

Fatih Usta

Personal Information

Email: ustaf@itu.edu.tr

Web: <https://avesis.itu.edu.tr/ustaf>

Education Information

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Uçak ve Uzay Mühendisliği, Turkey 2015 - 2020

Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Uçak ve Uzay Mühendisliği, Turkey 2013 - 2015

Undergraduate, Istanbul Technical University, Uçak Ve Uzay Bilimleri, Uçak Mühendisliği, Turkey 2004 - 2013

Foreign Languages

German, B1 Intermediate

English, C2 Mastery

Research Areas

Fracture Mechanics, Finite Element Methods, Mechanical Testing, Aeronautical and Space Engineering, Mechanical Properties, Composites, Material Characterization, Aeronautical Engineering , Structural Technologies, Material Technologies, Testing Techniques, Engineering and Technology

Academic Titles / Tasks

Research Assistant, Istanbul Technical University, Uçak Ve Uzay Bilimleri, Uçak Mühendisliği, 2019 - Continues

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Multiphase lattice metamaterials with enhanced mechanical performance**
Usta F., Scarpa F., Türkmen H. S. , Johnson P., Perriman A. W. , Chen Y.
SMART MATERIALS AND STRUCTURES, vol.30, no.2, 2021 (Journal Indexed in SCI)
- II. **Edgewise compression of novel hexagonal hierarchical and asymmetric unit cells honeycomb metamaterials**
Usta F., Scarpa F., Türkmen H. S.
Materials Today Communications, vol.24, 2020 (Journal Indexed in SCI)
- III. **Experimental and numerical investigation of impact behavior of nested tubes with and without honeycomb filler**
Usta F., Türkmen H. S.
THIN-WALLED STRUCTURES, vol.143, 2019 (Journal Indexed in SCI)
- IV. **Crashworthiness Optimization of Nested and Concentric Circular Tubes Using Response Surface Methodology and Genetic Algorithm**
Usta F., Eren Z., Kurtaran H., Türkmen H. S. , Kazanci Z., Mecitoğlu Z.
LATIN AMERICAN JOURNAL OF SOLIDS AND STRUCTURES, vol.15, no.5, 2018 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Impact behavior of triggered and non-triggered crash tubes with auxetic lattices**
Usta F., Ertas O. F. , Ataalp A., Türkmen H. S. , Kazanci Z., Scarpa F.
Multiscale and Multidisciplinary Modeling, Experiments and Design, vol.2, no.2, pp.119-127, 2019 (Refereed Journals of Other Institutions)

Refereed Congress / Symposium Publications in Proceedings

- I. **Ökzetik dolgulu tüplerin statik ezme yükü altında deformasyon davranışının incelenmesi**
USTA F., TÜRKMEN H. S.
8. Ulusal Havacılık ve Uzay Konferansı (UHUK'xx2020), Turkey, 9 - 11 September 2020
- II. **Ökzetik dolgulu tüplerin çarpma yükleri altında deneysel ve sayısal olarak incelenmesi**
USTA F., TÜRKMEN H. S.
8. Ulusal Havacılık ve Uzay Konferansı (UHUK'xx2020), Turkey, 9 - 11 September 2020
- III. **Crushing behaviour of nested composite crash tubes**
Usta F., Ataalp A., Türkmen H. S.
9th International Conference on Recent Advances in Space Technologies, RAST 2019, İstanbul, Turkey, 11 - 14 June 2019, pp.65-68
- IV. **Toroidal sandwich panels with auxetic core under impact loads: Numerical simulations**
Usta F., Türkmen H. S. , Scarpa F.
9th International Conference on Recent Advances in Space Technologies, RAST 2019, İstanbul, Turkey, 11 - 14 June 2019, pp.25-28
- V. **Impact Response of Sandwich Structures with Auxetic and Honeycomb Core**
Ataalp A., Usta F., Türkmen H. S. , Scarpa F., Doltsinis I., Kazanci Z.
9th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Turkey, 11 - 14 June 2019, pp.69-72
- VI. **Optimization of Cylindrical Curved Composite Panels Using Response Surface Methodology and Genetic Algorithm**
USTA F., KURTARAN H., TÜRKMEN H. S.
20th International Conference on Composite Structures (ICCS20), Paris, France, 4 - 07 September 2017
- VII. **Numerical and Experimental Impact Analysis of Stepped and Concentric Crash Tubes**
USTA F., EREN Z., KURTARAN H., TÜRKMEN H. S. , KAZANCI Z., MECİTOĞLU Z.
International Symposium on Dynamic Response and Failure of Composite Materials, Italy, 12 - 15 July 2018
- VIII. **Numerical and Experimental Investigation of Curved Sandwich Panels and Plates**
USTA F., TÜRKMEN H. S. , KURTARAN H.
International Conference on Mechanics of Composites-(MECHCOMP3), Italy, 4 - 07 June 2017
- IX. **Crash Behavior of Nested Tube Structures with Various Cross Sections**
Usta F., Türkmen H. S.
8th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Turkey, 19 - 22 June 2017, pp.23-27
- X. **Crash Response of Composite Multitubular Structures: The Effects of Wall Thickness**
USTA F., EREN Z., TÜRKMEN H. S. , KAZANCI Z., MECİTOĞLU Z.
19th International Conference on Composite Structures (ICCS19), Portugal, 5 - 08 August 2016
- XI. **Numerical Investigation of Foam Filled Axially Loaded Multitubular Structures**
USTA F., EREN Z., TÜRKMEN H. S. , KAZANCI Z., MECİTOĞLU Z.
1st International Conference on Impact Loading of Structures and Materials-ICILSM2016, Italy, 22 - 26 May 2016
- XII. **Effects of Thickness and Curvature on Impact Behaviour of Composite Panels**
Usta F., Mullaoğlu F., Türkmen H. S. , Balkan D., Mecitoğlu Z., Kurtaran H., Akay E.
2nd International Symposium on Dynamic Response and Failure of Composite Materials, (Draf), Naples, Italy, 6 -

