

# ÖZGÜR YILDIRIM

## ASSOC. PROF.

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Address : Yıldız Teknik Üniversitesi, Davutpaşa Kampüsü, Fen Edebiyat Fakültesi, Matematik Bölümü, E-2015, Esenler, İstanbul



### Learning Knowledge

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Doctorate  
2007 - 2011

Bursa Uludağ University, Faculty Of Arts And Sciences, Turkey

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Undergraduate  
1996 - 2000

Uludağ Üniversitesi, Fen Edebiyat Fakültesi, Matematik, Turkey

### Foreign Languages

English, C1 Advanced

### Academic Titles / Tasks

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Associate Professor  
2018 - Continues

Yıldız Technical University, Faculty of Arts & Science, Department of Mathematics

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Assistant Professor  
2012 - 2018

Yıldız Technical University, Faculty of Arts & Science, Department of Mathematics

### Supported Projects

1. Yıldırım Ö., Çağlak S., Project Supported by Higher Education Institutions, Lie Simetrilerinin Diferansiyel ve Fark Denklemlerine Uygulanması (Application of Lie Symmetries to Differential and Difference Equations) , 2019 - 2020

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

1. **Weak solvability of the unconditionally stable difference scheme for the coupled sine-Gordon system**  
YILDIRIM Ö., UZUN M.  
NONLINEAR ANALYSIS-MODELLING AND CONTROL, vol.25, no.6, pp.997-1014, 2020 (Journal Indexed in SCI)
2. **Lie point symmetries of difference equations for the nonlinear sine-Gordon equation**  
Yıldırım Ö., Çağlak S.  
PHYSICA SCRIPTA, vol.94, 2019 (Journal Indexed in SCI)
3. **On Fourth-Order Stable Difference Scheme for Hyperbolic Multipoint NBVP**

- Yıldırım Ö., Uzun M.  
 NUMERICAL FUNCTIONAL ANALYSIS AND OPTIMIZATION, vol.38, pp.1305-1324, 2017 (Journal Indexed in SCI)
4. **On the numerical solutions of high order stable difference schemes for the hyperbolic multipoint nonlocal boundary value problems**  
 Yıldırım Ö., Uzun M.  
 APPLIED MATHEMATICS AND COMPUTATION, vol.254, pp.210-218, 2015 (Journal Indexed in SCI)
  5. **On Third Order Stable Difference Scheme for Hyperbolic Multipoint Nonlocal Boundary Value Problem**  
 Yıldırım Ö., Uzun M.  
 DISCRETE DYNAMICS IN NATURE AND SOCIETY, 2015 (Journal Indexed in SCI)
  6. **On the numerical solution of hyperbolic IBVP with high-order stable finite difference schemes**  
 Ashyralyev A., Yıldırım Ö.  
 BOUNDARY VALUE PROBLEMS, 2013 (Journal Indexed in SCI)
  7. **On Stability of a Third Order of Accuracy Difference Scheme for Hyperbolic Nonlocal BVP with Self-Adjoint Operator**  
 Ashyralyev A., Yıldırım Ö.  
 ABSTRACT AND APPLIED ANALYSIS, 2013 (Journal Indexed in SCI)
  8. **A Note on the Second Order of Accuracy Stable Difference Schemes for the Nonlocal Boundary Value Hyperbolic Problem**  
 Ashyralyev A., Yıldırım Ö.  
 ABSTRACT AND APPLIED ANALYSIS, 2012 (Journal Indexed in SCI)
  9. **Stable difference schemes for the hyperbolic problems subject to nonlocal boundary conditions with self-adjoint operator**  
 Ashyralyev A., Yildirim O.  
 APPLIED MATHEMATICS AND COMPUTATION, vol.218, pp.1124-1131, 2011 (Journal Indexed in SCI)
  10. **ON MULTIPOINT NONLOCAL BOUNDARY VALUE PROBLEMS FOR HYPERBOLIC DIFFERENTIAL AND DIFFERENCE EQUATIONS**  
 Ashyralyev A., Yildirim O.  
 TAIWANESE JOURNAL OF MATHEMATICS, vol.14, pp.165-194, 2010 (Journal Indexed in SCI)

