



Asst. Prof. Dr. Esmâ DİRİCAN ERDAL
Işık University
Faculty of Science and Engineering
Department of Mathematics
E-posta: esma.diricanerdal@isikun.edu.tr

Education

Post-Doc
2022
29/Eylül/2023

ISTANBUL TECHNICAL UNIVERSITY/FACULTY OF ARTS AND SCIENCES

Doctoral
2017
23/Ağustos/2021
(**Yatay Geçiş**)

IZMIR INSTITUTE OF TECHNOLOGY/INSTITUTE OF ENGINEERING AND NATURAL SCIENCES

Thesis name: Reidemeister torsion of closed n -manifolds (2021) Thesis Advisor:(Fatih Erman; Yaşar Sözen)

Master (Thesis)
2013
1/Ocak/2015

HACETTEPE UNIVERSITY/GRADUATE SCHOOL OF SCIENCE AND ENGINEERING

Thesis name: Reidemeister torsiyon ve yönlendirilmiş yüzeylerin pantolon parçalanışı (2015)
Thesis Advisor:(PROF. DR. YAŞAR SÖZEN)

Bachelor's Degree
2008
24/Haziran/2013

HACETTEPE UNIVERSITY/FACULTY OF SCIENCE

Academic Title

ASSISTANT PROFESSOR
29.09.2023

ISIK UNIVERSITY/ FACULTY OF ARTS AND SCIENCES /DEPARTMENT OF MATHEMATİCS

LECTURER
23.09.2021-28.06.2022

YEDİTEPE UNIVERSITY/ FACULTY OF ARTS AND SCIENCES / DEPARTMENT OF MATHEMATİCS

RESEARCH ASSISTANT

IZMIR INSTITUTE OF TECHNOLOGY/ FACULTY OF ARTS AND SCIENCES / DEPARTMENT OF MATHEMATİCS

Positions in Projects:

1. Reidemeister Torsiyon Ve Kahler Manifoldlara Uygulamaları, TUBITAK Project, Yürütücü:SÖZEN YAŞAR,Bursiyer:DİRİCAN ESMA,Bursiyer:ZEYBEK HATİCE, , 01/03/2015 - 01/03/2017 (NATIONAL)
2. Lefschetz Sayıları ve Cartan Determinant Sanısı, Scientific Research Project Supported by Higher Education Institutions, Yürütücü:ATABEY KAYGUN, Araştırmacı:ESMA DİRİCAN ERDAL, , 15/10/2022 - 29/09/2023 (NATIONAL)

1

Courses ***Öğrenim Dili Course Hour****2023-2024****Bachelor's Degree Programme**

Ayrık Matematik	English	6
Ayrık Matematik	Turkish	3
Lineer Cebir	English	3

2022-2023**Bachelor's Degree Programme**

Lineer Cebir	English	6
Ayrık Matematik	English	6

2021-2022**Bachelor's Degree Programme**

Kalkülüs-I	English	8
Ayrık Matematik	English	8

Works**Articles published in international refereed journals:**

1. DİRİCAN ERDAL ESMA,ALABAY HİLAL,BORAT AYŞE,CİHANGİRLİ ESRA (2024). Higher analogues of discrete topological complexity. Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas, 118(125), Doi: 10.1007/s13398-024-01623-x (Publication No: 9026707)
2. DİRİCAN ERDAL ESMA (2023). The adjoint Reidemeister torsion for compact 3-manifolds admitting a unique decomposition. Turkish Journal of Mathematics, 47(5), 1469-1480., Doi: 10.55730/1300-0098.3441 (Publication No: 8046457)
3. DİRİCAN ERDAL ESMA, SÖZEN YAŞAR (2022). Reidemeister-Franz Torsion of Compact Orientable Surfaces via Pants Decomposition. Balkan Journal of Geometry and Its Applications, 27(2), 37-49. (Publication No: 8046410)
4. DİRİCAN ESMA, SÖZEN YAŞAR (2018). Reidemeister Torsion and Orientable Punctured Surfaces. Journal of the Korean Mathematical Society, 55(4), 1005-1018., Doi: 10.4134/JKMS.j170595 (Publication No: 4465463)

5. DİRİCAN ESMA,SÖZEN YAŞAR (2016). Connected Sum of Orientable Surfaces and Reidemeister Torsion. Pure and Applied Mathematics Quarterly, 12(4), 517-541., Doi: 10.4310/PAMQ.2016.v12.n4.a4 (Publication No: 3858710)

B. Papers presented at international scientific meetings and published in proceedings

:

