

Curriculum Vitae  
ARTHUR DAVID SNIDER  
(228-50-3531)

DEGREES: B.S. (mathematics), Mass. Institute of Technology, 1962  
M.A. (physics), Boston University, 1966  
Ph.D.(mathematics), New York University, 1971  
Registered Professional Engineer (electrical)

EMPLOYMENT:	Title	Employer	Date
	Professor Emeritus of EE	Univ. of So. Florida	1988-Present
	Associate Prof. of EE	"	1982-1988
	Affiliate Assoc. Prof. of Physics	"	1981-1984
	Associate Prof. of Math.	"	1976-1982
	Assistant Prof. of Math.	"	1970-1976
	Systems Analyst	Charles Draper Lab, MIT	1962-1968

OTHER PROFESSIONAL AND RELATED ACTIVITIES

Editorial Board, "Speculations in Science and Technology" 1992-present  
Editor, "Didactic Programming" (journal) 1978-1982  
IEEE Student Branch Counselor 1986-88, 1994-95  
SOUTHEASTCON 87 Executive Committee 1986-87, 1995-96  
Registration Chairman, I.C.A.S.S.P. 1985  
Short Course Lecturer, Amer. Soc. of Mech. Engineers 1980-82, 1988  
Short Course Lecturer, USF Microelectronics Short Course 1982-1985  
Secondary School Lecture Series 1979-present  
Director - USF Center for Math Services 1978  
Graduate Program Coordinator - USF Dept. of Elec. Eng. 1982-84, 1989-91  
Referee - Amer. Jnl. Phys., Jnl. Heat Transfer, Jnl. App. Mech., NSF Grant  
Proposals, Int. Conf. On Parallel Proc., IEEE Trans AASP, IEEE Trans  
Electr Dev, Applied Mech Rev., Num. Heat Trans., Int. Jnl.Heat Mass  
Trans., Heat Trans. Eng., Mic. Opt. Tech. Lett., IEEE Trans. Mag., IEEE  
Trans. Educ., AIAA Jnl. Thermophysics and Heat Transfer  
Reviewer - IEEE Press

AREAS OF SPECIALIZATION

Mathematical Modeling in Physics and Engineering, Numerical Analysis,  
Differential Equations, Optimization.

HONORS, AWARDS, BIOGRAPHIES

Recipient, IEEE Centennial Service Medal, 2000.  
Director, USF Outstanding Dissertation, 1996 (M. Calvo), 1988 (D.  
Levinson)  
IEEE Outstanding Engineering Educator Award, Florida, 1995  
USF Teaching Incentive Program Award, 1995  
USF Jerome Krivanek Distinguished Teacher Award, 1989  
USF Excellence in Undergraduate Teaching Award, 1988  
IEEE Outstanding Branch Counselor, 1988  
Invited Lecturer: Amer. Soc. for Engineering Education National Meeting  
(June, 1981).  
Invited Lecturer: American Soc. Mech. Engineers Design Engineering  
Conference (March, 1980).  
Invited Lecturer: Math Assn. Amer. Sectional Meetings (March, 1974),  
(March, 1977).

PROFESSIONAL ORGANIZATIONS AND OFFICES

IEEE, SIAM, ASEE, ILAS

#### MAJOR CIVIC AND PUBLIC SERVICE ACTIVITIES

Artistic Director, Masque Theater Company, (2000-01)  
Member, Board of Directors, Boyd Theater. (1994)  
Math Coordinator, Minority Engineering Program (1992-94)

#### UNIVERSITY, COLLEGE, DEPARTMENTAL, OR SUS COUNCILS OR COMMITTEES

University Commencement Committee, Faculty Senate, USF Press, Video Task Force, General Education Council, and the following departmental or interdepartmental committees: Advisory, Engineering Calculus, Graduate, Library, Applied Mathematics, Computer Language, Travel, Graduate Assistantships, Merit Pay Criteria, New Appointments, Math Dept. Chairman Search, General Education Council, Electronic Thesis/Dissertation Comm., New Student Recruitment, Undergraduate curriculum