### Articles Published in Other Journals

1. **On stable high order difference schemes for hyperbolic problems with the Neumann boundary conditions**  
 Yıldırım Ö.  
 International Journal of Optimization and Control: Theories and Applications, vol.9, pp.60-72, 2019 (Refereed Journals of Other Institutions)
2. **A Note On The Numerical Solutions Of Hyperbolic Partial Differential Equations**  
 Yıldırım Ö., Ashyralyev A.  
 Sakarya Universitesi Fen Edebiyat Dergisi, vol.9, no.2, pp.33-49, 2007 (National Refreed University Journal)

### Refereed Congress / Symposium Publications in Proceedings

1. **On the Asymptotic Formula for the Solution of Nonlocal Boundary Value Perturbation Problems for Hyperbolic Equations**  
 Ashyralyev A., YILDIRIM Ö.  
 5th International Conference on Analysis and Applied Mathematics (ICAAM), Mersin, Turkey, 23 - 30 September 2020, vol.2325
2. **NUMERICAL ANALYSIS OF THE NONLINEAR WAVE SYSTEMS BY A NOVEL ITERATIVE METHOD**

YILDIRIM Ö., UZUN M.

ICFAS 2020, 06 October 2020

3. **On Convergence of Second Order of Accuracy Finite-Difference Scheme for Coupled sine-Gordon Equations**  
YILDIRIM Ö., UZUN M.  
CMMSE'20, ROTA CADIZ, Spain, 3 - 09 July 2020
4. **On unique solvability of nonlinear coupled systems**  
Yıldırım Ö., Uzun M.  
International Conference of Mathematical Sciences (ICMS 2019), İstanbul, Turkey, 4 - 08 September 2019, pp.1-10
5. **Symmetry analysis of the discrete nonlinear boundary value problems for the wave equation**  
Yıldırım Ö., Çağlak S.  
International Conference of Mathematical Sciences (ICMS 2019), İstanbul, Turkey, 4 - 08 September 2019, pp.1-10
6. **On Weak Solvability of Coupled Systems**  
Yıldırım Ö., Uzun M.  
3. International Conference on Mathematics: An Istanbul Meeting for World Mathematicians, İstanbul, Turkey, 3 - 05 July 2019
7. **A COMPOSITE NUMERICAL METHOD ON THE SOLUTION OF COUPLED SINE-GORDON EQUATIONS BASED ON THE FIXED POINT THEORY**  
Yıldırım Ö., Uzun M.  
Banach Spaces and their Applications, Lviv, Ukraine, 26 - 29 June 2019
8. **ON GENERALIZED SOLUTIONS OF NONLINEAR SYSTEMS**  
Yıldırım Ö., Uzun M.  
6th International Congress on Fundamental and Applied Sciences 2019 (ICFAS2019), Tirane, Albania, 18 - 20 June 2019, pp.146
9. **Lie Point Symmetries of Difference Equation**  
Yıldırım Ö., Çağlak S.  
INTERNATIONAL CONFERENCE on MATHEMATICAL ADVANCES and APPLICATIONS (ICOMAA2019), İstanbul, Turkey, 3 - 05 May 2019, pp.1-5
10. **A Note on the Numerical Solution of Coupled Klein-Gordon Equations**  
YILDIRIM Ö., UZUN M.  
3rd International Conference of Mathematical Sciences (ICMS), İstanbul, Turkey, 4 - 08 September 2019, vol.2183
11. **Invariant difference schemes for sine-Gordon equations, Fourth International Conference on Analysis and Applied Mathematics**  
Yıldırım Ö., Çağlak S.  
Fourth International Conference on Analysis and Applied Mathematics, Lefkoşa, Cyprus (Kktc), 6 - 09 September 2018, pp.1-10
12. **NUMERICAL SOLUTION OF HYPERBOLIC EQUATIONS WITH NONLOCAL BVPs**  
Yıldırım Ö., Uzun M.  
5th International Congress on Fundamental and Applied Sciences 2018 (ICFAS2018), Skopje, Macedonia, 18 - 22 June 2018, pp.212
13. **On the Numerical Solution of Nonlinear System of Coupled Sine-Gordon Equations**  
Yıldırım Ö., Uzun M., Altun O.  
4th International Conference on Analysis and Applied Mathematics (ICAAM), Mersin, Turkey, 6 - 09 September 2018, vol.1997
14. **Unique Solvability Results on Boundary Value Problems for Semilinear Hyperbolic Equations**  
Yıldırım Ö., Uzun M.  
International Congress on Fundamental and Applied Sciences, Sarajevo, Bosnia And Herzegovina, 21 - 25 August 2017, pp.78
15. **A Note on the Exact Solution Methods for Nonlinear PDEs**  
Yıldırım Ö., Uzun M.  
International Congress on Fundamental and Applied Sciences 2017 (ICFAS2017), Sarajevo, Bosnia And