1. DİRİCAN ERDAL ESMA (2024). Multiplicative Property of the Twisted Reidemeister Torsion on Compact 3-Manifolds. An Istanbul Meeting for World Mathematicians. 09-11 July 2024, Istanbul, Turkey. (Özet Bildiri/Sözlü Sunum)
2. ALABAY HİLAL, BORAT AYŞE, CİHANGİRLİ ESRA, DİRİCAN ERDAL ESMA (2024). On the properties of higher discrete topological complexity. Advances in Homotopy Theory V (Abstract/Guest Speaker) (Publication No: 8900769)
3. DİRİCAN ESMA,SÖZEN YAŞAR (2018). Reidemeister Torsion of Orientable Punctured Surfaces. 16 th Geometry Symposium, 41-41. (Abstract/Oral Presentation) (Publication No: 4307796)
4. DİRİCAN ESMA,ZEYBEK HATİCE,SÖZEN YAŞAR (2017). On Some Volume Elements of Anderson's Moduli Space. 15th International Geometry Symposium Amasya University, Amasya, Turkey, 3-6 July 2017, 106-107. (Abstract/Oral Presentation) (Publication No: 3976657)
5. DİRİCAN ESMA,SÖZEN YAŞAR (2017). Reidemeister Torsion of Compact 3-manifolds with Boundary finitely many closed surfaces. 15th International Geometry Symposium Amasya University, Amasya, Turkey, (Abstract/Oral Presentation) (Publication No: 3858988)
6. DİRİCAN ESMA,SÖZEN YAŞAR (2017). Homological Algebra Techniques in Computation of R-Torsion. Antalya Algebra Days XVII in 2017 (Abstract/Oral Presentation) (Publication No: 3859052)
7. DİRİCAN ESMA,ZEYBEK HATİCE,SÖZEN YAŞAR (2017). Hard Lefschetz Theorem and Reidemeister Torsion of 3-manifolds. International Conference on Mathematics and Mathematics Education(ICMME-2017), Harran University, Şanlıurfa, 11-13 May 2017, 711-712. (Abstract/Oral Presentation) (Publication No: 3976364)
8. DİRİCAN ERDAL ESMA, SÖZEN YAŞAR (2015). Reidemeister torsion of some surfaces. International Conference on Advancements in Mathematical Sciences, Doi: 10.1063/1.4930432 (Full Text Publication/Oral Presentation) (Publication No: 8047001)

E. Papers presented at national scientific meetings and published in

1. DİRİCAN ERDAL ESMA, SÖZEN YAŞAR (2020). Reidemeister torsion of $(n-2)$ -connected $2n$ -dimensional closed π -manifolds. İzmir Mathematics Days-III, 10-10. (Abstract/Oral Presentation) (Publication No: 8046659)
2. DİRİCAN ERDAL ESMA (2024). A MULTIPLICATIVE GLUING FORMULA REIDEMEISTER-FRANZ TORSION OF HIGH DIMENSIONAL CLOSED MANIFOLDS. 7. Uluslararası Ankara Multidisipliner Bilimsel Çalışmalar Kongresi (Abstract/Oral Presentation) (Publication No: 8932186)
3. DİRİCAN ERDAL ESMA (2023). Kompakt 3-Manifoldlar için Bükülmüş Reidemeister Torsiyon. 35. ULUSAL MATEMATİK SEMPOZYUMU, 48-48. (Abstract/Oral Presentation) (Publication No: 8493552)
4. Alabay Hilal, BORAT AYŞE, Cihangirli Esra, DİRİCAN ERDAL ESMA (2023). Yüksek Ayrık Topolojik Karmaşıklık. 35. Ulusal Matematik Sempozyumu (Abstract/Oral Presentation) (Publication No: 8457659)
5. DİRİCAN ERDAL ESMA (2022). A Formula for Volume forms on Representation Varieties of Surfaces with Boundary $\Sigma_{g,2}$. İzmir Mathematics Days-IV, 22-22. (Abstract/Oral Presentation) (Publication No: 8046621)
6. DİRİCAN ERDAL ESMA, SÖZEN YAŞAR (2019). Connected Sum of Orientable Surfaces and Reidemeister Torsion. İzmir Mathematics Days-II, 11-11. (Abstract/Oral Presentation) (Publication No: 8046751)

Other Publications

1. DİRİCAN ERDAL ESMA (2024). Multiplicative property of the twisted Reidemeister torsion on the connected sum of compact 3-manifolds. ArXiv.org, Doi: 10.48550/arXiv.2402.15624 (International) (Non-refereed) (ARTICLE Article) (Publication No: 8932209)
2. DİRİCAN ERDAL ESMA (2022). Gluing Formulas for Volume Forms on Representation Varieties of Surfaces. ArXiv.org, Doi: 10.48550/arXiv.2202.11155 (International) (Non-refereed) (ARTICLE Article) (Publication No: 8046487)

Scholarship

571057	BIDEB 2211 Yurt İçi Doğrudan Burs Programı, TÜBİTAK Doktora Bursu, İZMİR YÜKSEK TEKNOLOJİ ENSTİTÜSÜ, Scholarship, 15.09.2015 -15.09.2019 (National)
571058	BIDEB 2210 Yurt İçi Lisansüstü Burs Programı, TÜBİTAK Yüksek Lisans Bursu, HACETTEPE ÜNİVERSİTESİ, Scholarship, 15.03.2014 -15.08.2015 (National)
