ON INVARIANT NONLINEAR SUBSPACES

Paweł Wójcik

Instytut Matematyki, Uniwersytet Pedagogiczny, 30-084 Kraków, ul. Podchorążych 2
pwojcik@up.krakow.pl

Does every operator on a Banach space have an invariant subspace? This is the "invariant subspace problem". The problem which we consider in this report is similar, but not equivalent to the "invariant subspace problem". We discuss the following problem: whether given operator on a Banach space has an invariant nonlinear subspace. We examine the existence or non-existence of such nonlinear subspaces. Moreover, we give some applications.