ON THE SUZUKI NONEXPANSIVE-TYPE MAPPINGS

ANNA BETIUK-PILARSKA AND ANDRZEJ WIŚNICKI*

ABSTRACT. It is shown that if C is a nonempty convex and weakly compact subset of a Banach space X with $M(X) > 1$ and $T : C \to C$ satisfies condition (C) or is continuous and satisfies condition (C_λ) for some $\lambda \in (0, 1)$, then T has a fixed point. In particular, our theorem holds for uniformly nonsquare Banach spaces. A similar statement is proved for nearly uniformly noncreasy spaces.

INSTITUTE OF MATHEMATICS, MARIA CURIE-SKŁODOWSKA UNIVERSITY, 20-031 LUBLIN, POLAND
  E-mail address: abetiuk@hektor.umcs.lublin.pl
  E-mail address: a.wisnicki@umcs.pl