

Prof. FATİH YILMAZ

Personal Information

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International Researcher IDs

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Education Information

Doctorate, Selcuk University, Fen Bilimleri Enstitüsü, Matematik (Dr), Turkey 2009 - 2013

Postgraduate, Selcuk University, Fen Bilimleri Enstitüsü, Matematik (YI) (Tezli), Turkey 2007 - 2009

Undergraduate, Selcuk University, Fen-Edebiyat Fakültesi, Matematik Bölümü, Turkey 2003 - 2007

Dissertations

Doctorate, k-Mertebeli Lineer Rekürans Bağıntısıyla Tanımlı Sayı Dizileri ve Özellikleri, Selcuk University, Fen Bilimleri Enstitüsü, Matematik (Dr), 2013

Postgraduate, Sayı Dizilerinin Genelleştirilmesi, Selcuk University, Fen Bilimleri Enstitüsü, Matematik (YI) (Tezli), 2009

Research Areas

Mathematics

Academic Titles / Tasks

Associate Professor, Ankara Hacı Bayram Veli University, Polatlı Faculty of Arts and Sciences, Department of Mathematics, 2018 - Continues

Assistant Professor, Gazi University, Polatlı Fen-Edebiyat Fakültesi, Matematik Bölümü, 2014 - Continues

Research Assistant, Selcuk University, Fen Fakültesi, Matematik Bölümü, 2008 - 2014

Academic and Administrative Experience

Ankara Hacı Bayram Veli University, 2019 - Continues

Ankara Hacı Bayram Veli University, 2019 - Continues

Gazi University, 2014 - Continues

Gazi University, 2014 - Continues

Courses

SOYUT MATEMATİK I-II, Undergraduate, 2018 - 2019
LİNEER CEBİR I-II, Undergraduate, 2018 - 2019
CEBİR I-II, Undergraduate, 2018 - 2019
SOYUT MATEMATİK I, Undergraduate, 2017 - 2018, 2016 - 2017, 2014 - 2015
CEBİR I, Undergraduate, 2017 - 2018, 2016 - 2017, 2014 - 2015
LİNEER CEBİR, Undergraduate, 2017 - 2018, 2016 - 2017
SOYUT CEBİR VE SAYILAR TEORİSİ I, Undergraduate, 2016 - 2017, 2014 - 2015
Cebir II, Undergraduate, 2014 - 2015, 2013 - 2014
Soyut Matematik II, Undergraduate, 2014 - 2015
Mesleki İngilizce II, Undergraduate, 2014 - 2015, 2013 - 2014
Genel Matematik II, Undergraduate, 2014 - 2015
Genel Matematik I, Undergraduate, 2014 - 2015
Mesleki İngilizce, Undergraduate, 2014 - 2015
Rekürans Bağlantıları Fibonacci Lucas Sayıları I, Postgraduate, 2014 - 2015
Soyut Cebir ve Sayılar Teorisi II, Undergraduate, 2013 - 2014

Advising Theses

YILMAZ F., Blok matris ve balancđng sayıları, Postgraduate, V.HEVEŞ(Student), 2020
YILMAZ F., Bazı özel band matrisler, sayı dizileri ve özellikleri, Doctorate, E.KIRKLAR(Student), 2019

