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Personal Information

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Education Information

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Elektrik Mühendisliği (Dr), Turkey 2013 - Continues
Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Elektrik Mühendisliği (YI) (Tezli), Turkey 2010 - 2013

Undergraduate, Istanbul University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 2006 - 2010

Foreign Languages

English

Certificates, Courses and Trainings

Education Management and Planning, Öğretmeyi Geliştirme Eğitimcinin Eğitimi Programı, Fatih Sultan Mehmet Vakıf Üniversitesi, 2021

Education Management and Planning, Elektrik Makinaları ve Güç Elektroniklerinde Gelişmeler, TMMOB Elektrik Mühendisleri Odası, 2016

Other, Strateji Tasarımcılığı-Eğitimcinin Eğitimi, Dönüşüm Konağı Başarı Psikolojisi Enstitüsü, 2015

Education Management and Planning, Otomatik Kontrol Türk Milli Komitesi Ulusal Toplantısı, Otomatik Kontrol Türk Milli Komitesi, 2015

Other, Başarı Psikolojisi, Dönüşüm Konağı Başarı Psikolojisi Enstitüsü, 2014

Other, İletişimde Ustalık, Dönüşüm Konağı Başarı Psikolojisi Enstitüsü, 2014

Dissertations

Doctorate, Contributions to Reduce Rotor Harmonic Losses in Solid Rotor Induction Machine for High Speed Drive Applications , Istanbul Technical University, Elektrik-Elektronik, Elektrik Mühendisliği, 2019

Postgraduate, Orta güçlü bir girdap akımı freni tasarımı ve sonlu elemanlar yöntemi ile analizi, Istanbul Technical University, Elektrik-Elektronik, Elektrik Mühendisliği, 2013

Research Areas

Electrical and Electronics Engineering, Power Electronics, Electrical Machine Theory and Design, Electric Motor Drivers, Power Converters, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Istanbul Technical University, Elektrik-Elektronik, Elektrik Mühendisliği, 2021 - Continues

Assistant Professor, Fatih Sultan Mehmet Foundation University, Faculty Of Engineering, Department Of Electrical And Electronic Engineering, 2021 - Continues

Assistant Professor, Fatih Sultan Mehmet Foundation University, Faculty Of Engineering, Department Of Electrical And Electronic Engineering, 2019 - 2021

Lecturer, Biruni University, Faculty Of Engineering And Natural Sciences, Department Of Biomedical Engineering, 2019 - 2019

Lecturer, Istanbul Yeni Yuzyil University, Faculty Of Engineering-Architecture, Department Of Electrical And Electronic Engineering, 2019 - 2019

Research Assistant, Istanbul Technical University, Elektrik-Elektronik, Elektrik Mühendisliği, 2011 - 2019

Academic and Administrative Experience

Head of Department, Fatih Sultan Mehmet Foundation University, Faculty Of Engineering, Department Of Electrical And Electronic Engineering, 2020 - 2021

Deputy Head of Department, Fatih Sultan Mehmet Foundation University, Faculty Of Engineering, Department Of Electrical And Electronic Engineering, 2019 - 2021

Courses

Electrical Machines, Undergraduate, 2022 - 2023

Power Electronic Circuits, Undergraduate, 2022 - 2023

Linear Algebra and Its Applications, Undergraduate, 2022 - 2023

Electrical Engineering Project, Undergraduate, 2022 - 2023

Electrical Machines, Undergraduate, 2020 - 2021

Elektromekanik Enerji Dönüşümü, Undergraduate, 2021 - 2022

Graduation Project I, Undergraduate, 2021 - 2022

Power Electronic Circuits, Undergraduate, 2020 - 2021

Devre ve Sistem Analizi I, Undergraduate, 2021 - 2022

Graduation Project II, Undergraduate, 2020 - 2021

Matlab ile Matris Teorisi, Undergraduate, 2019 - 2020

Circuit and System Anaysis II, Undergraduate, 2019 - 2020

Yüksek Gerilim Tekniği, Undergraduate, 2018 - 2019

Mühendislik Matematiği, Undergraduate, 2019 - 2020

Electrical Energy Generation, Undergraduate, 2019 - 2020

Elektrik Devreleri, Undergraduate, 2019 - 2020

Advising Theses

Gülbağçe M. O. , Kocabaş D. A. , Şebeke kalkışlı bir senkron relüktans motorun sonlu elemanlar analizi tabanlı en uygunlaştırılması ve işletme başarımının tespiti, Postgraduate, B.GÜLMEZ(Student), 2022

