### Prof. Erdal GÜL

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Publons / Web Of Science ResearcherID: AAZ-6254-2020

ScopusID: 25221367000 Yoksis Researcher ID: 185231



### **Education Information**

- I. Doctorate, Yildiz Technical University, Faculty Of Arts & Science, Matematik, Turkey 1992 1997
- II. Postgraduate, International Centre For Theoretical Physics, Mathematics, Postgraduate Diploma Programme, Italy 1994 - 1995
- III. Postgraduate, Yildiz Technical University, Faculty Of Arts & Science, Matematik, Turkey 1990 1992
- IV. Undergraduate, Yildiz Technical University, Faculty Of Arts & Science, Matematik, Turkey 1986 1990

### Certificates, Courses and Trainings

- I. Other, Matlab Eğitimi, Yıldız Teknik Üniversitesi, 2019
- II. Occupational Health and Safety, Temel İş Sağlığı ve Güvenliği Eğitimi, Yıldız Teknik Üniversitesi, 2017
- III. Education Management and Planning, Erasmus Programı, Aarhus University, 2010
- IV. Education Management and Planning, Erasmus Programı, Aarhus University, 2009
- V. Education Management and Planning, SUMMER SCHOOL ON MATHEMATICAL CONTROL THEORY, International Centre for Theoretical Physics, ICTP, 2001
- VI. Education Management and Planning, ICTP Mathematics Diploma Project, International Centre for Theoretical Physics, ICTP, 1995

### Dissertations

- I. Doctorate, Abelyen Olmayan Kompakt Lie Grupları Üzerinde Kontrol Sistemleri, Yıldız Teknik Üniversitesi, Matematik, Matematik, 1997
- II. Postgraduate, İki Boyutlu Manifoldlar, Yıldız Teknik Üniversitesi, Matematik, Matematik, 1992

#### Research Areas

Functional Analysis, Operators, Measure and Integration

### Academic Titles / Tasks

- I. Professor, Yildiz Technical University, Faculty Of Arts & Science, Department Of Mathemeatics, 2024 Continues
- II. Associate Professor, Yildiz Technical University, Faculty Of Arts & Science, Department Of Mathemeatics, 2013 -2024
- III. Assistant Professor, Yildiz Technical University, Faculty Of Arts & Science, Department Of Mathemeatics, 2001 2013
- IV. Lecturer PhD, Yildiz Technical University, Faculty Of Arts & Science, Department Of Mathemeatics, 1997 2001
- V. Research Assistant, Yildiz Technical University, Faculty Of Arts & Science, Department Of Mathemeatics, 1991 1997

#### Courses

- I. Lineer Operatörler II, Postgraduate, 2022 2023
- II. Matematik 2, Undergraduate, 2022 2023
- III. Pozitif Operatörlere Giriş, Undergraduate, 2022 2023
- IV. Topolojiye Giriş Yaz Dönemi, Undergraduate, 2021 2022
- V. Lineer Operatörler 1, Postgraduate, 2022 2023
- VI. Matematik 1, Undergraduate, 2022 2023
- VII. Lineer Operatörlere Giriş, Undergraduate, 2020 2021
- VIII. Diferansiyel Denklemler, Undergraduate, 2019 2020
  - IX. C\*- Cebirleri, Doctorate, 2020 2021
  - X. Postgraduate, 2019 2020
- XI. Reel Analiz, Postgraduate, 2018 2019
- XII. Lineer Cebir, Undergraduate, 2017 2018, 2016 2017
- XIII. Topoloji, Postgraduate, 2016 2017

### **Advising Theses**

- I. Gül E., Banach Uzayında Operatör Yarı Grupları ve Evolüsyon Denmklemleri, Postgraduate, S.Karasu(Student),2023
- II. Gül E., Bergman Uzayında Hankel Operatörleri, Postgraduate, D.Balotu(Student), 2022
- III. Gül E., Banach uzaylarında maksimal monoton operatörler, Postgraduate, E.CEYLAN(Student), 2022
- IV. Gül E., Banach Örgülrinde Dunford-Pettis Operatörleri, Postgraduate, D.Üçüncü(Student), 2017
- V. Gül E., Dördüncü Mertebeden Sınırlı Operatör Katsayılı Bir Diferansiyel Operatörün İkinci Düzenli İzi, Doctorate, A.Ceyhan(Student), 2017
- VI. Gül E., İkinci Mertebeden Lineer Diferansiyel Denklemlerin Seri Çözümleri, Postgraduate, D.Üçüncü(Student), 2009
- VII. Gül E., Kontrol Edilebilirlik ve Lie Cebirinin Normalizörü Kullanılarak Sistemlerin İncelenmesi, Postgraduate, H.Handan(Student), 2006
- VIII. Gül E., Düzgün Uzaylar, Postgraduate, G.Torcu(Student), 2005

