الأول

FDTD ANALYSIS OF A NEW WIDEBAND INSERTED RDRA

A. S. Elkorany, S. M. Elhalafawy and H. A. Sharshar
Faculty of Electronic Engineering, Menoufia University
Menouf, Menoufia, Egypt 32952
elkoranyahmed@yahoo.com

Abstract
The present paper is devoted to the enhancement of the impedance bandwidth of a coaxial probe fed rectangular dielectric resonator antenna (RDRA) by introducing an air gap between the rectangular dielectric resonator (RDR) and the ground plane. An impedance bandwidth of approximately 31% is obtained when the coaxial probe only touches the bottom surface of the RDR. Good agreement between finite difference time domain (FDTD) and high frequency structure simulator (HFSS) results is obtained.

Keywords: probe feed RDRA, wideband, air gap inserted, FDTD, HFSS

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الثاني

FOLDED U-SLOT WIDEBAND COMPACT PRINTED ANTENNA

A. S. Elkorany.

[1], A. I. Bahnacy
[2], and S. M. Elhalafawy

Abstract **A new microstrip patch antenna (MPA) has been developed to enhance the radiation characteristics of the ordinary U-slot rectangular MPA with more low profile. The design is produced by folding the U-Slot patch to form the folded U-slot. A bandwidth of about 59% is obtained compared with 26% of the ordinaryone.**

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اسم الجريدة الثالث

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HOMOMORPHIC ENHANCEMENT OF INFRARED IMAGES USING THE ADDITIVE WAVELET TRANSFORM

H. I. Ashiba, K. H. Awadallah, S. M. El-Halfawy and F. E. Abd El-Samie
Faculty of Electronic Engineering
Menouf, Egypt

Abstract—This paper presents a new enhancement technique for infrared images. This technique combines the benefits of homomorphic image processing and the additive wavelet transform. The idea behind this technique is based on decomposing the image into subbands in an additive fashion using the additive wavelet transform. This transform gives the image as an addition of subbands of the same resolution. The homomorphic processing is performed on each subband, separately. It is known that the homomorphic processing on images is performed in the log domain which transforms the image into illumination and reflectance components. Enhancement of the reflectance reinforces details in the image. So, applying this process in each subband enhances the details of the image in each subband. Finally, an inverse additive wavelet transform is performed on the homomorphic enhanced subbands to get an infrared image with better visual details.

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الرابع اسم الجريدة

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A Wavelet Based Approach for Speaker Identification from Degraded Speech

A. Shafik, S. M. Elhalafawy, S. M. Diab, B. M. Sallam and F. E. Abd El-samie
Department of Electronics and Electrical Communications, Faculty of Electronic Engineering
Menoufia University, Menouf, Egypt
fathi_sayed}@yahoo.comEmails: {mero431, saidelhalafawy, dr_salah_diab, b_m_salam and

Abstract: This paper presents a robust speaker identification method from degraded speech signals. This method is based on the Mel-frequency cepstral coefficients (MFCCs) for feature extraction from the degraded speech signals and the wavelet transform of these signals. It is known that the MFCCs based speaker identification method is not robust enough in the presence of noise and telephone degradations. So, the feature extraction from the wavelet transform of the degraded signals adds more speech features from the approximation and detail components of these signals which assist in achieving higher identification rates. Neural Networks are used in the proposed method for feature matching. The Comparison study between the proposed method and the traditional MFCCs based feature extraction method from noisy speech signals and telephone degraded speech signals with additive white Gaussian noise (AWGN) and colored noise shows that the proposed method improves the recognition rates computed at different degradation cases.

Keywords: Speaker identification, Wavelet transform, MFCCs, Neural networks.

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الخامس اسم الجريدة

The Impact of New Feeder Arrangement on RDRA Radiation Characteristics

A. S. Elkorany, A. A. Sharshar, and S. M. Elhalafawy
Department of Electronics and Electrical Comm., Faculty of Electronics Eng.
Menou¯a University, Menouf, Menou¯a 32952, Egypt

Abstract In this paper, a new feeder arrangement for rectangular dielectric resonator antenna
(RDRA) is proposed for ultra wideband applications A short metallic patch is introduced in the air gap between the dielectric and the ground plane and attached to the coaxial probe that excites
the RDRA. The patch dimensions have been varied to obtain the widest antenna impedance bandwidth (VSWR · 2). An impedance bandwidth of about 4 : 1 between 10 GHz and 40 GHz is obtained The proposed antenna has been examined using Finite Element Method (FEM) and
Finite Integration Technique (FIT). Excellent agreement between both results is obtained.