#### RECENT CONSULTING ACTIVITIES OR OTHER OUTSIDE EMPLOYMENT

Consultant; General Electric Medical Devices	2006
Consultant; Honeywell Aerospace Corporation.	1974-1982
Consultant; Florida Testing Labs.	1980
Consultant; Hillsborough County Museums of Science & Industry	1981
Consultant; Levine, Freedman, Hirsch & Levinson.	1981-83
Consultant; Sperry Corporation.	1984
Lecturer; General Electric Neutron Devices Plant	1987-88
Consultant; Florida Power & Light Corp.	1993-94
Consultant; Raytheon	2000-02

#### OTHER RELEVANT ACTIVITIES

Conducted seminars for the USF Honors program.  
Lectured for the honorary mathematics, physics, and psychology fraternities at USF.  
Lectured for the USF Focus program.  
Speaker, USF Speaker Service.  
Informal consultant - projects with physics, mathematics, engineering, medicine, astronomy, chemistry, biology, psychology departments.  
Participated and led seminars in system identification and mathematical modeling (EE), optimization (Civil), distribution theory (Math.), diffusion theory (Chem.), and approximation theory (Math.).  
Developed EE promotional video.

#### Teaching and Other Instructional Activities

##### Course Development and Maintenance:

Undergraduate: In 1973 I developed the engineering calculus sequence now known as MAC 3281 - 3284. Since that time I have continuously been involved with the development of the program. Additionally, I have designed the syllabus for the vector analysis course, MAS 4156. In 1975 I worked on incorporating the calculator into calculus classes (later abandoned), with E. Saff. I designed the senior course Technology and Society. In 1999 I directed and redesigned the Foundations of Engineers course for entering freshmen.  
In 2002 I created the course Light and the Arts: A Quantitative Approach (cited in "The Chief Engineer," 11/2/06

[http://www.chiefengineer.org/content/content\\_display.cfm/seqnumber\\_content/2697.htm](http://www.chiefengineer.org/content/content_display.cfm/seqnumber_content/2697.htm); Photonics Spectra Nov. 2006

<http://www.photonics.com/content/spectra/2006/November/peregrinations/84969.aspx>, Prism, Chronicle of Higher Education

Graduate: Together with my former colleague A. Price, I created and designed the graduate courses in numerical analysis (MAD 6407-8, MAD 6625, MAP 6375), optimization (MAP 5205, MAP 6206), and applied partial differential equations (MAP 5345). With E. Saff I developed the course in applied complex analysis (MAA 5405). Additionally, I was instrumental in leading the math department to incorporate new teaching aids, such as the EDU-calculator display and the Fourier Spectral Analyzer. In the EE department I revised the engineering analysis II-IV sequence and initiated the courses in numerical methods in electromagnetism and engineering analysis I and V. I designed the course Light and the Arts (featured in NSF website ([http://nsf.gov/news/news\\_summ.jsp?cntn\\_id=107990&org=NSF&from=news](http://nsf.gov/news/news_summ.jsp?cntn_id=107990&org=NSF&from=news)), Prism Dec. 2006 (<http://www.prism-magazine.org/>), Chronicle of Higher Education Nov 24, 2006 (<http://chronicle.com/weekly/v53/i14/14a02102.htm>), The Chief Engineer Nov 2006 ([http://www.chiefengineer.org/content/content\\_display.cfm/seqnumber\\_content/2697.htm](http://www.chiefengineer.org/content/content_display.cfm/seqnumber_content/2697.htm)), and Photonics Spectra Nov 2006 (<http://www.photonics.com/content/spectra/2006/November/peregrinations/84969.aspx>)).

