

Lect. PhD NAKİ GÜLER

Personal Information

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Biography

Naki Guler received the B.Sc. and M.Sc. degrees in electrical education from Gazi University, Ankara, Turkey, in 2010 and 2012, respectively. He received Ph.D. degree in electrical and electronic engineering from Gazi University in 2019. He joined the Department of Electricity and Energy, Gazi University, Turkey, in 2012. His current research interests include control and applications of power converters, energy conversion and energy management of renewable sources. He was the recipient of best paper awards at the 6th ICRERA and 12th CPE-POWERENG conferences.

Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (Dr), Turkey 2014 - 2019

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Elektrik Eğitimi (YI) (Tezli), Turkey 2010 - 2012

Undergraduate, Gazi University, Teknik Eğitim Fakültesi, Elektrik Eğitimi Bölümü, Turkey 2005 - 2010

Dissertations

Doctorate, Dağıtık üretim kaynakları için model öngörülü kontrol yöntemi ile yeni bir DA/DA çevirici tasarımı ve uygulaması, Gazi University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (Dr), 2019

Postgraduate, Senkron generatörlerin dsPIC kullanılarak paralel bağlanması ve arayüz üzerinden yük kontrolünün gerçekleştirilmesi, Gazi University, Fen Bilimleri Enstitüsü, Elektrik Eğitimi (YI) (Tezli), 2012

Research Areas

Power Electronics

Academic Titles / Tasks

Lecturer PhD, Gazi University, Teknik Bilimler Meslek Yüksekokulu, Elektrik Ve Enerji Bölümü, 2012 - Continues

Researcher, TEXAS A&M UNIVERSITY AT QATAR, 2019 - 2019

Courses

MİKRODENETLEYİCİLER, Associate Degree, 2020 - 2021

Güç Elektroniği, Associate Degree, 2020 - 2021

MULTIPOINT POWER CONVERTERS IN SMART GRIDS, Postgraduate, 2020 - 2021

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Model Predictive Control of DC-DC SEPIC Converters With Autotuning Weighting Factor**
Guler N., Biricik S., Bayhan S., Komurcugil H.
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, vol.68, no.10, pp.9433-9443, 2021 (Journal Indexed in SCI)
- II. **Design, implementation and model predictive based control of a mode-changeable DC/DC converter for hybrid renewable energy systems**
Güler N., Irmak E.
ISA TRANSACTIONS, vol.114, pp.485-498, 2021 (Journal Indexed in SCI)
- III. **Energy Function Based Finite Control Set Predictive Control Strategy for Single-Phase Split Source Inverters**
GÜLER N., KÖMÜRCÜGİL H.
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, 2021 (Journal Indexed in SCI Expanded)
- IV. **An Effective Model Predictive Control Method With Self-Balanced Capacitor Voltages for Single-Phase Three-Level Shunt Active Filters**
Komurcugil H., Bayhan S., Güler N., Blaabjerg F.
IEEE ACCESS, vol.9, pp.103811-103821, 2021 (Journal Indexed in SCI)
- V. **Multi-Input Multi-Output-Based Sliding-Mode Controller for Single-Phase Quasi-Z-Source Inverters**
Bagheri F., Komurcugil H., Kukrer O., GÜLER N., Bayhan S.
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, vol.67, no.8, pp.6439-6449, 2020 (Journal Indexed in SCI)
- VI. **Indirect Sliding Mode Control for DC-DC SEPIC Converters**
Komurcugil H., Biricik S., Güler N.
IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, vol.16, no.6, pp.4099-4108, 2020 (Journal Indexed in SCI)
- VII. **A model predictive control-based hybrid MPPT method for boost converters**
Irmak E., Güler N.
INTERNATIONAL JOURNAL OF ELECTRONICS, vol.107, no.1, pp.1-16, 2020 (Journal Indexed in SCI)
- VIII. **An inverter design for a new permanent magnet synchronous generator**
GÜLER N., IRMAK E., Gor H., KURT E.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.42, no.28, pp.17723-17732, 2017 (Journal Indexed in SCI)
- IX. **Design, implementation, and verification of computer interactive parallel connection system with load-sharing control for synchronous generators**
GÜLER N., IRMAK E.
ELECTRICAL ENGINEERING, vol.99, no.1, pp.241-263, 2017 (Journal Indexed in SCI)
- X. **Design and Analyse of a Parallel Connection Model for Hybrid Energy Systems**
GÜLER N., DEMİRBAŞ Ş., IRMAK E.
ELEKTRONIKA IR ELEKTROTECHNIKA, vol.21, no.2, pp.44-49, 2015 (Journal Indexed in SCI)
- XI. **Application of a high efficient voltage regulation system with MPPT algorithm**
IRMAK E., GÜLER N.
INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.44, no.1, pp.703-712, 2013 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **9 Seviyeli Paket E-Hücreli Eviriciler için Üstün Burulma Algoritması Tabanlı Kayan Kipli Kontrol Tasarımı**
Güler N.
Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.9, no.1, pp.57-70, 2021 (Other Refereed National Journals)
- II. **Fotovoltaik Sistemler için Üç Fazlı Evirici Tasarımı ve Kontrolü**
GÜLER N., BİRİCİK S.

