Prof. Tarkan SANDALCI

Personal Information

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Education Information

Doctorate, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Makine, Turkey 1997 - 2005
Postgraduate, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Makine, Turkey 1994 - 1997
Undergraduate, Yildiz Technical University, Faculty Of Mechanical Engineering, Makine Mühendisliği, Turkey 1990 - 1994

Dissertations

Doctorate, Motorlarda değişken oktan sayılı yakıt kullanımını sağlamak için çift yakıt sisteminin geliştirilmesi, Yıldız Teknik Üniversitesi, Fbe, Makine Mühendisliği, 2005
Postgraduate, Otto motorlarında piston konstrüksiyonunun egzos emisyonlarına etkilerinin araştırılması, Yıldız Teknik Üniversitesi, Fbe, Makine Mühendisliği, 1997

Research Areas

Mechanical Engineering, Vehicle Systems Dynamics, Mechatronics, Thermodynamics, Internal Combustion Engines, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Deparment Of Mechanical Engineering, 2015 - Continues
Assistant Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Deparment Of Mechanical Engineering, 2006 - 2015

Courses

Supercharging of internal combustion engines, Doctorate, 2019 - 2020
Alternative and Electric Vehicle Driving Systems, Postgraduate, 2018 - 2019
SENSORS AND ACTUATORS IN VEHICLES, Undergraduate, 2019 - 2020
Motor Dinamiği, Undergraduate, 2017 - 2018
TAŞIT VE ÇEVRE, Undergraduate, 2017 - 2018

Advising Theses

Sandalcı T., Pozitif Ateşlemeli Doğalgaz Yakıtlı Bir Motorda Çevrim Atlatma Yöntemlerinin Araştırılması, Doctorate, E.TUNÇER(Student), 2021
Sandalcı T., Dizel-etanol yakıtlı bir motorun hibrit kullanımında post püskürtmenin emisyonlara etkilerinin modellenmesi, Doctorate, H.GÜRBÜZ(Student), 2019
Sandalcı T., Değişken geometrili türbin kullanımının dizel motor performans karakteristiklerine etkilerinin incelenmesi, Postgraduate, M.ÖZTÜRK(Student), 2019
Sandalcı T., Hibrit araçlarda uygun güç yönetim stratejilerinin belirlenmesi, Postgraduate, M.BAŞYİĞİT(Student), 2019
Sandalcı T., Çift yakıtlı motorlarda performans ve emisyon optimizasyonu, Doctorate, Y.KARAGÖZ(Student), 2017
Sandalcı T., Ticari ağır vasıtalarda diferansiyel dişli kutusu kaynaklı gürültünün analizi, Postgraduate, E.TAŞPINAR(Student), 2017
Sandalcı T., DİZEL MOTORLARINDA ISI SALINIMININ AZOT OKSİT EMİSYONLARINA ETKİSİNİN TEORİK VE DENEYSEL OLARAK ARAŞTIRILMASI, Doctorate, L.YÜKSEK(Student), 2016
Sandalcı T., İçten yanmalı motorlarda hidrojenin alternatif yakıt olarak kullanılması, Postgraduate, Y.KARAGÖZ(Student), 2016
Sandalcı T., DİZEL MOTORLARDA MOTORİN-ALTERNATİF GAZ YAKIT KARIŞIMININ KULLANILMASININ MOTOR PERFORMANSI VE EMİSYONLARA ETKİSİNİN İNCELENMESİ, Postgraduate, İ.Güler(Student), 2016
Sandalcı T., Elektronik yakıt sistemi uyarlanmış bir dizel motorunda performans açısından püskürtme karakteristiklerinin belirlenmesi, Postgraduate, E.TUNÇER(Student), 2016