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السابع

DCT Assisted Speaker Identification in the Presence of Noise and Channel Degradation

Amira Shafik, Said Elhalafawy, Salaheldin M. Diab, and Bassiouny M. Sallam
Department of Electronics and Electrical Communications, Faculty of Electronic Engineering
Menoufia University, Menouf, 32952, Egypt
Emails: mero431@yahoo.com, saidelhalafawy@yahoo.com, dr_salah_diab@yahoo.com, and b_m_salam@hotmail.com

***Abstract*—This paper presents a robust speaker identification method from degraded speech signals. This proposed method depends on the Mel-frequency cepstral coefficients (MFCCs) for feature extraction from the degraded speech and its discrete cosine transform (DCT). It is known that the MFCCs based speech recognition methods are not robust enough in the presence of noise and channel degradation. So, the feature extraction from the DCT of the signal will assist in achieving a higher recognition rate. The artificial neural network (ANN) classification technique is used in the proposed method. The comparison between the proposed method and the method using the MFCCs only for feature extraction from noisy speech signals and telephone-like degraded signals shows that the proposed method improves the recognition rate in the presence of noise or degradation.**

Index Terms **—Speaker identification, DCT, MFCCs, ANNs.**

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Amira Shafik has graduated from the faculty of Electronic Engineering, Menoufia University, Egypt in 2001, She is an M.Sc. student at the faculty of Electronic Engineering, Menoufia University, Egypt. Her interests are speech recognition, speaker identification and signal processing.

Said M. Elhalafawy has received the B.Sc. degree from the Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 1978, the M.Sc. degree from the Faculty of Electronic Engineering, Menoufia University, Egypt, in 1984 and the Ph.D. degree

from the Dept. of Electrical Engineering, Faculty of Electrical and Mechanical Engineering, Plzen, Czech Republic in 1990. He joined the teaching staff of the Department of Electronics and Electrical Communications, Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt since 1990. He has published several scientific papers in national and international conferences and journals. His current research areas of interest include image processing, speech processing, digital communications and electromagnetic applications.

Salaheldin M. Diab has received the B.Sc. degree from the Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 1973, the M.Sc. degree from the Faculty of Engineering, Helwan University, Cairo, Egypt, in 1981 and the Ph D. degree from Menoufia University, Egypt, in 1987. He joined the teaching staff of the Department of Electronics and Electrical Communications, Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt since 1987. He has published several scientific papers in national and international conferences and journals. His current research areas of interest include adaptive signal processing techniques, image processing, speech processing and digital communications.

Bassiouny M. Sallam has received the B.Sc. degree from the Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 1975, the M.Sc. degree from the Faculty of Engineering, Cairo University, Cairo, Egypt, in 1982 and the Ph.D. degree from Drexel University, USA, in 1989. He joined the teaching staff of the Department of Electronics and Electrical Communications, Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt since 1989. He has published about forty scientific papers in national and international conferences and journals. He has received the most cited paper award from Digital Signal Processing journal for 2008. His current research areas of interest include adaptive signal processing techniques, superresolution reconstruction of images, speech processing and spread spectrum communications.

Efficient Transmission of Chaotic and AES Encrypted Images with OFDM over an AWGN Channel

M. Hilmey, S. Elhalafwy, and M. Zein Eldin
Department of Electronics and Electrical Communications, Faculty of Electronic Engineering
Menoufia University, Menouf,

