S. Luo, Y. Zhang, T. Zhou and J. Song, Superiorized iteration based on proximal point method and its application to XCT image reconstruction,*arXiv:1608.03931*, **2016**.

Abstract

In this paper, we investigate how to determine a better perturbation for superiorized iteration. We propose to seek the perturbation by proximal point method. In our method, the direction and amount of perturbation are computed simultaneously. The convergence conditions are also discussed for bounded perterbation resilence iteration. Numerical experiments on simulated XCT projection data show that the proposed method improves the convergence rate and the image quality.