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Education Information

Doctorate, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey
1981 - 1986

Post Graduate, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey
1979 - 1981

Under Graduate, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü,
Turkey 1975 - 1979

Dissertations

Doctorate, A new finite element method for electromagnetic boundary value problems in combined interior and exterior regions, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 1986

Post Graduate, Transient radiation and scattering from thin wires and conducting cylindres of arbitrary cross-section, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 1981

Research Areas

Engineering and Technology

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 1998 -
Continues

Advising Theses

Kuzuoğlu M., Radar resource allocation optimization in phased array radar systems, Post Graduate, İ.SERBEST(Student),
2019

Kuzuoğlu M., Detection of mini/micro unmanned air vehicle (UAV) under clutter presence and environmental effects,
Post Graduate, İ.GÖKHAN(Student), 2019

KUZUOĞLU M., Radar performance analysis approaches for the evaluation of radar systems, Post Graduate,
Ü.YENER(Student), 2018

KUZUOĞLU M., Finite element modeling of scattering from objects in rectangular waveguides, Post Graduate,
H.GÜLBAŞ(Student), 2017

KUZUOĞLU M., Continuous-time nonlinear estimation filters using UKF-aided Gaussian sum representations, Doctorate,
M.GÖKCE(Student), 2014

KUZUOĞLU M., Investigation of rough surface scattering of electromagnetic waves using finite element method, Post Graduate, Ö.EMRE(Student), 2013

KUZUOĞLU M., Comparison of Bayesian networks and Dempster-Shafer theory in attribute tracking systems, Post Graduate, Ç.SAKA(Student), 2013

KUZUOĞLU M., Monte Carlo analysis of the effects of material and shape uncertainties on radar cross section by the finite difference time domain method, Post Graduate, A.KEMAL(Student), 2013

KUZUOĞLU M., TANIK Y., Low elevation target detection and direction finding, Post Graduate, G.UYAR(Student), 2012

KUZUOĞLU M., Optimum search strategies for electronic support measures receivers, Post Graduate, H.SİNAN(Student), 2012

ALATAN L., KUZUOĞLU M., Analysis and design of microstrip patch antennas with arbitrary slot shapes, Doctorate, G.ŞENER(Student), 2011

KUZUOĞLU M., Solution of the antenna placement problem by means of global optimization techniques, Post Graduate, M.URAL(Student), 2010

KUZUOĞLU M., Target tracking with phased array radar by using adaptive update rate, Post Graduate, Ö.İPEK(Student), 2010

KUZUOĞLU M., Periodic search strategies for electronic countermeasure receivers with desired probability of intercept for each frequency band, Post Graduate, E.KÖKSAL(Student), 2010

KUZUOĞLU M., Computation of radar cross sections of complex targets by shooting and bouncing ray method, Post Graduate, S.ÖZGÜN(Student), 2009

KUZUOĞLU M., Multiple classifier systems for a generic missile warner, Post Graduate, K.BAŞIBÜYÜK(Student), 2009

KUZUOĞLU M., Investigation of electromagnetic wave propagation in double negative materials, Doctorate, S.GÖKÇEN(Student), 2008

KUZUOĞLU M., Computation of radar cross sections of complex targets by physical optics with modified surface normals, Post Graduate, A.CEMAL(Student), 2008

KUZUOĞLU M., Finite element modeling of electromagnetic scattering problems via hexahedral edge elements, Doctorate, A.EGEMEN(Student), 2007

KUZUOĞLU M., Finite element modeling of electromagnetic radiation/scattering problems by domain decomposition, Doctorate, Ö.ÖZGÜN(Student), 2007

KUZUOĞLU M., Evaluation of multi target tracking algorithms in the presence of clutter, Post Graduate, O.GÜNER(Student), 2005

KUZUOĞLU M., Performance metrics for fundamental estimation filters, Post Graduate, K.AKÇAY(Student), 2005

KUZUOĞLU M., Specific absorption rate calculations using finite difference time domain method, Post Graduate, İ.TÜRER(Student), 2004

KUZUOĞLU M., Identification of electromagnetic scattering mechanisms by two dimensional windowed fourier transform approach, Post Graduate, K.EGEMEN(Student), 2004

KUZUOĞLU M., Implementation of mesh generation algorithms, Post Graduate, Ö.YILDIZ(Student), 2001

KUZUOĞLU M., Development of a software involving a group of iterative solvers and preconditioners for sparse matrix equations of computational electromagnetics, Post Graduate, N.ÜNŞOY(Student), 2001

KUZUOĞLU M., Analysis of electromagnetic scattering problems with the finite element method, Post Graduate, Y.ASIM(Student), 2000

KUZUOĞLU M., Development of a mesh generation software for computational electromagnetics, Post Graduate, B.BARIŞ(Student), 2000

