

# RESUME

Name: Abiri  
First name: Habibollah  
Birth date: 31 dec. 1954  
Marital status: Married, two children  
Foreign languages: English - French

## EDUCATIONS

1981 - 1984 "Diplome de Docteur d' Ingenieur" in Electronics, Institute Nationale Polytechnique De Grenoble (INPG) ,France.  
1980 - 1981 "DEA" in Electronics, INPG, France.  
1979 - 1980 "Diplome d' Ingenieur in Electronics", INPG, France.  
1973 - 1978 B.Sc (5 years program) in Electrical Engineering, Shiraz University, Iran.

## EXPERIENCES

1984 - 1985 Assistant Professor, University of Savoie, Chambéry, France.  
1985 - present EE Dept., Shiraz University, Shiraz, Iran, Professor  
summer 1992 Visiting Professor, Beijing , Vaccum Electronics Research Institute Beijing, China.  
1994 - 1995 Visiting Professor, Nondestructive Microwave Testing lab, Colorado State University, Fort Collins, U.S.A.

## PROFESSIONAL INTERESTS

Electromagnetic theory ,Antennas , Microwave circuits and systems, Numerical methods in Electromagnetic Theory

## TEACHING ACTIVITIES

B.S.c courses:

Electricity & magnetism physics, circuit theory I, electronic circuits II & III, communication systems I & II, electronic communication circuits, antenna theory, electromagnetism

Graduate courses:

Advanced communication theory, high frequency circuit design, Analog integrated circuit design, advanced electromagnetics , numerical methods in electromagnetics , Microwaves II ,advanced electromagnetics II.

Supervised M.Sc thesis: More than 30

Supervised Ph D thesis: 5

## Journal publications

1. H.Abiri, J.chilo, C. Monllor "High frequency spectral analysis of superconducting microstrip lines", IEEE, tans. on Magnetics, MAG-21, March 1985, pp.59-597.
2. M. H. Rahnavard, O. R.Moheimany, H. Abiri, M. Alhassin "Tunability of cascaded gratings used in distributed feed back lasers", Microwave and optical technology , Vol. 3, No. 10, pp. 372-375, Oct. 1990.
3. A. Bakhtazad, H. Abiri, M. H. Rahnavard, "Tapered Corrugation for Improving Characteristics of DFB and DBR Lasers ", Microwave and Optical Technology letters, Vol. 5, No. 12, pp. 643-647, Nov. 1992.
4. V. Honarvar, H. Abiri, M. H. Rahnavard, " Computer assisted determination of  $K - \beta$  diagram in the vane-type coaxial magnetron", Journal of Electromagnetic waves and applications, Vol. 8, No. 6, pp. 743-758, 1994.

