

Prof. KEMAL BEYEN



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Education Information

Postgraduate, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Civil Engineering, Turkey 1986 - 1989

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, A Study on Two Dimensional Nonlinear Analysis of Site Response, Bogazici University, Kandilli Observatory And Earthquake Research Institute, Department Of Earthquake Engineering, 1997

Postgraduate, Developing the Computer Programs For The Dynamic Effects in Computational Structural Analysis, Yildiz Technical University, Faculty Of Civil Engineering, Civil Engineering Department, 1989

Research Areas

Earth Observations (Remote Sensing), Seismology, Civil Engineering, Mechanical, Structure

Academic Titles / Tasks

Professor, Kocaeli University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2019 - Continues

Associate Professor, Kocaeli University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2009 - 2019

Assistant Professor, Kocaeli University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2004 - 2009

Research Assistant PhD, Bogazici University, Kandilli Observatory And Earthquake Research Institute, Department Of Earthquake Engineering, 1998 - 2004

Research Assistant, Bogazici University, Kandilli Observatory And Earthquake Research Institute, Department Of Earthquake Engineering, 1990 - 1998

Academic and Administrative Experience

Advising Theses

Beyen K., 17 Ağustos 1999 Kocaeli Depreminde Hasar Alan Bir Yapının Performans Analizleri, Postgraduate, C.Güneş(Student), Continues

BEYEN K., Farklı zemin koşulları etkisinde sismik davranışın doğrusal olmayan dinamik çözümleme ile incelenmesi, Postgraduate, R.BURAK(Student), 2012

BEYEN K., Passive and active control of seismically excited buildings, Postgraduate, E.ATAM(Student), 2005

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Damage Identification Analyses of a Historic Masonry Structure in T-F Domain**
Beyen K.
Teknik Dergi, vol.32, no.2, pp.10577-10610, 2021 (SCI-Expanded)
- II. **Hanging Wall and Footwall Effects in the Largest Reverse-Slip Earthquake of Turkey, October 23, 2011, M W 7.2 Van Earthquake**
Beyen K.
Arabian Journal for Science and Engineering, vol.44, pp.4757-4781, 2019 (SCI-Expanded)
- III. **Damage Analysis of the Structures in Time-Frequency Domain with Wavelet Transform Method**
Sak O. F., Beyen K.
TEKNIK DERGI, vol.30, pp.8835-8860, 2019 (SCI-Expanded)
- IV. **Damage simulation by finite element updating using vibration characteristics Titreşim verisiyle güncellenmiş sonlu eleman modeliyle hasar simülasyonu**
BEYEN K.
Journal of the Faculty of Engineering and Architecture of Gazi University, vol.32, no.2, pp.403-415, 2017 (SCI-Expanded)
- V. **Reliability of MEMS accelerometers for instrumental intensity mapping of earthquakes**
Tanırcan G., Alçık H., Beyen K.
Annals of Geophysics, vol.60, 2017 (SCI-Expanded)
- VI. **Strong ground motion characteristics of the 2011 Van Earthquake of Turkey: Implications of seismological aspects on engineering parameters**
Beyen K., Tanırcan G.
Earthquake and Structures, vol.8, pp.1363-1386, 2015 (SCI-Expanded)
- VII. **Structural identification for post-earthquake safety analysis of the Fatih mosque after the 17 August 1999 Kocaeli earthquake**
Beyen K.
Engineering Structures, vol.30, pp.2165-2184, 2008 (SCI-Expanded)
- VIII. **Two-dimensional nonlinear site response analysis of Adapazarı plain and predictions inferred from aftershocks of the Kocaeli earthquake of 17 August 1999**
Beyen K., Erdik M.
Soil Dynamics and Earthquake Engineering, vol.24, no.3, pp.261-279, 2004 (SCI-Expanded)
- IX. **Recorded Main Shock and Aftershock Motions**
Safak E., Erdik M., Beyen K., Carver D., Cranswick E., Celebi M., Durukal E., Ellsworth W., Holzer T., Meremonte M., et al.
Earthquake Spectra, vol.16, pp.97-112, 2000 (SCI-Expanded)