Egypt.
E-mails: mai hil@yahoo.com, saidelhalafawy@yahoo.com, and mzein@yahoo.com

***Abstract*-This paper presents a comparison study between the**

fast Fourier transform based orthogonal frequency division multiplexing (FFT-OFDM), the discrete cosine transform based orthogonal frequency multiplexing (DCT-OFDM) and the discrete wavelet transform based orthogonal frequency multiplexing (DWT-OFDM) for the transmission of chaotic and AES (Advanced encryption standard) encrypted images. Concentration in the paper is on the transmission of encrypted images for the purpose of high definition television (HDTV) broadcasting. This comparison study is held to determine the best one suitable for HDTV broadcasting of encrypted images. The encryption approach adopted in this paper is based on chaotic Baker maps because the encoding and decoding steps in this approach are simple and fast enough for HDTV applications. This approach belongs to the family of fast permutation algorithms. And AES is also discussed where it's algorithm has very good performance in both hardware and software implementations. It also has very low memory requirements, and the algorithm's internal round structure benefits from instruction level parallelism. This ability will improve its performance. The different types of channels and the different parameters of OFDM modulation are considered in the comparison. The experimental results reveal the superiority of the FFT-OFDM over the DCT-OFDM for the transmission of encrypted images.

Keywords: chaotic maps, AES, FFT-OFDM, DCT-OFDM, AWGN , Rayleigh fading.

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Mai H. Shaheen graduated from the Faculty of Electronic Engineering, Menoufia University, Egypt in 2005. She is now MSc student. Her interest is in security over wired and wireless networks and image processing.
Said M. El-Halafawy.received his BSc,and

MSc, and PhD in electrical engineering from Menoufia, University, Egypt, in 1978, 1984, and 1990, respectively. He is currently a Professor in Dept. of Electrical communications, Faculty of Electronic Engineering, Menouf, Egypt. From till 28-03-2005. His areas of interests are Antenna Engineering, and Radar Systems.
Mohamed A. Zein Eldin has received the B.Sc. degree from the Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 1975, the M.Sc. degree from the Faculty of Engineering, Helwan University, Cairo, Egypt, in 1977 and the Ph.D. degree from Strathelyole University, Glasgow, UK. He joined the teaching staff of the Department of Electronics and Electrical Communications, Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt since 1986. He has published several scientific papers in national and international conferences and journals. His current research areas of interest include adaptive signal processing techniques, image processing, speech processing and digital communications.

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Different Techniques for Widening the Bandwidth of Stacked Microstrip

Patch Antennas

A. S. Elkorany, A. A. Sharshar, S. M. Elhalafawy
Department of Electronics and Communications, Faculty of Electronic Engineering, Menoufia University, Menouf, 32952, Egypt.
E-mails: elkoranyahmed@yahoo.com, amahsharshar@yahoo.com, saidelhalafawy@yahoo.com

Abstract

A novel ultra wideband stacked microstrip patch antenna (MPA) is proposed. In the new design multi techniques have been considered for widening the antenna impedance bandwidth. A stacked patch is assumed
and is taken larger than the excited one. The position of the stacked patch has been shifted many times and the
effect of that on the impedance bandwidth has been tested. A shorting metallic pin was introduced between the
stacked patch and the ground plane. The thickness of the whole antenna is small as 5.5 mm. The dielectric
material between the ground plane and the stacked patch was made of two slices of different dielectric constants. The antenna bandwidth has been examined with changing the dielectric materials types. An impedance bandwidth of about 2.52:1 has been reached in the frequency range from 5.8 GHz to 14.6 GHz. Also
an impedance bandwidth of about 2.54:1 has been reached in the frequency range from 7.1 GHz to 18 GHz. The
proposed antenna has a monopole like radiation and is suitable for wireless networking, amateur radio,

microwave links, and door openers.

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العاشر اسم الجريدة

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ULTRA-WIDEBAND A-SHAPED PRINTED ANTENNA WITH PARASITIC ELEMENTS

Z. F. Elsharkawy
Engineering Department, Nuclear Research Center
Atomic Energy Authority
Cairo, Egypt

Corresponding author: Z. F. Elsharkawy (Zeinab elsharkawy@yahoo.com).
A. A. Sharshar and S. M. Elhalafawy
Department of Electronics and Electrical Communication Engineering
Faculty of Electronic Engineering
Menofia University
Menouf, Egypt
S. M. Elaraby
Engineering Department, Nuclear Research Center
Atomic Energy Authority
Cairo, Egypt

Abstract—A new compact UWB microstrip line fed printed monopole antenna with two parasitic elements and partial ground plane is

designed and fabricated. The proposed printed antenna is based on 1.5mm FR4 substrate. The designed antenna radiator has the profile of letter A. The antenna return loss has been experimentally measured, and simulated using both HFSS, and CST MWS simulation software. The antenna impedance bandwidth shows UWB characteristics, where a bandwidth between 3.5 GHz up to a value behind 20 GHz is achieved for $|S_{11}| \leq -10$ dB. Comparison between measured and simulated results has been done and good agreement has been achieved. Using such antenna, many applications, including WiMAX, Wi-Fi, as well as UWB applications, would be available.

