

## Prof. ALTAN KAYRAN

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: ABA-1358-2020

ScopusID: 7003421551

Yoksis Researcher ID: 3233

### Education Information

Doctorate, University of Delaware, Makina Mühendisliği - Katmanlı Kompozit Kabuk Yapılarının Serbest Titreşimi, United States Of America 1985 - 1990

### Foreign Languages

English, C1 Advanced

### Dissertations

Postgraduate, A Preliminary Sizing Tool for Minimum Weight Aircraft Wingbox Structural Design, Middle East Technical University, Faculty of Engineering, Department of Aerospace Engineering, 2018

Postgraduate, The Effect of Structural Layout on the Supersonic Flutter Characteristics of a Fighter Wing, Middle East Technical University, Faculty of Engineering, Department of Aerospace Engineering, 2018

Postgraduate, Design and Analysis of Fixed Crushable Column Type Energy Absorbing Mechanism for a Helicopter Seat, Middle East Technical University, Faculty of Engineering, Department of Aerospace Engineering, 2018

Postgraduate, Reduced Order Modeling of Helicopter Substructures for Dynamic Analysis, Middle East Technical University, Faculty of Engineering, Department of Aerospace Engineering, 2018

Postgraduate, Coupling of a Multi-Body Simulation Tool for the Analysis of Rotary Systems with a Panel Based Flow Solver and a Navier-Stokes Flow Solver, Middle East Technical University, Faculty of Engineering, Department of Aerospace Engineering, 2018

Doctorate, Aeroelastic Analysis of Composite Wings and Wind Turbine Blades Including Geometrical Nonlinearity and Compressibility, Middle East Technical University, Faculty of Engineering, Department of Aerospace Engineering, 2018

### Research Areas

Aeronautical and Space Engineering, Engineering and Technology

## Academic Titles / Tasks

Professor, Middle East Technical University, Faculty Of Engineering, Department Of Aerospace Engineering, 2011 - Continues

Associate Professor, Middle East Technical University, Faculty Of Engineering, Department Of Aerospace Engineering, 2006 - 2011

Assistant Professor, Middle East Technical University, Faculty Of Engineering, Department Of Aerospace Engineering, 2003 - 2006

Assistant Professor, Bogazici University, Faculty Of Engineering, Department Of Mechanical Engineering, 1996 - 1997

## Academic and Administrative Experience

Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi, Middle East Technical University, Faculty of Engineering, Department of Aerospace Engineering, 2017 - Continues

Deputy Head of Department, Middle East Technical University, Faculty Of Engineering, Department Of Aerospace Engineering, 2020 - 2022

Rektörlük Akademik Teşvik Değerlendirme Komisyonu Üyesi, Middle East Technical University, Faculty Of Engineering, Department Of Aerospace Engineering, 2019 - 2020

Assistant Manager of Research and Application Center, Middle East Technical University, Faculty of Engineering, Department of Aerospace Engineering, 2017 - 2020

Bölüm Akademik Teşvik Değerlendirme Komisyonu Üyesi, Middle East Technical University, Faculty of Engineering, Department of Aerospace Engineering, 2018 - 2018

## Advising Theses

KAYRAN A., Static and dynamic aeroelastic analysis of a very light aircraft, Postgraduate, H.GÜL(Student), 2021

Kayran A., Development of a regression model for the fatigue life assessment of open-hole specimens with double through the thickness cracks, Postgraduate, S.SOHRAB(Student), 2019

Kayran A., Structural optimization of composite and aluminum horizontal tail plane of a helicopter, Postgraduate, B.ARPACIOĞLU(Student), 2019

Kayran A., Multibody simulation of helicopter rotor with structural flexibility, Postgraduate, B.İHSAN(Student), 2019

Kayran A., Aeroelastic modeling and analysis of high aspect ratio wings with different fidelity structural models, Postgraduate, G.ÇİÇEK(Student), 2019

Kayran A., Flutter analysis of fixed and rotary wings, Postgraduate, O.ÇİÇEK(Student), 2019

Kayran A., Vibration fatigue analysis and testing of notched beams, Postgraduate, G.İSMAİL(Student), 2019

KAYRAN A., Aeroelastic analysis of composite wings and wind turbine blades including geometrical nonlinearity and compressibility, Doctorate, T.Farsadi(Student), 2018

KAYRAN A., Structural optimization of composite helicopter rotor blades, Postgraduate, A.AYBERK(Student), 2018

KAYRAN A., The effect of structural layout on the supersonic flutter characteristics of a fighter wing, Postgraduate, B.OKUMUŞ(Student), 2018

KAYRAN A., Comparative study of finite element analysis and geometrically exact beam analysis of a composite helicopter blade, Postgraduate, M.NİSA(Student), 2018

KAYRAN A., Development of artificial neural network based design tool for aircraft engine bolted flange connection subject to combined axial and moment load, Postgraduate, T.VOLKAN(Student), 2018

KAYRAN A., Post-buckling behaviour of metallic skin-stringer assemblies and buckling of composite flat panels, Postgraduate, E.AYDIN(Student), 2018

KAYRAN A., Design and analysis of fixed load crushable column type energy absorbing mechanism for a helicopter seat, Postgraduate, G.ÖZTÜRK(Student), 2018

KAYRAN A., A preliminary sizing tool for minimum weight aircraft wingbox structural design, Postgraduate, M.MERT(Student), 2018

KAYRAN A., Reduced order modeling of helicopter substructures for dynamic analysis, Postgraduate,

U.HAYIRLI(Student), 2018

KAYRAN A., Aeroelastic analysis of composite wings and wind turbine blades including geometrical nonlinearity and compressibility, Doctorate, T.FARSADI(Student), 2018

TUNCER İ. H. , KAYRAN A., Coupling of a multibody simulation tool for the analysis of rotary systems with a panel based flow solver and a navier-stokes flow solver, Postgraduate, S.SOĞANCI(Student), 2018

KAYRAN A., Nonlinear static aeroelastic behavior of composite missile fin with interlaminar and intralaminar damage, Postgraduate, Ö.Özkaya(Student), 2017

KAYRAN A., Determination of the bending twisting coupling potential of composite materials via digital image correlation and its implementation in wind turbine blades, Postgraduate, Ö.ŞENER(Student), 2017

KAYRAN A., The effect of blade torsional elasticity on helicopter flight dynamics, Postgraduate, E.AKEL(Student), 2017

KAYRAN A., Nonlinear static aeroelastic behaviour of composite missile fins with interlaminar and intralaminar damage, Postgraduate, Z.ÖZGE(Student), 2017

KAYRAN A., Progressive interlaminar failure analysis in composite missile structures, Postgraduate, B.BARTAN(Student), 2016

KAYRAN A., Material characterization at high strain rates using modified taylor impact test and velocity interferometry, Postgraduate, L.KESEMEN(Student), 2016

KAYRAN A., Aerodynamic and structural design and analysis of an electric powered mini UAV, Postgraduate, A.DEMİRCAN(Student), 2016

KAYRAN A., Damage analysis and assessment in bridge like structures due to high explosive blast load, Postgraduate, Ö.ERDOLU(Student), 2016

KAYRAN A., Comparison of experimental study and finite element analysis of bolted flange connections, Postgraduate, S.EMRE(Student), 2015

KAYRAN A., Investigation of effects of bird strike problem on wing leading edge by using explicit finite element method, Postgraduate, O.Dede(Student), 2015

KAYRAN A., Load analysis of an aircraft using simplified aerodynamic and structural models, Postgraduate, E.ÜNAY(Student), 2015

