

The New Aspect to Fixed Point Theory on Ultrametric Space

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The pioneer of fixed point theory in metric space is S. Banach [1] in which uniqueness of fixed point on complete metric spaces was proved for every contractive mapping. Banach's result has a crucial role in the theory in view of to present a way to find the fixed point of corresponding mapping as well as its existence and uniqueness. After the remarkable applications of fixed point theory in many branches, especially, integral equations, differential equations, numerical analysis, graph theory, etc., the theory has been extensively studied by researches for different contraction mappings in different type spaces.

Among the others, here, we consider one of these considerations presented by Gajic [2] on ultrametric space. The space, roughly speaking, is a special type of a metric space which is constructed by a stronger triangular inequality than classical ones. Considering the spherically completeness of a given ultrametric space, Gajic [2] obtained a fixed point theorem with uniqueness for the mappings.

In this talk, we aim to obtain some fixed point theorems using rational type F -contraction multivalued mapping on a spherically complete ultrametric space and give some corollaries and examples.

References

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