

X-RAY DETECTORS AT DESY

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Abstract

The European X-ray Free Electron Laser to be constructed in Hamburg, presents interesting challenges for the X-ray detectors. Every pulse of the XFEL represents an entire experiment of its own, partly because of sample degradation or destruction, and partly because of pulse to pulse fluctuations. Therefore, a maximum amount of data has to be collected in a single shot. This means first of all that photon counting detectors cannot be used, instead one has to construct integrating detectors, still with single photon sensitivity. Secondly, since the strength of the European XFEL is a very flexible pulse structure with high repetition rates, fast framing times down to 200 ns (5 MHz) are required. I will present some of the requirements imposed by the science cases foreseen at the European XFEL, and some of the possible solutions under consideration, both at DESY and at other places in the world.

**PAPER NOT
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