Wireless Systems

1. Prasanna Madhusudhanan, Juan Restrepo, Youjian (Eugene) Liu, Timothy Brown, Kenneth Baker "Modeling of Interference from Cooperative Cognitive Radios for Low Power Primary Users," *Global Telecommunications Conference, GLOBECOM 2010, IEEE,* Miami, December 7, 2010.
2. Prasanna Madhusudhanan, Juan G. Restrepo, Youjian (Eugene) Liu, Timothy X Brown and Kenneth Baker, "Generalized Carrier to Interference Ratio Analysis for the Shotgun Cellular System," submitted to IEEE Transactions on Wireless Communications, arXiv:1002.3943.
3. Rameshkrishnaa, G., Kenneth Baker, "An Experimental Study on Improving the Accuracy of Indoor User Positioning in CDMA," Conf. Proc. 20th Virginia Tech Symposium on Wireless Communications, June 2-4, 2010.
4. Kenneth R. Baker, editor for Chapter 8: "Indoor Coverage", of WCDMA (UMTS) Deployment Handbook, Christophe Chevallier, et. al., John Wiley & Sons, Ltd., ISBN: 0-470-03326-6, September 2006.
5. Randall Anderson, Brian Arend, Kenneth R. Baker, "Power Controlled Repeaters for Indoor CDMA Networks," Tech. Proc. WNCG 2003 Wireless Networking Symposium, Wireless Networking and Communications Group, Univ. of Texas, Austin TX, Oct. 2003.
6. Kenneth R. Baker, "Using Power Control to Improve Repeater Operation," Proc. 13th Wireless Communications Symposium, Mobile Portable Radio Group, Virginia Tech, Blacksburg VA, pp. 95-106, June 2003.

Dielectric Properties of Materials

7. Eva Marand, Kenneth R. Baker and Jack D. Graybeal, "Comparison of Reaction Mechanisms of Microwave Dielectric Properties and Infrared Spectroscopy," Macromolecules, Vol. 25, No. 8, pp. 2243-2252, April 1992.
8. Kenneth R. Baker and Jack D Graybeal, "Complex Dielectric Constant Measurement Using a Coaxial Transmission Line Probe," Polymer Preprints 32 (1), American Chemical Society, San Francisco CA, April 5-10, 1992.
9. Kenneth R. Baker, Eva Marand and Jack D. Graybeal, "Simultaneous Dielectric Constant Measurement and Sample Curing," Polymer Preprints 32 (1), American Chemical Society, San Francisco CA, April 5-10, 1992.
10. Eva Marand, Kenneth R. Baker and Jack D. Graybeal, "Dielectric Properties at Microwave Frequencies of Epoxy Undergoing Cure", Chapter 23 of *Radiation Effects on Polymers,* Roger L. Clough and Shalaby W. Shalaby, Editors, ACS Symposium Series 475, American Chemical Society, Washington D.C., 1991.
11. Eva Marand, Kenneth R. Baker and Jack D. Graybeal, "Dielectric Properties at Microwave Frequencies of Epoxy Undergoing Cure", Polymer Preprints 31 (2), 397, American Chemical Society, Washington D.C., August 26-31, 1990.

Propagation and Prediction

12. Roberto Vargas, Jr., Edward B. Victor, Kenneth R. Baker, “Polarization Diversity for Indoor Cellular and PCS CDMA Reception,” Proc. IEEE 47th Vehicular Technology Conference, Phoenix, pp. 1014-1018, May 1997.

13. Kenneth R. Baker, "On the WMC Density as an Inverse Gaussian Probability Density," IEEE Trans. Communications, Vol. 44, No. 1, p. 15-17, Jan. 1996.

14. Kenneth R. Baker, “Importance Sampling Simulation of Free-Space Optical APD PPM Receivers," Ph.D. Dissertation, E.E. Department, VPI&SU, May, 1993.

