

Curriculum Vitae

Osama W. Ata, PhD, CPEng, Senior MIEAust., MIEEE
P.O.Box 2385, Ramallah, West Bank.
Email: oata@fulbrightmail.org, osama_ata@yahoo.com
Phone : +970 2 2233050

EDUCATION

Graduated :7/1989 University of Wales UK-Wales-Cardiff

Doctorate Degree (1985 -1989)

Ph.D. Thesis: **Application of Ray Theory into Microwave Horn Antenna Design.**

Researched the application of optical ray theory to design and develop short length phase corrected aperture horn antennas with low side lobes that could be used for a wide range of applications. Employed computational techniques, involving Fourier Transformation and plane to plane diffraction, and computed the aperture field from measured data of far field amplitude and phase. Experimented the designed horns at Sheffield University; one of internationally best -reputed institutes in microwave and millimeter wave research. Achieved good agreement between theoretical and experimental results. Published interesting results in international journals and conference proceedings.

Graduated: 12/1981 University of Wales UK-Wales-Cardiff

Master's Degree in Electronic Communications (1980 – 1981)

M.Sc. Thesis: **Determination and measurement of the second harmonic from a 100 GHz IMPATT Oscillator.**

Researched the extraction of the second harmonic from a 10 mW solid state Oscillator. Used a pair of mesh interference filters for the 2nd harmonic extraction. Employed the extracted 200 Ghz at 1 mW in an open resonator to study the attenuation effect of rain on millimeter wave propagation above 100 GHz. Solid state oscillators were not commercially available, at the time.

Graduated: 7/1980 University of Hull UK-England-Hull

Bachelor's Degree in Electronic Engineering(1976 – 1980)

B.Sc.(Honors) Project: Liquid Crystals

Studied the electrical and magnetic properties of Liquid Crystals. Designed and implemented an interdigitated four-electrode pattern to address a doped 'NEMATIC' liquid crystal system, to achieve amplitude modulation for radio system applications.

EXPERIENCE

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2009(Sep) – present: Associate Professor, Dept. of Electrical Engineering, College of Engineering and Technology, Palestine Polytechnic University, Hebron, Palestine

- Taught advanced courses in Antennas and Propagation, Microwave and Satellite Communications, Radar Systems, Transmission Lines and Electromagnetic Theory.
- Some supervised research projects:
 - WiMAX based on OFDM (Simulation, analysis and application of MIMO smart antennas in real fading IEEE standardized Stanford University Interim - SUI channel scenarios).
 - Indoor radio propagation at 900 MHz and 2400 MHz frequencies (Modeling, simulation, measurement and analysis).
 - In building penetration loss in commercial and residential building structures in Palestine (Modeling, simulation, measurement and analysis).
 - Design and analysis of two E-shaped microstrip antennas with linear and circular polarizations

2006(Sep) – 2009 (Aug): Associate Professor, Dept. of Physics, Faculty of Science, Bethlehem University, Bethlehem, Palestine

- Taught courses in Physics, Electromagnetism and Electronics
- Conducted individual research projects in cellular communications.

2005(Jul) – 2006(Aug): CTO – Advanced Communications Co, Ramallah, Palestine

- Managed three technical departments (two-way radio, video systems and computer networking)
- Managed the research and development department
- Strategized and monitored sales forecasts
- Presented on technical products to national universities and institutes.

2002(Sep) – 2005(Jun) Principal Engineer /Scientist: Core RF Engineering, SPRINT-PCS, 15405 COLLEGE BLVD., LENEXA, KS 66219, U.S.A.

Network Engineering Strategic Projects

- Lead the in-building penetration loss modeling and analysis study for commercial/residential building construction types in the US national Sprint –PCS 3G CDMA network markets.

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- Lead the data analysis of the MMDS/PCS outdoors/indoors testing measurements and the two band frequency path loss correlation in Indianapolis and Manhattan, New York.
- Lead the carrier utilization study, nationwide, with an objective to investigate predictors that correlate with sector carrier utilization enhancement.
- Lead the RF University Curriculum Management Process (RU-CMP) project and chairing the USA national Core RF/Regional Field Steering Committee.

