

Assoc. Prof. AHMET YILDIZ

Personal Information

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International Researcher IDs

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Education Information

Doctorate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (Dr), Turkey 2013 - 2017

Postgraduate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (YI) (Tezli), Turkey 2011 - 2013

Undergraduate, Selcuk University, Faculty Of Engineering, Department Of Mechanical Engineering, Turkey 2005 - 2009

Foreign Languages

Italian, B2 Upper Intermediate

English, C2 Mastery

Certificates, Courses and Trainings

Foreign Language, ODTÜ Yabancı Dil Hazırlık Programı, Orta Doğu Teknik Üniversitesi, 2009

Dissertations

Doctorate, Taşıtlarda kullanılan zincirli bir sürekli değişken güç aktarma sisteminin dinamik davranışı ile kontrolünün teorik ve deneysel incelenmesi, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (Dr), 2017

Postgraduate, Mekanik preslerde kullanılmaya uygun bir sürekli değişken aktarma organının tasarımı ve analizi, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (YI) (Tezli), 2013

Research Areas

Machine Theory and Dynamics, Machine Dynamics, System Dynamics and Control, Mechanisms, Vehicle Systems Dynamics, Robotics, Mechatronics, Modeling and Simulation of Dynamic Systems, Mechanical Vibrations, Finite Element Methods, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, MAKİNA MÜHENDİSLİĞİ, 2021 - Continues
Assistant Professor, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, OTOMOTİV MÜHENDİSLİĞİ, 2018 - 2021
Research Assistant, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, MAKİNA MÜHENDİSLİĞİ, 2011 - 2017
Research Assistant, Politecnico di Bari, Mechanical Engineering, 2014 - 2015

Academic and Administrative Experience

Deputy Head of Department, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, MAKİNA MÜHENDİSLİĞİ, 2023 - Continues
Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, Otomotiv Mühendisliği Bölümü, 2018 - 2019

Courses

Taşıt Sistemlerinin Simülasyonu, Undergraduate, 2020 - 2021
Mekanizma Tekniği, Undergraduate, 2017 - 2018
İleri Taşıt Dinamiği, Postgraduate, 2017 - 2018
Taşıt Dinamiği, Undergraduate, 2017 - 2018
Mekanik Sistemlerin Bilgisayar Destekli Analizi, Postgraduate, 2017 - 2018
Mühendislik Matematiği, Undergraduate, 2017 - 2018
Machine Dynamics, Undergraduate, 2017 - 2018
Bilgisayar Destekli Mühendislik, Undergraduate, 2017 - 2018

Advising Theses

YILDIZ A., Theoretical and experimental investigation of arc springs used in dual-mass flywheel, Postgraduate, S.Fidancıoğulları(Student), 2021
Yıldız A., Üç boyutlu yazıcı ile üretilmiş pedal piminin mekanik dayanımının üretim parametrelerine bağlı olarak optimizasyonu, Postgraduate, M.ALİ(Student), 2021
Yıldız A., Fuzzy logic based multi-objective optimization of active suspension system of 4x4 in-wheel motor driven electrical vehicle, Postgraduate, Ö.BİNGÜL(Student), 2021
Yıldız A., A comparative study on the control of the active suspension system of an electric vehicle with in-wheel motor by using PID and fuzzy logic methods, Postgraduate, M.TAYYIP(Student), 2020

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Development of a New Sound Quality Parameter for Road Noise Perception Inside Vehicle Cabinet**
Ozkan A., Yildiz M., Yildiz A.
Applied Sciences (Switzerland), vol.14, no.22, 2024 (SCI-Expanded)
- II. **Multi-Objective Optimization of Three-Stage Turbomachine Rotor Based on Complex Transfer Matrix Method**
Niş H. T., YILDIZ A.
Applied Sciences (Switzerland), vol.14, no.22, 2024 (SCI-Expanded)
- III. **Free vibration analyses of 3D printed plates with different geometric fillings: experimental testing and numerical simulations**
YILDIZ A., İbrahim E., Erol O., GÜLER ÖZGÜL H.
ZEITSCHRIFT FÜR NATURFORSCHUNG SECTION A-A JOURNAL OF PHYSICAL SCIENCES, vol.79, no.10, pp.987-996, 2024 (SCI-Expanded)
- IV. **Experimental testing and numerical simulations of 3D-printed PETG pins used for vehicle pedals**

Koksal M. A., YILDIZ A.

