

Title \*


F. Author<sup>a</sup>, S. Author<sup>b</sup> and Th. Author<sup>c</sup> 

<sup>a</sup> Affiliation 1.

<sup>a</sup> Affiliation 2.

<sup>b</sup> Affiliation.

<sup>c</sup> Affiliation.

 Corresponding author: [corresponding email](#)

E-mail: [email](#)

E-mail: [email](#)

E-mail: [email](#)

**Abstract.** Write your abstract here.

**Keywords:** Keyword 1; Keyword 2; Keyword 3.

**AMS Subject Classification:** AMS Code 1; AMS Code 1; AMS Code 1.

1 Introduction

**Theorem 1.** *Your theorem*

*Proof.* Your proof.

2 Numerical Examples

In this section, we perform some numerical examples to show the performance of Theorem 1.

*Example 1.* Let  $E = \ell_3$  be the linear space whose elements consist of all 3-summable sequences  $(x_1, x_2, \dots, x_i, \dots)$  of scalars, that is

$$\ell_3 = \left\{ x : x = (x_1, x_2, \dots, x_i, \dots) \text{ and } \sum_{i=1}^{\infty} |x_i|^3 < \infty \right\}$$

with an inner product  $\langle \cdot, \cdot \rangle : \ell_3 \times \ell_3 \rightarrow \mathbb{R}$  defined by  $\langle x, y \rangle = \sum_{i=1}^{\infty} x_i y_i$  for  $x = \{x_i\}_{i=1}^{\infty}, y = \{y_i\}_{i=1}^{\infty}$  and an induced norm  $\| \cdot \| : \ell_3 \rightarrow \mathbb{R}$  given by  $\|x\| = \sqrt{\sum_{i=1}^{\infty} |x_i|^3}$  for

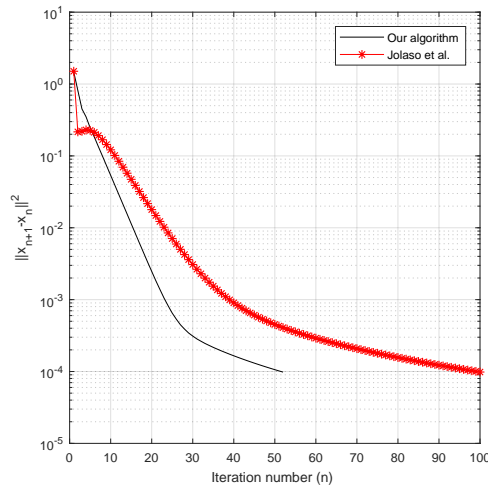
---

\* Funding Acknowledgment

$x = \{x_i\}_{i=1}^\infty$ . Define the mapping  $B : \ell_3 \rightarrow \ell_2$  by  $B(x) = \frac{x}{2} + [1, 0, \dots, 0, \dots]'$  where,  $x = \{x_i\}_{i=1}^\infty$ . Let the mapping  $T$  be defined by  $T(x) = x$  for each  $x = \{x_i\}_{i=1}^\infty$ ,  $f(x) = \frac{x^4}{3}$ ,  $\nabla f(x) = x^3$ ,  $fx^* = \frac{3}{4}x^{*\frac{3}{4}}$  and  $\nabla f^*(x^*) = x^{*\frac{1}{3}}$ . For this example, choose the sequence,  $\theta_n = \frac{1}{3} + \frac{1}{3n}$ ,  $\beta_n = \frac{3}{10n+7}$ ,  $\gamma_n = \frac{n+3}{10n+7}$ ,  $\delta_n = 1 - \gamma_n - \beta_n$  and  $\psi = \frac{1}{2}$ . Also, let  $\mu = 0.5$  and  $u = 0.2$ .

$x_0$	GRM		DISEM2		DISEM1		DISEM3		DISEGRM	
	(k)	(t)	(k)	(t)	(k)	(t)	(k)	(t)	(k)	(t)
$(1.5, 1.7)^T$	89	2.03378170	59	1.16966130	53	1.22236270	46	0.934204000	35	0.701941800
$(2.0, 3.0)^T$	87	1.59501840	47	0.663967400	59	0.994875800	46	0.660233000	29	0.385617100
$(1.0, 2.0)^T$	113	2.87636120	46	1.06539500	71	1.64377580	56	1.25295480	41	0.948971700
$(1.7, 2.7)^T$	92	4.08341020	57	1.28437500	54	1.23939930	53	1.15531850	38	0.862604300

The result of this example is given in Figure 1.



**Fig. 1.** top: Case 1; bottom left: Case 2; bottom right Case 3.

## References

- [1] F. Author, S. Author, Title, Journal, Volume (Issue) (Year) pp ??-??.
- [2] Authors, Title, Fixed Point Theory, 21 (2) (2025), 397–412.
- [3] H. H. Bauschke, J. M. Borwein, Legendre functions and method of random Bregman functions, J. Convex Anal., 4 (1997), 27–67.
- [4] D. Kinderlehrer, G. Stampacchia, An Introduction to Variational Inequalities and Their Applications. Society for Industrial and Applied Mathematics, Philadelphia (2000).
- [5] N. Nadezhkina, W. Takahashi, Weak convergence theorem by an extragradient method for nonexpansive mappings and monotone mappings, J. Optim. Theory Appl., 128 (2006), 191–201.

- [6] P. Tseng, A modified forward-backward splitting method for maximal monotone mappings, *SIAM J. Control Optim.*, 38 (2) (2000), 431–446.