

Publications List – Arogyaswami Paulraj

2 Books, 6 Edited Books/Proceedings, 18 Book Chapters, 143 Journal Papers, 298 Refereed Conference Papers and 63 Issued US Patents. Google H-Index 54

Books

1. A Paulraj, R. Nabar and D. Gore. *Introduction to Space-Time Wireless Communications*, Cambridge Univ. Press, May 2003. Reprinted Chinese Ed. 2004, Reprinted Russian Ed. 2007, Electronic Version 2008.
2. E. Biglieri, A. Constantinides, R. Calderbank, A. Goldsmith, A. Paulraj and V. Poor. *Introduction to MIMO Wireless*, Cambridge Univ. Press, Nov. 2006, Reprinted Japanese Ed. 2008.

Edited Books/Proceedings

1. Editors: V.U. Reddy and A. Paulraj. Proc. of Workshop on Signal Processing, Networking and Communication. Tata-McGraw Hill, Bombay, India, July 1990.
2. Editors: A. Paulraj and V.P. Bhatkar. Proc. of Parallel Computing Conf. (PARCOM). Tata McGraw Hill, Bombay, India, Dec. 1990.
3. Editors: A. Paulraj and M. Bajantri. Proc. International Conf. on Software Engineering. Tata-McGraw Hill, Bombay, India, Oct. 1991.
4. Editors: A. Paulraj, C. Schaper and V. Roychoudry. Communication, Control, Signal Processing and Computing. Kluwer, New York, Feb. 1997.
5. Editors: Blum, R.S., Bolcskei, H., Fitz, M.P., Hughes, B., A. Paulraj. Editors Special issue on MIMO Wireless Comm., Signal Processing, IEEE Trans. on, Vol: 51, Issue: 11, Nov 2003.
6. Editors: R. Mallik, M. Charaborthy, K. Zhang and G. Karagniaddis, A. Paulraj, Distributed Space-Time Systems, EURASIP Jour. Advances in Signal Proc., 2008.

Contributions in Books

1. A. Paulraj, B. Ottersten, R. Roy, L. Swindlehurst, G. Xu and T. Kailath. Subspace methods for array signal processing. Chapter in Handbook of Statistics, Signal Processing and it's Applications, Eds: C.R. Rao and N. Bose, Elsevier Press, 10:693-740, Dec. 1992.
2. A. Paulraj. Wireless local loop technology. Chapter in Annual Review of Communications, IEC Press, Chicago, 49:222-261, March 1995.
3. A. Paulraj. Diversity methods. Chapter in CRC Handbook on Mobile Communications, Ed. J. Gibson, CRC Press, 12:166-176, Dec. 1995.
4. A. Paulraj. Wireless local loop for developing countries - a technology perspective. Chapter in Worldwide Wireless Communications, Ed. F. Barnes, IEC Press, Chicago, Feb. 1996.
5. A. Paulraj. Diversity techniques. Chapter in CRC Handbook on Communications. Ed. J. Gibson, CRC Press, 11:213-223, Dec. 1996.

6. A. Paulraj., The evolution of mobile communications. In Communication, Control, Signal Processing and Computing, Editors: A. Paulraj, C. Schaper and V. Roychowdry, 141-154, Kluwer, New York, Feb. 1997.
7. A. Paulraj. Smart antenna technology - where does it work? Chapter in Annual Review of Communications, IEC Press, Chicago, 50:949-954, March 1997.
8. A. Paulraj, C. Papadias, V.U. Reddy and A. Van der Veen. A review of space-time signal processing for wireless communications, Chapter in Signal Processing for Wireless Communications. Ed. V. Poor, Prentice Hall, Dec. 1997.
9. A. Paulraj and C. Papadias. Array processing for mobile communications. Chapter in CRC Handbook on Signal Processing. Ed. M. Kaveh, CRC Press, 68.1-16, Dec. 1997.
10. A. Paulraj and J. Sorelius. CDMA for mobile communications. Chapter in Wiley Encyclopedia on Electrical and Electronics Engineering, Ed. J. Webster, Wiley, June 1998.
11. A. Paulraj and D. Gesbert. Smart antennas for mobile communications. Chapter in Wiley Encyclopedia on Electrical and Electronics Engineering, Ed. J. Webster, Wiley, June 1998.
12. A. Paulraj and H. Sampath. Space-time wireless (a.k.a.) smart antennas. Chapter in Managing Telecommunications and Networking Technologies in the 21st Century: Issues and Trends. Idea Group Publishing, Oct. 2001.
13. A. Paulraj. Diversity methods. Chapter in CRC Handbook on Mobile Communications, Edition 2. Ed. J. Gibson, CRC Press, April 2002.
14. A. Paulraj. Multiple Input Multiple Output (MIMO) Wireless. Chapter in CRC Handbook on Communications, Second Edition. Ed. J. Gibson, CRC Press, April 2002.
15. A. Paulraj. Diversity techniques. Chapter in CRC Handbook on Communications, Second Edition. Ed. J. Gibson, CRC Press, 16:1-19, Dec. 2002.
16. A. Paulraj and R. Nabar. MIMO Communications Systems Chapter in Wiley Encyclopedia on Telecommunications. Ed. J. Proakis. Jan. 2003.
17. S. Sandhu, R. U. Nabar, D. Gore and A. Paulraj. Introduction to space-time coding, in *The Applications of Space-time Adaptive Processing*, R. Klemm, ed., IEE UK, 2004.
18. A. Gorokhov, D. Gore and A. Paulraj. Antenna Subset Selection in MIMO Communication Systems. Chapter in Space-Time Processing for MIMO Communications, Ed. A. Gershman and N. Sidiropoulos, June 2005.