Materialpruefung/Materials Testing, vol.66, no.7, pp.1084-1094, 2024 (SCI-Expanded)

- V. **Analysis of the vibration characteristics of a variable cross section rotor using the complex transfer matrix method and comparison with different methods** Kompleks transfer matris yöntemi ile değişken kesitli bir rotorun titreşim karakteristiğinin analizi ve farklı yöntemlerin karşılaştırılması
Niş H. T., YILDIZ A.
Journal of the Faculty of Engineering and Architecture of Gazi University, vol.39, no.3, pp.1649-1660, 2024 (SCI-Expanded)
- VI. **Fuzzy logic and proportional integral derivative based multi-objective optimization of active suspension system of a 4×4 in-wheel motor driven electrical vehicle**
Bingül Ö., Yıldız A.
JVC/Journal of Vibration and Control, vol.29, no.5-6, pp.1366-1386, 2023 (SCI-Expanded)
- VII. **Optimal Design of a Five-Bar Planar Manipulator and Its Controller by Using Different Algorithms for Minimum Shaking Forces and Moments for the Largest Trajectory in a Usable Workspace**
Kavala Sen D., Yıldız A., Kopmaz O.
Machines, vol.10, no.11, 2022 (SCI-Expanded)
- VIII. **Structural design optimization of the arc spring and dual-mass flywheel integrated with different optimization methods**
YILDIZ A., Yılmaz O., Karabulut H.
MATERIALS TESTING, vol.64, no.2, pp.240-248, 2022 (SCI-Expanded)
- IX. **A comparative study of energy consumption and recovery of autonomous fuel-cell hydrogen–electric vehicles using different powertrains based on regenerative braking and electronic stability control system**
YILDIZ A., ÖZEL M. A.
Applied Sciences (Switzerland), vol.11, no.6, 2021 (SCI-Expanded)
- X. **Parametric synthesis of two different trunk lid mechanisms for sedan vehicles using population-based optimisation algorithms**
Yildiz A., Uluda B.
MECHANISM AND MACHINE THEORY, vol.156, 2021 (SCI-Expanded)
- XI. **Characterization of the torsional vibration behavior of circular and rectangular cross-sectional arc springs: Theory and experiments**
Fidanciogullari S., YILDIZ A.
MATERIALS TESTING, vol.63, no.2, pp.113-118, 2021 (SCI-Expanded)
- XII. **A comparative study on the optimal non-linear seat and suspension design for an electric vehicle using different population-based optimisation algorithms**
YILDIZ A.
INTERNATIONAL JOURNAL OF VEHICLE DESIGN, vol.80, pp.241-256, 2019 (SCI-Expanded)
- XIII. **Experimental validation of the Carbone-Mangialardi-Mantriota model of continuously variable transmissions**
Yildiz A., Bottiglione F., Piccininni A., KOPMAZ O., Carbone G.
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART D-JOURNAL OF AUTOMOBILE ENGINEERING, vol.232, no.6, pp.828-837, 2018 (SCI-Expanded)
- XIV. **Control-Oriented Modelling with Experimental Verification and Design of the Appropriate Gains of a PI Speed Ratio Controller of Chain CVTs**
YILDIZ A., KOPMAZ O.
STROJNISKI VESTNIK-JOURNAL OF MECHANICAL ENGINEERING, vol.63, no.6, pp.374-382, 2017 (SCI-Expanded)
- XV. **Modeling chain continuously variable transmission for direct implementation in transmission control**
Yildiz A., Piccininni A., Bottiglione F., Carbone G.
MECHANISM AND MACHINE THEORY, vol.105, pp.428-440, 2016 (SCI-Expanded)
- XVI. **Dynamic modeling and analysis of a four-bar mechanism coupled with a CVT for obtaining variable**

input speeds

YILDIZ A., KOPMAZ O., TELLİ ÇETİN S.

JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY, vol.29, no.3, pp.1001-1006, 2015 (SCI-Expanded)

XVII. Dynamic analysis of a mechanical press equipped with a half-toroidal continuously variable transmission

Yildiz A., Kopmaz O.

INTERNATIONAL JOURNAL OF MATERIALS & PRODUCT TECHNOLOGY, vol.50, no.1, pp.22-36, 2015 (SCI-Expanded)

