

## **Predictions for 3D detector operation in SuperLHC environment**

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The different constructions of silicon 3D detectors are analyzed and tabulated in terms of combinations of two simple elements: the p-n junction and the ohmic columns. In the p-n junction column two parts are recognized: a cylindrical one which radius increases with the bias, and a semi-spherical “dead” tip with a maximal electric field due to the focusing effect. This consideration allows analytical extrapolation of the detector critical parameters to its operation in the upgraded LHC facility.

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