

Assoc. Prof. LALE ALATAN

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: AAZ-9176-2020

ScopusID: 35550999600

Yoksis Researcher ID: 165094

Education Information

Doctorate, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey
1993 - 1997

Postgraduate, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey
1990 - 1993

Undergraduate, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü,
Turkey 1986 - 1990

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Use of computationally efficient MoM in the analysis and design of printed structures, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 1997

Postgraduate, Computer-aided analysis of microstrip antennas employing parasitic elements, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 1993

Research Areas

Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü,
2018 - Continues

Assistant Professor, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü,
2010 - 2018

Advising Theses

- Alatan L., DESIGN OF PATTERN RECONFIGURABLE ANTENNA EMPLOYING RF-MEMS SWITCHES, Postgraduate, Ç.GÖK(Student), 2022
- Aydin Çivi H. Ö., Alatan L., DESIGN OF A DECOUPLING NETWORK TO IMPROVE ISOLATION BETWEEN TWO PORTS OF MULTI-FUNCTIONAL ANTENNA, Postgraduate, M.TONGA(Student), 2022
- ALATAN L., Closed form dyadic Green's functions for electric dipole over planar periodic structures printed on multilayered media, Doctorate, S.ADANIR(Student), 2022
- Alatan L., Design of a dual polarized low profile antenna for microwave brain imaging, Postgraduate, K.ÜÇEL(Student), 2022
- Alatan L., Fast simulation and modeling of scattering from targets in MIMO imaging systems, Postgraduate, Y.EMRE(Student), 2022
- Aydin Çivi H. Ö., Alatan L., Pattern reconfigurable antenna designs in sub-6 Ghz band for 5G applications, Postgraduate, F.TURGAY(Student), 2021
- ALATAN L., Analysis of the effect of element radiation pattern in the performance of mimo arrays used in imaging applications, Postgraduate, F.Altuntaş(Student), 2020
- ALATAN L., Design of pattern reconfigurable antennas by using characteristic mode theory, Postgraduate, T.Aydin(Student), 2020
- ALATAN L., A study on sparse array configurations for ultra-wideband imaging applications, Postgraduate, B.TALAT(Student), 2018
- ALATAN L., Design of magneto-electric dipole antenna for wideband communication systems, Postgraduate, S.ALPARSLAN(Student), 2018
- ALATAN L., KOÇ S. S., Design of smart antenna array for interference suppression in GPS, Postgraduate, Ö.CAN(Student), 2016
- ALATAN L., Efficient MoM analysis of printed structures by utilizing characteristic modes, Postgraduate, M.ÇETİN(Student), 2016
- ALATAN L., MOM analysis of conducting structures involving both surfaces and wires by using junction basis functions /, Postgraduate, K.Demircan(Student), 2015
- AYDIN ÇİVİ H. Ö., ALATAN L., Efficient numerical analysis and design of reflectarray antennas, Doctorate, E.ERÇİL(Student), 2015
- GENÇER N. G., ALATAN L., Dual band microstrip implantable antenna design for biomedical applications, Postgraduate, D.ALPTEKİN(Student), 2015
- ALATAN L., Mom analysis of loaded printed dipoles with applications in the design of electrically small antennas, Postgraduate, M.NAZIM(Student), 2015
- ALATAN L., MoM analysis of conducting structures involving both surfaces and wires by using junction basis functions, Postgraduate, K.DEMİRCAN(Student), 2015
- ALATAN L., Theoretical investigation and design of wideband dielectric resonator antennas, Postgraduate, Y.ÇAĞRI(Student), 2015
- ALATAN L., Method of moments analysis of slotted waveguide antenna arrays, Postgraduate, A.ALTUNTAŞ(Student), 2014
- ALATAN L., Analysis and design of wideband antenna arrays, Postgraduate, K.ÇAPRAZ(Student), 2014
- ALATAN L., Analysis and design of dual-polarized wideband patch antennas electromagnetically excited with elevated wide strips /, Postgraduate, A.FIRAT(Student), 2014
- ALATAN L., Analysis and design of conformal frequency selective surfaces /, Postgraduate, A.DALKILIÇ(Student), 2014
- ALATAN L., Design of asymmetric coplanar strip folded dipole antennas /, Postgraduate, K.KARACIĞER(Student), 2014
- ALATAN L., DURAL ÜNVER M. G., Analysis of various microstrip printed geometries using closed-form green's functions, Postgraduate, İ.ÜLKÜ(Student), 2013
- ALATAN L., Analysis of dual - polarized aperture - coupled microstrip antennas with H-shaped slots and equivalent circuit modeling of H shaped slots, Postgraduate, K.İŞERİ(Student), 2012
- ALATAN L., Efficient computation of the Green's function for multilayer structures with periodic dielectric gratings, Postgraduate, S.ADANIR(Student), 2011
- KUZUOĞLU M., ALATAN L., Analysis and design of microstrip patch antennas with arbitrary slot shapes, Doctorate,

