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Modelling and prediction of Single Event Transient and Single Event Upset

Frédéric Wrobel, Université de Montpellier

Abstract:

Neutrons, protons and ions are particles are able to trigger Single Event Upset in modern technologies. In this talk, we'll see how these particles can interact with the matter of the electronic device, create some electron-pairs in the semiconductor and how the resulting parasitic current can lead to an SEE. We will also present the key parameters that are required in order to evaluate the sensitivity of a given technology. The main quantities such as fluence, flux, cross section will be explained, and some case studies will be presented.

Short Bio:

Frédéric Wrobel defended his doctoral thesis on the issue of the reliability of electronic devices in 2002. He is now Full Professor at the University of Montpellier.

His main field of expertise is the radiation-matter interaction applied to the reliability of integrated electronic devices. He developed a Monte Carlo nuclear code that simulate the interaction of neutron and proton with matter. He also developed tools for predicting Single Event in electronic devices.

He is author and co-author of over 180 articles in journals and international conferences and has become a junior member of Institut Universitaire de France (IUF) in 2012.

Organizers: