

Assoc. Prof. OZAN KEYSAN

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: [AAZ-9096-2020](#)

ScopusID: [36349871300](#)

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Education Information

Doctorate, University of Edinburgh, Institute For Energy Systems, United Kingdom 2009 - 2014

Postgraduate, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 2005 - 2008

Undergraduate, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 2000 - 2005

Dissertations

Doctorate, Superconducting Generators for Large Offshore Wind Turbines, University Of Edinburgh, Institute For Energy Systems, 2013

Postgraduate, A non-invasive speed and position sensor for induction machines using external search coils, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 2008

Research Areas

Renewable energy, Power Electronics, Electrical Machine Theory and Design, Electric Motor Drivers, Power Converters

Academic Titles / Tasks

Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2020 - Continues

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2014 - 2018

Research Assistant, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2005 - 2009

Academic and Administrative Experience

Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi, Middle East Technical University, Graduate School of Natural and Applied Sciences, 2016 - Continues
Dean, Middle East Technical University, Faculty of Engineering, 2015 - Continues
Deputy Head of Department, Middle East Technical University, Faculty of Engineering, 2018 - 2019

Courses

STATIC POWER CONVERSION I, Undergraduate, 2018 - 2019
DESIGN OF ELECTRICAL MACHINES, Postgraduate, 2017 - 2018
STATIC POWER CONVERSION II, Undergraduate, 2017 - 2018
ELECTROMECHANICAL ENERGY CONVERSION I, Undergraduate, 2018 - 2019

Advising Theses

KEYSAN O., Analytical modelling and multi-objective optimization of axial-flux permanent magnet machine with various PCB stators and development of a gan switched integrated motor drive PCB motor, Postgraduate, F.TOKGÖZ(Student), 2022
KEYSAN O., Concurrent operation of wireless power transfer based contactless slip ring and motor drive system with a single converter, Postgraduate, E.AYAZ(Student), 2022
KEYSAN O., Fault tolerant control of a dual-three-phase electrical machine with predictive current control and reduced computation burden, Postgraduate, H.SARAÇ(Student), 2022
KEYSAN O., Investigation of parallel-connected GaN E-HEMT VSI-based servo drives, Doctorate, H.YÜRÜK(Student), 2022
KEYSAN O., Optimum bidding strategy for wind and solar power plants in day-ahead electricity market, Doctorate, M.ÖZCAN(Student), 2021
KEYSAN O., Analysis and fault tolerant control of a five-phase axial flux permanent magnet synchronous machine, Postgraduate, G.HANDE(Student), 2021
KEYSAN O., Transient modeling techniques for the analysis of electromagnetic launchers, Postgraduate, N.TOSUN(Student), 2021
KEYSAN O., 1kW contactless slip ring design using series-series resonant converter topology, Postgraduate, H.POLAT(Student), 2021
KEYSAN O., Model predictive torque control of an induction motor enhanced with an inter-turn short circuit fault detection feature, Doctorate, İ.ŞAHİN(Student), 2021
Keysan O., Axial flux permanent magnet machine with novel flat winding made of conductor sheet, Postgraduate, G.ÇAKAL(Student), 2020
Keysan O., Characterization of GaN transistors and development of bi-directional DC/DC converter with half-bridge having short circuit protection for parallel switches, Postgraduate, F.KARAKAYA(Student), 2020
KEYSAN O., High power density variable speed traction motor, Postgraduate, S.Koushan(Student), 2020
KEYSAN O., Hybrid excited synchronous generator design and comparison of direct drive wind turbines, Postgraduate, A.AKGEMCİ(Student), 2019
Keysan O., Proton irradiation and gamma-ray irradiation testing studies on the commercial grade ganfets to investigate their characteristics under the space radiation environment, Postgraduate, L.BOYACI(Student), 2019
Keysan O., Grid impedance estimation based adaptive controller design for back-to-back wind turbine power converters for stable operation in distorted and weak grid, Postgraduate, H.TEMİZ(Student), 2019
Keysan O., Limited-jerk sinusoidal trajectory design for field oriented control of permanent magnet synchronous motors with H-infinity optimal controller, Postgraduate, M.KAAN(Student), 2019
KEYSAN O., Investigation of inertial support limits in wind turbines and the effects on the power system stability, Postgraduate, E.DUYMAZ(Student), 2019
Keysan O., Condition monitoring and fault diagnosis of electrical motor drive systems, Postgraduate, A.DEMİREL(Student), 2019

KEYSAN O., Limited-jerk sinusoidal trajectory design for field oriented control of permanent magnet synchronous motors with H-infinity optimal controller, Postgraduate, M.Kaan(Student), 2019

KEYSAN O., Reducing the cost of electric transmission and distribution systems with wind generation by means of energy storage and demand side management, Postgraduate, M.BİLDİRİCİ(Student), 2018

KEYSAN O., Design of a modular, axial-flux direct drive permanent magnet generator for wind turbines, Postgraduate, A.BAŞKAYA(Student), 2018

KEYSAN O., Electromagnetic simulation and optimization of an electromagnetic launcher, Postgraduate, D.CEYLAN(Student), 2018

KEYSAN O., Improvement of the electric field distribution in the medium voltage gas insulated inductive voltage transformers, Postgraduate, M.VAR(Student), 2017

KEYSAN O., Design and implementation of an unregulated DC-DC transformer module using LLC resonant converter, Postgraduate, Ö.ŞAHİN(Student), 2016

