

C. Bargetz, S. Reich and R. Zalas, Convergence properties of dynamic string averaging projection methods in the presence of perturbations, accepted for publication in *Numerical Algorithms*. *arXiv:1703.07803*, (2017).

Abstract

Assuming that the absence of perturbations guarantees weak or strong convergence to a common fixed point, we study the behavior of perturbed products of an infinite family of nonexpansive operators. Our main result indicates that the convergence rate of unperturbed products is essentially preserved in the presence of perturbations. This, in particular, applies to the linear convergence rate of dynamic string averaging projection methods, which we establish here as well. Moreover, we show how this result can be applied to the superiorization methodology.