11th Beam Telescopes and Test Beams Workshop



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Type: Lecture

Experiments and detectors in photon science

Wednesday 19 April 2023 09:00 (45 minutes)

Synchrotron and Free Electron Laser facilities produce highly intense, focused X-ray beams suitable for a wide range of experiments studying the structure of objects down to the atomic scale, for example in molecular biology and materials science. Rapid improvements in beam brilliance at new facilities have enabled new experiments, but also placed high demands on detector performance. In particular, X-ray diffraction experiments have required pixel detectors with increasing speed, noise performance and dynamic range, with an evolution from pioneering hybrid pixel detectors such as Pilatus to newer projects such as AGIPD for FELs and CoRDIA for future light sources. In addition, there are some experiments where features of particle trackers, such as precision timestamping and triggering, are needed in photon science.

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