

PUBLICATIONS

Books

1. L. C. Shen, J. A. Kong, **A. Patnaik**, Engineering Electromagnetics, Cengage Learning, ISBN 978-0-534-94722-4. (Adopted India Edition).

Book Chapters

1. Chapter 33: Neural Networks for Antennas, Book: **Modern Antenna Handbook**, Edited by C. A. Balanis, Authors: Christos Christodoulou, **Amalendu Patnaik** (WILEY, 2008, Volume: ISBN978-0-470-03634-1, Pages: 1625 - 1657)

Refereed Journal Publications

1. B. Choudhury, O. P. Acharya, **A. Patnaik**, "Bacteria Foraging Optimization in Antenna Engineering: An Application to Array Fault Finding," Accepted for publication in *Int. J. of RF and Microwave Computer Aided Engineering (Wiley)*.
2. B. Choudhury, O. P. Acharya, **A. Patnaik**, "Fault Finding in Antenna Array using Bacteria Foraging Optimization Technique," *Journal of Communication and Computer*, vol. 9, pp. 345-349, 2012.
3. S. K. Jain, A. Patnaik, S. N. Sinha, "Design of custom-made stacked patch antennas – A machine learning approach," *Int. J. of Machine Learning and Cybernetics (Springer)*, DOI 10.1007/s 13042-012-0084-x, March 2012.
4. Anuradha, **A. Patnaik**, S. N. Sinha, "Design of Custom-made Fractal Multiband Antennas using ANN-PSO," *IEEE Antennas and Propagation Magazine*, vol. 53, no. 4, pp. 94-101, August 2011.
5. A. Arya, **A. Patnaik**, M. V. Kartikeyan, "Microstrip Patch Antenna with Skew-F Shaped DGS for Dual Band Operation," *Progress In Electromagnetics Research (PIER-M)*, vol. 19, pp. 147-160, 2011.
6. O. P. Acharya, **A. Patnaik**, S. N. Sinha, "Null Steering in Failed Antenna Arrays", *Applied Computational Intelligence and Soft Computing (Hindawi)*, vol. 2011, Article ID 692197, doi: 10.1155/2011/692197., 2011.
7. A.K.Arya, **A. Patnaik**, M.V.Kartikeyan, "Back To Back Combined Single Feed Proximity Coupled Antenna with DGS", *Journal of Electromagnetic Analysis and Applications*, vol. 3, pp. 43-46, 2011.