KAYRAN A., VULNERABILITY ASSESSMENT AND SURVIVABILITY ANALYSIS OF AIRCRAFT, Doctorate, H.EMRAH(Student), 2015

KAYRAN A., Investigation of effects of bird strike on wing leading edge by using explicit finite element method, Postgraduate, O.DEDE(Student), 2015

KAYRAN A., Development of bolted flange design tool based on finite element analysis and artificial neural network, Postgraduate, A.YILDIRIM(Student), 2015

KAYRAN A., Analysis and optimization of cylindrical structures manufactured by automated fiber placement technique, Postgraduate, S.GÜLDÜ(Student), 2014

KAYRAN A., Investigation of the effect of bending twisting coupling on the loads in wind turbines with superelement blade definition, Postgraduate, M.OZAN(Student), 2014

KAYRAN A., ERDAL ERDOĞMUŞ M., Evaluation of effective elastic properties of honeycomb sandwich structures by optimization involving modal behavior, Postgraduate, O.ÇINAR(Student), 2014

KAYRAN A., Comparative study of transient and quasi-steady aeroelastic analysis of composite wind turbine blade in steady wind conditions, Postgraduate, H.SARGIN(Student), 2014

KAYRAN A., Design optimization of whiffletree systems for wind turbine blade testing, Postgraduate, S.CEM(Student), 2014

KAYRAN A., Aeroservoelastic modeling of a missile control, Postgraduate, M.Ozan(Student), 2013

KAYRAN A., Aeroservoelastic modeling of a missile control fin, Postgraduate, M.OZAN(Student), 2013

KAYRAN A., Design optimization of truss structures using genetic algorithms, Postgraduate, D.ÜNALMIŞ(Student), 2012

KAYRAN A., Flutter analysis and simulated flutter test of wings, Postgraduate, T.BİRTAN(Student), 2012

KAYRAN A., Discrete fiber angle and continuous fiber path optimization in composite structures, Postgraduate, H.İnci(Student), 2012

KAYRAN A., Determination of prying load on bolted connections, Postgraduate, M.ATASOY(Student), 2012

GÜRBÜZ R., KAYRAN A., Determination of stress intensity factors in cracked panels reinforced with riveted stiffeners, Postgraduate, M.BURAK(Student), 2012

KAYRAN A., Linear and nonlinear progressive failure analysis of laminated composite aerospace structures, Postgraduate, M.GÜNEL(Student), 2012

KAYRAN A., Discrete fiber path angle and continuous fiber path optimization in composite structures, Postgraduate, H.İNCİ(Student), 2012

KAYRAN A., Design, analysis and optimization of thin walled semi-monocoque wing structures using different structural idealizations in the preliminary design phase, Postgraduate, O.DABABNEH(Student), 2011

ALEMDAROĞLU H. N. , KAYRAN A., Structural and aeroelastic analyses of a composite tactical unmanned air vehicle, Postgraduate, S.ÖZÖZTÜRK(Student), 2011

KAYRAN A., Development of a closely coupled approach for solution of static and dynamic aeroelastic problems, Postgraduate, E.BAŞKUT(Student), 2010

KAYRAN A., Investigation of the effect of semi-geodesic winding on the vibration characteristics of filament wound shells of revolution, Postgraduate, C.SERKAN(Student), 2010

KAYRAN A., Low velocity impact analysis of a composite mini unmanned air vehicle during belly landing, Postgraduate, S.YÜKSEL(Student), 2009

KAYRAN A., Electronic packaging and environmental test and analysis of an EMI shielded electronic unit for naval platform, Postgraduate, Y.DEVELLİOĞLU(Student), 2008

KAYRAN A., Development of Lagrangian Hydrocode High Speed Impact Analysis and Its Experimental Verification, Postgraduate, H.EMRAH(Student), 2008

KAYRAN A., Structural optimization strategies via different optimization and solver codes and aerospace applications, Postgraduate, M.EKREN(Student), 2008

ALEMDAROĞLU H. N. , KAYRAN A., Structural design, analysis and composite manufacturing applications for a tactical unmanned air vehicle, Postgraduate, S.SOYSAL(Student), 2008

KAYRAN A., Semi analytical study of stress and deformation analysis of anisotropic shells of revolution including first order transverse shear deformation, Postgraduate, Ö.SİNAN(Student), 2008

KAYRAN A., Investigation of design and analyses principles of honeycomb structures, Postgraduate, İ.AYDINCAK(Student), 2007

KAYRAN A., Stacking sequence optimization of a composite pressure vessel by genetic algorithm, Postgraduate, H.KUTAY(Student), 2007

KAYRAN A., Manufacturing and structural analysis of a lightweight sandwich composite UAV wing, Postgraduate, T.TURGUT(Student), 2007

KAYRAN A., Development of a sabot design tool for aeroballistic range testing, Postgraduate, K.EFE(Student), 2006

KAYRAN A., Thermodynamic and structural design and analysis of a novel turbo rotary engine, Postgraduate, T.ERCAN(Student), 2005

KAYRAN A., Free vibration analysis of anisotropic laminated composite shells of revolution, Postgraduate, E.YAVUZBALKAN(Student), 2005

YAMAN Y., KAYRAN A., Structural analysis of airborne, stiffened, cylindrical external store, Postgraduate, C.TAŞ(Student), 2002

## **Taught Courses And Trainings**

Uzol O., Çöker D., Kayran A., Sezer Uzol N., Oğuz E., Huvaj Sarihan N., Keysan O., Perçin M., Rüzgar Türbin Teknolojileri Temel Eğitimi , 2021 - 2021

Uzol O., Kayran A., Sezer Uzol N., Çöker D., Huvaj Sarihan N., Oğuz E., Keysan O., Perçin M., Rüzgar Enerjisi ve Rüzgar Türbini Teknolojileri Temel Eğitimi, 2019 - 2019

## **Published journal articles indexed by SCI, SSCI, and AHCI**

- 1. Development of a prediction model using fully connected neural networks in the analysis of composite structures under bird strike**

Hasilci Z., BOĞOÇLU M. E. , DALKILIÇ A. S. , KAYRAN A.

JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY, vol.36, no.2, pp.709-722, 2022 (SCI-Expanded)

