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Personal Information

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International Researcher IDs

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Education Information

Doctorate, Ruhr-Universitaet Bochum, Germany 1986 - 1991

Postgraduate, Ruhr-Universitaet Bochum, Germany 1985 - 1986

Postgraduate, Yildiz Technical University, Faculty Of Electrical & Electronics, Turkey 1983 - 1985

Undergraduate, Yildiz Technical University, Faculty Of Electrical & Electronics, Turkey 1979 - 1983

Dissertations

Postgraduate, Compensator Design for Multiple Input, Multiple Output Systems, Ruhr-Universitaet Bochum, 1986

Postgraduate, Feeding and Propulsion Arrangements of Electric Transportation (Railway) Systems, Yildiz Technical University, Faculty Of Electrical & Electronics, 1985

Doctorate, Real-time implementation of the Modern Adaptive Control Concept in a 750 MW Natural Gas Cycle Power Plant, Ruhr-Universitaet Bochum, 1981

Research Areas

Electrical and Electronics Engineering, Direct Energy Conversion and Energy Storage, Power System Analysis, Generating Stations and Plants, Electric Power Transmission, Distribution and Protection, System Dynamics and Control, Vehicle Systems Dynamics, Mechatronics, Modeling and Simulation of Dynamic Systems, Engineering and Technology

Academic Titles / Tasks

Professor, Istanbul Technical University, Elektrik-Elektronik, Kontrol Ve Otomasyon Mühendisliği, 2020 - Continues

Professor, Istanbul University, 2008 - 2020

Academic and Administrative Experience

Dean, Istanbul Technical University, Elektrik-Elektronik, 2023 - Continues

Director of The Institution, Istanbul Technical University, Energy Institute, 2020 - 2023

Head of Department, Kirikkale University, 2006 - 2008

Dean, Kirikkale University, 2002 - 2004

Head of Department, Kirikkale University, 1999 - 2004

Head of Department, Kocaeli University, 1997 - 1999

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Increasing PEM fuel cell performance via fuzzy-logic controlled cascaded DC-DC boost converter**
    Kart S., Demir F., Kocaarslan İ., Genc N.
    International Journal of Hydrogen Energy, vol.54, pp.84-95, 2024 (SCI-Expanded)

II. **Design and application of PEM fuel cell-based cascade boost converter**
    Kocaarslan İ., Kart S., Genc N., Üzmuş H.
    ELECTRICAL ENGINEERING, vol.101, no.4, pp.1323-1332, 2019 (SCI-Expanded)

III. **Determination of distance between DC traction power centers in a 1500-V DC subway line with artificial intelligence methods**
    Akcay M. T., Kocaarslan İ.
    TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.27, no.1, pp.289-303, 2019 (SCI-Expanded)

IV. **Creation of a dynamic model of the electrification and traction power system of a 25 kV AC feed railway line together with analysis of different operation scenarios using MATLAB/Simulink**
    Kocaarslan İ., Akcay M. T., Ulusoy S. E., Bal E., TİRYAKİ H.
    TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.25, no.5, pp.4254-4267, 2017 (SCI-Expanded)

V. **Comparative performance analysis of Artificial Bee Colony algorithm in automatic generation control for interconnected reheat thermal power system**
    Gozde H., TAPLAMACIOĞLU M. C., Kocaarslan İ.
    INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.42, no.1, pp.167-178, 2012 (SCI-Expanded)

VI. **Design of robust power system stabilizer based on artificial bee colony algorithm**
    Eke I., TAPLAMACIOĞLU M. C., Kocaarslan İ.
    Journal of the Faculty of Engineering and Architecture of Gazi University, vol.26, no.3, pp.683-690, 2011 (SCI-Expanded)

VII. **Particle swarm optimization based pi-controller design to load-frequency control of a two area reheat thermal power system İki bölgeli ara-isitmali termal güç sisteminin yük-frekans kontrolü için parçacik sürüsü optimizasyonu tabanli pi-kontrolör**
    Gözde H., TAPLAMACIOĞLU M. C., Kocaarslan İ., Ve Şenol M.
    Isi Bilimi Ve Teknigi Dergisi/ Journal of Thermal Science and Technology, vol.30, no.1, pp.13-21, 2010 (SCI-Expanded)

VIII. **Particle Swarm Optimization Based PI-Controller Design to Load-Frequency Control of a Two Area Reheat Thermal Power System**
    Kocaarslan İ., Gözde H., Taplamacıoğlu M. C., Şenol M. A.
    ISI BILIMI VE TEKNIGI DERGISI/ JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, vol.30, no.1, pp.13-21, 2010 (SCI-Expanded)

IX. **Analysis and Peformance Reporting of a Solar-Powered Car in Long Road Competition**
    Kocaarslan İ., Gözde H., Taplamacıoğlu M. C., Şenol M. A.
    ISI BILIMI VE TEKNIGI DERGISI/ JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, vol.30, no.1, pp.13-21, 2010 (SCI-Expanded)

X. **Experimental modelling and simulation with adaptive control of power plant**

Kocaarslan İ., Cam E.

