

Semi chaotic operators on Banach spaces

ABSTRACT

We introduce and study a weaker form of Devaney chaotic operators on Banach spaces, which we call semi chaotic operators. We show that semi chaotic operators exist on every finite dimensional Hilbert spaces. We give a semi chaotic criterion “a sufficient condition for semi chaotic operators”, we use this criterion to characterize all semi chaotic weighted shifts on $\ell_p(\mathbb{N})$ and $\ell_p(\mathbb{Z})$ in terms of their weight sequences.

Keyword: Diskcyclic operators; Chaotic operators; Weighted shift operators