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[P04] The CLICTD monolithic CMOS sensor

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CLICTD is a monolithic pixel sensor fabricated in a modified 180 nm CMOS imaging process with a small collection electrode design and a high-resistivity epitaxial layer. It features an innovative sub-pixel segmentation scheme and is optimised for fast charge collection and high spatial resolution. The chip was developed to target the requirements for the tracking detector of the proposed future Compact Linear Collider CLIC. Most notably, a temporal resolution of a few nanoseconds and a spatial resolution below 7 microns are demanded. In this contribution, the chip performance measured in beam tests is presented with emphasis on recent studies using assemblies thinned down to 50 microns and inclined particle tracks.

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