#### Course Instruction (Undergraduate, Graduate):

I have taught nearly every undergraduate course in mathematics. Among the graduate math courses I have taught all of the differential equations, applied mathematics, numerical methods, and optimization courses; also I have taught calculus on manifolds, calculus of variations, abstract algebra, and graph theory. In EE I have taught graduate courses in engineering analysis, random process controls, electromagnetics, and solid state; and undergraduate courses in circuit theory, electromagnetism, logic design, electronics, semiconductor devices, and controls. Extracurricularly, I developed and taped a math-physics-circuits course sequence for a technician training program in the electrical power industry.

#### Graduate Student's Advisory Committees:

About 70 in Engineering (all branches), Mathematics, Physics, Chemistry, Marine Science, Education.

#### Graduate Students' Major Professor

M. V. Calvo (PhD, Electrical Engineering)  
A. Gecan (PhD, Electrical Engineering)  
D. P. Levinson (PhD., Math)  
A. D. Kraus (PhD., Eng. Sci.)  
J. Devine (Ph.D., Eng. Sci.)  
A.G. Kusmierczyk (Ph.D., Electrical Engineering)  
N. Gerges (PhD, ES)  
R. Chiu (M.S., Electrical Engineering)  
P. Becerra (M.S., Electrical Engineering)  
P.-C. Nguyen (M.S., Electrical Engineering)  
C. Henning (MS,EE)  
P. Winson (MS,EE)  
F. Carreras (Ph.D, EE)  
P. Nandavaram (M.S., EE)  
A. Fatayer (M.S., EE)

J. Johnson (Ph.D, EE)  
S. Kadamani (Ph.D., EE)  
S. Johnson (Ph.D., EE)  
A. Garcia-Lopez (Ph.D., EE)  
J. Nicodemus (M.S., EE)  
    Current  
L. Azam (Ph.D., EE)  
J. Obara (Ph.D., EE)

## RESEARCH AND CREATIVE ACTIVITIES

### Grants and Contracts

1. Fla. Testing Labs., "Feasibility Study of the Growth of Ground-Water Mounds," 1980. (\$5000)
2. Honeywell Aerospace Corp., "VMU Testing Procedures", 1980-82 (\$20,000)
3. USF Div. Sponsored Research, "Nonlinear Effects in Heat Exchanger Fin," 1983. (\$5000)
4. GTE Data Services, "Fundamental Limitations on Programming Productivity," 1987. (\$7500)
5. USF Center for Microelectronics Design and Test, "Accurate Temperature Calculations for Electromigration," 1988. (\$17000)
6. National Communications Forum, travel grant for NCF 1985, 86, and 88.
7. NSF, travel grants for CMBS conferences 1972, 1976, 1987; expenses for short course 1979.
8. USF Div. Sponsored Research, travel grants for International Heat Transfer Conference (Munich, 1982), International Conference on Circuits and Systems (Beijing, 1985), International Conference on Circuits, Devices, and Systems (Maragarita, 1998),
9. Florida High Technology and Industry Council, "An Improved Semiconductor Process Simulator," 1987 (\$20000).
10. ASEE, expenses for Ga. Tech. short course in DSP, 1988 (\$1500).
11. Florida High Technology and Industry Council, "High Quality Gate Dielectrics for High Performance VHSIC Applications" (co-investigator with Y.L. Chiou), 1989 (\$61000).
12. Kollsman Industries, St. Petersburg, "Optimal Radar Detection," 1989 (\$9000 through USF Foundation).
13. Texas Instruments, Dallas, "A Nonlinear Model for GaAs Mixers," 1989 (\$30,000).
14. Texas Instruments, Dallas, "Backgate Incorporation in Charge-Conserving MESFET Models," 1990 (\$17,000)
15. USF Div. Sponsored Research, "Analysis of a Profoundly Corrugated Radiator," (\$6.845)
16. Florida High Technology and Industrial Council, "High Frequency/High Speed Precision Monolithic ICs," (with Henning, Dunleavy, Ko). (\$40,000)
17. Texas Instruments, "Incorporation of Backgate Effects in Nonlinear MESFET Model," 1996 (\$17000).
18. Texas Instruments, "Automation of MESFET Modeling Procedures," 1992 (\$17,000); 1993
19. NASA, Summer Bridge Program for entering minority engineering students, (with J. O'Shields) 1992-93.
20. Office of Naval Research, Support of the Research Activities of a Marine Engineering Institute at USF, 1994. (\$30,000)