- Düzce Üniversitesi Bilim ve Teknoloji Dergisi, vol.9, no.1, pp.453-466, 2021 (Other Refereed National Journals)
- III. **Nötr Kenetlemeli Eviriciler için Çok Giriş – Çok Çıkışlı DA-DA Çevirici Tasarımı ve Kontrolü**
Güler N., Irmak E.
G.Ü. Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.7, no.1, pp.49-62, 2019 (Other Refereed National Journals)
- IV. **Mikrodenetleyici Temelli Sistemlerde Dspic Kullanımı ve Örnek Uygulama Geliştirme Süreci**
Güler N., Irmak E.
Gazi Üniversitesi Fen Bilimleri Dergisi Part: C Tasarım ve Teknoloji, vol.4, no.2, pp.71-82, 2016 (Other Refereed National Journals)
- V. **Endüstriyel Alanlarda Kullanılan Veri İletim Tekniklerinin Karşılaştırılması**
VADİ S., GÜLER N., BAYINDIR R.
Gazi Üniversitesi Fen Bilimleri Dergisi Part:C, Tasarım Ve Teknoloji, vol.2, no.1, pp.181-188, 2014 (Other Refereed National Journals)
- VI. **Orta Ölçekli Bir İşletmenin Enerji İzleme Sisteminin Tasarlanması**
IRMAK E., GÜLER N., CALPBİNİCİ A.
Pamukkale Üniv. Mühendislik Bilimleri Dergisi, vol.18, no.2, pp.123-131, 2012 (Other Refereed National Journals)
- VII. **Design of an Energy Monitoring System for a Medium Scale Plant**
IRMAK E., CALPBİNİCİ A., GÜLER N.
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSİTESİ MUHENDİSLİK BİLİMLERİ DERGİSİ, vol.18, no.2, pp.123-131, 2012 (Other Refereed National Journals)

