Cairo University
Faculty of Engineering
Department of Electronics
and Communications Engineering
Giza Campus

SEMINAR

CLASS-D AMPLIFIERS: BASICS AND ONGOING PROJECTS

Prof. Dr. Edgar Sánchez – Sinencio

TI J. Kilby Chair Professor/Director of the Analog and Mixed-Signal Center, Texas A&M University

Thursday, *May* 17^{th} 2012

Abstract:

A brief discussion on what Class- D amplifiers are as well as the different types and applications are introduced. Then the low power amplifiers suitable for portable equipment are presented. In particular, Class-D amplifiers based on hysteretic sliding mode controller, which avoids using conventional triangular carrier signals. In this family we discuss the use of two- and three-level modulated signal. A recently Class-D published last July which besides having low-power has high PSRR based on integral sliding mode control is revisited. Final discussions on open problems on Class-D amplifiers are presented.

Edgar Sánchez-Sinencio (F'92, LF'09) was born in Mexico City, Mexico. He received the degree in communications and electronic engineering (Professional degree) from the National Polytechnic Institute of Mexico, Mexico City, the M.S.E.E. degree from Stanford University, Stanford, CA, and the Ph.D. degree from the University of Illinois at Champaign-Urbana, in 1966, 1970, and 1973, respectively. He has graduated 48 M.Sc. and 39 Ph.D. students, among them 8 Egyptian Ph. Ds. He is a co-author of six books on different topics, such as RF circuits, low-voltage low-power analog circuits, and neural networks. He is currently the TI J. Kilby Chair Professor and Director of the Analog and Mixed-Signal Center at Texas A&M University. His current interests are in the area of power management, ultra-low power analog circuits, data converters and medical electronics circuit design. He is a former Editor-in-Chief of IEEE Transactions on Circuits and Systems II and a former IEEE CAS Vice President–Publications. In November 1995 he was awarded a Honoris Causa Doctorate by the National Institute for Astrophysics, Optics and Electronics, Mexico. This degree was the first honorary degree awarded for microelectronic circuit-design contributions. He is a co-recipient of the 1995 Guillemin-Cauer Award for his work on cellular networks. He received the Texas Senate Proclamation # 373 for Outstanding Accomplishments in 1996. He was also the co-recipient of the 1997 Darlington Award for his work on high-frequency filters. He received the IEEE Circuits and Systems Society Golden Jubilee Medal in 1999. He is the recipient of the prestigious IEEE Circuits and Systems Society 2008 Technical Achievement Award. He was the IEEE Circuits and Systems Society's Representative to the IEEE Solid-State Circuits Society during 2000–2002. He was a member of the IEEE Solid-State Circuits Society Fellow Award Committee from 2002 to 2004. He is currently (2012-2013) a Distinguished Lecturer of the IEEE Circuit and Systems Society.

وذلك يوم الخميس ٢٠١٢/٥/١٧ الساعة الخامسة عصرا بمدرج همام (٨٢٠٨) بقسم الالكترونيات والاتصالات الكهربية