Articles Published in Other Journals

- I. **Seismic performance of a base isolated structure in time-frequency domain with wavelet transform**
Özenir A., Beyen K.
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK BILIMLERI DERGISI, pp.1-12, 2023 (ESCI)
- II. **ANALYSIS OF THE COLLISION EFFECT FOR ADJACENT STRUCTURES IN THE TIME-FREQUENCY DOMAIN**
Sak Ö. F., Beyen K.
Eskişehir Technical University Journal of Science and Technology A- Applied Sciences and Engineering, vol.23, no.3, pp.195-206, 2022 (Peer-Reviewed Journal)
- III. **NEAR-FAULT AND FAR-FAULT GROUND MOTION EFFECTS ON TALL BUILDINGS WITH CORE WALL**
Sezgin R. E., Beyen K.
6. International Conference on Earthquake Engineering and Seismology, vol.1, no.1, pp.1-10, 2021 (Conference Book)
- IV. **STRUCTURE BEHAVIOR CONTROL UNDER SEISMIC LOADS**
Bati M., Beyen K.
6. International Conference on Earthquake Engineering and Seismology, vol.1, no.1, pp.1-12, 2021 (Conference Book)
- V. **STRUCTURAL RESPONSE SIMULATION OF A BUILDING, DESIGNED BY 2018 TURKISH ASEISMIC PROVISION**
Beyen K.
6. International Conferans on Earthquake Engineering and Seismology, vol.1, no.1, pp.1-11, 2021 (Conference Book)
- VI. **Time and Frequency Domain Transformations in the Structural Identification**
Beyen K.
Transactions of the PACE 2021 (Phenomenological Aspects of Civil Engineering), vol.1, no.1, pp.64-79, 2021 (Peer-Reviewed Journal)
- VII. **EFFECTS OF WIND, AMBIENT AND EARTHQUAKE LOADING ON IDENTIFICATION ON STRUCTURAL CHARACTERISTICS OF THE TALL BUILDINGS**
Beyen K.
9TCEE Conference Book, vol.1, no.1, pp.449-458, 2021 (Conference Book)
- VIII. **The effects of far and near field earthquakes on tall building behavior**
Beyen K.
9th Turkish Conference on Earthquake Engineering, 2021, vol.1, no.1, pp.745-754, 2021 (Conference Book)
- IX. **Kocaeli Üniversitesi Fen Bilimleri Dergisi**
Bati M., Beyen K.
Kocaeli Üniversitesi Fen Bilimleri Dergisi, vol.3, no.1, pp.66-76, 2020 (Peer-Reviewed Journal)
- X. **Estimation of the Dynamic Characteristic of a Structure and Condition Assessment using Structural Identification Algorithms**
Sert A., Beyen K.
Kocaeli Üniversitesi Fen Bilimleri Dergisi, vol.1, pp.1-9, 2019 (Peer-Reviewed Journal)
- XI. **STUDY ON THE RESPONSE CHARACTERISTICS OF THE FATİH MOSQUE IN TIMEFREQUENCY DOMAIN IN CASES OF THE DIFFERENT DYNAMIC SOURCES**
Beyen K.
III. ULUSLARARASI BATTALGAZİ BİLİMSEL ÇALIŞMALAR KONGRESİ TAM METİN KİTABI, vol.1, no.1, pp.351-367, 2019 (Conference Book)
- XII. **Estimation of the Dynamic Characteristic of a Structure and Condition Assessment using Structural Identification Algorithms**
Sert A., Beyen K.
Kocaeli Üniversitesi Fen Bilimleri Dergisi, vol.3, no.1, pp.1-12, 2019 (Peer-Reviewed Journal)
- XIII. **INVESTIGATION OF WEAK AND SOFT STORY IRREGULARITIES FOR DIFFERENT EARTQUAKES**