Taught Courses And Trainings

Sandalcı T., TEMEL BİLİRKİŞİLİK EĞİTİMİ, 2019 - 2019

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Algorithm development for modelling dynamic stiffness of driveshaft center bearing bushing Kardan mili askı kauçuğuna ait dinamik katılığın modellenmesi için algoritma geliştirilmesi**
SANDALCI T., Taşpınar E.
Journal of the Faculty of Engineering and Architecture of Gazi University, vol.39, no.2, pp.665-677, 2024 (SCI-Expanded)
II. **Numerical analysis of diesel injection strategies on emissions and performance in CH4/diesel powered RCCI diesel engine with high ratio EGR**
Gürbüz H., Sandalcı T.
Alexandria Engineering Journal, vol.64, pp.517-526, 2023 (SCI-Expanded)
III. **Exergy and environmental analyses of natural gas and biogas fuels in an internal combustion engine at part load**
Bulbul Y., Arbak A., Karagöz Y., Karagöz S., Sandalcı T., Pusat Ş.
International Journal of Exergy, vol.42, no.4, pp.337-349, 2023 (SCI-Expanded)
IV. **Energy and exergy analyses of skipped cycle mode in a single-cylinder engine fuelled with diesel and natural gas**
Tuncer E., Doğan B., Sandalcı T., Erol D.
INTERNATIONAL JOURNAL OF EXERGY, vol.39, no.2, pp.173-194, 2022 (SCI-Expanded)
V. **Investigation of cycle skipping methods in an engine converted to positive ignition natural gas engine**
Tuncer E., Sandalcı T., Karagöz Y.
ADVANCES IN MECHANICAL ENGINEERING, vol.13, no.9, 2021 (SCI-Expanded)
VI. **Modeling of post-injection strategies of ethanol and experimental analysis of the use of ethanol in**

the form of dual fuel and emulsion in diesel engine
Sandalcı T., Gürbüz H.
Thermal Science, vol.25, no.5B, pp.3825-3835, 2021 (SCI-Expanded)

VII. **Cycle-skipping strategy with intake air cut off for natural gas fueled Si engine**
Tunçer E., Sandalcı T., Pusat Ş., Balcı Ö., Karagöz Y.
Science Progress, vol.104, no.3, 2021 (SCI-Expanded)

VIII. **Effect of hythane enrichment on performance, emission and combustion characteristics of an ci engine**
SANDALCI T., IŞIN Ö., Galata S., Karagoz Y., GULER I.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.44, no.5, pp.3208-3220, 2019 (SCI-Expanded)

IX. **Effect of hydrogen-diesel dual-fuel usage on performance, emissions and diesel combustion in diesel engines**
Karagoz Y., Sandalcı T., Yüksek L., Dalkılıç A. S., Wongwıses S.
ADVANCES IN MECHANICAL ENGINEERING, vol.8, no.8, 2016 (SCI-Expanded)

X. **Effect of the use of natural gas diesel fuel mixture on performance emissions and combustion characteristics of a compression ignition engine**
KARAGÖZ Y., SANDALCI T., KÖYLÜ Ü., DALKILIÇ A. S., WONGWİSES S.
ADVANCES IN MECHANICAL ENGINEERING, vol.8, pp.1-13, 2016 (SCI-Expanded)

XI. **Effects of hydrogen and methane addition on combustion characteristics, emissions, and performance of a CI engine**
Karagoz Y., Guler I., Sandalcı T., Yüksek L., Dalkılıç A. S., Wongwıses S.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.41, no.2, pp.1313-1325, 2016 (SCI-Expanded)

XII. **Effect of hydrogen enrichment on combustion characteristics, emissions and performance of a diesel engine**
Karagoz Y., Güler I., Sandalcı T., Yüksek L., Dalkılıç A. S.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.41, no.1, pp.656-665, 2016 (SCI-Expanded)

XIII. **Effect of hydrogen and oxygen addition as a mixture on emissions and performance characteristics of a gasoline engine**
KARAGÖZ Y., YUCA N., SANDALCI T., DALKILIÇ A. S.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.40, no.28, pp.8750-8760, 2015 (SCI-Expanded)

XIV. **Effects of hydrogen and oxygen enrichment on performance and emissions of an SI engine under idle operating condition**
Karagoz Y., SANDALCI T., DALKILIÇ A. S.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.40, no.28, pp.8607-8619, 2015 (SCI-Expanded)

XV. **Engine performance and emission effects of diesel burns enriched by hydrogen on different engine loads**
Karagoz Y., Sandalcı T., Yüksek L., Dalkılıç A. S.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.40, no.20, pp.6702-6713, 2015 (SCI-Expanded)

XVI. **EFFECT OF HYDROGEN ADDITION ON EXHAUST EMISSIONS AND PERFORMANCE OF A SPARK IGNITION ENGINE**
Karagoz Y., Orak E., Yüksek L., Sandalcı T.
ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL, vol.14, no.3, pp.665-672, 2015 (SCI-Expanded)

