Prof. METİN ŞENGÜL

Personal Information

Email: m.sengul@iku.edu.tr
Web: https://avesis.iku.edu.tr/m.sengul

International Researcher IDs
ScholarID: g9lx9NAAAAAJ
ORCID: 0000-0003-1940-1456
Publons / Web Of Science ResearcherID: D-1682-2019
ScopusID: 14630977200
Yoksis Researcher ID: 9197

Education Information

Doctorate, Isik University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 2002 - 2006
Postgraduate, Istanbul University, Fen Bilimleri Enstitüsü, Elektronik Mühendisliği (Yl) (Tezli), Turkey 1996 - 1999
Undergraduate, Istanbul University, Mühendislik Fakültesi, Elektronik Mühendisliği Bölümü, Turkey 1992 - 1996

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, Circuit models with mixed lumped and distributed elements for passive one-port devices, Isik University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2006
Postgraduate, Güvenli ses haberleşmesi, Istanbul University, Fen Bilimleri Enstitüsü, Elektronik Mühendisliği (Yl) (Tezli), 1999

Research Areas

Electrical and Electronics Engineering

Academic Titles / Tasks

Professor, Istanbul Kultur University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2023 - Continues
Professor, Kadir Has University, Mühendislik Ve Doğa Bilimleri Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2018 - 2023
Associate Professor, Kadir Has University, Mühendislik Ve Doğa Bilimleri Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2010 - 2018
Assistant Professor, Kadir Has University, Mühendislik Ve Doğa Bilimleri Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2006 - 2010
Lecturer, Kadir Has University, Mühendislik Ve Doğa Bilimleri Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2000 -

2006

Academic and Administrative Experience

Kadir Has University, 2017 - 2020

Courses

Electromagnetic Field Theory, Undergraduate, 2023 - 2024
Communication Electronics, Undergraduate, 2023 - 2024, 2013 - 2014
Microwave Engineering, Undergraduate, 2023 - 2024, 2018 - 2019, 2013 - 2014
Introduction to Electromagnetics, Undergraduate, 2023 - 2024

Advising Theses

METİN Ş., High-pass and low-pass mixed element lossless two-port networks as phase shifters, Doctorate, G.ÇAKMAK(Student), 2022
METİN Ş., Explicit solutions of two-variable scattering equations and broadband matching network design, Postgraduate, G.EKER(Student), 2019
METİN Ş., Analysis of structures formed with shunt capacitor seperated by transmission lines, Postgraduate, G.ÇAKMAK(Student), 2018
METİN Ş., Computation of two-variable mixed element network functions, Postgraduate, N.TABASSUM(Student), 2018
METİN Ş., Real frequency desıgn of narrowband ımpedance equalızer wıth complex termınatıons, Postgraduate, G.YEŞİLYURT(Student), 2018
METİN Ş., Scattering transfer matrix factorization based synthesis of resistively terminated LC ladder networks, Postgraduate, Z.AYDOĞAR(Student), 2011

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Quality factor based transducer power gain expression**
Şengül M.
COMPEL-THE INTERNATIONAL JOURNAL FOR COMPUTATION AND MATHEMATICS IN ELECTRICAL AND ELECTRONIC ENGINEERING, vol.42, pp.1554-1564, 2023 (SCI-Expanded)

II. **Component value calculations in a mixed element ladder network containing series capacitors separated by unit elements**
ŞENGÜL M., Çakmak G.
International Journal of Circuit Theory and Applications, vol.49, no.10, pp.3368-3377, 2021 (SCI-Expanded)

III. **Solution of Lossless Broadband Matching Problems via Insertion Loss Method**
ŞENGÜL M.
IEEE Transactions on Circuits and Systems II: Express Briefs, vol.68, no.10, pp.3236-3240, 2021 (SCI-Expanded)

IV. **Narrower band matching with low quality factor values**
ŞENGÜL M.
IEEE Transactions on Circuits and Systems II: Express Briefs, vol.68, no.7, pp.2434-2437, 2021 (SCI-Expanded)

V. **Design of Phase Shifters with Ladder Stubs Via Real Frequency Technique**
ŞENGÜL M.
Journal of Circuits, Systems and Computers, vol.30, no.7, 2021 (SCI-Expanded)

VI. **Mixed Element Networks with Series Capacitors Separated by Unit Elements**
ŞENGÜL M., Çakmak G.

Journal of Circuits, Systems and Computers, vol.30, no.7, 2021 (SCI-Expanded)