21. E-Systems, ECI, St. Petersburg, FL, Design of Control Algorithm for Cancelling Narrowband Interference, 1995. (\$25,000).
22. Harris Semiconductor, Reduced Cycle Software Nonlinear Processor, 1997 (\$20,000).
23. Harris Semiconductor, Hardware Implementation for Nonlinear Processor, 1998 (\$35,900).
24. Harris/Intersil and I-4 Grant, Resampling at Intermediate Frequencies, 1999 (\$30,000).
25. Intersil and I-4 Grant, Resampling at Intermediate Frequencies (continuation), 2000 (\$30,000).
26. NSF, Light and the Arts: A Quantitative Approach, 2004 (\$91,000).

#### Presentations

##### Papers:

ISHM 88, Seattle (1988).  
 I.E.E.E. Meetings; Tampa, FL (1983); San Diego, CA (1984); Beijing, China, ICAS (1985).  
 Intern. Conf. Math. Model., Berkeley, CA (1985)  
 Am. Math. Soc. National Meetings; New York, N.Y. (1971); Las Vegas, Nev. (1972).  
 Math. Assn. America Sectional Meetings: Lakeland, Fl. (1971); Ocala, Fl (1972); Tampa, Fl (1975);  
 NSF-CBMS Conference: Houston, Texas (June 1976)  
 Southeast Conference, Graph Theory, Computers, and Combinatorics; Boca Raton, Fl (Apr. 1979).  
 NSF Short Course: Memphis, Tn. (March 1979)  
 Soc. Ind. Appl. Math. Sectional Meeting: Tallahassee, Fl. (Apr. 1979).  
 MAA minisectional meeting; Tampa, Fl. (Dec. 1980).  
 Heat Transfer meetings: ASME, Buffalo NY (Aug, 1984); Int. Elec. Pack. Soc., Cleveland, Ohio (Oct. 1981); Int. Heat Trans. Conf., Munich, Germany (Sept. 1982); ASME, Anaheim CA (Dec. 1986)  
 5th Conf. of the Int. Linear Algebra Soc., Atlanta, GA, 1995.  
 IEEE MTT-S Int. Microwave Symposium, 1995, Orlando, FL  
 Second Int. Conf. on ABS Methods, Beijing, China, 1995.  
 Second LCCDCS Conference, Margarita Island, 1998.  
 Constructive Functions Tech-04, Atlanta 2004  
 ASEE Southeast Conference, Tuscaloosa AL, 2006  
 ASEE National Conference, Chicago, 2006

##### Major Speeches

Math Assn. Amer. Sectional Meetings: Gainesville, FL (March 1974); Tampa, Fl (March 1977).  
 Amer. Soc. Engin. Educ. National Meeting: Los Angeles, Ca. (June 1981).

#### Publications: Books

1. **Introduction to Vector Analysis**, (with H. Davis), Quant Systems; 7th ed., 1994; Japanese edition, 1983; Spanish edition, 1992.
2. **Fundamentals of Complex Analysis for Mathematicians, Scientists, and Engineers** (with E. B. Saff), Prentice-Hall, Inc., 3rd ed. 2003.
3. **Fundamentals of Differential Equations and Boundary Value Problems** (with K. Nagle and E. B. Saff), Addison-Wesley, Inc., 6th ed. 2003.
4. **PDEs - Sources and Solutions**, Prentice-Hall, 1999; Dover Pub., 2006.