Jury Memberships

Competition, EMO 12. Proje Ödülleri, Elektrik Mühendisleri Odası İstanbul Şubesi, June, 2016
Competition, EMO 11. Proje Ödülleri, Elektrik Mühendisleri Odası İstanbul Şubesi, June, 2015
Competition, EMO 10. Proje Yarışması, Elektrik Mühendisleri Odası İstanbul Şubesi, June, 2014

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Analysis of a GaN based PWM AC-AC converter with an improved switch loss model**
Bulut E. B. , Gulbahce M. O. , Kocabaş D. A.
AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, vol.131, 2021 (SCI-Expanded)
- II. **A Comprehensive Disturbing Effect Analysis of Multi-Sectional Rotor Slot Geometry for Induction Machines in Electrical Vehicles**
Lordoglu A., Gulbahce M. O. , Kocabaş D. A.
IEEE ACCESS, vol.9, pp.49590-49600, 2021 (SCI-Expanded)
- III. **Shielded axially slitted solid rotor design for high-speed solid rotor induction motors**
Gülbağçe M. O. , McGuinness D. T. , Kocabaş D. A.
IET ELECTRIC POWER APPLICATIONS, vol.12, no.9, pp.1371-1377, 2018 (SCI-Expanded)
- IV. **High-speed solid rotor induction motor design with improved efficiency and decreased harmonic effect**
Gülbağçe M. O. , Kocabaş D. A.
IET ELECTRIC POWER APPLICATIONS, vol.12, no.8, pp.1126-1133, 2018 (SCI-Expanded)
- V. **Modelling of High Frequency Converter Transformer with Floating Active Inductor**
Konal M., Gülbağçe M. O. , UZUNOĞLU C. P. , KAÇAR F.
ELEKTRONIKA IR ELEKTROTEHNIKA, vol.24, no.6, pp.50-54, 2018 (SCI-Expanded)
- VI. **A comprehensive approach to determining the speed/torque relationships of eddy current brakes**
Gülbağçe M. O. , Kocabaş D. A.
ELECTRICAL ENGINEERING, vol.100, pp.1-9, 2017 (SCI-Expanded)
- VII. **Microcontroller Based Wye-Delta Starter and Protection Relay for Cage Rotor Induction Motor**
Gülbağçe M. O. , Ersoy Yılmaz A., Kocabaş D. A.
Istanbul University Journal of Electrical and Electronics Engineering, vol.17, no.1, pp.3227-3232, 2017 (SCI-Expanded)

Articles Published in Other Journals

- I. **AKI VE KAYMA FREKANSI KESTİRİMİ İLE ASENKRON MOTORUN ALGILAYICISIZ SKALER HIZ DENETİMİ**
GÜLBAĞÇE M. O. , Karaaslan M. E.
Mühendislik Bilimleri ve Tasarım Dergisi, vol.10, no.1, pp.228-237, 2022 (Peer-Reviewed Journal)
- II. **INVESTIGATION OF THE HEAT PERFORMANCE OF THE HALF-BRIDGE DEVELOPMENT BOARD WITH GAN POWER DEVICES**
GÖKSU Ö. F. , GÜLBAĞÇE M. O. , Düşmez S.
Mühendislik Bilimleri ve Tasarım Dergisi, vol.10, no.2, pp.550-560, 2022 (Peer-Reviewed Journal)
- III. **VEKTÖR KONTROLLÜ SÜRÜCÜLER İÇİN ASENKRON MOTOR EŞDEĞER DEVRE PARAMETRELERİNİN ÜRETİCİ VERİ FÖYLERİNDEN KESTİRİLMESİ**
GÜLBAĞÇE M. O. , Karaaslan M. E.
Mühendislik Bilimleri ve Tasarım Dergisi, vol.9, no.4, pp.1372-1385, 2021 (Peer-Reviewed Journal)
- IV. **Estimation of Induction Motor Equivalent Circuit Parameters from Manufacturers Datasheet by Particle Swarm Optimization Algorithm for Variable Frequency Drives**

Glbahe M. O. , Karaaslan M. E.

