Asst. Prof. Kamil Karaçuha

Personal Information

Office Phone: +90 212 285 6765
Email: karacuha17@itu.edu.tr
Web: https://avesis.itu.edu.tr/karacuha17

International Researcher IDs
ScholarID: v2Q5l2gAAAAJ
ORCID: 0000-0002-0609-5085
Publons / Web Of Science ResearcherID: ABC-8066-2020
ScopusID: 57202857584
Yoksis Researcher ID: 278937

Education Information

Undergraduate, Anadolu University, Open Education Faculty, Department Of Sogıology, Turkey 2017 - 2021
Doctorate, Istanbul Technical University, Bilişim Enstitüsü, Turkey 2017 - 2021
Undergraduate, Middle East Technical University, Faculty Of Arts And Sciences, Department Of Physics, Turkey 2014 -
2018
Undergraduate, Middle East Technical University, Faculty Of Engineering, Elektrik Elektronik Mühendisliği, Turkey 2012 -
2017

Research Areas

Electrical and Electronics Engineering, Electromagnetic, Electric and Magnetic Fields, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Istanbul Technical University, Elektrik-Elektronik, Elektrik Mühendisliği, 2021 - Continues
Research Assistant, Istanbul Technical University, Bilişim Enstitüsü, Bilişim Uygulamaları, 2018 - Continues

Published journal articles indexed by SCI, SSCI, and AHCI

I. **A fundamental approach: E-polarized electromagnetic wave diffraction by two dimensional arbitrary-shaped objects with impedance boundary condition**
Tabatadze V., Karaçuha K., Zaridze R., Velıyev E., Karaçuha E.
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II. **H-polarized plane wave diffraction by a slotted cylinder with different surface impedances: Solution by the analytical-Numerical approach**
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III. **A new approach in electromagnetic plane wave diffraction by two concentric slotted cylinders with variably placed slits: E and H polarized cases**
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VI. **Several case studies on electric field distributions for two human bodies inside the car at 3.5 GHz-5G frequency band**
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VIII. **Analyzing Response Efficiency to COVID-19 and Underlying Factors of the Outbreak With Deep Assessment Methodology and Fractional Calculus**
Karaçuha E., Ergün E., Önal Tuğrul N. Ö., Karaçuha K., Tabatadze V.
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IX. **The solution of the plane wave diffraction problem by two strips with different fractional boundary conditions**
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X. **The Electric Field Calculation for Mobile Communication Coverage in Buildings and Indoor Areas by Using the Method of Auxiliary Sources**
Tabatadze V., Karaçuha K., Velıyev E., Karaçuha K., Zaridze R.
COMPLEXITY, vol.2020, 2020 (SCI-Expanded)

XI. **Plane wave diffraction by strip with an integral boundary condition**
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XIII. **A Mathematical Approach with Fractional Calculus for the Modelling of Children's Physical Development**
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Articles Published in Other Journals

I. **Electromagnetic Diffraction by a Slotted Cylinder with the Fractional Boundary Condition**
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II. **Mathematical Modeling of European Countries' Telecommunication Investments Avrupa Ülkelerinin Haberleşme Sektöründeki Yatırımlarının Matematiksel Modellenmesi**

Karaçuha K., Sağlamol S. A., Ergün E., Önal Tuğrul N. Ö., Şimşek K., Karaçuha E.

El-Cezeri Journal of Science and Engineering, vol.9, no.3, pp.1028-1037, 2022 (Scopus)

III. **MODELING OF MOBILE AND FIXED BROADBAND SUBSCRIPTIONS OF COUNTRIES WITH FRACTIONAL CALCULUS**

Önal Tuğrul N. Ö., Baser C., Ergün E., Karaçuha K., Tabatadze V., Eker S., Karaçuha E., Simsek K.

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IV. **A Simple Approach to Characterize a Buried Object under the Ground**

Tabatadze V., Karaçuha K., Alperen Ö. F., Joof S., Zaridze R.

