

## Prof. GÖNÜL SAYAN

### Personal Information

**Office Phone:** [+90 312 210 2371](tel:+903122102371)

**Fax Phone:** [+90 312 210 2304](tel:+903122102304)

**Email:** [gtsayan@metu.edu.tr](mailto:gtsayan@metu.edu.tr)

**Web:** <http://blog.metu.edu.tr/gtsayan/>

**Address:** [gtsayan@metu.edu.tr](mailto:gtsayan@metu.edu.tr)

### International Researcher IDs

ScholarID: Qlbtr0YAAAAJ

ORCID: 0000-0003-0737-4139

Publons / Web Of Science ResearcherID: A-7866-2012

ScopusID: 6602885264

Yoksis Researcher ID: 8951

### Education Information

Doctorate, Ohio State University, Elektrik-Elektronik Mühendisliği, United States Of America 1983 - 1988

Postgraduate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Elektrik Ve Elektronik Mühendisliği (YL) (Tezli), Turkey 1980 - 1981

Undergraduate, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 1974 - 1979

### Foreign Languages

English, C1 Advanced

### Research Areas

Electrical and Electronics Engineering, Electromagnetic, Electromagnetic Waves, Antennas and Propagation, Engineering and Technology

### Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2003 - Continues

Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 1994 - 2003

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 1992 - 1994

Research Assistant, Ohio State University, Faculty Of Engineering, Electrical Engineering Department, 1984 - 1988

Research Assistant, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 1980 - 1984

## Academic and Administrative Experience

Middle East Technical University, 2016 - 2017

Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 2013 - 2016

## Advising Theses

- SAYAN G., Automatic target recognition of quadcopter type drones from moderately-wideband electromagnetic data using convolutional neural networks, Postgraduate, R.GÜNERİ(Student), 2022
- SAYAN G., Theory and applications of surface plasmon resonance sensors, Postgraduate, F.ÖZDEMİRCAN(Student), 2021
- SAYAN G., DESIGN AND REALIZATION OF A BROAD BAND ANTENNA LOADED WITH A METAMATERIAL-INSPIRED LENS FOR SUBSURFACE MICROWAVE IMAGING APPLICATIONS, Postgraduate, Ö.YEŞİLYURT(Student), 2019
- SAYAN G., Design, fabrication and characterization of an ultrabroadband metamaterial absorber using bismuth in the near infrared region, Postgraduate, İ.ÖZBAY(Student), 2018
- SAYAN G., Metamaterial based wideband infrared absorbers, Doctorate, K.ÜSTÜN(Student), 2017
- SAYAN G., Electromagnetic target recognition for lossy and dispersive dielectric objects: applications to breast tissue classification and tumor detection problem /, Postgraduate, B.İşık(Student), 2014
- SAYAN G., Electromagnetic analysis and design of miniaturized branchline couplers /, Postgraduate, G.ORKUN(Student), 2014
- SAYAN G., Novel multi-band metamaterials in microwave region with applications in antennas, Doctorate, Ö.KÜÇÜKSARI(Student), 2014
- SAYAN G., Electromagnetic target recognition for lossy and dispersive dielectric objects: Applications to breast tissue classification and tumor detection problem, Postgraduate, B.İŞİK(Student), 2014
- SAYAN G., Pumping chamber design in diode pumped solid-state lasers for maximum system efficiency and minimum optical distortion, Postgraduate, K.Zengin(Student), 2013
- SAYAN G., Numerical analysis, design and two port equivalent circuit models for split ring resonator arrays, Postgraduate, P.Yaşar(Student), 2010
- SAYAN G., Design, fabrication and characterization of novel metamaterials in microwave and terahertz regions : multi-band, frequency-tunable and miniaturized structures, Doctorate, E.Ekmekçi(Student), 2010
- SAYAN G., Transmission and propagation properties of novel metamaterials, Postgraduate, L.Şahin(Student), 2009
- SAYAN G., Investigation of music algorithm based and wd-pca method based electromagnetic target classification techniques for their noise performances, Postgraduate, E.Ergin(Student), 2009
- SAYAN G., Theoretical investigation of metamaterials: srr structures and periodic arrays of thin conducting wires, Postgraduate, K.Ozan(Student), 2008
- SAYAN G., A novel music algorithm based electromagnetic target recognition method in resonance region for the classification of single and multiple targets, Doctorate, M.Seçmen(Student), 2008
- SAYAN G., Target detection by the ambiguity function technique and the conventional fourier transform technique in frequency coded continuous wave radars, Postgraduate, M.Akangöl(Student), 2005
- SAYAN G., Design of an electromagnetic classifier for spherical targets, Postgraduate, M.Ayar(Student), 2005
- SAYAN G., Use of the ambiguity function technique for target detection in phase coded continuous wave radars, Postgraduate, E.Çankaya(Student), 2005
- SAYAN G., Application of a natural-resonance based feature extraction technique to small-scale aircraft wires for electromagnetic target classification, Postgraduate, M.Okan(Student), 2004

