

# Dr. Weifeng Su

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## Education

- **Ph. D. in Electrical Engineering** (August 2002), Department of Electrical and Computer Engineering, University of Delaware, Newark, DE, USA  
Dissertation: *Orthogonal Space-Time Block Codes for Wireless Communications*
- **Ph. D. in Applied Mathematics** (July 1999), Nankai University, Tianjin, China  
Dissertation: *Design and Analysis of Bi-Orthogonal Wavelets*
- **B.S. in Mathematics** (July 1994), Nankai University, Tianjin, China

## Experience

- **Assistant Professor** (03/2005 ---- present): Department of Electrical Engineering, State University of New York (SUNY) at Buffalo, NY

My current research projects diverge in several directions:

- Cooperative communications and networking for wireless networks
- Cross-layer design and optimization in wireless networks
- Space-time coding for MIMO (broadband) wireless communications
- Ultra-Wideband (UWB) wireless communications
- Optical wireless communications

- **Research Associate** (06/2002 ---- 03/2005): Department of Electrical and Computer Engineering, and Institute for Systems Research (ISR), University of Maryland, College Park, MD

I was leading a group to develop high-speed wireless universal serial bus (USB) by using emerging ultra-wideband transmission techniques. My research projects included: (1) Space-time coding and diversity techniques for MIMO (broadband) wireless communications; (2) Multi-antennas and multi-bands ultra-wideband (UWB) wireless communications; and (3) Performance analysis and protocol design for cooperative communications in mobile ad hoc networks (MANETs).

- **Research Assistant** (09/1999 ---- 05/2002): Department of Electrical and Computer Engineering, University of Delaware, Newark, DE

I was involved in three research projects: (1) Designs of orthogonal space-time block codes for MIMO wireless communications; (2) Analysis and design of precoding techniques for inter-symbol interference (ISI) channels; and (3) Filter-bank design for blind equalization.

- **Research Assistant** (09/1994 ---- 07/1999): Nankai University, Tianjin, China  
I participated in two research projects on Wavelet Analysis and Filterbank Design: (1) Design and analysis of bi-orthogonal wavelets; and (2) Analysis of the stability of the Fourier frames.
- **Co-Instructor**, ENEE 724: Space-Time Signal Processing, Spring 2003. Dept. of Electrical & Computer Engineering, University of Maryland, College Park, MD  
Co-designed (with Dr. Wang and Prof. Liu) the graduate-level course ENEE 724, which covers array processing, space-time signal processing, wireless channel characteristics and models, space-time coding and modulation techniques.
- **Guest Lecturer**, ELEG 867: Wireless Digital Communications, Spring 2002. Dept. of Electrical & Comp. Engineering, University of Delaware, Newark, DE  
Gave eight lectures on wireless channel modeling, space-time coding and antenna diversity for MIMO wireless communications in the course ELEG 867.

## Professional Activities

- Member of IEEE Information Theory Society, Communications Society
- Associate Editor, *IEEE Transactions on Vehicular Technology*, 10/2005 – present
- Associate Editor, *IEEE Signal Processing Letters*, 02/2007 -- present
- Guest Editor, *IEEE Journal on Selected Areas in Communications*, Special Issue on “Cooperative Communications and Networking”, February 2007
- Co-Chair, Symposium on MIMO Systems, *International Wireless Communications & Mobile Computing Conference*, Honolulu, Hawaii, August 12-16, 2007
- Co-Chair, Signal Processing for Communications Symposium, *16<sup>th</sup> International Conference on Computer Communications and Networks (ICCCN 2007)*, Honolulu, Hawaii, August 13-15, 2007
- Co-Chair, Symposium on MIMO Systems, *International Wireless Communications & Mobile Computing Conference*, Vancouver, Canada, July 3-6, 2006
- Session Chair, *IEEE Global Telecommunications Conference (GLOBECOM'07)*, Washington DC, Nov. 26 – 30, 2007
- Session Chair, *IEEE Global Telecommunications Conference (GLOBECOM'06)*, San Francisco, CA, Nov. 27 – Dec. 1, 2006
- Session Chair, *IEEE Wireless Communications and Networking Conference (WCNC)*, Las Vegas, NV, April 3-6, 2006
- Session Chair, *IEEE Wireless Communications and Networking Conference (WCNC)*, Atlanta, Georgia, March 23-25, 2004
- Session Chair, *IEEE International Conference on Multimedia & Expo (ICME)*, Baltimore, Maryland, July 6-9, 2003