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An SVD audio watermarking approach using chaotic encrypted images

Waleed Al-Nuaimy [a], Mohsen A.M. El-Bendary [b], Amira Shafik[b], Farid Shawki [b], A.E. Abou-El-azm [b],
N.A. El-Fishawy[b], Said M. Elhalafawy[b], Salaheldin M. Diab [b], Bassiouny M. Sallam [b],
Fathi E. Abd El-Samie [b,□], H.B. Kazemian [c]
[a] *Department of Electrical Engineering and Electronics, University of Liverpool, UK*
[b] *Department of Electronics and Electrical Communications, Faculty of Electronic Engineering, Menoufia*
[c] *Intelligent Systems Research Centre, Faculty of Computing, London Metropolitan University, UK*

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This paper presents a new approach for audio watermarking using the Singular Value Decomposition (SVD) mathematical technique. The proposed approach can be used for data hiding in the audio signals transmitted over wireless networks and for multi-level security systems as will be stated in the applications section. This approach is based on embedding a chaotic encrypted watermark in the singular values of the audio signal after transforming it into a 2-D format. The selection of the chaotic encryption algorithm for watermark encryption is attributed to its permutation nature, which resists noise, filtering, and compression attacks. After watermark embedding, the audio signal is transformed again into a 1-D format. The transformation between the 1-D and 2-D formats is performed in the well-known lexicographic ordering method used in image processing. The proposed approach can be implemented on the audio signal as a whole or on a segment-by-segment basis. The segment-by-segment implementation allows embedding the same watermark several times in the audio signal, which enhances the detectability of the watermark in the presence of severe attacks. Experimental results show that the proposed audio watermarking approach maintains the high quality of the audio signal and that the watermark extraction and decryption are possible even in the presence of attacks.

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Waleed Al-Nuaimy received a degree in electronic engineering and telecommunications from Saddam University in Baghdad, Iraq, in 1995, and subsequently a Ph.D. in electrical engineering from the University of Liverpool, UK in 1998. He joined the Department of Electrical Engineering and Electronics at the University of Liverpool as a lecturer in signal processing in 1999 after a brief period working in industry. His current research is centered around techniques to intelligently process and interpret biomedical and other non-destructive testing data, with a particular interest in geophysical data such as groundpenetrating radar and magnetometric data, and ultrasonic data. Other research interests include the development of intelligent agent-based implantable bio-devices for the treatment of medical conditions such as hydrocephalus.

Mohsen A.M. El-Bendary received his B.Sc. in 1998, M.Sc. in 2008, all in communication engineering, from Menoufia University, Faculty of Electronic Engineering. He is now a lecturer assistant and Ph.D. student. His research interests cover wireless networks, wireless technology, channel coding, QoS over Bluetooth systems, and security systems which use wireless technology, such as fire alarm and access control systems.

Amira Shafik graduated from the Faculty of Electronic Engineering, Menoufia University, Egypt in 2001. She is an M.Sc. student at the Faculty of Electronic Engineering, Menoufia University, Egypt. Her interests are speech recognition, speaker identification and signal processing.

Farid Shawki received the B.Sc. (Hons), M.Sc. and Ph.D. degrees from the Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 1995, 2000 and 2007, respectively. In 1995 and 2000, he worked as a demonstrator and assistant lecturer in the Department of Electronics and Electrical Communications, Faculty of Electronic Engineering. He joined the teaching staff of the Department of Electronics and Electrical Communications in 2008. His current research areas of interest include channel coding, mobile communication systems, MIMO systems, and implementation of digital communications systems using FPGA.

