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Education Information

Doctorate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Turkey 2016 - 2023

Postgraduate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, İnşaat Mühendisliği, Turkey 2013 - 2016

Undergraduate, Gumushane University, Mühendislik Fakültesi, İnşaat Mühendisliği, Turkey 2009 - 2013

Dissertations

Doctorate, Betonarme binalarda çarpışma etkisinin sarsma masası deneyleri ile incelenmesi ve deneysel yöntemlere dayalı hasar tespiti, Karadeniz Technical University, Fen Bilimleri Enstitüsü, 2023

Postgraduate, Investigating Seismic Performance of The Semi-Rigid Connected Prefabricated Structures, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2016

Research Areas

Structure, Prefabrication, Buildings (industrial, commercial and public), Structural Engineering, Steel Structures, Timber Structures, Performance of Constructed Facilities, Earthquake Engineering, Concrete Structures, Repair and Strengthening in Buildings, Masonry Structures

Academic Titles / Tasks

Lecturer, Karadeniz Technical University, Rektörlük, 2023 - Continues

Research Assistant, Sivas Cumhuriyet University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2014 - 2023

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Estimating fundamental frequency of masonry arches under elevated temperature: numerical analysis and validation using ambient vibration tests**

ALTUNIŞIK A. C., Ozturk M. M., GENÇ A. F., Kaya A., AKBULUT Y. E., SUNCA F., GÜNAYDIN M.
ARCHIVES OF CIVIL AND MECHANICAL ENGINEERING, vol.25, no.1, 2025 (SCI-Expanded)

- II. **Ambient Vibration-Based Seismic Evaluation of Long-Span Prestressed Concrete Box-Girder Bridges**

Under Long-Duration, Near-Fault and Far-Fault Ground Motions

ALTUNIŞIK A. C., SUNCA F., SEVİM B.

JOURNAL OF EARTHQUAKE AND TSUNAMI, vol.18, no.6, 2024 (SCI-Expanded)

- III. **Shake table tests on story-to-story pounding between adjacent RC buildings**
SUNCA F., ALTUNIŞIK A. C., Kaya A., GENÇ A. F., Şahin M. C., Karahasan A. K.
Structures, vol.69, 2024 (SCI-Expanded)
- IV. **Seismic performance assessment of a base-isolated hospital building subjected to February 6, 2023, Kahramanmaraş, Türkiye earthquakes (Mw 7.7 Pazarcık and Mw 7.6 Elbistan) and seismic fragility analysis considering different construction stages**
Şen F., SUNCA F., ALTUNIŞIK A. C.
Soil Dynamics and Earthquake Engineering, vol.185, 2024 (SCI-Expanded)
- V. **Structural response of half-scale pumice concrete masonry building: shake table/ambient vibration tests and FE analysis**
Kaya A., Roudane B., Adanur S., SUNCA F., GENÇ A. F., GÜNAYDIN M., ALTUNIŞIK A. C.
MECCANICA, vol.59, no.7, pp.1159-1190, 2024 (SCI-Expanded)
- VI. **Dynamic characteristics changes of masonry arches exposed to elevated temperature**
ALTUNIŞIK A. C., ÖZTÜRK M. M., GENÇ A. F., GÜNAYDIN M., KAYA A., AKBULUT Y. E., SUNCA F.
Construction and Building Materials, vol.418, 2024 (SCI-Expanded)
- VII. **Evaluation of earthquake-related damages on masonry structures due to the 6 February 2023 Kahramanmaraş-Türkiye earthquakes: A case study for Hatay Governorship Building**
KAHYA V., GENÇ A. F., SUNCA F., Roudane B., ALTUNIŞIK A. C., Yılmaz S., GÜNAYDIN M., Dok G., Kirtel O., Demir A., et al.
Engineering Failure Analysis, vol.156, 2024 (SCI-Expanded)
- VIII. **Field Observations and Numerical Investigations on Seismic Damage Assessment of RC and Masonry Minarets During the February 6th, 2023, Kahramanmaraş (Mw 7.7 Pazarcık and Mw 7.6 Elbistan) Earthquakes in Türkiye**
ATMACA B., ERTÜRK ATMACA E., Roudane B., Güleş O., Demirkaya E., Aykanat B., ALTUNIŞIK A. C., GÜNAYDIN M., Arslan M. E., KAHYA V., et al.
International Journal of Architectural Heritage, 2024 (SCI-Expanded)
- IX. **Field Observations and Damage Evaluation in Reinforced Concrete Buildings After the February 6th, 2023, Kahramanmaraş-Turkiye Earthquakes**
Altunışik A. C., Arslan M. E., Kahya V., Aslan B., Sezdirmez T., Dok G., Kirtel O., Öztürk H., Sunca F., Baltacı A., et al.
JOURNAL OF EARTHQUAKE AND TSUNAMI, vol.17, no.6, 2023 (SCI-Expanded)
- X. **A Parametric Study on Damage Assessment of RC Buildings Subjected to Blast Loading**
ALTUNIŞIK A. C., Önalın F., SUNCA F.
Arabian Journal for Science and Engineering, vol.48, no.4, pp.5115-5137, 2023 (SCI-Expanded)
- XI. **Modal parameter identification and seismic assessment of historical timber structures under near-fault and far-fault ground motions**
Can Altunışik A. C., SUNCA F., SEVİM B.
STRUCTURES, vol.47, pp.1624-1651, 2023 (SCI-Expanded)
- XII. **Post-Earthquake Damage Assessments of Historic Mosques and Effects of Near-Fault and Far-Fault Ground Motions on Seismic Responses**
Altunışik A. C., Sunca F., Genç A. F., Tavşan C.
INTERNATIONAL JOURNAL OF ARCHITECTURAL HERITAGE, vol.17, no.7, pp.1043-1078, 2023 (SCI-Expanded)
- XIII. **Experimental investigation on new mechanical systems effectiveness to reduce the coupling beam damages**
Sesli H., HÜSEM M., SUNCA F., ALTUNIŞIK A. C., OKUR F. Y.
BULLETIN OF EARTHQUAKE ENGINEERING, vol.21, no.1, pp.535-582, 2023 (SCI-Expanded)
- XIV. **Post-earthquake damage assessments of unreinforced masonry (URM) buildings by shake table test and numerical visualization**
Kaya A., ADANUR S., Bello R. A., GENÇ A. F., OKUR F. Y., SUNCA F., GÜNAYDIN M., ALTUNIŞIK A. C., SEVİM B.