15. Kenneth R. Baker, Anthony W. Yu, Michael A. Krainak, "Direct-Detection Free-Space Optical Communications Link Using a 1 μm Wavelength Laser Diode Transmitter," IEEE Photonics Technology Letters, Vol. 5, No. 2, p. 260-262, Feb. 1993.

16. Michael Barts and Kenneth Baker, "Propagation Effects on LEOSAT Communications Links," *Small Satellite Technology and Applications 11,* Brian J. Horais, Editor, Proc. SPIE 1691, pp. 131-139 (1992).

17. Kenneth R. Baker and Timothy Pratt, "Earth-Space LEOSAT Communication Using Optical Frequencies," Proceedings of the Fifth AIAA/USU Conference on Small Satellites, Dr. Frank Redd, R. Gilbert Moore, Ed., August 1991.

18. Kenneth R. Baker, "Survey of Optical ISL Technology," internal NASDA report TK-E90071, August 7, 1990.

19. Charles W. Bostian and Kenneth R. Baker, "ACTS and OLYMPUS Propagation Experiments," *Proc. of the 12th NASA Propagation Experimenters Meeting,* (NAPEX XII), Syracuse, NY, June 1988. (Rep. No. 88-12)

20. Kenneth R. Baker, "Assessment of the Adequacy of USCGS Data Tapes for Transmitter Coverage Area Calculations," M.S. Thesis, E.E. Department, VPI&SU, March, 1987.

21. Kenneth R. Baker and Charles W. Bostian, "PC Automated Prediction of Transmitter Coverage Area Using Digital Topographic Terrain Data", 1987 International Symposium Digest, IEEE Antennas and Propagation Society, Vol. 1, pp. 24-27.

22. Kenneth R. Baker and Charles W. Bostian, "Assessment of the Adequacy of USCGS Data Tapes or Transmitter Coverage Area Calculations," Virginia Satellite Communications Group, Report EE SATCOM 86-6 to Naval Surface Weapons Center under contract N60921-83-GA165, 1986. (Rep. No. 86-6)

Measurement and Instrumentation

23. Kenneth R. Baker and Ronald Dziuba, "Automated NBS 1-Ω Measurement System", IEEE Trans. Instrumentation and Measurement, Vol. IM-32, No. 1, March 1983.

Wireless alarm systems operate on a variety of frequencies, including but not limited to 315, 505, 418, 433.92, and 868 MHz. They commonly emit several short data bursts at variable intervals over a period of several seconds. The signals can be encoded so as not to duplicate or interfere with other transmitters in the vicinity. Wireless alarm systems are useful for environments that do not have extensive steel or concrete with rebar. Interference is not always obvious until later. A wireless system is any collection of elements (or subsystems) that operate interdependently and use unguided electromagnetic-wave propagation to perform some specified function(s).Â In the most general sense, a wireless system is any collection of elements (or subsystems) that operate interdependently and use unguided electromagnetic-wave propagation to perform some specified function(s). Some examples of systems that fit this definition are. Wireless Communication Systems. This practically-oriented, all-inclusive guide covers all the major enabling techniques for. current and next-generation cellular communications and wireless networking systems. Technologies covered include CDMA, OFDM, UWB, turbo and LDPC coding, smart.Â video coders used in wireless systems. Richly illustrated with over 400 ï¬gures, and with a unique emphasis on practical and. state-of-the-art techniques in system design, rather than on the mathematical foundations Audio-Technica introduced its first wireless microphone system in 1989, and with subsequent systems quickly became an industry leader, equipping major worldwide touring productions, small meeting rooms, and stages and spaces of every size in between. UHF Wireless Systems. 5000 Series.Â The Audio-Technica fourth-generation 3000 Series wireless systems give you the power and flexibility to operate within the congested UHF spectrum. Wireless Systems For Your Business or Residence. A new generation of entrepreneurs â€“ and their businesses â€“ rely on wireless solutions to â€˜powerâ€™ the enterprise on a day to day basis. For that to work though the wireless technologies in use must be an integral part of a businessâ€™ overall networking solution. What is a Wireless Network for Enterprise?