09 September 2016, vol.167, pp.216-222

XIII. Deformation behavior of the polycarbonate plates subjected to impact loading

Mullaoğlu F., Usta F., Türkmen H. S. , Kazancı Z., Balkan D., Akay E.

2nd International Symposium on Dynamic Response and Failure of Composite Materials (Draf), Naples, Italy, 6 - 09 September 2016, vol.167, pp.143-150

XIV. Axial Crash and Crush Response of Novel Nested Tube Designs

EREN Z., USTA F., TÜRKMEN H. S. , KAZANCI Z., MECİTOĞLU Z.

12th International Conference on the Mechanical Behaviour of Materials (ICM 12), Germany, 10 - 14 May 2015

XV. Numerical Investigation of Stepped Concentric Crash Tubes Subjected to Axial Impact : The Effects of Number of Tubes

Usta F., Eren Z., Türkmen H. S. , KAZANCI Z., Mecitoğlu Z.

7th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Turkey, 16 - 19 June 2015, pp.39-43

Supported Projects

Usta F., Türkmen H. S. , Project Supported by Higher Education Institutions, Köpük Dolgulu Çift Eğrilikli Sandviç Panellerde Dinamik Çarpma Etkisinin İncelenmesi (BAP Doktora Tez Destek Projesi - İTÜ), 2019 - 2021

Usta F., Türkmen H. S. , Project Supported by Higher Education Institutions, Çift Eğrilikli Ökzetik Dolgulu Sandviç Panellerin Katı ve Yumuşak Parçacık Çarpması Etkisi Altında Davranışının İncelenmesi (BAP Genel Araştırma Projesi - İTÜ), 2018 - 2021

Türkmen H. S. , TUBITAK Project, Negatif Poisson Oranı Gösteren (Ökzetik) 3D Latislerin Üretilip Balistik ve Yavaş Hızda Çarpma Performansının Sayısal ve Deneysel İncelenmesi, 2015 - 2018

Türkmen H. S. , Mecitoğlu Z., Kazancı Z., TUBITAK Project, İç içe yuvalanmış ezilme kutularının ezilme ve çarpışma davranışının sayısal ve deneysel incelenmesi, 2013 - 2015

Patent

Usta F., Araçlarda Pasif Güvenlik Bileşeni Olarak İç İçe Çarpışma Kutusu, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: TR 2015 10333 , Initial Registration, 2020

Scientific Refereeing

MATERIALS & DESIGN, SCI Journal, January 2021

THIN-WALLED STRUCTURES, SCI Journal, November 2020

SHOCK AND VIBRATION, SCI Journal, June 2020

THIN-WALLED STRUCTURES, SCI Journal, December 2019

ENGINEERING STRUCTURES, SCI Journal, November 2018

Citations

Total Citations (WOS):22

h-index (WOS):3

Scholarships

2211/C Domestic Priority Doctoral Fellowship, TUBITAK, 2019 - Continues
2214-A International Doctoral Research Fellowship, TUBITAK, 2019 - 2019
100/2000 Domestic Priority Doctoral Fellowship, YOK, 2017 - 2019