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Non-invasive real-time diagnosis of PMSM faults implemented in motor control software for mission critical applications**
Demirel A., KEYSAN O., El-Dalahmeh M., Al-Greer M.
Measurement: Journal of the International Measurement Confederation, vol.232, 2024 (SCI-Expanded)
- II. **Ripple Minimization in Asymmetric Interleaved DC-DC Converters Using Neural Networks**
Alemdar O. S., Oner M. U., ALTUN O., KEYSAN O.
IEEE Transactions on Power Electronics, vol.39, no.3, pp.3411-3421, 2024 (SCI-Expanded)
- III. **Optimal sizing of battery energy storage system for a large-scale offshore wind power plant considering grid code constraints: A Turkish case study**
Mokhtare M. H., KEYSAN O.
IET Renewable Power Generation, 2024 (SCI-Expanded)
- IV. **Neural Networks Detect Inter-Turn Short Circuit Faults Using Inverter Switching Statistics for a Closed-Loop Controlled Motor Drive**
Oner M. U., Sahin I., KEYSAN O.
IEEE Transactions on Energy Conversion, vol.38, no.4, pp.2387-2395, 2023 (SCI-Expanded)
- V. **Variable Carrier Phase Shift Method for Integrated Contactless Field Excitation System of Electrically Excited Synchronous Motors**
AYAZ E., ALTUN O., KEYSAN O.
IEEE Transactions on Power Electronics, vol.38, no.10, pp.13243-13253, 2023 (SCI-Expanded)
- VI. **Carrier Phase Shift Method of SPWM for Concurrent Wired and Wireless Power Transfer Systems**
AYAZ E., ALTUN O., KEYSAN O.
IEEE Transactions on Industrial Electronics, vol.70, no.9, pp.8645-8654, 2023 (SCI-Expanded)
- VII. **Autonomous fault detection and diagnosis for permanent magnet synchronous motors using combined variational mode decomposition, the Hilbert-Huang transform, and a convolutional neural network**
El-Dalahmeh M., Al-Greer M., Bashir I., El-Dalahmeh M., Demirel A., KEYSAN O.
Computers and Electrical Engineering, vol.110, 2023 (SCI-Expanded)
- VIII. **Mechanical and Thermal Design of an Optimized PCB Motor for an Integrated Motor Drive System with GaNFETs**
TOKGÖZ F., Gulsuna O., KARAKAYA F., ÇAKAL G., KEYSAN O.
IEEE Transactions on Energy Conversion, vol.38, no.1, pp.653-661, 2023 (SCI-Expanded)
- IX. **Fault Tolerant Multi-Tx/Multi-Rx Inductive Power Transfer System with a Resonator Coil**
AYAZ E., ALTUN O., POLAT H., KEYSAN O.
IEEE Journal of Emerging and Selected Topics in Power Electronics, vol.11, no.1, pp.1272-1284, 2023 (SCI-Expanded)

- X. **A Hierarchical Control of Supercapacitor and Microsources in Islanded DC Microgrids**
Barati F., Ahmadi B., KEYSAN O.
IEEE ACCESS, vol.11, pp.7056-7066, 2023 (SCI-Expanded)
- XI. **Muzzle Voltage Experiments of the EMFY-3 Launcher**
Tosun N., Karagoz M., Yurdakonar F., Gulletutan G., Yildirim B., KEYSAN O.
IEEE TRANSACTIONS ON PLASMA SCIENCE, vol.50, no.10, pp.3434-3442, 2022 (SCI-Expanded)
- XII. **Balancing of Common DC-Bus Parallel Connected Modular Inductive Power Transfer Systems**
POLAT H., AYAZ E., ALTUN O., KEYSAN O.
IEEE Journal of Emerging and Selected Topics in Power Electronics, vol.10, pp.1587-1596, 2022 (SCI-Expanded)
- XIII. **Sensitivity Analysis for the Inductance Gradient of EMFY-3 Electromagnetic Launcher**
Tosun N., Civil A., Oruc A. Y., Yildirim B., Ozceylan B. M., Bolat B., Yurdakul E. B., Tan E., Yurdakonar F., Akdemir H., et al.
IEEE TRANSACTIONS ON PLASMA SCIENCE, vol.50, no.2, pp.381-386, 2022 (SCI-Expanded)
- XIV. **Parallel connected GaN E-HEMT VSI-based servo drives for PMSMs**
Yuruk H., Keysan O.
IET ELECTRIC POWER APPLICATIONS, vol.16, pp.86-99, 2022 (SCI-Expanded)
- XV. **Centralized Microgrid Control System in Compliance with IEEE 2030.7 Standard Based on an Advanced Field Unit**
Pouraltafi-kheljan S., Ugur M., Bozulu E., Caliskan B. C., KEYSAN O., GÖL M.
ENERGIES, vol.14, no.21, 2021 (SCI-Expanded)
- XVI. **Layout-Based Ultrafast Short-Circuit Protection Technique for Parallel-Connected GaN HEMTs**
Karakaya F., Alemdar O. S., KEYSAN O.
IEEE JOURNAL OF EMERGING AND SELECTED TOPICS IN POWER ELECTRONICS, vol.9, no.5, pp.6385-6395, 2021 (SCI-Expanded)
- XVII. **Comparison of the Effects of Nonlinearities for Si MOSFET and GaN E-HEMT Based VSIs**
Yuruk H., KEYSAN O., Ulutas B.
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, vol.68, no.7, pp.5606-5615, 2021 (SCI-Expanded)
- XVIII. **Model Predictive Controller Utilized as an Observer for Inter-Turn Short Circuit Detection in Induction Motors**
Sahin I., KEYSAN O.
IEEE TRANSACTIONS ON ENERGY CONVERSION, vol.36, no.2, pp.1449-1458, 2021 (SCI-Expanded)
- XIX. **Feasibility of quasi-square-wave zero-voltage-switching bi-directional dc/dc converters with gan hemts**
KARAKAYA F., Gülsuna Ö., KEYSAN O.
Energies, vol.14, no.10, 2021 (SCI-Expanded)
- XX. **A Comparison of Velocity Skin Effect Modeling With 2-D Transient and 3-D Quasi-Transient Finite Element Methods**
Tosun N., Ceylan D., POLAT H., KEYSAN O.
IEEE TRANSACTIONS ON PLASMA SCIENCE, vol.49, no.4, pp.1500-1507, 2021 (SCI-Expanded)
- XXI. **Flat winding made of aluminum or copper sheet for axial flux machines**
ÇAKAL G., KEYSAN O.
IET ELECTRIC POWER APPLICATIONS, vol.15, no.4, pp.429-440, 2021 (SCI-Expanded)
- XXII. **Axial flux generator with novel flat wire for direct-drive wind turbines**
Çakal G., Keysan O.
IET RENEWABLE POWER GENERATION, vol.15, no.1, pp.139-152, 2021 (SCI-Expanded)
- XXIII. **Comparison of PCB winding topologies for axial-flux permanent magnet synchronous machines**
TOKGÖZ F., ÇAKAL G., KEYSAN O.
IET ELECTRIC POWER APPLICATIONS, vol.14, no.13, pp.2577-2586, 2020 (SCI-Expanded)
- XXIV. **Adaptive controller based on grid impedance estimation for stable operation of grid-connected inverters under weak grid conditions**
Temiz H., KEYSAN O., Demirok E.