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

- Chemical Liquid and Concentration Sensing Applications Based on an All-Dielectric Absorber**  
KARACAN N., ÇETİN H., SAYAN G., EKMEKÇİ E.  
IEEE Sensors Journal, vol.24, no.15, pp.23851-23858, 2024 (SCI-Expanded)

- II. **A novel miniaturized X-band coplanar waveguide branch-line coupler using T- and**  
**&#x1d70b;&#xdf0b;-type equivalent transmission lines**  
Arıcan G. O., Sen O., SAYAN G.  
INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING, vol.32, no.7, 2022 (SCI-Expanded)
- III. **Response to "Comment on 'Sliding planar conjoined cut-wire-pairs: A novel approach for splitting and controlling the absorption spectra'" [J. Appl. Phys. 128, 126101 (2020)]**  
Karacan N., EKMEKÇİ E., SAYAN G.  
JOURNAL OF APPLIED PHYSICS, vol.128, no.12, 2020 (SCI-Expanded)
- IV. **Metasurface Lens for Ultra-Wideband Planar Antenna**  
Yesilyurt O., Turhan-Sayan G.  
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.68, no.2, pp.719-726, 2020 (SCI-Expanded)
- V. **Bismuth plasmonics for extraordinary light absorption in deep sub-wavelength geometries**  
Ozbay I., Ghobadi A., BÜTÜN B., Turhan-Sayan G.  
OPTICS LETTERS, vol.45, no.3, pp.686-689, 2020 (SCI-Expanded)
- VI. **Broadband LWIR and MWIR metamaterial absorbers with a simple design topology: almost perfect absorption and super-octave band operation in MWIR band**  
ÜSTÜN K., Turhan-Sayan G.  
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS, vol.34, no.7, 2017 (SCI-Expanded)
- VII. **Ultra-broadband long-wavelength infrared metamaterial absorber based on a double-layer metasurface structure**  
ÜSTÜN K., Turhan-Sayan G.  
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS, vol.34, no.2, pp.456-462, 2017 (SCI-Expanded)
- VIII. **Comparison of coherently coupled multi-cavity and quantum dot embedded single cavity systems**  
KOCAMAN S., Sayan G.  
OPTICS EXPRESS, vol.24, no.25, pp.29330-29342, 2016 (SCI-Expanded)
- IX. **Wideband long wave infrared metamaterial absorbers based on silicon nitride**  
ÜSTÜN K., Turhan-Sayan G.  
JOURNAL OF APPLIED PHYSICS, vol.120, no.20, 2016 (SCI-Expanded)
- X. **Large bandwidth mode order converter by differential waveguides**  
Oner B. B., ÜSTÜN K., Kurt H., Okyay A. K., Turhan-Sayan G.  
OPTICS EXPRESS, vol.23, no.3, pp.3186-3195, 2015 (SCI-Expanded)
- XI. **Metamaterial absorber-based sensor embedded into X-band waveguide**  
SABAH C., TURKMEN-KUCUKSARİ O., Turhan-Sayan G.  
ELECTRONICS LETTERS, vol.50, no.15, pp.1075-1076, 2014 (SCI-Expanded)
- XII. **SINGLE-, DUAL-, AND TRIPLE-BAND METAMATERIAL-INSPIRED ELECTRICALLY SMALL PLANAR MAGNETIC DIPOLE ANTENNAS**  
Turkmen O., Turhan-Sayan G., Ziolkowski R. W.  
MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.56, no.1, pp.83-87, 2014 (SCI-Expanded)
- XIII. **Effects of using different boundary conditions and computational domain dimensions on modeling and simulations of periodic metamaterial arrays in microwave frequencies**  
Turkmen O., EKMEKÇİ E., Turhan-Sayan G.  
INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING, vol.23, no.4, pp.459-465, 2013 (SCI-Expanded)
- XIV. **Non-destructive recognition of dielectric coated conducting objects by using WD type time-frequency transformation and PCA-based fusion**  
Turhan-Sayan G., ERGİN E.  
INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING, vol.23, no.4, pp.403-409, 2013 (SCI-Expanded)
- XV. **Multi-functional metamaterial sensor based on a broad-side coupled SRR topology with a multi-layer**

**substrate**

EKMEKÇİ E., Turhan-Sayan G.

APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.110, no.1, pp.189-197, 2013 (SCI-Expanded)

- XVI. **Nested U-ring resonators: a novel multi-band metamaterial design in microwave region**  
Turkmen O., EKMEKÇİ E., Turhan-Sayan G.  
IET MICROWAVES ANTENNAS & PROPAGATION, vol.6, no.10, pp.1102-1108, 2012 (SCI-Expanded)
- XVII. **Hybrid-shaped single-loop resonator: a four-band metamaterial structure**  
Yurduseven O., Yilmaz A. E., Turhan-Sayan G.  
ELECTRONICS LETTERS, vol.47, no.25, pp.1381-1382, 2011 (SCI-Expanded)
- XVIII. **Enhanced transmission of electromagnetic waves through split-ring resonator-shaped apertures**  
Sahin L., Aydin K., Sayan G., Ozbay E.  
JOURNAL OF NANOPHOTONICS, vol.5, 2011 (SCI-Expanded)
- XIX. **Frequency tunable terahertz metamaterials using broadside coupled split-ring resonators**  
Ekmekci E., Strikwerda A. C., Fan K., Keiser G., Zhang X., Turhan-Sayan G., Averitt R. D.  
PHYSICAL REVIEW B, vol.83, no.19, 2011 (SCI-Expanded)
- XX. **Triangular-Shaped Single-Loop Resonator: A Triple-Band Metamaterial With MNG and ENG Regions in S/C Bands**  
Yurduseven O., Yilmaz A. E., Turhan-Sayan G.  
IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS, vol.10, pp.701-704, 2011 (SCI-Expanded)
- XXI. **A dielectric corrugated feed horn antenna for satellite communication applications**  
Secmen M., Hizal A.  
Microwave and Optical Technology Letters, vol.52, no.8, pp.1709-1713, 2010 (SCI-Expanded)
- XXII. **Single loop resonator: dual-band magnetic metamaterial structure**  
EKMEKÇİ E., Turhan-Sayan G.  
ELECTRONICS LETTERS, vol.46, no.5, pp.324-325, 2010 (SCI-Expanded)
- XXIII. **Radar target classification method with reduced aspect dependency and improved noise performance using multiple signal classification algorithm**  
SEÇMEN M., Turhan-Sayan G.  
IET RADAR SONAR AND NAVIGATION, vol.3, no.6, pp.583-595, 2009 (SCI-Expanded)
- XXIV. **A tunable multi-band metamaterial design using micro-split SRR structures**  
EKMEKÇİ E., TOPALLI K., AKIN T., Turhan-Sayan G.  
OPTICS EXPRESS, vol.17, no.18, pp.16046-16058, 2009 (SCI-Expanded)
- XXV. **Real time electromagnetic target classification using a novel feature extraction technique with PCA-based fusion**  
Turhan-Sayan G.  
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.53, no.2, pp.766-776, 2005 (SCI-Expanded)
- XXVI. **Natural resonance-based feature extraction with reduced aspect sensitivity for electromagnetic target classification**  
Turhan-Sayan G.  
Pattern Recognition, vol.36, no.7, pp.1449-1466, 2003 (SCI-Expanded)
- XXVII. **Temperature effects on surface plasmon resonance: Design considerations for an optical temperature sensor**  
Ozdemir S., Turhan-Sayan G.  
JOURNAL OF LIGHTWAVE TECHNOLOGY, vol.21, no.3, pp.805-814, 2003 (SCI-Expanded)
- XXVIII. **Pole estimation for arbitrarily-shaped dielectric targets using genetic algorithm-based resonance annihilation technique**  
Turhan-Sayan G., Kuzuoglu M.  
ELECTRONICS LETTERS, vol.37, no.6, pp.380-381, 2001 (SCI-Expanded)
- XXIX. **Electromagnetic Target Classification using time frequency analysis and neural networks**  
SAYAN G., LEBLEBİCİOĞLU M. K., İNCE T.  
Microwave And Optical Technology Letters, vol.21, pp.63-69, 1999 (SCI-Expanded)

- XXX. **Input signal shaping for target identification using genetic algorithms**  
 SAYAN G., LEBLEBİCİOĞLU M. K., İNAN S.  
 Microwave And Optical Technology Letters, vol.17, pp.128-132, 1998 (SCI-Expanded)
- XXXI. **FREQUENCY-DOMAIN MECHANISM EXTRACTION**  
 TURHANSAYAN G., DOMİNEK A.  
 IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.38, no.10, pp.1716-1719, 1990 (SCI-Expanded)
- XXXII. **K-PULSE ESTIMATION USING LEGENDRE POLYNOMIAL-EXPANSIONS AND TARGET DISCRIMINATION**  
 TURHANSAYAN G., MOFFATT D.  
 JOURNAL OF ELECTROMAGNETIC WAVES AND APPLICATIONS, vol.4, no.2, pp.113-128, 1990 (SCI-Expanded)
- XXXIII. **K PULSE ESTIMATION AND TARGET IDENTIFICATION OF LOW Q RADAR TARGETS**  
 SAYAN G., MOFFATT D.  
 Wave Motion, vol.11, pp.453-461, 1989 (SCI-Expanded)

### Articles Published in Other Journals

- I. **Sensitivity Analyses for All-Dielectric Absorber Structures Having Different Dielectric Resonator Geometries and Investigation of the Effect of Boundary Conditions on the Absorption Spectra**  
 KARACAN N., SAYAN G., EKMEKÇİ E.  
 Electrica, vol.24, no.1, pp.163-174, 2024 (ESCI)
- II. **Comparative investigation of resonance characteristics and electrical size of the double sided SRR BC SRR and conventional SRR type metamaterials for varying substrate parameters**  
 EKMEKÇİ E., SAYAN G.  
 Progress in Electromagnetics Research B, vol.12, pp.35-62, 2009 (Scopus)

### Refereed Congress / Symposium Publications in Proceedings

- I. **Detection and Recognition of Buried Conducting Objects Using Subsurface Microwave Images Constructed by Down-Looking GPR Measurements and by Energy-Based Target Features**  
 Dinc S., Elibol H., Guneri R., Ozdol A., Sik F., Yesilyurt I. T., DOĞAN M., SAYAN G.  
 AES (Advanced Electromagnetics Symposium) 2019, Lisbon, Portugal, 24 - 26 July 2019
- II. **Directivity enhancement of antipodal vivaldi antenna using broadband metasurface lens**  
 Sayan G., Yesilyurt O.  
 2019 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, APSURSI 2019, Georgia, United States Of America, 7 - 12 July 2019, pp.631-632
- III. **Detection and Microwave Imaging of Conducting Objects Buried Very Closely to the Air-Soil Boundary**  
 Dinc S., Elibol H., Guneri R., Ozdol A. B., Sik F., Yesilyurt I. T., DOĞAN M., Turhan-Sayan G.  
 21st International Conference on Electromagnetics in Advanced Applications (ICEAA), Granada, Nicaragua, 9 - 13 September 2019, pp.40-43
- IV. **Inside-the-wall detection of objects with low metal content using the GPR sensor: effects of different wall structures on the detection performance**  
 DOĞAN M., YESİLTURT O., SAYAN G.  
 Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XXIII, Orlando, United States, United States Of America, 15 - 19 April 2018
- V. **Investigation of the Effects of Buried Object Orientation in Subsurface Target Detection by GPR**  
 DOĞAN M., SAYAN G.  
 7th IEEE International Symposium on Microwaves, Antennas, Propagation and EMC Technologies, Xi'xxan, China, 24 - 27 October 2017
- VI. **Wide Bandwidth Absorption in the MWIR Region using a Thin and Simple Metamaterial Absorber**

- ÜSTÜN K., SAYAN G.  
4th International EMC Turkiye Conference, Ankara, Turkey, 24 - 27 September 2017
- VII. **Through-The-Wall Target Detection using GPR A-Scan Data: Effects of Different Wall Structures on Detection Performance**  
DOĞAN M., SAYAN G.  
4th International EMC Turkiye Conference, Ankara, Turkey, 24 - 27 September 2017
- VIII. **Detection of Conducting and Dielectric Objects Buried under a Layer of Asphalt or Concrete Using Simulated Ground Penetrating Radar Signals**  
DOĞAN M., GÜMÜŞ S., SAYAN G.  
ICEAA/IEEE APWC Meeting at Verona, Italy, Verona, Italy, 11 - 15 September 2017
- IX. **Investigation of Simulated Ground Penetrating Radar Data for Buried Objects Using Quadratic Time-Frequency Transformations**  
DOĞAN M., SAYAN G.  
2017 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting, San Diego, United States Of America, 7 - 14 July 2017
- X. **Through-the-wall target detection by energy features extracted from simulated ultra wideband radar signals (Çok Geniş Bantlı Radar Benzetim Sinyallerinden Hesaplanan Enerji Öznitelikleri ile Duvar Arkasındaki Hedeflerin Tespiti)**  
DOĞAN M., SAYAN G.  
Sinyal İşleme ve Uygulamaları Kurultayı (SIU) 2017, Antalya, Turkey, 15 - 18 May 2017
- XI. **Delay characteristics comparison of coherently coupled high-Q multi-cavity array and single embedded quantum dot cavity systems**  
KOCAMAN S., Sayan G. T.  
Conference on Quantum Dots and Nanostructures - Growth, Characterization, and Modeling XIV, San-Francisco, Costa Rica, 30 - 31 January 2017, vol.10114
- XII. **Through-the-Wall Target Detection by Energy Features Extracted from Simulated Ultra Wideband Radar Signals**  
Dogan M., Turhan-Sayan G.  
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XIII. **Thin Wideband Infrared Metamaterial Absorber with Coplanar Metallic Patches of Different Sizes submitted to in Crete Greece September 19 22 2016**  
ÜSTÜN K., SAYAN G.  
10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (Metamaterials' 2016), Girit, Greece, 19 - 22 September 2016
- XIV. **Yeraltı Radar Verilerinden Enerji Tabanlı Ön İşleme ve Hedef Tespiti**  
DOĞAN M., AYDIN T., DURSUN A. A., GÜMÜŞ S., KOÇ Y. E., SAYAN G.  
URSI-TÜRKİYE'2016 VIII. Bilimsel Kongresi, Ankara, Turkey, 1 - 03 September 2016
- XV. **Kızılötesi Bantlarda İnce Metamalzeme Sönümleyici Tasarımı**  
ÜSTÜN K., SAYAN G.  
URSI-TÜRKİYE'2016 VIII. Bilimsel Kongresi, Ankara, Turkey, 1 - 03 September 2016
- XVI. **Preprocessing of A Scan GPR Based on Energy Features**  
DOĞAN M., SAYAN G.  
SPIE Defense+Security Symposium 2016, Baltimore, United States Of America, 17 - 21 April 2016
- XVII. **Thin Wideband Infrared Metamaterial Absorber with Coplanar Metallic Patches of Different Sizes**  
Ustun K., Turhan-Sayan G.  
10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (METAMATERIALS), Chania, Greece, 19 - 22 September 2016, pp.352-354
- XVIII. **The effect of periodicity distance in electric field direction on the resonance frequency by using equivalent circuit model and simulation**  
YAŞARÖRTEN P., SAYAN G.  
IEEE Antennas and Propagation Society International Symposium, APS 2015, Canada, 19 - 24 July 2015

