

Peer Review

Review of: "Generalized Inverse Preservers of Hadamard Circulant Majorization"

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Generalized Inverse Preservers of Hadamard Circulant Majorization

By:

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\end{center}

This article contains results regarding linear operators on M_n preserving Hadamard circulant majorization. It is shown in the main results in 2.5, 2.6, 2.7, and 2.9 that if $T: M_n \rightarrow M_n$ is a linear operator that preserves Hadamard circulant majorization, then so does T^* , T^D , $T^\sharp$, and $T^\dagger$.

The results seem

correct. So, I recommend publication. My suggestions are mentioned in the following:

(1) **pg 2, line 3**

What does $\circ$ mean here? It seems the Hadamard product $\odot$ to be correct.

(2) **pg 2, Theorem 1.1** "... with $(i,j) \neq (k,l)$ " should be "... with $(i,j) \neq (k,l)$ "

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(3) **pg 2, Theorem 1.3**

In this theorem (even in reference [1]), item 2 is not stated in the appropriate form. My suggestion is: 2. For each $1 \leq k \leq n$ and $B \in M_n$ there is a circulant matrix C such that

$$T(C_k \odot B) = C \odot T(B).$$

"

Please explain if I am wrong.

(4) {bf pg 3, line 10.}

At the end of the sentence "Next, note that ... E_{32} and C_3 ..." Please put a space before and after "and".

(5) {bf pg 3, line 20.}

Given that you have used the transpose symbol many times before, it would be better to introduce X^{top} at the end of page 1.

(6)

I ask this question only as a suggestion. Can you provide an application of your main results in section 2? Could you explain a little about the importance of the main results?

Declarations

Potential competing interests: No potential competing interests to declare.