PROGRESS IN ELECTROMAGNETICS RESEARCH M, vol.109, pp.89-100, 2022 (ESCI)

V. **Electromagnetic Scattering from 2-D Conducting Objects of Arbitrary Smooth Shape: Complete Mathematical Formulation of the Method of Auxiliary Sources for E-Polarized Case**

Tabatadze V., Karaçuha K., Zaridze R.

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VI. **Diffraction of the electromagnetic plane waves by double half-plane with fractional boundary conditions**

Tabatadze V., Karaçuha K., Velıyev E., Karaçuha E.

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VII. **The Diffraction by the Half-Plane with the Fractional Boundary Condition**

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VIII. **Body Shape and Complex Permittivity Determination Using the Method of Auxiliary Sources**

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IX. **The fractional derivative approach for diffraction problems: Plane wave diffraction by two strips with fractional boundary conditions**

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X. **Analysis of Current Distributions and Radar Cross Sections of Line Source Scattering from Impedance Strip by Fractional Derivative Method**

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ADVANCED ELECTROMAGNETICS, vol.8, no.2, pp.108-113, 2019 (ESCI)

XI. **The Use of the Fractional Derivatives Approach to Solve the Problem of Diffraction of a Cylindrical Wave on an Impedance Strip**

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Refereed Congress / Symposium Publications in Proceedings

I. **A Filtering Dipole Antenna Design with Bandwidth Enhancement for 5G**

Çelik F. T., Joof S., Karaçuha K.

17th European Conference on Antennas and Propagation, EuCAP 2023, Florence, Italy, 26 - 31 March 2023

II. **A Wideband Dipole Antenna Design for Through-the-Wall Imaging on Security Applications**

Joof S., Doğu S., Çelik F. T., Karaçuha K.

17th European Conference on Antennas and Propagation, EuCAP 2023, Florence, Italy, 26 - 31 March 2023

III. **Modelling on economic growth and telecommunication sector of Turkey using a fractional approach including error minimizing**

Önal N. Ö., Karaçuha K., Karaçuha E.

2021 Asia-Pacific Conference on Applied Mathematics and Statistics, AMS 2021, Chiangmai, Virtual, Thailand, 20 - 22 February 2021, vol.2471

IV. **A Dual-Band Quasi-Yagi Reconfigurable Binomial Weighted Phased Antenna Array Design**

Karaçuha K., Celik F. T.

2nd IEEE Ukrainian Microwave Week, UkrMW 2022, Kharkiv, Ukraine, 14 - 18 November 2022, pp.351-354

V. **Electromagnetic Scattering by the Strip with Different Impedances on Both Sides**

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VI. **A Gain Enhancement Study on a Vivaldi Antenna for Radar Applications**

Yildiz E. M., Dede C. F. G., Karaçuha K., Eker S.

2022 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, AP-S/URSI 2022, Colorado, United States Of America, 10 - 15 July 2022, pp.1218-1219

VII. **Four Beam Patch Antenna**

Barbakadze V., Karaçuha K., Tabatadze V., Zaridze R.

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VIII. **Electromagnetic Diffraction by a Pulse from 2-D Dielectric Objects**

Tabatadze V., Karaçuha K., Zaridze R.

2nd IEEE Ukrainian Microwave Week, UkrMW 2022, Kharkiv, Ukraine, 14 - 18 November 2022, pp.559-562

IX. **A Simple Approach to Determine the Buried Object under the Ground**

KARAÇUHA K., TABATADZE V., KARAÇUHA E., Zaridze R.

2021 IEEE 26th International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED), Georgia, 8 - 10 September 2021

X. **A Reconfigurable Binomial Weighted Phased Array Antenna Design for Wi-Fi Band Wi-Fi Bandi icin Yeniden Yapilandirilabilir Binom Agirlikli Fazli Dizi Anten Tasarimi**

ÇELİK F. T., Karaçuha K.

