

# Review of: "Results in Cone Metric Spaces and Related Fixed Point Theorems for Contractive Type Mappings"

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**Potential competing interests:** No potential competing interests to declare.

The authors should take into account the following remarks.

- 1) The authors should unify the numeration model for all different environments. For example, definitions, theorems, corollaries are numbered by section in sections 3 and 4, while in section 2 (preliminaries), those environments are differently numbered.
- 2) The abstract must be rewritten. In particular, the main contribution of the paper should be clarified.
- 3) Definition 1: replace " $P \neq 0$ " by " $P \neq \{0\}$ ".
- 4) Definition 2: Replace " $0 \leq x \leq y$  and  $\|x\| \leq K\|y\|$ " by " $0 \leq x \leq y$  implies  $\|x\| \leq K\|y\|$ ".
- 5) Many typos. For example, in definition 3, we should read "for some  $y \in E$ " instead of "or some  $y \in E$ ".
- 6) The sentence "It is well known that a regular cone is a normal cone" must be placed outside the environment of Definition 3.
- 7) In Example 5, replace in the first line " $d(x,y) = \{(x,y) \in |x,y \geq 0\}$ " by " $P = \{(x,y) \in E | x,y \geq 0\}$ ".
- 8) Throughout the article, replace the sequence " $x_n$ " by " $\{x_n\}$ ". For example, in definitions 6, 9, lemmas 12, 13, and the proof of Theorem 4.3.
- 9) Definitions 4, 6, 9, and 10 should be linked to reference 2.
- 10) In Lemma 7, replace " $n \rightarrow 0$ " by " $n \rightarrow \infty$ ".
- 11) In Lemma 12, replace " $n, m \rightarrow 0$ " by " $n, m \rightarrow \infty$ ".
- 12) In Lemma 13, replace " $n \rightarrow 0$ " by " $n, m \rightarrow \infty$ ".
- 13) The authors should either rewrite definitions 3.1 and 3.2, or replace "satisfying the following..." with ", T satisfies the following...".
- 14) The authors should either rewrite Theorem 3.3, or replace "A mapping  $T: X \rightarrow X$  is said to be type I.." by "Assume that  $T: X \rightarrow X$  is type I contraction mapping...".
- 15) Put parentheses around the numeration 3.6 (in the proof of Theorem 3.3).
- 16) The authors should either rewrite Theorem 3.4, or replace "A mapping  $T: X \rightarrow X$  is said to be type II.." by "Assume that  $T: X \rightarrow X$  is type II contraction mapping...".
- 17) In the proof of Theorem 3.4, the authors should specify that  $x_{(n+1)} \neq x_n$  for all  $n$ , by using the same argument as in the proof of Theorem 3.3.
- 18) The authors should introduce a definition of a type I contraction mapping and a type II contraction mapping for some positive integer. This must be done before Corollaries 3.5 and 3.6. Furthermore, following these additions of definitions, it

is obvious that the authors should rewrite Corollaries 3.5 and 3.6.

19) The authors should clarify that Example 3 is borrowed from [2].

20) Definitions 4.1 and 4.2 are the same as definitions 3.1 and 3.2! The authors should remove them.

21) The authors should either rewrite Theorem 4.3, or replace “Then a mapping  $T:X \rightarrow X$  is said to be type I..” by “Assume that  $T:X \rightarrow X$  is type I contraction mapping...”.

22) The authors should either rewrite Theorem 4.4, or replace “Then a mapping  $T:X \rightarrow X$  is said to be type II..” by “Assume that  $T:X \rightarrow X$  is type II contraction mapping...”.

23) In Definitions 4.1-4.2, Theorems 4.3-4.4, and Corollaries 4.5-4.6, the authors should replace “ $d(x_0, c) \leq c$ ” by “ $d(x_0, x) \leq c$ ”.

24) In Theorem 4.4 and Corollary 4.5, braces are missing in the definition of the ball  $B(x_0, c)$ .

### Major remarks

A) Unfortunately, the last line of the proof of Theorem 4.3 and Theorem 4.4 does not seem true. Authors should reread, expand, and achieve on each of these proofs. I think that more strong assumptions should be assumed in order to prove those results.

B) Authors should explain and discuss the contribution of the results obtained in this article. For example, making comparisons with existing results and significant improvements that are being made. I think that a concrete application would strengthen the obtained results. For example, problems such as (not necessarily the only ones): integral equations, functional equations, control equations, ...

C) Poor language

### Recommendation

I recommend publication of the article after the authors have taken into account the recommendations, suggestions, and corrections specified in our comments.