- Özyürek K., Beyen K.
Kocaeli Üniversitesi Fen Bilimleri dergisi, vol.1, no.1, pp.1-12, 2019 (Peer-Reviewed Journal)
- XIV. **Comparison of 12-Storey Steel and Reinforced Concrete Structures under the Same Conditions According to the Principles of TBDY 2018**
Kuşu A., Beyen K.
Kocaeli Üniversitesi Fen Bilimleri dergisi, vol.1, no.1, pp.1-10, 2019 (Peer-Reviewed Journal)
- XV. **The Effect of Infill Walls and Damping Systems on Behaviors of Reinforced Concrete Buildings Against Earthquake**
Çelebi O., Beyen K.
Afet ve Risk Dergisi , vol.1, no.1, pp.9-25, 2018 (Peer-Reviewed Journal)
- XVI. **EFFECTS OF THE LOCAL SOIL BEHAVIOR AND SUPPORT CONDITIONS ON EARTHQUAKE RESPONSE OF THE HISTORICAL STRUCTURES**
Eren G., Beyen K.
ESKİŞEHİR TEKNİK ÜNİVERSİTESİ BİLİM VE TEKNOLOJİ DERGİSİ B- TEORİK BİLİMLER, vol.6, no.1, pp.244-252, 2018 (Peer-Reviewed Journal)
- XVII. **A Study on the Performance of Low Cost MEMS Sensors in Strong Motion Studies**
Tanırcan G., Alçık H., Kaya Y., Beyen K.
European Geosciences Union (EGU) - Geophysical Research Abstract, vol.19, no.1, pp.1, 2017 (Conference Book)

Refereed Congress / Symposium Publications in Proceedings

- I. **Two Dimensional Nonlinear Analysis of Topographical Site Effects On Earthquake Ground Response and Field Observations**
Beyen K.
Türkiye İnşaat Mühendisliği 18. Teknik Kongre ve Sergisi, 7-9 Kasım 2022, İstanbul, İstanbul, Turkey, 7 - 09 November 2022, vol.1, no.1, pp.379-405
- II. **Analysis of Near and Far Field Earthquake Responses for the Midrise Buildings**
Mostura A. B., Beyen K.
Türkiye İnşaat Mühendisliği 18. Teknik Kongre ve Sergisi, 7-9 Kasım 2022, İstanbul, İstanbul, Turkey, 7 - 09 November 2022, vol.1, no.1, pp.347-358
- III. **Seismic Performance of a Base Isolated Structure in Time-Frequency Domain**
Özenir A., Beyen K.
Türkiye İnşaat Mühendisliği 18. Teknik Kongre ve Sergisi, 7-9 Kasım 2022, İstanbul, İstanbul, Turkey, 7 - 09 November 2022, vol.1, no.1, pp.359-377
- IV. **INVESTIGATION OF FLOOR VIBRATIONS OF STEEL STRUCTURE UNDER EARTHQUAKE EFFECT**
Beyen K., Çelebi O.
9th Turkish Conference on Earthquake Engineering, 1-3 June 2021, İstanbul, Turkey, 1 - 03 June 2021, vol.1, no.1, pp.1-8
- V. **Time and Frequency Domain Transformations in the structural Identification**
Beyen K.
PACE-2021 International Congress on the Phenomenological Aspects of Civil Engineering, Erzurum, Turkey, 20 - 23 June 2021, vol.1, no.1, pp.39-54
- VI. **STUDY ON STATISTICAL EVALUATION IN TIME-FREQUENCY DOMAIN FOR DAMAGE IDENTIFICATION**
Sak F. Ö., Beyen K.
5. International Conference on Earthquake Engineering and Seismology (5ICEES) , Ankara, Turkey, 8 - 11 October 2019, pp.1-12
- VII. **EFFECTS OF THE NEAR AND FAR FIELD EARTHQUAKES ON THE BEHAVIOR OF THE REINFORCED CONCRETE BUILDINGS WITH INFILL WALLS**
Çelebi O., Beyen K.
5. International Conference on Earthquake Engineering and Seismology (5ICEES) , Ankara, Turkey, 8 - 11 October