8/1999 – 8/2002 Stanford University Stanford, CA

Fulbright Senior Scholar/Visiting Associate Professor

- A key member in the smart antennas research group. Researched the capacity enhancement of cellular systems using adaptive and switched beam array antennas. Also researched the effect of customer premises directional antennas on Fixed Wireless Access Systems in the downlink multipath channel.
- A Stanford consultant for Sprint Corporate on fixed Broadband Wireless Access over MMDS and LMDS projects. Worked on RF System analysis, propagation and simulation, cellular reuse and planning, capacity , evaluation of various vendor technologies (e.g. OFDM, CDMA, MIMO smart antennas and spatial diversity).

1/1997 - 8/1999 Al-Quds University, Jerusalem, Palestine
Faculty of Engineering

Associate Professor

- Demonstrated advanced courses in Antennas, Electromagnetism, communications systems, cellular radio.
- Supervised final year projects in communications systems and antennas.
- Contributed to a proposal for an M.Sc degree plan in Communications and signal processing.
- Presented papers in IEEE conferences in Italy, India and the United Kingdom
- Established research links with the universities of Hull and Bradford.
- Submitted university proposals for an industrial/commercial center in electronic engineering and the establishment of a teaching hospital for the faculty of medicine.

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10/1994 - 12/1996 Victoria University of Melbourne/Australia
Technology

Visiting Research Fellow

- Performed simulation and design work associated with an externally funded industrial research project. The project involved radio frequency amplifier linearization and design for future mobile basestations. The project was sponsored by Ericsson, Australia. The optimized specifications of the amplifier were incorporated into a hardware prototype.
- Supervised a PhD research student on a project entitled "Adaptive Basestation Antennas (System Analysis)". This was an extension to the main undertaken project.

1/1993 - 10/1994 Yarmouk University Irbid, Kingdom of
Jordan

Assistant Professor

- Instructed advanced courses in Antennas and propagation, Radar Systems, Microwave devices. Other topics for various levels included Electronic Circuits, Pascal Programming, Engineering Mathematics in addition to final year project supervision.
- Established the advanced communications laboratory.
- Joint various departmental committees.
- Developed the M.Sc. course in Communication Systems.

4/1989 - 10/1992 University of Wales Bangor, United Kingdom

Postdoctoral Research fellow

- Researched the optimization of Doppler Ultrasound transducers for higher detection sensitivity in clinical blood flow measurement.
- Analyzed frequency modulated Doppler signals, field distributions and sample volumes from plane and focused transducers and the deviation effects from plane wave conditions, within continuous and pulsed-mode radiation fields. The project was part of the ultrasonic group research activities, funded by the Wolfson Foundation.
- Worked on the MODAL project under the European RACE program designed and explored the performance of mm-wave antennas in the 30 GHz band.

RECENT CONTRIBUTIONS FOR CONFERENCES & WORKSHOPS

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Apr 2009	Wireless Telecommunications Symposium (Prague, Czech), sponsored by the IEEE Communications Society (two papers).
Sep 2009	Competency Based Learning workshop (Ede-Holland) .
Jun 2010	Seminar for Excellence in Teaching (Ramallah, Palestine), sponsored by AMIDEAST, OSI and USAID.
Aug 2010	Academic Colloquium on Building Partnerships in Teaching Excellence (Ramallah, Palestine), sponsored by AMIDEAST, OSI and USAID(Part I).
Nov 2010	Technical training at LabVolt Co (Quebec –Canada) on University Lab trainers in the fields of antennas and microwave communications.
Feb 2011	Academic Colloquium on Building Partnerships in Teaching Excellence (Jericho, Palestine), sponsored by AMIDEAST, OSI and USAID (Part II).
Jun 2011	A training workshop on Digital Signal processing , organized by SPEE Labs (Paris -11 University) at PPU in Hebron.