- II. **Improvement of structural characteristics of composite thin-walled beams using variable stiffness concept via curvilinear fiber placement**  
Farsadi T., Bozkurt M. O. , ÇÖKER D., KAYRAN A.  
Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, vol.235, no.14, pp.2017-2032, 2021 (SCI-Expanded)
- III. **Flutter Optimization of a Wing-Engine System with Passive and Active Control Approaches**  
Asadi D., Farsadi T., KAYRAN A.  
AIAA JOURNAL, vol.59, no.4, pp.1422-1440, 2021 (SCI-Expanded)
- IV. **Flutter study of flapwise bend-twist coupled composite wind turbine blades**  
Farsadi T., KAYRAN A.  
WIND AND STRUCTURES, vol.32, no.3, pp.267-281, 2021 (SCI-Expanded)
- V. **Classical flutter analysis of composite wind turbine blades including compressibility**  
Farsadi T., KAYRAN A.  
WIND ENERGY, vol.24, no.1, pp.69-91, 2021 (SCI-Expanded)
- VI. **Reduced order nonlinear aeroelasticity of swept composite wings using compressible indicial unsteady aerodynamics**  
Farsadi T., Rahmanian M., KAYRAN A.  
JOURNAL OF FLUIDS AND STRUCTURES, vol.92, 2020 (SCI-Expanded)
- VII. **Development of Bolted Flange Design Tool Based on Artificial Neural Network**  
Yildirim A., Akay A. A. , Gülasik H., Çöker D., Gürses E., Kayran A.  
Journal of Pressure Vessel Technology, Transactions of the ASME, vol.141, 2019 (SCI-Expanded)
- VIII. **Geometrically nonlinear aeroelastic behavior of pretwisted composite wings modeled as thin walled beams**  
Farsadi T., Rahmanian M., KAYRAN A.  
JOURNAL OF FLUIDS AND STRUCTURES, vol.83, pp.259-292, 2018 (SCI-Expanded)
- IX. **Evaluation of the Effect of Spar Cap Fiber Angle of Bending-Torsion Coupled Blades on the Aero-Structural Performance of Wind Turbines**  
Şener Ö., Farsadi T., Gozc M. O. , Kayran A.  
Journal of Solar Energy Engineering, Transactions of the ASME, vol.140, 2018 (SCI-Expanded)
- X. **Aircraft vulnerability assessment against fragmentation warhead**  
Konokman H. E. , KAYRAN A., KAYA M.  
AEROSPACE SCIENCE AND TECHNOLOGY, vol.67, pp.215-227, 2017 (SCI-Expanded)
- XI. **Experimental and numerical study of process-induced total spring-in of corner-shaped composite parts**  
Cicek K. F. , Erdal Erdoğan M., Kayran A.  
JOURNAL OF COMPOSITE MATERIALS, vol.51, pp.2347-2361, 2017 (SCI-Expanded)
- XII. **Accurate equivalent models of sandwich laminates with honeycomb core and composite face sheets via optimization involving modal behavior**  
Cinar O., ERDAL ERDOĞMUŞ M., KAYRAN A.  
JOURNAL OF SANDWICH STRUCTURES & MATERIALS, vol.19, no.2, pp.139-166, 2017 (SCI-Expanded)
- XIII. **Two-stage fatigue life evaluation of an aircraft fuselage panel with a bulging circumferential crack and a broken stringer**  
Sayar B., KAYRAN A.  
FATIGUE & FRACTURE OF ENGINEERING MATERIALS & STRUCTURES, vol.37, no.5, pp.494-507, 2014 (SCI-Expanded)
- XIV. **Non-linear progressive failure analysis of open-hole composite laminates under combined loading**  
Gunel M., KAYRAN A.  
JOURNAL OF SANDWICH STRUCTURES & MATERIALS, vol.15, no.3, pp.309-339, 2013 (SCI-Expanded)
- XV. **Effect of Semi-Geodesic Winding on the Vibration Characteristics of Filament Wound Shells of**

## **Revolution**

KAYRAN A., Ibrahimoglu C. S.

JOURNAL OF APPLIED MECHANICS-TRANSACTIONS OF THE ASME, vol.78, no.6, 2011 (SCI-Expanded)

- XVI. **Computational and experimental study of high-speed impact of metallic Taylor cylinders**  
Konokman H. E., Coruh M. M., KAYRAN A.  
ACTA MECHANICA, vol.220, pp.61-85, 2011 (SCI-Expanded)
- XVII. **Free-Vibration Analysis of Ring-Stiffened Branched Composite Shells of Revolution**  
KAYRAN A., Yavuzbalkan E.  
AIAA JOURNAL, vol.48, no.4, pp.749-762, 2010 (SCI-Expanded)
- XVIII. **An Approach for the Evaluation of Effective Elastic Properties of Honeycomb Cores by Finite Element Analysis of Sandwich Panels**  
Aydincak I., KAYRAN A.  
JOURNAL OF SANDWICH STRUCTURES & MATERIALS, vol.11, no.5, pp.385-408, 2009 (SCI-Expanded)
- XIX. **Semi-analytical study of free vibration characteristics of shear deformable filament wound anisotropic shells of revolution**  
KAYRAN A., Yavuzbalkan E.  
JOURNAL OF SOUND AND VIBRATION, vol.319, pp.260-281, 2009 (SCI-Expanded)
- XX. **Flight flutter testing and aeroelastic stability of aircraft**  
Kayran A.  
AIRCRAFT ENGINEERING AND AEROSPACE TECHNOLOGY, vol.79, no.5, pp.494-506, 2007 (SCI-Expanded)
- XXI. **Flight flutter testing and aeroelastic stability of aircraft**  
Kayran A.  
AIRCRAFT ENGINEERING AND AEROSPACE TECHNOLOGY, vol.79, no.2, pp.150-162, 2007 (SCI-Expanded)
- XXII. **Flutter qualification of transport aircraft with store suspension**  
Kayran A.  
AIRCRAFT ENGINEERING AND AEROSPACE TECHNOLOGY, vol.76, no.1, pp.19-28, 2004 (SCI-Expanded)
- XXIII. **Effect of stacking sequence on free vibration frequencies of laminated composite circular cylindrical shells**  
Kayran A., Anlas G.  
JOURNAL OF VIBRATION AND CONTROL, vol.5, no.3, pp.355-372, 1999 (SCI-Expanded)
- XXIV. **A method of strain and stress analysis for failure prediction in laminated composites**  
Ardiç E., Bolcan C., Kayran A.  
Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, vol.209, no.1, pp.43-51, 1995 (SCI-Expanded)
- XXV. **A METHOD OF STRAIN AND STRESS-ANALYSIS OF COMPOSITES FOR NONLINEAR STRAIN DISTRIBUTION CASE**  
ARDIC E., BOLCAN C., KAYRAN A.  
INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, vol.31, no.24, pp.3457-3473, 1994 (SCI-Expanded)
- XXVI. **A METHOD FOR THE CALCULATION OF NATURAL FREQUENCIES OF ORTHOTROPIC AXISYMMETRICALLY LOADED SHELLS OF REVOLUTION**  
KAYRAN A., VINSON J., ARDIC E.  
JOURNAL OF VIBRATION AND ACOUSTICS-TRANSACTIONS OF THE ASME, vol.116, no.1, pp.16-25, 1994 (SCI-Expanded)
- XXVII. **THE EFFECT OF TRANSVERSE-SHEAR DEFORMATION ON THE NATURAL FREQUENCIES OF LAYERED COMPOSITE PARABOLOIDAL SHELLS**  
KAYRAN A., VINSON J.  
JOURNAL OF VIBRATION AND ACOUSTICS-TRANSACTIONS OF THE ASME, vol.112, no.4, pp.429-439, 1990 (SCI-Expanded)
- XXVIII. **TORSIONAL VIBRATIONS OF LAYERED COMPOSITE PARABOLOIDAL SHELLS**  
KAYRAN A., VINSON J.  
JOURNAL OF SOUND AND VIBRATION, vol.141, no.2, pp.231-244, 1990 (SCI-Expanded)

- XXIX. **FREE-VIBRATION ANALYSIS OF LAMINATED COMPOSITE TRUNCATED CIRCULAR CONICAL SHELLS**  
KAYRAN A., VINSON J.  
AIAA JOURNAL, vol.28, no.7, pp.1259-1269, 1990 (SCI-Expanded)