- XIX. **Broadband One Way Propagation via Dielectric Waveguides with Unequal Effective Index**  
Oner B. B., Ustun K., KURT H., OKYAY A. K., Turhan-Sayan G.  
27th IEEE Photonics Conference (IPC), California, United States Of America, 12 - 16 October 2014, pp.556-557
- XX. **Electromagnetic Signal Processing for Feature Extraction and Classification of Lossy Dielectric Targets**  
Turhan-Sayan G., Barut B. I.  
Progress In Electromagnetics Research Symposium, Stockholm, Sweden, 12 - 15 August 2013, pp.184-187
- XXI. **Metamaterial Inspired Electrically Small GSM Antenna with Steerable Radiation Patterns and High Radiation Efficiency**  
OZNUR T., SAYAN G., ZIOLKOWSKI R.  
2013 IEEE ANTENNAS AND PROPAGATION SOCIETY INTERNATIONAL SYMPOSIUM (APSURSI), United States Of America, 7 - 13 July 2013
- XXII. **A compact five-band SLR type metamaterial**  
Yurduseven O., Yilmaz A. E., Turhan-Sayan G.  
6th European Conference on Antennas and Propagation, EuCAP 2012, Prague, Czech Republic, 26 - 30 March 2012, pp.2865-2867
- XXIII. **Electromagnetic Object Recognition for Dielectric Coated Conductors Based on WD-PCA Type Fused Feature Extraction**  
Turhan-Sayan G., Ergin E.  
Progress In Electromagnetics Research Symposium (PIERS), Moscow, Russia, 19 - 23 August 2012, pp.212-215
- XXIV. **Frequency tunable metamaterial designs using near field coupled SRR structures in the terahertz region**  
Ekmekci E., Strikwerda A., Fan K., Keiser G., Zhang X., Turhan-Sayan G., Averitt R. D.  
CLEO: Science and Innovations, CLEO\_SI 2011, Baltimore, MD, United States Of America, 1 - 06 May 2011
- XXV. **Frequency tunable metamaterial designs using near field coupled SRR structures in the terahertz region**  
Ekmekci E., Strikwerda A., Fan K., Keiser G., Zhang X., Turhan-Sayan G., Averitt R. D.  
CLEO: Applications and Technology, CLEO\_AT 2011, Baltimore, MD, United States Of America, 1 - 06 May 2011
- XXVI. **Frequency tunable metamaterial designs using near field coupled SRR structures in the terahertz region**  
Ekmeki E., Strikwerda A. C., Fan K., Keiser G., Zhang X., Turhan-Sayan G., Averitt R. D.  
36th International Conference on Infrared, Millimeter, and Terahertz Waves, IRMMW-THz 2011, Houston, TX, United States Of America, 2 - 07 October 2011
- XXVII. **Miniaturization of U-shaped multi-band metamaterial structures**  
Turkmen O., Ekmekci E., Turhan-Sayan G.  
2011 30th URSI General Assembly and Scientific Symposium, URSIGASS 2011, İstanbul, Turkey, 13 - 20 August 2011
- XXVIII. **Frequency tunable metamaterial designs using near field coupled SRR structures in the terahertz region**  
Ekmekci E., Strikwerda A., Fan K., Keiser G., Zhang X., Turhan-Sayan G., Averitt R. D.  
2011 Conference on Lasers and Electro-Optics, CLEO 2011, Baltimore, MD, United States Of America, 1 - 06 May 2011
- XXIX. **A new method for the verification of effective medium parameters for metamaterials Metamalzeme etkin ortam parametrelerinin doğrulanması için yeni bir yöntem**  
Ekmekçi E., Turhan-Sayan G.  
2011 IEEE 19th Signal Processing and Communications Applications Conference, SIU 2011, Antalya, Turkey, 20 - 22 April 2011, pp.682-685
- XXX. **Parametric investigation of a new multi-band metamaterial design: U-shaped multiple ring magnetic resonators**  
Turkmen O., Ekmekci E., SAYAN G.  
IEEE International Symposium on Antennas and Propagation (APSURSI)/USNC/URSI National Radio Science