AFFILIATIONS

6/1995 - Present	The Institution of Engineers, Australia	Senior Member (Chartered Engineer)
10/1992 - Present	The Institute of Electrical and Electronic Engineers	Member

SKILLS

Skill Name	Skill Level	Last Used	Experience
Knowledge of German	Intermediate	Currently used	6 years
MATLAB Programming	Expert	Currently used	10 years
Microsoft	Expert	Currently used	10 years
Technical proposal writing	Expert	Currently used	4 years
Seminar presentations and talks	Expert	Currently used	8 years
Technical article publications	Expert	Currently used	10 years
Antenna & Propag.	Expert	Currently used	5 years

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Measurements

Technical lead and Expert Currently used 6 years
supervision

LIST OF PUBLICATIONS

1. ATA, O.W.: "Increasing interest in millimetre waves and applications", College of Science and Technology Journal, Vol 2, Jerusalem, July 1986, pp. 92 - 97.
2. BENSON, T.M., ATA, O.W. and MARINCIC, A.S.: "Phase corrected primary feed horn", Proc. 28th Symposium ETAN in Marine, Zader 1986, pp. 100-103.
3. ATA, O.W. and BENSON, T.M.: "Novel phase corrected horn antenna of short length.", Electron. Letts., vol 24, no 5, March 1988, pp. 292-294.
4. ATA, O.W.: " A short length phase corrected horn antenna for marine radar.", Fifth National Radio Science Colloquium, King's College London, July 1988.
5. ATA, O.W., BENSON, T.M., SOGHOMONIAN, M. and MARINCIC, A.S.: "Ray Theory Design of Curved Rib Waveguides.", Symposium in Semiconductor and Integrated Optoelectronics", Cardiff III-V Semiconductor and Microelectronics Centre (in assoc. with Bath Univ., IEE, Inst. o Physics), Cardiff, March 1989.
6. ATA, O.W., BENSON, T.M. and MARINCIC, A.S.: " Application of optical ray technique to the design of short microwave horn antennas with low side-lobe levels." IEE Proceedings, vol 137, pt. H, no 2, April 1990, pp. 81-88.
7. ATA, O.W., BENSON, T.M., MARINCIC, A.S.: "Side-lobe suppression in an E-plane sectoral horn antenna.", Electron. Letts, vol 26, no 4, February 1990, pp. 231-233.
8. ATA, O.W., BENSON, T.M. and MARINCIC, A.S.: " Optical ray technique versus finite difference method in the design of novel microwave horn antennas with low side-lobe level.", Proceedings of the 7th international. conf. of antennas and propagation, no 333, pt 1, Univ. of York- UK, 15-18 April 1991, pp. 113 - 116.
9. ATA, O.W. and FISH, P.J.: " The effect of deviation from plane wave conditions on the Doppler spectrum from the ultrasonic blood flow detector.", Ultrasonics, vol 29, no 5, 1991 pp 395-403.
10. BENSON, T.M., ATA, O.W., SOGHOMONIAN, M. and MARINIC, A.S.: "Application of finite difference and optical ray tracing methods to the design of microwave components.", Colloquium on computer based tools for microwave engineers, IEE digest no 1991/152, 15 October 1991, pp 9 / 1-6.
11. ATA, O.W. and FISH, P.J.: " Pressure-Coded Display of Local Wave Vector in Acoustic Fields", Acoustic Letters, vol 15, no 12, 1992, pp. 251 - 256.