Articles Published in Other Journals

- I. **Design and Analysis of Modular Support Arm Mechanism for Heavy Commercial Vehicle Suspension Systems**
ALTINEL K., YILDIZ A., Yuce C.
Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.11, no.3, pp.794-803, 2023 (Peer-Reviewed Journal)
- II. **FARKLI GÜÇ AKTARMA SİSTEMLERİNE SAHİP HİDROJEN ENERJİLİ ELEKTRİKLİ ARAÇLARIN ENERJİ TÜKETİMİ VE GERİ KAZANIMLARININ KARŞILAŞTIRILMASI**
YILDIZ A., ÖZEL M. A., KOPMAZ O.
Uludağ University Journal of The Faculty of Engineering, vol.24, no.2, pp.91-102, 2019 (Peer-Reviewed Journal)
- III. **A STUDY ON THE BASIC CONTROL OF SPEED RATIO OF THE CVT SYSTEM USED FOR ELECTRIC VEHICLES**
YILDIZ A., KOPMAZ O.
International Journal of Advances in Engineering and Technology, vol.10, no.2, pp.201-209, 2017 (Peer-Reviewed Journal)
- IV. **MATHEMATICAL MODELLING AND SIMULATION OF A TORSIONAL BAR ACTUATED TRUNK LID MECHANISM FOR A PASSENGER CAR**
YILDIZ A., KOPMAZ O.
International Journal of Advances in Engineering and Technology, vol.10, no.1, pp.1-9, 2017 (Peer-Reviewed Journal)
- V. **EXPERIMENTAL AND COMPUTATIONAL VALIDATION OF AN ANALYTICAL MODEL OF FREE VIBRATION OF A RECTANGULAR PLATE CARRYING A DISTRIBUTED MASS**
YILDIZ A., KOPMAZ O.
International Journal of Advances in Engineering Technology, vol.20, no.2, pp.233-242, 2017 (Peer-Reviewed Journal)
- VI. **YARIM TORUS ŞEKİLLİ BİR SÜREKLİ DEĞİŞKEN AKTARMA SİSTEMİNİN TASARIMI ANALİZİ VE İMALATI**
YILDIZ A., KOPMAZ O.
Mühendis ve Makina, vol.56, no.671, pp.53-58, 2015 (Peer-Reviewed Journal)
- VII. **BİNEK ARAÇLARDA KULLANILAN GAZLI PİSTONLU BAGAJ KAPAĞI AÇMA KAPAMA MEKANİZMALARININ İNCELENMESİ**
YILDIZ A., KOPMAZ O., Yusuf G.
Uludağ University Journal of The Faculty of Engineering, vol.20, no.2, pp.1-10, 2015 (Peer-Reviewed Journal)
- VIII. **Toroidal Continuously Variable Transmission Systems Terminology and Present Studies**
YILDIZ A., KOPMAZ O.
Uludağ University Journal of The Faculty of Engineering, vol.19, no.1, pp.59-80, 2014 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **Bilgisayar Destekli Mühendislik**
YILDIZ A.
Medyay, 2022
- II. **Mühendislik Matematiği**
KOPMAZ O., TELLİ ÇETİN S., YILDIZ A.
Dora Basım-Yayın Dağıtım Ltd.Şti., 2019

Refereed Congress / Symposium Publications in Proceedings

- I. **JOEROT ROTOR DYNAMICS TOOLBOX BASED ON COMPLEX TRANSFER MATRIX METHOD**
Niş H. T., YILDIZ A., Kılıçaslan A.
ASME Turbo Expo 2023: Turbomachinery Technical Conference and Exposition, GT 2023, Massachusetts, United States Of America, 26 - 30 June 2023, vol.11B
- II. **ÜÇ BOYUTLU YAZICI İLE ÜRETİLEN PLA ESASLI BİR PLAĞIN SERBEST TİTREŞİM ANALİZİ: SAYISAL SİMÜLASYON VE DENEYSEL DOĞRULAMA**
YILDIZ A., GÜLER ÖZGÜL H.
Uluslararası Mühendislik Bilimleri ve Multidisipliner Yaklaşımlar Kongresi, Turkey, 23 February 2021
- III. **Optimum suspension design for non-linear half vehicle model using particle swarm optimization (PSO) algorithm**
YILDIZ A.
The 41st International JVE Conference, Germany, 30 September - 01 October 2019
- IV. **ANALYSIS OF A TRUNK LID MECHANISM USING MSC ADAMS SOFTWARE AND ITS COMPARISON WITH THE MATHEMATICAL MODEL**
YILDIZ A., KOPMAZ O.
9th International Conference on Automotive Technologies, 7 - 08 May 2018
- V. **YENİ MODEL BİR BİNEK ARACI İÇİN BAGAJ KAPAĞI AÇMA KAPAMA MEKANİZMASININ TASARIMI VE TEST SÜRECİ**
KOPMAZ O., YILDIZ A., Atik N.
International Conference on Machine Design and Production, 12 July 2016
- VI. **Testing the CMM model of chain CVT transmissions in steady state and shifting conditions**
YILDIZ A., Piccininni A., Bottiglione F., Carbone G.
International VDI Conference on CVT in Automotive Applications, 21 June 2016
- VII. **ZİNCİRLİ BİR SDA CVT SİSTEMİNİN HIZ KONTROLÜNÜN DENEYSEL İNCELENMESİ**
YILDIZ A., KOPMAZ O.
1st International Conference on Engineering Technology and Applied Sciences, 21 - 22 April 2016
- VIII. **Zincirli Bir SDA CVT Sisteminin Hız Kontrolünün Deneysel İncelenmesi**
YILDIZ A., KOPMAZ O.
International Conference on Engineering Technology and Applied Sciences, 22 April 2016, pp.1407-1411
- IX. **An experimental study on the shifting dynamics of the chain CVT**
YILDIZ A., BOTTIGLIONE F., GIUSEPPE C.
Third International Conference on Advances in Mechanical and Robotics Engineering-AMRE 2015, Zürich, Switzerland, 10 - 11 October 2015, pp.28-32
- X. **YARIM TOROİDAL SDA SİSTEMİNDE TEMAS BÖLGESİ GERİLMELERİNİN İNCELENMESİ**
YILDIZ A., KOPMAZ O.
7. OTOMOTİV TEKNOLOJİLERİ KONGRESİ, Turkey, 26 - 27 May 2014