2019, pp.1-11

- VIII. **Damage Survey Verification Study for the Fatih Mosque**
Beyen K.
VI. International Earthquake Symposium Kocaeli 2019 - IESKO-2019, Kocaeli, Turkey, 25 - 27 September 2019, pp.1-7
- IX. **In Structural Identification, Fourier Transformation and New Generation Transformations**
Beyen K.
IESKO 2019 VI. International Earthquake Symposium Kocaeli 2019, Kocaeli, Turkey, 25 - 27 September 2019, pp.640-650
- X. **A STUDY FOR INCLUDING THE EFFECT OF INFILL WALLS ON EARTHQUAKE PERFORMANCE OF REINFORCED CONCRETE BUILDINGS**
Çelebi O., Beyen K.
IESKO 2019 VI. International Earthquake Symposium Kocaeli 2019, Kocaeli, Turkey, 25 - 27 September 2019, pp.384-389
- XI. **STUDY ON THE RESPONSE CHARACTERISTICS OF THE FATİH MOSQUE IN TIMEFREQUENCY DOMAIN IN CASES OF THE DIFFERENT DYNAMIC SOURCES**
Beyen K.
III. Uluslararası Battalgazi Bilimsel Çalışmalar Kongresi, Malatya, Turkey, 21 - 23 September 2019, vol.1, no.1, pp.351-367
- XII. **MODAL ANALYSIS of 3 STOREY REINFORCED CONCRETE BUILDING UNDER THE EFFECT of VAN EARTHQUAKE**
Çelebi O., Beyen K.
HOCA AHMET YESEVİ ULUSLARARASI BİLİMSEL ARAŞTIRMALAR KONGRESİ, Adıyaman, Turkey, 26 - 27 August 2019, pp.1127-1153
- XIII. **Boundary Condition Effects on Earthquake Responses**
Sert A., Beyen K.
International Marmara Science and Social Science Congress, Kocaeli, Turkey, 23 - 25 November 2018, vol.1, pp.1543-1546
- XIV. **FATİH CAMİİ 'NİN ZAMAN VE FREKANS ORTAMINDA ÇEVREL VE DEPREM TEPKİ ANALİZLERİ**
Beyen K.
Uluslararası Katılımlı 6. Tarihi Yapıların Korunması ve Güçlendirilmesi Sempozyumu, Trabzon, Turkey, 2 - 04 November 2017, vol.1, pp.1-12
- XV. **EFFECTS OF LOCAL SOIL, SUPPORTS, HORIZONTAL AND VERTICAL STRONG GROUND MOTION CONDITIONS ON THE RESPONSES OF THE HISTORICAL STRUCTURE**
Eren G., Beyen K.
6th International Symposium on Conservation and Consolidation of Historical Structures, Trabzon, Turkey, 2 - 04 November 2017, vol.1, pp.1-10
- XVI. **EFFECTS OF THE LOCAL SOIL BEHAVIOR AND SUPPORT CONDITIONS ON EARTHQUAKE RESPONSE OF THE HISTORICAL STRUCTURES**
Eren G., Beyen K.
4. Uluslararası Deprem Mühendisliği ve Sismoloji Konferansı, Eskişehir, Turkey, 11 - 13 October 2017, vol.1, pp.1-9
- XVII. **DETERMINATION OF LEVEL OF COMFORT AND PERCEPTION FOR A HUMAN BODY IN TALL BUILDING STRUCTURES SUBJECTED TO EARTHQUAKE AND AMBIENT VIBRATIONS**
Beyen K.
4. Uluslararası Deprem Mühendisliği ve Sismoloji Konferansı, Eskişehir, Turkey, 11 - 13 October 2017, vol.1, pp.1-13
- XVIII. **DEPREM SARSINTI HARİTALARI ÜRETİLMESİNDE MEMS TİPİ İVMEÖLÇERLERİN VERİMİNE İLİŞKİN BİR ARAŞTIRMA**
Tanırcan G., Alçık H., Beyen K.
4. Uluslararası Deprem Mühendisliği ve Sismoloji Konferansı, Eskişehir, Turkey, 11 - 13 October 2017, vol.1, pp.1-8
- XIX. **COLLISION EFFECT OF ATTACHED RC STRUCTURES AND PERFORMANCE ANALYSIS IN TIME-**

FREQUENCY DOMAIN

Sak Ö. F., Beyen K.

