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Latest results on RSD spatial and timing resolution

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In this contribution we present the latest results on spatial and timing resolution of Resistive AC-Coupled Silicon Detectors (RSD), produced by FBK in 2019. RSD are a new type of silicon detectors specifically designed for high precision 4D tracking. They are based on the LGAD technology, benefiting from its excellent timing performances, and can achieve a spatial resolution a factor 10 better than the one estimated in binary read-out ($\text{pixel size}/\sqrt{12}$), thanks to charge sharing maximization among pads. The results we will present have been obtained for the first time with a combined analysis of data coming from both extensive laser measurements performed in the Torino Innovative Silicon Detectors Laboratory and the last beam test performed at Fermilab with a 120 GeV/c proton beam.

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