Dr. A.E. Abou-El-azm was born in 1954, Egypt. He received the B.Sc. in electronic engineering and M.Sc. in antennas from the Faculty of Electronic Engineering, Menoufia University in 1977 and 1984 respectively. He received the Ph.D. in communications from Warsaw University of Technology, Poland in 1990. Dr. Abou-El-azm's research is in the area of digital communications, with special emphasis on coding theory, information theory, error control coding, and coded modulation. Topics of current interest include the use of convolutional, trellis codes and turbo codes in the development of coding standards for high speed data modems, digital satellite communication, and deep space channels. He is the author of many papers in the field of line codes, channel codes and signal processing.

Nawal El-Fishawy received the Ph.D. degree in mobile communications from the Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in collaboration with Southampton University in 1991. Now she is the head of Computer Science and Engineering Department, Faculty of Electronic Engineering. Her research interests include computer communication networks with emphasis on protocol design, traffic modeling and performance evaluation of broadband networks and multiple access control protocols for wireless communications systems and networks. Now she directed her research interests to the developments of security over wireless communications networks (mobile communications, WLAN, Bluetooth), VOIP, and encryption algorithms.

Said M. Elhalafawy received the B.Sc. degree from the Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 1978, the M.Sc. degree from the Faculty of Electronic Engineering, Menoufia University, Egypt, in 1984 and the Ph.D. degree from the Department of Electrical Engineering, Faculty of Electrical and Mechanical Engineering, Plzen, Czech Republic, in 1990. He joined the teaching staff of the Department of Electronics and Electrical Communications, Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt in 1990. He has published several scientific papers in national and international conferences and journals. His current research areas of interest include image processing, speech processing, digital communications and electromagnetic applications.

Salaheldin M. Diab received the B.Sc. degree from the Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 1973, the M.Sc. degree from the Faculty of Engineering, Helwan University, Cairo, Egypt, in 1981 and the Ph.D. degree from Menoufia University, Egypt, in 1987. He joined the teaching staff of the Department of Electronics and Electrical Communications, Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 1987. He has published several scientific papers in national and international conferences and journals. His current research areas of interest include adaptive signal processing techniques, image processing, speech processing and digital communications.

Bassiouny M. Sallam received the B.Sc. degree from the Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 1975, the M.Sc. degree from the Faculty of Engineering, Cairo University, Cairo, Egypt, in 1982 and the Ph.D. degree from Drexel University, USA, in 1989. He joined the teaching staff of the Department of Electronics and Electrical Communications, Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 1989. He has published about forty scientific papers in national and international conferences and journals. He has received the most cited paper award from the Digital Signal Processing journal for 2008. His current research areas of interest include adaptive signal processing techniques, superresolution reconstruction of images, speech processing and spread spectrum communications.

Fathi E. Abd El-Samie received the B.Sc. (Honors), M.Sc., and Ph.D. from the Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 1998, 2001, and 2005, respectively. He joined the teaching staff of the Department of Electronics and Electrical Communications, Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 2005. He is a co-author of about 120 papers in national and international conference proceedings and journals. He has received the most cited paper award from the Digital Signal Processing journal for 2008. His current research areas of interest include image enhancement, image restoration, image interpolation, superresolution reconstruction of images, data hiding, multimedia communications, medical image processing, optical signal processing, and digital communications.

H.B. Kazemian received a B.Sc. in Engineering from Oxford Brookes University, UK, an M.Sc. in Control Systems Engineering from University of East London, UK, and a Ph.D. in Learning Fuzzy Controllers from University of London, UK. He is currently a full professor at London Metropolitan University, UK. Previous work experience includes Ravensbourne College University Sector, UK, University of East London, UK, University of Northampton, UK, and Newham College, UK. Research interests include neuro-fuzzy control of networks, 2.4 GHz frequency bands, audio and video processing. Prof. Kazemian is a Senior Member of IEEE, Fellow of IET, and C.Eng

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Design andoptimizationoflightemittingdevicesbasedonCdTe-QDasan emissivelayer

Sh.G. El-sherbiny [b,c], S.Wageh [a,n], S.M.Elhalafawy [b], A.A.Sharshar [b]

[a] Physics &EngineeringMathematicsDepartment,FacultyofElectronicEngineering,MenufiyaUniversity,Menouf32952,Egypt [b] Department ofElectronicsandElectricalComm.,FacultyofElectronicsEng.MenufiyaUniversity,Menouf32952,Egypt [c] Electrical EngineeringDepartment,FacultyofEngineering,KafrelsheikhUniversity,Kafrel-Sheikh,Egypt