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Fast tridiagonalization of (p, q) -pentadiagonal matrices and its applications**
Jia J., Xie R., YILMAZ F.
Journal of Supercomputing, vol.80, no.13, pp.19414-19432, 2024 (SCI-Expanded)
- II. **Some results for min matrices associated with Chebyshev polynomials**
Yılmaz F.
LOGIC JOURNAL OF THE IGPL, vol.1, no.1, pp.1-17, 2024 (SCI-Expanded)
- III. **On Hybrid Numbers with Gaussian Leonardo Coefficients**
Kara N., YILMAZ F.
Mathematics, vol.11, no.6, 2023 (SCI-Expanded)
- IV. **Explicit formula for positive integer powers of k -tridiagonal Toeplitz matrices**
Jia J., Wang J., He Q., Yan Y., YILMAZ F.
Journal of Applied Mathematics and Computing, vol.69, no.1, pp.811-822, 2023 (SCI-Expanded)
- V. **On Harmonic Complex Balancing Numbers**
YILMAZ F., Ertaş A., Jia J.
Mathematics, vol.11, no.1, 2023 (SCI-Expanded)
- VI. **Determinants of circulant matrices with Gaussian Nickel Fibonacci numbers**
YILMAZ F., Ertaş A., Akbilyk S. Y.
Filomat, vol.37, no.25, pp.8683-8692, 2023 (SCI-Expanded)
- VII. **Mathematics and Its Applications in Science and Engineering**
Queiruga-Dios A., Santos Sánchez M. J., Yılmaz F., Dias Rasteiro D. M. L., Martín-Vaquero J., Gayoso Martínez V.
Mathematics, vol.10, no.19, 2022 (SCI-Expanded)
- VIII. **The matrices of Pauli quaternions, their De Moivre's and Euler's formulas**
Akbilyk M., Yamaç Akbilyk S., Yllmaz F.
International Journal of Geometric Methods in Modern Physics, vol.19, no.11, 2022 (SCI-Expanded)
- IX. **De moivre's and euler formulas for matrices of hybrid numbers**
Akbilyk M., Akbilyk S. Y., Karaca E., YILMAZ F.

Axioms, vol.10, no.3, 2021 (SCI-Expanded)

- X. **One type of symmetric matrix with harmonic pell entries, its inversion, permanents and some norms**
Akbiyik S. Y., Akbiyik M., YILMAZ F.
Mathematics, vol.9, no.5, pp.1-15, 2021 (SCI-Expanded)
- XI. **A unified approach: Split quaternions with quaternion coefficients and quaternions with dual coefficients**
Karaca E., YILMAZ F., ÇALIŞKAN M.
Mathematics, vol.8, no.12, pp.1-15, 2020 (SCI-Expanded)
- XII. **Some results on one type of graph family with some special number sequences**
Kirkklar E., Maden A. D., YILMAZ F.
AKCE International Journal of Graphs and Combinatorics, vol.17, no.3, pp.749-754, 2020 (SCI-Expanded)
- XIII. **On linear algebra of balance-binomial graphs**
Kar K., YILMAZ F.
DISCRETE APPLIED MATHEMATICS, vol.243, pp.290-296, 2018 (SCI-Expanded)
- XIV. **On properties of lower k-Hessenberg Toeplitz Matrices**
Kirkklar E., YILMAZ F.
Utilitas Mathematica, vol.102, pp.343-348, 2017 (SCI-Expanded)
- XV. **Some comments on k-tridiagonal matrices: Determinant, spectra, and inversion**
da Fonseca C. M., YILMAZ F.
APPLIED MATHEMATICS AND COMPUTATION, vol.270, pp.644-647, 2015 (SCI-Expanded)
- XVI. **A note on k-tridiagonal matrices with the balancing and Lucas-balancing numbers**
YILMAZ F., Kirkklar E.
Ars Combinatoria, vol.120, pp.283-291, 2015 (SCI-Expanded)
- XVII. **A note on a fast breakdown-free algorithm for computing the determinants and the permanents of k-tridiagonal matrices**
Sogabe T., YILMAZ F.
APPLIED MATHEMATICS AND COMPUTATION, vol.249, pp.98-102, 2014 (SCI-Expanded)
- XVIII. **The eigenvalues of a family of persymmetric anti-tridiagonal 2-Hankel matrices**
AKBULAK M., da Fonseca C. M., YILMAZ F.
APPLIED MATHEMATICS AND COMPUTATION, vol.225, pp.352-357, 2013 (SCI-Expanded)
- XIX. **The Adjacency Matrix of One Type of Directed Graph and the Jacobsthal Numbers and Their Determinantal Representation**
YILMAZ F., BOZKURT D.
JOURNAL OF APPLIED MATHEMATICS, vol.2012, 2012 (SCI-Expanded)
- XX. **Some Properties of Padovan Sequence by Matrix Methods**
YILMAZ F., BOZKURT D.
ARS COMBINATORIA, vol.104, pp.149-160, 2012 (SCI-Expanded)
- XXI. **On the complex factorization of the Lucas sequence**
Burcu Bozkurt Ş., Yılmaz F., Bozkurt D.
Applied Mathematics Letters, vol.24, no.8, pp.1317-1321, 2011 (SCI-Expanded)
- XXII. **Hessenberg matrices and the Pell and Perrin numbers**
YILMAZ F., BOZKURT D.
JOURNAL OF NUMBER THEORY, vol.131, no.8, pp.1390-1396, 2011 (SCI-Expanded)
- XXIII. **A FORMULA FOR COMPUTING INTEGER POWERS FOR ONE TYPE OF TRIDIAGONAL MATRIX**
Kiyak H., Gurses I., YILMAZ F., Bozkurt D.
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.39, no.3, pp.351-363, 2010 (SCI-Expanded)