IET POWER ELECTRONICS, vol.13, no.13, pp.2692-2705, 2020 (SCI-Expanded)

- XXV. **A Hybrid Simulation Model for Electromagnetic Launchers including the Transient Inductance and Electromotive Force**
Tosun N., Polat H., Ceylan D., Karagoz M., Yildirim B., Gungen I., KEYSAN O.
IEEE Transactions on Plasma Science, vol.48, no.9, pp.3220-3228, 2020 (SCI-Expanded)
- XXVI. **Optimization of a Convex Rail Design for Electromagnetic Launchers**
Polat H., Tosun N., Ceylan D., KEYSAN O.
IEEE TRANSACTIONS ON PLASMA SCIENCE, vol.48, no.6, pp.2266-2273, 2020 (SCI-Expanded)
- XXVII. **Simulations and Experiments of EMFY-1 Electromagnetic Launcher**
Ceylan D., Karagoz M., Cevik Y., Yildirim B., Polat H., KEYSAN O.
IEEE TRANSACTIONS ON PLASMA SCIENCE, vol.47, no.7, pp.3336-3343, 2019 (SCI-Expanded)
- XXVIII. **Improving the Thermal Performance of Rotary and Linear Air-Cored Permanent Magnet Machines for Direct Drive Wind and Wave Energy Applications**
Mueller M. A., Burchell J., Chong Y. C., KEYSAN O., McDonald A., Galbraith M., Subiabre E. J. P. E.
IEEE TRANSACTIONS ON ENERGY CONVERSION, vol.34, no.2, pp.773-781, 2019 (SCI-Expanded)
- XXIX. **A Rare-Earth Free Magnetically Geared Generator for Direct-Drive Wind Turbines**
Zeinali R., KEYSAN O.
ENERGIES, vol.12, no.3, 2019 (SCI-Expanded)
- XXX. **Multi-objective design optimization of a permanent magnet axial flux eddy current brake**
Tarvirdilu-Asl R., Yuksel M., KEYSAN O.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.27, no.2, pp.998-1011, 2019 (SCI-Expanded)
- XXXI. **Armature Shape Optimization of an Electromagnetic Launcher Including Contact Resistance**
Ceylan D., Gudelek M. U., KEYSAN O.
IEEE TRANSACTIONS ON PLASMA SCIENCE, vol.46, no.10, pp.3619-3627, 2018 (SCI-Expanded)
- XXXII. **Development of a superconducting claw-pole linear test-rig**
Radyjowski P., KEYSAN O., Burchell J., Mueller M.
SUPERCONDUCTOR SCIENCE & TECHNOLOGY, vol.29, no.4, 2016 (SCI-Expanded)
- XXXIII. **A modular and cost-effective superconducting generator design for offshore wind turbines**
KEYSAN O., Mueller M.
SUPERCONDUCTOR SCIENCE & TECHNOLOGY, vol.28, no.3, 2015 (SCI-Expanded)
- XXXIV. **A Modular Superconducting Generator for Offshore Wind Turbines**
KEYSAN O., Olczak D., Mueller M. A.
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.26, no.5, pp.2103-2108, 2013 (SCI-Expanded)
- XXXV. **Real-Time Speed and Position Estimation Using Rotor Slot Harmonics**
Keysan O., ERTAN H. B.
IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, vol.9, no.2, pp.899-908, 2013 (SCI-Expanded)
- XXXVI. **Application of high-temperature superconducting machines to direct drive renewable energy systems**
KEYSAN O.
ELECTRICAL DRIVES FOR DIRECT DRIVE RENEWABLE ENERGY SYSTEMS, no.24, pp.219-252, 2013 (SCI-Expanded)
- XXXVII. **Design and Testing of a Linear Generator for Wave-Energy Applications**
Hodgins N., KEYSAN O., McDonald A. S., Mueller M. A.
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, vol.59, no.5, pp.2094-2103, 2012 (SCI-Expanded)
- XXXVIII. **Designing the C-GEN lightweight direct drive generator for wave and tidal energy**
KEYSAN O., Mueller M., McDonald A., Hodgins N., Shek J.
IET RENEWABLE POWER GENERATION, vol.6, no.3, pp.161-170, 2012 (SCI-Expanded)
- XXXIX. **A Transverse Flux High Temperature Superconducting Generator Topology for Large Direct Drive Wind Turbines**
KEYSAN O., Mueller M. A.