Meeting, Washington, United States Of America, 3 - 08 July 2011, pp.1516-1518

- XXXI. **Metamaterial Sensor Applications Based on Broadside Coupled SRR and V Shaped Resonator Structures**  
EKMEKÇİ E., SAYAN G.  
2011 IEEE INTERNATIONAL SYMPOSIUM ON ANTENNAS AND PROPAGATION (APSURSI), United States Of America, 3 - 08 July 2011, pp.1170-1172
- XXXII. **A New Multi-ring SRR Type Metamaterial Design with Multiple Magnetic Resonances**  
Turkmen O., Ekmekci E., Turhan-Sayan G.  
Progress in Electromagnetics Research Symposium (PIERS), Marrakush, Morocco, 20 - 23 March 2011, pp.315-319
- XXXIII. **Frequency Tunable Metamaterial Designs Using Near Field Coupled SRR Structures in the Terahertz Region**  
Ekmeki E., Strikwerda A. C., Fan K., Keiser G., Zhang X., Turhan-Sayan G., Averitt R. D.  
36th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), Texas, United States Of America, 2 - 07 October 2011
- XXXIV. **Target recognition by self-organizing map (SOM) type unsupervised clustering using electromagnetic scattered signals in resonance region**  
Turhan-Sayan G., Katilmi T. T., Sayan E. S.  
2010 10th Mediterranean Microwave Symposium, MMS 2010, Guzelyurt, Cyprus (Gkry), 25 - 27 August 2010, pp.196-199
- XXXV. **Use of SRR Based Super-Cells to Obtain Multiple Resonances and Broader Frequency Bands with Negative Effective Permeability**  
Ekmekci E., SAYAN G.  
2010 IEEE International Symposium Antennas and Propagation/CNC-USNC/URSI Radio Science Meeting, Toronto, Canada, 11 - 17 July 2010
- XXXVI. **Equivalent Circuit Models for Split-ring Resonator Arrays**  
Yasar-Orten P., Ekmekci E., Turhan-Sayan G.  
Progress in Electromagnetics Research Symposium, Cambridge, Canada, 5 - 08 July 2010, pp.534-537
- XXXVII. **Effects of Substrate Parameters on the Resonance Frequency of Double-sided SRR Structures under Two Different Excitations**  
Ekmekci E., Averitt R. D., Turhan-Sayan G.  
Progress in Electromagnetics Research Symposium, Cambridge, Canada, 5 - 08 July 2010, pp.538-539
- XXXVIII. **Unsupervised Electromagnetic Target Classification by Self-organizing Map Type Clustering**  
Katilmis T. T., Ekmekci E., Turhan-Sayan G.  
Progress in Electromagnetics Research Symposium, Cambridge, Canada, 5 - 08 July 2010, pp.240-243
- XXXIX. **An Electromagnetic Target Classification Method for the Target Sets with Alien Target: Application to Small-scale Aircraft Targets**  
Secmen M., Turhan-Sayan G.  
Progress in Electromagnetics Research Symposium, Cambridge, Canada, 5 - 08 July 2010, pp.235-236
- XL. **Feasibility study for tunable metamaterial design using multi-split SRR structures and RF MEMS switching**  
Ekmekci E., Topalli K., AKIN T., Turhan-Sayan G.  
2009 IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting, APSURSI 2009, North Charleston, SC, United States Of America, 1 - 05 June 2009
- XLI. **Noise Performances of Two Recently Reported Electromagnetic Target Classification Techniques in Resonance Region: A Comparative Study for the WD-PCA Based Classifier and the MUSIC Algorithm Based Classifier**  
Ergin E., Turhan-Sayan G.  
Progress in Electromagnetics Research Symposium (PIERS 2009 Moscow), Moscow, Russia, 12 - 21 August 2009, pp.762-766
- XLII. **Effects of Array Dimensions on the Resonance Characteristics of SRR Type Metamaterial Arrays with Small Sizes: Simulations and Experiments**



Ekmekci E., Topalli K., AKIN T., Turhan-Sayan G.