VII. **Phase Shifting Properties of High-Pass and Low-Pass Mixed-Element Two-Ports**
ŞENGÜL M., Cakmak G., Ozdemir R.
IEEE Transactions on Circuits and Systems II: Express Briefs, vol.68, no.4, pp.1208-1212, 2021 (SCI-Expanded)

VIII. **Explicit solutions of two-variable scattering equations describing lossless low-pass two-ports with mixed lumped and distributed elements**
ŞENGÜL M., Eker G.
International Journal of Circuit Theory and Applications, vol.47, no.12, pp.1963-1969, 2019 (SCI-Expanded)

IX. **Modified Q -Based Real Frequency Design of Narrowband Impedance Equalizer with Complex Terminations**
ŞENGÜL M., Yeşilyurt G.
Journal of Circuits, Systems and Computers, vol.28, no.11, 2019 (SCI-Expanded)

X. **Analysis of mixed-element structures formed with shunt capacitors separated by transmission lines**
ŞENGÜL M., Cakmak G.
IEEE Transactions on Circuits and Systems II: Express Briefs, vol.66, no.8, pp.1331-1335, 2019 (SCI-Expanded)

XI. **Broadband Matching via Unequal Length Cascaded Transmission Lines**
ŞENGÜL M.
Journal of Circuits, Systems and Computers, vol.26, no.5, 2017 (SCI-Expanded)

XII. **Reflection Modeling Based Broadband Matching Network Design**
ŞENGÜL M.
Frequenz, vol.71, no.5-6, pp.237-242, 2017 (SCI-Expanded)

XIII. **Broadband matching via reflection function optimization**
ŞENGÜL M.
International Journal of Circuit Theory and Applications, vol.45, no.1, pp.133-140, 2017 (SCI-Expanded)

XIV. **High-pass/low-pass section design for 0°-360° lumped-element phase shifters via the real frequency technique**
ŞENGÜL M.
Turkish Journal of Electrical Engineering and Computer Sciences, vol.25, no.3, pp.1922-1931, 2017 (SCI-Expanded)

XV. **Broadband Microwave Amplifier Design with Lumped Elements**
ŞENGÜL M.
Frequenz, vol.70, no.3-4, pp.183-188, 2016 (SCI-Expanded)

XVI. **Design of practical broadband matching networks with mixed lumped and distributed elements**
ŞENGÜL M.
IEEE Transactions on Circuits and Systems II: Express Briefs, vol.61, no.11, pp.875-879, 2014 (SCI-Expanded)

XVII. **Shifted-modified Chebyshev filters**
ŞENGÜL M.
Turkish Journal of Electrical Engineering and Computer Sciences, vol.21, no.5, pp.1351-1358, 2013 (SCI-Expanded)

XVIII. **Design of practical broadband matching networks with commensurate transmission lines**
ŞENGÜL M.
AEU - International Journal of Electronics and Communications, vol.67, no.8, pp.676-680, 2013 (SCI-Expanded)

XIX. **Foster impedance data modeling via singly terminated LC ladder networks**
ŞENGÜL M.
Turkish Journal of Electrical Engineering and Computer Sciences, vol.21, no.3, pp.785-792, 2013 (SCI-Expanded)

XX. **Design of practical broadband matching networks with lumped elements**
ŞENGÜL M.
IEEE Transactions on Circuits and Systems II: Express Briefs, vol.60, no.9, pp.552-556, 2013 (SCI-Expanded)

XXI. **Broadband impedance matching via lossless unsymmetrical lattice networks**
ŞENGÜL M.
AEU - International Journal of Electronics and Communications, vol.66, no.1, pp.76-79, 2012 (SCI-Expanded)

XXII. **Analytic solution of the Feldtkeller equation**
ŞENGÜL M.

AEU - International Journal of Electronics and Communications, vol.63, no.8, pp.632-637, 2009 (SCI-Expanded)

XXIII. **Design of broadband single matching networks**
ŞENGÜL M.
AEU - International Journal of Electronics and Communications, vol.63, no.3, pp.153-157, 2009 (SCI-Expanded)

XXIV. **Construction of lossless ladder networks with simple lumped elements connected via commensurate transmission lines**
ŞENGÜL M.
IEEE Transactions on Circuits and Systems II: Express Briefs, vol.56, no.1, pp.1-5, 2009 (SCI-Expanded)

XXV. **Broadband decoupling and matching of a superdirective two-port antenna array**
Volmer C., ŞENGÜL M., Weber J., Stephan R., Hein M. A.
IEEE Antennas and Wireless Propagation Letters, vol.7, pp.613-616, 2008 (SCI-Expanded)

