

## ALGORITHM FOR RING ARTIFACTS CORRECTIONS FOR X-RAY COMPUTER TOMOGRAPHY

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Ring are typical artifacts for reconstructed images from X-ray Computerized Tomography (CT). Occurrence of ring artifacts in some cases makes further processing and quantitative analysis of the investigated probes impossible. For the past years, a large number of algorithms for ring artifacts correction have been developed. However, none of algorithms removes artefacts absolutely.

In this work, we used a set of different algorithms for correction of ring artifacts on the reconstructed X-ray CT data sets. Chosen algorithms were compared in terms of correction quality and processing times on 2D slices of 3D volumes obtained with CT. The methods used in this work require preliminary transformation from Cartesian to polar coordinate system (or implementation on the sonograms level while 3D reconstruction of datasets), converting thus rings to stripes on images. The later one is easier to process by computer transformations, such as Fast Fourier Transform (FFT), Wavelet transform and medium filtering. In addition, we implemented the method, proposed by Zhouping Wei and Sheldon Wiebe which includes consecutive Wavelet transform and the FFT [3]. We will demonstrate the developed algorithms and their use on CT data acquired from TopoTomo beamline at the ANKA synchrotron facility in Karlsruhe, Germany.

### REFERENCES

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