

Assoc. Prof. AHMET AKTAŞ

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Biography

Dr. Ahmet Aktaş received his B.Sc. in Electrical Education in 2010 and the M.Sc. degree in Energy Systems Engineering from Kocaeli University. He also holds a PhD in Energy Systems Engineering from Kocaeli University. He is currently an Associate Professor Doctor at the Department of Energy Systems Engineering, Faculty of Technology, Gazi University, Turkey. He worked as a project manager in projects related to renewable energy systems and electric vehicles within the scope of TUBITAK. He has published many papers on multilevel inverters, photovoltaic power generation systems, renewable energy sources, energy storage technologies, battery and ultra-capacitor modelling, smart energy management, microcontroller programming, smart grid integration, microprocessor-based application systems, offshore wind turbine and marine current energy.

Education Information

Doctorate, Kocaeli University, Fen Bilimleri Enstitüsü, Enerji Sistemleri Mühendisliği Bölümü, Turkey 2013 - 2016

Postgraduate, Kocaeli University, Fen Bilimleri Enstitüsü, Enerji Sistemleri Mühendisliği Bölümü, Turkey 2011 - 2013

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

Research Areas

Electrical and Electronics Engineering, Electronic, Energy, Power Electronics, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Gazi University, Teknoloji Fakültesi, Elektrik - Elektronik Mühendisliği, 2021 - Continues

Assistant Professor, Kütahya Dumlupınar University, 2018 - 2021

Assistant Professor, Istanbul Gelisim University, Faculty Of Engineering-Architecture, Department Of Electrical And Electronic Engineering, 2017 - 2018

Academic and Administrative Experience

Deputy Head of Department, Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2021 - Continues

Head of Department, Kütahya Dumlupınar University, 2019 - 2020

Deputy Head of Department, Istanbul Gelisim University, 2017 - 2018

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

- I. **A novel optimal energy management strategy for offshore wind/marine current/battery/ultracapacitor hybrid renewable energy system**
AKTAŞ A., Kircicek Y.
ENERGY, vol.199, 2020 (Journal Indexed in SCI)
- II. **MODELLING AND VALIDATION ANALYSIS ACCORDING TO TEMPERATURE EFFECT OF DIFFERENT TYPE BATTERIES**
AKTAŞ A., Kircicek Y., Ozkaymak M.
THERMAL SCIENCE, vol.24, no.2, pp.1031-1043, 2020 (Journal Indexed in SCI)
- III. **Design and implementation of adaptive battery charging method considering the battery temperature**
AKTAŞ A.
IET CIRCUITS DEVICES & SYSTEMS, vol.14, no.1, pp.72-79, 2020 (Journal Indexed in SCI)
- IV. **Design and application of electrical power backup and battery charge with a new voltage controller approach for military vehicles**
AKTAŞ A.
IET POWER ELECTRONICS, vol.12, no.9, pp.2407-2413, 2019 (Journal Indexed in SCI)
- V. **Dynamic energy management for photovoltaic power system including hybrid energy storage in smart grid applications**
AKTAŞ A., Erhan K., ÖZDEMİR Ş., ÖZDEMİR E.
ENERGY, vol.162, pp.72-82, 2018 (Journal Indexed in SCI)
- VI. **Experimental investigation of a new smart energy management algorithm for a hybrid energy storage system in smart grid applications**
AKTAŞ A., Erhan K., ÖZDEMİR Ş., ÖZDEMİR E.
ELECTRIC POWER SYSTEMS RESEARCH, vol.144, pp.185-196, 2017 (Journal Indexed in SCI)
- VII. **Opportunities and challenges for energy storage applications in smart grid**
ÖZDEMİR E., ÖZDEMİR Ş., Erhan K., AKTAŞ A.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.32, no.2, pp.499-506, 2017 (Journal Indexed in SCI)
- VIII. **Design and operation of a multifunction photovoltaic power system with shunt active filtering using a single-stage three-phase multilevel inverter**
SEZEN S., AKTAŞ A., Ucar M., ÖZDEMİR E.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.25, no.2, pp.1412-1425, 2017 (Journal Indexed in SCI)
- IX. **Operation and performance of grid-connected solar photovoltaic power system in Kocaeli university**
AKTAŞ A., ÖZDEMİR E., KARAKAYA A., Ucar M.
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, vol.15, no.5-6, pp.559-564, 2013 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Rüzgâr ve Deniz Akıntı Enerjisinin Tahrik Ettiği Güç Üretim Sisteminin İncelenmesi**
AKTAŞ A., Kırçiçek Y., ŞENER A. Ş.
Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.7, no.1, pp.141-152, 2019 (Other Refereed National Journals)
- II. **Control and application of accuracy positioning estimation based real-time location system**
AKTAŞ A.
An International Journal of Optimization and Control: Theories Applications (IJOCTA), vol.9, no.2, pp.82-88, 2019 (Other Refereed National Journals)