Physics Procedia, vol.36, pp.759-764, 2012 (SCI-Expanded)

XL. A Homopolar HTSG Topology for Large Direct-Drive Wind Turbines

KEYSAN O., Mueller M. A.

IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY, vol.21, no.5, pp.3523-3531, 2011 (SCI-Expanded)

Articles Published in Other Journals

- I. **Optimum bidding strategy for wind and solar power plants in day-ahead electricity market**
Özcan M., KEYSAN O., Satır B.
Energy Systems, vol.12, no.4, pp.955-987, 2021 (ESCI)
- II. **Performance comparison of passive series R and shunt R-C damped LCL filter for grid-connected inverters**
Temiz H., Demirok E., KEYSAN O., Turkay A., Cetinkaya B.
JOURNAL OF ENGINEERING-JOE, no.18, pp.4698-4702, 2019 (ESCI)
- III. **Multi-physics design optimisation of a GaN-based integrated modular motor drive system**
UĞUR M., KEYSAN O.
JOURNAL OF ENGINEERING-JOE, no.17, pp.3900-3905, 2019 (ESCI)
- IV. **Tümleşik Modüler Motor Sürücü Sistemi Tasarımı**
Uğur M., KEYSAN O.
Fırat Üniversitesi Mühendislik Bilimleri Dergisi, vol.30, pp.75-83, 2018 (Peer-Reviewed Journal)
- V. **Future Electrical Generator Technologies for Offshore Wind Turbines**
KEYSAN O.
Engineering & Technology Reference, 2015 (Peer-Reviewed Journal)
- VI. **Integrated design and optimization of a direct drive axial flux permanent magnet generator for a tidal turbine**
Keysan O., McDonald A., Mueller M.
Renewable Energy and Power Quality Journal, vol.1, no.8, pp.1297-1302, 2010 (Scopus)

Books & Book Chapters

- I. **METU Smart Campus Project (iEAST)**
ERTEKİN BOLELLİ Ş., KEYSAN O., GÖL M., Bayazit H., Yildiz T., Marr A., Ganji M., Teimourzadeh S., Tör O. B., Özkavaf S.
in: New Technologies, Development and Application II, Isak Karabegović, Editor, Springer, pp.287-297, 2019
- II. **Application of high-temperature superconducting machines to direct drive renewable energy systems**
Keysan O.
in: Electrical Drives for Direct Drive Renewable Energy Systems, Markus Mueller, Henk Polinder, Editor, Woodhead Publishing Limited, London, pp.219-251, 2013

Refereed Congress / Symposium Publications in Proceedings

- I. **Winding Type Alternation of a Refurbished Old Generator**
Tosun N., Gülletutan G., Yakut M. S., Alp Yılmaz D., BAYER Ö., KEYSAN O.
2023 IEEE Workshop on Electrical Machines Design, Control and Diagnosis, WEMDCD 2023, Newcastle upon Tyne, England, 13 - 14 April 2023
- II. **Scaling Laws for Electromagnetic Launchers Considering an Existing Pulse Power Supply**
Gülletutan G., KEYSAN O., Tosun N., Yurdakonar F., Yildirim B., Çöklü Z., Karagöz M.

