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Advances in X-Ray Technology

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Abstract

During the past few years advances both in X-Ray tube technology and in detector technology have been made and radioscopy expanded and was established in many new fields that require quality control or process optimisation.

First nanofocus tubes have become available with an approximate focus spot size of $1\mu\text{m}$. In the existing range of micro focus X-Ray tubes further improvements have been achieved as well, like increased long time stability of intensity and position constancy.

New types of X-Ray detectors have been integrated in radioscopy systems. For example fiber coupled systems with cooled area-scan or line-scan CCD-cameras. Also flat panel sensor with a high dynamic, both in CMOS and in amorphous silicon technology must be mentioned with their large variety of pixel pitch and numbers of pixels.

This presentation illustrates numerous examples and applications where new X-Ray components have been beneficially used.