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A 60 μ W front-end for 10 ps resolution monolithic pixel sensors in a 130nm SiGe BiCMOS process

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This paper introduces a monolithic sensor for detecting ionizing radiation, integrated in a fast and low noise SiGe Bi-CMOS process. The front-end is designed for enhanced timing and low power consumption. The aim is to achieve sub-10 picosecond timing resolution, a significant improvement over the previous prototype, which demonstrated a time resolution of 20 ps. This prototype has been developed in the framework of the MONOLITH H2020 ERC project.

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