

## Advances in the Development of Pixel Detector for the SuperB Silicon Vertex Tracker

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The latest advances in the design and characterization of several pixel sensors developed to satisfy the very demanding requirements of the innermost layer of the SuperB Silicon Vertex Tracker will be presented in this paper.

The SuperB machine is an electron positron collider operating at the Y4S peak to be built in the very near future by the Cabibbo Lab consortium.

A pixel detector based on extremely thin, radiation hard devices able to cope with rate in the tens of MHz/cm<sup>2</sup> range will be the optimal solution for the upgrade of the inner layer of the SuperB tracking system.

At present several options with different levels of maturity are being investigated to understand advantages and potential issues of the different technologies:

thin hybrid pixels, Deep N-Well CMOS MAPS,

INMAPS CMOS MAPS featuring a quadruple well and high resistivity substrates and CMOS MAPS realized with Vertically Integration technology.

The newest results from beam test, the outcomes of the radiation damage studies and the laboratory characterization of the latest prototypes will be reported.

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