### Jury Memberships

- I. Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, İstanbul Aydın Üniversitesi, November, 2019
- II. Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, Kırklareli Üniversitesi, July,

2018

- III. Appointment to Academic Staff-Assistant Professorship, Yardımcı Doçentlik Jürisi, T.C. Haliç Üniversitesi, July, 2017
- IV. Appointment to Academic Staff-Assistant Professorship, Yardımcı Doçentlik Jürisi, T.C. Haliç Üniversitesi, March, 2017

### Published journal articles indexed by SCI, SSCI, and AHCI

I. Second regularized trace of a differential operator of Sturm-Liouville type

Gül E., Karayel S.

MATHEMATICAL METHODS IN THE APPLIED SCIENCES, vol.47, no.7, pp.5461-5483, 2024 (SCI-Expanded)

II. On the Regularized Trace of a Differential Operator of Sturm-Liouville Type

Gül E.

FILOMAT, vol.36, no.13, pp.4515-4523, 2022 (SCI-Expanded)

III. Inequivalent representations of the dual space

Gill T. L., Mupassiri D., Gül E.

REVISTA DE LA UNION MATEMATICA ARGENTINA, vol.64, no.2, pp.271-280, 2022 (SCI-Expanded)

IV. Regularized Trace for Operators on a Separable Banach Space

Gül E., Gill T. L.

MEDITERRANEAN JOURNAL OF MATHEMATICS, vol.19, pp.1-15, 2022 (SCI-Expanded)

V. A second regularized trace formula for a higher order differential operator

Gül E.

Mathematical Methods in the Applied Sciences, vol.44, no.6, pp.5099-5109, 2021 (SCI-Expanded)

VI. A Second Regularized Trace Formula for a Fourth Order Differential Operator

Gül E., Ceyhan A.

SYMMETRY-BASEL, vol.13, no.4, 2021 (SCI-Expanded)

VII. On the regularized trace of a second order differential operator

Gul E.

APPLIED MATHEMATICS AND COMPUTATION, vol.198, pp.471-480, 2008 (SCI-Expanded)

VIII. The trace formula for Sturm-Liouville operator with operator coefficient

Adigüzelov E., Avcı H., Gül E.

JOURNAL OF MATHEMATICAL PHYSICS, vol.42, pp.2611-2624, 2001 (SCI-Expanded)

## Articles Published in Other Journals

I. Some Novel Results for Chebyshev Type Inequalities via Generalized Proportional Fractional Integral Operators

Butt S. I., Akdemir A. O., Gül E., Nadeem M., Yalçın A.

Turkish Journal of Science, vol.8, no.3, pp.114-123, 2023 (Peer-Reviewed Journal)

II. Regularized Trace on Separable Banach Spaces

Gül E., Gill T. L.

Turkish World Mathematical Society Journal of Applied and Engineering Mathematics, vol.13, no.1, pp.143-151, 2023 (ESCI)

III. Abel extensions of some classical Tauberian theorems

Gül E., Albayrak M.

Creative Mathematics and Informatics, vol.28, no.2, pp.105-112, 2019 (Peer-Reviewed Journal)

IV. ON THE TRACE FORMULA FOR A DIFFERENTIAL OPERATOR OF SECOND ORDER WITH UNBOUNDED OPERATOR COEFFICIENT

Gül E., Üçüncü D.

SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.9, no.1, pp.31-38, 2018 (ESCI)

### V. TAUBERIAN THEOREMS FOR STATISTICAL CONVERGENCE

Gül E., Albayrak M.

TAMKANG JOURNAL OF MATHEMATICS, vol.48, pp.321-330, 2017 (ESCI)

### VI. On Abel Convergent Series of Functions

Gül E., Albayrak M.

Journal of Advances in Mathematics, vol.11, pp.5639-5644, 2016 (Peer-Reviewed Journal)

# VII. A regularized trace formula for a differential operator of second order with unbounded operator coefficients given in a finite interval

Gül E.

