

Towards an integrated, high-density Silicon strip measurement system

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Silicon strip detectors play a central role in applied nuclear physics thanks to the high channel density and almost 100% detection efficiency. In particular, double-sided silicon strip detector (DSSSD) enable very accurate 2D position sensing. Their principle of operation is straightforward, but the full exploitation of their potential requires many independent readout channels

In this work we explore the possibility to achieve a comprehensive and reliable multi-channel position sensing system using off-the-shelf Micron Semiconductor Ltd. Si detectors and CAEN readout electronics. This effort is to be intended as a proof of concept aiming at studying extremely integrated solutions that could be used in a variety of fields, including High-Energy Physics as well as Nuclear Security applications.

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