### Articles Published in Other Journals

- I. **Development of a regression model for the life assessment of open-hole specimens with double through cracks utilizing stress intensity factor calculations via XFEM**  
Heidarı S., Kayran A.  
Procedia Structural Integrity, vol.21, pp.154-165, 2019 (Peer-Reviewed Journal)
- II. **Implementation of Dirlik's damage model for the vibration fatigue analysis**  
Demirel G., Kayran A.  
Procedia Structural Integrity, vol.21, pp.101-111, 2019 (Conference Book)
- III. **Load Reduction in Wind Turbines with Bend-Twist Coupled Blades without Power Loss at Underrated Wind Speeds**  
Atalay O., Kayran A.  
Journal of Physics: Conference Series, vol.1037, no.42015, pp.1-10, 2018 (Scopus)
- IV. **Investigation of the effect of bending twisting coupling on the loads in wind turbines with superelement blade definition**  
Gözcü M. O. , Kayran A.  
Journal of Physics: Conference Series, vol.524, no.12040, pp.1-10, 2014 (Scopus)
- V. **Preliminary study on the applicability of semi-geodesic winding in the design and manufacturing of composite towers**  
Kayran A., İbrahimoğlu C. S.  
Journal of Physics: Conference Series, vol.555, no.12059, pp.1-12, 2014 (Scopus)
- VI. **Comparison of transient and quasi-steady aeroelastic analysis of wind turbine blade in steady wind conditions**  
Sargın H., Kayran A.  
Journal of Physics: Conference Series, vol.524, no.12051, pp.1-11, 2014 (Scopus)
- VII. **Design, analysis and optimization of thin walled semi-monocoque wing structures using different structural idealization in the preliminary design phase**  
Dababneh O., KAYRAN A.  
International Journal of Structural Integrity, vol.5, no.3, pp.214-226, 2014 (ESCI)
- VIII. **Investigation of the effect of bending twisting coupling on the load in wind turbines with superelement blade definition**  
GÖZCÜ M. O. , KAYRAN A.  
Journal of Physics Conference Series, vol.524, no.12040, 2014 (Scopus)

### Refereed Congress / Symposium Publications in Proceedings

- I. **Boşta Hareket Davranışı İçeren Kontrol Yüzeylerine Sahip Bir Uçağın Doğrusal Olmayan Aeroservoelastik Modellenmesi ve Analizi**  
Yurtsever U., Kayran A., Şahin M.  
Otomatik Kontrol Ulusal Kongresi (TOK), Elazığ, Turkey, 15 - 18 September 2022, pp.1-7
- II. **Aeroelastic Model Corrections of a Very Light Aircraft; Implications on Static Trim, Flutter and Gust Response**  
Demirer G., KAYRAN A.  
AIAA AVIATION 2022 Forum, Illinois, United States Of America, 27 June - 01 July 2022
- III. **TENSILE TESTING OF REPAIRED COMPOSITE SPECIMENS WITH DIC MEASUREMENT AND FEM**

## **CORRELATION**

Ekren M., KAYRAN A.

11th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Ankara, Turkey, 08 September 2021, pp.1-10

### **IV. INVESTIGATION OF THE EFFECT OF LAMINATE STIFFNESS ON BEARING/BYPASS LOADS FOR BOLTED COMPOSITE JOINTS**

Candan K., KAYRAN A.

11th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Ankara, Turkey, 08 September 2021, pp.1-19

### **V. DESIGN OPTIMIZATION OF VARIABLE STIFFNESS COMPOSITE LAMINATES USING SURROGATE MODELS FOR MINIMUM COMPLIANCE OF CURVED WING PANELS**

İNÇİ H., KAYRAN A.

11th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Ankara, Turkey, 08 September 2021, pp.1-20

### **VI. NURBS BASED OPTIMIZATION OF VARIABLE STIFNESS COMPOSITE STRUCTURES**

ÇİMEN K., KAYRAN A.

11th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Ankara, Turkey, 08 September 2021, pp.1-16

### **VII. Static and Dynamic Aeroelastic Analysis of a Very Light Aircraft**

Demirer H. G. , Kayran A.

Ankara International Aerospace Conference, Ankara, Turkey, 8 - 10 September 2021, no.2021057, pp.1-14

### **VIII. AEROELASTIC MODELING AND ANALYSIS OF HIGH ASPECT RATIO WINGS WITH DIFFERENT FIDELITY STRUCTURAL MODELS**

Çiçek G., KAYRAN A.

ASME 2019 International Mechanical Engineering Congress and Exposition, 11 - 14 November 2019

### **IX. COMPARATIVE STRUCTURAL OPTIMIZATION STUDY OF COMPOSITE AND ALUMINUM HORIZONTAL TAIL PLANE OF A HELICOPTER**

Arpacioğlu B., KAYRAN A.

ASME 2019International Mechanical Engineering Congress and Exposition, 11 - 14 November 2019

### **X. Multibody Simulation of Helicopter Rotor with Structural Flexibility**

Turan B. İ. , KAYRAN A.

8th Asian/Australian Rotorcraft Forum, 30 October - 02 November 2019

### **XI. AN INVESTIGATION ON DEVELOPMENT OF A PREDICTION MODEL FOR FATIGUE LIFE OF OPEN HOLE SPECIMENS WITH DOUBLE THROUGH THE THICKNESS CRACKS USING RESPONSE SURFACE METHODOLOGY**

Shabestari S. H. , Kayran A.

10th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Ankara, Turkey, 18 - 20 September 2019, no.2019046, pp.1-15

### **XII. A COMPARISON STUDY ON STRENGTH ANALYSIS OF COMPOSITE REPAIR ADHESIVE ZONE BY ANALYTICAL METHODS AND ABAQUS COHESIVE ZONE MODELLING TECHNIQUES**

Ekren M., Kayran A.

10th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Ankara, Turkey, 18 - 20 September 2019, pp.1-10

### **XIII. Experimental Assessment of Bend-Twist Coupling Potentials of Composite Materials via Digital Image Correlation Method**

ŞENER Ö., ATALAY O., KAYRAN A.

AIAA SciTech Forum, 7 - 11 January 2019

### **XIV. Development of a regression model for the life assessment of open-hole specimens with double through cracks utilizing stress intensity factor calculations via XFEM**

Shabestari S. S. H. , KAYRAN A.

1st International Workshop on Plasticity, Damage and Fracture of Engineering Materials, IWPDF 2019, Ankara, Turkey, 22 - 23 August 2019, vol.21, pp.154-165

### **XV. Implementation of Dirlik s damage model for the vibration fatigue analysis**

Demirel İ. G. , Kayran A.

1st International Workshop on Plasticity, Damage and Fracture of Engineering Materials, IWPDF 2019, Ankara, Turkey, 22 - 23 August 2019, pp.101-111