- Technical Program Committee (TPC) member, *IEEE Global Telecommunications Conference (GLOBECOM'07)*, 2007
- NSF Review Panelist, National Science Foundation, Division of Electrical, Communications and Cyber Systems (ECCS), 2007
- Technical reviewer for IEEE journals:
  - *IEEE Transactions on Communications*
  - *IEEE Transactions on Information Theory*
  - *IEEE Transactions on Signal Processing*
  - *IEEE Transactions on Wireless communications*
  - *IEEE Transactions on Vehicular Technology*
  - *IEEE Signal Processing Letters*
  - *IEEE Communications Letters*
  - *IEEE Journal on Selected Areas in Communications*
- Technical reviewer for *EURASIP Journal on Applied Signal Processing*
- Technical reviewer for IEEE conferences:
  - *IEEE Global Telecommunications Conference (GLOBECOM)*
  - *IEEE International Conference on Communications (ICC)*
  - *IEEE Wireless Communications and Networking Conference (WCNC)*

## Awards and Honors

- Invention of the Year Award, “top one among 35 inventions in year’04 in information science”, University of Maryland, 2005.
- Signal Processing and Communications Faculty Award, "for the most outstanding graduation student in the field of signal processing and communications", ECE Department, University of Delaware, 2002.
- University Fellowship, University of Delaware, Sept. 2000 -- May 2001.
- Outstanding Graduate Student, Nankai University, 1994 and 1996.
- Outstanding Student Award, Nankai University, 1991.
- First Prize of China National Olympic Mathematics Competition, 1990. Due to this award, I was admitted to the Department of Mathematics at Nankai University in Sept. 1990 without the college entrance examination.

## Research Grants and Contracts

- Co-Principal Investigator, “*Collaborative Space-Time Communications for Distributed Mobile Ad Hoc Networks*”, (with PI K. J. Ray Liu), funded by U.S. Army Research Laboratory CTA program, \$100,000, 10/01/04--09/30/05.

- Co-Principal Investigator, “*Design High-Speed Wireless USB Using Emerging Ultra-Wideband Transmission Techniques*”, (with PI K. J. Ray Liu), awarded by Maryland Industrial Partnerships (MIPS) Program, \$77,778, 09/01/04--08/31/05. In this project, we collaborated with Maryland Semiconductor Inc. to develop high-speed wireless universal serial bus (USB) providing broadband connectivity at data rates of 55 to 480 megabits per second.

### **Book Chapters:**

- **Weifeng Su**, Z. Safar, and K. J. R. Liu, “Exploiting diversity in MIMO-OFDM systems for broadband wireless communications,” in Book “*WiMAX: Technologies, Performance Analysis, and QoS*”, Edited by S. Ahson and M. Ilyas, CRC Press, September 2007.
- W. P. Siriwongpairat, **Weifeng Su**, M. Olfat, and K. J. R. Liu, “Performance analysis of multi-antenna UWB wireless communications,” in book “*UWB Communication Systems - A Comprehensive Overview*”, Edited by Thomas Kaiser *et al*, Publisher: Hindawi, EURASIP book series, 2005.