Progress in Electromagnetics Research Symposium (PIERS 2009 Moscow), Moscow, Russia, 12 - 21 August 2009, pp.83-86

**XLIII. A Feasibility Study for Tunable Metamaterial Design Using Multi-Split SRR Structures and RF MEMS Switching**

Ekmekci E., Topalli K., AKIN T., SAYAN G.

IEEE Antennas and Propagation International Symposium /USNC/URSI National Radio Science Meeting, South-Carolina, United States Of America, 1 - 05 June 2009, pp.1548-1551

**XLIV. Experimental Investigation of Metamaterial Array Structures With Split Ring Resonators**

Ekmekci E., Topalli K., AKIN T., SAYAN G.

IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009, pp.551-554

**XLV. Reducing the Electrical Size of Magnetic Metamaterial Resonators by Geometrical Modifications: A Comparative Study for Single-Sided and Double-Sided Multiple SRR, Spiral and U-Spiral Resonators**

Ekmekci E., SAYAN G.

IEEE Antennas-and-Propagation-Society International Symposium, California, United States Of America, 5 - 11 July 2008, pp.1484-1487

**XLVI. A Resonance Region Method for Recognition of Multiple Targets Using the MUSIC Algorithm and a Time Correlation Technique**

Secmen M., Ekmekci E., Turhan-Sayan G.

IEEE Antennas-and-Propagation-Society International Symposium, California, United States Of America, 5 - 11 July 2008, pp.4106-4109

**XLVII. Sensitivity of the resonance characteristics of SRR and DSRR (double-sided SRR) type metamaterials to the changes in substrate parameters and the usefulness of DSRR structure for reduced electrical size**

Ekmekci E., Turhan-Sayan G.

Progress in Electromagnetics Research Symposium (PIERS 2008), Cambridge, Canada, 2 - 06 July 2008, pp.598-602

**XLVIII. A Radar Target Recognition Method with MUSIC Algorithm: Application to Aircraft Targets with Measured Scattered Data**

Secmen M., Turhan-Sayan G., Hizal A.

2008 IEEE Radar Conference, Rome, Italy, 26 - 30 May 2008, pp.361-366

**XLIX. The Theory and Application of an Electromagnetic Target Recognition Method based on Natural-Resonance for Multi-Targets**

Secmen M., Turhan-Sayan G.

IEEE 16th Signal Processing and Communications Applications Conference, Aydın, Turkey, 20 - 22 April 2008, pp.252-255

**L. The MUSIC algorithm-based electromagnetic target classification for isolated targets from incomplete frequency domain data**

Secmen M., Turhan-Sayan G.

IEEE Antennas-and-Propagation-Society International Symposium, Hawaii, United States Of America, 9 - 15 June 2007, pp.4170-4173

**LI. Electromagnetic target recognition with the fused MUSIC spectrum matrix method: Applications and performance analysis for incomplete frequency data**

Secmen M., Ekmekci E., Turhan-Sayan G.

IEEE 15th Signal Processing and Communications Applications Conference, Eskişehir, Turkey, 11 - 13 June 2007, pp.253-256

**LII. Simulations for a novel magnetic resonator with V-shaped structures**

Ekmekci E., Turhan-Sayan G.

IEEE 15th Signal Processing and Communications Applications Conference, Eskişehir, Turkey, 11 - 13 June 2007, pp.751-753