Electrica, vol.22, no.1, 2021 (Scopus)

- V. **Generalised Model of Multiphase Tesla's Egg of Columbus and Practical Analysis of 3-Phase Design**
Gezer A., Glbahe M. O. , KocabaŖ D. A.
ELECTRICA, vol.18, no.2, pp.151-158, 2018 (ESCI)
- VI. **DESIGN, VOLTAGE MODE CONTROL AND NON-IDEAL ANALYSIS OF A LOW VOLTAGE-HIGH CURRENT SYNCHRONOUS BUCK CONVERTER**
Yildiz B., AltıntaŖ G., Glbahe M. O. , KocabaŖ D. A.
ISTANBUL UNIVERSITY-JOURNAL OF ELECTRICAL AND ELECTRONICS ENGINEERING, vol.17, no.2, 2017 (ESCI)
- VII. **Manyetik Yataklı GneŖ Motoru Tasarımı ve Aydınlık Dzeyi – Hız KarakteristiĐinin Belirlenmesi**
AltıntaŖ G., Atalay A. K. , KocabaŖ D. A. , Glbahe M. O.
Dzce niversitesi Bilim ve Teknoloji Dergisi, vol.4, no.3, pp.846-861, 2016 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Nonideal analysis and voltage mode control of a synchronous buck converter**
YILDIZ B., Glbahe M. O. , KocabaŖ D. A.
Electrical, Electronics and Biomedical Engineering (ELECO), 2016 National Conference on, İstanbul, Turkey, 1 - 03 December 2017, pp.392-396
- II. **Bir Senkron Alaltan eviricinin İdeal Olmayan Analizi ve ıkıŖ Geriliminin Kontrol**
Yıldız B., GLBAHE M. O. , KOCABAŖ D. A.
ELECO 2016, Elektrik-Elektronik-Bilgisayar MhendisliĐi Sempozyumu, Bursa, Turkey, 1 - 03 December 2016, pp.392-396
- III. **Nonideal analysis and voltage mode control of a synchronous buck converter Bir senkron alaltan eviricinin ideal olmayan analizi ve ıkis geriliminin kontrol**
YILDIZ B., Gulbahce M. O. , KocabaŖ D. A.
2016 National Conference on Electrical, Electronics and Biomedical Engineering, ELECO 2016, Bursa, Turkey, 1 - 03 December 2016, pp.392-396
- IV. **Nonideal analysis, design and voltage mode control of a boost converter**
Altıntas G., Gulbahce M. O. , KocabaŖ D. A.
57th International Scientific Conference on Power and Electrical Engineering of Riga Technical University, RTUCON 2016, Riga, Latvia, 13 - 14 October 2016
- V. **Design and finite element analysis of a radial-flux salient-pole eddy current brake**
SINMAZ A., Gulbahce M. O. , KocabaŖ D. A.
9th International Conference on Electrical and Electronics Engineering, ELECO 2015, Bursa, Turkey, 26 - 28 November 2015, pp.590-594
- VI. **Design and optimization of an axially-slitted high-speed solid rotor induction motor**
OGUZ A. H. , Glbahce M. O. , KocabaŖ D. A.
9th International Conference on Electrical and Electronics Engineering, ELECO 2015, Bursa, Turkey, 26 - 28 November 2015, pp.568-573
- VII. **A performance comparison of different rotor types for high-speed induction motors**
MCGUINNESS D. T. , Gulbahce M. O. , KocabaŖ D. A.
9th International Conference on Electrical and Electronics Engineering, ELECO 2015, Bursa, Turkey, 26 - 28 November 2015, pp.584-589
- VIII. **Performance investigation of extended Kalman filter based observer for PMSM using in washing machine applications**
Nak H., Glbahce M. O. , GkaŖan M., Ergene A. F.
9th International Conference on Electrical and Electronics Engineering, ELECO 2015, Bursa, Turkey, 26 - 28 November 2015, pp.618-623
- IX. **Novel rotor design for high-speed solid rotor induction machines**

MCGUINESS D. T. , Gulbahce M. O. , Kocabaş D. A.

