronics Conference and Exposition*, **2007**,		3
18	Direct Torque Control of Brushless DC Motor with Non-sinusoidal Back-EMF **2007**,		28
17	Fault-Tolerant Topologies and Switching Function Algorithms for Three-Phase Matrix Converter based AC Motor Drives Against Open and Short Phase Failures **2007**,		10
16	Five-Phase Interior Permanent-Magnet Motors With Low Torque Pulsation. *IEEE Transactions on Industry Applications*, **2007**, 43, 40-46	4.3	44
15	Online Parameter Estimation of Permanent-Magnet Assisted Synchronous Reluctance Motor. *IEEE Transactions on Industry Applications*, **2007**, 43, 609-615	4.3	33
14	A Low-Cost and Efficient Permanent-Magnet-Assisted Synchronous Reluctance Motor Drive. *IEEE Transactions on Industry Applications*, **2007**, 43, 542-550	4.3	63
13	Sensorless Direct Torque Control of Five-Phase Interior Permanent-Magnet Motor Drives. *IEEE Transactions on Industry Applications*, **2007**, 43, 952-959	4.3	102
12	Fault-Tolerant Interior-Permanent-Magnet Machines for Hybrid Electric Vehicle Applications. *IEEE Transactions on Vehicular Technology*, **2007**, 56, 1546-1552	6.8	201
11	On-board Fault Diagnosis of HEV Induction Motor Drive at Start-up and During Idle Mode **2007**,		5
10	Modeling, Control, and Experimental Investigation of a Five-Phase Series-Connected Two-Motor Drive With Single Inverter Supply. *IEEE Industrial Electronics Magazine*, **2007**, 54, 1504-1516	6.2	72

9	Robust Maximum Torque per Ampere (MTPA) Control of PM-Assisted SynRM for Traction Applications. *IEEE Transactions on Vehicular Technology*, **2007**, 56, 1538-1545	6.8	87
8	Power Factor Correction of Direct Torque Controlled Brushless DC Motor Drive. *Conference Record - IAS Annual Meeting (IEEE Industry Applications Society)*, **2007**,		6
7	Remedial Switching Function Approach to Improve Reliability for AC/AC Converters. *IEEE Transactions on Energy Conversion*, **2007**, 22, 541-543	5.4	17
6	An Approach to Fault-Tolerant Three-Phase Matrix Converter Drives. *IEEE Transactions on Energy Conversion*, **2007**, 22, 855-863	5.4	55
5	Steady State Modeling of Series-Connected Five-Phase and Six-Phase Two-Motor Drives. *Conference Record - IAS Annual Meeting (IEEE Industry Applications Society)*, **2006**,		8
4	Multilevel Converter Topology Using Two Types of Current-Source Inverters. *IEEE Transactions on Industry Applications*, **2006**, 42, 1558-1564	4.3	45
3	Low Speed Performance Operation of Induction Motors Drives Using Low-Resolution Speed Sensor **2006**,		2
2	COMPREHENSIVE METHOD FOR TRANSIENT MODELING OF SINGLE PHASE INDUCTION MOTORS INCLUDING THE SPACE HARMONICS. *Electric Power Components and Systems*, **1998**, 26, 221-234		2
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