International Journal of Pure and Applied Mathematics, vol.32, no.2, pp.225-244, 2006 (Peer-Reviewed Journal)

## VIII. The trace formula of a differential operator of fourth order with bounded operator coefficients and two terms

Gül E.

TURKISH JOURNAL OF MATHEMATICS, vol.28, no.3, pp.231-254, 2004 (Peer-Reviewed Journal)

## IX. Formula for the highly regularized trace of Sturm Liouville operator with unbounded operator coefficients which has singularity

Albayrak F. İ., Baykal Ünal O., Gül E.

Turkish Journal Of Mathematics, vol.25, pp.307-322, 2001 (Scopus)

### X. An asymptotic formula for the number of eigenvalues of a differential operator

Adıgüzelov E., Avcı H., Gül E.

Proyecciones, vol.20, no.1, pp.65-82, 2001 (Scopus)

### XI. An application of Gauss Bonnet Theorem

Gül E.

Pro-Mathematica, vol.13, no.25-26, pp.11-16, 1999 (Peer-Reviewed Journal)

### XII. Contrability of Linear Systems on Non-Abelian Compact Lie Groups

Gül E.

Pro Mathematica, vol.12, no.23-24, pp.17-22, 1998 (Peer-Reviewed Journal)

### XIII. The Hessian tensor on a hypersurface in Euclidean space and Otsuki's lemma

GÜL E.

Turkish Journal of Mathematics, vol.21, no.3, pp.375-380, 1997 (Scopus)

### **Books & Book Chapters**

### I. Analitik Fonksiyonlar

UÇAR F., GÜNCAN A. N., GÜL E., DEMİR A., YILDIZ İ., ÇİÇEK G., Kürem G., DERNEK A. N.

in: Kompleks Analiz ve Uygulamaları, Ahmet Dernek, Editor, Nobel Akademik Yayıncılık, Ankara, pp.1-42, 2019

## II. Topolojiye Giriş

GÜL E.

Papatya Yayıncılık, İstanbul, 2018

### III. TOPOLOJİYE GİRİŞ

GÜL E.

Papatya Bilim, İstanbul, 2018

### IV. Analitik Fonksiyonlar

GÜL E.

in: Kompleks Analiz ve Uygulamaları, Ahmet DERNEK, Editor, Nobel Yayın Dağıtım, Ankara, pp.127-156, 2013

### V. Analitik Fonksiyonlar

UÇAR F., GÜNCAN A. N., GÜL E., DEMİR A., YILDIZ İ., ÇİÇEK G., GÜRBÜZ YURTSEVER A., ERDAL M. S., KOCA C., Ouzaid

Z., et al.

in: Kompleks Analiz ve Uygulamaları, Ahmet Dernek, Editor, Nobel Akademik Yayıncılık Eğitim Danışmanlık, İstanbul, pp.127-156, 2013

### Refereed Congress / Symposium Publications in Proceedings

### I. Time-Ordered Hyperbolic Evolution Systems

Bakşi Ö., Gül E., Kızılbudak Çalışkan S., Sezer Y., Karayel S., Hansen A. K., Gill T. L.

2nd International Workshop: Constructive Mathematical Analysis, Konya, Turkey, 6 - 08 July 2023, pp.10

### II. On The Second Regularized Trace Formula of A Second Order Differential Operator

Gül E., Karayel S.

2nd International Workshop: Constructive Mathematical Analysis, Konya, Turkey, 6 - 08 July 2023, pp.21

### III. Almost a Hilbert Space

Gill T. L., Gül E.

2nd International Workshop: Constructive Mathematical Analysis, Konya, Turkey, 6 - 08 July 2023, pp.17

### IV. On a Second Regularized Trace Formula

Gül E., Karayel S.

2nd International E-Conference on Mathematical and Statistical Sciences: A Selcuk Meeting, Konya, Turkey, 5 - 07 June 2023, pp.108

# V. New Estimations for Chebyshev Type Inequalities via Generalized Proportional Fractional Integral Operators

Gül E., Yalçın A., Butt S. I., Akdemir A. O.

2nd International E-Conference on Mathematical and Statistical Science: A Selcuk Meeting, Konya, Turkey, 5 - 07 June 2023, pp.229

## VI. Some Novel Estimations of Hadamard Type Inequalities for Different Kinds of Convex Functions via Tempered Fractional Integral Operator

Gül E., Yalçın A., Akdemir A. O.