KUZUOĞLU M., LEBLEBİCİOĞLU M. K. , A Four parameter atomic decomposition and the related time-frequency distribution, Doctorate, A.BULTAN(Student), 1995

KUZUOĞLU M., Optimal control approach for the solution of electromagnetic inverse scattering problems, Doctorate, M.ÖNDER(Student), 1993

KUZUOĞLU M., Finite-dimensional state-space approximations of transient electromagnetic systems, Post Graduate, N.KINAYMAN(Student), 1993

KUZUOĞLU M., Investigation and development of some algorithms in time optimal control, Post Graduate, S.TUNÇÖZ(Student), 1992

KUZUOĞLU M., Iterative calculation of optimal output feedback matrices, Post Graduate, K.YEHYA(Student), 1991

KUZUOĞLU M., Coherent detection of target signals in non Gaussian clutter, Post Graduate, S.BAYRAKERİ(Student), 1990
KUZUOĞLU M., Analysis of microstrip and microstrip-like structures by the finite element method, Post Graduate, TAKDENİZ(Student), 1989
KUZUOĞLU M., Radar range performance analysis for different target fluctuation models, Post Graduate, M.EMRE(Student), 1989
KUZUOĞLU M., A Finite element method for the solution of three-dimensional electromagnetic boundary value problems with real and artificial boundary conditions, Post Graduate, Ü.PEKEL(Student), 1987

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- **Enhancement of optical parametric amplification in microresonators via gain medium parameter selection and mean cavity wall reflectivity adjustment**
Asirim O. E. , KUZUOĞLU M.
JOURNAL OF PHYSICS B-ATOMIC MOLECULAR AND OPTICAL PHYSICS, vol.53, 2020 (Journal Indexed in SCI)
- **High-Fidelity Harmonic Generation in Optical Micro-Resonators Using BFGS Algorithm**
Asirim O. E. , Yolalmaz A., KUZUOĞLU M.
MICROMACHINES, vol.11, 2020 (Journal Indexed in SCI)
- **Super-Gain Optical Parametric Amplification in Dielectric Micro-Resonators via BFGS Algorithm-Based Non-Linear Programming**
Asirim O. E. , KUZUOĞLU M.
APPLIED SCIENCES-BASEL, vol.10, 2020 (Journal Indexed in SCI)
- **A novel CEM technique for modeling electromagnetic scattering from metasurfaces**
ÖZGÜN Ö., Mitra R., KUZUOĞLU M.
INTERNATIONAL JOURNAL OF NUMERICAL MODELLING-ELECTRONIC NETWORKS DEVICES AND FIELDS, vol.33, 2020 (Journal Indexed in SCI)
- **Numerical Study of Resonant Optical Parametric Amplification via Gain Factor Optimization in Dispersive Microresonators**
Asirim O. E. , KUZUOĞLU M.
PHOTONICS, vol.7, 2020 (Journal Indexed in SCI)
- **A Domain Decomposition Finite-Element Method for Modeling Electromagnetic Scattering From Rough Sea Surfaces With Emphasis on Near-Forward Scattering**
ÖZGÜN Ö., KUZUOĞLU M.
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.67, pp.335-345, 2019 (Journal Indexed in SCI)
- **Coordinate transformation aided finite element method for contour detection of breast tumors in microwave imaging**
ÖZGÜN Ö., KUZUOĞLU M.
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN BIOMEDICAL ENGINEERING, vol.34, 2018 (Journal Indexed in SCI)
- **Remesh-Free Shape Optimization by Transformation Optics**
ÖZGÜN Ö., KUZUOĞLU M.
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.64, pp.5479-5482, 2016 (Journal Indexed in SCI)
- **Implementation of coordinate transformations in periodic finite-element method for modeling rough surface scattering problems**
ÖZGÜN Ö., KUZUOĞLU M.
INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING, vol.26, pp.322-329, 2016 (Journal Indexed in SCI)
- **Questioning Degree of Accuracy Offered by the Spectral Element Method in Computational Electromagnetics**
Mahariq I., KURT H., KUZUOĞLU M.
APPLIED COMPUTATIONAL ELECTROMAGNETICS SOCIETY JOURNAL, vol.30, pp.698-705, 2015 (Journal Indexed in

SCI)

● **Monte Carlo simulations of Helmholtz scattering from randomly positioned array of scatterers by utilizing coordinate transformations in finite element method**

ÖZGÜN Ö., KUZUOĞLU M.

WAVE MOTION, vol.56, pp.165-182, 2015 (Journal Indexed in SCI)

● **Unscented Kalman filter-aided Gaussian sum filter**

Gokce M., KUZUOĞLU M.