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12. ATA, O.W., BENSON, T.M., and MARINCIC, A.S.: " An E-plane sectoral horn fitted with sidelobe suppression devices", Int. Jr. of Numerical Modeling: Electronic Networks, Devices and Fields, vol 6, 1993, pp. 145 - 159.
13. ATA, O.W.: "Microstrip Patch Arrays for the Microwave Optical Duplex Antenna Link", Proceedings of the Second International Conference on Concurrent Engineering and Electronic Design Automation (CEEDA'94), Poole, UK, April 7-8, 1994.
14. ATA, O.W.: "Predistortion as a Linearising Technique for Future Radio Basestation Amplifiers.", Proceedings of the Bi-Annual International Conference on Mobile and personal Communications Systems, Mobile Communications Research Centre, University of South Australia, Adelaide, Australia, 10-11 April 1995, pp. 50-55
15. ATA, O.W., LVOV, B.: "Optimization of Losses in Bent Graded-Index Slab Waveguides", Submitted for the Journal of Electrical Eng., Australia.
16. ATA, O.W.: " Finite Difference versus Ray theory as Application Tools in Microwave Horn Antenna Design", Fifth Australian Symposium for Antennas, CSIRO Division of Radiophysics, Sydney, 14-15 February, 1996.
17. BERANGI, R., LEUNG, P., ATA, O.W.: "A new Pilot Symbol Insertion Method for GMSK", Proceedings of the First Communication Conference (IEE sponsored), Sultan Qaboos University, Muscat, Oman, March 11-13, 1996.
18. ATA, O.W.: "Integrated mm-wave patch array antenna for future micro and picocellular mobile systems", Proceedings of the IEEE Vehicular Technology Conference, Atlanta, Georgia, USA, 29 April, 1996, pp 348-352.
19. ATA, O.W. " A Linearisation Method for Future basestation Amplifiers of Cellular Radio", Proc. of the IEEE 1996 Global Telecommunications Conference, London (UK), Nov. 1996, pp. 1592-1596.
[Received a conference prize].
20. ATA, O.W. " Effect of Power Change from Interference Sources on the CDF Probability in a Mobile Radio Cellular System", Proc. of the IEEE ICUPC Conference, Florence, Italy, Oct 1998, pp. 217-221.
21. ATA, O.W. "Two-tone and Nine-tone excitations in future adaptive predistorted linearised basestation amplifiers of cellular radio", Wireless Personal Communications (International Journal), KLUWERS PUNS., Vol 16, No 1, Jan 2001, pp 1-19.
22. ATA, O.W. et al " Channel Characterization for Broadband Wireless Applications", submitted for IEEE 2000 Global Telecommunications Conference, San Francisco, U.S.A.
23. SEKI, H., ATA, O.W., PAULRAJ, A. "Capacity Enhancement of Cellular Mobile Systems using Adaptive Array and Switched-Beam Antennas with Fractional Loading and Correlated Shadowing Effects", Proc. of the 12th International Conference on Wireless Communications (Wireless 2000), vol. 2, Calgary, Canada, 10-12 July, pp. 483 - 491.
24. ATA, O.W., SEKI, H., PAULRAJ, A. " Capacity Enhancement in Quad-Sector Cell Architecture with Interleaved Channel and Polarization Assignments", ICC 2001 conference, Helsinki, Finland, Vol. 7, pp. 2317-2321, June 11-15, 2001.
25. SEKI, H., ATA, O.W. , PAULRAJ, A. " Effect of Customer Premises Directional Antennas on Fixed Wireless Access Systems in the Downlink Multipath Channel", ICC 2001 conference, Helsinki, Finland, Vol. 7, pp. 2312-2316, June 11-15, 2001.