4. Uluslararası Deprem Mühendisliği ve Sismoloji Konferansı, Eskişehir, Turkey, 11 - 13 October 2017, vol.1, pp.1-11

XX. 23 EKİM 2011 VAN DEPREMİNİN MW 7.2 JEOLÖJİK VE YEREL ZEMİN DAVRANIŞI AÇISINDAN DEĞERLENDİRİLMESİ

KARAKAŞ A., BEYEN K.

Kocaeli 2015 5th International Earthquake Symp., Kocaeli, Turkey, 10 - 12 June 2015

XXI. Earthquake Levels Used in Performance-Based Design of Tall Buildings

Engin S., Okay F., Beyen K.

3. Türkiye Deprem Mühendisliği ve Sismoloji Konferansı, İzmir, Turkey, 14 - 16 October 2015, pp.1-9

XXII. Effects of Near Field Earthquakes on High-Rise Reinforced Concrete Buildings with Different Ground Properties

Engin S., Okay F., Beyen K.

5. Uluslararası Deprem Sempozyumu, Kocaeli, Turkey, 10 - 12 July 2015, pp.333-337

XXIII. BİR BETONARME BİNANIN SANAL DAVRANIŞ VERİLERİYLE HASAR TESPİTİ İÇİN ANALİTİK VE DENEYSEL ÇALIŞMA

Sak Ö. F., Beyen K.

5th International Earthquake Symposium - Kocaeli, Kocaeli, Turkey, 10 - 12 June 2015, vol.1, pp.319-332

XXIV. 17 AĞUSTOS 1999 KOCAELİ DEPREMİNDE HASAR ALAN BİNADA KAT GEÇİRGENLİK FONKSİYONLARIYLA HASAR TANILAMA

Beyen K.

5th International Earthquake Symposium - Kocaeli, Kocaeli, Turkey, 10 - 12 June 2015, vol.1, pp.287-291

XXV. HASAR TANILAMA ANALİZLERİNDE FREKANS-ZAMAN ÇÖZÜMLEMESİ

Beyen K.

5th International earthquake Symposium - Kocaeli, Kocaeli, Turkey, 10 - 12 June 2015, vol.1, pp.595-599

XXVI. 23 EKİM 2011 VAN DEPREMİNİN (MW 7.2) JEOLÖJİK VE YEREL ZEMİN DAVRANIŞI AÇISINDAN DEĞERLENDİRİLMESİ

Beyen K., Karakaş A.

5th International Earthquake Symposium, Kocaeli, Turkey, 10 - 12 June 2015, vol.1, pp.555-558

XXVII. Effects of Near Field Earthquakes Forward Directivity Effects on High-Rise Reinforced Concrete Buildings

Beyen K., Okay F., Engin S.

8. Ulusal Deprem Mühendisliği Konferansı, İstanbul, Turkey, 11 - 15 May 2015, pp.537-547

XXVIII. Effect of Peak Ground Velocity (PGV) Variation of Near Field Recorded Earthquakes on Reinforced Concrete High-Rise Structures

Engin S., Okay F., Beyen K.

8. Ulusal Deprem Mühendisliği Konferansı, İstanbul, Turkey, 11 May - 15 October 2015, pp.1391-1401

XXIX. Investigation on the Possibility of Matching Vulnerability Assessment with Field Observations for Real Structures

Beyen K., Kutanis M., Bal İ. E.

International Balkans Conference on Challenges of Civil Engineering, BCCCE, Tirane, Albania, 19 - 21 May 2011, vol.1, pp.1-8

XXX. Testing Assessment Procedures with a Damaged Real Building

Bal İ. E., Kutanis M., Beyen K.

14th European Conference on Earthquake Engineering 2010, Ohrid, Macedonia, 30 August - 03 September 2010, vol.1, pp.6213-6220

XXXI. Comparison of the results inferred from OMA and IEMA

Beyen K., Kutanis M.