XXVI. **Design of distributed-element RF filters via reflectance data modeling**
ŞENGÜL M., Yarman S. B., Volmer C., Hein M.
AEU - International Journal of Electronics and Communications, vol.62, no.7, pp.483-489, 2008 (SCI-Expanded)

XXVII. **Design of broadband microwave amplifiers with mixed-elements via reflectance data modeling**
ŞENGÜL M., B. Yarman S.
AEU - International Journal of Electronics and Communications, vol.62, no.2, pp.132-137, 2008 (SCI-Expanded)

XXVIII. **Modeling based real frequency technique**
ŞENGÜL M.
AEU - International Journal of Electronics and Communications, vol.62, no.2, pp.77-80, 2008 (SCI-Expanded)

XXIX. **Broadband equalizer design with commensurate transmission lines via reflectance modeling**
ŞENGÜL M., Yarman S. B.
IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, vol.E91-A, no.12, pp.3763-3771, 2008 (SCI-Expanded)

XXX. **Explicit synthesis formulae for cascaded lossless commensurate lines**
ŞENGÜL M.
Frequenz, vol.62, no.1-2, pp.16-17, 2008 (SCI-Expanded)

XXXI. **Synthesis of cascaded lossless commensurate lines**
ŞENGÜL M.
IEEE Transactions on Circuits and Systems II: Express Briefs, vol.55, no.1, pp.89-91, 2008 (SCI-Expanded)

XXXII. **Reflectance-based foster impedance data modeling**
ŞENGÜL M.
Frequenz, vol.61, no.7-8, pp.194-196, 2007 (SCI-Expanded)

Articles Published in Other Journals

I. **Broadband matching via reflection coefficient modeling**
ŞENGÜL M.
Istanbul University - Journal of Electrical and Electronics Engineering, vol.16, no.2, pp.3043-3047, 2016 (Scopus)

II. **An alternative approach to design lumped element delay equalizers**
ŞENGÜL M.
Istanbul University - Journal of Electrical and Electronics Engineering, vol.15, no.1, pp.1883-1887, 2015 (Scopus)

III. **Broadband double-matching via lossless unsymmetrical lattice networks**
ŞENGÜL M.
Istanbul University - Journal of Electrical and Electronics Engineering, vol.12, no.2, pp.1511-1515, 2012 (Scopus)

IV. **Synthesis of resistively terminated LC ladder networks**
ŞENGÜL M.
Istanbul University - Journal of Electrical and Electronics Engineering, vol.11, no.2, pp.1407-1412, 2011 (Scopus)

V. **Synthesis of lossless ladder networkswith simple lumped elements connected viacommensurate transmission lines**

ŞENGÜL M.
Istanbul University - Journal of Electrical and Electronics Engineering, vol.10, no.2, pp.1219-1228, 2010 (Scopus)

VI. **Design table formation of stepped impedance prototype filters**
ŞENGÜL M.
Istanbul University - Journal of Electrical and Electronics Engineering, vol.10, no.1, pp.1129-1134, 2010 (Scopus)

VII. **Design of practical matching networks with lumped elements via modeling**
Yarman B. S., ŞENGÜL M., Kilinc A.
IEEE Transactions on Circuits and Systems I: Regular Papers, vol.54, no.8, pp.1829-1837, 2007 (Scopus)

VIII. **On the inverse point-source problem of the poisson equation**
Yilmaz M., ŞENGÜL M., Geçkinli M.
Istanbul University - Journal of Electrical and Electronics Engineering, vol.5, no.2, pp.1395-1401, 2005 (Scopus)

Refereed Congress / Symposium Publications in Proceedings

I. **Detection Of Vehicle License Plate Location Using Convolutional Neural Network**
DARICI M. B., KİRACI F., ÖZMEN A., ŞENGÜL M.
5th International Conference on Egineering and National Sciences (ICENS'2019), 12 - 16 June 2019

II. **Transitional Butterworth-Chebyshev Filters**
ŞENGÜL M.
2018 18TH MEDITERRANEAN MICROWAVE SYMPOSIUM (MMS), İstanbul, Turkey, 31 October - 02 November 2018, pp.157-159

III. **Real Frequency Design of Pi and T Matching Networks with Complex Terminations**
ŞENGÜL M.
2017 10TH INTERNATIONAL CONFERENCE ON ELECTRICAL AND ELECTRONICS ENGINEERING (ELECO), Bursa, Turkey, 30 November - 02 December 2017, pp.1328-1331

