

1 *CURRENT RESEARCH INTERESTS*

Operator theory, Spectral analysis of differential and integral operators, Boundary-value-transmission problems, Nonlinear equations, s-numbers of compact operators, Weyl's theory, Conformable-Fractional calculus, Continuity of eigenvalues of the boundary-value-transmission problems on the data, Hamiltonian systems

2 *PUBLICATIONS*

1. E. Bairamov, E. Uğurlu, The determinants of dissipative Sturm-Liouville operators with transmission conditions, *Math. Comput. Modelling*, 53 (2011), 805-813.

2. E. Bairamov, E. Uğurlu, On the characteristic values of the real component of a dissipative boundary value transmission problem, *Appl. Math. Comput.*, 218 (2012), 9657-9663.

3. E. Bairamov, E. Uğurlu, Krein's theorems for a dissipative boundary value transmission problem, *Complex Anal. Oper. Theory*, 7 (2013), 831-842.

4. E. Uğurlu, B. P. Allahverdiev, On selfadjoint dilation of the dissipative extension of a direct sum differential operator, *Banach J. Math. Anal.*, 7 (2013), 194-207.

5. E. Uğurlu, E. Bairamov, Dissipative operators with impulsive conditions, *J. Math. Chem.*, 51 (2013), 1670-1680.

6. B. P. Allahverdiev, E. Bairamov, E. Uğurlu, Eigenparameter dependent Sturm-Liouville problems in boundary conditions with transmission conditions, *J. Math. Anal. Appl.*, 401 (2013), 388-396.

7. E. Uğurlu, E. Bairamov, On singular dissipative fourth-order differential operator in lim-4 case, *ISRN Mathematical Analysis*, Volume 2013, Article ID 549876, 5 pages.

8. E. Uğurlu, On the perturbation determinants of a singular dissipative boundary value problem with finite transmission conditions, *J. Math. Anal. Appl.*, 409 (2014), 567-575.

9. E. Uğurlu, E. Bairamov, Spectral analysis of eigenparameter dependent boundary value transmission problems, *J. Math. Anal. Appl.*, 413 (2014), 482-494.

10. E. Uğurlu, E. Bairamov, On the rate of the convergence of the characteristic values of an integral operator associated with a dissipative fourth order differential operator in lim-4 case with finite transmission conditions, *J. Math. Chem.*, 52 (2014), 2627-2644.

11. Ş. Yardımcı, E. Uğurlu, Nonlinear fourth order boundary value problem, *Boundary Value Problems*, 2014 (2014), 189.

12. E. Uğurlu, E. Bairamov, Krein's theorem for the dissipative operators with finite impulsive effects, *Numer. Func. Anal. Optim.*, 36 (2015), 256-270.

13. B. P. Allahverdiev, E. Uğurlu, On dilation, scattering and spectral theory for two-interval singular differential operators, *Bull. Math. Soc. Sci. Math. Roumanie*, 58 (106) (2015), 383-392.