G.ŞENER(Student), 2011

ALATAN L., Radiation characteristic analysis of tapered slot antennas, Postgraduate, A.CİHANGİR(Student), 2010

ALATAN L., Design of dual polarized wideband microstrip antennas, Postgraduate, M.YILDIRIM(Student), 2010

ALATAN L., Design of series-fed printed slot antenna arrays excited by microstrip lines, Postgraduate, M.İNCEBACA(Student), 2010

ALATAN L., Analysis and design of microstrip printed structures on electromagnetic bandgap substrates, Doctorate, T.GÜDÜ(Student), 2008

DEMİR Ş., ALATAN L., Re-configurable microstrip patch antennas controlled by RF mems switches, Postgraduate, S.ONAT(Student), 2006

ALATAN L., Conductors on multilayer media as radiating elements, Doctorate, G.HATİCE(Student), 2004

ALATAN L., The use of wavelet type basis functions in the mom analysis of microstrip structures, Postgraduate, E.ÇAKIR(Student), 2004

ALATAN L., The effects of mutual coupling between antenna elements on the performance of adaptive arrays, Postgraduate, G.ÖZKAYA(Student), 2003

ALATAN L., The effects of mutual coupling between antenna elements of the performance adaptive arrays, Postgraduate, G.Özkaya(Student), 2003

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Enhanced Near-Field Microwave Imaging System with Polarization Diversity**
Dalkilic A., ÖKTEM S. F., ALATAN L.
IEEE Antennas and Wireless Propagation Letters, vol.23, no.3, pp.1085-1089, 2024 (SCI-Expanded)
- II. **Closed-Form Dyadic Green's Functions for Dipole Excitation of Planar Periodic Structures**
Adanir S., ALATAN L.
IEEE Access, vol.12, pp.46704-46716, 2024 (SCI-Expanded)
- III. **A compact pattern reconfigurable antenna employing shorted quarterwave patch antennas**
Çelik F. T., ALATAN L., AYDIN ÇİVİ H. Ö.
Turkish Journal of Electrical Engineering and Computer Sciences, vol.30, no.6, pp.2179-2189, 2022 (SCI-Expanded)
- IV. **Singularity Cancellation for Accurate MoM Analysis of Periodic Planar Structures in Layered Media**
Adanir S., ALATAN L.
IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS, vol.19, no.8, pp.1301-1305, 2020 (SCI-Expanded)
- V. **A Novel Approach for the Efficient Computation of 1-D and 2-D Summations**
Karabulut E. P., ERTÜRK V. B., Alatan L., Karan S., Alisan B., Aksun M. I.
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.64, no.3, pp.1014-1022, 2016 (SCI-Expanded)
- VI. **An Efficient Numerical Solution Method for Reflectarrays of Varying Element Sizes**
Ercil E., Alatan L., Aydın Çivi H. Ö.
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.63, pp.5668-5676, 2015 (SCI-Expanded)
- VII. **Complete and Accurate Discrete Complex Image Approximation of Periodic Green's Function in Layered Media**
Adanir S., Alatan L.
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.62, pp.4115-4121, 2014 (SCI-Expanded)
- VIII. **Use of Asymptotic Waveform Evaluation Technique in the Analysis of Multilayer Structures With Doubly Periodic Dielectric Gratings**
Gudu T., Alatan L.
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.57, pp.2641-2649, 2009 (SCI-Expanded)
- IX. **Comments on "Effects of ground plane and dielectric truncations on the efficiency of a printed structure"**
Alatan L., Ogucu G., Civi O.
IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.52, no.1, pp.350-351, 2004 (SCI-Expanded)
- X. **Design of dual-frequency probe-fed microstrip antennas with genetic optimization algorithm**