Articles Published in Other Journals

- I. **Some results on geometric circulant matrices involving the Leonardo numbers**

ARPACI S., YILMAZ F.

NOTES ON NUMBER THEORY AND DISCRETE MATHEMATICS, vol.30, 2024 (ESCI)

- II. **On Quaternions with Gaussian Oresme Coefficients**
YILMAZ F., ERTAŞ A.
Turkish Journal of Mathematics and Computer Science, vol.15, pp.192-202, 2023 (Peer-Reviewed Journal)
- III. **On Hybrid numbers with Gaussian Mersenne Coefficients**
Yıldırım S., YILMAZ F.
Erzincan Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.16, pp.212-223, 2023 (Peer-Reviewed Journal)
- IV. **An Introduction to Harmonic Complex Numbers and Harmonic Hybrid Fibonacci Numbers: A Unified Approach**
KARACA E., YILMAZ F.
NOTES ON NUMBER THEORY AND DISCRETE MATHEMATICS, 2022 (Peer-Reviewed Journal)
- V. **On linear algebra of one type of symmetric matrices with harmonic Fibonacci entries**
AKBIYIK M., YAMAÇ AKBIYIK S., YILMAZ F.
NOTES ON NUMBER THEORY AND DISCRETE MATHEMATICS, vol.28, no.3, pp.399-410, 2022 (ESCI)
- VI. **On the Generalized Gaussian Fibonacci Numbers and Horadam Hybrid Numbers: A Unified Approach**
YILMAZ F., ÖZKAN M.
Axioms, vol.11, no.6, 2022 (Scopus)
- VII. **The bi-periodic Horadam sequence and some perturbed tridiagonal 2-Toeplitz matrices: A unified approach**
Anđelić M., da Fonseca C. M., YILMAZ F.
Heliyon, vol.8, no.2, 2022 (ESCI)
- VIII. **SOME SPECIAL MATRICES WITH HARMONIC NUMBERS**
JAFARI PETROUDI S. H., PİROUZ M., AKBIYIK M., YILMAZ F.
Konuralp Journal of Mathematics, 2021 (Peer-Reviewed Journal)
- IX. **A combined approach to Perrin and Padovan hybrid sequences**
Jafari Petroudi S. H., Pirouz M., Karaca E., YILMAZ F.
Heliyon, vol.7, no.8, 2021 (ESCI)
- X. **On bipartite graphs and the Fibonacci numbers**
YILMAZ F.
Notes on Number Theory and Discrete Mathematics, 2019 (ESCI)
- XI. **A General Formula for Determinants and Inverses of Circulant Matrices with Third Order Recurrences**
KIRKLAR E., YILMAZ F.
Mathematical Sciences and Applications E-Notes, 2019 (Peer-Reviewed Journal)
- XII. **On The Pfaffians and Determinants of Some Skew-Centrosymmetric Matrices**
YILMAZ F., SOGABE T., KIRKLAR E.
Journal of Integer Sequences, vol.20, no.17.4.6, pp.1-9, 2017 (Scopus)
- XIII. **Lower k Hessenberg Matrices and k Fibonacci Fibonacci p and Pell p i Numbers**
CARLOS MARTINS DA F., SOGABE T., YILMAZ F.
Gen. Math. Notes, vol.31, pp.10-17, 2015 (Peer-Reviewed Journal)
- XIV. **On the determinants of some kinds of circulant type matrices with generalized number sequences**
KIRKLAR E., YILMAZ F.
Special Matrices, vol.3, pp.235-243, 2015 (ESCI)
- XV. **On tensor product decomposition of k tridiagonal Toeplitz matrices**
OHASHI A., TSUYOSHI SASAKI U., TOMOHIRO S., YILMAZ F.
International Journal of Pure and Applied Mathematics, vol.103, no.3, pp.537-545, 2015 (Scopus)
- XVI. **A Note On k Tridiagonal k Toeplitz Matrices**
KIRKLAR E., YILMAZ F.
Alabama Journal of Mathematics, vol.39, 2015 (Peer-Reviewed Journal)
- XVII. **The determinants of circulant and skew circulant matrices with Tribonacci numbers**