14. E. Uğurlu, Investigation of the spectral properties of a fourth order differential operators with finite transmission conditions, *Math. Methods Appl. Sci.*, 39 (2016), 1298-1310.
15. B. P. Allahverdiev, E. Uğurlu, Spectral analysis of the direct sum Hamiltonian operators, *Quaestiones Math.*, 39 (2016), 733-750.
16. D. Baleanu, E. Ugurlu, Regular fractional dissipative boundary value problems, *Advances in Difference Equations* 2016 2016:175
17. E. Ugurlu, Dirac systems with regular and singular transmission effects, *Turkish J. Math.*, 41 (2017), 193-210.
18. E. Uğurlu, Singular Dirac systems in the Sobolev space, *Turkish J. Math.*, 41 (2017), 933-939.
19. E. Uğurlu, E. Bairamov, The spectral analysis of a nuclear resolvent operator associated with a second order dissipative differential operator, *Comput. Methods Funct. Theory*, 17 (2017), 237-253.
20. E. Uğurlu, K. Taş, Dissipative operator and its Cayley transform, *Turkish J. Math*, 41 (2017), 1404-1432.
21. E. Uğurlu, Singular multiparameter dynamic equations with distributional potentials on time scales, *Quaestiones Math*, 40 (2017), 1023-1040.
22. E. Uğurlu, D. Baleanu, K. Taş, Regular fractional differential equations in the Sobolev space, *Fract. Calc. Appl. Anal.*, 20 (2017), 810-817.
23. F. Jarad, E. Uğurlu, T. Abdeljawad, D. Baleanu, On a new class of fractional operators, *Adv. Difference Eq.*, 2017, 247.
24. E. Ugurlu, K. Tas, D. Baleanu, Singular left-definite Hamiltonian systems in the Sobolev space, *J. Nonlinear Sci. Appl.*, 10 (2017), 4451-4458.
25. E. Uğurlu, D. Baleanu, On a completely non-unitary contraction and associated dissipative difference operator, *J. Nonlinear Sci. Appl.* 10 (2017), 5999-6019.
26. B. P. Alahverdiev, E. Uğurlu, Scattering and Spectral Problems of the Direct Sum Sturm-Liouville Operators, *Appl. Comput. Math.*, 16 (2017), 240-256.
27. E. Uğurlu, K. Taş, A new method for dissipative dynamic operator with transmission conditions, *Complex. Anal. Oper. Theory*, 12 (2018), 1027-1055.
28. E. Uğurlu, D. Baleanu, K. Taş, On the solutions of a fractional boundary value problem, *T. J. Math.*, 42 (2018), 1307-1311
29. E. Uğurlu, Singular Hamiltonian system with several spectral parameters, *J. Math. Anal. Appl.*, 461 (2018), 1241-1259.
30. D. Baleanu, F. Jarad, E. Uğurlu, Singular conformable sequential differential equations with distributional potentials, *Quaest. Math.*, 42 (2019), 277-287.
31. E. Uğurlu, D. Baleanu, K. Taş, On square integrable solutions of a fractional differential equation, *Appl. Math. Comput.*, 337 (2018), 153-157.
32. E. Uğurlu, Regular third-order boundary value problems, *Appl. Math. Comput.*, 343 (2019), 247-257.
33. E. Uğurlu, Extensions of a minimal third-order formally symmetric operator, *Bull. Malays. Math. Sci. Soc.* <https://doi.org/10.1007/s40840-018-0696-8>

34. E. Uğurlu, Investigation of the eigenvalues and root functions of the boundary value problem together with a transmission matrix, Quaes. Math. <https://doi.org/10.2989/16073606.2019.1581299>
35. E. Uğurlu, Singular Hamiltonian system with several spectral parameters II: odd-order case, J. Math. Anal. Appl., 476 (2019), 549-568.
36. E. Uğurlu, Third-order boundary value transmission problems, Turkish J. Math., 43, (2019), 1518-1532.
37. E. Uğurlu, Regular fifth-order boundary value problems, Bull. Malays. Math. Sci. Soc. (accepted)
38. E. Uğurlu, D. Baleanu, Coordinate-free approach for the model operator associated with a third-order dissipative operator, Front. Phys. | doi: 10.3389/fphy.2019.00099

3 MEMBERSHIPS

1. Editor, Probe - Mathematics and Mathematical Sciences
2. Leading Guest Editor for a special issue, Probe - Mathematics and Mathematical Sciences
3. American Mathematical Society (as a reviewer)
4. Zentralblat Math (as a reviewer)

4 REVIEW EXPERIENCE

1. Differential Equations and Dynamical Systems
2. Journal of Applied Mathematics
3. Advances in Difference Equations
4. Bulletin of the Iranian Mathematical Society
5. Mediterranean Journal of Mathematics
6. Electronic Journal of Differential Equations
7. Quaestiones Mathematicae
8. Filomat
9. Discrete Dynamics in Nature and Society
10. Bulletin of the Malaysian Mathematical Sciences Society
11. Mathematical Methods in the Applied Sciences

5 CONFERENCES ATTENDED

1. E. Bayram, E. Uğurlu, Singüler Dissipatif Operatörlerin Spektral Analizi, AMG-2011, “6. Ankara Matematik Günleri”, Hacettepe Üniversitesi, Matematik Bölümü, Ankara, 02-03 Haziran 2011.
2. E. Uğurlu, E. Bayram, İletim Koşullu Dissipatif Operatörlerin Spektral Analizi, AMG-2012, “7. Ankara Matematik Günleri”, Bilkent Üniversitesi, Matematik Bölümü, Ankara, 31 Mayıs-1 Haziran 2012.