Supported Projects

YILDIZ A., TUBITAK Project, Çift Kütleli Volanlar İçin Sıcak Şekillendirilmiş Eğrisel Yay Tasarım ve Prototip İmalatı, 2019 -

Continues

Karamangil M. İ., Erkuş B., Yıldız A., Telli Çetin S., TUBITAK Project, Gaz Türbinli Motor Teknolojilerinin Geliştirilmesi 2, 2019 - 2027

Yıldız A., Sürmen A., TUBITAK Project, TEI-Gaz Türbinli Motor Teknolojilerinin Geliştirilmesi, 2019 - 2025

Sevilgen G., Yıldız A. R., Yıldız A., TUBITAK Project, TÜBİTAK 2244 GELECEĞİN ARAÇLARINA YÖNELİK YENİLİKÇİ OTOMOTİV TEKNOLOJİLERİ GELİŞTİRİLMESİ, 2019 - 2023

Yıldız A., Şengül E., KOSGEB, KOSGEB-OTONOM TOPRAK ALTI KATI GÜBRELEME VE EKİM MAKİNESİ, 2020 - 2022

Yıldız A., Project Supported by Other Private Institutions, Bir CVT Sisteminin Test Düzeneğinin Kurulması, Kontrolü ve Analizi, 2018 - 2019

Yıldız A., Kopmaz O., TUBITAK Project, 5 Kapı Kinematığının Tanımlanması ve Sıcaklık Duyarlı Gazlı Amortisör Geliştirilmesi, 2013 - 2015

Yıldız A., Kopmaz O., Industrial Thesis Project, Mekanik Preslerde Kullanılmaya Uygun Bir Sürekli Değişken Aktarma Organının Tasarımı ve Prototip Üretimi, 2012 - 2014

Patent

Özel M. A., Kopmaz O., Yıldız A., DÖNER KANATLI HAVA ARAÇLARINDA TİTREŞİM YALITIMI SAĞLAYAN BİR KÜRESEL MAFSAL YAPILANMASI, Patent, CHAPTER A Human Needs, The Invention Recourse Number: 2024/019843 , Standard Registration, 2024

Yıldız A., CONTROL MECHANISM DEVELOPED FOR CONTINUOUSLY VARIABLE TRANSMISSION (CVT), Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Recourse Number: EP/21873082.8 , Standard Registration, 2022

Yıldız A., CONTROL MECHANISM DEVELOPED FOR CONTINUOUSLY VARIABLE TRANSMISSION, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Recourse Number: 18012232 , Standard Registration, 2022

Yıldız A., Sürekli Değişken Aktarma (CVT) Sistemi İçin Geliştirilen Kontrol Mekanizması, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: 2020/15361 , Standard Registration, 2022

Yıldız A., CONTROL MECHANISM DEVELOPED FOR CONTINUOUSLY VARIABLE TRANSMISSION (CVT) SYSTEM, Patent, CHAPTER A Human Needs, The Invention Recourse Number: PCT/TR2021/050439 , Standard Registration, 2020

Activities in Scientific Journals

Mechanism And Machine Theory, Evaluation Committee Member, 2018 - Continues

Scientific Refereeing

TUBITAK Project, 1501 - Industry R & D Projects Support Program, Bursa Uludağ University, Turkey, June 2021

KOSGEB, Bursa Uludağ University, Turkey, March 2021

TUBITAK Project, 1507 - TÜBİTAK SME R&D Start Support Program, Bursa Uludağ University, Turkey, February 2020

TUBITAK Project, 2209-A - Üniversite Öğrencileri Araştırma Projeleri Destekleme Programı, Bursa Uludağ University, Turkey, January 2020

Metrics

Publication: 38

Citation (WoS): 95

Citation (Scopus): 153

H-Index (WoS): 7

H-Index (Scopus): 10

Scholarships

CVT Dynamics and Control, University, 2015 - 2015

2214-a Doktora Sirasında Yurtdışı Araştırma Bursu, TÜBİTAK, 2014 - 2015

Awards

Yıldız A., 2017 yılı En iyi doktora tezi ödülü, Bursa Uludağ Üniversitesi, August 2017

Non Academic Experience

POLITECNICO DI BARI

Politecnico Di Bari