IV. **Alternative Transducer Power Gain Expression in Broadband Matching Network Designs**
ŞENGÜL M.
2016 NATIONAL CONFERENCE ON ELECTRICAL, ELECTRONICS AND BIOMEDICAL ENGINEERING (ELECO), Bursa, Turkey, 1 - 03 December 2016, pp.415-418

V. **Broadband Single Matching with Lumped Elements**
ŞENGÜL M.
2015 9TH INTERNATIONAL CONFERENCE ON ELECTRICAL AND ELECTRONICS ENGINEERING (ELECO), Bursa, Turkey, 26 - 28 November 2015, pp.115-118

VI. **Genetic algorithm based broadband equalizer design with ripple level control**
ŞENGÜL M., Özmen A.
International Symposium on INnovations in Intelligent SysTems and Applications, INISTA 2012, Trabzon, Turkey, 2 - 04 July 2012

VII. **Realization of ideal filter characteristics via genetic algorithm**
ŞENGÜL M., Özmen A.
7th International Conference on Electrical and Electronics Engineering, ELECO 2011, Bursa, Turkey, 1 - 04 December 2011

VIII. **Design of impedance matching network for B&K 8104 hydrophone via Direct Computational Technique for underwater communication**
Kuzlu M., ŞENGÜL M., Kilmç A., DİNÇER H., Yağlidere I., Yarman S. B.
2010 10th Mediterranean Microwave Symposium, MMS 2010, Guzelyurt, Cyprus (Gkry), 25 - 27 August 2010, pp.399-402

IX. **Synthesis of resistively terminated high-pass LC ladder networks Direnç ile sonlandirilmiş yüksek geçiren LC merdiven devrelerin sentezi**
ŞENGÜL M., Aydoğar Z.
2010 7th National Conference on Electrical, Electronics and Computer Engineering, ELECO 2010, Bursa, Turkey, 2 -

05 December 2010, pp.361-364

X. **Transfer matrix factorization based synthesis of resistively terminated LC ladder networks**
ŞENGÜL M., Aydoğar Z.
6th International Conference on Electrical and Electronics Engineering, ELECO 2009, Bursa, Turkey, 5 - 08 November 2009

XI. **Cascaded Lossless Commensurate Line Synthesis**
ŞENGÜL M.
2009 EUROPEAN CONFERENCE ON CIRCUIT THEORY AND DESIGN, VOLS 1 AND 2, Antalya, Turkey, 23 - 27 August 2009, pp.295-298

XII. **Design of mixed-element networks via modeling**
ŞENGÜL M.
2008 3RD INTERNATIONAL SYMPOSIUM ON COMMUNICATIONS, CONTROL AND SIGNAL PROCESSING, VOLS 1-3, St Julians, 12 - 14 March 2008, pp.269

XIII. **A single matching network design for a double band PIFA antenna via simplified real frequency technique**
Yarman B. S., ŞENGÜL M., Lindbergh P., Rydberg A.
2006 Asia-Pacific Microwave Conference, APMC, Yokohama, Japan, 12 - 15 December 2006, vol.2, pp.1325-1326

XIV. **A single matching network design for a dual band PIFA antenna via simplified real frequency technique**
Lindberg P., ŞENGÜL M., Cimen E., Yarman B., Rydberg A., Aksen A.
European Conference on Antennas and Propagation: EuCAP 2006, Nice, France, 6 - 10 November 2006, vol.626 SP

XV. **Power transfer networks at RF frequencies "New design procedures with implementation roadmap"**
ŞENGÜL M.
2006 IEEE INTERNATIONAL SYMPOSIUM ON CIRCUITS AND SYSTEMS, VOLS 1-11, PROCEEDINGS, Kos, 21 - 24 May 2006, pp.1768-1771

XVI. **Reflectance data model with mixed lumped and distributed elements for wireless communication systems**
ŞENGÜL M.
Proceedings of the 2005 European Conference on Circuit Theory and Design, Vol 3, Cork, Ireland, 29 August - 02 September 2005, pp.289-292

XVII. **Circuit model for given reflectance data constructed with mixed lumped and distributed elements for high speed/high frequency communication systems**
ŞENGÜL M.
Fourth International Workshop on Multidimensional Systems - NDS 2005, Wuppertal, Germany, 10 - 13 July 2005, pp.12-18

XVIII. **A broadband microwave amplifier design by means of immittance based data modelling tool**
ŞENGÜL M.
2002 IEEE AFRICON, VOLS 1 AND 2, George, South Africa, 2 - 04 October 2002, pp.535-540

Metrics

Publication: 58