- XVI. **EVALUATION OF TRANSVERSE SHEAR MODULI OF COMPOSITE SANDWICH BEAMS THROUGH THREE-POINT BENDING TESTS**  
ŞENER Ö., Dede O., ATALAY O., ATASOY M., KAYRAN A.  
International Mechanical Engineering Congress and Exposition IMECE2018, United States Of America, 9 - 15 November 2018
- XVII. **ENERGY ABSORPTION MECHANISMS AND CRASH ANALYSIS OF HELICOPTER SEATS**  
Öztürk G., KAYRAN A.  
International Mechanical Engineering Congress and Exposition IMECE2018, United States Of America, 9 - 15 November 2018
- XVIII. **COMPARATIVE STUDY OF POST-BUCKLING LOAD REDISTRIBUTION IN STIFFENED AIRCRAFT PANEL WITH AND WITHOUT MATERIAL NONLINEARITY**  
AYDIN E., KAYRAN A.  
International Mechanical Engineering Congress and Exposition IMECE2018, United States Of America, 9 - 15 November 2018
- XIX. **KANAT SUPERSONİK FLUTTER HIZININ İKİ BOYUTLU KANAT AERODİNAMİĞİ İLE TAHMİNİ**  
Okumuş B., Kayran A.  
VII. ULUSAL HAVACILIK VE UZAY KONFERANSI, Samsun, Turkey, 12 - 14 September 2018, no.20181040, pp.1-11
- XX. **Determination of Transverse Shear Moduli of Composite Core Materials Through Sandwich Beam Tests**  
ŞENER Ö., Dede O., ATALAY O., ATASOY M., KAYRAN A.  
12th International Conference on Sandwich Structures ICSS-12, Switzerland, 19 - 22 August 2018
- XXI. **Structural Performance and Power Production of Wind Turbine Systems with Bend-Twist Coupled Blades in Underrated Wind Conditions**  
ŞENER Ö., KAYRAN A.  
AIAA SciTech Forum 2018 AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, United States Of America, 8 - 12 January 2018
- XXII. **Optimization of Variable Stiffness Composite Laminates by Particle Swarm and Whale Optimization Algorithms Utilizing Surrogate Models**  
İNCİ H., KAYRAN A.  
AIAA SciTech Forum 2018 AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Kissimmee, United States Of America, 8 - 12 January 2018
- XXIII. **Nonlinear Static Aeroelastic Behavior of Composite Missile Fin with Interlaminar and Intralaminar Damage**  
ÖZKAYA Ö., KAYRAN A.  
AIAA SciTech Forum 2018 AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, United States Of America, 8 - 12 January 2018
- XXIV. **Coupling of a multibody simulation tool for rotary systems with an unsteady viscous flow solver**  
Soğancı S., KAYRAN A., TUNCER İ. H.  
AIAA Aerospace Sciences Meeting, 2018, Florida, United States Of America, 8 - 12 January 2018
- XXV. **DEVELOPMENT OF ARTIFICIAL NEURAL NETWORK BASED DESIGN TOOL FOR AIRCRAFT ENGINE BOLTED FLANGE CONNECTION SUBJECT TO COMBINED AXIAL AND MOMENT LOAD**  
Sanli T. V., Gürses E., Çöker D., Kayran A.  
ASME International Mechanical Engineering Congress and Exposition, Tama, Japan, 3 - 09 November 2017
- XXVI. **FREE VIBRATION ANALYSIS OF UNIFORM AND ASYMMETRIC COMPOSITE PRETWISTED ROTATING THIN WALLED BEAM**  
Farsadi T., ŞENER Ö., KAYRAN A.  
ASME International Mechanical Engineering Congress and Exposition, Tama, Japan, 3 - 09 November 2017
- XXVII. **Damage Analysis in Blast Loaded Concrete Columns Using Single Degree of Freedom Approach**  
ERDOLU Ö., KAYRAN A.  
17th International Symposium on the Interaction of the Effects of Munitions with Structures- ISIEMS, Germany, 16 - 20 October 2017

- XXVIII. **Comparison of 2D and 3D Homogenization Processes for Micromechanics Analysis of Unidirectional Composites**  
ATASOY M., KAYRAN A.  
9th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Turkey, 20 - 22 September 2017
- XXIX. **The Effect of Modal Damping on Random Vibration Metal Fatigue Analysis**  
DEMİREL İ. G. , KAYRAN A.  
9th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Turkey, 20 - 22 September 2017
- XXX. **Performance Study of Wind Turbines with Bend-Twist Coupled Blades at Underrated Wind Speeds**  
ATALAY O., FARSADI T., KAYRAN A.  
9th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Turkey, 20 - 22 September 2017
- XXXI. **Multibody Simulation of Helicopter Rotor with Flexible Blade**  
ÖZTURAN B. İ. , KAYRAN A.  
9th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Turkey, 20 - 22 September 2017
- XXXII. **Nonlinear Static Aeroelastic Behaviour of Composite Missile Fin with Interlaminar Damage**  
ÖZKAYA Ö., KAYRAN A.  
9th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Turkey, 20 - 22 September 2017
- XXXIII. **Investigation of the Effect of Boundary Conditions on the Buckling Coefficients of Stiffened Flat Panels**  
AYDIN E., KAYRAN A.  
9th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Turkey, 20 - 22 September 2017
- XXXIV. **Design Optimization of Variable Stiffness Composite Laminates Using Surrogate Models for Compliance and Buckling Load**  
İNÇİ H., KAYRAN A.  
9th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Turkey, 20 - 22 September 2017
- XXXV. **Energy Absorption Mechanisms and Crash Analysis of Helicopter Seats**  
ÖZTÜRK G., KAYRAN A.  
9th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Turkey, 20 - 22 September 2017
- XXXVI. **Implementation of the Submodelling Technique on the Dovetail Attachments”**  
Akay A. A. , Çöker D., Kayran A., Gürses E.  
9th Ankara International Aerospace Conference, Ankara, Turkey, 20 - 22 September 2017
- XXXVII. **Effect of Fibre Orientation of Bend-Twist Coupled Blades on the Structural Performance of the Wind Turbine System**  
ŞENER Ö., FARSADI T., KAYRAN A.  
AIAA SciTech Forum 35th Wind Energy Symposium, United States Of America, 9 - 13 January 2017
- XXXVIII. **Effect of Fiber Orientation of Bend-Twist Coupled Blades on the Structural Performance of the Wind Turbine System**  
Şener Ö., Farsadı T., Kayran A.  
35th Wind Energy Symposium, Texas, United States Of America, 9 - 13 January 2017
- XXXIX. **High strain rate material characterization of Al 7075-T651 by modified Taylor impact test and velocity interferometry**  
Kesemen L., Kayran A.  
58th AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, 2017, Texas, United States Of America, 9 - 13 January 2017
- XL. **Stick model development of aircraft structures for dynamic analysis**  
Hayirli U., Kayran A.  
58th AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, 2017, Texas, United States Of America, 9 - 13 January 2017
- XLI. **HELİKOPTER PALLERİNİN ÇOKLU KÜTLELİ BENZETİM ARACI VE İKİ BOYUTLU PANEL TABANLI AKIŞ ÇÖZÜCÜSÜ İLE ETKİLEŞİMLİ ANALİZİ**  
Soğançlı S., KAYRAN A., TUNCER İ. H.  
6. Ulusal Havacılık ve Uzay Konferansı, Kocaeli, Turkey, 28 - 30 September 2016

