



Effects of High Energy Radiation on semiconductor memories

Abstract:

Industry interest for the effects of high energy particles on semiconductor devices has greatly increased in the last years. It is no more confined to high energy Physics experiments, space and military applications but has enlarged to medical, industrial and even consumer market due to massive introduction of electronics in those applications, the increasing system complexity and criticism and quality demand. Semiconductor memories became one of the key component of modern electronic systems and they are quite sensitive to exposition to high energy particles. An overview of memory types and the problems coming from exposition to radiations will be given, looking at the promise of some emerging technology.

Speaker: Roberto Gastaldi received the MS degree in Electronic Engineering from the Politecnico of Milano, Italy in 1977 and in the same year he joined the Central R&D department of SGS-ATES (later STMicroelectronics) as a device engineer. In 1981 he joined the non-volatile memory department starting to design EPROMs and first EEPROMs. From 1993 to 1999 he lead EPROM products development and later he worked in early FLASH memory development. From 2000 to 2008 he served as design director of advanced memory products in Memory Products Group of STMicroelectronics working also on Phase Change Memory development. From 2008 to 2010 he served as a manager of Advanced Design Team at Numonyx and from 2010 to 2014 he was with Micron Semiconductor Italy in the Emerging Memory Dept of central R&D working on breakthrough memory technology and storage class memory architecture. He retired in Feb.2015 and presently collaborates with RedCat Devices s.r.l in the area of radiation-hardening memory design. Mr. Gastaldi is co-author of many papers and conference contributions on topics related to NVM design and holds 80 US granted patents on memory design. He is a member of IEEE.

The seminar will be **May 15th**, from **4 to 6 PM** in Aula seminari, floor D.



This seminar is co-sponsored by the IEEE Circuits and Systems Society and it is part of the IEEE CASS North Italy Chapter activity.