Archival Journal Articles

1. A. Paulraj and A. Mandal. Fast computation of ambiguity functions. Journal of the IETE 12(1):16-23, Jan. 1973.
2. PC George and A. Paulraj. Optimizing the design of an active sonar system Defense Science Journal, 35(3):295-311, July 1985.
3. A. Paulraj and T. Kailath. Eigen structure methods for direction of arrival estimation in the presence of unknown noise fields. IEEE Trans. on ASSP, 34(1):13-20, Feb. 1986.

4. A. Paulraj, R. Roy and T. Kailath. ESPRIT - A subspace rotation approach to signal parameter estimation. Proc. of the IEEE, 74(7): 1044-1045, July 1986.
5. R. Roy, A. Paulraj and T. Kailath. ESPRIT - A subspace rotation approach to estimation of parameters of cisoids in noise. IEEE Trans. on ASSP, 34(4):1340--1342, Oct. 1986.
6. A. Paulraj., V. U. Reddy and T. Kailath. Analysis of signal cancellation due to multipath in optimum beam formers for moving arrays. IEEE Trans. Oceanic Engineering, 12(1):163-172, Jan. 1987.
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9. A. Paulraj, VU Reddy and T. Kailath. Performance analysis of the optimum beamformer in the presence of correlated sources and its behavior under spatial smoothing. IEEE Trans. on ASSP, 35(7):927-936, July 1987.
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11. A. Paulraj, R. Roy and T. Kailath. Estimation of signal parameters via rotational invariance technique - ESPRIT. Journal of the Indian Institute of Science, 67(9-10): 341-350, Dec. 1987.
12. R.S. Patil, P.E. Nagaraj, P. Bhattacharya and A. Paulraj. Tactical air route planning - a graph theoretic approach, Journal of the IETE, 54:265-268, Oct. 1988.
13. A. Basu, S. Srinivas, K.G. Kumar and A. Paulraj. A model for performance prediction of message passing multiprocessors achieving concurrency by domain decomposition. Lecture Notes in Computer Science, Vol.457, pp.75-85, 1990.
14. A. Basu, S. Srinivas, K.G. Kumar and A. Paulraj. A model for performance prediction of message passing multiprocessors achieving concurrency by domain decomposition. IEE Trans. on Computer Eng., 71:19-23, Sep. 1990.
15. J. Boreddy and A. Paulraj. On performance of transputer arrays for dense linear systems. Parallel Computing, 15(1-3):107-117, Sep. 1990.
16. S. Srinivas, A. Basu, K.G. Kumar and A. Paulraj. Studies on the performance of a parallel iterative algorithm on transputer arrays. International Journal of High Speed Computing, 2(3): 265--287, Sep. 1990.
17. S. Srinivas, A. Basu, L.M. Patnaik and A. Paulraj. A pipelined ring algorithm for matrix multiplication on transputer networks: performance analysis and estimation. International Journal of Computer Systems Science and Engineering, 7(1): 42-51, Jan. 1992.
18. G.R. Rajugopal and A. Paulraj. Multi-channel all-digital PCM-ADM transcoder. IETE Technical Review, 9(3): 221-227, Sep. 1992.
19. V.Ch. Venkiah, V.V. Krishna and A. Paulraj. Householder transform in Cm. Digital Signal Processing, 3(4): 226-227, Oct. 1993.

20. B. Khalaj, A. Paulraj and T. Kailath. Defect inspection of periodic patterns with low-order distortions. *Proc. SPIE* 2183:13-19, Feb. 1994.
21. S. Talwar, M. Viberg and A. Paulraj. Blind estimation of multiple co-channel digital signals using an antenna array. *IEEE Signal Processing Letters*, 1(2):29-31, Feb. 1994.
22. Y. M. Cho, A. Paulraj, G. Xu and T. Kailath. A contribution to systematic lamp design in rapid thermal processing systems. *IEEE Trans. on Semiconductor Manufacturing*, 7(1): 34-41, Feb. 1994.
23. C.-Y. Chang, A. Paulraj and T. Kailath. A multiple access technique for cellular packet networks with admission control *Proc. Computer Science and Informatics*, 24(1):1-10, April 1994.
24. A. Paulraj. Personal communications services - a perspective. *IETE Technical Review*, 11(4):243-247, July-Aug. 1994.
25. V.Ch. Venkiah and A. Paulraj. Subspace rotation using modified Householder transform and projection matrices - robustness of DOA algorithms. *Signal Processing*, 36(1994): 91-98, Aug. 1994.
26. A. Naguib and A. Paulraj. Capacity improvement with base-station antennas arrays in cellular CDMA. *IEEE Vehicular Technology*, 43(3):691-698, Aug. 1994.
27. D. Gerlach and A. Paulraj. Adaptive transmitting antenna arrays with feedback. *IEEE Signal Processing Letters*, 1(10):150-152, Oct. 1994.
28. V.U. Reddy, V. G. Mathew and A. Paulraj. Some algorithms for Eigen subspace estimation. *Digital Signal Processing*, 5(2):97-115, April 1995.
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35. D. Gerlach and A. Paulraj. Base station transmitting antenna arrays for multipath environments. *EURASIP Jour. Signal Processing*, 54(1):59-73, Oct. 1996.
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41. V. U. Reddy, C. Papadias and A. Paulraj. Blind identifiability of certain classes of multipath channels from second-order statistics using antenna arrays. *IEEE Signal Processing Letters*, 4(5):138-141, May 1997.
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61. D. Gore and A. Paulraj. Optimal antenna selection in MIMO Systems with space-time block coding. In IEICE Trans. on Communications, Vol. E84-B, no. 7, 1713--1719, July 2001,
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