

## Surface effects in double-sided silicon 3D sensors fabricated at FBK

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Surface effects were found to significantly affect the electrical characteristics of double-sided 3D detectors fabricated at FBK.

With reference to 3D test diodes, we have studied the layout dependence of some critical parameters such as leakage current, breakdown voltage and capacitance both experimentally and with the aid of TCAD simulations.

Simulations are found to accurately reproduce the device characteristics, thus explaining the basic mechanisms governing

the electrical behavior and providing useful hints for layout optimization.

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