ENERGY CONVERSION AND MANAGEMENT, vol.48, no.3, pp.787-796, 2007 (SCI-Expanded)

XI. **An adaptive control application in a large thermal combined power plant**

Kocaarslan İ., Cam E.

ENERGY CONVERSION AND MANAGEMENT, vol.48, no.1, pp.174-183, 2007 (SCI-Expanded)

XII. **A fuzzy logic controller application for thermal power plants**

Kocaarslan İ., Cam E., TİRYAKİ H.

ENERGY CONVERSION AND MANAGEMENT, vol.47, no.4, pp.442-458, 2006 (SCI-Expanded)

XIII. **Fuzzy logic controller in interconnected electrical power systems for load-frequency control**

Kocaarslan İ., Cam E.

INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, vol.27, no.8, pp.542-549, 2005 (SCI-Expanded)

XIV. **A fuzzy gain scheduling PI controller application for an interconnected electrical power system**

Cam E., Kocaarslan İ.

ELECTRIC POWER SYSTEMS RESEARCH, vol.73, no.3, pp.267-274, 2005 (SCI-Expanded)

XV. **Load frequency control in two area power systems using fuzzy logic controller**

Cam E., Kocaarslan İ.

ENERGY CONVERSION AND MANAGEMENT, vol.46, no.2, pp.233-243, 2005 (SCI-Expanded)

XVI. **Application of Adaptive Control Concept in a 750 MW Coal Fired Power Plant**

Kocaarslan İ.

CONTROL ENGINEERING PRACTICE, vol.2, no.6, pp.1076-1100, 1993 (SCI-Expanded)

Articles Published in Other Journals

I. **Lyapunov based PI controller for PEM fuel cell based boost converter**

Kocaarslan İ., Kart S., Altun Y., Genc N.

International Journal of Renewable Energy Research, vol.10, no.1, pp.275-280, 2020 (ESCI)

II. **Comparison of ANN and ANFIS Methods for the Voltage-Drop Prediction on an Electric Railway Line**

Kocaarslan İ., Akcay M. T., Akgündoğdu A., Tiryaki H.

ELECTRICA, vol.18, no.1, pp.26-35, 2018 (Peer-Reviewed Journal)

III. **The modelling recorded faults in railways and prediction**

Karaman S., Kocaarslan İ., TİRYAKİ H., Bal E.

Istanbul University - Journal of Electrical and Electronics Engineering, vol.17, no.2, pp.3417-3423, 2017 (Scopus)

IV. **Optimization in Load Distribution Systems with Mixed Integer Linear Programming Algorithm**

Kocaarslan İ., Tiryaki H.

Uluslararası Muhendislik Arastirma ve Gelistirme Dergisi, vol.7, no.1, pp.2-11, 2015 (Peer-Reviewed Journal)

V. **Yük Dağıtım Sistemlerinde Karışık Tamsayı Programlama Algoritması ile Optimizasyon Optimization with Mixed Integer Programming Algorithm in Load Distribution System**

KOCAARSLAN İ., TİRYAKİ H.

International Journal of Engineering Research and Development (IJERD), 2015 (Peer-Reviewed Journal)

VI. **Power System Stabilizer Design for Rotor Angle Stability**

Kocaarslan İ., Eke İ., Taplamacıoğlu M. C.

Uluslararası Mühendislik Araştırma ve Geliştirme Dergisi, vol.3, no.2, pp.6-11, 2011 (Peer-Reviewed Journal)

VII. **Application of artificial bee colony algorithm in an automatic voltage regulator (AVR) system**

Kocaarslan İ., Taplamacıoğlu M. C., Gözde H.

International Journal on Technical and Physical Problems of Engineering, vol.2, no.3, pp.88-92, 2010 (Scopus)

VIII. **Load-frequency control in two area power system**

Kocaarslan İ.

Technology, vol.7, no.1-2, pp.197-203, 2004 (Peer-Reviewed Journal)

IX. **Defect detection in a cantilever beam from vibration data**

ÇAM E., LÜY M., KOCAARSLAN İ., TAPLAMACIOĞLU M. C.