#### Publications: Referred Journal Articles and Published Proceedings

1. Linearization for Numerical Solution of the Reynolds Equation (with R. Coleman), Jnl. Lub. Tech. (Trans. ASME, sec. F), July 1969, (v. 91, No. 3) pp. 506-7.

2. A Simple Visualization of Nutation and Precession Phenomena, Amer. J. Physics, Nov., 1971 (v. 39) pp. 1385-6.
3. Correction to a Dimensional Perturbation Calculation of the Contraction Coefficient, Jnl. Comp. Physics., April 1972, (v. 9, No. 2) pp. 385-6.
4. A Problem-Oriented Undergraduate Numerical Analysis Course (with A. Price), Int. Jnl. Math. Ed. Sci. Tech., 1972, (v.3) pp. 301-4.
5. An Improved Estimate of the Accuracy of Trigonometric Interpolation, SIAM J. Numer. Anal., Sept. 1972, (v.9, No. 3) pp. 505-8.
6. Efficient Fourier Approximation Using Aliasing with Applications to "Certain" Stiff Differential Equations (with G. Fleming), Math. Comp., April, 1974, (v. 28, No. 126) pp. 465-473.
7. Numerical Applications of Reflection to Partial Differential Equations, Math. Comp., April, 1976, (v. 30, No. 134) pp. 220-240.
8. Error Analysis for Stiff System Procedure, Math. Comp., April 1976, (v. 30, No. 134) pp. 216-219.
9. Motivating Existence-Uniqueness Theory for Applications Oriented Students, Amer. Math. Mon., Dec., 1976, (v. 83, No. 10) pp. 805-807.
10. Calculation of Transients for Some Nonlinear Diffusion Phenomena (with D. Akins), Nonlinear Diffusion, Walker and Fitzgibbon, eds., Fearon-Pittman Pub., 1977, pp. 218-232.
11. Transient Analysis of Electrolytically Initiated Polymerization (with D. Akins and R. Birke), Jnl. Electroanal. Chem., 1977, (v. 79) pp. 31-47.
12. On the Definition of Analyticity, Int. Jnl. Math. Ed. Sci. Tech., 1978, (v. 9, No. 3), pp. 373-4.
13. Some Instructive Calculator Demonstrations of Iterative Equation Solvers, Didactic Prog., 1978 (v. 1).
14. Fibonacci Search, Didactic Prog., 1978 (v. 1).
15. Analysis of Arrays of Extended Surface (with A. D. Kraus and L. Doty), Jnl. Heat Transf., May 1978 (v. 100), pp. 288-293.
16. SIMPLEX-Gauss Elimination on the Calculator, Didactic Prog., 1978 (v. 1).
17. SR 56 - 3 Equations in 3 Unknowns, Didactic Prog., 1978 (v. 1).
18. A Note on the Existence of Many-Body Potentials, Amer. Jnl. Physics, June, 1978.
19. Some Mathematical Aspects of the Philosophy of Space, Florida Sci., 1979 (v. 42 No. 3), pp. 163-8.
20. A Graph Theoretical Algorithm for Evaluating Arrays of Extended Surface (with A. D. Kraus), Proc. 10th Ann. S. E. Conf. Graph Th., Comp., and Combinatorics, 1979.
21. A Note on Demonstrating Quadrature Accuracy (with G. Fleming), Did. Prog., 1979 (v. 1 No. 2)
22. Simulating Computer Precision (with M. Herbst), Did. Prog., 1979 (v. 1 No. 2)
23. Infinitesimal Rotations (with M. McWaters), Amer. Jnl. Physics, Mar. 1980.
24. New Parametrizations for Heat Transfer in Fins and Spines (with A. D. Kraus), Jnl. Heat Transf., Aug. 1980 (v.102), pp. 415-419.
25. The Calculator Evaluation of Transcendental Functions, Did. Prog., 1980 (v. 2 No. 2).
26. A Model for Diffusion-Limited Electrochemiluminescence (with D. Akins), Jnl. Comp. Chem., 1981, (v. 2 No. 4), pp. 368-375.
27. A Quick Derivation of the Lagrange Multiplier Technique, Int. Jnl. Math. Ed. Sci. Tech., 1981 (v. 12 No. 6), pp. 687-688.
28. A General Extended Surface Analysis Method (with A. D. Kraus), Jnl. Heat Transf., Nov. 1981 (v. 103), pp. 699-704.
29. Calculators in the classroom. 1981 ASEE Conf. Proc.
30. Correcting for the Variability of the Heat Transfer Coefficient in Extended Surface Analysis (with A. D. Kraus), Proc. 7th Int. Heat Transf. Conf., 1982.