XVII. **An experimental investigation on the performance characteristics of a hydroxygen enriched gasoline engine with water injection**
Karagoz Y., Yüksek L., Sandalcı T., Dalkılıç A. S.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.40, no.1, pp.692-702, 2015 (SCI-Expanded)

XVIII. **Experimental investigation of the combustion characteristics, emissions and performance of hydrogen port fuel injection in a diesel engine**
SANDALCI T., Karagoz Y.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.39, no.32, pp.18480-18489, 2014 (SCI-Expanded)

XIX. **An Experimental Investigation of Ethanol-Diesel Blends on Performance and Exhaust Emissions of**

Diesel Engines
Sandalcı T., Karagoz Y., Orak E., Yüksek L.
ADVANCES IN MECHANICAL ENGINEERING, 2014 (SCI-Expanded)

XX. **MODELLING THE EFFECT OF INJECTION PRESSURE ON HEAT RELEASE PARAMETERS AND NITROGEN OXIDES IN DIRECT INJECTION DIESEL ENGINES**
Yüksek L., Sandalcı T., Özener O., Ergenç A. T.
THERMAL SCIENCE, vol.18, no.1, pp.155-168, 2014 (SCI-Expanded)

XXI. **Cycle-skipping strategies for pumping loss reduction in spark ignition engines: An experimental approach**
Yüksek L., Özener O., Sandalcı T.
ENERGY CONVERSION AND MANAGEMENT, vol.64, pp.320-327, 2012 (SCI-Expanded)

XXII. **CONDITION MONITORING OF OPTIMUM OIL DRAIN INTERVAL FOR FIVE DIESEL LIGHT DUTY COMMERCIAL VEHICLES SERVICING FOR A PARCEL SERVICE FIRM IN TURKEY**
KALELI H., SANDALCI T.
JOURNAL OF THE BALKAN TRIBOLOGICAL ASSOCIATION, vol.17, no.2, pp.289-304, 2011 (SCI-Expanded)

XXIII. **Comparison of EGR ratios determined by four different methods for electronic re-circulation gate control**
Ozkan M., Sandalci T., Ozkan D. B.
INTERNATIONAL JOURNAL OF ENVIRONMENT AND POLLUTION, vol.23, no.2, pp.223-231, 2005 (SCI-Expanded)

XXIV. **Experimental study of the effect of top-ring clearance volume on unburned hydrocarbon concentrations**
Ozkan M., Deniz O., Sandalci T.
INTERNATIONAL JOURNAL OF ENVIRONMENT AND POLLUTION, vol.18, no.2, pp.197-201, 2002 (SCI-Expanded)

Articles Published in Other Journals

I. **Investigation of Effects of Fumigation on Performance and Emission in Dual Fuel Engines Injection-Controlled With Electronic Card**
GÜRBÜZ H., SANDALCI T.
International Journal of Engineering Research and Advanced Technology (IJERAT), vol.5, no.3, pp.24-31, 2019 (Peer-Reviewed Journal)

Books & Book Chapters

I. **EXAMINATION OF USAGE OF NATURAL GAS/DIESEL DUAL FUELS IN SERIES-DRIVEN HYBRID VEHICLES**
Karagöz Y., Sandalcı T., Köten H. (Editor)
in: Recent Researches in ENGINEERING SCIENCES, Assoc. Prof. Dr. Hasan KOTEN, Editor, Livre de Lyon, Lyon, pp.20-51, 2021

Refereed Congress / Symposium Publications in Proceedings

I. **Cycle Skipping Strategies For Natural Gas SI Engine**
Tunçer E., Sandalcı T., Pusat Ş., Balcı Ö., Karagöz Y.
International Conference on Progresses in Automotive Technologies 2020, İstanbul, Turkey, 28 - 29 December 2020, pp.1-7

II. **Pozitif Ateşlemeli Doğal Gazlı Motora Dönüştürülmüş Bir Motorda Çevrim Atlatma Yöntemlerinin Araştırılması**

Tunçer E., Sandalcı T.
5th International Mediterranean Science and Engineering Congress (IMSEC 2020), 21 - 23 October 2020, pp.241-250

III. **EFFECT OF DIFFERENT RATIO OF DIESEL INJECTION ON A HYDROGEN FUELED CI ENGINE PERFORMANCE AND EMISSIONS**
SANDALCI T., GEZER O., KARAGÖZ Y., KÖTEN H.
10th International Conference on Hydrogen Production ICH2P 2019, 15 - 17 May 2019