### **Publications in Refereed Journals:**

#### **Space-Time Coding for MIMO Wireless Communications**

- 1 Weifeng Su, S. N. Batalama, and D. A. Pados, “On orthogonal space-time block codes and transceiver signal linearization,” *IEEE Communications Letters*, vol. 10, no. 2, pp.91-93, February 2006.
- 2 L. T. Younkins, Weifeng Su, and K. J. R. Liu, “On the robustness of space-time coding techniques based on a general space-time covariance model,” *IEEE Transactions on Vehicular Technology*, vol. 55, no. 1, pp.219-233, January 2006.
- 3 T. Himsoon, Weifeng Su, and K. J. R. Liu, “Differential unitary space-time signal design using matrix rotation structure,” *IEEE Signal Processing Letters*, vol. 12, no. 1, pp.45-48, January 2005.
- 4 Weifeng Su and X.-G. Xia, “Signal constellations for quasi-orthogonal space-time block codes with full diversity,” *IEEE Transactions on Information Theory*, vol. 50, no. 10, pp.2331-2347, October 2004.
- 5 Weifeng Su, Z. Safar, and K. J. R. Liu, “Diversity analysis of space-time modulation over time-correlated Rayleigh fading channels,” *IEEE Transactions on Information Theory*, vol. 50, no. 8, pp.1832-1839, August 2004.
- 6 Weifeng Su, X.-G. Xia, and K. J. R. Liu, “A systematic design of high-rate complex orthogonal space-time block codes,” *IEEE Communications Letters*, vol. 8, no. 6, pp.380-382, June 2004.
- 7 A. Song, G. Wang, Weifeng Su, X.-G. Xia, “Unitary space-time codes from Alamouti’s scheme with APSK,” *IEEE Transactions on Wireless Communications*, vol. 3, no. 6, pp.2374-2384, November 2004.

- 8 Weifeng Su and X.-G. Xia, "On space-time block codes from complex orthogonal designs," *Wireless Personal Communications (Springer)*, vol. 25, no. 1, pp.1-26, April 2003.
- 9 Weifeng Su and X.-G. Xia, "Two generalized complex orthogonal space-time block codes of rates  $7/11$  and  $3/5$  for 5 and 6 transmit antennas," *IEEE Transactions on Information Theory*, vol. 49, no. 1, pp.313-316, January 2003.
- 10 Weifeng Su, Z. Safar, and K. J. R. Liu, "Orthogonal space-time block codes with sphere packing," submitted to *IEEE Transactions on Information Theory*, April 2005.
- 11 R. Grover, Weifeng Su, D. A. Pados, "An  $8 \times 8$  quasi-orthogonal STBC form for transmissions over eight or four antennas," submitted to *IEEE Transactions on Wireless Communications*, in revision.

### **MIMO Broadband Wireless Communications**

- 12 T. Himsoon, Weifeng Su, and K. J. R. Liu, "Single-block differential transmit scheme for broadband wireless MIMO-OFDM systems," *IEEE Transactions on Signal Processing*, vol. 54, no. 9, pp.3305-3314, September 2006.
- 13 A. K. Sadek, Weifeng Su, and K. J. R. Liu, "Diversity analysis for frequency-selective MIMO-OFDM systems with general spatial and temporal correlation model," *IEEE Transactions on Communications*, vol. 54, no. 5, pp.878-888, May 2006.
- 14 Z. Safar, Weifeng Su, and K. J. R. Liu, "A fast sphere decoding algorithm for space-frequency codes," *EURASIP Journal on Applied Signal Processing*, vol. 2006, pp.1-14, 2006.
- 15 Weifeng Su and K. J. R. Liu, "Differential space-frequency modulations via smooth logical channel for broadband wireless communications," *IEEE Transactions on Communications*, vol. 53, no. 12, pp.2024-2028, Dec. 2005.
- 16 Weifeng Su, Z. Safar, and K. J. R. Liu, "Towards maximum achievable diversity in space, time and frequency: performance analysis and code design," *IEEE Trans. on Wireless Communications*, vol. 4, no. 4, pp.1847-1857, July 2005.
- 17 Weifeng Su, Z. Safar, and K. J. R. Liu, "Full-rate full-diversity space-frequency codes with optimum coding advantage," *IEEE Transactions on Information Theory*, vol. 51, no. 1, pp.229-249, January 2005.
- 18 Weifeng Su, Z. Safar, M. Olfat, and K. J. R. Liu, "Obtaining full-diversity space-frequency codes from space-time codes via mapping," *IEEE Transactions on Signal Processing (Special Issue on MIMO Wireless Communications Systems)*, vol. 51, no. 11, pp.2905-2916, November 2003.
- 19 A. K. Sadek, Weifeng Su, and K. J. R. Liu, "Transmit beamforming design for space-frequency coded MIMO-OFDM systems with spatial correlation feedback," *IEEE Transactions on Communications*, accepted for publication.

