Fast Direct-Sampling Digitizer for RF Accelerator Diagnostics

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micro**TCA**
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DESY.

Coarse Bunch Arrival Time Monitor (CBAM)
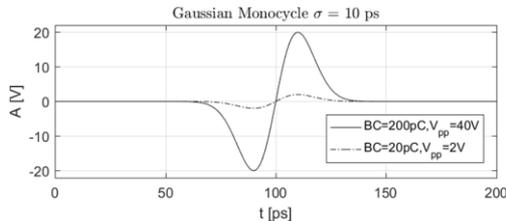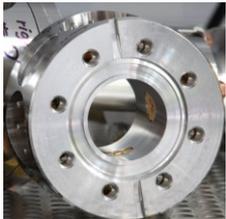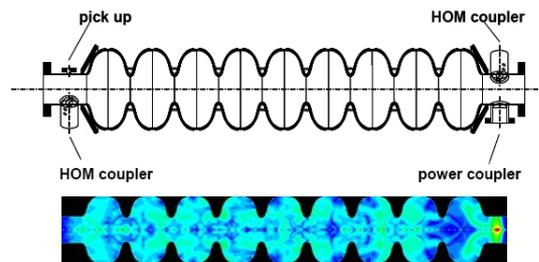

- it is time consuming to set up the high precision BAM system in FLASH or European-XFEL

IDEA:

- a cost optimized direct sampling system which

- roughly estimates the bunch arrival time (~ps precision) after the first shots

- estimated arrival time is used to tune the high precision BAM system automatically

Higher Order Mode Sampling (HOM1300)

- higher order modes (wakefields) are induced by the electron beam in accelerating cavities

- unwanted higher frequency energy is removed by two HOM couplers

IDEA:

- sampling of the HOM signals from the couplers

- extract information of cavity alignment or bunch arrival time from HOM signals