8. A. K. Arya, M. V. Kartikeyan, **A. Patnaik**: Defected Ground Structure in the perspective of Microstrip Antennas: A Review,” *Frequenz: Journal of RF-Engineering and Telecommunications*, vol. 64, No. 5-6, pp. 70-84, 2010.
9. **A. Patnaik**, B. Choudhury, P. Pradhan, R. K. Mishra, C. Christodoulou: “An ANN Application for Fault Finding in Antenna Arrays,” *IEEE Trans. on Antennas and Propagation*, vol. 55, no. 3, pp. 775 – 777, Mar. 2007.
10. **A. Patnaik**, D. Anagnostou, C. G. Christodoulou, J. C. Lyke: “Neurocomputational Analysis of a Multiband Reconfigurable Planar Antenna,” *IEEE Trans. on Antennas and Propagation*, vol. 53, no. 11, pp. 3453 – 3458, Nov. 2005.
11. **A. Patnaik**, D. Anagnostou, C. G. Christodoulou, J. C. Lyke: “Modeling Frequency Reconfigurable Antenna Array Using Neural Networks,” *Microwave and Optical Technology Letters*, vol. 44, no. 4, pp. 351-354, Feb. 2005.
12. **A. Patnaik**, D. Anagnostou, R. K. Mishra, C. G. Christodoulou, J. C. Lyke: “Applications of Neural Networks in Wireless Communications,” *IEEE Antennas and Propagation Magazine*, vol. 46, no. 3, pp. 130-137, June 2004.
13. **A. Patnaik**: “Neural Network Application to Avoid Singularities in Numerical Integration,” *International Journal of System Modeling and Simulation*, (Special issue on Advancement in Algorithms), vol. 2, no. 1, pp. 7-11, Jan. 2004.
14. R. K. Mishra, **A. Patnaik** “Designing Rectangular Patch Antenna Using the Neurospectral Method,” *IEEE Trans. on Antennas & Propagation*, vol. 51, no. 8, pp., 1914-1921, August – 2003.
15. **A. Patnaik**, R. K. Mishra: “ANN Techniques in Microwave Engineering,” *IEEE Microwave Magazine*, vol. 1, no. 1, pp. 55-60, 2000.
16. R. K. Mishra, **A. Patnaik**: “Neurospectral Computation for Input Impedence of Rectangular Microstrip Antenna,” *Electronics Letters*, vol. 35, no. 20, pp. 1691-1693, 1999.
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18. R. K. Mishra, G. K. Patra, **A. Patnaik**, S. K. Dash: "New Method for Calculating the Input Impedance of Rectangular Patch Antenna," *Defence Science Journal*, vol. 48, no. 4, pp. 417-421, 1998.
19. R. K. Mishra, **A. Patnaik**: "Neural Network Based CAD Model for Design of Square Patch Antenna," *IEEE Trans. on Antennas & Propagation*, vol. 46, no. 12, pp. 1890-1891, 1998.
20. R. K. Mishra, **A. Patnaik**: "Design of Circular Microstrip Antenna using Neural Network," *IETE Journal of Research*, vol. 44, no. 1 & 2, pp. 35-39, 1998. (**IETE J C Bose Memorial Award**)

21. S. K. Dash, **A. Patnaik**, G. K. Patra, R. K. Mishra: "Patch Antenna in Isotropic Plasma: Resonant Frequency," *Defence Science Journal*, vol. 47, no. 3, pp. 395-399, July 1997.
22. **A. Patnaik**, R. K. Mishra, G. K. Patra, S. K. Dash: "An Artificial Neural Network Model for Effective Dielectric Constant of Microstrip Line," *IEEE Trans. on Antennas & Propagation*, vol. 45, no. 11, pp. 1697, 1997.