- XLII. Eksenel Kesme ve Moment Yüğü Altındaki Flanşlar İçin Yapay Sinir Ağına Dayalı Cıvatalı Flanş Tasarım Aracı Geliştirilmesi**  
Şanlı V., Akay A. A., Yıldırım A., Gürses E., Çöker D., Kayran A.  
VI. Ulusal Havacılık ve Uzay Konferansı (UHUK), Kocaeli, Turkey, 28 - 30 September 2016
- XLIII. Structural Optimization of Composite Helicopter Rotor Blades**  
IŞIK A. A., KAYRAN A.  
American Society for Composites, 31st Technical Conference and ASTM Committee D30 Meeting, 19 - 22 September 2016
- XLIV. Comparative Study of Finite Element Analysis and Geometrically Exact Beam Analysis of a Composite Helicopter Blade**  
ATAÇ M. N., KAYRAN A.  
American Helicopter Society AHS 72nd Annual Forum, 17 - 19 May 2016
- XLV. Aeroelastic Stability Evaluation of Bend Twist Coupled Composite Wind Turbine Blades Designed for Load Alleviation in Wind Turbine Systems**  
FARSADI T., KAYRAN A.  
AIAA Science and Technology Forum and Exposition 2016, 4 January - 08 April 2016
- XLVI. Post Buckling Load Redistribution of Stiffened Panels in Aircraft Wingbox Structures**  
MERT M., KAYRAN A.  
AIAA Science and Technology Forum and Exposition 2016, 4 - 08 January 2016
- XLVII. Classical Aeroelastic Stability Analysis of Large Composite Wind Turbine Blades**  
FARSADI T., KAYRAN A.  
AIAA Science and Technology Forum and Exposition 2016, 4 - 08 January 2016
- XLVIII. Structural dynamics analysis and passive control of wind turbine vibrations with tuned mass damper (TMD) technique**  
Farsadi T., Kayran A.  
57th AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, 2016, California, United States Of America, 4 - 08 January 2016
- XLIX. Three dimensional delamination analysis in composite open hole tensile specimens with cohesive zone method**  
Bartan Kumbasar B., Acar B., Kayran A.  
57th AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, 2016, California, United States Of America, 4 - 08 January 2016
- L. IMECE2015 51021 DEVELOPMENT OF BOLTED FLANGE DESIGN TOOL BASED ON FINITE ELEMENT ANALYSIS AND ARTIFICIAL NEURAL NETWORK**  
yıldırım a., hasan g., AKAY A. A., GÜRSES E., ÇÖKER D., KAYRAN A.  
IMECE2015 - ASME 2015 International Mechanical Engineering Congress & Exposition, Houston, 13 - 19 November 2015
- LI. DEVELOPMENT OF BOLTED FLANGE DESIGN TOOL BASED ON FINITE ELEMENT ANALYSIS AND ARTIFICIAL NEURAL NETWORK**  
Yildirim A., Kayran A., Gulasik H., Çöker D., Gürses E., Kayran A.  
ASME International Mechanical Engineering Congress and Exposition (IMECE2015), Texas, United States Of America, 13 - 19 November 2015
- LII. Reduction of fatigue damage equivalent loads In the wind turbine system through the use bending twisting coupling induced in composite wind turbine blades**  
Şener Ö., Farsadi T., Gözcü O., KAYRAN A.  
EERA JP-Wind/IRPWIND konferansı, Amsterdam, Netherlands, 28 - 29 September 2015
- LIII. PARAMETERS CORRELATION STUDY TO INVESTIGATE THE EFFECTS OF GEOMETRIC VARIABLES ON THE SAFETY OF BOLTED FLANGE CONNECTIONS**  
Yildirim A., Akay A. A., Gulasik H., Çöker D., Gürses E., Kayran A.  
8th Ankarar International Aerospace Conference, Ankara, Turkey, 10 - 12 September 2015
- LIV. PARAMETRIC STUDY FOR THE STUDY OF THE EFFECT OF CONTACT PARAMETERS FOR PLASTIC**

## **ANALYSIS OF BOLTED FLANGE CONNECTIONS**

Yilmaz S. E. , Kayran A., Gürses E., Çöker D.

8th Ankara International Aerospace Conference, Ankara, Turkey, 10 - 12 September 2015

- LIV. **MODELING OF A CIRCULAR DOUBLE FLANGE JOINT INCLUDING CONTACT AND FRICTION EFFECTS**  
Akay A. A. , Gulasik H., Yildirim A., Çöker D., Kayran A., Gürses E.  
8th Ankara International Aerospace Conference, Ankara, Turkey, 10 - 12 September 2015
- LVI. **Utilizing Bending Twisting Coupling in Composite Wind Turbine Blades in Achieving Reduction in Fatigue Loads**  
Şener Ö., Farsadi T., Gözcü O., KAYRAN A.  
8th Ankara International Aerospace Conference-AIAC, Ankara, Turkey, 10 - 12 September 2015
- LVII. **FLUID STRUCTURE INTERACTION BASED ON PANEL METHOD AND GEOMETRICALLY NONLINEAR STRUCTURAL ANALYSIS**  
Sedat Ö., KAYRAN A., TUNCER İ. H.  
Ankara International Aerospace Conference, 10 - 12 September 2015
- LVIII. **Investigation of Effects of Bird Strike on Wing Leading Edge By Using Explicit Finite Element Method**  
Dede O., KAYRAN A.  
8th Ankara International Aerospace Conference-AIAC, Ankara, Turkey, 10 - 12 September 2015
- LIX. **Modeling of Circular Double Flange Joint Including Contact and Friction Effects**  
AKAY A. A. , Gülaşık H., Yıldırım A., ÇÖKER D., KAYRAN A., GÜRSES E.  
8th Ankara International Aerospace Conference-AIAC, Ankara, Turkey, 10 - 12 September 2015
- LX. **Parametric Study of Delamination Analysis in Composites with Cohesive Zone Method**  
Bartan B., KAYRAN A., Acar B.  
8th Ankara International Aerospace Conference-AIAC, Ankara, Turkey, 10 - 12 September 2015
- LXI. **Reduction of Fatigue Damage Equivalent Loads in the Wind Turbine System Through the Use of Off Axis Plies in the Spar Caps of Composite Wind Turbine Blades**  
Gözcü O., Farsadi T., Şener Ö., KAYRAN A.  
20th International Conference on Composite Materials, Kopenhagen, Denmark, 19 - 24 July 2015
- LXII. **Design of Experiments Study for Determination for the Study of the Effect of Contact Parameters in Bolted Flange Connections**  
Yılmaz S. E. , Özcihan T., Kayran A., Gürses E., Çöker D.  
International Conference on Advances in Mechanical Engineering (ICAME 2015), İstanbul, Turkey, 13 - 15 May 2015
- LXIII. **Assessment of the Effect of Hybrid GFRP CFRP Usage in Wind Turbine Blades on the Reduction of Fatigue Damage Equivalent Loads in the Wind Turbine System**  
Gözcü O., Farsadi T., Şener Ö., KAYRAN A.  
AIAA Science and Technology Forum and Exposition, AIAA SciTech 2015, 33rd Wind Energy Symposium, Kissimmee, United States Of America, 5 - 09 January 2015
- LXIV. **Maximizing Buckling Load Factors of Fiber Placed Composite Cylindrical Shells by Particle Swarm Optimization**  
Güldü S., Kayran A.  
AIAA Science and Technology Forum and Exposition, AIAA SciTech 2015, 56th AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Florida, United States Of America, 5 - 09 January 2015
- LXV. **Aeroservoelastic Modelling and Analysis of a Missile Control Surface with a Nonlinear Electromechanical Actuator**  
Mehmet Ozan N., Kayran A.  
AIAA Atmospheric Flight Mechanics Conference, AIAA Aviation and Aeronautics Forum and Exposition, Georgia, United States Of America, 16 - 20 June 2014, pp.1-31
- LXVI. **Propulsion System Model of a Mini UAV System**  
Yanik S. N. , Ozyetis E., Ozcan G., Alemdaroglu N., KAYRAN A., Kiran E.  
International Conference on Unmanned Aircraft Systems (ICUAS), Florida, United States Of America, 27 - 30 May 2014, pp.1073-1080