9th International Conference on Electrical and Electronics Engineering, ELECO 2015, Bursa, Turkey, 26 - 28 November 2015, pp.579-583

- X. **Tuning cascade PI(D) controllers in PMDC motor drives: A performance comparison for different types of tuning methods**
Gücin T. N. , Biberoglu M., Fincan B., Gülbahçe M. O.
9th International Conference on Electrical and Electronics Engineering, ELECO 2015, Bursa, Turkey, 26 - 28 November 2015, pp.1061-1066
- XI. **Sürekli Mıknatıslı Senkron Motorun Endüklenen Gerilim Tabanlı Gözleyici ile Algılayıcısız Hız Kontrolü**
Nak H., Gülbahçe M. O. , Yılmaz M., Ergenç A. F. , Gökaşan M., Çalışkan F.
2015 Türkiye Otomatik Kontrol Ulusal Toplantısı, Denizli, Turkey, 10 - 12 September 2015, pp.716-721
- XII. **Sensorless Speed Control of Permanent Magnet Synchronous Motor with Back EMF Based Observer**
NAK H., GÜLBAHÇE M. O. , YILMAZ M., ERGENÇ A. F. , GÖKAŞAN M., ÇALIŞKAN F.
Otomatik Kontrol Türk Milli Komitesi 2015, Denizli, Turkey, 10 - 12 September 2015
- XIII. **Uyarma Akımı Kontrollü Girdap Akımı Freni Kullanılan Bir Yük Simülâtörü Tasarımı ve Kontrolü**
Gülbahçe M. O. , Nak H., Kocabaş D. A.
Ulusal Otomatik Kontrol Konferansı-TOK-2014, Kocaeli, Turkey, 11 - 13 September 2014, pp.818-823
- XIV. **Investigation of the effect of pole shape on braking torque for a low power eddy current brake by finite elements method**
Gulbahce M. O. , Kocabaş D. A. , NAYMAN F.
8th International Conference on Electrical and Electronics Engineering, ELECO 2013, Bursa, Turkey, 28 - 30 November 2013, pp.263-267
- XV. **Cooling System of Eddy Current Brake System and Waste Heat Recovery**
GÜLBAHÇE M., KURULAR S., Gülbahçe M. O. , SEVİNDİR M. K.
VII. Mediterranean Congress on Climatization-CLIMAMED-13, İstanbul, Turkey, 3 - 04 October 2013, pp.753-759
- XVI. **Design of a mechanical load simulator having an excitation current controlled eddy current brake**
Gulbahce M. O. , Nak H., Kocabaş D. A.
2013 3rd International Conference on Electric Power and Energy Conversion Systems, EPECS 2013, İstanbul, Turkey, 2 - 04 October 2013
- XVII. **A new approach for temperature rising test of an induction motor loaded by a current controlled eddy current brake**
Gulbahce M. O. , Nak H., Kocabaş D. A.
2013 3rd International Conference on Electric Power and Energy Conversion Systems, EPECS 2013, İstanbul, Turkey, 2 - 04 October 2013
- XVIII. **Determination of the effect of conductive disk thickness on braking torque for a low power eddy current brake**
Gulbahce M. O. , Kocabaş D. A. , Atalay A. K.
2013 4th International Conference on Power Engineering, Energy and Electrical Drives, POWERENG 2013, İstanbul, Turkey, 13 - 17 May 2013, pp.1272-1276
- XIX. **A study to determine the act of excitation current on braking torque for a low power eddy current brake**
Gulbahce M. O. , Kocabaş D. A. , Atalay A. K.
2013 IEEE International Electric Machines and Drives Conference, IEMDC 2013, Chicago, IL, United States Of America, 12 - 15 May 2013, pp.1321-1325
- XX. **Finite elements analysis of a small power eddy current brake**
Gulbahce M. O. , Kocabaş D. A. , HABIR I.
15th International Conference on Mechatronics, MECHATRONIKA 2012, Prague, Czech Republic, 5 - 07 December 2012
- XXI. **Analysis of problems in a load system driven by multiple tandem induction motors**
Atalay A. K. , Kocabaş D. A. , İmeryüz M., Gulbahce M. O.

