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International Researcher IDs

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Publons / Web Of Science ResearcherID: HQK-9634-2023

ScopusID: 58080850000

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Education Information

Doctorate, Karadeniz Technical University, Mühendislik Fakültesi, Makine Mühendisliği, Turkey 2024 - Continues

Postgraduate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Turkey 2020 - 2024

Undergraduate, Karadeniz Technical University, Mühendislik Fakültesi, Turkey 2017 - 2020

Undergraduate, Bartın University, Turkey 2016 - 2017

Dissertations

Postgraduate, Vakum ortamında elyaf takviyeli termoplastik kompozitlerin eriyik yığıma metodu ile eklemeli üretimi ve mekanik özelliklerinin araştırılması, Karadeniz Technical University, Fen Bilimleri Enstitüsü, 2024

Research Areas

Mechanical Engineering, Internal Combustion Engines, Engineering and Technology

Academic Titles / Tasks

Research Assistant, Karadeniz Technical University, Mühendislik Fakültesi, Makine Mühendisliği, 2024 - Continues

Published journal articles indexed by SCI, SSCI, and AHCI

- Additive manufacturing and mechanical performance of short fiber reinforced PEEK (polyether ether ketone) thermoplastic composites in a vacuum environment**

Vatandaş B. B., Gümrük R.

INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, vol.134, no.3-4, pp.1677-1698, 2024

(SCI-Expanded)

- II. **Obtaining excellent mechanical properties with additively manufactured short fiber reinforced polyether-ether-ketone thermoplastics through simultaneous vacuum and infrared heating**
GÜMRÜK R., VATANDAŞ B. B., UŞUN A.
ADDITIVE MANUFACTURING, 2024 (SCI-Expanded)
- III. **Mechanical performances of continuous carbon fiber reinforced PEEK (polyether ether ketone) composites printed in a vacuum environment**
Vatandaş B. B., UŞUN A., GÜMRÜK R.
Journal of Manufacturing Processes, vol.120, pp.579-594, 2024 (SCI-Expanded)
- IV. **Enhanced mechanical properties of continuous carbon fiber reinforced polyether-ether-ketone composites via infrared preheating and high fiber volume fraction**
Uşun A., Vatandaş B. B., Gümrük R.
ADDITIVE MANUFACTURING, 2024 (SCI-Expanded)
- V. **The Relationship Between Fiber Bundle Size and Mechanical Performance of Additively Manufactured Continuous Carbon Fiber Reinforced Thermoplastic Composites**
Vatandas B. B., UŞUN A., Guemruek R., Simsek C.
3D PRINTING AND ADDITIVE MANUFACTURING, vol.10, no.6, pp.1190-1203, 2023 (SCI-Expanded)
- VI. **Additive manufacturing of PEEK-based continuous fiber reinforced thermoplastic composites with high mechanical properties**
Vatandas B. B., UŞUN A., Yıldız N., Simsek C., CORA Ö. N., ASLAN M., GÜMRÜK R.
COMPOSITES PART A-APPLIED SCIENCE AND MANUFACTURING, vol.167, 2023 (SCI-Expanded)

Articles Published in Other Journals

- I. **Examination of the influence of printing parameters for the continuous carbon fiber-reinforced thermoplastics based on fused deposition modeling**
Uşun A., Gümrük R., Yıldız N., Vatandaş B. B.
The International Journal of Materials and Engineering Technology, vol.5, no.2, pp.65-70, 2022 (Peer-Reviewed Journal)
- II. **The Effect of Heat Treatments Applied to Continuous Fiber Reinforced Thermoplastic Composites on Mechanical Properties**
Vatandaş B. B., Gümrük R., Uşun A., Yıldız N.
Open Journal of Nano, vol.7, no.1, pp.10-17, 2022 (Peer-Reviewed Journal)
- III. **Obtaining High Mechanical Properties Polyamide - Continuous Carbon Fiber Reinforced Thermoplastic Composites with Infrared Heating**
NERGÜN M., ÖNEL N., VATANDAŞ B. B., UŞUN A., GÜMRÜK R.
Avrupa Bilim ve Teknoloji Dergisi, pp.222-226, 2022 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **CAVITATION PHENOMENA IN DIESEL INJECTOR NOZZLES: KEY INFLUENCING FACTORS AND MECHANISMS - A MINI REVIEW**
Gülüm M., Vatandaş B. B.
7th INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING, İstanbul, Turkey, 24 - 26 December 2024, pp.380-397
- II. **The Effect of Printing Parameters on Mechanical Properties In Pla Materials Produced By FDM Method**
Çamtekne A. H., Vatandaş B. B., Uşun A., Gümrük R.
4th Baskent International Conference On Multidisciplinary Studies, Ankara, Turkey, 4 - 06 August 2023, pp.1-10
- III. **Interlayer Bonding Behaviours of Continuous Carbon Fiber Reinforced Peek Composites 3D Printed**

in Vacuum

Vatandaş B. B., Gümrük R.