● IET RADAR SONAR AND NAVIGATION, vol.9, pp.589-599, 2015 (Journal Indexed in SCI)

● **Excessive Memory Usage of the ELLPACK Sparse Matrix Storage Scheme throughout the Finite Element Computations**

Akinci G., YILMAZ A. E. , KUZUOĞLU M.

● RADIOENGINEERING, vol.23, pp.997-1004, 2014 (Journal Indexed in SCI)

● **Approximation of transformation media-based reshaping action by genetic optimization**

Ozgun O., KUZUOĞLU M.

● APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.117, pp.597-604, 2014 (Journal Indexed in SCI)

● **Combining perturbation theory and transformation electromagnetics for finite element solution of Helmholtz-type scattering problems**

KUZUOĞLU M., Ozgun O.

● JOURNAL OF COMPUTATIONAL PHYSICS, vol.274, pp.883-897, 2014 (Journal Indexed in SCI)

● **Photonic Nanojet Analysis by Spectral Element Method**

Mahariq I., KUZUOĞLU M., TARMAN I. H. , KURT H.

● IEEE PHOTONICS JOURNAL, vol.6, 2014 (Journal Indexed in SCI)

● **On the Attenuation of the Perfectly Matched Layer in Electromagnetic Scattering Problems with the Spectral Element Method**

Mahariq I., KUZUOĞLU M., TARMAN I. H.

● APPLIED COMPUTATIONAL ELECTROMAGNETICS SOCIETY JOURNAL, vol.29, pp.701-710, 2014 (Journal Indexed in SCI)

● **Comments on "Propagation Modeling Over Irregular Terrain by the Improved Two-Way Parabolic Equation Method"**

Ozgun O., Apaydin G., KUZUOĞLU M., Sevgi L.

● IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.62, pp.3894, 2014 (Journal Indexed in SCI)

● **A coordinate transformation approach for efficient repeated solution of Helmholtz equation pertaining to obstacle scattering by shape deformations**

Ozgun O., KUZUOĞLU M.

● COMPUTER PHYSICS COMMUNICATIONS, vol.185, pp.1616-1627, 2014 (Journal Indexed in SCI)

● **Cartesian Grid Mapper: Transformation Media for Modeling Arbitrary Curved Boundaries With Cartesian Grids**

ÖZGÜN Ö., KUZUOĞLU M.

● IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS, vol.13, pp.1771-1774, 2014 (Journal Indexed in SCI)

● **PERFORMANCE COMPARISON OF VARIOUS HEXAHEDRAL ELEMENT QUALITY METRICS VIA PARAMETRIC DISTORTION OF AN IDEAL ELEMENT**

Yalcin E., YILMAZ A. E. , KUZUOĞLU M.

● INTERNATIONAL JOURNAL OF COMPUTATIONAL METHODS, vol.10, 2013 (Journal Indexed in SCI)

● **Monte Carlo analysis of ridged waveguides with transformation media**

Ozgun O., KUZUOĞLU M.

● INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING, vol.23, pp.476-481, 2013 (Journal Indexed in SCI)

● **A Transformation Media Based Approach for Efficient Monte Carlo Analysis of Scattering From Rough Surfaces With Objects**

Ozgun O., KUZUOĞLU M.

● IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.61, pp.1352-1362, 2013 (Journal Indexed in SCI)

● **Software metamaterials: Transformation media based multi-scale techniques for computational electromagnetics**

Ozgun O., KUZUOĞLU M.

JOURNAL OF COMPUTATIONAL PHYSICS, vol.236, pp.203-219, 2013 (Journal Indexed in SCI)

● **Transformation Electromagnetics Based Analysis of Waveguides With Random Rough or Periodic Grooved Surfaces**

Ozgun O., KUZUOĞLU M.

IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, vol.61, pp.709-719, 2013 (Journal Indexed in SCI)

● **Transformation-based metamaterials to eliminate the staircasing error in the finite difference time domain method**

Ozgun O., KUZUOĞLU M.

INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING, vol.22, pp.530-540, 2012 (Journal Indexed in SCI)

● **Monte Carlo-Based Characteristic Basis Finite-Element Method (MC-CBFEM) for Numerical Analysis of Scattering From Objects On/Above Rough Sea Surfaces**

Ozgun O., KUZUOĞLU M.

IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, vol.50, pp.769-783, 2012 (Journal Indexed in SCI)

● **PETOOOL: MATLAB-based one-way and two-way split-step parabolic equation tool for radiowave propagation over variable terrain**

Ozgun O., Apaydin G., KUZUOĞLU M., Sevgi L.

COMPUTER PHYSICS COMMUNICATIONS, vol.182, pp.2638-2654, 2011 (Journal Indexed in SCI)

● **A Novel Two-Way Finite-Element Parabolic Equation Groundwave Propagation Tool: Tests With Canonical Structures and Calibration**

Apaydin G., Ozgun O., KUZUOĞLU M., Sevgi L.

IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, vol.49, pp.2887-2899, 2011 (Journal Indexed in SCI)

● **Trying to Interpret Modern Art as a Finite-Element Practitioner**

YILMAZ A. E., KUZUOĞLU M.

IEEE ANTENNAS AND PROPAGATION MAGAZINE, vol.53, pp.158-166, 2011 (Journal Indexed in SCI)

● **Form Invariance of Maxwell's Equations: The Pathway to Novel Metamaterial Specifications for Electromagnetic Reshaping**

Ozgun O., KUZUOĞLU M.

IEEE ANTENNAS AND PROPAGATION MAGAZINE, vol.52, pp.51-65, 2010 (Journal Indexed in SCI)

● **PO-BASED CHARACTERISTIC BASIS FINITE ELEMENT METHOD (CBFEM-PO)-A PARALLEL, ITERATION-FREE DOMAIN DECOMPOSITION ALGORITHM USING PERFECTLY MATCHED LAYERS FOR LARGE-SCALE ELECTROMAGNETIC SCATTERING PROBLEMS**

Ozgun O., Mittra R., KUZUOĞLU M.

MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.52, pp.1053-1060, 2010 (Journal Indexed in SCI)

● **Iterative leap-field domain decomposition method: a domain decomposition finite element algorithm for 3D electromagnetic boundary value problems**

Ozgun O., KUZUOĞLU M.

IET MICROWAVES ANTENNAS & PROPAGATION, vol.4, pp.543-552, 2010 (Journal Indexed in SCI)

● **Domain compression via anisotropic metamaterials designed by coordinate transformations**

Ozgun O., KUZUOĞLU M.

JOURNAL OF COMPUTATIONAL PHYSICS, vol.229, pp.921-932, 2010 (Journal Indexed in SCI)

● **General-Purpose Characteristic Basis Finite Element Method for Multi-Scale Electrostatic and Electromagnetic Problems**

Ozgun O., Mittra R., KUZUOĞLU M.

ELECTROMAGNETICS, vol.30, pp.205-221, 2010 (Journal Indexed in SCI)

● **Multilevel Characteristic Basis Finite-Element Method (ML-CBFEM)-An Efficient Version of a Domain**

Decomposition Algorithm for Large-Scale Electromagnetic Problems

Ozgun O., Mittra R., KUZUOĞLU M.

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.57, pp.3381-3387, 2009 (Journal Indexed in SCI)

Design of the Square Loop Frequency Selective Surfaces with Particle Swarm Optimization via the Equivalent Circuit Model

YILMAZ A. E., KUZUOĞLU M.

RADIOENGINEERING, vol.18, pp.95-102, 2009 (Journal Indexed in SCI)

A particle swarm optimization approach for hexahedral mesh smoothing

Yilmaz A. E., KUZUOĞLU M.

INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS, vol.60, pp.55-78, 2009 (Journal Indexed in SCI)

Parallelized Characteristic Basis Finite Element Method (CBFEM-MPI)-A non-iterative domain decomposition algorithm for electromagnetic scattering problems

Ozgun O., Mittra R., KUZUOĞLU M.

JOURNAL OF COMPUTATIONAL PHYSICS, vol.228, pp.2225-2238, 2009 (Journal Indexed in SCI)

CBFEM-MPI: A Parallelized Version of Characteristic Basis Finite Element Method for Extraction of 3-D Interconnect Capacitances

Ozgun O., Mittra R., KUZUOĞLU M.

IEEE TRANSACTIONS ON ADVANCED PACKAGING, vol.32, pp.164-174, 2009 (Journal Indexed in SCI)

Form-Invariance of Maxwell's Equations in Waveguide Cross-Section Transformations

Ozgun O., KUZUOĞLU M.

ELECTROMAGNETICS, vol.29, pp.353-376, 2009 (Journal Indexed in SCI)

Efficient finite element solution of low-frequency scattering problems via anisotropic metamaterial layers

Ozgun O., KUZUOĞLU M.

MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.50, pp.639-646, 2008 (Journal Indexed in SCI)

ANALYSIS OF HIGH FREQUENCY PLANE WAVE SCATTERING FROM A DOUBLE NEGATIVE CYLINDER VIA THE MODIFIED WATSON TRANSFORMATION AND DEBYE EXPANSION

ŞEN S., KUZUOĞLU M.

PROGRESS IN ELECTROMAGNETICS RESEARCH-PIER, vol.84, pp.55-92, 2008 (Journal Indexed in SCI)

My collaboration with Raj Mittra: Contributions to the theory of perfectly matched layers

Kuzuoglu M.