- Engineering Failure Analysis, vol.143, 2023 (SCI-Expanded)
- XV. **Nondestructive Experimental Measurement, Model Updating, and Fatigue Life Assessment of carsamba Suspension Bridge**
GÜNAYDIN M., SUNCA F., ALTUNIŞIK A. C., Ergun M., OKUR F. Y.
JOURNAL OF BRIDGE ENGINEERING, vol.27, no.2, 2022 (SCI-Expanded)
- XVI. **Effects of Concrete Strength and Openings in Infill Walls on Blasting Responses of RC Buildings Subjected to TNT Explosive**
ALTUNIŞIK A. C., Onalan F., SUNCA F.
IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY-TRANSACTIONS OF CIVIL ENGINEERING, vol.45, no.4, pp.2525-2554, 2021 (SCI-Expanded)
- XVII. **Modal identification and fatigue behavior of Eynel steel arch highway bridge with calibrated models**
SUNCA F., Ergun M., ALTUNIŞIK A. C., GÜNAYDIN M., OKUR F. Y.
JOURNAL OF CIVIL STRUCTURAL HEALTH MONITORING, vol.11, no.5, pp.1337-1354, 2021 (SCI-Expanded)
- XVIII. **Optimal sensor placements for system identification of concrete arch dams**
ALTUNIŞIK A. C., SEVİM B., SUNCA F., OKUR F. Y.
ADVANCES IN CONCRETE CONSTRUCTION, vol.11, no.5, pp.397-407, 2021 (SCI-Expanded)
- XIX. **Optimal Sensor Placement for Laminated Composite and Steel Cantilever Beams by the Effective Independence Method**
SUNCA F., Okur F. Y., Altunisik A. C., Kahya V.
STRUCTURAL ENGINEERING INTERNATIONAL, vol.31, no.1, pp.85-92, 2021 (SCI-Expanded)
- XX. **Pushover analysis of prefabricated structures with various partially fixity rates**
Akkose M., SUNCA F., TÜRKAY A.
EARTHQUAKES AND STRUCTURES, vol.14, no.1, pp.21-32, 2018 (SCI-Expanded)