Ozgun O., Mutlu S., Aksun M., Alatan L.

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.51, no.8, pp.1947-1954, 2003 (SCI-Expanded)

XI. Equipotential shells for efficient inductance extraction

Beattie M., Krauter B., Alatan L., Pileggi L.

IEEE TRANSACTIONS ON COMPUTER-AIDED DESIGN OF INTEGRATED CIRCUITS AND SYSTEMS, vol.20, no.1, pp.70-79, 2001 (SCI-Expanded)

XII. Use of computationally efficient method of moments in the optimization of printed antennas

Alatan L., Aksun M., Leblebicioglu K., Birand M.

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol.47, no.4, pp.725-732, 1999 (SCI-Expanded)

XIII. Analytical evaluation of the MoM matrix elements

Alatan L., Aksun M., Mahadevan K., Birand M.

IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, vol.44, no.4, pp.519-525, 1996 (SCI-Expanded)

Articles Published in Other Journals

I. Wideband omnidirectional and sector coverage antenna arrays for base stations

ALATAN L.

Progress In Electromagnetics Research C, vol.82, pp.29-38, 2018 (Scopus)

Refereed Congress / Symposium Publications in Proceedings

I. A Compact Pattern Reconfigurable Antenna with 4 Different Radiation Modes

Gök Ç., ALATAN L.

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

II. Improved Isolation Between Ports of MultiMode Antenna with a Reconfigurable Pattern by Decoupling Network

Tonga M., ALATAN L., Civi O. A.

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

III. A Simple and Novel Planar Structure to Excite Characteristic Modes

Çevik A. K., ALATAN L.

25th International Conference on Electromagnetics in Advanced Applications, ICEAA 2023, Venice, Italy, 9 - 13 October 2023, pp.386-389

IV. A Pattern Reconfigurable Compact Antenna Structure Based on Shorted Microstrip Patches

ÇELİK F. T., ALATAN L., Civi O. A.

16th European Conference on Antennas and Propagation (EuCAP), Madrid, Spain, 27 March - 01 April 2022

V. A Pattern Reconfigurable Multi-Mode Antenna Based on Circular Disk and Ring-Shaped Resonators

Çelik F. T., Alatan L., Aydın Çivi H. Ö.

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.405-406

VI. Conical and Broadside Beam Switching Micromachined Antenna at 26GHz

Berberoğlu A., Çelik F. T., Görgülü F., Civi O. A., Alatan L.

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.818-819

VII. Pattern Reconfiguration of Microstrip Antennas by Controlling Slots in Its Ground Plane

Gök Ç., Alatan L.

