X-Ray Detectors for Synchrotron Applications SRI 2012 satellite workshop



Contribution ID: 51

Type: not specified

State of the art X-ray imaging cameras

Saturday, 7 July 2012 09:25 (25 minutes)

The indirect detection scheme is based on a converter screen, front-optics and an imaging camera. This lowcost and low-risk solution based on commercial components is used on all synchrotron radiation sources for beam visualization and beam movement monitoring, and intensively for imaging applications. The indirect detection systems require a compromise between these conflicting parameters: large field of view and spatial resolution; high stopping power and spatial resolution. Nowadays, off-the-shelf systems or components are widely spread within SR sources but have some limitations: DQE, resolution, speed, etc.

New indirect detection systems require higher DQE, faster cameras, higher image definition, better contrast and radiation resistance design. The detector developments are then focused on efficient scintillators, 16Mpixels optics, radiation-hard optics for pink beam and white beam, and the integration of fast-imaging cameras. An overview of the technology and the various components will be discussed. The properties performances and potential applications of the ESRF components and off-the-shelf systems will be described.

Primary author: Dr MARTIN, Thierry (ESRF)Presenter: Dr MARTIN, Thierry (ESRF)Session Classification: Indirect detection

Track Classification: Indirect detection