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Education Information

Doctorate, Kocaeli University, Fen Bilimleri Enstitüsü, Makatronik Mühendisliği Bölümü, Turkey 2013 - 2019

Postgraduate, Kocaeli University, Fen Bilimleri Enstitüsü, Mekatronik Mühendisliği (YI), Turkey 2010 - 2013

Undergraduate, Kocaeli University, Mühendislik Fakültesi, Mekatronik Mühendisliği Bölümü, Turkey 2003 - 2010

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, A NEW MULTIDISCIPLINARY DESIGN APPROACH FOR A NOVEL EDDY CURRENT ELECTROMAGNETIC BRAKE, Kocaeli University, Fen Bilimleri Enstitüsü, Fen Bilimleri Enstitüsü, 2019

Postgraduate, Klasik ve Sürekli Mıknatıslı Manyetik Yatakların Manyetik Eşdeğer Devre ve 2B Sonlu Elemanlar Analizi ile Modellenmesi ve Tasarımı, Kocaeli Üniversitesi, Fen Bilimleri Enstitüsü, Mekatronik Mühendisliği (YI), 2013

Research Areas

Electrical and Electronics Engineering, Power Electronics, Electrical Machine Theory and Design, Engineering and Technology

Academic Titles / Tasks

Research Assistant, Kocaeli University, Fen Bilimleri Enstitüsü, 2010 - Continues

Other, Lappeenranta University of Technology, School Of Energy Systems, Electrical Engineering, 2017 - 2018

Published journal articles indexed by SCI, SSCI, and AHCI

1. **Design and Validation of an Unconventional 39-Slot PM Synchronous Motor With Asymmetric and Unbalanced AC Windings**

AYDIN M., Demir Y., Yolacan E., GÜLEÇ M., El-Refaie A. M.

IEEE JOURNAL OF EMERGING AND SELECTED TOPICS IN POWER ELECTRONICS, vol.10, no.2, pp.1733-1744, 2022 (SCI-Expanded)

- II. **Magneto-Thermal Analysis of an Axial-Flux Permanent-Magnet-Assisted Eddy-Current Brake at High-Temperature Working Conditions**
GÜLEÇ M., AYDIN M., Nerg J., Lindh P., Pyrhonen J. J.
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, vol.68, no.6, pp.5112-5121, 2021 (SCI-Expanded)
- III. **Cost Minimization of a Permanent Magnet Eddy Current Brake by Multiobjective Particle Swarm Optimization Based on Nonlinear Reluctance Network Modeling**
GÜLEÇ M., Lindh P., AYDIN M., Pyrhonen J.
IEEE ACCESS, vol.9, pp.157361-157370, 2021 (SCI-Expanded)
- IV. **Nonlinear Multidisciplinary Design Approach for Axial-Flux Eddy Current Brakes**
Güleç M., Aydın M., Nerg J., Lindh P., Pyrhonen J. J.
IEEE TRANSACTIONS ON ENERGY CONVERSION, vol.34, pp.1917-1927, 2019 (SCI-Expanded)
- V. **A New Asymmetric Planar V-Shaped Magnet Arrangement for A Linear PM Synchronous Motor**
Boduroglu A., GÜLEÇ M., Demir Y., YOLAÇAN E., AYDIN M.
IEEE Transactions on Magnetics, vol.55, no.7, 2019 (SCI-Expanded)
- VI. **A New Traction Motor System With Integrated-Gear: A Solution for Off-Road Machinery**
Montonen J., Nerg J., Gulec M., Pyrhonen J.
IEEE ACCESS, vol.7, pp.113740-113750, 2019 (SCI-Expanded)
- VII. **An Innovative Dual-Rotor Axial-Gap Flux-Switching Permanent-Magnet Machine Topology With Hybrid Excitation**
Yildiriz E., GÜLEÇ M., AYDIN M.
IEEE TRANSACTIONS ON MAGNETICS, vol.54, no.11, 2018 (SCI-Expanded)
- VIII. **Implementation of different 2D finite element modelling approaches in axial flux permanent magnet disc machines**
GÜLEÇ M., AYDIN M.
IET ELECTRIC POWER APPLICATIONS, vol.12, no.2, pp.195-202, 2018 (SCI-Expanded)
- IX. **Design, analysis and real time dynamic torque control of single-rotor-single-stator axial flux eddy current brake**
GÜLEÇ M., YOLAÇAN E., AYDIN M.
IET ELECTRIC POWER APPLICATIONS, vol.10, no.9, pp.869-876, 2016 (SCI-Expanded)
- X. **A New Coreless Axial Flux Interior Permanent Magnet Synchronous Motor With Sinusoidal Rotor Segments**
AYDIN M., GÜLEÇ M.
IEEE TRANSACTIONS ON MAGNETICS, vol.52, no.7, 2016 (SCI-Expanded)
- XI. **Modeling based on 3D finite element analysis and experimental study of a 24-slot 8-pole axial-flux permanent-magnet synchronous motor for no cogging torque and sinusoidal back-EMF**
GÜLEÇ M., YOLAÇAN E., DEMİR Y., Ocak O., AYDIN M.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.24, no.1, pp.262-275, 2016 (SCI-Expanded)
- XII. **Reduction of Cogging Torque in Double-Rotor Axial-Flux Permanent-Magnet Disk Motors: A Review of Cost-Effective Magnet-Skewing Techniques With Experimental Verification**
AYDIN M., GÜLEÇ M.
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, vol.61, no.9, pp.5025-5034, 2014 (SCI-Expanded)
- XIII. **Magnet asymmetry in reduction of cogging torque for integer slot axial flux permanent magnet motors**
GÜLEÇ M., AYDIN M.
IET ELECTRIC POWER APPLICATIONS, vol.8, no.5, pp.189-198, 2014 (SCI-Expanded)

