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TIMEPIX in 65nm, further exploring the sub-ps timing regime.

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We update our sub-picosecond timing studies[1,2], which used a straw-man pixel detector (TIMEMPIX) in which timing information was used to substitute for micron spatial resolution, significantly reducing channel count and data volume. That study considered the 130nm CMOS technology node and we update and contrast the performance and power parameters in the 65nm CMOS technology node.

1. P. Orel, P. Niknejadi, G.S. Varner, "Exploratory study of a novel low occupancy vertex detector architecture based on high precision timing for high luminosity particle colliders," Nucl. Instr. Meth. A857 (2017) 31-41.
2. P. Orel, G.S. Varner, "Femtosecond Resolution Timing in Multi-GS/s Waveform Digitizing ASICs," IEEE Trans. Nucl. Sci. 64 (2017) 1950 - 1962.

Primary authors: VARNER, Gary (University of Hawai'i at Manoa); VARNER, Gary (University of Hawaii)

Presenters: VARNER, Gary (University of Hawai'i at Manoa); VARNER, Gary (University of Hawaii)

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