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.1196-1197

VIII. Çelik F. T., Alatan L., Aydın Çivi H. Ö.

X. URSI Türkiye 2021 Bilimsel Kongresi, İstanbul, Turkey, 7 - 09 September 2021, pp.1-3

- IX. **The effect of antenna in the forward model of near field microwave imaging systems**
Dalkilic A., ALATAN L.
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.1679-1680
- X. **UWB 3D Near-Field Imaging with a Sparse MIMO Antenna Array for Concealed Weapon Detection**
Anadol E., Seker I., Camlica S., Topbas T. O., Koc S., Alatan L., Oktem F., Civi O. A.
Conference on Radar Sensor Technology XXII, Florida, United States Of America, 16 - 18 April 2018, vol.10633
- XI. **An application of singularity cancellation for periodic structures in free space**
Adanir S., Alatan L.
12th European Conference on Antennas and Propagation, EuCAP 2018, London, United Kingdom, 9 - 13 April 2018, vol.2018
- XII. **A Novel Input Impedance Computation Method for Coaxial Probe Fed Microstrip Antennas by Utilizing Characteristic Modes**
Cetin M., ALATAN L.
International Symposium of IEEE-Antennas-and-Propagation-Society / USNC/URSI National Radio Science Meeting, California, United States Of America, 9 - 14 July 2017, pp.947-948
- XIII. **Performance Comparison of Different Sparse Array Configurations for Ultra-Wideband, Near-field Imaging Applications**
Cetin B. T., ALATAN L.
11th European Conference on Antennas and Propagation (EUCAP), Paris, France, 19 - 24 March 2017, pp.458-460
- XIV. **Yansıtımalı Dizi Antenlerin Nümerik Çözümü için Verimli Bir Yöntem**
Ercil E., ALATAN L., AYDIN ÇİVİ H. Ö.
VIII. URSI-Türkiye'2016 Bilimsel Kongresi, Turkey, 1 - 03 September 2016
- XV. **K Band Mikroşerit Yama Anten Dizisi Tasarımı**
Aydemir A. E., ALATAN L., KOÇ S. S., AYDIN ÇİVİ H. Ö.
VIII. URSI-Türkiye 2016 Bilimsel Kongresi, Ankara, Turkey, 1 - 03 September 2016
- XVI. **Interference Supression in GPS Receivers using Spatial Filtering**
Erdem F., Dabak O. C., Sonmez T., ALATAN L., KOÇ S. S.
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1889-1892
- XVII. **Dual Band PIFA Design For Biomedical Applications**
ALPTEKİN D., ALATAN L., GENÇER N. G.
EUCAP 2016, DAVOS, Switzerland, 10 - 15 April 2016, pp.3987-3990
- XVIII. **Accuracy and efficiency improvements in iterative hybridization of the method of moments MoM and physical optics PO**
AKBAS M., ALATAN L., ERGÜL Ö. S.
EuCAP 2016, 10 - 15 April 2016
- XIX. **Interference Suppression in a GPS Receiver with 4 Element Array Design and Implementation of Beamforming Algorithms**
Dabak O. C., Erdem F., Sonmez T., ALATAN L., KOÇ S. S.
IEEE/ION Position, Location and Navigation Symposium (PLANS), Savannakhet, Laos, 11 - 14 April 2016, pp.645-652
- XX. **Fast Construction of the MoM Matrix for Reflectarrays through a Smart Tabulation**
Ercil E., ALATAN L., AYDIN ÇİVİ H. Ö.
IEEE International Symposium on Antennas and Propagation / USNC/URSI National North American Radio Science Meeting, Vancouver, Canada, 19 - 24 July 2015, pp.796-797
- XXI. **Efficient Analysis of Reflectarrays through the Use of Characteristic Modes**
Ercil E., Alatan L., Civi O. A.
9th European Conference on Antennas and Propagation EuCAP, Lisbon, Portugal, 13 - 17 May 2015
- XXII. **Analysis of Conformal Frequency Selective Surface Radome**
Dalkilic A., ALATAN L., Top C. B.