Conference Publications

1. **A. Patnaik**, G. K. Patra, R. K. Mishra, S. K. Dash: "Neurocomputation of Microstrip Line Effective Dielectric Constant," Proc. of Antenna & Propagation Symposium (APSYM - 96), PP. 1-4, 1996, Cochin, India.
2. S. K. Dash, **A. Patnaik**, R. K. Mishra: "Resonant Frequency of Plasma Embedded Rectangular Microstrip Antenna," Frontiers of Radio Science Proceedings, pp. XII-19-21, INCURSI-96, Calcutta.
3. **A. Patnaik**, G. K. Patra, R. K. Mishra, S. K. Dash: "Effective Dielectric Constant of Microstrip Line using Neural Network," 1996 Asia-Pacific Microwave Conference (APMC-96) Proceedings, PP. 955-957, Delhi.
4. **A. Patnaik**, R. K. Mishra, S. K. Dash: "A CAD Model for Design of Square Patch Antenna using Neural Network," IETE Proceedings of the Zonal Seminar on Neural Networks, pp. 20-23, 1997, Vijayawada.
5. **A. Patnaik**, R. K. Mishra: "Circular Microstrip Antenna Design using Artificial Neural Network," Proceedings of Seminar-cum-Workshop on Conformal Antennas (SWCA '98), 1998, Berhampur.
6. R. K. Mishra, **A. Patnaik**: "Neurocomputational Analysis for Circular Patch Antenna for Resonant Frequency," Proceedings of INCURSI-99, pp. 44-46, 1999, Burdwan.
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9. R. K. Mishra, **A. Patnaik**: "Neurospectral Analysis of Coaxial Fed Rectangular Patch Antenna," Proceedings of 2000 IEEE Antennas and Propagation Society International Symposium, vol. 2, pp. 1062-1065, 16-21 July 2000, Salt Lake City, Utah.
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13. **A. Patnaik**: “A Multiband Reconfigurable antenna: An Experimental Study,” International Conference on Microwave, Antenna, Propagation and Remote Sensing (ICMARS-2004).
14. **A. Patnaik**, D. Anagnostou, C. G. Christodoulou: “Neurocomputational Analysis of a Frequency Reconfigurable Antenna,” Proceedings of International Conference on Antenna Technologies (ICAT 2005), pp. 59-63, 2005, Feb. 23-24, Ahmedabad.
15. **A. Patnaik**, D. Anagnostou, C. G. Christodoulou: “Neural Networks in Antenna Engineering – Beyond Black-box Modeling,” Proceedings of IEEE/ACES International Conference on Wireless Communication and Applied Computational Electromagnetics, pp. 598 – 601, 3-7 April 2005, Hawaii, USA.
16. **A. Patnaik**, C. G. Christodoulou: “Neurocomputational Analysis of a Frequency Reconfigurable Antenna,” XXVIIIth General Assembly of URSI Proceedings CD-ROM, New Delhi during 23-29 October, 2005. (**URSI Young Scientist Award**)
17. **A. Patnaik**, R. K. Mishra, R. Ghatak: “Element Failure Detection in Antenna Array Using Neural Networks,” XXVIIIth General Assembly of URSI Proceedings CD-ROM, New Delhi during 23-29 October, 2005.
18. R. Ghatak, R. K. Mishra, D. R. Poddar, **A. Patnaik**: “Multilayered Complimentary Quasi-fractal Sierpinski Patch Antenna For Wireless Terminals” XXVIIIth General Assembly of URSI Proceedings CD-ROM, New Delhi during 23-29 October, 2005.
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21. **A. Patnaik**, C. G. Christodoulou: “Finding Failed Element Positions in Linear Antenna Array Using Neural Networks,” 2006 IEEE Antennas & Propagation Symposium CD-ROM, Albuquerque, USA.
22. T. Panigrahi, R. S. Raju, **A. Patnaik**: “Simulation of Electron Beam Focussing System for TWT’s using FEM,” Proceedings of 3rd International Conference on Microwaves, Antennas, Propagation and Remote Sensing, 18-22 Dec. 2006 at Jodhpur, India.
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26. A. K. Arya, M. V. Kartikeyan, **A. Patnaik**: "Efficiency Enhancement of Microstrip Patch Antenna with Defected Ground Structure," Proc. of International Conference on Microwave – 08, pp. 729-731, 21-24, 2008, Jaipur, India.
27. Anuradha, **A. Patnaik**, S. N. Sinha: "An Investigation on E-shaped Fractal Like Patch Antenna," 2009 IEEE Antennas & Propagation Symposium CD-ROM, 1-5 June 2009, Charleston, SC, USA.
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32. Ashwini K. Arya, M.V.Kartikeyan, A. Patnaik, "Design studies on specific microstrip antennas with defected ground structure", Proceedings on IVSNS-09, CEERI-Pilani, India, 2009.
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37. O. P. Acharya, **A. Patnaik**, S. N. Sinha: "Interference Suppression in Antenna Array by Complex Weights Control using PSO," Indian Antenna Week, 31 May – 4 June 2010, Puri, India
38. Anuradha, **A. Patnaik**, S. N. Sinha: "Neurocomputational Analysis of Generalized Koch Fractal Antenna," Indian Antenna Week, 31 May – 4 June 2010, Puri, India.
39. Ashwini K. Arya, **A. Patnaik**, M.V.Kartikeyan, "On the size reduction of microstrip antennas with Defected Ground Structure", Proc. of 35th International Conference on Infrared, Millimeter, Terahertz Waves (IRMMW), 2010, Italy
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41. O. P. Achary, **A. Patnaik**, S. N. Sinha: "Null Steering in Failed Antenna Array," Proc. of National Conference on Communications (NCC 2011), 28-30 Jan. 2011, Bangalore.
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