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# 8. Analysis

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**Hypercyclic operators on non-normable Fréchet spaces**

S. Ansari and L. Bernal proved independently in 1997 that every infinite-dimensional, separable Banach space admits a continuous, linear, hypercyclic operator. An operator is hypercyclic if there is a vector in the space with a dense orbit. We show that every infinite-dimensional, separable and non-normable Fréchet space admits a continuous, linear hypercyclic operator too. A large class of separable countable inductive limits of Banach spaces with the same property is given; but an example of a separable, complete inductive limit of Banach spaces which admits no hypercyclic operator is provided. No compact operator on a locally convex space is hypercyclic. These results are joint work with A. Peris.