31. The Reciprocity of Extended Surface and the Node Analysis of Finned Arrays (with A. D. Kraus), Proc. 7th Int. Heat Transfer Conf., 1982.
32. Observable Perihelion Precession in Central Field Simulators, Amer. Jnl. Physics, March, 1982 (v. 50, No. 3), pp. 258-260.
33. Mathematical Techniques in Extended Surface Analysis, Math. Mod., 1982 (v. 3), pp. 191-206.
34. Recent Developments in the Analysis and Design of Extended Surface (with A. D. Kraus), Jnl. Heat Transf., May 1983 (v. 105), pp. 302-6.
35. A Note on the Coulomb Gauge Condition in Magnetostatics, Amer. Jnl. Phys. 52(8), Aug. 1984, p.757)
36. Least Squares Estimation with Quantized Integrated Samples, SIAM Jnl. Sci. Stat. Comp., Dec. 1984.
37. Least Squares Estimation with Delta Modulated Integrated Signals, Math. Comp. Sim. XXVI, 1984, pp. 377-382.
38. Choking and Optimization of Extended Surfaces Arrays (with A. D.Kraus), Jnl. Heat Trans., vol. 7 # 4, Nov. 1985
39. Discretization of Distributed Sources on Distributed Networks, Advances in Circuits and Systems (Proc. 1985 China Int. Conf. Circ. Sys.)
40. An Exact Formula for the Effect of Resistor Geometry on Current Noise (with D. Levinson), IEEE Trans. Elec. Dev., vol. ED-33 #1, Jan. 1986.
41. A New Strategy for Heat Sink Design, Proc. Southeastcon 1986
42. Efficient Optimization of Certain Functionals on Hypercubes (with B. Likeness), Applied Numerical Math. v. 2, 1986, pp. 21-27.
43. The Optimal Fin Profile - A Study in Heuristics and Rigor, Math Modelling, 1987 (v. 8), pp. 480-485. (Also reprinted as Proc. 5th ICMM, Berkeley, 1985, Pergammon, N.Y.)
44. The Quest for the Optimal Longitudinal Fin Profile (with A.D.Kraus), Thermal/Mechanical Heat Exchanger Design, PVP-vol. 118, HTD-vol. 64, Amer. Soc. Mech. Eng., 1986. Reprinted in Heat Trans. Eng. v.8 #2, 1987, 19-25.
45. A Visualization of the Vector Potential, Proc. Southeastcon 1987
46. Analysis of a Cryogenically Supported Solenoid (with A.G.Kusmierczyk), Proc. Southeastcon 1987
47. Least Noise Trim Patterns for Laser Trimmed Resistors (with D.P.Levinson), Proc. Southeastcon 1987
48. Calculation of Extremely High Temperature Effects in Conductors Suffering Electromigration (with A.G. Kusmierczyk), Proc. ISHM 88, 1988.
49. Optimal Trim Patterns for Low Current Noise Resistors (with D.P.Levinson), Int. Jnl. Hyb. Microel., v. 11 # 4, pp. 77-80, 1989.
50. A Note on Ohmic Heating (with A. G. Kusmierczyk), Heat Trans. Eng. v. 11, 1990.
51. Optimal Fin Profiles - Ideal and Realistic (with A.G.Kusmierczyk, M. Rodriguez, and A.D.Kraus), Proc. 9th Intern. Heat Transf. Conf., 1990.
52. Voltage-Controlled Charge Source Simulation with Existing Software (with L.C. Henning and P. Winson), EESOF User's Group Meeting, Dallas, 1990; also Second Annual Florida Microelectronics Conference, Melbourne, 1990.
53. Extension of Classical EM Solutions to Nonhomogeneous Media with Sources, Proc. Southeastcon 1991.
54. Generalized Conditions for TE/TM Reductions in Electromagnetic Computations, IEEE Trans. Magnetics, 1613-1615, March 1993.
55. A New Method for Comparing Topographic Maps, Generating Exact p-values for any Number of Subjects and Electrodes (with W. Karniski and C. Blair), Brain Topography.
56. An Exact Statistical Method of Comparing Topographic Maps, with Any Number of Subjects and Electrodes (with W. Karniski and C. Blair), Brain Topography.
57. Mechanistic Interpretation of the Transcapacitance Element (with M. Calvo and P. Winson), Southeastcon 1993.