Articles Published in Other Journals

- I. **On the earthquake-related damages of civil engineering structures within the areas impacted by Kahramanmaraş earthquakes**
ATMACA B., Arslan M. E., EMİROĞLU M., ALTUNIŞIK A. C., ADANUR S., DEMİR A., GÜNAYDIN M., TOPLU E., TATAR T., KAHYA V., et al.
Journal of Structural Engineering & Applied Mechanics (Online), vol.6, no.2, pp.98-116, 2023 (Peer-Reviewed Journal)
- II. **Engineering software development for strengthening concrete structures using fiber-reinforced polymers**
ALTUNIŞIK A. C., SUNCA F., YILMAZ M.
Journal of Structural Engineering & Applied Mechanics (Online), vol.6, no.2, pp.157-166, 2023 (Peer-Reviewed Journal)
- III. **Experimental, numerical and analytical investigation on blast response of brick walls subjected to TNT explosive**
ALTUNIŞIK A. C., ONALAN F., SUNCA F.
Journal of Structural Engineering & Applied Mechanics (Online), vol.4, no.1, pp.28-45, 2021 (Peer-Reviewed Journal)
- IV. **BETONARME BİNALARIN DEPREM PERFORMANSLARINA DOLGU DUVARLARIN ETKİSİNİN İNCELENMESİ**
ÇAVDAR Ö., KÖSE SUNCA G. Ç., SUNCA F.
Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.25, no.1, pp.465-484, 2020 (Peer-Reviewed Journal)
- V. **1. Derece Deprem Bölgesinde, Aynı Yüksekliklere ve Farklı Dinamik Özelliklere Sahip Betonarme Binalar Arasındaki Çarpışma Davranışı**
DERTLİ H. H., SUNCA F., AKKÖSE M.
Nevşehir Bilim ve Teknoloji Dergisi, vol.6, pp.362-370, 2017 (Peer-Reviewed Journal)

- VI. **1 Mayıs 2003 Bingöl Depreminde Yıkılmış Betonarme Üç Katlı Bir Okul Binasının Statik ve Dinamik Analizi**
ÇAVDAR Ö., SUNCA F.
Gümüşhane Üniversitesi Fen Bilimleri Dergisi, vol.4, no.1, pp.36, 2014 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Investigation of Liquefaction and Scour Effects on Bridge Piers by Experimental and Numerical Methods**
Ertürk Atmaca E., Sivrikaya O., Günaydın M., Sunca F., Bayat E. E., Keleşoğlu M. K., Akçay B., Dikmenoğlu B., Çetin K. Ö., Altunışık A. C.
9. Yapı Mekaniği Laboratuvarları Çalıştayı, Düzce, Turkey, 18 - 19 October 2024, pp.26-30
- II. **Construction stage analysis of a long span suspension bridge**
Ali M. M., ADANUR S., ALTUNIŞIK A. C., SUNCA F., GÜNAYDIN M.
Proceedings of 3rd International Civil Engineering and Architecture Congress, 12 October 2023
- III. **Design phases and effectiveness of tuned liquid damper and tuned liquid column damper in seismic induced vibration**
Idriss B. A., SUNCA F., GÜNAYDIN M., ALTUNIŞIK A. C., KAHYA V.
Proceedings of 3rd International Civil Engineering and Architecture Congress, Turkey, 12 October 2023
- IV. **Investigation of the seismic performance of a fire-exposed reinforced concrete frame with shaking table tests**
AKBULUT Y. E., SUNCA F., ALTUNIŞIK A. C.
Proceedings of 3rd International Civil Engineering and Architecture Congress, Turkey, 12 October 2023
- V. **Near fault and far fault ground motion effects of a long span suspension bridge**
Ali M. M., ADANUR S., ALTUNIŞIK A. C., SUNCA F., Kalkan Okur E.
Proceedings of 3rd International Civil Engineering and Architecture Congress, Turkey, 12 October 2023
- VI. **Ambient vibration testing of a high rise building**
Şahin M. C., OKUR F. Y., SUNCA F., GÜNAYDIN M., ALTUNIŞIK A. C.
Proceedings of 3rd International Civil Engineering and Architecture Congress, Turkey, 12 October 2023
- VII. **The effect of damage measure on fragility curves for seismically isolated buildings**
ŞEN F., SUNCA F., ALTUNIŞIK A. C.
Proceedings of 3rd International Civil Engineering and Architecture Congress, Turkey, 12 October 2023
- VIII. **Analysis of the effect of different concrete strength classes used in reinforced concrete structures under the dynamic pressure effect caused by different explosion scenarios**
önanan f., SUNCA F., ALTUNIŞIK A. C.
Proceedings of 3rd International Civil Engineering and Architecture Congress, Turkey, 12 October 2023
- IX. **Investigation of Dynamic Characteristics of Blast Effects on Reinforced Concrete Structure Models with Different Geometrical Properties**
önanan f., SUNCA F., ALTUNIŞIK A. C.
International Congress on Phenomenological Aspects in Civil Engineering, Turkey, 20 June 2023
- X. **Near-Fault and Far-Fault Ground Motions Effects on Seismic Responses of Timber Bridges**
SUNCA F., ALTUNIŞIK A. C.
International Congress on Phenomenological Aspects in Civil Engineering, Turkey, 20 June 2023
- XI. **Experimental investigation of optimal sensor placement of a laminated composite cantilever beam**
SUNCA F., OKUR F. Y., ALTUNIŞIK A. C., KAHYA V.
International Congress on the Phenomenological Aspects of Civil Engineering, Erzurum, Turkey, 20 - 23 June 2021
- XII. **Vertical Ground Motion Effects on the Seismic Responses of Historical Masonry Structures**
ALTUNIŞIK A. C., SUNCA F., GENÇ A. F., TAVŞAN C.
International Congress on the Phenomenological Aspects of Civil Engineering, Erzurum, Turkey, 20 June 2021
- XIII. **Structural Performance Assessment of Single-Story RC Precast Structures Subjected to Pulse-Type**

Ground Motions

Altunışık A. C., Sunca F.

