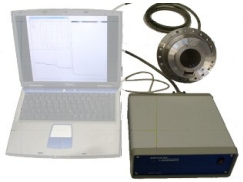
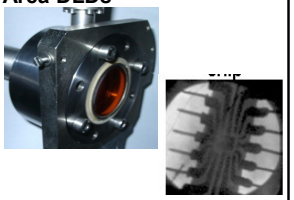
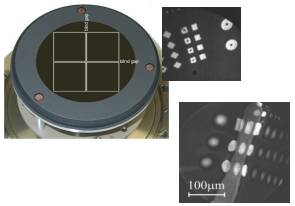
Sub-Nanoseconds Line- and Area-Detectors for Electrons, Ions, X-rays, and UV-light (1D, 2D, 3D)

Device	Detector Dimension	Active Areas, No. of Pixels	Range, Time Resolution*	Detection Rate	Data Format**	Transfer Rate (USB 2.0)	PC Readout
Line DLDs 	1D (x) / 2D (x,t)	18 mm – 70 mm max. Pixel: 2048 x 65535	- X-rays (6 keV – 50 keV) - UV-light (180nm – 400nm) - Electrons / Ions Time resolution - absolute: < 250 ps* - relative: < 100 ps*	10 Mhz, 30 2D-frames / s	- Histogram 1D, Images 2D - FPGA pre-calculated Data (custom specific programming)	> 25 MByte/ s guaranteed (max. 30 MByte/ s)	Windows DLL LabVIEW VI Interface
Area DLDs 	2D (x,y) / 3D (x,y,t)	Diameter of 18 mm – 120 mm max. Pixel: 8192 x 8192 x 4096	- X-rays (6 keV – 50 keV) - UV-light (180nm – 400nm) - Electrons / Ions Time resolution - absolute: < 250 ps* - relative: < 100 ps*	3 MHz, 10 3D-frames / s with 4096 time slices (max.)	- Histogram 1D, Images 2D, Image stacks in time 3D - FPGA pre-calculated Data (custom specific programming)	> 25 MByte/ s guaranteed (max. 30 MByte/ s)	Windows DLL LabVIEW VI Interface
4 Quadrant DLDs 	2D (x,y) / 3D (x,y,t) + Multi Hit	4 Quadrants with each 30 mm x 30 mm max. Pixel: 400 x 400 x 65535	- X-rays (6 keV – 50 keV) - UV-light (180nm – 400nm) - Electrons / Ions Time resolution - absolute: < 250 ps* - relative: < 100 ps*	>100 MHz Burst, 2 MHz average value 6 3D-frames / s with 4096 time slices (max.)	- Histogram 1D, Images 2D, Image stack in time 3D with multi hit resolution - FPGA pre-calculated Data (custom specific programming)	> 25 MByte/ s guaranteed (max. 30 MByte/ s)	Windows DLL LabVIEW VI Interface

* Optional available: time resolution with < 150 ps absolute and < 30 ps relative.

* *Surface Concept offers a custom specific FPGA programming for the pre-calculation of data to increase the effective transfer rate.

Our DLDs are so called "Delayline Detectors", designed for the use as stroboscopic ultra high speed camera systems for imaging time measurements with extreme small shutter speeds down to 7 ps, all possible shutter positions are open in parallel, no lossy duty cycle.

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