



Contribution ID: 13

Type: **not specified**

Advacam/Radalytica - Dual Arm Robotic System for NDT with single photon counting X-ray detectors

Monday, 23 April 2018 17:00 (10 minutes)

High resolution, online X-ray imaging of large objects with complex shapes is often challenging. We are presenting a robotic X-ray imaging system that, contrary to the classic X-ray imaging setups, gives nearly an absolute flexibility in the X-ray image positioning and viewing angles. Therefore, robots allow “looking” with X-rays from a different perspective to better localize defects. Moreover, robots open possibility of using 3D imaging techniques such as computed tomography or tomosynthesis of a selected area of a larger object.

The flexible robotic system is moreover combined X-ray photon counting imaging detectors produced by the Advacam company. The detectors are based on the Medipix technology and bring major advantages compared to the conventional X-ray imaging. The advantages are a high contrast, high resolution and spectral information. The spectral information allows identifying different materials in the sample further expanding possibilities of the system.

The robotic X-ray imaging system is particularly powerful for inspection of light materials such as composites. There, defects such as porosity, foreign objects, micro-cracks and other can be detected with spatial resolution of 55 μm or better. Combining the imager sensitivity and properties with the flexibility of robots creates a powerful tool for NDT in aerospace industry and elsewhere.

Presenters: GHITA, Mohamed (Advacam s.r.o.); KADERABEK, Richard (Radalytica s.r.o.)

Session Classification: Presentations with demos