- LXVII. **Analysis of Aircraft Survivability Against Fragmenting Warhead Threat**  
Konokman H. E. , KAYRAN A., KAYA M.  
55th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, National Harbor, Maryland, United States Of America, 13 - 17 January 2014
- LXVIII. **Investigation of the effect of off-axis spar cap plies on damage equivalent loads in wind turbines with superelement blade definition**  
GÖZCÜ M. O. , OLGUN M. N. , KAYRAN A.  
AIAA SciTech 32nd ASME Wind Energy Symposium, United States Of America, 13 - 17 January 2014
- LXIX. **Investigation of the effect of bending twisting coupling on the loads in wind turbines with superelement blade definition**  
Gozcu M. O. , KAYRAN A.  
5th Science of Making Torque from Wind Conference, Copenhagen, Denmark, 18 - 20 June 2014, vol.524
- LXX. **Static and dynamic analysis of shear deformable composite shells of revolution by semi-analytical approach**  
Kayran A.  
10th Jubilee Conference on Shell Structures - Theory and Applications (SSTA), Gdansk, Poland, 16 - 18 October 2013, pp.301-304
- LXXI. **Linear and non-linear progressive failure analysis of composite aerospace structures under combined loading**  
Günel M., Kayran A.  
AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, Hawaii, United States Of America, 23 - 26 April 2012, no.1860, pp.1-30
- LXXII. **On the Design and Aeroelastic Stability Analysis of Twin Wing-Tail Boom Configuration Unmanned Air Vehicle**  
ÖZÖZTÜRK S., KAYRAN A., ALEMDAROĞLU H. N. , SEBER G.  
52th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, United States Of America, 4 - 07 April 2011
- LXXIII. **FREE VIBRATION CHARACTERISTICS OF COMPOSITE SHELLS OF REVOLUTION WITH VARIABLE STIFFNESS COEFFICIENTS**  
KAYRAN A.  
9th Biennial Conference on Engineering Systems Design and Analysis, Haifa, Israel, 7 - 09 July 2008, pp.603-616
- LXXIV. **Lagrangian hydrocode formulation for large deformation problems and methods to prevent volumetric locking of triangular elements**  
KONOKMAN H. E. , KAYRAN A., ÖZYÖRÜK Y.  
AIAC'2007 Ankara International Aerospace Conference, Ankara, Turkey, 10 - 13 September 2007
- LXXV. **Hava Taşıtlarına Uygulanan Güçlendirilmiş Silindirik Bir Dış Deponun Yapısal Analizi**  
TAŞ C., YAMAN Y., KAYRAN A.  
11. Ulusal Makina Teorisi Sempozyumu, Ankara, Turkey, 8 - 10 September 2003

## Supported Projects

KAYRAN A., SAVAŞ D., DERİCİOĞLU A. F. , Project Supported by Higher Education Institutions, Kompozit Yapılarda Katman Düşüş Bölgelerinde NanoParçacık Güçlendirmesi İle Yapısal İyileştirme Sağlanması, 2021 - Continues

KAYRAN A., TÜBİTAK International Bilateral Joint Cooperation Program Project, Yerleşim Alanlarında Kullanmak İçin Özgün Bir Küçük Yatay Eksenli Rüzgar Türbin Kanadının Tasarımı, Analizi, Üretimi ve Testi, 2020 - 2022

Kurtuluş D. F. , Tekinalp O., Kayran A., Yaman Y., Gürses E., Çöker D., Yavrucuk İ., Leblebicioğlu M. K. , Konukseven E. İ. , Aksel M. H. , et al., Company, ODTÜ-TAİ VLA projesi 1. faz, 2017 - 2022

Kayran A., Project Supported by Defense Industry, Kompozit yapılarda katmanlar arası ilerlemiş hasar analizi projesi, 2015 - 2022

Kayran A., Project Supported by Defense Industry, Kompozit Yapılarda Tamir Bölgeleri için Kriterlerinin Belirlenmesi ve

İlerleyen Hasar analizleri Projesi, 2015 - 2020

KAYRAN A., TUBITAK Project, Kompozit Yapılarda Eğilme-Burulma Etkileşiminin Sayısal Görüntü Bağını (Sgb) Yöntemi İle Belirlenmesi Ve Türbin Kanatlarında Eğilme-Burulma Etkileşimini Kullanarak Yatay Eksen Rüzgar Türbinlerinde Yük Azaltılması, 2014 - 2016

KAYRAN A., TUBITAK Project, TAKTİK İNSANSIZ HAVA ARACI TASARIMI VE ÜRETİMİ, 2008 - 2015

## **Contractual Researches**

Kayran A., TUSAŞ – Türk Havacılık ve Uzay Sanayii A.Ş., Kompozit Yapılarda Tamir Bölgeleri için Kriterlerinin Belirlenmesi ve İlerleyen Hasar analizleri Projesi, 2015 - 2020

KAYRAN A., Rüzgar enerjisi teknolojileri araştırma ve uygulama merkezi, 2011 - 2018

KAYRAN A., Kompozit reflektör anten ve besleme anten bloğu ısıl ve yapısal analizi, 2017 - 2017

KAYRAN A., Airbus A350 XWB uçağı A350-1000 serisi kanatçıkların (Aileron) TUSAŞ ARGE kabiliyetleri ile tasarlanarak, ileri kompozit tesislerimizde üretildiğine yönelik bir teknik rapor hazırlaması, 2016 - 2016

KAYRAN A., ASELSAN A.Ş. PROJE, 2015 - 2016

KAYRAN A., Flanş İleri Analiz Arayüzü ve Tasarım Programı Oluşturulması, 2013 - 2016

KAYRAN A., Hava aracı yapısal analiz çalışmaları, 2015 - 2015

KAYRAN A., Uydu Fırlatma Sistemi Projesi kapsamında ihtiyaç duyulan ileri kompozit yapı tasarımına yönelik aksiyon planının çıkarılması, 2014 - 2015

KAYRAN A., Kompozit yapılarda katmanlar arası ilerlemiş hasar analizi projesi, 2014 - 2015

KAYRAN A., Termoplastik poliüretan malzemelerin karakterizasyonu -Devam, 2014 - 2014

KAYRAN A., Termoelastik poliüretan malzemelerin karakterizasyonu, 2014 - 2014

KAYRAN A., METUWind Center for Wind Energy, 2011 - 2014

KAYRAN A., Malzeme ve kompozit uygulamaları, 2013 - 2013

KAYRAN A., İnsansız Hava Aracı Tasarımı ve Üretimi, 2007 - 2007

## **Memberships / Tasks in Scientific Organizations**

American Institute of Aeronautics and Astronautics, Member, 2016 - Continues, United States Of America

## **Scientific Refereeing**

ENERGY REPORTS, SCI Journal, December 2021

AIAA JOURNAL, SCI Journal, December 2021

ENERGY REPORTS, SCI Journal, December 2021

JOURNAL OF SANDWICH STRUCTURES AND MATERIALS, SCI Journal, December 2021

TUBITAK Project, 1003 - Priority Areas R&D Projects Support Program, Middle East Technical University, Turkey, December 2021

TUBITAK Project, 1003 - Priority Areas R&D Projects Support Program, Middle East Technical University, Turkey, December 2021

TUBITAK Project, 1003 - Priority Areas R&D Projects Support Program, Middle East Technical University, Turkey, December 2021

TUBITAK Project, 1003 - Priority Areas R&D Projects Support Program, Middle East Technical University, Turkey, December 2021

Project Supported by Other Official Institutions, Middle East Technical University, Turkey, December 2021

TUBITAK Project, 1003 - Priority Areas R&D Projects Support Program, Middle East Technical University, Turkey, December 2021

TUBITAK Project, 1003 - Priority Areas R&D Projects Support Program, Middle East Technical University, Turkey,

December 2021

TUBITAK Project, 1003 - Priority Areas R&D Projects Support Program, Middle East Technical University, Turkey, December 2021

TUBITAK Project, 1003 - Priority Areas R&D Projects Support Program, Middle East Technical University, Turkey, December 2021

