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The complexity on the family of operators. (English) Zbl 1363.47014

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Summary: In this paper the complexity about the family of bounded linear operators is discussed. We first give a characterization about a family of operators on Banach space to have a dense G_δ set common hypercyclic vectors. Then as an application, we show that the set of all common hypercyclic vectors for the family $\{\lambda B : \lambda \in \Lambda\}$ is a dense G_δ set, where B is the unilateral backward shift and Λ is a bounded, closed subset of \mathbb{C} with $\lambda \in \Lambda, |\lambda| > 1$.

MSC:

47A16 Cyclic vectors, hypercyclic and chaotic operators

Keywords:

Banach space; hypercyclic operator; backward shift; common hypercyclic vector