2nd International E-Conference on Mathematical and Statistical Sciences: A Selçuk Meeting, 5 - 07 June 2023, pp.228

### VII. On Evolution Equations and Operator Semigroups in Banach Spaces

Gül E., Karasu S.

6th International HYBRID Conference on Mathematical Advances and Applications (ICOMAA-2023), İstanbul, Turkey, 10 - 13 May 2023, pp.165

### VIII. On A Regularized Trace Formula

Gül E.

5th International Conference of Mathematical Sciences, ICMS 2021, İstanbul, Turkey, 23 - 27 June 2021, vol.2483

# IX. Hermite-Hadamard Type Inequalities via Atangana-Baleanu FractionalIntegral Operators for Twice Differentiable Convex and (s,m)-Godunova-Levin Functions

Gül E., Yalçın A., Akdemir A. O.

5th International Conference on Mathematics and Related Sciences (ICMRS 2022), Antalya, Turkey, 30 October 2022

# X. A New Generalization of Convexity and Some New Integral Inequalities via Generalized Fractional Integral Operators

Gül E., Yalçın A., Akdemir A. O.

5th International Conference on Mathematics and Related Sciences (ICMRS 2022), Antalya, Turkey, 30 October 2022

### XI. Some Basic Properties of Hankel Operators on Bergman Spaces

Gül E., Balotu D.

Fifth International Conference of Mathematical Sciences (ICMS 2021), İstanbul, Turkey, 22 - 27 June 2021, pp.36

#### XII. BANACH UZAYLARINDA MAKSİMAL MONOTON OPERATÖRLER

GÜL E., SİNEN E.

International Symposium of Scientific Research and Innovative Studies, Balıkesir, Turkey, 22 - 25 February 2021, pp.263-264

### XIII. A Second Regularized Trace Formula For A Higher Order Differential Operator

Gül E

FOURTH INTERNATIONAL CONFERENCE OF MATHEMATICAL SCIENCES (ICMS 2020), İstanbul, Turkey, 17 - 21 June 2020

### XIV. Trace Regularization Problem On a Banach Space

Gül F

International Scientific Conference " Algebraic and Geometric Methods of Analysis", Odessa, Ukraine, 26 - 30 May 2020

### XV. The regularized treace on a Banach space

Gül E

Banach Spaces and Their Applications, International conference dedicated to 70th anniversary of Professor A.M.Plichko, Lviv, Ukraine, 26 - 29 June 2019, pp.41-44

### XVI. Optimality Conditions for Sparse Quadratic Optimization Problem

Üçüncü D., Akyüz S., Gül E., Weber G. W.

International Conference on Engineering Optimization -EngOpt 2018, Lisbon, Portugal, 15 - 17 September 2018, pp.766-777

### XVII. Seyrek Kuadratik Optimizasyon Problemi için Optimalite Koşul İncelemesi

ÜÇÜNCÜ D., AKYÜZ S., GÜL E., WEBER G. W.

38. Yöneylem Araştırması Endüstri Mühendisliği Ulusal KongresiYAEM 2018, Eskişehir, Turkey, 26 - 29 June 2018

## XVIII. On the second regularized trace formula for a differential operator with unbounded coefficients

Algebraic and geometric methods of analysis, Odessa, Ukraine, 30 May - 04 June 2018

### XIX. On Abel Convergence

Gül E., Albayrak M.

International Conference on Mathematical Advances and Applications (ICOMAA2018), İstanbul, Turkey, 11 - 13 May 2018, pp.48

## XX. On The Trace Formula for a Differential Operator of Second Order with Unbounded Operator Coefficients

Gül E., Üçüncü D.

13th Algebraic Hyperstructures and its Applications (AHA2017), İstanbul, Turkey, 24 - 27 July 2017, pp.111

### XXI. Tauberian Theorems for Statistical Convergence

GÜL E., ALBAYRAK M.

International Conference on Mathematics and Engineering (ICOME 2017), 10 - 12 May 2017

### XXII. Dunford-Pettis Operators and Schur Property

Gül E., Üçüncü D.

International Conference on Mathematics and Engineering, İstanbul, Turkey, 10 - 12 May 2017, pp.119

# XXIII. On the second regularized trace of a differential operator with bounded operator coefficient GÜL E., CEYHAN A.

International Conference of Applied Sciences, Engineering and Mathematics (ICASEM 2017, 5 - 07 May 2017

### XXIV. On regularized trace of a differential operator of second order

GÜL E., Ucuncu D.