5. A. Bakhtazad, H. Abiri, M. H. Rahnavard, "Optimum Bandpass Optical Filter Synthesis Using Periodic Corrugated Wave guides with  $\pi/2$  Phase Shifts", IEEE- Journal of Lightwave Technology, Vol. No.8, pp. 1780-1786, Aug. 1995.
6. A. Bakhtazad, H. Abiri, R. Ghayour, "A General Transform for Regularizing Planar Open Waveguide Dispersion Relation", IEEE- Journal of Lightwave Technology, Vol. 15, No. 2 pp. 383-390, Feb. 1997.
7. C. Huber, H. Abiri, S. I. Ganchev, R. Zoughi, "Analysis of the Crack Characteristic Siquel Using a Generalized Scattering Matrix Repreusation", IEEE, MTT-45, No. 4, 477-484, April 1997.
8. C. Huber, H. Abiri, S. I. Ganchev, R. Zoughi, "Modeling of Hairline- Crack Detection in Metals Under Coating Using an Open- Ended Rectngular Waveguide", IEEE, MTT-45, No. 11, pp. 2049-2057, Nov. 1997.
9. M.Mahzoon, H.Abiri , R.Ghayour "An efficient semi-analytic method for analysis of 2-D photonic crystals" IEEE Journal of Lightwave Technology, vol.25 , No. 2 PP644-649, Feb.2007.
- 10.M.R.Haji hashemi, H.Abiri "Parametric study of novel types of dielectric resonator Antennas based on fractal geometry" International journal of RF & Microwave Computer Aided Engineering, Vol.17, No.4 ,PP416-424,2007.
11. A.Attar,A.Sheikhi,H. Abiri, A. Mallahzadeh "A new Method for Communication System Recognition" Iranian Journal of Science andTechnology, Trans.B, vol.30,No.B6,PP775-788,Dec.2006.
12. N.Chamanara, H.Abiri "Monopulse Cassegrain Antenna Design Using Evolutionary Algorithms",International Journal of Electronics and Communications,( AEU) 62(2008) 506-512.
13. M.Mahzoon, H.Abiri , R.Ghayour "Application of Fourier Differential Quadrature For the Analysis of Photonic Crystals" Communications in Numerical Methods in Engineering, July 2007.
- 14.H.Abiri, R.Ghayour, M.Mahzoon " Analysis of 2D Photonic Crystal Cavities Using a Multi-Scattering Approach Based on Weighted Bessel Functions " , Progress in electromagnetics research M, Vol.3, PP119-130 , 2008.
15. A.H.Taghavi, H. shokrollahi ,K.janghorban , H.Abiri "Eddy current and total loss separation in the iron\_phosphate-polyepoxy soft magnetic composite", Materials and Design, Elsevier, 2009.
16. I.Hassani nia ,R.Ghayour , H.Abiri , M.H.Sheikhi" Noise analysis of coaxial Schottky barrier carbon nanotube FET using Non Equilibrium Green's Function formalism" To be published in Central European Journal of Physics,2009.
- 17.A.Yahaghi , A. Fallahi , H.Abiri, M.Shahabadi ,C.Hafner , R.Vahldieck "Analysis of frequency selective surfaces using finite entire domain basis functions" IEEE Trans. on Antennas and prop.,AP-58,No. 3 ,March 2010.
- 18.A.Dastranj , H.Abiri "Bandwidth Enhancement of Printed E-Shaped Slot Antennas Fed by CPW and Micostrip Lines" IEEE Trans. on Antennas & Prop. AP-58, no.4.,April 2010.
- 19.Fallahi,Yahaghi,Abiri,Shahabadi, Hafner"Large Overlapping Subdomain MoM for the Analysis of Frequency Selective Surfaces" IEEE, Trans. On Microwave Theory & Techniques(MTT),Vol.58 ,No. 8,Aug.2010,pp2175-2187.
- 20.A.Fallahi, A.Yahaghi, H.Benedickter,H.Abiri, M,Shahabadi,& C.Hafner "Thin Wideband Radar Absorbers" IEEE trans. on Antennas & Prop., vol. 58. pp4051-4058
21. G.Jelodar,S.Nazifi, M.Noohraves, H.Abiri "Effect of radio freq. waves generated by Base Transceiver Station (BTS) on thyroid hormones" Online Veterinary Research 15: 98-105
- 22.M.HabibAgahi, H.Abiri, F.Mohajeri "Investigation of a new idea for Antipodal Vivaldi antenna design" International Jornal of Compuer and Electrical Eng., 3:277-281
23. A.Haghdel, H.Abir, M.R.Eskandari, H. Zibaenejad" Measurement of ion penetration pattern in point to grid atmospheric corona discharge" Japanese Journal of applied physics 50: 160011-160015
24. A.A.Dastranj, H.Abiri, A.Mallahzadah" Design of Conical DRH antenna for K and Ka freq. bands" International Journal of RF and Microwave Computer Aided Eng., 21: 602-610
25. M.S.Khajah Ahsani,F. Mohajeri, H.Abiri" Rtational Vector Addition Theorem and its Effect on T matrix"IEEE Trans. on Antennas and Prop.,Vol 59,pp3819-3825
- 26.R.Basiri , H.Abiri , A.Yahaghi "Electromagnetic performance analysis of Omega-type metamaterial radoms", International Journal of RF and Microwave Computer Aided Engineering.
- 27.I.Aghanegad, H.Abiri, A.Yahaghi"Design of high-gain lens antenna by gradient-index metamaterials using transformation optics" IEEE AP-60 sept.91.
- 28.M.A.Fallah, H.Abiri "Multi-sensor approach in vessel magnetic wake imaging ", Elsevier, Wave Motion ,51(2014) 60-67.
29. M.A.Fallah, H.Abiri "Electromagnetic fields Induced by the motion of Di-Hull bodies in a conducting fluid", IEEE transactions on magnetics, vol.49,No. 10 Oct.2013.
- 30.A.Dastranj, H.Abiri, A.Mallahzadah "Design of a broadband cosecant squared pattern reflector antenna using IWO algorithm" IEEE trans. On Antennas and Prop. AP-61, No.7,PP3895-3900.2013.

31. R. Basiri, H. Abiri, A. Yahaghi "Optimization of metamaterials for terahertz and microwave sensor applications" to be published in Optical and microwave technology letters.

32. A. Dastranj, H. Abiri, A. Mallahzadah "A cosecant squared pattern synthesis method for broadband shaped reflector antenna" to be published in IET, Microwave, antennas and propagation.