58. Equivalence of Permittivity/Permeability Conditions and Source Conditions for the Existence of TE or TM Waves in Nonhomogeneous, Sourced Media (with L. Dunleavy), Southeastcon 1993.
59. Generalized Conditions for the Existence of TE or TM Waves in Nonlinear, Anisotropic Media (with L. Dunleavy), Int. CEFC, 1994.
60. Charge Conservation and the Transcapacitance Element: An Exposition, IEEE Trans. Educ. v. 38 #4, 376-379, Nov. 1995.
61. Reply to Razelos' Commentary on the Optimal Fin Profile, Heat Trans. Eng., Nov. 1995.
62. Mathematical Analysis of the Length of Arc Assumption, Heat Trans. Eng. vol. 17 #2, 1996.
63. Partitioned Condition Numbers, submitted to Numer. Lin. Alg. App.
64. Numerical Conformal Mapping of a Pennant-Shaped Region onto a Rectangle (with P. Reinersman), submitted to Math. Probs. in Eng.
65. Rationale for the Camerini-Fratta-Maffioli Modified Subgradient Deflection and Its ABS Formulation (with A. Gecan), Proc. 2nd Int. Conf. On ABS Algorithms, Beijing, June 1995, pp. 57-66.
66. Resolving Capacitor Discrepancies Between Large and Small Signal FET Models (with M. Calvo and L. Dunleavy), Proc. 1995 IEEE MTT-S Int. Microwave Symp., 1995.
67. Resolution of Linear/Nonlinear Inconsistencies in Charge Conservative FET Models (with M. Calvo), Proc. SoutheastCon96.
68. Applications of a Generalized Dirichlet Principle to Transistor Modeling (with P. Winson), Proc. SoutheastCon96.
69. The Condition Numbers Arising in MESFET Parameter Extraction (with D. Levinson, L. Dunleavy, and F. D. King), Proc. SoutheastCon96.
70. Jammer Cancellation with Adaptive Arrays for GPS Signals (with P. Flikkema and A. Gecan), Proc. SoutheastCon96.
71. Resolution of Linear/Nonlinear Inconsistencies in Charge-Conservative FET Models (with M. V. Calvo), submitted to IEEE Trans. Elec. Dev.
72. A Generalized Dirichlet Principle for Smoothing Small Signal Measurements (with P. Winson), IEEE MTT Trans. 636-639, May 1999.
73. Condition Numbers for Parameter Extraction (with F. D. King, P. Winson, L. Dunleavy, and D. P. Levinson), IEEE MTT Trans. 1313-1314, Sept. 1998.
74. New Formulas for MESFET Elements with Improved Robustness (with M. V. Calvo), submitted to IEEE Trans. Elec. Dev.
75. Rationale for the Camerini-Fratta-Maffioli Modified Subgradient Deflection (with A. Gecan), submitted to Math. Optimization and Software
76. Three New Mathematical Techniques for Field Effect Transistor Modeling and Analysis, Proc. Second IEEE ICCDCS, Mar. 1998 (pp. 65-68).
77. Hardware Implementation of a Nonlinear Processor, (with V.K.Jain, S. Shrivastava, D. Damerow, and D. B. Chester), IEEE Int. Symp. Circ. Systems, May 1999.
78. Bias Dependent Small Signal Modeling of GaAs PIN Diodes, with A. Fejzuli, L. Dunleavy, and D. Allen, accepted Nov. 2000 for publication in Int'l Journal on RF and Microwave CAE, K.C. Gupta Ed., John Wiley & Sons.
79. Visualizing the Equivalence of the MSE, Max SNR, and MV Algorithms, submitted to Signal Processing Magazine.
80. Transverse Waves in Electromagnetics: A Survey with new generalizations, with J. OBara, Electromagnetics 123-141, April 2004, vol. 24 No. 3.
81. Quasi-TEM Waves and Static Potentials: The General Picture, with J. Gardner, accepted by IEEE Trans. Educ.
82. On the Remarkable Accuracy of the Quasistatic Approximation for Distributed Network Models, with J. Gardner, Electromagnetics, Oct. 2004, vol. 24 No. 7.
83. USFKAD: An Expert System for Partial Differential Equations, Computer Physics Communications v. 176, Issue 1, Pages 23-32 (1 January 2007)