- 8th European Conference on Antennas and Propagation (EuCAP), Hague, Netherlands, 6 - 11 April 2014, pp.469-472
- XXIII. **Reconfiguration in the radiation pattern of tapered slot antennas**
Cihangir A., ALATAN L.
20th International Conference on Applied Electromagnetics and Communications, ICECom 2010, Dubrovnik, Croatia, 20 - 23 September 2010
- XXIV. **Analysis of series-fed slot antenna arrays transversely coupled to a microstrip line including mutual coupling effects**
Incebacak M., ALATAN L.
2010 14th International Symposium on Antenna Technology and Applied Electromagnetics and the American Electromagnetics Conference, ANTEM/AMEREM 2010, Ottawa, Canada, 5 - 08 July 2010
- XXV. **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
- XXVI. **A Non-Galerkin Spatial-Domain Approach for Efficient Calculation of the Dispersion Characteristics of Microstrip Lines**
Guedue T., ALATAN L.
IEEE Antennas-and-Propagation-Society International Symposium, California, United States Of America, 5 - 11 July 2008, pp.4387-4388
- XXVII. **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
- XXVIII. **Design and implementation of a triple-band re-configurable microstrip antenna**
Onat S., ALATAN L., DEMİR Ş.
European Conference on Wireless Technologies, Manchester, United Kingdom, 10 - 12 September 2006, pp.326-327
- XXIX. **A compact corporate probe fed antenna array**
Secmen M., DEMİR Ş., ALATAN L., AYDIN ÇİVİ H. Ö., Hizal A.
European Conference on Antennas and Propagation: EuCAP 2006, Nice, France, 6 - 10 November 2006, vol.626 SP
- XXX. **Design of a Re-configurable dual frequency microstrip antenna with integrated RF MEMS switches**
Onat S., Ünlü M., Alatan L., Demir Ş., Akın T.
2005 IEEE Antennas and Propagation Society International Symposium and USNC/URSI Meeting, Washington, United States Of America, 3 - 08 July 2005, pp.384-387
- XXXI. **Reconfigurable Antenna Structures Using MEMS Technology**
Erdil E., Onat S., Topal K., İstanbulluoğlu İ., Ünlü M., Demir Ş., Aydın Çivi H. Ö., Alatan L., Koç S. S., Akın T.
6th Workshop on MEMS for MilimeterWave Communications (MEMSWAVE), Lausanne, Switzerland, 23 - 24 June 2005
- XXXII. **Design of triple-band reconfigurable microstrip antenna employing RF-MEMS switches**
Onat S., Alatan L., Demir Ş.
IEEE Antennas and Propagation Society Symposium 2004 Digest held in Conjunction with: USNC/URSI National Radio Science Meeting, Monterey, CA, United States Of America, 20 - 25 June 2004, vol.2, pp.1812-1815
- XXXIII. **Dual frequency bi-orthogonally polarized antenna for GPS applications**
Alatan L., Niver E., Mahale A., Balasubramanian A., Olin R.
10th Mediterranean Electrotechnical Conference on Information Technology and Electrotechnology for the Mediterranean Countries, Lemesos, Cyprus (Gkry), 29 - 31 May 2000, pp.652-655
- XXXIV. **Equipotential shells for efficient partial inductance extraction**
Beattie M., Alatan L., Pileggi L.
International Electron Devices Meeting (IEDM), San-Francisco, Costa Rica, 6 - 09 December 1998, pp.303-306

XXXV. Computationally efficient analysis and design of printed structures

Alatan L., Aksun M., Birand M.

1996 IEEE Antennas-and-Propagation-Society Symposium / USNC/URSI National Radio Science Meeting, Maryland, United States Of America, 21 - 26 July 1996, pp.276-279

XXXVI. IMPROVING THE NUMERICAL EFFICIENCY OF THE METHOD OF MOMENTS FOR PRINTED GEOMETRIES

ALATAN L., AKSUN M., BIRAND T.

IEEE Antennas-and-Propagation-Society International Symposium 1994, Washington, United States Of America, 19 - 24 June 1994, pp.1698-1701

Scientific Refereeing

IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS, SCI Journal, October 2021

IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS, SCI Journal, October 2021

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, SCI Journal, September 2021

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, SCI Journal, March 2021

IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS, SCI Journal, February 2021

IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS, Journal Indexed in SSCI, August 2018

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, Journal Indexed in SSCI, July 2018

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, Journal Indexed in SSCI, May 2018

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, Journal Indexed in SSCI, April 2018

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, Journal Indexed in SSCI, April 2018

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, Journal Indexed in SSCI, March 2018

IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, Journal Indexed in SSCI, January 2018

Metrics

Publication: 50

Citation (WoS): 169

Citation (Scopus): 244

H-Index (WoS): 7

H-Index (Scopus): 9

Non Academic Experience

METU

New Jersey Institute of Technology

Carnegie Mellon University

METU

METU