2023 IEEE Pulsed Power Conference, PPC 2023, Texas, United States Of America, 25 - 29 June 2023

- III. **Active fault detection using time and frequency diagnostic features for electrical machine**
El-Dalahmeh M., Al-Greer M., Demirel A., KEYSAN O.
11th International Conference on Power Electronics, Machines and Drives (PEMD 2022), Newcastle, Australia, 21 June 2022
- IV. **Design of an optimized PCB motor with a GaN switched integrated motor drive**
TOKGÖZ F., Gülsuna Ö., KARAKAYA F., ÇAKAL G., KEYSAN O.
11th International Conference on Power Electronics, Machines and Drives (PEMD 2022), Newcastle, Australia, 21 June 2022
- V. **Generalized Model of Modular Two Element Compensated IPT Systems with Common DC-Bus**
AYAZ E., ALTUN O., POLAT H., KEYSAN O.
Wireless Power Week (WPW), Bordeaux, France, 5 - 08 July 2022, pp.260-265
- VI. **A Modular Inductive Power Transfer System for Synchronous Machine Field Excitation**
ALTUN O., AYAZ E., POLAT H., KEYSAN O.
Wireless Power Week (WPW), Bordeaux, France, 5 - 08 July 2022, pp.476-481
- VII. **Electromagnetic Launcher Speed Control with a Multilevel Fast Triggering Time Algorithm (MFTTA)**
Tosun N., Polat H., KEYSAN O.
2021 IEEE Pulsed Power Conference, PPC 2021, Colorado, United States Of America, 12 - 16 December 2021, vol.2021-December
- VIII. **Muzzle Voltage Characteristics of Railguns**
Tosun N., Gulletutan G., KEYSAN O., Yurdakonar F., Karagoz M.
2021 IEEE Pulsed Power Conference, PPC 2021, Colorado, United States Of America, 12 - 16 December 2021, vol.2021-December
- IX. **Design and Analysis of a 2.5 MW Hybrid Excited Synchronous Wind Turbine Generator With Two Separate Rotors**
akgemci a., KEYSAN O.
2020 International Conference on Electrical Machines (ICEM), Gothenburg, Sweden, 23 - 26 August 2020
- X. **A simulink model for the induction machine with an inter-turn short circuit fault**
ŞAHİN İ., BAYAZIT G. H., KEYSAN O.
2020 International Conference on Electrical Machines, ICEM 2020, Virtual, Gothenburg, Sweden, 23 - 26 August 2020, pp.1273-1279
- XI. **Design and implementation of an optimized printed circuit board axial-flux permanent magnet machine**
TOKGÖZ F., ÇAKAL G., KEYSAN O.
2020 International Conference on Electrical Machines, ICEM 2020, Virtual, Gothenburg, Sweden, 23 - 26 August 2020, pp.111-116
- XII. **Fault Tolerance Capabilities of Three, Four and Six-Phase Configurations of a 24 Slot Modular PMSM**
Bayazit G. H., Uğur M., KEYSAN O.
IEEE International Conference on Power Electronics and Drive Systems (PEDS), Toulouse, France, 9 - 12 July 2019
- XIII. **METU Smart Campus Project (iEAST)**
ERTEKİN BOLELLİ Ş., KEYSAN O., GÖL M., beyazit h., YILDIZ T., Marr A., Ganji M., Teimourzadeh S., Tör O. B., Özkavaf S.
International Conference on New Technologies, Development and Application, Sarajevo, Bosnia And Herzegovina, 27 - 29 June 2019, vol.76, pp.287-297
- XIV. **Fault Tolerance Capabilities of Three, Four and Six-Phase Configurations of a 24 Slot Modular PMSM**
BAYAZIT G. H., Ugur M., KEYSAN O.
13th IEEE International Conference on Power Electronics and Drive Systems, PEDS 2019, Toulouse, France, 9 - 12 July 2019
- XV. **Utilization and Optimization of Superconducting Coil Parameters in Electromagnetic Launcher Systems**

- Polat H., Ceylan D., KEYSAN O.
2019 IEEE Pulsed Power and Plasma Science, PPPS 2019, Florida, United States Of America, 23 - 29 June 2019
- XVI. **Applications of Superconductivity in the Energy Area**
KEYSAN O.
ETAMSS 2018, 22 - 24 February 2018
- XVII. **A simplified discrete-time implementation of FCS-MPC applied to an IM drive**
ŞAHİN İ., KEYSAN O.
21st European Conference on Power Electronics and Applications (EPE ECCE Europe), Genoa, Italy, 3 - 05 September 2019
- XVIII. **Design of Double Sided Linear Motor with Easy to Manufacture Hairpin Plate Winding**
ÇAKAL G., KEYSAN O.
12th International Symposium on Linear Drives for Industry Applications (LDIA), Neuchatel, Switzerland, 1 - 03 July 2019
- XIX. **High Bandwidth Current Control via Nonlinear Compensation and GaN-based VSI**
Yuruk H., KEYSAN O., Ulutas B.
IEEE 13th International Conference on Compatibility, Power Electronics and Power Engineering (IEEE IES CPE-POWERENG), Sonderborg, Denmark, 23 - 25 April 2019
- XX. **PCB Layout Based Short-Circuit Protection Scheme for GaN HEMTs**
Alemdar O. S., KARAKAYA F., KEYSAN O.
11th Annual IEEE Energy Conversion Congress and Exposition (ECCE), Maryland, United States Of America, 29 September - 03 October 2019, pp.2212-2218
- XXI. **A Comparative Study of Capacitive and Inductive Pulsed Power Supply Topologies for Electromagnetic Launcher Applications**
Ceylan D., Pourkeivannour S., KEYSAN O.
International Aegean Conference on Electrical Machines and Power Electronics (ACEMP) / International Conference on Optimization of Electrical and Electronic Equipment (OPTIM), İstanbul, Turkey, 27 - 29 August 2019, pp.297-303
- XXII. **Investigation of Turn-on and Turn-off Characteristics of Enhancement-Mode GaN Power Transistors**
KARAKAYA F., DİLBEROĞLU M. U., KEYSAN O.
20th European Conference on Power Electronics and Applications, EPE 2018 ECCE Europe, Riga, Latvia, 17 - 21 September 2018
- XXIII. **Evaluation of Photovoltaic Systems For Reactive Power Compensation In Low Voltage Power Systems**
Uğur M., Duymaz E., Göl M., Keysan O.
ISGT Europe 2018, Sarajevo, Bosnia And Herzegovina, 21 - 25 October 2018
- XXIV. **Design of a GaN Based Integrated Modular Motor Drive**
Uğur M., KEYSAN O.
2018 XIII International Conference on Electrical Machines (ICEM), 3 - 06 September 2018
- XXV. **Design of a Power Plant Emulator for the Dynamic Frequency Stability Studies**
Duymaz E., Pourkeivannour S., Ceylan D., ŞAHİN İ., KEYSAN O.
2018 XIII International Conference on Electrical Machines (ICEM), 3 - 06 September 2018
- XXVI. **Minimization of EMF Harmonics and Cogging Torque for a Medium Speed RFPM Wind Turbine Generator**
Akgemci A., Zeinali R., KEYSAN O.
7th International Conference on Renewable Energy Research and Applications (ICRERA), Paris, France, 14 - 17 October 2018, pp.342-347
- XXVII. **Performance Comparison of Passive Series R and Shunt R-C Damped LCL Filter for Grid-Connected Inverters**
temiz h., demirok e., KEYSAN O., Türkay A., Çetinkaya B.
IET Renewable Power Generation Conference, 26 - 27 September 2018
- XXVIII. **Investigation of Turn-on and Turn-off Characteristics**

Karakaya F., Ugur M., KEYSAN O.

