

# A picosecond sampling system for continuous sampling of ultra-short pulses generated by THz-detectors

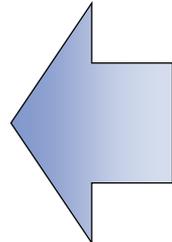
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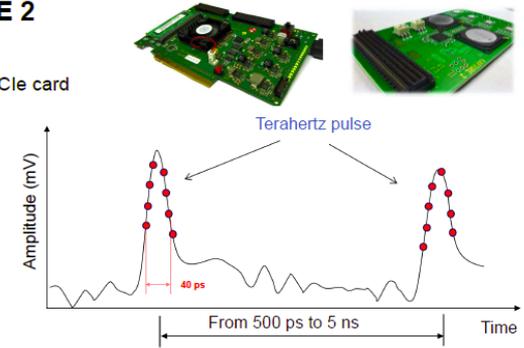
17.10.2019, ARD ST3 Annual Meeting @ GSI - Darmstadt



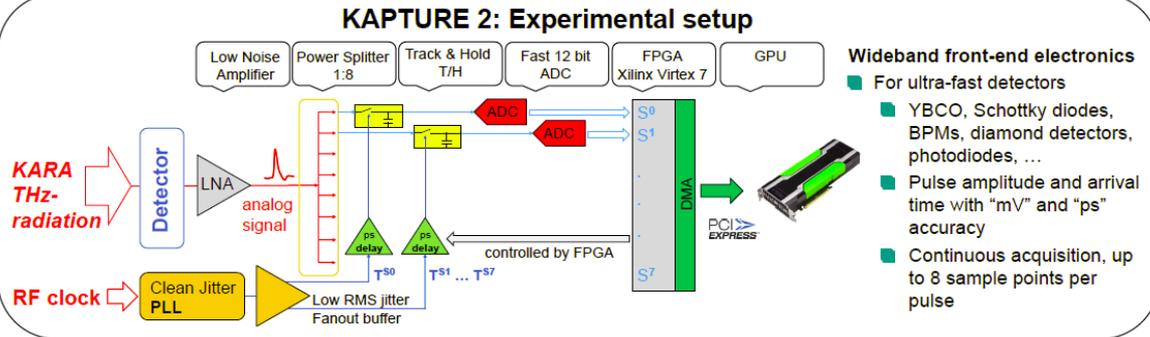
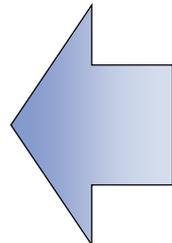
## KAPTURE 2 Features



- ### KAPTURE 2
- Up to 2 GHz pulse repetition rate [1]
  - Up to 8 sampling points (12 Bit ADC) per trigger
    - 2 x 4 channel KAPTURE 2 attached to HighFlex readout PCIe card
  - Continuous readout by PCIe, up to 52 Gb/s
  - 18 GHz analog bandwidth
  - 3 delay units
    - 330 ps global (6 steps)
    - 25 ps global (12 steps)
    - 3 ps individual (32 steps)
  - Supports two operation modes
    - Single shot amplitude detection of 8 detectors [2]
    - Pulse reconstruction with 8 points of single detector



## Experimental Setup: From Detector to data display with „mV“ and „ps“ accuracy



## KIT DirectGPU DMA Comparison to traditional DMA