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26. ATA, OSAMA W., MARKS, RICHARD, PAN, JAMES, BUTANEY, ANJANA “A Generic Laboratory Test Approach for Non-Line-of-Sight MMDS Solution”, SCI2002 6TH WORLD CONFRENECE, Orlando, USA, July 14-18, 2002, pp. 473 – 479.
27. BUTANEY, ANJANA, PAN, JAMES, OSAMA W. ATA “Broadband Access using the unlicensed wireless 60 GHz band and free space optics”, SCI2002 6TH WORLD CONFRENECE, Orlando, USA, July 14-18, 2002, pp. 487 – 492.
28. YANG, MICHAEL, ATA, OSAMA W., PAN, JAMES “Non-LOS Wireless Channel Systems – Applications to Backhaul Links”, ”, SCI2002 6TH WORLD CONFRENECE, Orlando, USA, July 14- 18, 2002, pp. 493 – 498.
29. LVOV, BORIS, ATA, OSAMA W., PETRUNKIN, VSEVOLOD, “Dynamic behavior of Dielectric Antennas at High Communication Rates”, ”, SCI2002 6TH WORLD CONFRENECE, Orlando, USA, July 14-18, 2002, pp. 481 – 486.
30. ATA, OSAMA W., “Grade of Service Signal Density Enhancement – Modeling in-building penetration loss in various morphologies”, 2003 TOPICAL CONFERENCE ON WIRELESS COMMUNICATION TECHNOLOGY, Honolulu, Hawaii, USA, October 15-17, 2003, **0-7803- 8197-1/03/\$17.00 (c)2003 IEEE.**
31. ATA, OSAMA W., GARG, HRYDYESH, “Path Loss Correlation between MMDS and PCS/IMS bands in suburban morphology”, submitted to THE 2004 IEEE INTERNATIONAL SYMPOSIUM ON ANTENNAS AND PROPAGATION AND USNC/URSI NATIONAL RADIO SCIENCE MEETING, Monterey, CA, USA, June 20-26, 2004.
32. ATA, OSAMA W. , “The Radio Frequency University Curriculum Management Process from a Carrier Service Provider’s Perspective”, 2005 IEEE Antennas and Propagation Society International Symposium, Vol 3B, 0-7803-8883 6/05/\$20.00 ©2005 IEEE, 3-8 July 2005, pp. 138 – 141.
33. ATA, OSAMA W., “Efficient Carrier Utilization Management as a Consequence of Traffic Load Balancing in Mobile Radio Communications” , submitted for publication.
34. ATA, OSAMA W. , “In-building Penetration Loss Modeling and Measurement in Suburban, Urban and Dense Urban Morphologies, Antennas and Propagation Society International Symposium, 2005 IEEE, Volume 1A, 3-8 July 2005 Page(s):779 - 782 Vol. 1A.
35. ATA, OSAMA W. , “Broadband Wireless Access (BWA) over Multi-Channel Multipoint Distribution Service (MMDS) Frequency Band”, European Conference on Antennas & Propagation, Nice, France, Nov 6-10, 2006.
36. ATA, Osama W., “The National Education and Research (NERN) Broadband Backbone Network.”, IEEE Global Information Infrastructure Symposium (GIIS) 2007, Marrakech, Morocco, 1-4244-1376-1/07/\$25.00 ©2007 IEEE, July 2-5, 2007, pp. 211-217.
37. ATA, Osama W., “Prediction and Measurement of In-building Penetration Loss in Suburban, Urban and Dense Urban Areas at 2.5 GHz.”, World Telecommunications Symposium, Prague, Czech Republic, April 22-24, 2009.
38. ATA, Osama W., “Multi-Carrier CDMA BTS Power amplifiers and their design considerations.”, World Telecommunications Symposium, Prague, Czech Republic, April 22-24, 2009.

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39. ATA, Osama W., Al-AMLEH, Nemer, "Application of MIMO Smart Antennas into WiMAX-OFDM System in Real Fading IEEE Standardized Channels", Proceedings of the World Congress on Engineering and Computer Science 2012 Vol II, WCECS 2012, October 24-26, 2012, San Francisco, USA, pp. 960-966.
40. ATA, Osama W., "Traffic Load Balancing and Efficient Carrier Utilization in Cellular Radio Communication Networks", 2012 IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting, Chicago, USA, July 8-14, 2012
41. ATA, Osama W. et al, " An Indoor Propagation Model Based on a Novel Multi Wall Attenuation Loss Formula at Frequencies 900 MHz and 2.4 GHz", ", doi:10.1007/s11277-012-0558-x , **Wireless Personal Communications Journal**, March 2013, Volume 69, [Issue 1](#), pp 23-36
42. ATA, Osama W., " In Building Penetration Loss in Office and Residential Building Structures in Palestine at GSM 900 MHz Frequency", ", doi:10.1007/s11277-012-0675-6, **Wireless Personal Communications Journal**, May 2013, Volume 70, [Issue 1](#), pp 1-14
43. ATA, Osama W. et al, "Automobile License detection System and Impact on Environment and Improvement of Human Life Quality", The Third International Conference on Energy and Environmental Protection in Sustainable Development (ICEEP III), Palestine Polytechnic University, Hebron, October 9-10, 2013, pp. 1-15.
44. ATA, Osama W., "Exposure Level Assessment Study of High Frequency Radiation from Hebron Two-Way Radio Tower", The Third International Conference on Energy and Environmental Protection in Sustainable Development (ICEEP III), Palestine Polytechnic University, Hebron, October 9-10, 2013, pp. 1-8.
45. ATA, Osama W. and Amro, Ahmad Z. "Design and analysis of two E-shaped microstrip antennas with linear and circular polarizations", 9th International Symposium on Communication Systems, Networks & Digital Signal Processing (CSNDSP), Manchester, IEEE, DOI:10.1109/CSNDSP.2014.6923900, July 23-25, 2014.

