**Lecture: Area detectors for SR experiments: Characteristics and Technology**

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Duration: 45'

**Abstract**: X-ray area detectors are now intensively used on synchrotron beamlines, not only in imaging and diffraction but also in several other experimental techniques as complement or as replacement of point detectors. However, defining an area detector system optimally matched to a given experiment often gives rise to difficulties in the proper specification of the detector characteristics as well as in the choice of the right detector technology. This lecture aims at giving some guidelines to succeed in this exercise. The lecture will start by introducing the parameters used to describe an X-ray area detector, how these can be measured and where the usual trade-offs are. It will then present various X-ray area detector technologies available for SR beamlines with some higlights on their respective advantages and drawbacks.