

Characterization of digital cameras based on photon transfer measurements

Area scan sensors (CCD or CMOS cameras) are widely used for beam profile measurements in particle beam diagnostics. They provide the full two-dimensional information about the beam distribution, allowing in principle to investigate shot-to-shot profile fluctuations at moderate repetition rates. In order to study the performance and to characterize these cameras, photon transfer is a widely applied popular and valuable testing methodology (see e.g. the EMVA 1288 standard). The idea of this project is to study the performance of several digital cameras based on signal-to-noise and photon transfer measurements which are in use for beam profile diagnostics at different DESY accelerators.

Field

B4: Research on Accelerators

DESY Place

Hamburg

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Special Qualifications:

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