



TEXAS A&M UNIVERSITY
Department of Electrical Engineering
College Station, Texas 77843-3128
TEL (409) 845-7498 FAX (409) 845-7161
sanchez@ee.tamu.edu
<http://amsc.tamu.edu/>

S E M I N A R

Room 118 Civil Engineering

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Practical Usage of Fast Fourier Transform (FFT)

by

Burak Kelleci
Analog Mixed Signal Center
College Station, TX 77843-3128

Abstract: This presentation will focus on practical issues of using the Fourier Transform for circuit design. The circuit specifications require many tests, including noise and linearity characterization. These tests, which require analysis of the spectrum, need the Fourier transform. However, due to the discrete nature of circuit simulations, it is not possible to apply the continuous time Fourier Transform. Although discrete Fourier transform solves this problem, it requires careful selection of sample points and number of samples. Improper selection of these parameters results in numerical problems. Methods will be presented to obtain the spectrum with good accuracy in Cadence and Matlab. Practical examples will also be presented.

Burak Kelleci obtained his B.S. and M.Sc. in Electrical and Communication Engineering from Istanbul Technical University, Istanbul Turkey in 1998 and 2001 respectively. He joined ITU ETA foundation Asic Design Center as a design engineer in 1998. During his career in ETA he conducted on military and commercial digital and mixed-mode designs. In 2000 he joined Alcatel-Teletas Microelectronic Design Center. During his career in Alcatel he worked on VDSL and 802.11a. Since 2002 he has been working on Ph.D. degree in Analog and Mixed Signal Center (AMSC) Texas A&M University, College Station, Texas. During the summer 2004, he worked in System on Chip Group, Conexant and worked on high SINAD delta sigma audio DAC.

