Abstract

The aims of this paper is to give some new theorems in the field of fixed point theory. For that, we establish a generalized result of Caristi’s fixed point theorem by introducing a new type of functions that will be called the LZ-functions. And since that theorem is equivalent to Ekeland’s variational principle, we derive also an "- variational-type principle, which generalizes the latter. As application, we study the existence of solution for a system of equilibrium problem.

References


**Index Terms**

Computer Science \hspace{1cm} Applied Mathematics

**Keywords**

Fixed point, Set valued map, LZ-function, Caristi, Ekeland