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.16, pp.1-6, 2008 (Journal Indexed in SCI)

Comparison of linear and quadratic hexahedral edge elements in electromagnetic scattering problems

YILMAZ A., Kuzuoglu M.

AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, vol.62, pp.582-587, 2008 (Journal Indexed in SCI)

Recent advances in perfectly matched layers in finite element applications

Ozgun O., KUZUOĞLU M.

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.16, pp.57-66, 2008 (Journal Indexed in SCI)

Finite element analysis of electromagnetic scattering problems via iterative leap-field domain decomposition method

Ozgun O., KUZUOĞLU M.

JOURNAL OF ELECTROMAGNETIC WAVES AND APPLICATIONS, vol.22, pp.251-266, 2008 (Journal Indexed in SCI)

Near-field performance analysis of locally-conformal perfectly matched absorbers via Monte Carlo simulations

Ozgun O., KUZUOĞLU M.

JOURNAL OF COMPUTATIONAL PHYSICS, vol.227, pp.1225-1245, 2007 (Journal Indexed in SCI)

- **Calculation of optimized parameters of rectangular microstrip patch antenna using particle swarm optimization**
Yilmaz A. E. , Kuzuoglu M.
MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.49, pp.2905-2907, 2007 (Journal Indexed in SCI)
- **Utilization of anisotropic metamaterial layers in waveguide miniaturization and transitions**
Ozgun O., Kuzuoglu M.
IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS, vol.17, pp.754-756, 2007 (Journal Indexed in SCI)
- **Forward-backward domain decomposition method for finite element solution of electromagnetic boundary value problems**
Ozgun O., Kuzuoglu M.
MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.49, pp.2582-2590, 2007 (Journal Indexed in SCI)
- **Electromagnetic metamorphosis: Reshaping scatterers via conformal anisotropic metamaterial coatings**
Ozgun O., Kuzuoglu M.
MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.49, pp.2386-2392, 2007 (Journal Indexed in SCI)
- **Multicenter perfectly matched layer implementation for finite element mesh truncation**
Ozgun O., Kuzuoglu M.
MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.49, pp.827-832, 2007 (Journal Indexed in SCI)
- **Non-Maxwellian locally-conformal PML absorbers for finite element mesh truncation**
Ozgun O., Kuzuoglu M.
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.55, pp.931-937, 2007 (Journal Indexed in SCI)
- **Analysis of perfectly matched double negative layers via complex coordinate transformations**
Kuzuoglu M.
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.54, pp.3695-3699, 2006 (Journal Indexed in SCI)
- **Locally-conformal perfectly matched layer implementation for finite element mesh truncation**
Ozgun O., Kuzuoglu M.
MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.48, pp.1836-1839, 2006 (Journal Indexed in SCI)
- **Full-wave analysis of microstrip lines on a highly lossy substrate**
Prakash V., Kuzuoglu M., Mittra R.
MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.37, pp.325-329, 2003 (Journal Indexed in SCI)
- **Improved design procedure for double-ridged waveguides**
Prakash V., Mittra R., Kuzuoglu M.
INTERNATIONAL JOURNAL OF RF AND MICROWAVE COMPUTER-AIDED ENGINEERING, vol.12, pp.530-539, 2002 (Journal Indexed in SCI)
- **An efficient solution of the generalized eigenvalue problems for planar transmission lines**
Prakash V., Kuzuoglu M., Mittra R.
MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.31, pp.194-197, 2001 (Journal Indexed in SCI)
- **Pole estimation for arbitrarily-shaped dielectric targets using genetic algorithm-based resonance annihilation technique**
Turhan-Sayan G., Kuzuoglu M.
ELECTRONICS LETTERS, vol.37, pp.380-381, 2001 (Journal Indexed in SCI)
- **A new anisotropic perfectly matched layer medium for mesh truncation in finite difference time domain analysis**
Tong M., Chen Y., Kuzuoglu M., Mittra R.
INTERNATIONAL JOURNAL OF ELECTRONICS, vol.86, pp.1085-1091, 1999 (Journal Indexed in SCI)
- **A robust algorithm for the solution of electromagnetic problems over a frequency interval via the Pade approximation**
Kuzuoglu M., Mittra R.
MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.20, pp.376-380, 1999 (Journal Indexed in SCI)
- **Element solution of electromagnetic problems over a wide frequency range via the Pade approximation**

Kuzuoglu M., Mittra R.

COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING, vol.169, pp.263-277, 1999 (Journal Indexed in SCI)

● **Investigation of nonplanar perfectly matched absorbers for finite-element mesh truncation**

Kuzuoglu M., Mittra R.

● IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.45, pp.474-486, 1997 (Journal Indexed in SCI)

● **Frequency dependence of the constitutive parameters of causal perfectly matched anisotropic absorbers**

Kuzuoglu M., Mittra R.