Herzegovina, 21 August 2017, pp.78

16. **On the Existence and Uniqueness of Solutions to Nonlinear Wave Equations**  
Yıldırım Ö., Uzun M.  
International Conference on Mathematics and Mathematics Education, Şanlıurfa, Turkey, 11 - 13 May 2017, pp.549-550
17. **On the numerical solution of sine Gordon equation**  
Yıldırım Ö., Uzun M.  
ICAAM 2016, Almati, Kazakhstan, 7 - 10 September 2016
18. **On the analytical solution methods for sine Gordon equation**  
Yıldırım Ö., Uzun M.  
ICAAM 2016, Almati, Kazakhstan, 7 - 10 September 2016
19. **On stable difference schemes for multipoint NBVP of the hyperbolic type**  
Yıldırım Ö., Uzun M.  
International Congress on Fundamental and Applied Sciences (ICFAS 2016), İstanbul, Turkey, 22 August 2016, pp.122
20. **On Stability of Fourth Order of Accuracy Difference Scheme for Hyperbolic Multipoint NBVP with Neumann Conditions**  
Yıldırım Ö., Uzun M.  
International Conference on Mathematics and Mathematics Education (ICMME 2016), Elazığ, Turkey, 12 - 15 May 2016, pp.392-393
21. **On stability of difference schemes for hyperbolic multipoint NBVP with Neumann conditions**  
YILDIRIM Ö., UZUN M.  
3rd International Conference on Analysis and Applied Mathematics (ICAAM), Almaty, Kazakhstan, 7 - 10 September 2016, vol.1759
22. **A Note on the Numerical Solution of Multipoint Nonlocal Boundary Value Hyperbolic Problem with Neumann Conditions**  
Yıldırım Ö., Uzun M.  
International Conference on Analysis and Mathematical Modelling (ICAAMM2015), İstanbul, Turkey, 08 June 2015, pp.200
23. **On stability of high order difference schemes for hyperbolic multipoint nonlocal boundary value problem**  
Yıldırım Ö., Uzun M.  
AMS- EMS- SPM International Meeting 2015, Porto, Portugal, 10 - 13 June 2015, pp.75
24. **On fourth order of accuracy stable difference scheme for multipoint nbvp of the hyperbolic type**  
Yıldırım Ö., Uzun M.  
ICAAM 2014, Simkent, Kazakhstan, 11 - 13 September 2014
25. **On third order of accuracy stable difference scheme for multipoint nbvp of the hyperbolic type**  
Yıldırım Ö., Uzun M.  
Second International Conference on Analysis and Applied Mathematics (ICAAM 2014), Simkent, Kazakhstan, 11 - 13 September 2014, pp.90-91
26. **High order of accuracy stable difference schemes for the approximate solution of the multipoint NBVP for the hyperbolic equation**  
YILDIRIM Ö., UZUN M.  
2nd International Conference on Analysis and Applied Mathematics (ICAAM), Shymkent, Kazakhstan, 11 - 13 September 2014, vol.1611, pp.305-309
27. **ON THE STABILITY OF HIGH ORDER OF ACCURACY DIFFERENCE SCHEMES FOR NONLOCAL BOUNDARY VALUE PROBLEMS WITH SELF ADJOINT OPERATOR**  
Yıldırım Ö., Ashyralyev A.  
Differential Equations. Function Spaces. Approximation Theory, Novosibirsk, Russia, 18 - 24 August 2013, pp.434-435
28. **On stability of a fourth order of accuracy difference scheme for nonlocal BVPs with self-adjoint**

## **operator**

YILDIRIM Ö.

International Conference on Applied analysis and Mathematical Modelling (ICAAMM2013), 01 June 2013

### **29. High Order Accurate Difference Schemes for Hyperbolic IBVP**

Ashyralyev A., Yildirim O.

5th International Conference Numerical Analysis and Applications (NAA), Lozenetz, Bulgaria, 15 - 20 June 2012, vol.8236, pp.174-181

### **30. Stable High Order of Accuracy Difference Schemes for Hyperbolic IBVP**

Ashyralyev A., Yildirim Ö.