Articles Published in Other Journals

- I. **Doğrusal Sürekli Mıknatıslı Senkron Motorun Doğrusal Olmayan Manyetik Eşdeğer Devre ve Sonlu Elemanlar Tabanlı Tasarımı**
BARIŞ A., GÜLEÇ M., DEMİR Y., AYDIN M.
EMO BİLİMSEL DERGİ, 2018 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Mıknatıs Destekli Eksenel Akıllı Sürekli Mıknatıslı Girdap Akım Freninin Tasarımı ve Optimizasyonu**
GÜLEÇ M., AYDIN M.
ELEKTRİK-ELEKTRONİK ve BİYOMEDİKAL MÜHENDİSLİĞİ KONFERANSI 2020 (ELECO 2020), Turkey, 26 - 28 November 2020
- II. **Investigation of Magnetic Equivalent Circuit Modeling Approaches for an Asymmetric and Unbalanced Winding Permanent Magnet Motor**
Güleç M., Aydın M.
IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society, Lisbon, Portugal, 14 - 17 October 2019, pp.1-6
- III. **Design and Analysis of a Radial Flux Electrically Excited Eddy Current Brake**
Topcuoglu M. B., Bingul Z., Gulec M.
28th IEEE International Symposium on Industrial Electronics, ISIE 2019, Vancouver, Canada, 12 - 14 June 2019, pp.1498-1505
- IV. **Design and Comparison of Radial Flux Magnetic Levitation Systems Based on Conventional and Buried Permanent Magnet Types Rotors**
GÜLEÇ M., YOLAÇAN E., AYDIN M.
23rd International Conference on Electrical Machines, ICEM 2018, Alexandroupoli, Greece, 3 - 06 September 2018, pp.642-648
- V. **Investigation of Braking Torque Characteristic for a Double-Stator Single-Rotor Axial-Flux Permanent-Magnet Eddy-Current Brake**
GÜLEÇ M., AYDIN M., Lindh P., Pyrhönen J.
IEEE International Conference on Electrical Machines, 3 - 06 September 2018
- VI. **Bir Doğrusal Sürekli Mıknatıslı Senkron Motorun Manyetik Eşdeğer Devre ve Sonlu Eleman Analizi Tabanlı Tasarımı**
BARIŞ A., GÜLEÇ M., DEMİR Y., AYDIN M.
1. Ulusal Elektrik Enerjisi Dönüşümü Kongresi, Turkey, 21 - 22 September 2017
- VII. **Comparison of Non-linear Magnetic Modelling Techniques for an Open Slotted Axial Flux Eddy Current Brake**
GÜLEÇ M., AYDIN M.
National Conference on Electrical, Electronics and Biomedical Engineering (ELECO), Bursa, Turkey, 1 - 03 December 2016, pp.313-317
- VIII. **Design and Validation of a 24-Pole Coreless Axial Flux Permanent Magnet Motor for A Solar Powered Vehicle**
AYDIN M., GÜLEÇ M., DEMİR Y., AKYÜZ B., YOLAÇAN E.
22nd International Conference on Electrical Machines (ICEM), Lausanne, Switzerland, 4 - 07 September 2016, pp.1493-1498
- IX. **Modelling and Analysis of a New Axial Flux Permanent Magnet Biased Eddy Current Brake**
GÜLEÇ M., AYDIN M.
22nd International Conference on Electrical Machines (ICEM), Lausanne, Switzerland, 4 - 07 September 2016, pp.459-465
- X. **Tek Rotor Tek Stator Yapısına Sahip Eksenel Akıllı Elektromanyetik Bir Frenin Modellenmesi Analizi**