15th International Conference on Mechatronics, MECHATRONIKA 2012, Prague, Czech Republic, 5 - 07 December 2012

XXII. A practical design and analysis of a high power DC to DC converter

KARADENİZ M., Gulbahce M. O. , Kocabaş D. A.

15th International Conference on Mechatronics, MECHATRONIKA 2012, Prague, Czech Republic, 5 - 07 December 2012

Supported Projects

Gülbahçe M. O. , Kocabaş D. A. , Düşmez S., TUBITAK Project, Bidirectional AC/DC Converters 10kW with Best-in Class Power Density, 2020 - 2023

Gülbahçe M. O. , Gökaydin M. S. , TUBITAK Project, Archimedes ve Onipko Rotorlu Rüzgâr Türbininin Küçük Güçlü Uygulamalar için Karşılaştırılması, 2021 - 2021

Gülbahçe M. O. , Özer B., TUBITAK Project, Elektrikli Bisikletler için Telemetri ve Fren Sistemine Katkılar, 2020 - 2021

Kocabaş D. A. , Gülbahçe M. O. , Project Supported by Higher Education Institutions, Yüksek Hızlı Kütlesel Rotorlu Asenkron Motorlarda Verim Artışına Katkılar, 2016 - 2021

Patent

Gülbahçe M. O. , Kocabaş D. A. , McGuinness D. T. , YÜKSEK HIZLI KÜTLESEL ROTORLU ASENKRON MOTORLAR İÇİN TAHRİK BAŞARIMINI ARTIRAN BİR ROTOR KAPLAMA, Patent, CHAPTER B Implementation of Operations; Transport, The Invention Registration Number: TR201618854B , Standard Registration, 2019

Memberships / Tasks in Scientific Organizations

IEEE-Power Electronic Society, Member, 2019 - Continues, United States Of America

IEEE, Member, 2019 - Continues, United States Of America

Elektrik Mühendisleri Odası, Member, 2010 - Continues, Turkey

Scientific Refereeing

IEEE ACCESS, SCI Journal, December 2021

Electrica, Other Indexed Journal, December 2021

IEEE-ASME TRANSACTIONS ON MECHATRONICS, SCI Journal, October 2021

ISTANBUL ÜNİVERSİTY JOURNAL OF ELECTRICAL AND ELECTRONICS ENGINEERING, National Scientific Refreed Journal, January 2019

Metrics

Publication: 43

Citation (WoS): 37

Citation (Scopus): 114

H-Index (WoS): 4

H-Index (Scopus): 7

Invited Talks

Uzay Harmonik Etkileri En Aza İndirilmiş Yüksek Hızlı Asenkron Motorlar, Conference, ELECO 2020 ELEKTRİK-ELEKTRONİK ve BİYOMEDİKAL MÜHENDİSLİĞİ KONFERANSI, Turkey, November 2020

Scholarships

2211-A Genel Yurt İçi Doktora Burs Programı Başvuru Formu, TUBITAK, 2014 - 2019

2228-A Son Sınıf Lisans Öğrencileri için Lisansüstü (Yüksek Lisans/Doktora) Burs Programı 2010/1, TUBITAK, 2010 - 2013

Awards

Gülbahçe M. O. , 6. Proje Yarışması En Uygulanabilir Proje Ödülü, Elektrik Mühendisleri Odası İstanbul Şubesi, July 2010

Gülbahçe M. O. , 2009-2010 Eğitim Öğretim Yılı Elektrik Elektronik Mühendisliği Bölüm Birincilik Ödülü, İstanbul Üniversitesi, June 2010