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## Conference Proceedings

1. H. Abiri, J. Chilo, C. Monllor "Analyse spectrale de Lignes Microniques de circuits Integres Rapides: IV eme journee Nationale Microondes, Laion, France, Juin 1984.

2. J. Chilo, H. Abiri, C. Monllor "Frequency and time domain analysis of interconnections in fast logic integrated silicon circuits." 14th European Microwave Conference, Liege, Belgique, Sept. 1984.

3. M. H. Rahnnavard, O. R. Moheimany, H. Abiri "Tunability of cascaded gratings which is used in DFB lasers" SPIE conf., Vol. 1367 fiber optic and laser sensors VIII, pp. 374- 381, 1990.

4. A. Bakhtazad, H. Abiri, M. H. Rahnnavard "Calculation of the coupling Coefficients in Corrugated dielectric wave guides by Monte-Carlo method". International Congress on Computational methods in Engineering", Shiraz, IRAN, pp 159-165, May 1993. (in Farsi )

5. M. H. Rahnnavard, H. Abiri, H. Sarmadi and A. Bakhtazad " Optimization of First order Trapezoidal Grantings used in DFB and DBR Lasers", SPIE Conf., Vol. 1992, Miniature and Micro-Optics and Micromechanics, pp. 216-224, 1993

6. A. Bakhtazad, M. H. Rahnnavard, H. Abiri "Effect of Multiple Phase Shifts and Losses on the Performance of the Granting Optical Filters", International Congress on Computational Methods in Engineering, Shiraz, IRAN, pp 145-151, May 1993.

7. Emami, M. H. Rahnnavard, H. Abiri, "Optimization of Periodic gratings for DFB & DBR Lasers", Iranian Conf. on Elect. Eng. (ICEE), pp 1-10, May 1994 (in Farsi)

8. M. H. Rahnnavard, M. Mosallai, H. Abiri " Exact numerical Solution of Helmholtz equation in dielectric gratings with arbitrary profiles", ANTEM 94 Conf., Ottawa, pp 687-680, 1994

9. H. Abiri, A. Bakhtazad and H. H. Rahnnavard " Some Improvements in Exodus Method Applied to the Solution of Laplace's equation", ANTEM 94 Conf. Ottawa, Canada, pp 499-502, 1994.

10. H. Abiri, A. Bakhtazad, M. H. Rahnnavard "Optimum Bandpass Optical Filter Synthesis Using Periodic Corrugated Waveguides with  $\pi/2$  Phase Shifts", 2nd Iranian Conf., on Elect. Eng. (ICEE), pp 214-223, May 94.

11. H. Abiri, A. Bakhtazad, M. H. Rahnnavard "Perturbation Feedback Method for Paralled Dielectric Rectangular Directional Coupler", ANTEM 94, Ottawa, Canada, pp 651-654, 1994.

12. M. Hatami, M. H. Rahnnavard, H. Abiri, "Large signal analysis of high power klystrons" International Congress on Computational Methods in Eng., Shiraz, IRAN, pp 71-78, May 93, (in Farsi).

13. Y. Ghaffari, H. Abiri, A. Bakhtazad "Full Wave Analysis of Dielectric Waveguides Using a Two Dimensional array of three Dimensional TLM nodes" ICEE 95 Conf., Tehran, pp 58-66, May 95.

14. A. Bakhtazad, M. H. Rahnnavard, H. Abiri, "Modified WKB Method for Determining the Propagation Characteristics of Nonlinear Planar Optical Waveguides" ICEE 95 Conf., Tehran, pp 95-102, May 1995.

15. H. Abiri, A. Bakhtazad and M. H. Rahnnavard "Weighted index method for non linear rectangular dielectric waveguides", Photonics in Computing II Conf., Fort Collins, Colorado, pp. 137-147. June 1995.

16. H. Abiri, A. Bakhtazad and M. H. Rahnnavard "Efficient use of approximate analytical techniques in the analysis of dielectric waveguides", ICEE 96 Conf., Tehran, pp. 147-201, May 1996.

17. A. Bakhtazad, H. Abiri, and R. Ghayour "Development of a two dimensional Green's function for coupled mode theory", ICEE 96 Conf., Tehran, pp 210-217, May 1996.

18. A. Bakhtazad, H. Abiri, and R. Ghayour, "Two Dimensional Coupled Mode Theory for Periodically Perturbed Rectangular Dielectric Waveguides" ICEE 97 Conf., Tehran, pp 6-8 to 6-15, May 1997.