Kirikkale University, 2002 (Peer-Reviewed Journal)

X. **Load Frequency Control in Single Area Power Systems using Fuzzy Logic**

Kocaarslan İ., Çam E.

Technology, vol.5, no.3-4, pp.73-77, 2002 (Peer-Reviewed Journal)

Books & Book Chapters

I. **Next Generation Roadmapping**

Kocaarslan İ., Özden A. E., Akay S., Daim Ü. T.

Springer, London/Berlin , Basel, 2023

Refereed Congress / Symposium Publications in Proceedings

I. **Hyperloop Kapsülü için Lineer Asenkron Motor Tasarımı**

Göksün B., Şen İ., Özer K., GÜLBAHÇE M. O., KOCAARSLAN İ.

Elektrik, Elektronik ve Biyomedikal Mühendisliği Konferansı, ELECO 2022, Bursa, Turkey, 24 - 26 November 2022

II. **Hyperloop Kapsülü için Manyetik Askılama Sistemi Tasarımı**

Uslu İ. E., Akkaş A. S., Özer K., GÜLBAHÇE M. O., KOCAARSLAN İ.

Elektrik, Elektronik ve Biyomedikal Mühendisliği Konferansı, ELECO 2022, Bursa, Turkey, 24 - 26 November 2022

III. **Controlling and Comparision of PEM Fuel Cell Based Cascade Boost Converter with Classic Control Methods**

Kocaarslan İ., Kart S., Genç N., Üzmuş H.

23rd World Hydrogen Energy Conference, İstanbul, Turkey, 26 - 30 June 2022, pp.1-10

IV. **High-Fidelity Electric Vehicle Energy Consumption Modelling and Investigation of Factors in Driving on Energy Consumption**

Kocaarslan İ., Zehir M. A., Uzun E., Uzun E. C., Korkmaz M. E., Cakiroglu Y.

4th IEEE Global Power, Energy and Communication Conference, GPECOM 2022, Cappadocia, Turkey, 14 - 17 June 2022, pp.227-231

V. **Determination of rail voltage depending on operational datas in a 1500 v DC subway line with artificial intelligence methods**

Akcay M. T., Kocaarslan İ., Bal E.

6th International Conference on Control Engineering and Information Technology, CEIT 2018, İstanbul, Turkey, 25 - 27 October 2018

VI. **Average Model of State Space and Small Signal Analysis of Cascade DC/DC Boost Converter**

Kocaarslan İ., Kart S., Genç N., Üzmuş H.

13th International Conference on Technical and Physical problems of Electrical Engineering, Van, Turkey, 21 - 23 September 2017, pp.139-143

VII. **Demiryolu Emniyet Yönetim Sisteminde RAMS ve Regresyon Analizi**

KOCAARSLAN İ., KOÇAK Y., TİRYAKİ H.

TRANSIST 8. Uluslararası Ulaşım Teknolojileri Sempozyumu ve Fuarı, 17 - 19 December 2015

VIII. **Application of Artificial Neural Networks for Safety Management Systems in Railways**

KARAMAN S., KOCAARSLAN İ., TİRYAKİ H.

International Congress on Advanced Railway Engineering, 2 - 04 March 2015

IX. **PRISMA and FTA Applications on Railway Safety Management System**

KOCAARSLAN İ., KARABACAK A. G., TİRYAKİ H.

International Congress on Advanced Railway Engineering, 2 - 04 March 2015

X. **Risk Matrix Application in Railways**

KOCAARSLAN İ., KARABACAK A. G., TİRYAKİ H., BAL E.

International Congress on Advanced Railway Engineering, 2 - 04 March 2015

XI. **Application of fuzzy reasoning to load-frequency control in two area power system**
Kocaarslan İ., Akalin G., ERFİDAN T.
1999 European Control Conference, ECC 1999, Karlsruhe, Germany, 31 August - 03 September 1999, pp.67-70

XII. **Application of fuzzy control concept in a 750MW coal fired power plant**
YEĞİN E., Kocaarslan İ., Ural A., Katircioglu A.
1999 European Control Conference, ECC 1999, Karlsruhe, Germany, 31 August - 03 September 1999, pp.2555-2559

XIII. **A swarm optimization based load frequency control application in a two area thermal power system**
Gözde H., TAPLAMACIOĞLU M. C., Kocaarslan İ.
6th International Conference on Electrical and Electronics Engineering, ELECO 2009, Bursa, Turkey, 5 - 08 November 2009