28th Signal Processing and Communications Applications Conference, SIU 2020, Gaziantep, Turkey, 5 - 07 October 2020

XI. **The Diffraction by the Half-plane with the Fractional Boundary Condition**

Tabatadze V., Velıyev E., Karaçuha E., Karaçuha K.

2020 International Applied Computational Electromagnetics Society Symposium, ACES-Monterey 2020, California, United States Of America, 27 - 31 July 2020

XII. **A Two-Element Array Design of Dual-Band Quasi-Yagi Antenna with Reflector**

Gul F. C., Karaçuha K., Eker S.

IEEE International Symposium on Antennas and Propagation / North American Radio Science Meeting, ELECTR NETWORK, 5 - 10 July 2020, pp.1915-1916

XIII. **A Reconfigurable Binomial Weighted Phased. Array Antenna Design for Wi-Fi Band**

ÇELİK F. T., Karaçuha K.

28th Signal Processing and Communications Applications Conference (SIU), ELECTR NETWORK, 5 - 07 October 2020

XIV. **Broadband RF communication system design for smart houses including Wi-Fi and 5G**

ÇELİK F. T., Karaçuha K.

2019 Photonics and Electromagnetics Research Symposium - Fall, PIERS - Fall 2019, Xiamen, China, 17 - 20 December 2019, pp.1558-1562

XV. **Dual band quasi-yagi antenna array structure for the side loop reduction by using binomial weighting**

Karaçuha K., ÇELİK F. T.

2019 Photonics and Electromagnetics Research Symposium - Fall, PIERS - Fall 2019, Xiamen, China, 17 - 20 December 2019, pp.1567-1570

XVI. **Dual-band Quasi-Yagi Antenna Gain Enhancement by Using a Reflector Plate**

Gul F. C., Karaçuha K., Eker S.

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XVII. **Application of The Method of Fractional Derivatives to the Solution of the Problem of Plane Wave Diffraction by Two Axisymmetric Strips of Different Sizes**

Karaçuha K., Velıyev E., Tabatadze V., Karaçuha E.

URSI International Symposium on Electromagnetic Theory (EMTS), California, United States Of America, 27 - 31 May 2019

XVIII. **Miniaturized Virtual Array Dual Band Loop Quasi - Yagi Antenna Design for 5G Application**

ÇELİK F. T., Karaçuha K.

URSI International Symposium on Electromagnetic Theory (EMTS), California, United States Of America, 27 - 31 May 2019

XIX. **Scattering of a Cylindrical Wave from an Impedance Strip by Using the Method of Fractional Derivatives**

Veliev E., Karaçuha K., Karaçuha E.

23rd International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED), Tbilisi, Georgia, 24 - 27 September 2018, pp.72-75

XX. **Dual - Band Microtrip Quasi - Yagi Antenna Design for Free Band and 5G Mobile Communication**

Celik F. T., Karacuha K.

23rd International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED), Tbilisi, Georgia, 24 - 27 September 2018, pp.189-192

Supported Projects

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Karaçuha K., ALTUNSU B., TÜRK B., KARATAŞ E., Önal Tuğrul N. Ö., Project Supported by Higher Education Institutions, Atış Kararını Kendi Veren Otonom Kara Aracı, 2022 - 2023

Karaçuha K., Project Supported by Higher Education Institutions, 5G için Geniş Bandlı Filtreleme Özelliğine Sahip Anten Tasarımı Denemesi, 2022 - 2023

Karaçuha E., Akıncı M. N., Karaçuha K., Yelten M. B., Temeltaş H., Acar M. H., GÖSE E., ŞAHİNTÜRK H., Şeker Ş. S., Yılmaz Abdolsaheb T., TUBITAK Project, SAVA120, 2020 - 2022

Metrics

Publication: 55
Citation (WoS): 19
Citation (Scopus): 138
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H-Index (Scopus): 8