19. V. Honarvar, H. Abiri "Antenna far field determination using near field amplitude and phase retrieval", ICEE 96 Conf., Tehran pp 85-92, May 96 (in Farsi)

20. Y. Ghaffari, H. Abiri and M. H. Rahnnavard, "Analysis of Cylindrical Type Microwave Cavities by TLM Method", ICEE 93 Conf., Tehran, pp 28-38, May 93 (in Farsi).

21. A. Bakhtazad and H. Abiri "A General Semi- Vectorial Coupled Mode Analysis of Directional Slab Waveguides", ICEE 98 Conf., Tehran pp II-13-18, May 1998.
22. H. Abiri, A. Bakhtazad "Extended Coupled Mode Theory for Grating Assisted Co-Directional Couplers" ICEE 99 Conf., Tehran pp 23-30, May 1999
23. H. Mossllaei, H. Abiri, M. H. Rahnavaad, M. Zomorodi "Solution of Helmholtz's Equation in Multi-Layered Dielectric Waveguide with Periodic Surface Corrugation" Spie Conf., Vol 3611 pp 248-255, San Jose, U.S.A., Jan 1999.
24. H. Abiri, F. Emami, A. Bakhtazad, M. H. Rahnavaad "Effect of index tapering in characteristics of DFB and DBR lasers" Spie Conf., Vol 3625 pp 756-763, San Jose, U.S.A., Jan 1999.
25. H. Abiri, S. Farzanah, A. Bakhtazad, M. H. Rahnavaad "Optimization of First and Second Order Trapezoidal Gratings Used in DFB and DBR Lasers" Spie Conf., Vol 3944 pp 853-861, San Jose, U.S.A., Jan 2000.
26. H. Abiri, S. Farzanah, A. Bakhtazad, M. H. Rahnavaad "Optimization of Tapering Profile in IC- DFB and DBR Lasers" Spie Conf., Vol 3944 pp 862-873, San Jose, U.S.A., Jan 2000.
26. H. Abiri, M. A. Masnadi Shirazi, S. Erfan "Performance of IFM Receiver With Simultaneous Signal Detection Capabiliy" ICEE 2000 Conf., Comm Proc., pp 47-54, Isfahan, Iran, May 2000.
27. S. Samadi, M. A. Masnadi Shirazi, H. Abiri "A new Spotlight Sar Processor" ICEE 2000 Conf., Comm Proc., pp 98-104, Isfahan, Iran, May 2000.
28. N. Parhizgar, H. Abiri, A. Sheikhi, S. Samadi, F. Zarshenas "Design of Digital Signal Processor Board for an MTI Radar", ICEE 2001 Conf., Elect. Proc., pp , Isfahan, Iran, May 2001 (in Farsi)
29. A. Moradi, M. A. Masnadi-Shirazi, H. Abiri "A New Configuration for Adaptive Time Delay Estimation and Direction of Arrival" ICEE 2001 Conf., Comm Proc., pp 6-1, 6-8, Isfahan, Iran, May 2001.
30. M. Nasiri, A. Cheldavi, H. Abiri, M. M. Danaei "Measurement and Modeling of Aperture Effects on the Reduction of Shielding Effectiveness" ICEE 2002 Conf., Comm. Proc., pp 162-169, Tabriz Univ., Iran, May 2002. (in Farsi)
31. A. A. Bakhshayesh, M. A. Masnadi Shirazi, H. Abiri "Design and Simulation of an Adaptive DFE based Receiver for Digital Underwater Communication" ICEE 2002 Conf., Comm. Proc., pp 306-313, Tabriz Univ., Iran, May 2002. (in Farsi)
32. H. Keyvani, H. Abiri, R. Ghayour "Design of N Channel Optical Multiplexers Based on Multimode Interference Couplers" ICEE 2002 Conf., Comm. Proc., pp 471-478, Tabriz Univ., Iran, May 2002. (in Farsi)
33. H. Keyvani, H. Abiri "ICEE 2003 Conf., Comm. Proc., pp , Shiraz Univ. , Iran, May 2003. (in Farsi)
34. H. keyvani, H. Abiri "Investigation of the phase shifts at the MMI couler output used in N channel optical Multiplexer" ICEE 2003 Conf., Comm. Proc., pp 532-539 Shiraz Univ., Iran, May 2003. (In Farsi)
35. F. Bashashi, A. Sheikhi, H. Abiri "Fast Manoevering target Tracking in phased array radars by Alpha-Beta Filters" ICEE 2003 Conf., Comm. Proc., pp 30-37, Shiraz Univ., Iran, May 2003. (in Farsi)
36. A. A. Bakhshayesh, H. Abiri "A Model for Shallow water Digital acoustic Channel Communications", ICEE 2003 Conf., Comm. Proc., pp 138-145, Shiraz Univ., Iran, May 2003 (in Farsi)
37. V. KAvoosi, H. Abiri, M. Karimi "Power Control with Space Diversity in Uplink WCDMA Cellular Systems" ICEE Conf., Comm. Proc., pp 625-633, Shiraz Univ., Iran, May 2003.
38. M. R. HajHashemi, H. Abiri "A Buried-Feed Sierpinski Double-Gasket Patch Antenna For Wide and Multi-Band Communications", ICEE Conf., Comm. Proc., pp 304-308, Mashhad, Iran, May 2004.
39. M. Fazaelifar, H. Abiri, A. Cheldavi, A. Mallahzadeh, "Comparison of Microstrip Discontinuities Using Quasi-Static and SCN-TLM Methods", ICEE Conf., Comm. Proc., pp 391-397, Mashhad, Iran, May 2004.
40. Ali R. Attar, Abbas Sheikhi, Habibollah Abiri, Ali Zamani "Modulation and Protocol Recognition in Communication Systems". Comm. Sys., Networks, And Digital Sig. Proc. (CSNDSP 2004) Conf. Proc., pp 136-143, Univ. of Newcastle upon Tyne, U.K, July 2004.
41. H. Abiri, A. Haghdel "Band gap increasing in Photonic Crystals by Gradual Variation of the Dimensins", pp 219-224, 11<sup>th</sup> Annual Conf. On Optics & Photonics, Shahid Beheshti Univ. Tehran, Iran, Feb. 2005. (In Farsi)
42. H. Keyvani, H. Abiri, R. Ghayour, H. Hadidi, O. Mahdiar "Three Dimensional Full Vectorial Analysis Of Conical Dielectric Waveguides And Comparison" pp 271-276, comm. proc., ICEE 2005, May 2005, Zanjan, Iran (In Farsi)
43. M. Mahzoon, H. Abiri, R. Ghayour "Finite Element Analysis of Band Structure in Photonic Crystals".