IV. **Energy Management Optimization by Using Discrete Dynamic Programming for Plug-In Complex HEV**
Sandalcı T., Başyiğit M.
Proceedings of GSRD International Conference, İstanbul, Turkey, 21 March 2019, pp.27-33

V. **EFFECT OF USING ETHANOL-DIESEL MIXTURE ONPERFORMANCE AND EMISSIONS OF A DIESELENGINE**
KARAGÖZ Y., SANDALCI T.
1st INTERNATIONAL CONFERENCE ON PROGRESS INAPPLIED SCIENCE, 4 - 06 January 2017

VI. **An experimental investigation on the use of natural gas diesel fuel mixture on performance and emissions of a CI engine**
Karagöz Y., Sandalcı T., Işın Ö., Dalkılıç A. S.
International Conference on Mechanical and Production Engineering, Bangkok, Thailand, 13 - 14 July 2016, pp.1-15

VII. **Thermoeconomic analysis aimed parametric study on the vapor compression system cascaded with NH3 water absorption cascade refrigeration cycle**
Dalkılıç A. S., Celen A., Çebi A., Sandalcı T., Berk M., Semih O.
International Conference on Mechanical and Production Engineering, Chon-Buri, Thailand, 13 - 14 July 2016, pp.1-15

VIII. **EFFECT OF HYDROGEN ENRICHMENT ON PERFORMANCE AND EMISSIONS OF A DIESEL ENGINE AT DIFFERENT ENGINE LOADS**
KARAGÖZ Y., SANDALCI T.
CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING ISTANBUL 2016 – ICAME2016, 11 - 13 May 2016

IX. **EFFECT OF DIFFERENT LEVEL HYDROGEN ADDITION ON PERFORMANCE AND EMISSIONS OF AN CI ENGINE**
KARAGÖZ Y., SANDALCI T.
CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING ISTANBUL 2016 – ICAME2016, 11 - 13 May 2016

X. **EFFECT OF USING NATURAL GAS DIESEL FUEL MIXTURES ON PERFORMANCE AND EMISSIONS OF A COMPRESSION IGNITION ENGINE**
KARAGÖZ Y., ÖZENER O., SANDALCI T.
INTERNATIONAL CONFERENCE ON ENERGY SYSTEMS ISTANBUL 2015 - ICES'xx1523-25 December 2015, Yildiz Technical University, Istanbul, Turkey, 23 - 25 December 2015

XI. **EXPERIMENTALLY DETERMINATION OF INJECTION CHARACTERISTIC OF A MECHANICAL FUEL SYSTEM EQUIPPED DIESEL ENGINE CONVERTED TO COMMON RAIL FUEL SYSTEM**
Tunçer E., Sandalcı T., Karagöz Y., Dalkılıç A. S.
INTERNATIONAL CONFERENCE ON ENERGY SYSTEMS ISTANBUL, İstanbul, Turkey, 23 - 25 December 2015, pp.1-15

XII. **EFFECT OF FUEL TEMPERATURE ON PERFORMANCE AND EMISSIONS OF ACOMPRESSION IGNITIONENGINE**
Karagöz Y., Guler İ., Duymaz G., Yüksek L., Sandalcı T., Dalkılıç A. S.
INTERNATIONAL CONFERENCE ON ENERGY SYSTEMS ISTANBUL, İstanbul, Turkey, 23 - 25 December 2015, pp.1-15

XIII. **Calculation of Vehicle Emissions for Istanbul and Alternative Solutions for Emission Reduction**
Karagöz Y., Orak E., Sandalcı T., Cebeci Ö., Yılmaz A.
6th Automotive Technologies Congress, Bursa, Turkey, 01 June 2012, vol.6, pp.400-406

XIV. **Effects of Hydrogen Addition on Combustion and Emission Characteristics of a SI Engine at Idle Condition**

SANDALCI T.
Proceedings of the International Conference on Hydrogen Production, 01 June 2011

XV. **An Experimental Investigation on Performance Characteristics and Emissions of Hydrogen in SI Engine as Supplementary Fuel**
SANDALCI T.
11th International Combustion Symposium, 01 June 2010

