



ECFA DRD7.3 - 4D Techniques - Pre-identified Challenges for future detectors

 *Timing ASICs for low-jitter & highly deterministic Front-End and Back-End*


 *TSV for accurate distribution of global lines and data extraction*

 *high performance TDC and ADC blocks*


 *Methodology to Simulate Timing Determinism*


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 *Universal Time distribution in detectors*


 *System-level issues*

 *White Rabbit 2 Front-End*

 *Distributed clock filtering and re-phasing circuits*

 *Large dynamic range for energy*

 *In-chip high quality clock distribution techniques*

 *Fast front-end amplifiers and limited power budget*

 *Precise time calibration*