20th European Conference on Power Electronics and Applications (EPE ECCE Europe), Riga, Latvia, 17 - 21 September 2018

XXIX. Design and Optimization of Reduced Torque Ripple Rotary Voice Coil Motor

Çakal G., Zeinali R., KEYSAN O.

2018 XIII International Conference on Electrical Machines (ICEM), Alexandroupoli, Greece, 3 - 06 September 2018, pp.663

XXX. Comparison of Inverter Topologies Suited for Integrated Modular Motor Drive Applications

Ugur M., Sarac H., KEYSAN O.

18th IEEE International Power Electronics and Motion Control Conference (IEEE PEMC), Budapest, Hungary, 26 - 30 August 2018, pp.524-530

XXXI. Limited-Jerk Sinusoidal Trajectory Design for FOC of PMSM with H-infinity Optimal Controller

Mutlu M. K., KEYSAN O., Ulutas B.

18th IEEE International Power Electronics and Motion Control Conference (IEEE PEMC), Budapest, Hungary, 26 - 30 August 2018, pp.704-710

XXXII. A New Model Predictive Torque Control Strategy with Reduced Set of Prediction Vectors

ŞAHİN İ., KEYSAN O.

12th IEEE International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG), Doha, Qatar, 10 - 12 April 2018

XXXIII. MODULAR AXIAL-FLUX DIRECT DRIVE PERMANENT MAGNET GENERATOR FOR WIND TURBINE APPLICATIONS

başkaya a., KEYSAN O.

WinerCost International Conference on Wind Energy Harvesting, 21 - 23 March 2018

XXXIV. Numerical Analysis of Temperature Distribution of Superconducting Coil Stack

İNANIR F., BAK B., YILDIZ Ş., KEYSAN O.

ISMSIT 2017, Tokat, Turkey, 2 - 04 November 2017

XXXV. Effect of conducting containment on electromagnetic launcher efficiency

Ceylan D., KEYSAN O.

2017 IEEE 18th International Symposium on Electromagnetic Fields in Mechatronics, Electrical and Electronic Engineering (ISEF), Lodz, Poland, 14 - 16 September 2017

XXXVI. Tümüleşik Modüler Motor Sürücü Sistemi Tasarımı

Uğur M., KEYSAN O.

Ulusal Elektrik Enerjisi Dönüşüm Kongresi, Turkey, 21 - 22 September 2017

XXXVII. A Novel Magnetic Geared Superconducting Generator Design for Direct-Drive Wind Turbines

Zeinali R., KEYSAN O.

JAPMED- Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting, Multifunctional and Nanomaterials, 4 - 08 July 2017

XXXVIII. ARMATURE SHAPE OPTIMIZATION OF AN ELECTROMAGNETIC LAUNCHER USING GENETIC ALGORITHM

Ceylan D., Gudelek M. U., KEYSAN O.

21st IEEE International Conference on Pulsed Power (PPC), Brighton, United Kingdom, 18 - 22 June 2017

XXXIX. DC Link Capacitor Optimization for Integrated Modular Motor Drives

Ugur M., KEYSAN O.

26th IEEE International Symposium on Industrial Electronics (ISIE), Edinburgh, Saint Helena, 18 - 21 June 2017, pp.263-270

XL. Finite Element Analysis of Simultaneous Electromagnetic and Heat Transfer Equations in HTS Coil

Tunç S., ERDOĞAN M., YILDIZ Ş., ÇİÇEK A., KEYSAN O., İNANIR F.

International Conference on Energy Systems, 21 - 23 December 2016

XLI. Optimizing the Efficiency in AC Energy Transfer via a Stack of Four Coils Made of 2G HTS Tapes

ERDOĞAN M., ÇİÇEK A., YILDIZ Ş., tunç s., KEYSAN O., İNANIR F.

International Conference on Energy Systems, İstanbul, Turkey, 21 - 23 December 2016, pp.144-146