9th International Physics Conference of the Balkan Physical Union, BPU 2015, İstanbul, Turkey, 24 - 27 August 2015, vol.1722

## XXV. On Regularized Trace Formula of aDifferential Operator with Operator Coefficients Defined on a Finite Interval

Gül E.

The 14th International Conference on Mathematics and its Applications, Timisoara, Romania, 5 - 07 November

2015, pp.11

XXVI. On the regularized trace of a differential operator with operator coefficients

Gül E

Young Researchers in Mathematics, Edinburgh, United Kingdom, 17 - 20 June 2013, pp.3

 $XXVII. \quad \textbf{Calculation of the regularized trace of a differential operator with operator coefficients}$ 

Gül E.

Operator Theory, Analysis and Mathematical Physics (OTAMP2012), Barcelona, Spain, 11 - 14 June 2012, pp.1

XXVIII. Sınırsız operatör katsayılı bir diferansiyel operatörün düzenli izi

Gül E.

5. Ankara Matematik Günleri Kongresi, Ankara, Turkey, 3 - 04 June 2010

XXIX. Sonlu aralıkta verilmiş sınırlı operatör katsayılı bir diferansiyel operatörün düzenli izi

Gül E.

XX. Ulusal Matematik Sempozyumu, Erzurum, Turkey, 3 - 06 September 2007, pp.25

XXX. On regularized trace of a differential operator of second order with unbounded operator coefficients

Gül E.

Fourth International Conference of Applied Mathematics and Computing, Plovdiv, Bulgaria, 12 - 18 August 2007, pp.19

XXXI. A regularized trace formula for a differential operator of second order with bounded operator coefficients

Gül E.

II. Türk Dünyası Matematik Sempozyumu, Sakarya, Turkey, 4 - 07 July 2007, pp.70

XXXII. On the regularized trace Formula of a self-adjoint differential operator of fourth order with operator coefficients given in a finite interval

Gül E.

Third International Conference of Applied Mathematics, Plovdiv, Bulgaria, 12 - 18 August 2006, pp.18

### Supported Projects

- I. GÜL E., Karasu S., Project Supported by Higher Education Institutions, Banach Uzayında Operatör Yarı Grupları ve Evolüsyon Denklemleri, 2023 2023
- II. GÜL E., KARAYEL S., Project Supported by Higher Education Institutions, Sınırlı Operatör Katsayılı Sturm-Liouville Operatörünün İkinci Düzenli İzinin Hesaplanması, 2023 - 2023
- III. GÜL E., Balotu D., Project Supported by Higher Education Institutions, Bergman Uzayında Hankel Operatörleri, 2020 2022
- IV. Kızıl E., Gül E., TUBITAK Project, Monotonic homotopy and Lie semigroups, 2016 2018

### Scientific Refereeing

- I. Maltepe Journal of Mathematics, Other Indexed Journal, December 2019
- II. Sigma Journal of Engineering and Natural Sciences, National Scientific Refreed Journal, April 2019
- III. Gümüşhane Üniversitesi Fen Bilimleri Enstitüsü Dergisi , National Scientific Refreed Journal, September 2018
- IV. Sigma Journal of Engineering and Natural Sciences , National Scientific Refreed Journal, February 2018
- V. TURKISH JOURNAL OF MATHEMATICS, SCI Journal, January 2016
- VI. ADVANCES IN DIFFERENCE EQUATIONS, Journal Indexed in SCI-E, October 2015
- VII. ADVANCES IN DIFFERENTIAL EQUATIONS, Journal Indexed in SCI-E, May 2015
- VIII. Sigma Journal of Engineering and Natural Sciences, National Scientific Refreed Journal, May 2015

### Scientific Research / Working Group Memberships

I. Howard-Yıldız Analysis Research Group, Yildiz Technical University, Türkiye, https://avesis.yildiz.edu.tr/researchteamsite/arg, 2021 - Continues

### Metrics

Publication: 61 Citation (WoS): 26 Citation (Scopus): 42 H-Index (WoS): 3 H-Index (Scopus): 3

### Congress and Symposium Activities

- I. Fifth International Conference of Mathematical Sciences (ICMS 2021), Session Moderator, İstanbul, Turkey, 2021
- II. Fourth International Conference of Mathematical Sciences (ICMS 2020), Session Moderator, İstanbul, Turkey, 2020
- III. Fourth International Conference of Applied Mathematics and Computing, Session Moderator, Plovdiv, Bulgaria, 2007

### **Refereeing Duties**