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ON THE CLASS OF RELATIVELY WEAKLY DEMICOMPACT NONLINEAR OPERATORS

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Abstract. In this paper we discuss some topological properties of the set

$$\mathcal{F}(S_0, T, z) := \{x \in X : S_0 x \in Tx + z\},$$

where T is a nonlinear multi-valued mappings and S_0 is a single-valued mappings acting on a Banach space X. This study is based on a new concept, the so called weakly relative demicompactness for nonlinear operators.

Key Words and Phrases: Demicompact operator, multi-valued mapping, weak topology, measure of weak noncompactness.
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