

Simulation and test of 3D silicon radiation detectors

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Abstract

The work presented here is the result of the collaborative effort between Glasgow, ITC-IRST (Trento) and IMB-CNM (Barcelona) in the framework of the RD50 Collaboration to produce 3D silicon radiation detectors and study their performance.

We will report on both sets of RD50 devices:

- 1) Simulation and electrical test of single type column 3D detectors fabricated by IRST and CNM. These devices have columnar electrodes of the same doping type, with the ohmic contact located at the backplane.
- 2) Simulation and processing results on the “double-sided” 3D detectors that will be fabricated at CNM. In these detectors the n/p holes are made from opposite sides of the device.