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Timing performance of radiation hard MALTA monolithic Pixel sensors

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The MALTA family of DMAPS produced in Tower 180 nm CMOS technology target radiation hard applications for the HL-LHC and beyond. Several process modifications and front-end improvements have resulted in radiation hardness up to 2×10^{15} n/cm² and time resolution below 2 ns, with uniform charge collection efficiency across the Pixel of size $36.4 \times 36.4 \mu\text{m}^2$ with a $3 \mu\text{m}$ electrode size. The MALTA2 demonstrator produced in 2021 on high-resistivity epitaxial silicon and on Czochralski substrates implements a new cascoded front-end that reduces the RTS noise and has a higher gain. This contribution will show results from MALTA2 on timing resolution at the nanosecond level from the CERN SPS test-beam campaign of 2021.

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