- pp 543-548, comm. Proc.(vol. 2), ICEE 2005, May 2005, Zanjan , Iran.
- 44.M.Ekhtiari, F.Mohajeri , H.Abiri "Analysis and solution of Wave Equation in Directional Couplers Consisting of Parallel Chiral Waveguides" ,pp677-681,Int.,Symp. On Telecom.(IST2005),Sept. 2005,Shiraz, Iran.
45. M.R.Haji-Hashemi, H.Abiri "A comparative Study of Some Spase-Filling Microstrip Patch Antennas".pp274-277,IEEE Int. Workshop on Ant. Tech.(IWAT)small antennas novel Materials,,March 2005,Singapore.
- 46.M.Jalilvand , H.Abiri "Echo Area of an aircraft model using GTD-EC method" EUROCON2005, Belgrade, Nov.2005,PP 852-855.
47. H.Abiri, A,Haghdel, M, Mahzoon " Tapering of one and two dimensional photonic crystals and applications" ICEE 2006, Tehran, Iran (in Farsi)
- 48.M.Yazdjerdi, M.H.Sheikhi , H. Abiri "Numerical Analysis of a NEMS- Actuated Photonic Crystal Switch" First Nano Tech . Conf. in south of the Country ,,2007 Shiraz, Iran.
49. F.Bashashi,A.Sheikhi, H.Abiri "Comparison of Kakman and Optim.Kalata const. Coeff. Filter In trcking of high Manoevering targets in Phased array Radars",ICEE 15 Conf., PP71-76,May 2007 ,Tehran , Iran.(in Farsi)
- 50.M.Moshiri , H.Abiri ,A.A.Dasranj "Design and simulation of a wideband Dual polarized conical double ridged horn antenna"PIERS proceedings ,Moscow Russia , Aug. 2009,PP652-656
51. R.Basiri,H.Abiri,F.Mohajeri"Modeling of planar waveguides and directional couplers in presence of BI materials using TLM method"ICEE conf.,comm.. proc., pp17-29 ,May 2009 ,Tehran Iran (in Farsi)
- 52.A.H.Gheisari, E.Farjah, H.Abiri"An electrothermal model for investigation of harmonic effects produced by power electronic devices on protection elements" 6<sup>th</sup> CPE 2009 conf., pp 18-22,,Badajoz,Spain, May 2009.

## **Book**

H.Abiri,M.H.Rahnavard,M.Tavakoli.,H.Kalhor,M.K.Moaveni " Antennas: Analysis And Design"  
Shiraz University Press, 1994 (In Farsi)