BOZKURT D., FONSECA C. M. D., YILMAZ F.

Mathematical Science and Applications E-Notes, vol.2, no.2, pp.67-75, 2014 (Peer-Reviewed Journal)

XVIII. **A note on symmetric k tridiagonal matrix family and the Fibonacci numbers**

YILMAZ F., SOGABE T.

International Journal of Pure and Applied Mathematics, vol.96, no.2, pp.289-298, 2014 (Scopus)

XIX. **On the Pell sequence and Hessenberg matrices**

YILMAZ F., BOZKURT D.

Selcuk Journal of Applied Mathematics, pp.27-32, 2012 (Peer-Reviewed Journal)

XX. **Note on one type of matrix and Fibonacci numbers**

YILMAZ F., KIYAK H., GÜRSES İ., AKBULAK M., BOZKURT D.

Far East Journal of Mathematics, vol.40, no.2, pp.267-275, 2010 (Peer-Reviewed Journal)

XXI. **The Generalized Order k Jacobsthal Numbers**

YILMAZ F., BOZKURT D.

International Journal of Contemporary Mathematical Sciences, vol.4, no.34, pp.1685-1694, 2009 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. **Teaching Mathematics in STEM Education**

Mierluş-Mazilu I., YILMAZ F.

4th International Conference on Mathematics and its Applications in Science and Engineering, ICMASE 2023, Madrid, Spain, 12 - 14 July 2023, vol.439, pp.147-170

II. **THE MATRICES OF PAULI QUATERNIONS, THEIR DE MOIVRE'S AND EULER'S FORMULAS**

AKBIYIK M., YAMAÇ AKBIYIK S., YILMAZ F.

XXI GEOMETRICAL SEMINAR, Belgrade, Serbia, 26 June - 02 July 2022

III. **SOME CHARACTERIZATION FOR HARMONIC COMPLEX FIBONACCI SEQUENCES**

KARACA E., YILMAZ F.

II. International Conference on Mathematics and its Applications in Science and Engineering, 1 - 02 July 2021

IV. **Some Characterizations for Harmonic Complex Fibonacci Sequences**

Karaca E., YILMAZ F.

2nd International Conference on Mathematics and its Applications in Science and Engineering, ICMASE 2021, Salamanca, Spain, 1 - 02 July 2021, vol.384, pp.159-165

V. **ON ONE TYPE OF SYMMETRIC MATRICES WITH HARMONIC FIBONACCI ENTRIES**

AKBIYIK M., YAMAÇ AKBIYIK S., YILMAZ F.

International Online Conference on Differential Equations, Control and Optimization DECOP'21, Turkey, 27 October 2021

VI. **De-Moivre's and Euler Formulas for Matrices of Hybrid Numbers**

AKBIYIK M., YAMAÇ AKBIYIK S., KARACA E., YILMAZ F.