International Conference on Applied Analysis and Algebra (ICAAA 2012), İstanbul, Turkey, 20 - 24 June 2012, pp.213

### **31. High Order of Accuracy Stable Difference Schemes for Numerical Solutions of NBVP for Hyperbolic Equations**

Ashyralyev A., Yildirim O.

1st International Conference on Analysis and Applied Mathematics (ICAAM), Gümüşhane, Turkey, 18 - 21 October 2012, vol.1470, pp.84-87

### **32. Second Order of Accuracy Stable Difference Schemes for Hyperbolic Problems Subject to Nonlocal Conditions with Self-Adjoint Operator**

Ashyralyev A., Yildirim O.

International Conference on Numerical Analysis and Applied Mathematics (ICNAAM), Halkidiki, Greece, 19 - 25 September 2011, vol.1389

### **33. A Note on Hyperbolic Equations with Nonlocal Boundary and Dirichlet-Neumann Conditions**

Ashyralyev A., Yildirim Ö.

International Conference of Mathematical Sciences (ICMS 2009), İstanbul, Turkey, 4 - 10 August 2009, pp.1

### **34. A NOTE ON THE NUMERICAL SOLUTIONS OF HYPERBOLIC PARTIAL DIFFERENTIAL EQUATIONS**

Yildirim Ö., Ashyalyev A.

II. Türk dünyası matematik sempozyumu, (04-07 Temmuz 2007), Sakarya, Turkey, 4 - 07 July 2007, pp.1-10

## **Advising Theses**

Yildirim Ö., Application of Lie Symmetries to Difference Equations and Boundary Value Problems, Doctorate, S.ÇAĞLAK(Student), 2019

Yildirim Ö., Stability Analysis in DNA Dynamics, Doctorate, M.Uzun(Student), 2016

Yildirim Ö., High Order Stable Difference Schemes for Multipoint Nonlocal Boundary Value Problems for Hyperbolic Equations, Postgraduate, M.Uzun(Student), 2014

## **Activities in Scientific Journals**

Applied and Computational Mathematics, Committee Member, 2017 - 2020

## **Memberships / Tasks in Scientific Organizations**

European Mathematical Society (EMS), Member, 2014 - Continues

## **Scientific Refereeing**

Numerical Mathematics Theory Methods and Applications, SCI Journal, June 2017

Thermal Science, SCI Journal, June 2017

FILOMAT, SCI Journal, March 2017

FILOMAT, SCI Journal, February 2017

Numerical Functional Analysis and Optimization, SCI Journal, November 2016

Springer plus, SCI Journal, August 2016

Applied Mathematics & Information Sciences, SCI Journal, July 2014

## Tasks In Event Organizations

Yıldırım Ö., INTERNATIONAL CONFERENCE on MATHEMATICAL ADVANCES and APPLICATIONS (ICOMAA2018), Scientific Congress, İstanbul, Turkey, Mayıs 2019

Yıldırım Ö., INTERNATIONAL CONFERENCE on MATHEMATICAL ADVANCES and APPLICATIONS (ICOMAA2019), Scientific Congress, İstanbul, Turkey, Mayıs 2019

Yıldırım Ö., International Conference on Analysis and Applied Mathematics (ICAAM 2018), Scientific Congress, Lefkoşa, Cyprus (Kktc), Eylül 2018

Yıldırım Ö., International Conference on Analysis and Applied Mathematics (ICAAM 2016), Scientific Congress, Almati, Kazakhstan, Eylül 2016

Yıldırım Ö., International Congress on Fundamental and Applied Sciences (ICFAS 2016), Scientific Congress, İstanbul, Turkey, Ağustos 2016

Yıldırım Ö., INTERNATIONAL CONFERENCE ON APPLIED ANALYSIS AND MATHEMATICAL MODELING (ICAAMM 2015), Scientific Congress, İstanbul, Turkey, Haziran 2015

Yıldırım Ö., ICAAM 2014 Second International Conference on Analysis and Applied Mathematics, Scientific Congress, Simkent, Kazakhstan, Eylül 2014

## Citations

Total Citations (WOS):104

h-index (WOS):5

## Research Areas

Mathematics, Differential Equations, Functional Equations, Functional Analysis, Fourier Analysis, Integral Transformations, Computational Calculation, Partial Differential Equations, Numerical Analysis, Natural Sciences