### **Wavelet Analysis and Filterbank Design**

- 20 X.-G. Xia, Weifeng Su and H. Liu, "Filterbank precoders for blind equalization: Polynomial ambiguity resistant precoders (PARP)," *IEEE Transactions on Circuits and Systems I: Fundamental Theory and Applications*, vol. 48, no. 2, pp.193-209, February 2001.
- 21 X. Zhou and Weifeng Su, "Zeros of a mask function and the orthogonality of the related scaling function," *Applied and Computational Harmonic Analysis: Wavelets and Time-Frequency Analysis*, vol. 9, no. 2, pp.120-127, Sept. 2000.
- 22 X. Zhou and Weifeng Su, "A criterion of orthogonality for a class of scaling functions," *Applied and Computational Harmonic Analysis: Wavelets and Time-Frequency Analysis*, vol. 8, no. 2, pp.197-202, March 2000.
- 23 Weifeng Su and X. Zhou, "A necessary and sufficient condition for the biorthogonality of scaling functions," *Acta Math. Application Sinica*, vol. 15, no. 2, pp.178-182, April 1999.
- 24 Weifeng Su and X. Zhou, "A sharper stability bound of Fourier frames," *Journal of Fourier Analysis and Applications*, vol. 5, no. 1, pp.67-71, January 1999.

### **Ultra-Wideband (UWB) Wireless Communications**

- 25 W. P. Siritwongpairat, Weifeng Su, and K. J. R. Liu, "Performance characterization of multiband UWB communication systems using Poisson cluster arriving fading paths," *IEEE Journal on Selected Areas in Communications*, vol. 24, no. 4, pp.745-751, April 2006.
- 26 W. P. Siritwongpairat, Weifeng Su, M. Olfat, and K. J. R. Liu, "Multiband-OFDM MIMO coding framework for UWB communication systems," *IEEE Transactions on Signal Processing*, vol. 54, no. 1, pp.214-224, January 2006.
- 27 W. P. Siritwongpairat, Weifeng Su, Z. Han, and K. J. R. Liu, "Coverage extension and power saving in UWB systems by employing cooperative diversity," submitted to *IEEE Transactions on Wireless Communications*, August 2006.

### **Cooperative Communications in Wireless Networks**

- 28 Weifeng Su, A. K. Sadek, and K. J. R. Liu, "Cooperative communication protocols in wireless networks: performance analysis and optimum power allocation," *Wireless Personal Communications (Springer)*, vol. 44, no. 2, pp.181-217, January 2008.
- 29 T. Himsoon, W. P. Siritwongpairat, Weifeng Su, and K. J. R. Liu, "Differential modulation with threshold-based decision combining for cooperative communications," *IEEE Transactions on Signal Processing*, vol. 55, no. 7, pp.3905-3923, July 2007.
- 30 K. G. Seddik, A. K. Sadek, Weifeng Su, and K. J. R. Liu, "Outage analysis and optimal power allocation for multi-node relay networks," *IEEE Signal Processing Letters*, vol. 14, no. 6, pp.377-380, June 2007.