II. International Conference on Mathematics and its Applications in Science and Engineering (ICMASE-2021), Spain, 01 July 2021

VII. **On Harmonic Complex Fibonacci Sequences**

KARACA E., YILMAZ F.

II. International Conference On Mathematics and Its Applications In Science and Engineering, (ICMASE 2021), Spain, 01 July 2021

VIII. **TRAINING OPEN COURSES TO ASSESS MATHEMATICAL COMPETENCIES**

YILMAZ F., Vaquero J. M., Dios A. Q.

International Conference on Mathematics and Its Applications in Science and Engineering, 9 - 10 July 2020

IX. **SOME CHARACTERIZATIONS FOR SPLIT QUATERNIONS**

KARACA E., YILMAZ F., ÇALIŞKAN M.

International Conference on Mathematics and its Applications in Science and Engineering, 9 - 10 July 2020

- X. **SOME APPLICATIONS OF EIGENVALUE AND EIGENVECTORS IN ENGINEERING**
 YILMAZ F., Mazilu I. M.
 International Conference on Mathematics and its Applications in Science and Engineering, 9 - 10 July 2020
- XI. **Solving real life problems using matrices and determinants**
 YILMAZ F., Mierlus Mazilu I., Rasteiro D.
 19th Conference on Applied Mathematics, APLIMAT 2020, Bratislava, Slovakia, 4 - 06 February 2020, pp.1131-1139
- XII. **Some practical applications of matrices and determinants in real life**
 Mierlus Mazilu I., YILMAZ F.
 19th Conference on Applied Mathematics, APLIMAT 2020, Bratislava, Slovakia, 4 - 06 February 2020, pp.814-823
- XIII. **Some applications of linear algebra to sociology, chemistry and networks**
 HEVEŞ V., YILMAZ F.
 International Conference on Mathematics: An Istanbul Meeting for World Mathematicians, 3 - 05 July 2019
- XIV. **Balancing Sayıları ve Blok Matrisler**
 HEVEŞ V., YILMAZ F.
 14. Ankara Matematik Günleri (AMG 2019), Turkey, 28 - 29 June 2019
- XV. **On Skew-Centrosymmetric Matrices**
 ÖZKAN M., YILMAZ F.
 International Conference on Mathematics and Mathematics Education, Ordu, Turkey, 27 - 29 June 2018
- XVI. **Basic mathematics assessment in engineering degrees: case study**
 YILMAZ F., Vaquero J. M., Caceres M. J., Rodriguez G., Dios A. Q.
 EDUCON2018 – IEEE Global Engineering Education Conference, 17 - 20 April 2018
- XVII. **On one type of ladder graphs and the Pell numbers**
 KIRKLAR E., YILMAZ F.
 International Conference on Mathematics and Mathematics Education (ICMME-2017), Harran University, Şanlıurfa, 11 - 13 May 2017
- XVIII. **On r-Circulant Matrices**
 KIRKLAR E., YILMAZ F.
 International Conference on Mathematics and Mathematics Education (ICMME-2017), 11 - 13 May 2017
- XIX. **Some comments on skew symmetric matrices Pfaffian determinant and eigenvalue**
 KIRKLAR E., YILMAZ F.
 1st International INES Academic Researches Congress (INES 2016), 3 - 05 November 2016
- XX. **On adjacency matrices for one type of graph and their properties**
 KIRKLAR E., YILMAZ F.
 1st International INES Academic Researches Congress (INES 2016), 3 - 05 November 2016
- XXI. **On linear algebra of adjacency matrices for one type of graph**
 PINAR E., YILMAZ F.
 International Conference on Applied Mathematics and Analysis (ICAMA2016), 11 - 13 July 2016
- XXII. **On some properties of Balance binomial graphs**
 KAR K., YILMAZ F.
 International Conference on Applied Mathematics and Analysis, 11 - 13 July 2016
- XXIII. **On k Hessenberg Toeplitz matrices**
 KIRKLAR E., YILMAZ F.
 International Conference on Applied Mathematics and Analysis, 11 - 13 July 2016
- XXIV. **On circulant type matrices with generalized number sequences**
 KIRKLAR E., YILMAZ F.
 Antalya Algebra Days-XVII, 20 - 24 May 2015
- XXV. **k Tridiagonal k Toeplitz matrisler ve Bazı Özellikleri**
 KIRKLAR E., YILMAZ F.
 MATDER 13. Matematik Sempozyumu, Turkey, 15 - 17 May 2014
- XXVI. **On symmetric k tridiagonal matrix family and the Fibonacci numbers**