- LIII. **A novel electromagnetic target recognition method by MUSIC algorithm**  
Secmen M., Turhan-Sayan G.  
IEEE Antennas and Propagation Society International Symposium, APS 2006, Albuquerque, NM, United States Of America, 9 - 14 July 2006, pp.1299-1302
- LIV. **A new electromagnetic target classification method with MUSIC algorithm**  
Secmen M., Turhan-Sayan G.  
IEEE 14th Signal Processing and Communications Applications, Antalya, Turkey, 16 - 19 April 2006, pp.341-342
- LV. **A novel method for electromagnetic target classification using the music algorithm: Applied to small-scale aircraft targets**  
Secmen M., Turhan-Sayan G.  
European Conference on Antennas and Propagation: EuCAP 2006, Nice, France, 6 - 10 November 2006
- LVI. **Electromagnetic target classification of aircraft modeled by conducting wire structures using a natural resonance based feature extraction technique İletken tel yapılarla modellenmiş uçakların elektromanyetik doğal rezonanslara dayalı bir öznelik çıkarım tekniği ile sınıflandırılması**  
Ersoy M. O., Turhan-Sayan G.  
IEEE 13th Signal Processing and Communications Applications Conference, SIU 2005, Kayseri, Turkey, 16 - 18 May 2005, vol.2005, pp.495-498
- LVII. **Extraction of target poles from electromagnetic scatter signals by using page distribution for target recognition Hedef tanıma amacı ile page dağılımı kullanarak elektromanyetik saçılım sinyallerinden kutup çıkarımı**  
Seçmen M., Turhan-Sayan G., Hizal A.  
IEEE 13th Signal Processing and Communications Applications Conference, SIU 2005, Kayseri, Turkey, 16 - 18 May 2005, vol.2005, pp.499-502
- LVIII. **Electromagnetic target classification of small-scale aircraft modeled by conducting wire structures using a natural resonance based feature extraction technique**  
Ersoy M. O., Turhan-Sayan G.  
2005 IEEE Antennas and Propagation Society International Symposium and USNC/URSI Meeting, Washington, United States Of America, 3 - 08 July 2005, pp.468-471
- LIX. **Investigation of using linear and quadratic time-frequency representations for electromagnetic feature extraction with reduced aspect sensitivity**  
Turhan-Sayan G.  
2003 IEEE International Antennas and Propagation Symposium and USNC/CNC/URSI North American Radio Science Meeting, Columbus, OH, United States Of America, 22 - 27 June 2003, vol.2, pp.243-246
- LX. **Multi-aspect data fusion applied to electromagnetic target classification using genetic algorithm**  
Turhan-Sayan G.  
Conference of the NATO-Advanced-Study-Institute on Multisensor Data Fusion, PITOCHRY, United Kingdom, 25 June - 07 July 2000, vol.70, pp.533-539
- LXI. **Neural network techniques in electromagnetic target classification: A comparison study**  
Turhan-Sayan G., Ince T.  
1999 IEEE Antennas and Propagation Society International Symposium, APSURSI 1999, Florida, United States Of America, 11 - 16 July 1999, vol.4, pp.2222-2225
- LXII. **INTEGRATED OPTIC BIOSENSOR FOR ENVIRONMENTAL MONITORING**  
BOIARSKI A., RIDGWAY R., BUSCH J., TURHANSAYAN G., MILLER L.  
CONF ON CHEMICAL, BIOCHEMICAL AND ENVIRONMENTAL FIBER SENSORS 3, Massachusetts, United States Of America, 4 - 05 September 1991, vol.1587, pp.114-128
- LXIII. **HIGH SPATIAL-RESOLUTION DISTRIBUTED FIBER OPTIC TEMPERATURE SENSOR**  
BOIARSKI A., MCGINNISS V., TURHANSAYAN G.  
CONF ON OPTOELECTRONIC DEVICES AND APPLICATIONS, California, United States Of America, 10 - 11 July 1990, vol.1338, pp.18-30

## Supported Projects

Akar G., Sayan G., Company, Modern Mayın Tespit Sistemleri Projesi, 2019 - 2022

SAYAN G., DOĞAN M., Project Supported by Higher Education Institutions, Toprağa Gömülü veya Engel Arkasına Gizlenmiş Hedeflerin Tespit ve Teşhisi İçin Yeraltı Radarı (GPR) Sinyal Simülasyonları, Önışleme ve Öznitelik Çıkarım Yöntemleri, 2016 - 2017

SAYAN G., Project Supported by Other Private Institutions, Yere Nüfuz Eden Radar Teknolojisi Kullanarak Hedef Tespit ve Tanınması İçin A Tarama Tipi Verileri İşleyerek Yöntem ve Algoritma Geliştirilmesi, 2016 - 2016

SAYAN G., Project Supported by Other Private Institutions, Toprağa Gömülü Cisimlerin GPR Yöntemi İle Tespit Edilmesi ve Sınıflandırılması Amaçlı Yöntem ve Algoritma Geliştirilmesi, 2014 - 2016

## Scientific Refereeing

TUBITAK Project, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, TÜBİTAK, Turkey, December 2019

TUBITAK Project, 1007 - Public Institutions Research and Development Projects DP, Tübitak, Turkey, July 2019

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, SCI Journal, June 2019

OPTICS EXPRESS, SCI Journal, April 2019

APPLIED OPTICS, SCI Journal, March 2019

## Scientific Consultations

TÜBİTAK-EEAG, Project Consultancy, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, Turkey, 2018 - 2019

## Metrics

Publication: 100

Citation (WoS): 899

Citation (Scopus): 1186

H-Index (WoS): 16

H-Index (Scopus): 18

## Non Academic Experience

Battelle Memorial Inst., Columbus, Ohio, A.B.D.

Ohio State University