- XLII. Design and implementation of an unregulated DC DC transformer DCX module using LLC resonant converter**
 Alemdar Ş., KEYSAN O.
 8th IET International Conference on Power Electronics, Machines and Drives (PEMD 2016), Glasgow, United Kingdom, 21 - 23 April 2016
- XLIII. Analytical model for superconducting generators for wave energy systems**
 Bernholz J., KEYSAN O., Mueller M.
 8th IET International Conference on Power Electronics, Machines and Drives (PEMD 2016), Glasgow, United Kingdom, 21 - 23 April 2016
- XLIV. Optimal Power Aggregation Methods for Marine Renewable Energy Converters a Combined Economic and Reliability Approach**
 Lauramae m., FIONA DEVOY M., KEYSAN O., MARTIN HEYMAN D., SARA A., JIMMY M., KATIE L.
 European Wave & Tidal Energy Conference, 6 - 11 September 2015
- XLV. Designing and Optimizing of High Field MRI Magnets Composed of 4 Layer Superconducting Coils Made of MgB2 Wire**
 İNANIR F., Pinar k., KEYSAN O.
 European Conference on Applied Conductivity, 6 - 10 September 2015
- XLVI. 10 MW Superconducting Generator Design for Offshore Wind Turbines**
 KEYSAN O.
 UK Magnetics Society, 07 July 2015
- XLVII. How electrical machine and drivetrain design can influence Offshore Wind Cost of Energy**
 ALASDAIR M., KEYSAN O.
 UK Magnetics Society, 7 - 08 July 2015
- XLVIII. Proposed structure for a HTS generator for direct drive offshore wind turbines**
 Burchell J., Keysan O., Mueller M.
 European Wind Energy Association Conference and Exhibition 2014, EWEA 2014, Barcelona, Spain, 10 - 13 March 2014
- XLIX. Towards more reliable and cost effective superconducting generators for wind turbines**
 Keysan O., Radyjowski P., Burchell J., Mueller M.
 7th IET International Conference on Power Electronics, Machines and Drives, PEMD 2014, Manchester, United Kingdom, 8 - 10 April 2014, vol.2014
- L. An open source tool to estimate mass and efficiency of wind turbine power take-off systems**
 Keysan O., Mueller M. A.
 2nd IET Renewable Power Generation Conference, RPG 2013, Beijing, China, 9 - 11 September 2013, vol.2013
- LI. Implementation issues of real time position estimation for induction motors using rotor slot harmonics**
 ERTAN H. B., Keysan O.
 2013 4th International Conference on Power Engineering, Energy and Electrical Drives, POWERENG 2013, İstanbul, Turkey, 13 - 17 May 2013, pp.1826-1832
- LII. Magnetic and Structural Analysis of a Transverse Flux Claw Pole Linear Machine**
 KEYSAN O., Burchell J., Mueller M. A.
 IEEE International Conference on Industrial Technology (ICIT), Cape-Town, South Africa, 25 - 28 February 2013, pp.1904-1908
- LIIL. Rotor Loss Prediction in Air-Cored Permanent Magnet Machines**
 Echenique E. J. P., KEYSAN O., Mueller M. A.
 IEEE International Electric Machines and Drives Conference (IEMDC), Illinois, United States Of America, 12 - 15 May 2013, pp.303-310
- LIV. A linear superconducting generator for wave energy converters**
 KEYSAN O., Mueller M.
 6th IET International Conference on Power Electronics, Machines and Drives (PEMD 2012), Bristol, United Kingdom, 20 - 22 April 2012

- LV. **Superconducting generators for renewable energy applications**
KEYSAN O., Markus M.
IET Conference on Renewable Power Generation (RPG 2011), Edinburgh, Saint Helena, 20 - 23 April 2011
- LVI. **Speed position estimation by demodulating rotor slot harmonics**
KEYSAN O., ERTAN H. B.
The XIX International Conference on Electrical Machines - ICEM 2010, Rome, Italy, 6 - 08 September 2010
- LVII. **A direct drive permanent magnet generator design for a tidal current turbine SeaGen**
KEYSAN O., Alasdair S M., Markus M.
2011 IEEE International Electric Machines & Drives Conference (IEMDC), Niagara Falls, ON, Canada, 15 - 18 May 2011
- LVIII. **Linear generator for direct drive wave energy applications**
Hodgins N., Keysan O., McDonald A., Mueller M.
19th International Conference on Electrical Machines, ICEM 2010, Rome, Italy, 6 - 08 September 2010
- LIX. **Higher Order Rotor Slot Harmonics for Rotor Speed & Position Estimation**
Keysan O., ERTAN H. B.
12th International Conference on Optimization of Electrical and Electronic Equipment, Brasov, Romania, 20 - 21 May 2010, pp.416-417
- LX. **C GEN a lightweight direct drive generator for marine energy converters**
KEYSAN O., McDonald A., Mueller M., Doherty R.
5th IET International Conference on Power Electronics, Machines and Drives (PEMD 2010), Brighton, United Kingdom, 2 - 04 April 2010
- LXI. **Determination of rotor slot number of an induction motor using an external search coil**
KEYSAN O., ERTAN H. B.
16th International Symposium on Electrical Apparatus and Technologies, SIELA 2009, Burgas, Bulgaria, 4 - 06 June 2009, vol.2, pp.141-148
- LXII. **External Search Coil as a Means of Measuring Rotor Speed of an Induction Motor**
ÖZLÜ ERTAN H. G., KEYSAN O.
8th International Symposium on Advanced Electromechanical Motion Systems (ELECTROMOTION 2009)/EPE Chapter Electric Drives Joint Symposium, Lille, France, 1 - 03 July 2009, pp.114-119

Supported Projects

Huvaj Sarihan N., Keysan O., Oğuz E., Guerrero J., Project Supported by Public Organizations in Other Countries, WINDFLAG: OFFSHORE WIND FARMS LARGE-SCALE INTEGRATION IN TURKEY (Funded by DANIDA Fellowship Centre of Ministry of Foreign Affairs of Denmark, Project Coordinator: Aalborg Univ.), 2020 - 2023

Keysan O., Özgen G. O., Technopark, Sincap kafesli asenkron generatörü geliştirilmesi projesi, 2021 - 2022

Keysan O., Göl M., TÜBİTAK International Bilateral Joint Cooperation Program Project, Tarımda Gıda ve Su Güvenliği İçin Toplum Odaklı Yüksek Verimli Mikro Şebeke Uygulaması Geliştirilmesi, 2020 - 2022

Keysan O., Bostancı E., TUBITAK Project, 1kw Silisyum Karbür (SiC) Seri-Seri Rezonant Dc-Dc Dönüştürücü ile Kablosuz Kontak Halkası Geliştirilmesi, 2020 - 2022