XVI. **An Experimental Investigation of Performance and Emission Characteristics of a SI Engine Which is Used with Hydrogen Gas and H2CH4 Gas Mixture as Fuel**
SANDALCI T.
5th Automotive Technologies Congress, 01 June 2010

XVII. **An Experimental Investigation on Performance Characteristic of Hydrogen in SI Engine as Supplementary Fuel**
SANDALCI T.
5th Automotive Technologies Congress, 01 June 2010

XVIII. **Experimental and Comparative Study Using High Pressure Hydrogen Tank and Electrolyzer in SI Engines as Supplementary Fuel**
SANDALCI T.
Proceedings of the International Conference on Hydrogen Production, 01 June 2010

XIX. **An Experimental Investigation on Performance Characteristic of a Hydrogen Fuelled SI Engine**
SANDALCI T.
4th Automotive Technologies Congress, 01 June 2008

XX. **The Experimental Investigation of Exhaust Emissions of Biodiesel Fuelled Diesel Engine**
ÖZKAN M., SANDALCI T., ERGENÇ A. T., IŞIN Ö.
Internatıonal Conference on Applıed Thermodynamıcs konferansı ATC'05, İstanbul, Turkey, 18 - 20 May 2005, pp.331-335

XXI. **The performance characteristics of Biodiesel Fuelled Diesel Engine**
ÖZKAN M., IŞIN Ö., ERGENÇ A. T., SANDALCI T.
Internatıonal Conference on Applıed Thermodynamıcs konferansı ATC'05, İstanbul, Turkey, 18 - 20 May 2005, pp.501-504

XXII. **Experimental Study of Air Motion Effect in Piston-Ring Crevices and its Surface/Volume Ratio on Hydrocarbon Concentration**
ÖZKAN M., Sandalcı T., Deniz O.
5thCombustion Symposium, 01 July 1997, vol.1, pp.189-195

Supported Projects

Erdem H. H., Sandalcı T., Sezer S., Yüksek L., TUBITAK Project, HİBRİT ELEKTRİKLİ ARAÇLARA YÖNELİK ALTERNATİF GAZ YAKITLARI KULLANABİLECEK DİESEL MOTOR VE MOTOR YÖNETİM SİSTEMİNİN GELİŞTİRİLMESİ, 2016 - 2019
SANDALCI T., Project Supported by Higher Education Institutions, Çift Yakıtlı Motorlarda Performans ve Emisyon Optimizasyonu, 2014 - 2019
SANDALCI T., Project Supported by Higher Education Institutions, İçten Yanmalı Motorlarda Hidrojenin Alternatif Yakıt Olarak Kullanilması., 2011 - 2014
SANDALCI T., Project Supported by Higher Education Institutions, Dizel Motorlarında Isı Salınımının Nox Emisyonlarına Etkisinin Teorik Ve Deneysel Olarak Araştırılması., 2011 - 2013
ÖZKAN M., SANDALCI T., Industrial Thesis Project, 1500-2250 Devirde 20-25 kW Güç Üretmek Üzere Tasarımı Yapılmış Tek Silindirli Bir Dizel Motorunun Performans ve Emisyonlarının Optimizasyonu, 2010 - 2012
Sandalcı T., Demir C., Industrial Thesis Project, 1550 2250 d d da 20 25 kW Güç Üretmek Üzere Tasarımı Yapılmış Tek Silindirli Bir Dizel Motoru nun Performans ve Emisyonlarının Optimizasyonu, 2010 - 2012
Özener O., Sandalcı T., Project Supported by Higher Education Institutions, Determining and Comparing the Optimum EGR Strategy for the Case of Using Bio-Diesel in a Diesel Engine , 2006 - 2009

SANDALCI T., IŞIN Ö., Other International Funding Programs, Motorlarda Değişken Oktan Sayılı Yakıt Kullanımı Sağlamak İçin Çift Yakıt Sisteminin Araştırılması, 2003 - 2005

Metrics

Publication: 49
Citation (WoS): 500
Citation (Scopus): 645
H-Index (WoS): 13
H-Index (Scopus): 12

Awards

Dalkılıç A. S., Karagöz Y., Sandalcı T., Yüksek L., Wongwıses S., Article of the Month: Effect of Hydrogen–Diesel Dual-Fuel Usage on Performance, Emissions and Diesel Combustion in Diesel Engines, Advances İn Mechanical Engineering , August 2016