AWARDS

1. The Lutheran World Federation Award - Geneva (1978 - 1980).
This is a very rare scholarship which was awarded to me to study for an Electronic Engineering degree at the University of Hull in the United Kingdom.
2. The European Community Commission Award - Brussels (1985 - 1988).
This is the first and only PhD Award of its time in Palestine where I was selected amongst 40 candidates from several Palestinian universities to study for my PhD degree at the University of Wales, Cardiff, UK. The Award was administered by the British Council in Jerusalem.
3. Fulbright Senior Scholarship – Stanford University , Ca (1999-2000)
This is a universally prestigious award that only three scholars from Palestine won in 1999 to conduct research projects in the USA. I was invited by world-known Professor A. Paulraj to conduct a research project in his Smart Antennas Research Group (SARG).
4. AMIDEAST Visiting Fellowship - Villanova University, PA (Sep 2011 – Jan 2012), PART I
- Villanova University, PA (Jun 2012 – Aug 2012), PART II

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This is a Palestinian Faculty Development Fellowship funded and administered by AMIDEAST and the Open Society Foundations in USA.

SciSearch® at LANL Cited Reference Retrieval Results: ATA, O.W.

Marks Title, Author, Source

- 2001-0354597: [Pulsed Doppler flow-line spectrum for focused transducers with apodized apertures](#)
Barannik EA, *ULTRASONICS*, v. 39(#4) pp. 311-317 JUN 2001
- 2000-0573300: [Intrinsic spectral broadening \(ISB\) in ultrasound Doppler as a combination of transit time and local geometrical broadening](#)
Guidi G, Licciardello C, Falteri S, *ULTRASOUND IN MEDICINE AND BIOLOGY*, v. 26(#5) pp. 853-862 JUN 2000
- 2000-0312728: [Doppler power spectrum from a Gaussian sample volume](#)
Bastos CAC, Fish PJ, Steel R, Vaz F, *ULTRASONICS*, v. 37(#9) pp. 623-632 MAY 2000
- 2000-0052746: [Doppler angle estimation using correlation](#)
Li PC, Cheng CJ, Shen CC, *IEEE TRANSACTIONS ON ULTRASONICS FERROELECTRICS AND FREQUENCY CONTROL*, v. 47(#1) pp. 188-196 JAN 2000
- 1999-0683699: [Spectrum of Doppler ultrasound signals from nonstationary blood flow](#)
Bastos CAC, Fish PJ, Vaz F, *IEEE TRANSACTIONS ON ULTRASONICS FERROELECTRICS AND FREQUENCY CONTROL*, v. 46(#5) pp. 1201-1217 SEP 1999
- 1997-0702582: [Improved characterization of non-stationary flows using a regularized spectral analysis of ultrasound Doppler signals](#)
Herment A, Giovannelli JF, Demoment G, Diebold B, Delouche A, *JOURNAL DE PHYSIQUE III*, v. 7(#10) pp. 2079-2102 OCT 1997
- 1993-0610792: [FUNDAMENTAL SOURCES OF ERROR AND SPECTRAL BROADENING IN DOPPLER ULTRASOUND SIGNALS](#)
JONES SA, *CRITICAL REVIEWS IN BIOMEDICAL ENGINEERING*, v. 21(#5) pp. 399-483 1993
- 1993-0353962: [AN E-PLANE SECTORAL HORN FITTED WITH SIDE-LOBE SUPPRESSION DEVICES](#)
ATA OW, BENSON TM, MARINCIC A, *INTERNATIONAL JOURNAL OF NUMERICAL MODELLING-ELECTRONIC NETWORKS DEVICES AND FIELDS*, v. 6(#2) pp. 145-159 MAY 1993
- 1990-0155821: [APPLICATION OF OPTICAL RAY TECHNIQUE TO THE DESIGN OF SHORT MICROWAVE HORN ANTENNAS WITH LOW SIDE LOBE LEVELS](#)
ATA OW, BENSON TM, MARINCIC A, *IEE PROCEEDINGS-H MICROWAVES ANTENNAS AND PROPAGATION*, v. 137(#2),pp. 81-88 1990.