Assumptions leading to better reconstruction based on a filtered backprojection algorithm

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Ring artefacts dramatically decrease possibility to segment a volume after reconstruction, thus they should be suppressed in a more efficient way without reducing quality of real features. The following prior information can be used: "intensity" of an artefact is the same during data acquisition, artefacts are caused by continuous movements of one component of the background image, artefacts depend on intensity of incident light, areas with known values on a sinogram or reconstructed slice. The above prior information may also help to repair a sinogram in case of an unknown or very noisy signal.