

18th International School on the Effects of Radiation on Embedded Systems for Space Applications (SERESSA)

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SEE effects on VLSI devices: challenges and solutions

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Radiation effects on VLSI technology are provoked when radiation particles such as neutrons, protons or heavy ions hit a sensitive region of the integrated circuits. Due to the progressive technology scaling, VLSI devices are becoming, more and more vulnerable to Single Event Effects (SEEs) and are subject to cumulative ionizing damage known as Total Ionization Dose (TID). This talk will firstly describe the state-of-the-art methodologies used for analyzing the impact of radiation effects on modern FPGAs and ASICs by means of Computer Aided Design (CAD) tools and secondly, it will describe the state-of-the-art CAD design techniques for their mitigation.

Presenter: STERPONE, Luca