Refereed Congress / Symposium Publications in Proceedings

- I. **Intelligent Communication Techniques for Smart Grid Systems: A Survey**
Çolak A., Güler N., Ahmed K.
9th INTERNATIONAL CONFERENCE on SMART GRID (icSmartGrid2021), Setúbal, Portugal, 29 June 2021
- II. **Super Twisting Sliding-Mode Control Strategy for Three-Level Dynamic Voltage Restorers**
Kömürcügil H., Bayhan S., Güler N., Biricik S.
30th International Symposium on Industrial Electronics (ISIE), Kyoto, Japan, 20 June 2021
- III. **Single Phase Active Power Filter Control under Distorted Grid Voltage Using Quasi Open-Loop Grid-Synchronization Technique**
Biricik S., Ahmed H., Komurcugil H., Güler N., Ozmen B., Benbouzid M.
12th Power Electronics, Drive Systems, and Technologies Conference, PEDSTC 2021, Tabriz, Iran, 2 - 04 February 2021
- IV. **Weighting Factor Free Lyapunov-Function-Based Model Predictive Control Strategy for Single-Phase T-Type Rectifiers**
KÖMÜRCÜGİL H., GÜLER N., bayhan S.
IECON 2020 The 46th Annual Conference of the IEEE Industrial Electronics Society, 18 - 21 October 2020
- V. **Proportional Resonant and Proportional Integral Based Control Strategy for Single Phase Split Source Inverters**
Güler N.
9th International Conference on Renewable Energy Research and Applications, ICRERA 2020, Glasgow, England, 27 - 30 September 2020, pp.510-514
- VI. **A Modified Droop Control Method for PV Systems in Island Mode DC Microgrid**
IRMAK E., GÜLER N., KABALCI E., CALPBİNİCİ A.
8th International Conference on Renewable Energy Research and Applications, 3 - 06 November 2019
- VII. **MPPT Based Model Predictive Control of Grid Connected Inverter for PV Systems**
GÜLER N., IRMAK E.
8th International Conference on Renewable Energy Research and Applications, 3 - 06 November 2019
- VIII. **Modeling, Analysis and Sliding Mode Controller Design of High Voltage Gain Switched-Z-Source**

Inverter

Bagheri F., Komurcugil H., Kukrer O., Bayhan S., GÜLER N.

IEEE 13th International Conference on Compatibility, Power Electronics and Power Engineering (IEEE IES CPE-POWERENG), Sonderborg, Denmark, 23 - 25 April 2019

- IX. **Application of MPPT Controlled Boost Converter for Photovoltaic Systems**
Irmak E., Güler N., Yavuz A.
6th European Conference on Renewable Energy Systems (ECRES'2018), İstanbul, Turkey, 25 - 27 June 2018, pp.6-11
- X. **Model Predictive Control of Grid-Tied Three Level Neutral Point Clamped Inverter Integrated with A Double Layer Multi-Input Single Output DC/DC Converter**
IRMAK E., GÜLER N.
12th IEEE International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG), Doha, Qatar, 10 - 12 April 2018
- XI. **Application of A Boost Based Multi-Input Single-Output DC/DC Converter**
IRMAK E., GÜLER N.
th International Conference on Renewable Energy Research and Applications~ICRERA'xx2017, 5 - 08 November 2017
- XII. **Güneş Enerji Santralleri için Bir Dizi Evirici ve Enerji İzleme Sistemi Tasarımı**
IRMAK E., GÜLER N., ERSAN M.
9. Otomatik Kontrol Ulusal Toplantısı~TOK'2017, Turkey, 21 - 23 September 2017
- XIII. **Design and Simulation of a New Inverter for an Axial Flux Permanent Magnet Generator**
Güler N., Irmak E., Gör H., Kurt E.
4th European Conference on Renewable Energy Systems, İstanbul, Turkey, 28 - 31 August 2016
- XIV. **PI CONTROLLED SOLAR ENERGY SUPPORTED STATIC EXCITATION SYSTEM DESING AND SIMULATION FOR SYNCHRONOUS GENERATORS**
IRMAK E., GÜLER N., Ersan M.
5th IEEE International Conference on Renewable Energy Research and Applications (ICRERA), Birmingham, England, 20 - 23 November 2016, pp.1024-1028
- XV. **DESIGN AND APPLICATION OF A NOVEL SINGLE INPUT - MULTI OUTPUT DC/DC CONVERTER**
GÜLER N., IRMAK E.
5th IEEE International Conference on Renewable Energy Research and Applications (ICRERA), Birmingham, England, 20 - 23 November 2016, pp.1039-1045
- XVI. **Design Of A Computer Controlled Speed Control System for Wound-Rotor Inducion Machines**
IRMAK E., Colak I., GÜLER N., Hazer E., Kilisli H.
IEEE International Telecommunications Energy Conference (INTELEC), Namba, PEOPLES R CHINA, 18 - 22 October 2015
- XVII. **Short-Circuit Fault Analysis on Microgrid**
BAYINDIR R., IRMAK E., ISSI F., GÜLER N.
4th International Conference on Renewable Energy Research and Applications (ICRERA), Palermo, Italy, 22 - 25 November 2015, pp.1248-1252
- XVIII. **Yenilenebilir Enerji Kaynakları Üzerine Eğitim Amaçlı Bir Simulasyon Çalışması**
GÜLER N., Ersan M., IRMAK E.
1. Ulusal Meslek Yüksekokulları Çalıştay ve Öğrenci Sempozyumu~UMÇÖS'xx2012, Turkey, 13 - 15 June 2012
- XIX. **Remote Monitoring and Reporting the Parameters of A Hybrid Power System via Internet**
ÇOLAK İ., IRMAK E., GÜLER N., ISSI F.
EVER'12, 22 - 25 March 2012
- XX. **FPGA Based Parallel Connection System of Separate Voltage Sources**
IRMAK E., Colak I., Bulbul H. İ. , Guler N., Calpbiniçi A.
1st International Conference on Renewable Energy Research and Applications (ICRERA), Nagasaki, Japan, 11 - 14 November 2012
- XXI. **Design and Application of a Novel Zero Crossing Detector Circuit**

IRMAK E., ÇOLAK İ., KAPLAN O., GÜLER N.

International Conference on Power Engineering, Energy and Electrical Drives~POWERENG2011, 11 - 13 May 2011

Supported Projects

Bagheri F., Güler N., TUBITAK Project, Design, Sliding Mode Control And Implementation Of A Bidirectional Dual Active Dc-Dc Converter To Interface Renewable Energy Sources, 2020 - 2022

Güler N., Project Supported by Higher Education Institutions, Dokuz Seviyeli Çevirici Kullanarak Bir Doğrultucu Tasarımı ve Kontrolü, 2020 - 2021

BAYINDIR R., VADİ S., GÜLER N., Project Supported by Higher Education Institutions, Parçacık Sürü Optimizasyonu Algoritması ile DA Motoru Kapalı Çevrim Hız Denetim Sistemindeki PI Parametrelerinin İyileştirilmesi, 2019 - 2021

Güler N., Irmak E., Project Supported by Higher Education Institutions, BATARYA ŞARJ ÜNİTESİNİN ÇOK SEVİYELİ DA/DA DÖNÜŞTÜRÜCÜ İLE TASARIMI VE MODEL ÖNGÖRMELİ YÖNTEM (MPC) İLE KONTROLÜ, 2017 - 2019

IRMAK E., GÜLER N., Project Supported by Higher Education Institutions, RÜZGAR ENERJİ SİSTEMLERİ İÇİN ÇOKLU GİRİŞE OLANAK SAĞLAYAN BİR GÜÇ DÖNÜŞTÜRÜCÜSÜ TASARIMI VE UYGULAMASI, 2016 - 2017

IRMAK E., GÜLER N., Project Supported by Higher Education Institutions, Senkron Generatörlerin dsPIC Kullanılarak Paralel Bağlanması ve Arayüz Üzerinden Yük Kontrolünün Gerçekleştirilmesi, 2011 - 2013

Irmak E., Güler N., Köse A., Project Supported by Higher Education Institutions, Endüstriyel İşletmelerde Elektrik Güç Parametrelerinin İnternet Üzerinden Takibi ve Analizi, 2011 - 2012

Memberships / Tasks in Scientific Organizations

IEEE IES Young Professionals Turkey representative, Member, 2020 - Continues, Turkey

IEEE Turkey, Young Professionals - PES Representative, Member, 2020 - 2021, Turkey

Citations

Total Citations (WOS):65

h-index (WOS):5

Awards

Güler N., Irmak E., Best Paper Award, 12Th Ieee International Conference On Compatibility, Power Electronics And Power Engineering (Cpe-Powereng), April 2018

Güler N., Irmak E., Best Paper Award, International Conference On Renewable Energy Research And Applications~Icrera'2017, November 2017