3. E. Uğurlu, E. Bayram, Kendine Eşlenik Olmayan Lineer Hamilton Sisteminin Spektral Analizi, AMG-2013, "8. Ankara Matematik Günleri", Çankaya Üniversitesi, Matematik-Bilgisayar Bölümü, 13-14 Haziran 2013.

4. E. Uğurlu, Dördüncü Mertebeden Sonlu İletim Koşullu Bir Dissipatif Diferensiyel Operatörün Spektral Analizi, AMG-2014, "9. Ankara Matematik Günleri", Atılım Üniversitesi, Matematik Bölümü, 12-13 Haziran 2014.

5. E. Uğurlu, Hamiltonian Operatörleri için İletim Matrisinin Oluşturulması, AMG-2016, "11. Ankara Matematik Günleri", Ankara Üniversitesi, Matematik Bölümü, 26-27 Mayıs, 2016.

6. E. Uğurlu, Multiparameter second order Sturm-Liouville equations, International Conference on Applied Mathematics and Analysis, Atılım University, Ankara, Turkey, July 11-13, 2016.

7. E. Uğurlu, E. Bairamov, Bessel-type dissipative operators with transmission conditions, International Workshop on Mathematical Methods in Engineering, Çankaya University, Ankara, 27-29 April, 2017.

8. E. Uğurlu, B. Paşaoğlu, On the dissipative extension of a direct-sum differential operator, International Workshop on Mathematical Methods in Engineering, Çankaya University, Ankara, 27-29 April, 2017.

9. E. Uğurlu, D. Baleanu, On dissipative fractional operators, International Workshop on Mathematical Methods in Engineering, Çankaya University, Ankara, 27-29 April, 2017.

6 *TEACHING EXPERIENCE*

Math 155 Calculus for Engineering I

(Trigonometric, Exponential, Inverse and Logarithmic Functions, Limits, Continuity, Derivative, Chain Rule, Implicit Differentiation, Derivatives of Inverse Trigonometric Functions, Concavity, Curve Sketching, Integrals, Fundamental Theorem of Calculus, Substitution, Areas, Integration by Parts, Trigonometric Integrals, Trigonometric Substitutions, Partial Fractions, Improper Integrals)

Math 156 Calculus for Engineering II

(Sequences, Infinite Series, Alternating Series, Power Series, Taylor and Maclaurin Series, Vectors, Lines and Planes in Space, Vector Valued Functions, Functions of Several Variables, Partial Derivatives, Directional Derivatives, Extreme Values, Lagrange Multipliers, Double Integrals, Triple Integrals.)

Math 258 Introduction to Differential Equations

(Separable, homogeneous, linear, Bernoulli and exact equations, integrating factors, Reduction of order, second order equations, undetermined coefficients, variation of parameters, Cauchy-Euler equations, Laplace transforms, convolution, unit step functions, Power series solutions of differential equations, Fourier Series, Heat equation)

Math 252 Advanced Calculus

(Differentiable Mappings. The Inverse and Implicit Function Theorems and Related Topics. Integration. Fubini's Theorem, Double Integrals, Change of Variables Formula, Triple Integrals, Line Integrals, Green, Gauss and Stokes Theorems, Orthogonality.)

Math 315 Partial Differential Equations

(First order equations; linear, quasilinear, and nonlinear equations; classification of second order linear partial differential equations; canonical forms)

Math 342 Applied Mathematics

(Fredholm and Volterra integral equations, Relation between IVP and integral equations, Neumann series, Fredholm determinants, Resolvent kernels, Gamma and Beta functions, Solving integral equations by Gamma and Beta functions)

Math 452 Functional Analysis

(Metric Spaces, Completion of Metric Spaces, Normed Spaces, Finite Dimensional Normed Spaces, Bounded Linear operators, Linear Functional, Dual Space, Inner Product Spaces and Hilbert Spaces, Riesz Representation Theorem, Hilbert Adjoint Operator, Self-Adjoint, Unitary and Normal Operators, Hahn-Banach Theorem, Uniform Boundedness Principle, Strong and Weak Convergence, reflexivity.)

7 *Master D. Student*

Atilla Aras, On Left-Definite Sturm-Liouville Equations, Çankaya University, Department of Mathematics, June 2017, Ankara, Turkey