XIV. **The concept and implications of closed loop mill speed control tested on a NV40 mill in a coal fired power plant**
Kocaarslan İ., Becker F., Fechner H.
International Conference on Efficiency, Costs, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 95), İstanbul, Turkey, 11 - 14 July 1995, pp.776-781

XV. **Experimental modelling and adaptive power control of a 750 MW once-through boiler**
Unbehauen H., Kocaarslan İ.
Proceedings of the 11th Triennial World Congress of the International Federation of Automatic Control, Tallinn, Estonia, 13 - 17 August 1990, vol.6, pp.49-54

XVI. **Real-time adaptive control of electrical power and enthalpy for a 750 MW once-through boiler**
Unbehauen H., Keuchel U., Kocaarslan İ.
International Conference on CONTROL '91, Edinburgh, Saint Helena, 25 - 28 March 1991, vol.1, pp.42-47

Episodes in the Encyclopedia

I. **COMBINED CYCLE AND COMBINED HEAT AND POWER PROCESSES**
Kocaarslan İ., Ordys A. W., Grimble M. J.
UNESCO, Paris , pp.978-1-84826-436-6, 2004

Supported Projects

Kocaarslan İ., Project Supported by Higher Education Institutions, Unmanned Aerial Vehicle Design and Application, 2016 - 2017

Kocaarslan İ., Project Supported by Higher Education Institutions, Thermoelectric Transformer Cooling System Patent Project, 2016 - 2017

Kocaarslan İ., Project Supported by Higher Education Institutions, Improving university's performance of HORIZON2020 project fundings, 2016 - 2017

Kocaarslan İ., Project Supported by Higher Education Institutions, Application comparison of real-time conventional PID controllers using MATLAB (Simulink) with PLC in laboratory environment, 2015 - 2016

Kocaarslan İ., Project Supported by Higher Education Institutions, Analysis of Modern Railway Technologies, 2015 - 2016

Kocaarslan İ., Project Supported by Higher Education Institutions, Project Supported by Higher Education Institutions, Development of Computer-aided CER Simulation Program for Railways, 2013 - 2016

Kocaarslan İ., Project Supported by Higher Education Institutions, Application of Modern Control Methods in Load Distributipn Systems, 2013 - 2014

Kocaarslan İ., Project Supported by Higher Education Institutions, İş Sağlılığı ve Güvenliği, 2013 - 2013

Kocaarslan İ., Project Supported by Higher Education Institutions, Development and Course Content Improvement of the

Control and Automation System Laboratory, 2012 - 2013

Kocaarslan İ., Project Supported by Higher Education Institutions, Analysis and Peformance Reporting of a Solar-Powered Car in Long Road Competition, 2012 - 2012

Kocaarslan İ., Project Supported by Higher Education Institutions, Comparative Performance Analysis of Synchronous Operation of 2 Different Systems with Programmable Logic Controller PLC and Servo Motor, 2011 - 2012

Kocaarslan İ., Project Supported by Higher Education Institutions, Establishment and Course Material Preparation of Control Laboratory, 2009 - 2010

Metrics

Publication: 50
Citation (WoS): 564
Citation (Scopus): 900
H-Index (WoS): 8
H-Index (Scopus): 11

Awards

Kocaarslan İ., TCDD High-speed Train Project Study Award , Tcdd, June 2020

Kocaarslan İ., The Award for Bringing the Largest Industry Project to Istanbul University, İstanbul Üniversitesi, June 2018

Kocaarslan İ., TUBITAK Altarnative Energy Vehicle Races Electromobile Category Second Place, Tübitak, June 2015

Kocaarslan İ., TUBITAK Altarnative Energy Vehicle Races Electromobile Category First Place, TUBITAK, Tübitak, June 2014

Kocaarslan İ., World Solar Challenge Race World 8th Place, World Solar Challenge, August 2011

Kocaarslan İ., TUBITAK Formula-G 2011 Races First Place, Tübitak, June 2011

Kocaarslan İ., TUBITAK Formula-G 2010 Races First Place, Tübitak, June 2010

Kocaarslan İ., Scientific Committee Director fort he Symposium of Kirikkale in the beginning of the 21st Century, Kırıkkale Sempozyumu, June 2003

Kocaarslan İ., Kirikkale University Scientific Publication Award, Kırıkkale Üniversitesi, March 2001

Non Academic Experience

İstanbul Üniversitesi
Kırıkkale Üniversitesi
Kocaeli Üniversitesi
Babcock Prozessautomation