- 31 A. K. Sadek, Weifeng Su, and K. J. R. Liu, "Multi-node cooperative communications in wireless networks," *IEEE Transactions on Signal Processing*, vol. 55, no. 1, pp.341-355, January 2007.
- 32 T. Himsoon, Weifeng Su, and K. J. R. Liu, "Differential transmission for amplify-and-forward cooperative communications," *IEEE Signal Processing Letters*, vol. 12, no. 9, pp.597-600, September 2005.
- 33 T. Himsoon, W. P. Siriwongpairat, Weifeng Su, and K. J. R. Liu, "Differential modulations for multi-node cooperative communications," *IEEE Transactions on Signal Processing*, accepted for publication.
- 34 A. S. Ibrahim, A. K. Sadek, Weifeng Su, and K. J. R. Liu, "Cooperative communications with relay-selection: when to cooperate and whom to cooperate with?" *IEEE Transactions on Wireless Communications*, accepted for publication.
- 35 Xin Liu and Weifeng Su, "On optimum selection relaying protocols in cooperative wireless networks," submitted to *IEEE Transactions on Communications*, in revision.

### **Publications in Conference Proceedings:**

- [1] Xin Liu and Weifeng Su, "BER performance analysis of the optimum ML receiver for decode-and-forward cooperative protocol," in *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'07)*, vol. 3, pp.485-488, Honolulu, Hawaii, April 15-20, 2007.
- [2] R. Grover, Weifeng Su, and D. A. Pados, "PEP-bound rotation angle optimization of 8-transmit-antenna quasi-orthogonal space-time block codes," in *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'07)*, vol. 3, pp.333-336, Honolulu, Hawaii, April 15-20, 2007.
- [3] Xin Liu and Weifeng Su, "Optimum selection relaying protocols in cooperative wireless networks," in *Proceedings of IEEE Global Telecommunications Conference*, WLC41-5, pp.1-5, San Francisco, CA, Nov. 27 - Dec. 1, 2006.
- [4] A. S. Ibrahim, A. K. Sadek, Weifeng Su, and K. J. R. Liu, "Relay selection in multi-node cooperative communications: when to cooperate and whom to cooperate with?" in *Proceedings of IEEE Global Telecommunications Conference*, SPC12-5, pp.1-5, San Francisco, CA, Nov. 27 - Dec. 1, 2006.
- [5] T. Himsoon, Weifeng Su, and K. J. R. Liu, "Differential modulation for multi-node amplify-and-forward wireless relay networks," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, vol. 2, pp.1195-1200, Las Vegas, NV, April 3-6, 2006.
- [6] T. Himsoon, W. P. Siriwongpairat, Weifeng Su, and K. J. R. Liu, "Decode-and-forward differential modulation scheme with threshold-based decision combining," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, vol. 2, pp.1189-1194, Las Vegas, NV, April 3-6, 2006.