- YILMAZ F., SOGABE T.
Conference on Mathematics and Its applications-2014, 14 - 17 November 2014
- XXVII. **The Balancing and Lucas Balancing numbers and k tridiagonal matrices**
KIRKLAR E., YILMAZ F.
Karatekin Mathematics Days 2014- International Mathematics Symposium, 11 - 13 June 2014
- XXVIII. **k Tridiaagonal k Toeplitz matrisler ve Bazı Özellikleri**
KIRKLAR E., YILMAZ F.
MATDER 13. Matematik Sempozyumu, Karabük, Turkey, 14 - 17 May 2014
- XXIX. **Bidiagonal Matrices and The Fibonacci and Lucas Numbers**
YILMAZ F., BOZKURT D.
Conference on Matrix Analysis and its Applications, Herceg-Novi, Montenegro, 16 - 20 September 2013
- XXX. **Hessenberg matrices and their some applications**
AKTAŞ İ., YILMAZ F., KÖSE H.
4th INTERNATIONAL CONFERENCE ON MATRIX ANALYSIS AND APPLICATIONS, Konya, Turkey, 2 - 05 July 2013
- XXXI. **On determinantal representation of the generalized Fibonacci numbers their sums and Hessenberg matrices**
YILMAZ F., BOZKURT D.
International Conference on Applied Analysis and Algebra, 20 - 24 June 2012
- XXXII. **Determinants and inverses of circulant matrices with Pell and Pell Lucas numbers**
YILMAZ F., BOZKURT D.
SIAM Conference on Applied Linear Algebra, 18 - 22 June 2012
- XXXIII. **One type of matrix family and the Fibonacci numbers**
YILMAZ F., BOZKURT D.
International Conference of Jangjeon Mathematical Society- ICJMS'2011, 20 - 23 July 2011
- XXXIV. **Pell sayı dizisi üzerine**
YILMAZ F., BOZKURT D.
Ereğli Tebliğ Günleri, Konya-2011, Turkey, 28 - 29 April 2011
- XXXV. **On Adjacency Matrix of One Type of Graph and Pell Numbers**
YILMAZ F., BOZKURT D.
World Congress on Engineering (WCE 2011), London, Canada, 6 - 08 July 2011, pp.202-204
- XXXVI. **Powers of Persymmetric for one type of Anti Tridiagonal Matrices of Even Order**
AKBULAK M., YILMAZ F., BOZKURT D.
The 3rd International Workshop of Matrix Analysis and Applications, July 9-13, Hangzhou, China, 2009, 9 - 13 July 2009
- XXXVII. **Complex Factorization of the Fibonacci Numbers by Anti Tridiagonal Matrix Method**
AKBULAK M., YILMAZ F., BOZKURT D.
The 3rd International Workshop of Matrix Analysis and Applications, July 9-13, Hangzhou, China, 2009, 9 - 13 July 2009

Supported Projects

Yılmaz F., EU Supported Other Project, New Rules for assessing Mathematical Competencies, 2017 - 2020

YILMAZ F., Project Supported by Higher Education Institutions, Balance Binomial Grafların Özelliklerinin İncelenmesi, 2016 - 2016

Metrics

Publication: 82

Citation (WoS): 90

Citation (Scopus): 152

H-Index (WoS): 6

H-Index (Scopus): 6