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ELECTRICAL & COMPUTER ENGINEERING
T E X A S   A & M   U N I V E R S I T Y

S E M I N A R

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New Graphical Simulation Tools for Root Locus Plots

by

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Abstract: A new computer-based plotting method for the Laplace transform is presented. This graphical approach demonstrates several numerical advantages over previous techniques, and lets designers visualize more fully the mathematical properties of the entire complex frequency domain. Moreover, pole and zero locations may be found graphically without any of the convergence issues commonly encountered with the iterative pole-zero analysis of simulation tools. Design of feedback systems with a complicated loci of roots in the Laplace domain can be aided with simple computational tools.

John Fattaruso received his B.S., M.S. and Ph.D. degrees at the University of California at Berkeley through 1986. In 1987 he joined the technical staff of Texas Instruments, Dallas TX, and served as an analog circuit designer in various research and product development groups until 2009. He has worked in the areas of Nyquist rate and oversampled data conversion, RF circuits, micropower audio systems, and high speed optical networking. Since 2011 he has taught at Southern Methodist University in Dallas as an adjunct Professor of Physics and Electrical Engineering.

Dr. Fattaruso is the author or co-author of 24 journal papers and conference presentations, and has received 34 patents in analog design.

He also served for five years on the analog program subcommittee of the ISSCC and as guest editor of the JSSC.