Göl M., Keysan O., Technopark, ELEKTRİK ŞEBEKELERİ YÖNETİM YÖNTEMLERİNİN ARAŞTIRILMASI VE MİKROŞEBEKE KONTROL VE HABERLEŞME CİHAZININ GELİŞTİRİLMESİ ARGE PROJESİ, 2019 - 2021

Bostancı E., Keysan O., TUBITAK Project, Design of a Permanent Magnet Assisted Synchronous Reluctance Machine for Vehicle Traction Application, 2018 - 2020

KEYSAN O., UĞUR M., Project Supported by Higher Education Institutions, ÇEKİŞ SİSTEMLERİ İÇİN BİR TÜMLEŞİK MODÜLER MOTOR SÜRÜCÜ (TMMS) TASARIMI, 2018 - 2019

KEYSAN O., YÜRÜK H., Project Supported by Higher Education Institutions, HATA TOLERANSLI SERVO MOTOR SÜRÜCÜ TASARIMI, 2018 - 2019

KEYSAN O., ŞAHİN İ., Project Supported by Higher Education Institutions, GÜÇ ELEKTRONİĞİ DÖNÜŞTÜRÜCÜLERİ VE AC SÜRÜCÜLER İÇİN MODEL ÖNGÖRÜMLÜ DENETİM STRATEJİLERİ, 2018 - 2019

KEYSAN O., CEYLAN D., Project Supported by Higher Education Institutions, ELEKTROMANYETİK FIRLATMA SİSTEMLERİ ELEKTROMANYETİK SİMÜLASYONLARI VE OPTİMİZASYONU, 2018 - 2019

KEYSAN O., KOUSHAN S., Project Supported by Higher Education Institutions, DEĞİŞKEN HIZLI YÜKSEK GÜÇ YOĞUNLUKLU CER MOTORU, 2018 - 2019

KEYSAN O., DUymAZ E., Project Supported by Higher Education Institutions, ŞEBEKEYE GÜÇ ELEKTRONİĞİ İLE BAĞLI RÜZGAR TRİBÜNLERİNİN YAPAY ATALET UYGULANARAK ŞEBEKE FREKANSINA KATKISININ SAĞLANMASI, 2018 - 2019

KEYSAN O., TEK O., Project Supported by Higher Education Institutions, RÜZGAR TÜRBİNLERİ İÇİN SİLİCON-CARBİDE(SİC) ÇEVİRİCİLER, 2018 - 2019

KEYSAN O., TUBİTAK Project, 7.5 Kw Sabit Mıknatıslı Tümüleşik Modüler Motor Sürücü Sistemi Geliştirilmesi, 2017 - 2019

KEYSAN O., AKGEMCİ A., UĞUR M., KARAKAYA F., DUymAZ E., UĞUR M., Project Supported by Higher Education Institutions, GaN Tabanlı Bir Tümüleşik Modüler Motor Sürücü (IMMD) Tasarımı ve Geliştirilmesi, 2017 - 2019

KEYSAN O., Project Supported by Higher Education Institutions, 25 kW Çatı Tipi Güneş Panellerin Şebeke Bağlantısının Yapılması, 2017 - 2018

KEYSAN O., Project Supported by Other Private Institutions, MW Üstü Rüzgar Türbinleri için Generatör Geliştirilmesi Fizibilite Çalışması, 2017 - 2017

KEYSAN O., Project Supported by Other Private Institutions, Elektromanyetik Fırlatma Sisteminin Geliştirilmesi, 2016 - 2017

KEYSAN O., AKGEMCİ A., UĞUR M., DEMİR J., Project Supported by Higher Education Institutions, Güç Sistemleri için Veri Ölçümü ve İzleme Sisteminin Geliştirilmesi, 2016 - 2016

Keysan O., TUBİTAK Project, Farklı Süperiletken Jeneratör Topolojilerinin Ve Bileşenlerinin Sayısal Yöntemlerle Tasarımı Elektromanyetik Ve Isıl Performanslarının İncelenmesi, 2014 - 2016

Patent

Şahin I., Keysan O., Elektrik makinaları için bir arıza erken teşhis yöntemi, Patent, CHAPTER G Physics, The Invention Registration Number: TR 2019 19743 B , Standard Registration, 2022

Şahin I., Keysan O., Method of reducing estimation vectors in a model predictive control of alternating current motors, Patent, CHAPTER H Electricity, The Invention Recourse Number: PCT/TR2019/050818 , Standard Registration, 2021

Keysan O., Şahin I., ALTERNATİF AKIM MOTORLARIN MODEL KESİTİRİMCİ DENETİMİNDE TAHMİN VEKTÖRLERİNİ AZALTAN YÖNTEM, Patent, CHAPTER G Physics, The Invention Registration Number: 2018 14498 , Standard Registration, 2021

Keysan O., Çakal G., ELEKTRİK MAKİNALARI İÇİN BİR SARGI YÖNTEMİ, Patent, CHAPTER G Physics, The Invention Recourse Number: 2019/19533 , Standard Registration, 2019

KEYSAN O., Speed and Rotor Position Estimation of Electrical Machines Using Rotor Slot Harmonics and Higher Order Rotor Slot Harmonics, Patent, CHAPTER H Electricity, Standard Registration, 2011

Activities in Scientific Journals

Iet Renewable Power Generation, Committee Member, 2015 - Continues

Turkish Journal Of Electrical Engineering And Computer Sciences, Editor, 2017 - 2019

Metrics

Publication: 110

Citation (WoS): 339

Citation (Scopus): 621

H-Index (WoS): 9

H-Index (Scopus): 12