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- [7] K. G. Seddik, A. K. Sadek, Weifeng Su, and K. J. R. Liu, "Outage analysis of multi-node amplify-and-forward relay networks," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, vol. 2, pp.1184-1188, Las Vegas, NV, April 3-6, 2006.
- [8] W. P. Siriwongpairat, T. Himsoon, Weifeng Su, and K. J. R. Liu, "Optimum threshold-selection relaying for decode-and-forward cooperation protocol," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, vol. 2, pp.1015-1020, Las Vegas, NV, April 3-6, 2006.
- [9] W. P. Siriwongpairat, Weifeng Su, Z. Han, and K. J. R. Liu, "Employing cooperative diversity for performance enhancement in UWB communication systems," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, vol. 4, pp.1854-1859, Las Vegas, NV, April 3-6, 2006.
- [10] W. P. Siriwongpairat, Weifeng Su, and K. J. R. Liu, "Multiband UWB system performance with random-clustering multipath-rich fading channels," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, vol. 2, pp.1074-1079, Las Vegas, NV, April 3-6, 2006.
- [11] A. K. Sadek, Weifeng Su, and K. J. R. Liu, "Clustered cooperative communications in wireless networks," in *Proceedings of IEEE Global Telecommunications Conference (GLOBECOM'05)*, vol. 3, pp.1157-1161, St. Louis, MO, Nov. 28 - Dec. 2, 2005.
- [12] A. S. Ibrahim, A. K. Sadek, Weifeng Su, and K. J. R. Liu, "Cooperative communications with channel state information: when to cooperate?," in *Proceedings of IEEE Global Telecommunications Conference*, vol. 5, pp.3068-3072, St. Louis, MO, Nov. 28 - Dec. 2, 2005.
- [13] T. Himsoon, Weifeng Su, and K. J. R. Liu, "Multiband differential modulation for UWB communication systems," in *Proceedings of IEEE Global Telecommunications Conference (GLOBECOM'05)*, vol. 6, pp.3789-3793, St. Louis, MO, Nov. 28 - Dec. 2, 2005.
- [14] W. P. Siriwongpairat, Weifeng Su, and K. J. R. Liu, "Characterizing performance of multiband UWB systems using Poisson cluster arriving fading paths," in *IEEE 6<sup>th</sup> Workshop on Signal Processing Advanced in Wireless Communications*, pp. 246-250, New York, NY, June 5-8, 2005.
- [15] A. K. Sadek, Weifeng Su, and K. J. R. Liu, "Eigen-selection approach for joint beamforming and space-frequency coding in MIMO-OFDM systems with spatial correlation feedback," in *IEEE 6<sup>th</sup> Workshop on Signal Processing Advanced in Wireless Communications*, pp.565-569, New York, NY, June 5-8, 2005.
- [16] A. K. Sadek, Weifeng Su, and K. J. R. Liu, "A class of cooperative communication protocols for multi-node wireless networks," in *IEEE 6<sup>th</sup> Workshop on Signal Processing Advanced in Wireless Communications*, pp.560-564, New York, NY, June 5-8, 2005.

- [17] Weifeng Su, A. K. Sadek, and K. J. R. Liu, "SER performance analysis and optimum power allocation for decode-and-forward cooperation protocol in wireless networks," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC'05)*, vol. 2, pp.984-989, New Orleans, LA, March 13-17, 2005.
- [18] T. Himsoon, Weifeng Su, and K. J. R. Liu, "Single-block differential transmit scheme for frequency-selective MIMO-OFDM systems," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC'05)*, vol. 1, pp.532-537, New Orleans, LA, March 13-17, 2005.
- [19] W. P. Siriwongpairat, Weifeng Su, M. Olfat, and K. J. R. Liu, "Space-time-frequency coded multi-band UWB communication systems," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC'05)*, vol. 1, pp.426-431, New Orleans, LA, March 13-17, 2005.
- [20] A. K. Sadek, Weifeng Su, and K. J. R. Liu, "Performance analysis for multi-node decode-and-forward relaying in collaborative wireless networks," in *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, vol. 3, pp.521-524, Philadelphia, PA, March 19-23, 2005.
- [21] Weifeng Su and K. J. R. Liu, "Differential space-frequency modulation for MIMO-OFDM systems via a "smooth" logical channel," in *Proceedings of IEEE Global Telecommunications Conference (GLOBECOM'04)*, Dallas, Texas, vol. 2, pp.913-917, Nov. 29 - Dec. 3, 2004.
- [22] A. K. Sadek, Weifeng Su, and K. J. R. Liu, "Maximum achievable diversity for arbitrary spatially correlated MIMO-OFDM systems," in *Proceedings of IEEE Global Telecommunications Conference (GLOBECOM'04)*, Dallas, Texas, vol. 4, pp.2664-2668, Nov. 29 - Dec. 3, 2004.
- [23] Z. Safar, Weifeng Su, and K. J. R. Liu, "A fast decoding framework for space-frequency block codes," in *Proceedings of IEEE International Conference on Communications (ICC)*, Paris, France, vol. 5, pp.2591-2595, June 20-24, 2004.
- [24] Weifeng Su, Z. Safar, and K. J. R. Liu, "Systematic design of space-frequency codes with full rates and full diversity," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, Atlanta, Georgia, vol. 3, pp.1436-1441, March 2004.
- [25] Weifeng Su, X.-G. Xia, and K. J. R. Liu, "Systematic design of complex orthogonal space-time block codes with high rates," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, Atlanta, Georgia, vol. 3, pp.1442-1445, March 2004.
- [26] L. T. Younkins, Weifeng Su, and K. J. R. Liu, "On the robustness of space-time coding for spatially and temporally correlated wireless channels," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, Atlanta, Georgia, vol. 1, pp.587-592, March 2004.
- [27] T. Himsoon, Weifeng Su, and K. J. R. Liu, "Matrix rotation based signal design for differential unitary space-time modulation," in *Proceedings of IEEE*

