

"Why and How Pixels are becoming more and more intelligent (sensors-Part2): lecture 4"

Gian-Franco Dalla Betta

University of Trento and INFN, Trento, Italy

Abstract

Although most of the pixel intelligence is often found in the electronics, some important progress has been achieved in the sensors themselves, allowing for significant performance improvement.

This lecture will focus on the most interesting elements of novelty that have characterized pixel sensors in the past few years, with emphasis on the device and technological aspects. In particular, sensors exploiting the third dimension in silicon (i.e., 3D sensors and active edge sensors) and sensors with intrinsic signal amplification capabilities, based on avalanche multiplication (both in the linear and Geiger modes) will be addressed.