- III. **Investigation of Hybrid Renewable Energy Source and Hybrid Energy Storage System**
AKTAŞ A., Kırçıçek Y.
Journal of Electronics Sensors, vol.2, no.1, pp.1-19, 2019 (Refereed Journals of Other Institutions)
- IV. **Yenilenebilir Enerji Desteği için Kullanılan Farklı Tip Bataryaların Modellenmesi ve Karşılaştırmalı Analizi**
Kırçıçek Y., AKTAŞ A., ÖZDEMİR Ş.
Politeknik Dergisi, vol.20, no.1, pp.83-90, 2017 (Other Refereed National Journals)
- V. **Modelling and Comparative Analysis of Different Type of Batteries Used for Renewable Energy Support**
Kircicek Y., AKTAŞ A., ÖZDEMİR Ş.
JOURNAL OF POLYTECHNIC-POLITEKNIK DERGISI, vol.20, no.1, pp.83-90, 2017 (Journal Indexed in ESCI)
- VI. **Araç Yakıt Tankı Montajı için Otomasyon Sistem Tasarımı ve Uygulaması**
AYAZ M., ERHAN K., AKTAŞ A., ÖZDEMİR E., Salihoğlu H.
Düzce Üniversitesi Bilim ve Teknoloji Dergisi, vol.3, no.2, pp.357-366, 2015 (Other Refereed National Journals)

Books & Book Chapters

- I. **Solar Hybrid Systems Design and Application**
AKTAŞ A., Kırçıçek Y.
Academic Press , London, 2021
- II. **The importance of energy storage in solar and wind energy, hybrid renewable energy systems**
AKTAŞ A.
in: Advances in Clean Energy Technologies, Abul Kalam Azad, Editor, Academic Press , Melbourne, pp.377-403, 2020

Refereed Congress / Symposium Publications in Proceedings

- I. **Integration of Hybrid Power Generation System with Energy Storage Unit Consisting of Battery and Ultracapacitor**
Kırçıçek Y., AKTAŞ A.
International Symposium on Current Developments in Science, Technology and Social Sciences, Ankara, Turkey, 20 - 22 December 2019, vol.1, pp.8-25
- II. **Design and Production of Hybrid Power Generation System Using Darrieus and Savonius Turbines**
AKTAŞ A.
International Symposium on Current Developments in Science, Technology and Social Sciences, Ankara, Turkey, 20 - 22 December 2019, vol.1, pp.1-7
- III. **Battery and Ultracapacitor Modeling and Experimental Analysis used in Hybrid Energy Storage Systems**
AKTAŞ A., Kırçıçek Y., ŞENER A. Ş.
International Conference on Research in Education and Science (ICRES), İzmir, Turkey, 28 April - 01 May 2019, vol.2, pp.195-201
- IV. **Domestic Battery Charge Unit Design and Production for Military Vehicle**
AKTAŞ A.
International Conference on Research in Education and Science (ICRES), İzmir, Turkey, 28 April - 01 May 2019, vol.2, pp.74-80
- V. **Importance of Smart Energy Management Algorithm in Renewable Sources Integrated Energy Storage Unit**
Kırçıçek Y., AKTAŞ A., ÖZKAYMAK M.
International Conference on Research in Education and Science (ICRES 2018), Muğla, Turkey, 28 April - 01 May

2018, vol.2, pp.447-453

- VI. **The Assessment of Wind and Sea Flow Energy Production from Seas by Using Energy Storage Unit**
Sener A. S. , AKTAŞ A., Kırçicek Y.
7th International Conference on Renewable Energy Research and Applications (ICRERA), Paris, France, 14 - 17 October 2018, pp.836-840
- VII. **An Energy Storage System Including Ultra-capacitor Unit for Extended Driving Range of EVs**
ERHAN K., AYAZ M., AKTAŞ A., ÖZDEMİR E.
2nd International Conference on Computer Science, Engineering and Applied Science, Paris, France, 28 - 29 November 2017, vol.1, pp.1-7
- VIII. **Investigation of Turbine Variables Used for Wave, Tidal and Flow Energy from Hydrokinetic Energy Transformation Systems**
Kırçicek Y., AKTAŞ A.
International Conference on Research in Education and Science (ICRES), Aydın, Turkey, 18 - 21 May 2017, vol.1, pp.719-725
- IX. **A Case Study for Hybrid Energy Storage System Supplied from Grid Connected Photovoltaic Power**
AKTAŞ A., ERHAN K., ÖZDEMİR E., ÖZDEMİR Ş.
1st International Mediterranean Science and Engineering Congress (IMSEC2016), Adana, Turkey, 26 - 28 October 2016, vol.1, pp.3731-3736
- X. **Design and Analysis of Flywheel Regenerative Braking Energy Storage System for Hybrid and Electrical Vehicles**
ERHAN K., ÖZDEMİR E., AKTAŞ A.
8th International Ege Energy Symposium, Afyonkarahisar, Turkey, 11 - 13 May 2016, vol.1, pp.20-24
- XI. **Design and Analysis of Hybrid Energy Storage System Supplied from Photovoltaic Power Source**
AKTAŞ A., ÖZDEMİR E., ERHAN K., ÖZDEMİR Ş.
8th International Ege Energy Symposium, Afyonkarahisar, Turkey, 11 - 13 May 2016, vol.1, pp.57-61
- XII. **Design and Analysis of Ultra-Capacitor Regenerative Braking Energy Storage System for Hybrid and Electrical Vehicles**
ERHAN K., ÖZDEMİR E., AKTAŞ A.
8th International Ege Energy Symposium, Afyonkarahisar, Turkey, 11 - 13 May 2016, vol.1, pp.1082-1087
- XIII. **Energy Storage Technologies Opportunities and Challenges in Smart Grids**
ÖZDEMİR E., ÖZDEMİR Ş., Erhan K., AKTAŞ A.
3rd International Smart Grid Workshop and Certificate Program (ISGWCP), İstanbul, Turkey, 21 - 25 March 2016, pp.15-20
- XIV. **Akıllı Şebeke Standartlarında Enerji Depolama Uygulamalarının İncelenmesi**
Koç İ. M. , ERHAN K., AKTAŞ A., ÖZDEMİR E., ÖZDEMİR Ş.
6. Enerji Verimliliği Ve Kalitesi Sempozyumu ve Sergisi, Sakarya, Turkey, 4 - 06 June 2015, vol.1, pp.134-138
- XV. **Şebeke Bağlantılı Fotovoltaik Elektrik Üretim Sistemlerinin Güç Kalitesine Etkileri ve Performans Analizi**
Erkurt S., ÖZDEMİR E., Koç İ. M. , AKTAŞ A., ERHAN K.
6. Enerji Verimliliği Ve Kalitesi Sempozyumu ve Sergisi, Sakarya, Turkey, 4 - 06 June 2015, vol.1, pp.139-143
- XVI. **Development of a Hybrid Energy Storage System Composed Battery And Ultracapacitor Supplied from Photovoltaic Power Source for 3-Phase 4-Wire Smart Micro Grid Structure**
AKTAŞ A., ERHAN K., ÖZDEMİR E., ÖZDEMİR Ş.
Solar Electricity Conference and Exhibition (Solar TR), İzmir, Turkey, 19 - 21 November 2014, vol.1, pp.154-160
- XVII. **Modeling and Analysis of a Battery Energy Storage System Supplied from Photovoltaic Power Source**
Kırçicek Y., AKTAŞ A., UÇAR M., ÖZDEMİR Ş., ÖZDEMİR E.
7th International Ege Energy Symposium Exhibition, Uşak, Turkey, 18 - 20 June 2014, vol.1, pp.872-884
- XVIII. **Analysis of a Hybrid Energy Storage System Composed from Battery and Ultra-capacitor**
ERHAN K., AKTAŞ A., ÖZDEMİR E.
7th International Ege Energy Symposium Exhibition, Uşak, Turkey, 18 - 20 June 2014, vol.1, pp.177-185
- XIX. **A Three-Phase Three-Level NPC Inverter Based Grid-Connected Photovoltaic System With Active**

Power Filtering

SEZEN S., AKTAŞ A., Ucar M., ÖZDEMİR E.

16th International Power Electronics and Motion Control Conference and Exposition (PEMC), Antalya, Turkey, 21 - 24 September 2014, pp.1331-1335

Supported Projects

Aktaş A., Akça H., TUBITAK Project, FV Tabanlı Elektrikli Araç Kablosuz Şarj Ve Dinamik Enerji Yönetim Sistemi Geliştirilmesi, 2021 - 2024

Aktaş A., TUBITAK Project, Açık deniz rüzgâr ve akıntı enerjisinden oluşan hibrit güç üretim sistemine batarya ve ultrakapasitörden oluşan hibrit enerji depolama sisteminin entegre edilerek hibrit sistemlerin akıllı enerji yönetimi, 2018 - 2020

Özdemir E., TUBITAK Project, Fotovoltaik kaynaktan beslenen 3-fazlı 4-telli akıllı mikro şebeke yapısının batarya ve ultrakapasitörden oluşan hibrit enerji depolama sistemi ile geliştirilmesi, 2013 - 2015

Citations

Total Citations (WOS):138

h-index (WOS):5