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a b s t r a c t We presentadetaileddesignmethodofquantumdot-organiclightemittingdevices(QD-OLED)based on microcavitymodel.CdTequantumdotisusedasanemissivelayerforblue,greenandredemissions. We havesimulatedtheinternalphotoluminescenceemissionsofthequantumdotlayerbyGaussian functionbasedonthepublishedexperimentalresults.Usingthesesimulatedinternalphotolumines- cence emissionsfordifferentquantumdotsizeswehavecalculatedtheoutputemissionsintensitiesof blue, greenandredlights.Wehaveinvestigatedtheeffectofchangingthedevicegeometryonthe emissionintensity.Wefoundthattheemissionintensityishighlydependsonthedevicegeometry.On the otherhand,wefoundthattheoptimizationsofthedevicestructurearedifferentfordifferent emissionscolors

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صاحب فكرة البحث:-. جميع المشاركين بالبحث

تاريخ النشر	أسماء المشاركين	عناوين الأبحاث	م
July 2007	**S. M. El-Halafawy,** A. S. Elkorany, and H. A. Sharshar	FDTD analysis of a new wideband inserted RDRA	1
September, 2007	**S. M. Elhalafawy**, A. S. Elkorany, and A. I. Bahnacy	FOLDED U-SLOT WIDEBAND COMPACT PRINTED ANTENNA	2

2008	**S. M. El-Halfawy,** H. I. Ashiba, K. H. Awadallah, and F. E. Abd El-Samie	Homomorphic Enhancement of Infrared Images Using The Additive Wavelet Transform	3
2009	**S. M. Elhalafawy**, A. Shafik, S. M Diab, B. M Sallam, F. E Abd El-samie	A Wavelet Based Approach for Speaker Identification from Degraded Speech	4
2009	**S. M. Elhalafawy**, A. S. Elkorany, and A. A. Sharshar,	The Impact of New Feeder Arrangement on RDRA Radiation Characteristics	5
March 2009	**S. M. Elhalafawy**, A. S. Elkorany, and A. A. Sharshar	Ultra Wideband Stacked Microstrip Patch Antenna	6

تاريخ النشر	أسماء المشاركين	عناوين الأبحاث	م
2009	**S. M. Elhalafawy**, A. Shafik, S. M Diab, B. M Sallam	DCT Assisted Speaker Identification In The Presence Of Noise And Channel Degradation	7
2009	**S. M. Elhalafwy,** M. Hilmey, M. Zein Eldin and F. E. Abd El-Samie	A Comparison between FFT-OFDM and DCT-OFDM for the Transmission of Chaotic Encrypted Images	8
2009	**S . M. El-Halfawy,** H . I . Ashiba , K . H . Awadallah , and F. E. Abd El-Samie	Infrared Image Interpolation with an Iterative Approach	9
2009	**S . M. El-Halfawy,** M. Hilmey, and M. Zein Eldin,	Efficient Transmission of Chaotic and AES Encrypted Images with OFDM over an AWGN Channel	10
March 2010	**S. M. Elhalafawy**, A. S. Elkorany, and A. A. Sharshar	Different Techniques for Widening the Bandwidth of Stacked Microstrip Patch Antennas	11

2010	**S. M. Elhalafawy**, Z. F. Elsharkawy, and A. A. Sharshar, and S. M. ElAraby	Ultra-wideband A-Shaped Printed Antenna with Parasitic Elements	12

تاريخ النشر	أسماء المشاركين	عناوين الأبحاث	م
2011	**S. M. Elhalafawy**, W. Al-Nuaimy, M.A.M. El-Bendary, A. Shafik, F. Shawki, A. E. Abou-El-azm, N. A. El-Fishawy, S.M. Diab, B.M. Sallam, F. E. Abd El-Samie, and H. B. Kazemian	An SVD audio watermarking approach using chaotic encrypted images	13
2011	**S.M. El-Halfawy,** H.I. Ashiba, K.H. Awadalla, and F.E. Abd El-Samie	Adaptive Least Squares Interpolation of Infrared Images	14
2012	**S.M. El-Halfawy,** Sh.G. El-sherbiny, S.Wageh, and A.A.Sharshar	Design and optimization of light emitting devices based on CdTe-QD as an emissive layer	15