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**Fixed point results for set-valued contractions by altering distances in complete metric spaces**


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**Abstract**

Nadler's contraction principle has led to fixed point theory of set-valued contraction in non-linear analysis. Inspired by the results of Nadler, the fixed point theory of set-valued contraction has been further developed in different directions by many authors, in particular, by Reich, Mizoguchi-Takahashi, Feng-Liu and many others. In the present paper, the concept of generalized contractions for set-valued maps in metric spaces is introduced and the existence of fixed point for such a contraction are guaranteed by certain conditions. Our first result extends and generalizes the Nadler, Feng-Liu and Klim-Wardowski theorems and the second result is different from the Reich and Mizoguchi-Takahashi results. As a consequence, we derive some results related to fixed point of set-valued maps satisfying certain conditions of integral type. © 2008 Elsevier Ltd. All rights reserved.

**Author Keywords**

Complete metric space; Hausdorff metric; Set-valued contraction

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