ve Gerçek Zamanda Moment Denetimi

GÜLEÇ M., AYDIN M.

Otomatik Kontrol Türk Milli Komitesi (TOK), Turkey, 10 - 12 September 2015

- XI. **2D finite element modelling approach for axial flux permanent magnet synchronous motors**
GÜLEÇ M., AYDIN M.
2015 IEEE International Magnetism Conference, INTERMAG 2015, Beijing, China, 11 - 15 May 2015
- XII. **Design and Simulation of an Axial Gap Electromagnetic Brake with Flux 3D FEA Package**
GÜLEÇ M., AYDIN M.
Cedrat FLUX 2014 Conference, 15 - 16 October 2014
- XIII. **Design and Control of an 8-Slot Radial Flux Magnetic Bearing**
GÜLEÇ M., YOLAÇAN E., AYDIN M.
IEEE International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM), Italy, 18 - 20 June 2014, pp.1231-1236
- XIV. **Radyal Bir Aktif Manyetik Yatak Tasarımı Modellenmesi ve Bulanık Mantık ile Konum Denetimi**
GÜLEÇ M., YOLAÇAN E., AYDIN M.
Otomatik Kontrol Ulusal Toplantısı, Turkey, 26 - 28 September 2013, pp.214-219
- XV. **Modelling and Design of Active Magnetic Bearings Based on Magnetic Circuit and 2D Finite Element Analysis**
GÜLEÇ M., AYDIN M.
14th International Workshop on Research and Education in Mechatronics, 6 - 07 June 2013, pp.161-167
- XVI. **Manyetik Yatakların Manyetik Devre ve 2B Sonlu Elemanlar Yöntemi ile Modellenmesi ve Tasarımı**
GÜLEÇ M., AYDIN M.
Elektrik - Elektronik ve Bilgisayar Mühendisliği Sempozyumu, Turkey, 29 November - 01 December 2012, pp.35-40
- XVII. **Sürekli Mıknatıslı Disk Motorların Tasarımı ve Üretimi**
GÜLEÇ M., AYDIN M., YOLAÇAN E., OĞUZHAN O.
Otomatik Kontrol Ulusal Toplantısı, Turkey, 11 - 13 October 2012, pp.481-485
- XVIII. **Influence of magnet grouping in reduction of cogging torque for a slotted double-rotor axial-flux PM motor**
GÜLEÇ M., AYDIN M.
21st International Symposium on Power Electronics, Electrical Drives, Automation and Motion, SPEEDAM 2012, Sorrento, Italy, 20 - 22 June 2012, pp.812-817
- XIX. **Sürekli Mıknatıslı Senkron Motorun Vektör Temelli Bulanık Mantık ile Hız Denetimi**
GÜLEÇ M., YOLAÇAN E., AYDIN M.
Otomatik Kontrol Türk Milli Komitesi Ulusal Konferansı TOK 2012, Turkey, 05 September 2012

Supported Projects

AYDIN M., GÜLEÇ M., Project Supported by Higher Education Institutions, YENİ BİR EKSENEL AKILI SÜREKLİ MIKNATISLI GİRDAP AKIM FRENİ GELİŞTİRİLMESİ, 2018 - 2019

Patent

GÜLEÇ M., Elektromanyetik Fren Sistemi, Patent, CHAPTER B Implementation of Operations; Transport, Standard Registration, 2018

Metrics

Publication: 33

Citation (WoS): 289

Citation (Scopus): 441

H-Index (WoS): 9

H-Index (Scopus): 11

Scholarships

FİNLANDİYA HÜKÜMETİ DOKTORA ARAŞTIRMA BURSUSU, Official Institutions of Foreign Countries, 2017 - 2018