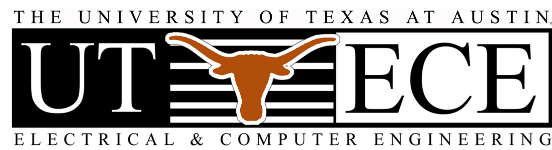

THE COMPUTER ENGINEERING RESEARCH CENTER

THE VLSI SEMINAR SERIES

Robert Baumann
Texas Instruments

The Impact of Single Event Effects on Advanced Digital Technologies

Abstract

Opening with an infamous real-world example where Single Event Effects (SEEs) caused an expensive customer problem for a large corporation, we will review the three primary radiation mechanisms responsible for SEEs in the terrestrial environment and how the transient charge disturbances caused by these events disrupts circuit operation. We will then consider how sensitivity to SEEs is changing with technology scaling, and will finish up with a discussion of the types of solutions process engineers, designers, and architects can use to mitigate this dominant reliability problem.

Biography

Robert Baumann is a Distinguished Member of the Technical Staff at Texas Instruments, where he is responsible for characterizing and mitigating radiation effects in advanced semiconductor technologies. His research interests include the impact of radiation effects on microelectronics reliability. Baumann has a BA in physics from Bowdoin College and a PhD in electrical engineering from Rice University. He is a Fellow of the IEEE.

Thursday, December, 7, 2006, ACES 2.402, 5 pm
Coffee and cookie will be served. For more information about the VLSI Seminar Series, please visit `http://www.cerc.utexas.edu/vlsi-seminar/`