International IDU Engineering Symposium – IES'20 , İzmir, Turkey, 5 - 13 December 2020, vol.1, no.1, pp.1-10

- XIV. **Betonarme Yapıların Sismik Davranışlarına Dolgu Duvarların Etkisinin İncelenmesi**
ÇAVDAR Ö., Köse Sunca G. Ç., SUNCA F.
International Science and Engineering Applications Symposium on Hazards 2019 (ISESH2019), Karabük (TURKEY) in 25-27 September 2019., 25 - 27 October 2019
- XV. **Experimental Investigation on Pounding Behavior of Adjacent RC Buildings Using Shaking Table Test**
Sunca F., Altunışık A. C.
Ulusal 7. Yapı Mekaniği Laboratuvarları Çalıştayı, Konya, Turkey, 4 - 05 October 2019, pp.79-84
- XVI. **POUNDING EFFECTS ON TORSION RESPONSE OF ADJACENT BUILDINGS SUBJECTED TO NEAR-FAULT GROUND MOTIONS**
SUNCA F., TÜRKAY A., ALTUNIŞIK A. C.
International Civil Engineering and Architecture Conference 2019, 17 - 20 April 2019
- XVII. **Seismic Response of a Prefabricated Industrial Structure to Multiple Support Seismic Excitations**
SUNCA F., AKKÖSE M.
2nd International Conference on Civil and Environmental Engineering Symposium, Nevşehir, Turkey, 8 - 10 May 2017, pp.982-990
- XVIII. **Seismic Performance Evaluation of a Train Station Building Considering Earthquake-Induced Pounding Effects**
SUNCA F., AKKÖSE M.
4th International Symposium on Innovative Technologies in Engineering and Science, Antalya, Turkey, 3 - 05 November 2016, pp.1743-1751
- XIX. **Seismic Performance of Semi-Rigid Connected Prefabricated Structures**
AKKÖSE M., SUNCA F., TÜRKAY A.
4th International Symposium on Innovative Technologies in Engineering and Science, Antalya, Turkey, 3 - 05 November 2016, pp.1592-1601
- XX. **Evaluation of Seismic Performance of Semi-Rigid Connected Prefabricated Structures**
SUNCA F., AKKÖSE M.
The Sixth International Conference on Structural Engineering, Mechanics and Computation, Cape-Town, South Africa, 5 - 07 September 2016, pp.342-347
- XXI. **Aynı Yüksekliğe Farklı Dinamik Özelliklere Sahip Betonarme Binaların Arasında Bırakılması Gereken Boşluk Miktarının İrdelenmesi**
AKKÖSE M., SUNCA F.
Prof. Dr. M. Hasan BODUROĞLU Sempozyumu, İstanbul, Turkey, 9 - 10 May 2016
- XXII. **Effects of near-fault ground motions on earthquake-induced pounding response of RC buildings with plan irregularity**
Akköse M., SUNCA F.
6th International Conference on Structural Engineering, Mechanics and Computation, SEMC 2016, Cape-Town, South Africa, 5 - 07 September 2016, pp.320-325
- XXIII. **Kısmi Bağlantılı Prefabrik Yapıların Statik İtme (Pushover) Analizi**
SUNCA F., AKKÖSE M.
2. Ulusal Yapı Kongresi ve Sergisi Yapı Üretimi, Kullanımı ve Koruma Süreçleri, Ankara, Turkey, 3 - 05 June 2015, pp.107-116
- XXIV. **Evaluation of Seismic Performance of Prefabricated Structures Using Pushover Analysis**
SUNCA F., AKKÖSE M., TÜRKAY A.
International Conference on Civil and Environmental Engineering Symposium, Nevşehir, Turkey, 20 - 23 May 2015, pp.1255-1260
- XXV. **Investigation of Seismic Response of Semi-Rigid Connected Prefabricated Structures**
SUNCA F., AKKÖSE M.
International Burdur Earthquake and Environment Symposium, Burdur, Turkey, 7 - 09 May 2015

Supported Projects

Sunca F., Project Supported by Other Official Institutions, "Betonarme Yapılarda Patlama Etkilerine Karşı Koruyucu Tasarım Kriterleri ve Hesap-Değerlendirme Metodu, 2021 - 2022

Metrics

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Non Academic Experience

Hür Yapı Denetim