● IEEE MICROWAVE AND GUIDED WAVE LETTERS, vol.6, pp.447-449, 1996 (Journal Indexed in SCI)

● **Infinite-dimensional multilayer perceptrons**

Kuzuoglu M., Leblebicioglu K.

● IEEE TRANSACTIONS ON NEURAL NETWORKS, vol.7, pp.889-896, 1996 (Journal Indexed in SCI)

● **ANALYTIC AND SEMIANALYTIC SOLUTIONS IN ELECTRICAL-IMPEDANCE TOMOGRAPHY .1. 2-DIMENSIONAL PROBLEMS**

PIDCOCK M., KUZUOĞLU M., LEBLEBİCİOĞLU M. K.

● PHYSIOLOGICAL MEASUREMENT, vol.16, pp.77-90, 1995 (Journal Indexed in SCI)

● **ELECTRICAL-IMPEDANCE TOMOGRAPHY USING INDUCED CURRENTS**

GENCER N. G. , KUZUOGLU M., IDER Y.

● IEEE TRANSACTIONS ON MEDICAL IMAGING, vol.13, pp.338-350, 1994 (Journal Indexed in SCI)

● **A FAST IMAGE-RECONSTRUCTION ALGORITHM FOR ELECTRICAL-IMPEDANCE TOMOGRAPHY**

KUZUOGLU M., LEBLEBICIOGLU K., IDER Y.

● PHYSIOLOGICAL MEASUREMENT, vol.15, 1994 (Journal Indexed in SCI)

● **RECONSTRUCTION OF PERMITTIVITY AND CONDUCTIVITY PROFILES OF A DIELECTRIC SLAB IN THE TIME DOMAIN BY DESCENT METHODS**

ONDER M., KUZUOGLU M.

● IEE PROCEEDINGS-H MICROWAVES ANTENNAS AND PROPAGATION, vol.139, pp.435-440, 1992 (Journal Indexed in SCI)

● **OPTIMAL-CONTROL OF THE FEED VOLTAGE OF A DIPOLE ANTENNA**

ONDER M., KUZUOGLU M.

● IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.40, pp.414-421, 1992 (Journal Indexed in SCI)

● **ANALYSIS OF 3-DIMENSIONAL SOFTWARE EIT PHANTOMS BY THE FINITE-ELEMENT METHOD**

KUZUOGLU M., MOHDSAID M., IDER Y.

● CLINICAL PHYSICS AND PHYSIOLOGICAL MEASUREMENT, vol.13, pp.135-138, 1992 (Journal Indexed in SCI)

● **ELECTRICAL-IMPEDANCE TOMOGRAPHY USING INDUCED AND INJECTED CURRENTS**

GENCER N., IDER Y., KUZUOGLU M.

● CLINICAL PHYSICS AND PHYSIOLOGICAL MEASUREMENT, vol.13, pp.95-99, 1992 (Journal Indexed in SCI)

● **DETERMINATION OF THE BOUNDARY OF AN OBJECT INSERTED INTO A WATER-FILLED CYLINDER**

IDER Y., NAKIBOGLU B., KUZUOGLU M., GENCER N.

● CLINICAL PHYSICS AND PHYSIOLOGICAL MEASUREMENT, vol.13, pp.151-154, 1992 (Journal Indexed in SCI)

Articles Published in Other Journals

● **Multiscale Modeling of Thin-Wire Coupling Problems Using Hybridization of Finite Element and Dipole Moment Methods and GPU Acceleration**

ÖZGÜN Ö., Mittra R., KUZUOĞLU M.

IEEE JOURNAL ON MULTISCALE AND MULTIPHYSICS COMPUTATIONAL TECHNIQUES, vol.5, pp.155-166, 2020

(Journal Indexed in ESCI)

Books & Book Chapters

- **MATLAB-based Finite Element Programming in Electromagnetic Modeling**
Özgün Ö., Kuzuoğlu M.
CRC, New York , New-York, 2018