84. High Dynamic Range Resampling for Software Radio (with L. Azam), Int. Jnl. Sig. Proc., World Enformatika Society, ISSN 1304-4478, 2006 vol. 3 # 3, pp. 171-176 (<http://www.enformatika.org/ijsp/current.html>).
85. The Optical Theorem and the Raleigh-Gans Power Shortage (with A. Garcia-Lopez), IEEE Trans. Antennas and Propagation, v.54 Issue 12, Dec. 2006, page 3840-5.

PUBLICATIONS: Technical Reports

- Atomic Energy Commission: Numerical Solution of Nonlinear Boundary Value Problems Using Reflection, AEC Report, NYO-1480-167, 1971; 101 pp.
- Honeywell Aerospace Corp.: Analysis of Existing Algorithms in Digikon (with A. Price), July 1974; 21 pp.
- Sperry Corp.: Analysis of OPTIMAC Subroutines, Aug. 1984
- Draper Lab, Mass, Inst. Of Technology:
1. Numerical Solution of  $Z'' + RZ' = S(Z,T)$  with Large Time Constants, TP#7466, April, 1963.
  2. Equation of Motion of Gyroscope, AN-181, July 1967.
  3. Current Loop in a Superconducting Cylinder, R-604, Feb., 1968.
  4. An Efficient Fourier Approximation for Numerical Analysis, AN-23, May, 1963.
  5. (Classified documents, pertaining to Gemini, Poseidon).
  6. Esystems, ECI Corp., St. Petersburg, FL Steepest Descent for Adaptive Array Cancellation of Jammers (with P. Flikkema)

USF Center for Mathematical Services:

1. Preliminary Study - VMU Testing Procedures, Feb., 1981; 36 pp.
2. Final Report - VMU Testing Procedures, Oct., 1981.
3. Preliminary Feasibility Study of the Growth of Ground-Water Mounds in Response to Recharge (with E. B. Saff), May 1980; 10 pp.
4. A Compendium on Rolling Motions with Applications to a Central Field Simulator, Aug., 1981 (CMS Tech. Rep. #81-1)
5. Parametrizations for Computer-Generated Visual Stimulation Patterns, April, 1982.
6. Analysis and Documentation of VMU Test Supervisory Program "ANALZR", December, 1982 (CMS Tech. Rep. # 82-3).
7. Analysis of a Cryogenically Suspended Solenoid (with M. LaChance), June, 1983.

Other Publications

- Lecture Notes - New Techniques in Extended Surface Analysis, ASME Professional Development Program