SUSTAINABLE ENERGY TECHNOLOGIES AND ASSESSMENTS, SCI Journal, November 2021

Project Supported by Other Official Institutions, Middle East Technical University, Turkey, November 2021

MARINE STRUCTURES DESIGN, CONSTRUCTION AND SAFETY, SCI Journal, October 2021

Project Supported by Other Official Institutions, Middle East Technical University, Turkey, October 2021

TUBITAK Project, 1501 - Industry R & D Projects Support Program, Middle East Technical University, Turkey, October 2021

Project Supported by Other Official Institutions, Middle East Technical University, Turkey, October 2021

TUBITAK Project, 1501 - Industry R & D Projects Support Program, Middle East Technical University, Turkey, October 2021

JOURNAL OF SANDWICH STRUCTURES AND MATERIALS, SCI Journal, May 2021

OCEAN ENGINEERING, SCI Journal, May 2021

TUBITAK Project, 1501 - Industry R & D Projects Support Program, Middle East Technical University, Turkey, May 2021

JOURNAL OF SANDWICH STRUCTURES AND MATERIALS, SCI Journal, April 2021

JOURNAL OF SANDWICH STRUCTURES AND MATERIALS, SCI Journal, March 2021

OCEAN ENGINEERING, Journal Indexed in SCI-E, December 2020

Mathematical Problems In Engineering, Journal Indexed in SCI-E, December 2020

ENGINEERING STRUCTURES, Journal Indexed in SCI-E, December 2020

FATIGUE & FRACTURE OF ENGINEERING MATERIALS & STRUCTURES, Journal Indexed in SCI-E, November 2020

POLYMER TESTING, Journal Indexed in SCI-E, November 2020

JOURNAL OF SANDWICH STRUCTURES & MATERIALS, Journal Indexed in SCI-E, November 2020

FATIGUE & FRACTURE OF ENGINEERING MATERIALS & STRUCTURES, Journal Indexed in SCI-E, November 2020

ENGINEERING STRUCTURES, Journal Indexed in SCI-E, October 2020

SUSTAINABLE ENERGY TECHNOLOGIES AND ASSESSMENTS, Journal Indexed in SCI-E, October 2020

TUBITAK Project, 1501 - Industry R & D Projects Support Program, MERİH ASANSÖR SAN. VE TİC. A.Ş., Turkey, October 2020

POLYMER TESTING, Journal Indexed in SCI-E, September 2020

JOURNAL OF SANDWICH STRUCTURES & MATERIALS, Journal Indexed in SCI-E, September 2020

SUSTAINABLE ENERGY TECHNOLOGIES AND ASSESSMENTS, Journal Indexed in SCI-E, August 2020

AIRCRAFT ENGINEERING AND AEROSPACE TECHNOLOGY, Journal Indexed in SCI-E, July 2020

JOURNAL OF SANDWICH STRUCTURES & MATERIALS, Journal Indexed in SCI-E, July 2020

JOURNAL OF SANDWICH STRUCTURES & MATERIALS, Journal Indexed in SCI-E, May 2020

ENGINEERING STRUCTURES, Journal Indexed in SCI-E, May 2020

JOURNAL OF SANDWICH STRUCTURES & MATERIALS, Journal Indexed in SCI-E, March 2020

JOURNAL OF SANDWICH STRUCTURES & MATERIALS, Journal Indexed in SCI-E, February 2020

ENGINEERING STRUCTURES, Journal Indexed in SCI-E, January 2020

JOURNAL OF SANDWICH STRUCTURES & MATERIALS, Journal Indexed in SCI-E, January 2020

TUBITAK Project, 1501 - Industry R & D Projects Support Program, Middle East Technical University, Turkey, December 2019

AIAA JOURNAL, SCI Journal, August 2019

JOURNAL OF SANDWICH STRUCTURES & MATERIALS, SCI Journal, June 2019

Project Supported by Other Official Institutions, Middle East Technical University, Turkey, June 2019

TUBITAK Project, 1003 - Priority Areas R&D Projects Support Program, Karamanoglu Mehmetbey University, Turkey, March 2019

TUBITAK Project, 1003 - Priority Areas R&D Projects Support Program, Sabanci University, Turkey, March 2019

TUBITAK Project, 1003 - Priority Areas R&D Projects Support Program, University Of Turkish Aeronautical Association, Turkey, March 2019

TUBITAK Project, 1003 - Priority Areas R&D Projects Support Program, Sabanci University, Turkey, March 2019  
ENGINEERING STRUCTURES, SCI Journal, January 2019  
RENEWABLE ENERGY, SCI Journal, January 2019  
ENGINEERING STRUCTURES, SCI Journal, January 2019  
JOURNAL OF SANDWICH STRUCTURES & MATERIALS, Journal Indexed in SCI-E, December 2018  
ENGINEERING STRUCTURES, SCI Journal, November 2018  
AIAA JOURNAL, SCI Journal, November 2018  
JOURNAL OF SANDWICH STRUCTURES & MATERIALS, SCI Journal, November 2018  
ENGINEERING STRUCTURES, SCI Journal, October 2018  
ENGINEERING STRUCTURES, SCI Journal, September 2018  
JOURNAL OF RENEWABLE AND SUSTAINABLE ENERGY, SCI Journal, September 2018  
ENGINEERING STRUCTURES, SCI Journal, August 2018  
JOURNAL OF SANDWICH STRUCTURES & MATERIALS, SCI Journal, August 2018  
JOURNAL OF RENEWABLE AND SUSTAINABLE ENERGY, SCI Journal, July 2018  
JOURNAL OF SANDWICH STRUCTURES & MATERIALS, SCI Journal, July 2018  
JOURNAL OF AEROSPACE ENGINEERING, SCI Journal, July 2018  
ENGINEERING STRUCTURES, SCI Journal, July 2018  
ENGINEERING STRUCTURES, SCI Journal, July 2018  
ENGINEERING STRUCTURES, SCI Journal, June 2018  
ENGINEERING STRUCTURES, SCI Journal, June 2018  
JOURNAL OF SANDWICH STRUCTURES & MATERIALS, SCI Journal, May 2018  
ENGINEERING STRUCTURES, SCI Journal, May 2018  
JOURNAL OF RENEWABLE AND SUSTAINABLE ENERGY, SCI Journal, March 2018  
JOURNAL OF AEROSPACE ENGINEERING, SCI Journal, March 2018

## Tasks In Event Organizations

Söken H. E. , Tuncer I. H. , Gürses E., Kayran A., Kahveci H. S. , 11th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Scientific Congress, Ankara, Turkey, Eylül 2021  
Tuncer İ. H. , Yaman Y., Kayran A., Uzol O., Gürses E., Perçin M., 10th Ankara International Aerospace Conference (AIAC2019), Scientific Congress, Ankara, Turkey, Eylül 2019

## Metrics

Publication: 116  
Citation (WoS): 166  
Citation (Scopus): 260  
H-Index (WoS): 6  
H-Index (Scopus): 10

## Awards

Özturan B. İ. , Kayran A., Rotorcraft design session best paper award, Asian/Australian Rotorcraft Forum, November 2019  
Kayran A., Yavrucuk İ., Gürses E., Konukseven E. İ. , Tekinalp O., Çoker D., Kurtuluş D. F. , Aksel H., Schmidt Ş. E. , Yaman Y., et al., ODTÜ-Tusaş Çok Hafif Uçak (Very Light Aircraft (VLA)) Tasarım ve Geliştirme, Yüksek Öğretim Kurumu, September 2019