

RESEARCH

Open Access



A new approach to multivalued nonlinear weakly Picard operators

Aiman Mukheimer¹, Jelena Vujaković², Azhar Hussain³, Hassen Aydi^{4,5*}, Stojan Radenović⁶ and Saman Yaqoob³

*Correspondence:

hassen.aydi@isima.rnu.tn

⁴Institut Supérieur d'Informatique et des Techniques de Communication, Université de Sousse, H. Sousse, Tunisia

⁵China Medical University Hospital, China Medical University, Taichung, Taiwan

Full list of author information is available at the end of the article

Abstract

The notion of nonlinear $(\mathcal{F}_s, \mathcal{L})$ -contractive multivalued operators is initiated and some related fixed point results are considered. We also give an example to show the validity of obtained theoretical results. Our results generalize many existing ones in the literature.

MSC: 46T99; 47H10; 54H25

Keywords: Multivalued Picard operator; Weak contraction; \mathcal{F} -Contraction