

(54) Title of the invention : A system and a method of determining common fixed point in vector space using common limit range property

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(57) Abstract :

In this invention, we went through various fixed point findings in cone Banach space, and we presented the idea of the CLR (Common Limit Range) feature by using an illustration. The purpose of this innovation is to highlight the importance that the common limit range property plays in determining whether or not a common fixed point exists in vector metric spaces. The validity of the hypotheses, as well as the degree of value that our findings hold, is shown with the help of certain illustrative cases that are provided. We develop a fixed point theorem for four finite families of self-mappings, and this theorem may be used to the development of common fixed point theorems involving any finite number of mappings. In order to demonstrate how our primary finding may be used, we derive a theorem about integral-type fixed points in vector metric space.

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