13th International İstanbul Scientific Research Congress on Life, Engineering, and Applied Sciences, İstanbul, Turkey, 15 May 2023, pp.115-123

- IV. **Improving the Mechanical Properties of Continuous Fiber Reinforced Thermoplastic Composites Manufactured by FDM Method with Fiber Ratio Optimization**
Uşun A., Vatandaş B. B., Gümrük R.
6. INTERNATIONAL SCIENCES AND INNOVATION CONGRESS, Ankara, Turkey, 25 February - 26 March 2023, pp.223-231
- V. **Cabinet Design For Additive Manufacturing Under Vacuum Effect With FDM-Type Printers**
Vatandaş B. B., Uşun A., Gümrük R.
6. INTERNATIONAL SCIENCES AND INNOVATION CONGRESS, Ankara, Turkey, 25 February - 26 March 2023, pp.216-222
- VI. **Effect of printing speed on mechanical properties of continuous fiber reinforced thermoplastic composites**
Vatandaş B. B., Uşun A., Gümrük R.
3. INTERNATIONAL DİCLE SCIENTIFIC RESEARCH AND INNOVATION CONGRESS, Diyarbakır, Turkey, 26 - 27 November 2022, pp.1552-1561
- VII. **The Effect of Peek Polymer and Carbon Fiber Interface Interaction on the Mechanical Behavior of Additively Manufactured Continuous Fiber Reinforced Composites**
Vatandaş B. B., Uşun A., Gümrük R.
4. INTERNATIONAL GÖBEKLİTEPE SCIENTIFIC RESEARCH CONGRESS, Şanlıurfa, Turkey, 7 - 08 October 2022, pp.1043-1050
- VIII. **Obtaining High Mechanical Properties Polyamide - Continuous Carbon Fiber Reinforced Thermoplastic Composites with Infrared Heating**
Nergün M., Önel N., Vatandaş B. B., Uşun A., Gümrük R.
1 ST INTERNATIONAL CONFERENCE ON ENGINEERING AND APPLIED NATURAL SCIENCES , Konya, Turkey, 10 - 13 May 2022, pp.2096
- IX. **Improving the Interlaminar Bonding Performance of Additively Manufactured Continuous Fiber Reinforced Thermoplastic Composites Using an Infrared Heat Source**
Uşun A., Vatandaş B. B., Gümrük R.
2.ND INTERNATIONAL CONFERENCE ON APPLIED ENGINEERING AND NATURAL SCIENCES, Konya, Turkey, 10 - 13 March 2022, pp.462-466
- X. **The Effect of Heat Treatments Applied to Continuous Fiber Reinforced Thermoplastic Composites on Mechanical Properties**
Vatandaş B. B., Gümrük R., Uşun A., Yıldız N.
5th International Conference on Engineering Technologies (ICENTE 2021), Konya, Turkey, 18 - 21 November 2021, pp.154
- XI. **Examination of the Influence of Printing Parameters for the Continuous Carbon Fiber-Reinforced Thermoplastics Based on Fused Deposition Modeling**
Uşun A., Gümrük R., Yıldız N., Vatandaş B. B.
The 3rd International Conference of Materials and Engineering Technology (TICMET21), Gaziantep, Turkey, 5 - 06 November 2021, pp.257

Supported Projects

Gümrük R., Vatandaş B. B., Uşun A., Project Supported by Higher Education Institutions, Sürekli Elyaf Takviyeli Termoplastik Kompozit Parçaların Vakum Ortamında Katmanlı İmalatı, 2023 - 2025

Cora Ö. N., Uşun A., Şimşek C., Gümrük R., TUBITAK Project, Eriyik Yığıma Yöntemi(FDM) Esas Alan Üç Boyutlu Yazıcı Teknolojisi ile Yüksek Mekanik Özelliklere Sahip Sürekli Elyaf Takviyeli Termoplastik Kompozit Malzeme Üretimi, 2021 -

2023

Vatandaş B. B., Uşun A., Gümrük R., Project Supported by Other Private Institutions, Parçacık Katkılı Termoplastik Kompozitlerin Vakum Altında Katmanlı İmalatı, 2021 - 2022

Scientific Refereeing

SN APPLIED SCIENCES, Journal Indexed in SCI-E, September 2024

APPLIED COMPOSITE MATERIALS, Journal Indexed in SCI-E, August 2024

Metrics

Publication: 20

Citation (WoS): 39

Citation (Scopus): 54

H-Index (WoS): 2

H-Index (Scopus): 3

Awards

Vatandaş B. B., Lisans Bölüm Birinciliği, Karadeniz Teknik Üniversitesi, January 2020

Non Academic Experience

Company, Türk Havacılık ve Uzay Sanayii, Üniversite Sanayi İşbirliği Müdürlüğü