

Year: 2022

Vol.: 100

Fasc.: 3-4

Title: Consistent invertibility and perturbations of property (R)

Author(s): Yanxun Ren, Lining Jiang and Yingying Kong

Let $B(X)$ be the space of all bounded linear operators on an infinite-dimensional complex Banach space X . An operator $T \in B(X)$ is said to be consistent invertibility if for arbitrary $S \in B(X)$, TS and ST are either both or neither invertible. Using induce spectrum, the paper gives the necessary and sufficient conditions for the stability of property (R) under commuting power finite rank perturbations. Moreover, the paper studies the transmission of property (R) from T to $f(T)$ for any analytic function f on a neighborhood of $\sigma(T)$. As an application, the paper proves that every generalized scalar operator satisfies property (R) under commuting power finite rank perturbations.

Address:

Yanxun Ren
School of Mathematics and Statistics
Beijing Institute of Technology
Beijing 100081
P. R. China

Address:

Lining Jiang
School of Mathematics and Statistics
Beijing Institute of Technology
Beijing 100081
P. R. China

Address:

Yingying Kong
School of Mathematics and Statistics
Beijing Institute of Technology
Beijing 100081
P. R. China