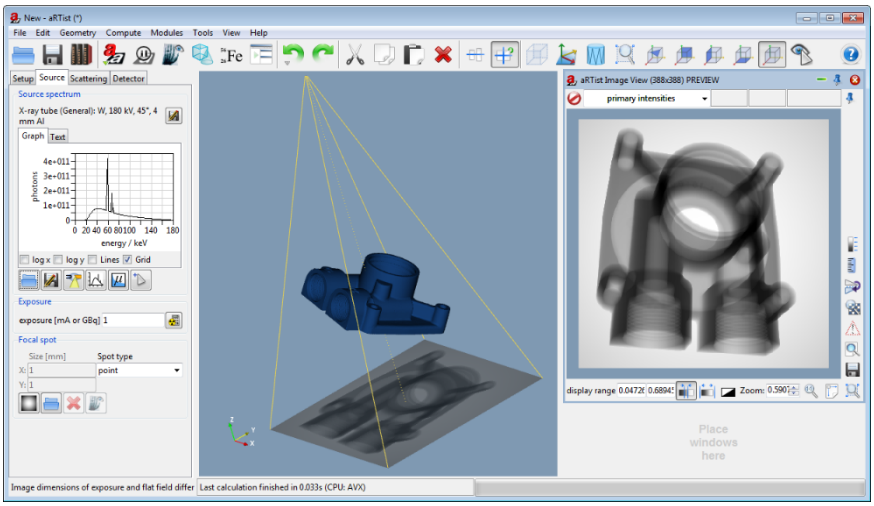
aRTist

Analytical Radiographic Testing Inspection Simulation Tool

BAM
Bundesanstalt für Materialforschung und -prüfung

The radiographic simulator aRTist is an easy to use and practical simulation tool generating realistic radiographic images from virtual scenes. Test samples are geometrically represented by triangulated surfaces (STL file) defining domains of homogeneous material. The used physical models from generation to detection of radiation allow for quantitative simulation results. An analytical calculation of the attenuation of radiation has been implemented by using an optimized ray tracer determining the lengths of the penetrated material segments. This results in close to real-time frame rates and allows for live preview. The integrated Monte Carlo code McRay completes the scattering model. It is usually a matter of seconds or minutes to simulate the scatter contribution in radiography using McRay on a personal desktop computer.



Features:

x-ray spectra model; analytical radiographic ray-tracer; Monte-Carlo modelling; detector characteristic of film and digital radiography; multi core support and GPU usage; undo/redo functionality; part manipulation by mouse interaction.
Included modules:

- Solid – generation of simple part geometries from cuboid to lead-letter markers
- DigRad, DetectorCalc – definition of detector characteristics
- CtScan, TomoSynth – controlled scene variations for virtual CT
- McRay – Monte-Carlo simulation of radiation transport

System Requirements:

- Microsoft Windows 64-bit

License fees non-exclusive right to use the Software for an unlimited time, incl. three (3) years of updates:

End-user licenses are distributed exclusively by BAM.

Commercial licenses:	5,250 EUR for initial license,	4,200 EUR per additional license
Research licenses:	1,575 EUR for three (3) initial licenses,	420 EUR per additional license

plus VAT applicable at the time of delivery/performance

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