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High precision 4D tracking with large pixel RSD coupled to the FAST3 ASIC

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This contribution will report the first beam test results obtained coupling 450-micron pixel RSD sensors with the FAST3 ASIC. The sensors are part of the RSD2 FBK production, and FAST3 is the latest ASIC developed at INFN Torino for the read-out of thin sensors with internal gain. The results, obtained at the DESY testbeam site using 5 GeV electrons, demonstrate the possibility of concurrently reaching a spatial resolution smaller than 5% of the pitch and a temporal resolution below 50 ps using large pixels: a necessary condition to reduce the power consumption of large systems.

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