Applications and New Developments in X-ray Materials Analysis

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One of the key modules in X-ray analysis is the detection system. Important developments based on photon counting pixel chips are under way, such as the MEDIPIX2 chip [1]. We will report on the technology transfer collaboration with CERN and the associated MEDIPIX collaboration. As preliminary results some first experiments revealing basic detector properties will be presented.

Furthermore, some examples of typical applications in X-ray Diffraction XRD will be shown and the expectations for later integration of pixel detectors discussed.

First experiments of these single chip MEDIPIX pixel detectors in XRD applications will be presented in order to give an impression of the big potential they offer.

Recently, a partner consortium is going to be established, the partners being IMEC and CANBERRA in Belgium and NIKHEF and PANalytical in the Netherlands. A new EUREKA detector project (RELAXD High REsolution Large Area X-ray Detector) has been initiated by the partners and approved by the ministery of economical affairs in NL for funding, (Figure 1). The aim is to make technologies available that lead to large area pixel detectors with minimized dead spaces and high-speed data read-out. The project will be explained.
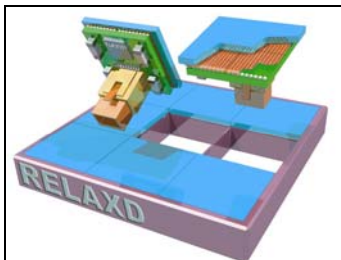

Figure 1: The new EUREKA project RELAXD

References

[*] PANalytical is a SPECTRIS company, formerly PHILIPS Analytical

[1] www.cern.ch/medipix