On frequently hypercyclic operators

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Abstract: An operator T on a Fréchet space X is called frequently hypercyclic if there is a vector $x \in X$ (also called frequently hypercyclic) such that, for any non-empty open set $U \subset X$, the set $\{n \geq 0 : T^n x \in U\}$ has positive lower density. We will discuss recent work on such operators. In particular, in joint work with A. Bonilla, we give a sufficient condition for the existence of a frequently hypercyclic subspace, that is, a closed infinite-dimensional subspace in which every non-zero vector is frequently hypercyclic. And Q. Menet has recently exhibited frequently hypercyclic operators that have a hypercyclic subspace but no frequently hypercyclic subspace.