Refereed Congress / Symposium Publications in Proceedings

- **A Novel Numerical Technique for Analyzing Metasurfaces**
ÖZGÜN Ö., Mitra R., KUZUOĞLU M.
2019 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, Atlanta, GA, USA, United States Of America, 7 - 12 July 2019
- **Finite Element Domain Decomposition Method for Rough Sea Surface Scattering**
ÖZGÜN Ö., KUZUOĞLU M.
2019 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, Atlanta, GA, USA, United States Of America, 7 - 12 July 2019
- **Modeling and Analysis of Sea Clutter by a Novel Numerical Method**
ÖZGÜN Ö., KUZUOĞLU M.
The 7th Advanced Electromagnetics Symposium (AES), Lizbon, Portugal, 24 - 26 July 2019
- **An Efficient Domain Cascading Approach for Linear Discontinuous Galerkin Schemes**
Doğan D., KUZUOĞLU M.
European Conference on Antennas and Propagation (EuCAP), Londora, United Kingdom, 9 - 13 April 2018
- **A Numerical Model for Investigating the Effect of Rough Surface Parameters on Radar Cross Section Statistics**
KUZUOĞLU M., ÖZGÜN Ö.
International Symposium of IEEE-Antennas-and-Propagation-Society / USNC/URSI National Radio Science Meeting, California, United States Of America, 9 - 14 July 2017, pp.1837-1838
- **A Microwave Imaging Model for Biomedical Applications**
ÖZGÜN Ö., KUZUOĞLU M.
International Symposium of IEEE-Antennas-and-Propagation-Society / USNC/URSI National Radio Science Meeting, California, United States Of America, 9 - 14 July 2017, pp.2373-2374
- **Finite Element Modeling of Anisotropic Half-Space Problems by a Simple Mesh Truncation Scheme**
ÖZGÜN Ö., KUZUOĞLU M.
International Symposium of IEEE-Antennas-and-Propagation-Society / USNC/URSI National Radio Science Meeting, California, United States Of America, 9 - 14 July 2017, pp.1581-1582
- **Numerical Modeling of Electromagnetic Scattering from Periodic Structures by Transformation Electromagnetics**
ÖZGÜN Ö., KUZUOĞLU M.
10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (METAMATERIALS), Chania, Greece, 19 - 22 September 2016, pp.259-261
- **A Microwave Imaging Method based on Transformation Electromagnetics**
KUZUOĞLU M., ÖZGÜN Ö.
10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (METAMATERIALS), Chania, Greece, 19 - 22 September 2016, pp.262-264
- **A Hybrid Perturbational and Transformational Electromagnetics Approach for Modeling Rough Surface Scattering Problems**
KUZUOĞLU M., ÖZGÜN Ö.
IEEE International Symposium on Antennas and Propagation / USNC/URSI National North American Radio Science Meeting, Vancouver, Canada, 19 - 24 July 2015, pp.282-283
- **Modeling Electromagnetic Scattering from Random Array of Objects by Form Invariance of Maxwell's**

Equations

ÖZGÜN Ö., KUZUOĞLU M.

IEEE International Symposium on Antennas and Propagation / USNC/URSI National North American Radio Science Meeting, Vancouver, Canada, 19 - 24 July 2015, pp.284-285

● **Analysis of Scattering from Perfect Electric Conducting Cylinders by Spectral Element Method**

Mahariq I., ARPACI İ., KUZUOĞLU M.

Computational Electromagnetics International Workshop (CEM), İzmir, Turkey, 1 - 04 July 2015, pp.22-23

● **Parabolic Equation Toolbox for Radio Wave Propagation**

ÖZGÜN Ö., Apaydin G., KUZUOĞLU M., SEVGİ L.

USNC-URSI Radio Science Meeting (Joint with AP-S Symposium) Proceedings, Vancouver, Canada, 19 July 2015, pp.259

● **Modeling and Predicting Surface Roughness via Transformation Optics**

Ozgun O., KUZUOĞLU M.

8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (Metamaterials), Copenhagen, Denmark, 25 - 28 August 2014

● **Continuous-time Nonlinear Estimation Filters Using UKF-aided Gaussian Sum Representations**

Gokce M., KUZUOĞLU M.

16th International Conference on Information Fusion (FUSION), İstanbul, Turkey, 9 - 12 July 2013, pp.2097-2102

● **How Generous is the ELLPACK Sparse Matrix Storage Scheme for Finite Element Computations**

Akinci G., YILMAZ A. E. , KUZUOĞLU M.

9th International Conference on Electronics Computer and Computation (ICECCO 2012), Ankara, Turkey, 1 - 03 November 2012, pp.146-149

● **Reduction of the Staircasing Error in Finite Methods by Using Transformation Media**

KUZUOĞLU M., Ozgun O.

Progress In Electromagnetics Research Symposium (PIERS), Moscow, Russia, 19 - 23 August 2012, pp.707-710

● **Designing Transformation-based Metamaterials for Numerical Modeling of Low Frequency Electromagnetic Scattering**

Ozgun O., KUZUOĞLU M.

Progress In Electromagnetics Research Symposium (PIERS), Moscow, Russia, 19 - 23 August 2012, pp.981-984

● **Numerical Solution of Multi-scale Electromagnetic Boundary Value Problems by Utilizing Transformation-Based Metamaterials**

Ozgun O., KUZUOĞLU M.

11th International Conference on Computational Science and Its Applications (ICCSA), Santander, Spain, 20 - 23 June 2011, vol.6785, pp.11-25

● **Solution of Large Scattering Problems using a Multilevel Scheme in the context of Characteristic Basis Finite Element Method**

Ozgun O., Mittra R., KUZUOĞLU M.