- Wireless Communications and Networking Conference (WCNC)*, vol. 3, pp.1446-1450, Mar. 2004.
- [28] L. T. Younkins, Weifeng Su, and K. J. R. Liu, "On the performance of orthogonal space-time block codes for spatially and temporally correlated wireless channels," in *Proceedings of IEEE Vehicular Technology Conference (VTC)*, vol. 1, pp.113-117, Milan, Italy, May 17-19, 2004.
- [29] Weifeng Su, Z. Safar, and K. J. R. Liu, "Diversity analysis of space-time-frequency coded broadband OFDM systems," in *Proceedings of 5<sup>th</sup> European Wireless Conference (EW2004)*, Barcelona, Spain, February 24-27, 2004.
- [30] Z. Safar, Weifeng Su, and K. J. R. Liu, "Fast sphere decoding of space-frequency block codes via nearest neighbor signal point search," in *Proceedings of 5<sup>th</sup> European Wireless Conference*, Barcelona, Spain, February, 2004.
- [31] G. Wang, Weifeng Su, and X.-G. Xia, "Orthogonal-like space-time coded CPM systems with fast modulation for three and four transmit antennas," in *Proceedings of IEEE Global Telecommunications Conference (GLOBECOM)*, vol. 6, pp.3321-3325, San Francisco, CA, December 1-5, 2003.
- [32] Weifeng Su, Z. Safar, and K. J. R. Liu, "Space-time signal design for time-correlated Rayleigh fading channels," in *Proceedings of IEEE International Conference on Communications (ICC)*, vol. 5, pp.3175-3179, May 2003.
- [33] Weifeng Su, Z. Safar, M. Olfat, and K. J. R. Liu, "Full diversity space-frequency codes for MIMO-OFDM systems," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, p.325, July 2003.
- [34] Z. Safar, Weifeng Su, and K. J. R. Liu, "Performance analysis of space-time modulation over time-correlated Rayleigh fading channels," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, p.240, July 2003.
- [35] A. Song, G. Wang, Weifeng Su, X.-G. Xia, "Unitary Alamouti code design from APSK signals with fast maximum-likelihood decoding algorithm," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, p.210, July 2003.
- [36] Weifeng Su, Z. Safar, M. Olfat, and K. J. R. Liu, "A full-diversity space-frequency code construction method for broadband OFDM systems," in *Proceedings of 2003 Conference on Information Sciences and Systems (CISS)*, The Johns Hopkins University, March 12-14, 2003.
- [37] Weifeng Su and X.-G. Xia, "Quasi-orthogonal space-time block codes with full diversity," in *Proceedings of IEEE Global Telecommunications Conference (GLOBECOM)*, vol. 2, pp.1098-1102, 2002.
- [38] Weifeng Su and X.-G. Xia, "A design of quasi-orthogonal space-time block codes with full diversity," in *Proceedings of 36th Asilomar Conference on Signals, Systems, and Computers*, vol. 2, pp.1112-1116, CA, November 2002.
- [39] Weifeng Su and X.-G. Xia, "Some orthogonal space-time code designs," in *Proceedings of SPIE*, Vol. 4474, San Diego, July 29-Aug. 3, 2001.

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*Current as of January 15, 2008.*