CT Metal Artifact Reduction Algorithm
Based on Sinogram Surgery
- Complex Shape Phantoms and Empirical Analysis

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ABSTRACT

The streaking artifacts in computed tomography (CT) image caused by the metallic objects (dental implants, surgical clips, or steel-hip) limit the applications of CT image. We propose a new algorithm to reduce the metal artifact. We do sinogram surgery, iteratively, to remove the metallic effect in the sinogram using the basic principle of CT image reconstruction. We apply our method for the complex shape phantoms. Numerical experiments show that our algorithm fills the missing sinogram data properly, and therefore the artifact in CT image is effectively removed. Moreover, we investigate the convergence of our algorithm empirically.

REFERENCES