2010 IEEE International Symposium Antennas and Propagation/CNC-USNC/URSI Radio Science Meeting, Toronto, Canada, 11 - 17 July 2010

● **Two-way Split-Step Fourier and Finite Element based Parabolic Equation Propagation Tools: Comparisons and Calibration**

Apaydin G., Ozgun O., KUZUOĞLU M., Sevgi L.

2010 IEEE International Symposium Antennas and Propagation/CNC-USNC/URSI Radio Science Meeting, Toronto, Canada, 11 - 17 July 2010

● **Finite Element/Dipole Moment Method for Efficient Solution of Multiscale Electromagnetic Problems**

Ozgun O., Mittra R., KUZUOĞLU M.

2010 IEEE International Symposium Antennas and Propagation/CNC-USNC/URSI Radio Science Meeting, Toronto, Canada, 11 - 17 July 2010

● **Two-way Fourier Split Step Algorithm over Variable Terrain with Narrow and Wide Angle Propagators**

Ozgun O., Apaydin G., KUZUOĞLU M., Sevgi L.

2010 IEEE International Symposium Antennas and Propagation/CNC-USNC/URSI Radio Science Meeting, Toronto, Canada, 11 - 17 July 2010

● **Transformation Media for Efficient Numerical Modeling of Finite Methods**

KUZUOĞLU M., Ozgun O.

2010 IEEE International Symposium Antennas and Propagation/CNC-USNC/URSI Radio Science Meeting, Toronto, Canada, 11 - 17 July 2010

● **Use of Matrix Pade Approximation in the Analysis of Irregularly Shaped Patch Antennas with Multiport Network Model**

Sener G., ALATAN L., KUZUOĞLU M.

International Conference on Electromagnetics in Advanced Applications (ICEAA 2009), Torino, Italy, 14 - 18 September 2009, pp.630-631

● **A Version of the Characteristic Basis Finite Element Method (CBFEM) by Utilizing Physical Optics for Large-scale Electromagnetic Problems**

Ozgun O., Mittra R., KUZUOĞLU M.

IEEE Antennas and Propagation International Symposium /USNC/URSI National Radio Science Meeting, South-Carolina, United States Of America, 1 - 05 June 2009, pp.497-498

● **A Non-iterative Domain Decomposition Method for Finite Element Analysis of 3D Electromagnetic Scattering Problems**

Ozgun O., KUZUOĞLU M.

IEEE Antennas-and-Propagation-Society International Symposium, California, United States Of America, 5 - 11 July 2008, pp.4142-4145

● **Design of Irregularly Shaped Patch Antennas by using the Multiport Network Model**

Sener G., ALATAN L., KUZUOĞLU M.

IEEE Antennas-and-Propagation-Society International Symposium, California, United States Of America, 5 - 11 July 2008, pp.4359-4360

● **Electromagnetic Reshaping via Anisotropic Metamaterials**

Ozgun O., KUZUOĞLU M.

IEEE Antennas-and-Propagation-Society International Symposium, California, United States Of America, 5 - 11 July 2008, pp.3259-3262

● **Characteristic Basis Finite Element Method (CBFEM) - A Non-iterative Domain Decomposition Finite Element Algorithm for Solving Electromagnetic Scattering Problems**

Ozgun O., Mittra R., KUZUOĞLU M.

IEEE Antennas-and-Propagation-Society International Symposium, California, United States Of America, 5 - 11 July 2008, pp.4130-4131

● **Conformal perfectly matched absorbers in finite element mesh truncation**

Kuzuoglu M., Dundar B., Mittra R.

2000 IEEE Antennas-and-Propagation-Society International Symposium, Utah, United States Of America, 16 - 21 July 2000, pp.1176-1179

● **SOURCE IDENTIFICATION BY LAGRANGE MULTIPLIERS**

KUZUOGLU M.

IEEE Antennas-and-Propagation-Society International Symposium 1994, Washington, United States Of America, 19 - 24 June 1994, pp.2292-2295

● **INTERFERENCE CALCULATIONS FOR AN S-CDMA CELLULAR RADIO SYSTEM**

TAMK Y., KUZUOGLU M.

7th Mediterranean Electrotechnical Conference (MeleCON 94), Antalya, Turkey, 12 - 14 April 1994, pp.121-124

Supported Projects

Koç S. S. , Orguner U., Candan Ç., Demir Ş., Aydın Çivi H. Ö. , Kuzuoğlu M., Öktem S. F. , Project Supported by Other Private Institutions, ÇAFRAD Projesi Teknoloji/Konsept Gösterim Fazı (ÇAFRAD FAZ-1) Projesi, 2014 - 2018