4th International Operational Modal Analysis Conference, IOMAC 2011, İstanbul, Turkey, 9 - 11 May 2011, pp.111-119

- XXXII. **Examination of Reliability of Linear Dynamic Analysis on Structures of Different Heights**
Okay F., Beyen K., Engin S.
International Earthquake Symposium - Kocaeli 2009, Kocaeli, Turkey, 17 - 19 August 2009, vol.1, pp.1
- XXXIII. **Examination of Reliability of Linear Dynamic Analysis on Structures of Different Heights**
Okay F., Beyen K., Engin S.
International Earthquake Symposium, Kocaeli, Turkey, 17 - 19 August 2009, pp.159
- XXXIV. **Identification of The Dynamic Characteristics of The Topographic Structures Through Two Dimensional Nonlinear Wave Propagation Analysis**
Beyen K.
International earthquake Symposium - Kocaeli 2009, Kocaeli, Turkey, 17 - 19 August 2009, vol.1, pp.1
- XXXV. **EARTHQUAKE DAMAGE DISTRIBUTION AND ESTIMATED GROUND MOTIONS DURING THE 1999 KOCAELI EARTHQUAKE IN ADAPAZARI REGION, TURKEY**
Hashimoto M., Motaki K., Seo K., Beyen K.
The 11th Japan Earthquake Engineering Symposium, Tokyo, Japan, 11 - 14 September 2002, vol.11, pp.307-310
- XXXVI. **Two Dimensional Nonlinear Simulation of the Site Response of Adapazarı Plain Under Aftershocks of The Kocaeli Earthquake, 17 August, 1999**
Beyen K., Erdik M.
Joint Study on Microtremors and Seismic Microzonation in Earthquake Countries, Hachinohe, Japan, 12 - 14 October 2000, vol.1, pp.1-20
- XXXVII. **Non-destructive Testing Techniques of Structural Materials in Historical Structures**
Durukal E., Yüzügüllü Ö., Beyen K.
PACT 55 1998 , Athens, Greece, 1 - 03 July 1998, vol.1, pp.221-229
- XXXVIII. **SOIL-STRUCTURE INTERACTION ANALYSIS VIA FIXED-BASE SYSTEM SUBJECTED TO A MODIFIED GROUND MOTION**
Aydınoglu M. N., Polat Ş., Beyen K.
US - JAPAN WORKSHOP ON SOIL-STRUCTURE INTERACTION, California, United States Of America, 22 - 23 September 1998, vol.1, pp.1-17
- XXXIX. **ASSESSMENT OF MORTAR AND BRICK PROPERTIES OF HAGIA SOPHIA BY NON-DESTRUCTIVE TESTING TECHNIQUES Ö. Yüzügüllü, E. Durukal & K. Beyen**
Yüzügüllü Ö., Durukal E., Beyen K.
J. PACT 55 1995, Athens, Greece, 6 - 07 November 1995, vol.1, pp.221-229
- XL. **AMBIENT VIBRATION INVESTIGATION OF THE BOGAZICI SUSPENSION BRIDGE, ISTANBUL, TURKEY**
BEYEN K., UCKAN E., ERDIK M.
2nd International Conference on Earthquake Resistant Construction and Design, Berlin, Germany, 15 - 17 June 1994, pp.915-922
- XLI. **STRONG-MOTION INSTRUMENTATION OF AYA-SOFYA AND THE ANALYSIS OF RESPONSE TO AN EARTHQUAKE OF 4.8 MAGNITUDE**
ERDIK M., DURUKAL E., YUZUGULLU O., BEYEN K., KADAKAL U.
3RD INTERNATIONAL CONF ON STRUCTURAL STUDIES, REPAIRS AND MAINTENANCE OF HISTORICAL BUILDINGS, BATH, ENGLAND, 01 June 1993, pp.99-114
- XLII. **STRONG-MOTION INSTRUMENTATION OF AYA-SOFYA AND THE ANALYSIS OF RESPONSE TO AN EARTHQUAKE OF 4.8 MAGNITUDE**
Erdik M., Durukal E., Yuzugullu Ö., Beyen K., Kadakal U.
6TH INTERNATIONAL CONF ON SOIL DYNAMICS AND EARTHQUAKE ENGINEERING, BATH, ENGLAND, 01 June 1993, pp.899-914
- XLIII. **Preliminary Site Response Analysis in the Erzincan Basin Based on Microtremor Measurements**
Swift J. N., Kadakal U., Beyen K., Erdik M.
Microtremor, California, United States Of America, 1 - 02 December 1992, vol.1, pp.1-20

Metrics

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